



Letter from the President

Randall J. Scott – President, CEO and Director

Dear Fellow Shareholders:

We are pleased to update you on our progress and plans for the remainder of 2022. This past year has been one of significant progress for Rare Element Resources Ltd. (the “Company”). Our key relationship with Synchron, a General Atomics affiliate and majority shareholder in the Company, has allowed us to significantly progress our plans to incorporate our proprietary technology in a planned rare earth processing and separation demonstration plant to be built in Upton, Wyoming, near our Bear Lodge Rare Earth Project.

Following many months of pre-award discussions during 2021, the Company, along with team members General Atomics, and its affiliates, and LNV, an Ardurra Group, Inc. company, finalized a financial assistance award on October 1, 2021 through the Department of Energy Office of Energy Efficiency and Renewal Energy (“DOE/EERE”) to engineer, construct, and operate a rare earth processing and separation demonstration plant. The DOE/EERE funding, in the amount of \$21.9 million, represents approximately one-half of the demonstration project’s estimated costs. The non-federal cost share funding is being provided by the Company as a subrecipient of the award through a Cost Share Agreement between the Company and General Atomics, an affiliate of the Company’s majority shareholder, Synchron. The Company’s cost share funds were raised through a successful rights offering which closed in December 2021, raising approximately \$25.4 million.

The planned demonstration plant will utilize the Company’s proprietary processing and separation technology which is a closed-cycle process with significantly fewer steps than are customarily required, resulting in expected attendant environmental benefits and lower costs compared with current technologies. The plant is expected to produce commercial-grade neodymium/praseodymium (Nd/Pr) rare earth oxide that is used in producing high-strength permanent magnets. These high-strength permanent magnets are a key component in the manufacture of electric vehicles, wind turbines, and defense applications, among other technology uses.

The project is currently progressing through the design phase which includes detailed engineering, licensing and permitting, and potentially the placement of orders for the purchase of the longer lead-time equipment. This first phase is to be followed by a second phase, which includes plant construction activities. The final phase of the project, which involves the processing and separating of rare earth elements from previously stockpiled Bear Lodge Project material, is expected to take place during the final 12–14 months. The total project timeline of approximately 40 months includes project decision points along the way.

Given our significant progress in 2021 and the first half of 2022, we believe that the Company and the Bear Lodge Project are well positioned to become a secure domestic supply of critical rare earths at a time when the U.S. market is demanding new reliable sources. With Synchron as our significant

shareholder, we are moving forward to ultimately become a cornerstone for the re-establishment of a North American rare earth supply chain.

ADDITIONAL INFORMATION

The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 filed on March 23, 2022 with the Securities and Exchange Commission (the "SEC"), as amended on April 27, 2022, is fully reproduced in the accompanying annual report to shareholders. You may obtain additional copies of the Annual Report on Form 10-K, including the financial statements, by writing to the Corporate Secretary of the Company at P.O. Box 271049, Littleton, Colorado 80127. The Company will provide these documents free of charge to shareholders of the Company. Additional information relating to the Company is available electronically on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.shtml.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This letter from the President contains "forward-looking statements" within the meaning of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, and "forward-looking information" within the meaning of Canadian securities laws. All statements other than statements of historical facts included in this letter from the President that address activities, events or developments that the Company expects or anticipates will or may occur in the future, including such things as the processing and separation technology to be utilized by the planned demonstration plant, the expected benefits of such proprietary technology, the material expected to be produced by the plant for use in the production of high-strength permanent magnets, the technology uses for such magnets, the schedule for the planned demonstration plant, the Company's updated work plan for 2022, the prospect of the Bear Lodge Project becoming a secure domestic supply of critical rare earths, and other such matters are forward-looking statements and forward-looking information. When used in this letter from the President, the words "potential," "indicate," "expect," "intend," "hopes," "believe," "may," "will," "if," "anticipate," and similar expressions are intended to identify forward-looking statements and forward-looking information. These statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such statements. Such factors include, among others, our ability to obtain additional financial resources on acceptable terms or at all, our ability to resume our currently suspended federal and state permitting efforts for the Bear Lodge Project, risks relating to fluctuations in the price of rare earth elements, the inherently hazardous nature of mining-related activities, potential effects on the Company's operations of environmental regulations, risks due to legal proceedings, as well as those factors discussed under the headings "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors" in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 filed on March 23, 2022 with the SEC, as amended on April 27, 2022, and other documents filed with the SEC and Canadian securities regulatory authorities. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those described in forward-looking statements and forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. Except as required by law, the Company assumes no obligation to publicly update any forward-looking statements or forward-looking information, whether as a result of new information, future events or otherwise.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

- ☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2021
OR
☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number: 001-34852



Rare Element Resources

RARE ELEMENT RESOURCES LTD.

(Exact Name of Registrant as Specified in its Charter)

British Columbia

(State or other jurisdiction of incorporation or organization)

N/A

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

**P.O. Box 271049
Littleton, Colorado**

(Address of Principal Executive Offices)

80127

(Zip Code)

(720) 278-2460

(Registrant's Telephone Number, including Area Code)

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT: **None**

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

Common Shares, No Par Value

Title of Each Class

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large Accelerated Filer ☐ Accelerated Filer ☐ Non-Accelerated Filer ☒ Smaller Reporting Company ☒ Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262 (b)) by the registered public accounting firm that prepared or issued its audit report. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

As of June 30, 2021, the aggregate market value of the registrant's voting common shares held by non-affiliates of the registrant was approximately \$100,600,000 based upon the closing sale price of the common shares as reported by the OTCQB Venture Marketplace.

The number of the registrant's common shares outstanding as of March 16, 2022 was 212,466,889.

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PRELIMINARY NOTES

As used in this Annual Report on Form 10-K (“Annual Report”), references to “Rare Element,” the “Company,” “we,” “our,” or “us” mean Rare Element Resources Ltd., our predecessors and consolidated subsidiaries, or any one or more of them, as the context requires. Rare Element is focused on advancing its Bear Lodge rare earth elements project (the “Bear Lodge REE Project”) including demonstrating the technical and economic feasibility of our proprietary rare earth elements recovery and separation technology through the construction and operation of a demonstration scale recovery and separation plant (“demonstration plant”), while postponing further exploration of its Sundance gold project (the “Sundance Gold Project”, together with the Bear Lodge REE Project, the “Projects”). Both Projects are located primarily on the Bear Lodge property, near the town of Sundance in the state of Wyoming (the “Bear Lodge Property”). See “Part I, Item 1. Business.”

Financial information is presented in accordance with generally accepted accounting principles (“GAAP”) in the United States (“U.S.”).

In this Annual Report, unless otherwise specified, all dollar amounts are expressed in thousands of U.S. dollars (“\$” or “US\$”).

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report contains “forward-looking statements” within the meaning of Securities Act of 1933, as amended (the “Securities Act”), the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and “forward-looking information” within the meaning of Canadian securities laws (collectively, “forward-looking statements”). Any statements that express or involve discussions with respect to business prospects, predictions, expectations, beliefs, plans, intentions, projections, objectives, strategies, assumptions, future events, performance or exploration and development efforts using words or phrases (including negative and grammatical variations) such as, but not limited to, “expects,” “anticipates,” “plans,” “estimates,” “intends,” “forecasts,” “likely,” “projects,” “believes,” “seeks,” or stating that certain actions, events or results “may,” “could,” “would,” “should,” “might” or “will” be taken, occur or be achieved, are not statements of historical fact and may be forward-looking statements. Although we believe that our plans, intentions and expectations reflected in these forward-looking statements are reasonable, we cannot be certain that these plans, intentions and expectations will be achieved. Actual results, performance or achievements could differ materially from those contemplated, expressed or implied by the forward-looking statements contained in this Annual Report. Forward-looking statements in this Annual Report include, but are not limited to, statements regarding the following:

- our business and prospects and our overall strategy;
- planned or estimated expenses and capital expenditures;
- availability of liquidity and capital resources;
- our ability to obtain additional financing and strategic alternatives;
- progress in developing our Projects and the timing of that progress;
- the potential value of our Projects or other interests, operations or rights; and
- government regulations, including our ability to obtain, and the timing of, necessary governmental permits and approvals.

Forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors that could cause actual events or results to differ materially from those expressed or implied by the forward-looking statements, including, without limitation, risks associated with:

- the significant influence of our largest shareholder on our major corporate decisions;
- our ability to protect our intellectual property rights;
- the uncertain nature of demand for and price of rare earth products;
- technological advancements, substitutes, and the establishment of new uses and markets for rare earth products;
- development risks, operational hazards and regulatory approvals;
- our reliance on the skill and expertise of third-party service providers;
- the ability of third-party service providers to meet their contractual obligations;
- changes in legislation and regulations relating to the mining and rare earth industries, including environmental laws and regulations that impose material compliance costs and liabilities;
- governmental interventions in the mining and rare earth industries, including increases in barriers to international trade;
- uncertainties regarding our ability to maintain sufficient liquidity and attract sufficient capital resources to implement our projects;
- our ability to attract and retain key personnel;
- inflation affecting our business including the costs of implementing our projects;
- risks and uncertainties inherent in management estimates of future operating results;
- changes in competitive factors, including the development or expansion of other projects that are competitive with ours;
- our ability to complete planned financing and other transactions;
- risks related to pandemics or disease outbreaks;
- risks relating to the availability and costs of goods and services we need to achieve our plans and goals resulting from military conflicts such as the Russia/Ukraine war;
- information technology system disruptions, damage or failures, or cyber-attacks;
- risks and uncertainties associated with litigation matters and opposition to our plans and operations by third parties;
- share price volatility;
- whether we deregister our common shares under the Exchange Act and/or list our common shares on another securities exchange;
- the OTCQB Venture Marketplace standards and the “penny stock” rules and the impact on trading volume and liquidity due to our trading on the OTCQB Venture Marketplace;

- risk factors discussed in this Annual Report; and
- other factors, many of which are beyond our control.

This list is not exhaustive of the factors that may affect our forward-looking statements. Some of the important risks and uncertainties that could affect forward-looking statements are described further under the section headings “Item 1. Business,” “Item 1A. Risk Factors” and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Annual Report. Although we have attempted to identify important factors that could cause actual results to differ materially from those described in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary, possibly materially, from those anticipated, believed, estimated or expected. We caution readers not to place undue reliance on any such forward-looking statements, which speak only as of the date made. Except as required by law, we disclaim any obligation to revise any forward-looking statements to reflect events or circumstances after the date of such statements or to reflect the occurrence of anticipated or unanticipated events. **We qualify all of the forward-looking statements contained in this Annual Report by the foregoing cautionary statements.**

GLOSSARY OF TERMS

Conversion Factors and Abbreviations

All units in this Annual Report are stated in metric measurements unless otherwise noted. For ease of reference, the following conversion factors are provided:

To Convert Imperial Measurement Units	To Metric Measurement Units	Multiply by
Acres	Hectares	0.4047
Feet	Meters	0.3048
Miles	Kilometers	1.6093
Tons (short)	Tonnes	0.9071

Definitions

bastnasite – a mixed lanthanide fluoro-carbonate mineral (LaCO_3F) that currently provides the bulk of the world’s supply of the LREEs. Bastnasite and monazite are the two most common sources of cerium and other REEs. Bastnasite is found in carbonatites, carbonate rocks of igneous derivation.

beneficiation – operations that concentrate and separate mineral values in ore from waste material, and typically include, but are not limited to, crushing, grinding, washing, filtration, and leaching.

cerium (“Ce”) – a soft, silvery, ductile metallic element that easily oxidizes in air. Ce is the most abundant of the REEs and is found in a number of minerals, including monazite and bastnasite. Ce has two relatively stable oxidation states (Ce^{3+} and Ce^{4+}), enabling both the storage of oxygen and its widespread use in catalytic converters. Ce is also widely used in glass polishing.

concentrate – a mineral beneficiation product that generally describes the material that is produced after crushing and grinding ore, effecting significant separation of gangue (waste) minerals from the desired metal and/or metallic minerals, and discarding the waste minerals. The resulting “concentrate” of minerals typically has an order of magnitude higher content of minerals than does the beginning ore material.

CREE – critical rare earth elements – Nd, Eu, Dy, Tb and Y were identified by the U.S. Department of Energy (“DoE”) as “critical” in its 2011 Critical Materials Strategy Report. CREEs are those projected by the DoE to have the greatest economic importance for clean energy development and the highest risk of supply disruption. The Company includes Pr as a CREE because of its use in conjunction with Nd in didymium as a raw material for high-intensity permanent magnets.

didymium – a mixture of the elements Pr and Nd. Didymium is used as a raw material for the manufacture of high-intensity permanent magnets. It is used in safety glasses for glassblowing and blacksmithing, especially when a gas (propane) powered forge is used, where it provides a filter which selectively blocks the yellowish light at 589 nm emitted by the hot sodium in the glass, without having a detrimental effect on general vision, unlike dark welder's glasses.

Dy - dysprosium (a soft metallic element of the lanthanide series, mainly used in high-performance, permanent magnets). Dy has a high melting point and absorbs neutrons well. It is therefore also used in nuclear control rods to help control nuclear reactions. Dy is also used in laser generating materials.

Eu – europium (a very rare metallic element that is the softest member of the lanthanide series). It is used in making color television tubes and lasers and as a neutron absorber in nuclear research. It is desirable due to its photon emission. Excitation of the Eu atom, by absorption of electrons or by UV radiation, results in changes in energy levels that create a visible emission. Almost all practical uses of Eu utilize this luminescent behavior.

fault – a surface or zone of rock fracture along which there has been displacement.

Feasibility Study (“FS”) – a comprehensive study of a mineral deposit in which all geological, engineering, legal, operating, economic, social, environmental and other relevant factors are considered in sufficient detail that it could reasonably serve as the basis for a final decision to develop the deposit for mineral production.

FMR – mineralization that includes iron oxide, manganese oxide and REE.

Gd - gadolinium (a malleable, ductile metallic element of the lanthanide series that has seven natural isotopes and 11 artificial isotopes). Two of the natural isotopes, Gd 155 and Gd 157, are the best-known neutron absorbers. Gd is used to improve the heat and corrosion resistance of iron, chromium, and various alloys in medicine as a contrast medium for magnetic resonance imaging and as a radioisotope in bone mineral analysis.

geochemical – related to the distribution and amounts of the chemical elements in minerals, ores, rocks, solids, water and the atmosphere.

geophysical – related to the mechanical, electrical, gravitational and magnetic properties of the earth's crust.

GHG – greenhouse gases

grade – quantity of metal per unit weight of host material.

HREEs – heavy rare earth elements – defined as the elements Tb, Dy, Ho, Er, Tm, Yb, Lu and Y.

La - lanthanum (the first metallic element of the lanthanide series). La is a strategically important rare earth element due to its use in fluid cracking catalysts (“FCC”), which are used in the production of transportation and aircraft fuel. La is also used in fuel cells and batteries.

LREEs - light rare earth elements, defined as the elements La, Ce, Pr, Nd, Pm, Sm, Eu and Gd.

mineral – a naturally occurring, inorganic crystalline material having a definite chemical composition.

mineralization – a natural accumulation or concentration of one or more potentially economic minerals in rocks or soil. Also, the process by which minerals are introduced or concentrated in rocks or soil.

monazite – a reddish-brown rare earth phosphate mineral. Monazite-group minerals are typically accompanied by elevated concentrations of uranium and thorium. This has historically limited the processing of monazite. However, this mineral is becoming more attractive because it typically has elevated concentrations of HREEs.

Nd - neodymium (a metallic element of the lanthanide series, occurring principally in REE fluorocarbonate and monazite minerals). Nd is a key constituent of Neodymium-Iron-Boron (“NdFeB”) permanent magnets and an additive to capacitor dielectrics. NdFeB magnets maximize the power/weight ratio and are found in a large variety of motors, generators, sensors, and hard disk drives. Capacitors containing Nd are found in cellular telephones, computers and nearly all other electronic devices. A minor application of Nd is for lasers.

NdFeB – Neodymium-Iron-Boron compound used to manufacture permanent rare earth magnets.

NI 43-101 – National Instrument 43-101 - Standards of Disclosure for Mineral Projects, as prescribed by the Canadian Securities Administrators.

open pit – surface mining in which the ore is extracted from a pit or quarry. The geometry of the pit will vary with the characteristics of the ore body.

ore – mineral-bearing rock.

ore body – a mostly solid and fairly continuous mass of mineralization.

oxide – for purposes of the deposits found at the Bear Lodge Property, rare earth bearing mineralized material that results from the complete oxidation by natural processes of sulfide-bearing material.

PFS - preliminary feasibility study or pre-feasibility study. Each mean a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established and an effective method of mineral processing and/or beneficiation has been determined. It includes a financial analysis based on reasonable assumptions of technical, engineering, legal, operating, economic, social, and environmental factors and the evaluation of other relevant factors that are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the mineral resource may be classified as a Mineral Reserve under NI 43-101 standards.

Pr - praseodymium (a metallic element that constitutes about 4% of the lanthanide content of bastnasite and has a few specific applications, based mainly on its optical properties). It is a common coloring pigment, and is used in photographic filters, airport signal lenses, and welder’s glasses. Because it chemically and magnetically is so similar to its periodic chart neighbors Nd and La, Pr is typically found in small amounts in applications where Nd and La are important, such as NdFeB magnets and catalysts. These latter applications are actually the largest uses for Pr because the magnet and catalyst markets are so large. Thus, Pr plays an important role in extending the availability of the more popular Nd and La.

RC (reverse circulation) drilling – a rotary drilling method using either a hammer or a tri-cone bit to produce rock cuttings that are forced upward from the bottom of the drill hole to the surface through an outer tube, using liquid and/or air pressure moving downward through an inner tube.

recovery – the percentage of contained metal actually extracted from ore in the course of processing and/or beneficiating such ore.

REEs - rare earth elements. a group of metallic elements with unique chemical, catalytic, magnetic, metallurgical and phosphorescent properties.

REO – rare earth oxide, the oxide form of REE.

Sm – samarium (a metallic element of the lanthanide series predominantly used to produce Sm cobalt magnets). Although these magnets are slightly less powerful than NdFeB magnets at room temperature, Sm cobalt magnets can be used over a wider range of temperatures and are less susceptible to corrosion.

stockwork – complex system of structurally controlled or randomly oriented veins that can be standalone ore bodies or occur on the periphery of larger veins. They are also referred to as “stringer zones.”

strike – the direction or trend that a structural surface (e.g., an ore bedding or fault plane) takes as it intersects the horizontal.

sulfide – a mineral combining sulfur and base metals, such as iron and less commonly copper, lead, zinc and/or molybdenum; metallic sulfur bearing mineral associated with primary REE mineralization.

Tb – Terbium is a rare earth metal used in solid state devices as well as magnets in loudspeakers.

Technical Report – the Company’s historical technical report for the Bear Lodge REE Project dated October 9, 2014 titled “Rare Element Resources, Inc. Bear Lodge Project Canadian National Instrument 43-101: Pre-Feasibility Study Report on the Mineral Reserves and Resources and Development of the Bull Hill Deposit” which is available under our profile at www.sedar.com.

vein – a sheet like body of mineralized rock. On many properties, veins may consist largely of quartz gangue. However, on the Bear Lodge Property, veins can contain a variable assemblage that includes, but is not limited to, gangue minerals like iron and manganese oxides, quartz, calcite, clay, apatite and/or potassium feldspar with or without ore minerals.

Y – Yttrium is primarily recovered from monazite resources and is used with iron in the manufacture of microwave communication equipment.

PART I

ITEM 1. BUSINESS CORPORATE BACKGROUND

Rare Element was incorporated under the laws of the Province of British Columbia, Canada on June 3, 1999 as Spartacus Capital Inc. We are currently governed under the Business Corporations Act (British Columbia) (the “BCBCA”). Our executive office address is P.O. Box 271049, Littleton, Colorado 80127. The telephone number for our executive office is (720) 278-2460. We maintain a corporate website at www.rareelementresources.com.

Originally organized as a “capital pool” company whose activities were focused on the identification and completion of a qualifying transaction as required by the rules of the TSX Venture Exchange (“TSX-V”), we transitioned to a “venture company” on July 25, 2003, coincident with (1) the completion of a reverse takeover acquisition of Rare Element Holdings Ltd. (the qualifying transaction), (2) a name change of “Spartacus Capital Inc.” to “Rare Element Resources Ltd.,” and (3) the completion of a private placement. The Company’s main assets include its proprietary rare earth processing and/or beneficiation and separation technology and its 100% interest in a group of unpatented mining claims and repurchase rights to adjacent private property, together known as the Bear Lodge Property, owned through its wholly owned subsidiary, Rare Element Resources, Inc., a Wyoming corporation.

SUBSIDIARIES

We have one direct wholly owned subsidiary, incorporated under the laws of British Columbia, Canada in 1996 under the name “Rare Element Holdings Ltd.” That subsidiary has one direct wholly owned subsidiary, Rare Element Resources, Inc., incorporated in 1997 in the state of Wyoming, USA, formerly known as Paso Rico (USA), Inc. (“Paso Rico”).

DESCRIPTION OF BUSINESS

We are focused on demonstrating the technical and economic feasibility of our proprietary recovery and separation technology and advancing the Bear Lodge REE Project located near the town of Sundance in northeast Wyoming. The Bear Lodge REE Project consists of several large, disseminated REE deposits and a planned hydrometallurgical plant to be located near Upton, Wyoming. The Bear Lodge REE Project is one of the highest-grade REE deposits identified in North America and one of the highest-grade Eu deposits in the world. In addition, the Bear Lodge REE Project has a favorable distribution of the remaining CREE.

In its development efforts for the Bear Lodge REE Project, the Company has done extensive laboratory bench-scale and pilot plant testing on metallurgical processes to recover saleable rare earth products and has filed six patents on its metallurgical processing innovations. Among them, the Company has pilot tested and filed for patent protection on a rare earth separation technique that modifies conventional solvent extraction methods used for rare earth separation to be more cost efficient and environmentally sound, involving minimal waste effluents discharged from the process.

During the first quarter of 2016, we placed the Bear Lodge REE Project under care-and-maintenance, and all permitting and licensing activities were suspended. Based on current permitting and licensing timetables and other factors, we anticipate that we could receive all permits and licenses for the Bear Lodge REE Project approximately 18 to 30 months after resuming permitting and licensing efforts, which efforts may be dependent upon the success of our demonstration plant.

Our near-term focus is on the progression of the demonstration plant as further described below. Assuming the demonstration plant operation is successful, the Company plans to evaluate the feasibility of processing and separating REE from the Bear Lodge REE Project as well as other sources.

Once the decision to resume the Bear Lodge REE Project development activities is made, our plan is to advance engineering in preparation for the FS, including an evaluation of a potential modular approach to development beginning with a smaller initial production facility which would then be scaled up. Our ability to begin construction activities on the Bear Lodge REE Project will be subject to various factors including: (i) the availability of adequate capital, (ii) results of

the demonstration plant, (iii) a positive FS, (iv) securing off-take customers at adequate prices, (v) obtaining necessary permits and licenses, and (vi) approval from the Company's board of directors (the "Board of Directors" or the "Board").

The Bear Lodge REE Project deposit is located near excellent mining infrastructure, including good road access and power lines within two kilometers of the property. The Bear Lodge REE Project site is 100 kilometers east of Gillette, Wyoming, a major infrastructure, support and logistics center for coal mines in the Powder River Basin that should provide for ready access to the required production supplies and materials as well as skilled labor. Additionally, the deposit is situated only 64 kilometers from the nearest railhead at Upton, Wyoming, where the demonstration plant and the proposed hydrometallurgical plant are planned to be sited, allowing access to major distribution channels via the adjacent railhead as well as convenient access to utilities and other infrastructure.

Additional information regarding the Bear Lodge REE Project and the Bear Lodge Property is included under the section heading "Item 2. Properties" in this Annual Report.

RECENT CORPORATE DEVELOPMENTS

Confirmation and Enhancement of Proprietary Technology

During the year ended December 31, 2021, we completed the pilot plant phase for the confirmation and enhancement of our proprietary technology for recovery and separation of rare earth elements. The work was conducted by Umwelt-und Ingenieurtechnik GmbH Dresden ("UIT"), an affiliate of Synchron, our largest shareholder, and of General Atomics Corporation, a California corporation ("General Atomics"), under an agreement with the Company. The results are to be incorporated into the demonstration plant, as described below.

Department of Energy Financial Award and Rare Earth Demonstration Plant Project

In January 2021, a consortium of companies, of which the Company is a part, received notice from the Department of Energy ("DoE") that the consortium had been selected for negotiation of a potential financial award for the engineering, construction and operation of a rare earth separation and processing demonstration plant. The consortium of companies is led by General Atomics, an affiliate of Synchron, and includes certain of General Atomics' affiliates, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor. A formal proposal was submitted by the consortium in response to a published Funding Opportunity Announcement in mid-2020 for the construction and operation of a rare earth separation and processing plant utilizing proprietary technology to produce commercial grade products. The DoE finalized the award, and an agreement was executed by the DoE's grants/agreement officer on September 27, 2021, with an effective date of October 1, 2021. The Company, as a subrecipient of the award, along with the other consortium members, commenced work on the planning and design of the demonstration project in November 2021, with the Company's contractual arrangement with General Atomics finalized in December 2021. The DoE funding is in the amount of \$21,900 and represents approximately one-half of the total estimated costs for the project. The demonstration plant will process already stockpiled high-grade material from the Bear Lodge REE Project.

To address the Company's funding needs, during December 2021, the Company completed a rights offering for gross proceeds of approximately \$25,400 in which each holder of the Company's common shares as of the close of business on the record date of October 19, 2021 was eligible to participate. Terms of the rights offering included the issuance of one subscription right for each common share owned by each holder on the record date, with each subscription right entitling the holder to purchase one common share of the Company at a subscription price of \$0.24 per share (the "basic subscription privilege"). If any holder exercised its basic subscription privilege in full, the holder could also exercise an oversubscription privilege to purchase additional common shares for which were unsubscribed at the expiration of the rights offering, subject to availability and pro rata allocation of shares among persons exercising the oversubscription privilege. The Company plans to use the net proceeds from the rights offering for the permitting, licensing, engineering, construction and operation of the demonstration plant near the Company's Bear Lodge Project and other general corporate purposes, with a portion utilized for the prepayment of outstanding indebtedness, in the principal amount of \$1,000, which repayment was completed in December 2021. The previously discussed \$21,900 financial award from the DoE for the demonstration plant will fund approximately one-half of the expected total cost of the demonstration plant, with the balance of the required funding being provided by the Company utilizing the proceeds of the rights offering.

Even with the completion of the rights offering, the Company does not have sufficient funds to progress with longer-term activities beyond the demonstration plant, including feasibility studies, permitting, licensing, development and construction related to the Bear Lodge REE Project. Therefore, the achievement of these longer-term activities will be dependent upon receipt of additional funds through financings, off-take agreements, joint ventures, strategic transactions, or sales of various assets. There is no assurance, however, that the Company will be successful in completing other financings or transactions. Ultimately, in the event that the Company cannot secure additional financial resources, or complete a strategic transaction in the longer term, it may need to suspend its operational plans or even have to liquidate its business interests, and investors may lose all or part of their investment.

Further, throughout 2021, we continued to monitor the general U.S. political climate and actions taken by the U.S. government to secure a domestic, rare earth supply chain. The U.S. federal government issued two Presidential Executive Orders in 2017 to encourage and support the establishment of a domestic rare earth supply chain and to strengthen the defense industrial base with respect to critical minerals including rare earths. In June 2019, the Department of Commerce released its report entitled “Federal strategy to ensure secure and reliable supplies of critical minerals.” This was followed by five U.S. Presidential Determinations on July 22, 2019, directed to the Secretary of Defense. One Presidential Determination declared that “the domestic production capability for Rare Earth Metals and Alloys is essential to the national defense.” These initiatives have increased the federal government’s level of interest in the rare earth industry and our potential rare earth products as a critical upstream segment of the supply chain, particularly considering Chinese dominance in the global rare earth market. In addition, COVID-19 has further focused the U.S. government on the importance of implementing secure domestic supply chains, including for rare earths, leading to a further Presidential Executive Order issued in February 2021 calling for an expedited 100-day review to address the strengthening of America’s supply chains, specifically requiring the Department of Defense to (i) submit a report identifying “risks in the supply chain of critical minerals and other strategic materials including rare earth elements” and (ii) make policy recommendations to address the risks. The 100-day review led to another Executive Order on June 8, 2021, calling for an investment in sustainable domestic and international production and processing of critical minerals, including a recommendation that Congress take actions to recapitalize and restore the National Defense Stockpile of critical minerals and materials. The Company monitors and participates in these initiatives as they are critical to the production of rare earth magnets used in the United States to support the manufacturing of, among other things, defense technologies, electric vehicles, wind turbines, consumer electronics, and oil refining equipment.

COVID-19 Impact on Business

In response to the COVID-19 pandemic, we implemented travel restrictions, both domestically and internationally, and our employee and consultants abided by government guidance and orders. As a result, we saw delays in the metallurgical studies conducted by UIT that slowed the progression of the prior test work. Although the slower progression is not material to the Company’s plans at this time, any continued pandemic impact may be material to the completion of the design inputs needed for the demonstration plant. Any further economic downturn triggered by COVID-19 and any resulting direct and indirect negative impact on us could have a material adverse impact on our future activities, cash flows and liquidity. We may experience higher prices for the equipment and raw materials for the demonstration plant due to shortages, commodity inflation and supply chain issues, including transportation delays as a result of COVID-19 and other economic factors. Further, it is unknown what, if any, impact COVID-19 and any resulting economic factors will have on rare earth prices and market supply and demand fundamentals. For further discussion of this matter, refer to “Item 1A. Risk Factors” in Part II of this report.

TRENDS AND DESCRIPTION OF THE REE MARKET

Uses for REE Products

Due to variations in physical, chemical, molecular and application characteristics, different rare earth metals possess their own market uses, drivers and challenges. REEs are used in computers, cellular telephones, television screens, wind turbines, fuel cells, automobiles, magnetic refrigeration technologies, energy-efficient lighting, petroleum-refining catalysts and numerous other modern specialty technologies including military applications. Lately, the major driver for the rare earth metals market has been the increasing consumption in permanent NdFeB rare earth magnets, in which rare earth metals such as Nd, Pr, Tb, and Dy are used. Specifically, these REEs are used in hybrid-electric vehicles and all-

electric vehicles as well as in wind turbines. Ce, La, and other REE are widely used in applications such as metallurgy, catalysts, glass, ceramics, optical instruments, and polishing.

Trends Affecting REE Supply, Demand and Prices

In 2021, rare earth mine production was estimated to total 250,000 tonnes REO with refined production estimated to be 170,000 tonnes REO, a 13% increase from 2020 due to increased production from China to over 140,000 tonnes REO. China dominates the global supply of rare earths at both the mined and refined stages, accounting for 62% of global mine production and 83% of refined production in 2021. An additional 15% of refined production came from Asia Pacific. China's decreased share of global mine production is partly due to increased U.S. production of concentrate products which are sent to China for downstream refining.

In the rest of the world, specifically in the U.S. and Australia, certain competitors constitute the second tier of rare earth concentrate producing companies, with the largest production of 42,000 tonnes REO from the U.S. A facility in Malaysia produces separated rare earths from about 52,000 tonnes REO mine production in Australia.

The rapid growth in demand for certain REE, specifically Nd and Pr used in permanent magnets, is expected to continue as magnets containing REE give improved performance compared with other magnets. Increased focus on clean energy is pushing the demand for wind turbines and electric vehicles, which in turn will drive the demand for rare earth magnets in electric motor and generator applications. Magnet demand now accounts for approximately 39% of total rare earth demand and greater than 80% of REE market value.

The research and advisory firm, Wood Mackenzie Limited, has estimated that the annual global demand for rare earth oxides for use in permanent magnets reached 56,500 tonnes REO in 2020, representing 39% of total REE demand. For 2022 the forecast demand for the automotive sector is equivalent to 19,100 tonnes REO. The firm anticipates overall growth in demand from automotive and renewable energy generation to grow at very rapid rates through 2030 of 17.5% and 14.9% respectively. Cumulative wind energy generation capacity is forecast to increase from 754 gigawatts ("GW") in 2020 to 2,312 GW in 2035, before reaching 3,977.6 GW by 2050. Rare earth demand is forecast to increase from 3.3 thousand tonnes ("kt") REO in 2020 to 11.2 kt in 2035, a CAGR of 8.4%. Demand is forecast to peak at 14.5 kt REO in 2043.

Supply and demand factors for REE products that could positively impact future REE prices include the following, among other factors:

- the use of Nd, Pr, Tb and Dy in high-strength magnets that are critical to multiple defense applications, hybrid and electric vehicles and the increased construction of wind power generation facilities, particularly large off-shore installations;
- the use of high-strength NdFeB magnets in the miniaturization of electronic products;
- the use of La in FCCs by refineries processing lower quality crude oil that consumes greater quantities of the catalysts;
- the increased use of REEs in the drive to improve energy efficiency and reduce GHGs by the U.S., China and the European Union;
- China consolidating its REE industry and closing small, inefficient and polluting REE producers;
- the capping of production, tightening of export volumes and imports by China;
- changes in trade policies, including changes in taxes or import/export duties for REE materials by the U.S. government and China;

- the use of Ce in glass, ceramics, glass polishing, and advanced water filtration applications;
- the continued research and commercialization of new applications for REE products; and
- the rising costs in China due to stricter environmental controls and rising wages.

Supply and demand factors for REE products that could negatively impact future REE prices include the following, among other factors:

- the potential for oversupply of certain REEs due to new production outside of China and/or increased exports from China;
- strong demand for selected REEs like magnet materials, driving overproduction of other co-product REEs and creating oversupply conditions for the less desired REEs;
- the potential substitution of other materials for higher-priced REEs;
- economization by intermediate and end-users to reduce their usage of REEs in end-products;
- the potential for increased recycling of higher-priced REEs;
- fluctuating oil, gas and coal prices that could reduce the demand for technologies using REEs;
- static or lower global economic growth, reducing overall demand growth for REEs; and
- potential by-product production of REEs that may increase supply irrespective of the economics of REE production from primary mines.

The feasibility of the Bear Lodge REE Project and our ability to raise additional funds to develop the Bear Lodge REE Project may be impacted by global supply and demand and future prices of REEs.

SEASONALITY

At this stage, seasonality in the state of Wyoming is not a material factor to any future exploration, development and operating activities on the Bear Lodge Property. Snowfall in the winter may temporarily limit our access to the Bear Lodge Property and our ability to explore or operate from approximately November through June, but it is not a material issue at this time.

COMPETITION

The industry in which we operate is highly competitive. We compete with other mining and exploration companies, both within the U.S. and internationally, for the exploration and development of mineral properties and production of REEs as well as funding for projects. There is competition for the limited number of opportunities, some involving companies having substantially greater financial resources, staff and facilities than we do, and some with rare earth operational experience. We also compete with other mining and exploration companies in our efforts to hire and retain experienced professionals. As a result, we may have difficulty attracting or retaining key personnel or securing outside technical resources.

In 2021, China accounted for an estimated 62% of global REE mine production and 83% of refined production. Wood MacKenzie has forecasted that throughout the next three decades, China will continue to account for 49-56% of worldwide refined product demand reaching 180,900 tonnes by 2050 (51.5% of 2020 global demand). It is likely that the Chinese will be able to dominate the market for REEs for the foreseeable future. This gives the Chinese producers a competitive advantage in controlling the supply and processing of REEs and an opportunity to influence prices to discourage

competition. Any increase in the amount of REEs exported from other nations increases supply and may result in price reductions, reduced margins and loss of potential market share, any of which could materially adversely affect our business. As a result of these factors, the Company may not be able to compete effectively against current and future competitors. See “Item 1A. Risk Factors” of this Annual Report.

PATENTS, TRADEMARKS AND LICENSES

We plan to rely on a combination of trade secret protection, nondisclosure agreements, trademarks and patents to establish and protect our proprietary intellectual property rights.

As of December 31, 2021, we had filed six U.S. provisional patent applications relating to processing methods, including (1) selective recovery of REEs from mixed chloride leach solutions using oxalic acid, (2) thorium extraction process technology, and (3) separation of cerium and/or thorium from bulk REEs in a solvent extraction (“SX”) process. These provisional applications provided the basis for the current patent portfolio, which includes one issued U.S. patent and one pending U.S. patent application, one pending foreign application, and fourteen issued foreign patents across thirteen separate foreign jurisdictions. The issued patents have a term of 20 years measured from the filing date of the utility patent applications. We licensed our intellectual property relating to our patents-pending and related technical information to Synchron in October 2017, which license became exclusive to Synchron and its affiliates in October 2019, subject to the Company’s ownership and use rights in the intellectual property and any improvements made thereon. See “Item 1A. Risk Factors” of this Annual Report. Several of these technologies have potential value for application in other industries, and the Company is evaluating this potential.

ENVIRONMENTAL REGULATION

Our exploration and planned development, mining and processing activities are subject to extensive and demanding environmental laws and regulations under various federal, state, county and local laws relating to the protection of the environment, which generally includes air and water quality, hazardous waste management, radionuclide handling and reclamation. Failure to comply with these requirements can result in civil and/or criminal liability for non-compliance, fines and penalties, clean-up costs and other environmental damages. Also, unanticipated developments or changes in the law could require us to make environmental expenditures significantly greater than those we currently expect. Environmental laws historically have evolved in a manner that requires stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for companies and their officers, directors and employees. Current and future laws, regulations and permits will impose significant costs, liabilities or obligations or could limit or prevent our ability to continue operations or undertake new operations. The change in the U.S. presidential administration and the change in composition of Congress in 2021 and thereafter, could result in more stringent environmental regulation of our operations. Environmental hazards may exist on the properties in which we hold interests that are unknown to us at present and that have been caused by previous owners of the properties.

Our Bear Lodge Property in Wyoming is subject to federal and state environmental laws, regulations, and permits. The federal agency with primary regulatory jurisdiction is the U.S. Forest Service (the “USFS”), Bearlodge Ranger District, Sundance, Wyoming. The state agency with regulatory jurisdiction is the Wyoming Department of Environmental Quality. We operate under approvals and permits granted by these two agencies and have established a surety bond to ensure environmental reclamation of areas disturbed. As of December 31, 2021, the Company holds surety bond with the state of Wyoming of \$132. Prior to operating, we will require several other permits and licenses including those issued by the Nuclear Regulatory Commission (the “NRC”), U.S. Army Corps of Engineers and others.

MINERALS EXPLORATION REGULATION

Mining operations and exploration and development activities are subject to various national, state, county and local laws and regulations in the U.S. that govern prospecting, exploration, development, mining, production, processing, exports, taxes, labor standards, occupational health, waste disposal, protection of the environment, mine safety, hazardous substances and other matters. The Company believes that it is in compliance in all material respects with applicable mining,

health, safety and environmental statutes and regulations. There are no current orders or notices of violations relating to the Company under applicable laws and regulations.

Compliance with these laws and regulations may impose substantial costs on the Company and could subject it to significant potential liabilities. Changes in these laws or regulations could require us to expend significant resources to comply with new laws or regulations, or changes to current requirements, and could have a material adverse effect on our business operations.

MINE SAFETY AND HEALTH REGULATIONS

Pursuant to Section 1503(a) of the Dodd–Frank Wall Street Reform and Consumer Protection Act (the “Dodd–Frank Act”), issuers that are operators, or that have a subsidiary that is an operator, of a coal or other mine in the U.S. are required to disclose in their periodic reports filed with the SEC information regarding specified health and safety violations, orders and citations, related assessments and legal actions, and mining-related fatalities. During the year ended December 31, 2021, our Bear Lodge Property was not subject to regulation by the federal Mine Safety and Health Administration under the Federal Mine Safety and Health Act of 1977.

EMPLOYEES

At December 31, 2021, we had one full-time employee and no part-time employees. Our employee is not covered by any collective bargaining agreements. When required, our employee calls on the services of third parties under consulting or service agreements.

AVAILABLE INFORMATION

We make available, free of charge, on or through our Internet website, at www.rareelementresources.com, our annual reports on Form 10-K, our quarterly reports on Form 10-Q and our current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. Our Internet website and the information contained therein or connected thereto are not intended to be, and are not, incorporated into this Annual Report.

Our reports and other information can be inspected on the SEC’s website at www.sec.gov. The Company also files reports under Canadian regulatory requirements on the System for Electronic Document Analysis and Retrieval (“SEDAR”). The Company’s reports which are filed on SEDAR can be found on the Company’s SEDAR profile at www.sedar.com.

ITEM 1A. RISK FACTORS

The following sets forth certain risks and uncertainties that could have a material adverse effect on our business, financial condition and/or results of operations and the trading price of our common shares, which may decline, and investors may lose all or part of their investment. Additional risks and uncertainties that we do not presently know or that we currently deem immaterial also may impair our business operations. We cannot assure you that we will successfully address these risks. Our risk factors are grouped into the following categories:

- Risks Related to Our Business;
- Risks Related to the Mineral Exploration, Development, Mining and Processing Industries;
- Risks Related to Our Common Stock; and
- General Risk Factors.

Risks Related to Our Business

We may not be able to successfully license or permit, or complete our demonstration plant project or secure the full DoE funding through the project schedule.

The demonstration plant is expected to be completed within 40 months from project inception. The demonstration plant requires permits and licenses in order to construct and operate the plant. We may not be able to timely secure those permits and licenses to ensure that the project is able to progress. Further, the approved DoE schedule has two go/no-go decision points during the term. Should the project team and/or the DoE determine not to proceed with the project, funding would be halted, and the project would be terminated or delayed, which could have a material adverse effect on our development plans.

We have no revenues from operations and expect to incur losses for a significant period of time. Any future revenues and profits are uncertain.

We incurred net losses of \$5,402 and \$3,228 during the fiscal years ended December 31, 2021 and 2020, respectively. Our accumulated deficit at December 31, 2021 was \$139,218. As of December 31, 2021, we had cash and cash equivalents of \$24,947 and working capital of \$23,885.

Even with the completion of the rights offering, the Company does not have sufficient funds to progress with longer-term activities beyond the demonstration plant project, including feasibility studies, permitting, licensing, development and construction related to the Bear Lodge REE Project. Therefore, the achievement of these longer-term activities will be dependent upon receipt of additional funds through financings, off-take agreements, joint ventures, strategic transactions, or sales of various assets. There is no assurance, however, that the Company will be successful in completing other financings or transactions. Ultimately, in the event that the Company cannot secure additional financial resources, or complete a strategic transaction in the longer term, it may need to suspend its operational plans or even have to liquidate its business interests, and investors may lose all or part of their investment.

Our largest shareholder beneficially owns a majority of our common shares, has significant influence on our major corporate decisions, including veto power over some matters, and could take actions that may not be viewed favorably by certain other shareholders, any of which actions could adversely affect the market price of our common shares.

Synchron currently owns approximately 54.8% of the issued and outstanding common shares of the Company. Additionally, Synchron has approval rights for certain corporate actions and the right to nominate three of seven directors to the Company's Board.

As a result of the foregoing, Synchron has significant influence on our major corporate decisions and matters requiring shareholder approval, including the election of directors, mergers, consolidations and acquisitions, the sale of all or substantially all of our assets and other decisions affecting our capital structure, the amendment of our certificate of incorporation and articles, and our winding up and dissolution. These rights, along with the concentration of ownership and voting power with Synchron, (i) may make it more difficult for any other holder or group of holders of our common shares to be able to significantly influence the way we are managed or the direction of our business and (ii) may make it more difficult for another company to acquire us and for shareholders to receive any related takeover premium unless Synchron approves the acquisition. The interests of Synchron with respect to matters potentially or actually involving or affecting us, such as future acquisitions, financings, and other corporate opportunities, and attempts to acquire us, may conflict with the interests of our other shareholders. The ability of Synchron to influence certain of our major corporate decisions may affect the market price of our common shares by delaying, deferring, or preventing transactions that are or are perceived to be in the best interest of other shareholders or by discouraging third-party investors.

By granting a license in our intellectual property rights, we may be limited in our ability to protect our intellectual property rights, which could adversely impact our competitive position or results of operations.

On October 2, 2017, we entered into an Intellectual Property Rights Agreement with Synchron pursuant to which Synchron and its affiliates were granted certain perpetual rights to the intellectual property of the Company relating to its rare earths patents-pending and related technical information. Upon the exercise of its option on October 16, 2019, Synchron and its affiliates' intellectual property rights became exclusive, subject to the Company's ownership and use rights in the intellectual property and any improvements made thereon. As a result of the transactions contemplated by the Intellectual Property Rights Agreement, we may be forced to enforce or defend our intellectual property rights against infringement and unauthorized use, and to protect our trade secrets. Further, by granting a license to use our intellectual property, we may be limited in our ability to protect our intellectual property rights by legal recourse or otherwise. In defending our intellectual property rights, we may place our intellectual property at risk of being invalidated, held unenforceable, narrowed in scope or otherwise limited, any of which could have a material adverse effect on our business and financial condition. Our inability to preserve or maintain an interest in certain intellectual property rights could adversely impact our competitive position or results of operations.

We have suspended our federal and state licensing, permitting progression for Bear Lodge, and there is a risk to the resumption of those efforts in a timely and cost-effective manner.

During the first quarter of 2016, we placed the Bear Lodge REE Project under care-and-maintenance, and all licensing and permitting activities were suspended, including the environmental impact statement ("EIS") process, state permitting, and the NRC licensing process. The Company continued the 2016 implemented cost-conservation measures through 2021. Given the completion of the transactions with Synchron on October 2, 2017 and October 16, 2019 (as discussed in "Item 7 Management Discussion and Analysis, Financial Liquidity and Capital Resources"), the Company is focused on continuing the confirmation and enhancement of our proprietary technology for rare earth processing and separation through the demonstration plant. The Company will also continue with certain limited exploration-related reclamation activities in 2022 as required and appropriate. However, our ability to obtain further financing to fund the completion of the licensing and permitting once resumed is uncertain. If we are unable to timely progress our licensing and permitting while the information is still deemed adequate by the applicable regulatory agencies, we may have to restart these processes, or take extra steps to ameliorate or reinitiate the processes, which would impact the cost and timing of licensing and permitting.

Our ability and timing to exercise our right to purchase certain non-mineral lands for stockpile storage and processing operations is uncertain.

Our current plan of operations for the Bear Lodge REE Project includes a waste rock storage site located on private property adjacent to the planned mine. This private property consists of 640 acres and was sold to a third party on October 26, 2016. Although we hold a repurchase option on the property until October 2024 (subject to our payment of annual option extension fees), our ability and the timing of our exercise of the repurchase option is uncertain. If we were unable to repurchase the property, we would have to update our planned operations to identify an alternative waste rock storage area. Additionally, we hold a land purchase option on private property located in Upton, Wyoming, which is the location for our planned processing operations. If we are unable to maintain the purchase option, which is renewed annually in October each year, we would have to locate and secure another site as a suitable rare earth processing location.

We have no history of producing mineral products from our properties.

We have no history of mining, recovering or refining any mineral products, and our Bear Lodge REE Project is not in development or producing. There can be no assurance that the Bear Lodge REE Project will be successfully developed and placed into production, produce minerals in commercial quantities or otherwise generate operating earnings. Advancing properties from the exploration stage into development and commercial production requires significant capital and time and will be subject to further feasibility studies, permitting and licensing requirements and construction of the mine, processing plants, roads and related works and infrastructure. We will continue to incur losses until such time, if ever, when our mining activities successfully reach commercial production levels and generate sufficient revenue to fund continuing operations. There is no certainty that we will produce revenue from any source, operate profitably, or provide

a return on investment in the future. If we are unable to generate revenues or profits, our shareholders might not be able to realize returns on their investment in our common shares.

The planned development of our Bear Lodge REE Project involves numerous uncertainties that could affect the feasibility or profitability of such project.

Mine development projects typically require a number of years and significant expenditures during the exploration and development phases before production is possible. The economic feasibility of exploration and development projects is based on many factors, such as the following:

- completion of feasibility studies to evaluate mineral resources and mineral reserves and commercial viability;
- the timing and cost, which can be considerable, of further exploration, licensing, permitting and construction of infrastructure, mining, processing and/or beneficiation facilities;
- our ability to utilize our proprietary process technologies, which could encounter problems or unexpected costs in scale-up;
- securing commercially viable sales outlets for our REE products;
- the potential need to enter into joint venture or other partnership arrangements to develop the Projects;
- the availability and costs of equipment and skilled labor, as required;
- the availability and cost of appropriate processing and/or refining arrangements, if required;
- compliance with environmental and other governmental approval and permit requirements;
- the availability of funds to finance exploration, development and construction activities, as warranted;
- future prices for rare earth minerals;
- potential opposition from non-governmental organizations, environmental, indigenous or local groups or inhabitants that may delay or prevent development activities;
- potential increases in exploration, construction and operating costs due to changes in the cost of fuel, power, materials or supplies;
- potential shortages of mineral processing and/or beneficiation, construction or other facilities-related equipment or supplies; and
- the ability to attract and retain talent for development and operation of the Projects.

It is common in exploration programs and in development, construction and mine start-ups to experience unplanned problems and delays. Accordingly, our activities may not result in profitable mining operations, and we may not succeed in establishing mining operations or profitably producing minerals from our Projects at all or in a reasonable timeframe.

Joint ventures and other partnerships may expose us to risks.

We will require additional capital through investment, joint ventures and/or other partnership arrangements with current investors or other parties for the development of our Projects. Although such arrangements may lessen our financial burden in exploring and developing the Projects, they will likely also dilute our interest therein or affect our ability to control development of either of the Projects. Our ability to attract additional capital may be impeded by our significant

shareholder Synchron, as it holds certain contractual approval rights and its approval may be required. In addition, as a majority shareholder, Synchron has significant influence on our major corporate decisions and matters requiring shareholder approval. Any failure of a joint venture partner or other partner to meet its obligations to us or to third parties, or any disputes with respect to the parties' respective rights and obligations, could have a material adverse effect on the joint venture or other partnership arrangement and, in turn, on our business performance and on our ability to develop the Projects.

Subject to further financing, and progression and outcome of the demonstration plant, we may commence a FS on our Bear Lodge REE Project, and the results of this FS are uncertain.

In October 2014, we completed a PFS for our Bear Lodge REE Project that updated our mineral resource estimate and refined plans for our process technology. Subject to further financing and the results of the demonstration plant, we may resume work on a FS. Whether the Company undertakes a FS in the future and, if so, the results of any such study, are uncertain and may indicate project economics that are more or less favorable than those previously reported. As our project optimization efforts continue, we cannot ensure that the FS will be based upon all of the same inputs used in the PFS. As a result, we may need to update our processing and/or beneficiation technology, and/or project development plans to enhance economics or further study aspects of the Bear Lodge REE Project. This could result in significant additional delays and expenses or could make financing efforts with respect to such efforts more difficult or not possible. In addition, there is a risk that the Company may not resume work on a FS.

Our viability as a rare earth company depends, in large part, on the financing, licensing and permitting, development and operation of our Bear Lodge REE Project, which is our only rare earth project.

Our only rare earth exploration project at this time is our Bear Lodge REE Project. Our continued viability is based, in large part, on successfully implementing our strategy, including completion of a FS, licensing, permitting and construction of a mine and processing and/or beneficiation facilities in a reasonable timeframe. If we are unable to secure additional capital or enter into a strategic transaction and implement our strategy, or in the event of the imposition of significant additional regulatory burdens or delays or a significant deterioration of the market for rare earth products, our ability to develop a sustainable or profitable business would be materially adversely affected. If the Bear Lodge REE Project does not proceed, then the viability of the Company may depend upon the ability to process REE from sources other than Bear Lodge using our proprietary technology assuming the technology is successfully proven through the operation of the demonstration plant.

Increased costs could affect our ability to bring the Bear Lodge REE Project into production and, once in production, to be profitable.

We estimated the initial capital costs required to bring the Bear Lodge REE Project into commercial production in our historical PFS, dated October 9, 2014, at approximately \$290,000. Our FS, if and when completed, could suggest that our estimated costs may be materially higher than those we previously anticipated, which could make it more difficult to finance the Bear Lodge REE Project or to successfully establish mining operations.

We anticipate that our future operating costs at the Bear Lodge REE Project will vary from year to year due to a number of factors, such as changing grade, metallurgy and revisions to mine plans in response to the physical shape and location of the ore body. In addition, costs are affected by the price of commodities such as oil, gas, reagents/chemicals, steel, rubber and electricity. Such commodities are at times subject to volatile price movements, including increases that could make production less profitable or not profitable at all. A material increase in costs could also impact our ability to commence or maintain future development or mining operations.

The COVID-19 pandemic may have an adverse impact on our business.

The COVID-19 pandemic and similar issues in the future could have a material adverse effect on our ability to raise capital, construct or operate our demonstration plant, mine or production facility, or execute our business plans. In addition, preventive measures we may voluntarily put in place may have a material adverse effect on our business for an indefinite period of time, such as decreased employee or contractor availability, unavailability of needed products or services, or

disruptions to the businesses of our contracted service providers and others. Our suppliers may also face these and other challenges, which could lead to a disruption or delay in their services. The pandemic and resulting economic slowdown may also impact the supply and demand for rare earths domestically and globally. Although these disruptions may continue to occur, the long-term economic impact and near-term financial impacts of the COVID-19 pandemic cannot be reasonably estimated at this time due to the uncertainty of future developments.

We expect to rely on our proprietary technology and processes to further our Bear Lodge REE Project.

We utilize trade secret protection and nondisclosure agreements to protect our proprietary rare earth technology. As of December 31, 2021, we had filed six U.S. provisional patent applications relating to processing methods, including (1) selective recovery of REEs from mixed chloride leach solutions using oxalic acid, (2) thorium extraction process technology, and (3) separation of cerium and/or thorium from bulk REEs in a solvent extraction (“SX”) process. These provisional applications provided the basis for the current patent portfolio, which includes one issued U.S. patent and one pending U.S. patent application, one pending foreign application, and fourteen issued foreign patents across thirteen separate foreign jurisdictions. The issued patents have a term of 20 years measured from the filing date of the utility patent applications. We licensed our intellectual property relating to our patents-pending and related technical information to Synchron in October 2017, which license became exclusive to Synchron and its affiliates in October 2019, subject to the Company’s ownership and use rights in the intellectual property and any improvements made thereon.

The success of our business depends, in part, on our ability to utilize our proprietary process technologies, and we could encounter unforeseen problems or costs, or both, in scaling up our technologies to commercial applications.

Our mineral resource estimates for our projects may need to be updated.

Our mineral resources have not been updated and, as such, should not be relied upon as they may be updated prior to further feasibility work. Accordingly, previous mineralization estimates for the Bear Lodge REE Project will require confirmation or adjustments. The Sundance Gold Project is in the early exploration stage and has been on hold since 2014. Additionally, it is too early to estimate resources or the gold production potential of the property.

We depend on key personnel, and the absence of any of these individuals could adversely affect our business.

Our success is currently largely dependent on the performance, retention and abilities of our directors, President and Chief Executive Officer (“CEO”) and certain consultants. The loss of the services of these persons could have a material adverse effect on our business and prospects. There is no assurance that we can maintain the services of our directors, CEO, or other qualified personnel and consultants required to operate our business. Failure to do so could have a material adverse effect on us and our prospects. We do not maintain life insurance policies on our employees, directors or consultants.

U.S. investors may not be able to enforce their civil liabilities against us or our directors, controlling persons and officers.

It may be difficult to bring and enforce suits against us. We are incorporated in the province of British Columbia, Canada under the BCBCA. Some of our directors may be residents of Canada, and a substantial portion of their assets are located outside of the U.S. As a result, it may be difficult for U.S. holders of our common shares to effect service of process on these persons within the U.S. or to recover in the U.S. on judgments rendered against them. In addition, a shareholder should not assume that the courts of Canada (i) would enforce judgments of U.S. courts obtained in actions against us or such persons predicated upon the civil liability provisions of the U.S. federal securities laws or other laws of the U.S., or (ii) would enforce, in original actions, liabilities against us or such persons predicated upon the U.S. federal securities laws or other laws of the U.S.

We believe that we were a “passive foreign investment company” (“PFIC”) for the year ended December 31, 2021, and could be a PFIC in subsequent years, which could have adverse U.S. federal income tax consequences for U.S. shareholders.

An investor in our common shares that is a U.S. taxpayer (referred to as a U.S. shareholder) should be aware that we believe that we were a PFIC for the year ended December 31, 2021. We also expect that we will be a PFIC for the year ending December 31, 2022 but our PFIC status for such year may not be free from doubt. We may or may not be a PFIC in subsequent years. The tests for determining PFIC status depend upon a number of factors, some of which are beyond our control and can be subject to uncertainties. Accordingly, we cannot provide certainty that we were or were not a PFIC for the year ended December 31, 2021, or that we will or will not be a PFIC for the year ending December 31, 2022, or for any future year. We will use commercially reasonable efforts to provide information regarding our status as a PFIC and the PFIC status of any subsidiary in which the Company owns more than 50% of such subsidiary’s total aggregate voting power to U.S. shareholders who make a written request for such information. Adverse rules apply to U.S. shareholders who own our common shares if we are a PFIC and have a non-U.S. subsidiary that is itself a PFIC, as may be the case with our wholly owned subsidiary, Rare Earth Holdings, Ltd., a British Columbia, Canada corporation. Each U.S. shareholder should consult its own tax advisor regarding the U.S. federal, U.S. federal alternative minimum, U.S. federal estate and gift, and U.S. state and local tax consequences of the PFIC rules and the acquisition, ownership, and disposition of our common shares if we are or become a PFIC. For additional information regarding PFIC tax consequences, see “Part II, Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities—Certain U.S. Federal Income Tax Considerations—Passive Foreign Investment Company Rules.”

Risks Related to the Mineral Exploration, Development and Mining Industries

We may be adversely affected by fluctuations in demand for, and prices of, rare earth products.

Because our primary focus currently is the advancement and development of a demonstration plant and ultimately the Bear Lodge REE Project, changes in demand for, and the market price of, REE products could significantly affect our ability to develop or finance the Bear Lodge REE Project, and eventually attain commercial production or profitability. REE product prices may fluctuate and are affected by numerous factors beyond our control such as interest rates, exchange rates, inflation or deflation, fluctuation in the relative value of the U.S. dollar against foreign currencies on the world market, global and regional supply and demand for REE products, and the political and economic conditions of countries that produce and use REEs.

As a result of the global pandemic and general economic slowdown during 2020, REE prices declined during the first half of the year. During the second half 2021 REE prices increased markedly as China’s economy began recovering from the COVID-19 impact. Protracted periods of low prices for REE products could significantly reduce our ability to develop the Bear Lodge REE Project and, if we attain commercial production, to maintain profitable operations.

Demand for REE products is impacted by demand for downstream products incorporating rare earths, including hybrid and electric vehicles, wind power equipment and other clean technology products, as well as demand in the general automotive and electronics industries. Lack of growth in these markets could adversely affect the demand for REE products, which would have a material adverse effect on our Bear Lodge REE Project and our business. In contrast, periods of high REE prices are generally beneficial to us; however, strong REE prices, as well as real or perceived disruptions in the supply of REE, also create economic pressure to identify or create non-REE alternate technologies that ultimately could reduce future long-term demand for REE products, and at the same time, may incentivize development of otherwise marginal mining properties. For example, automobile manufacturers have previously announced plans to develop motors for electric and hybrid cars that do not require REE products due to concerns about the available supply of REEs. If the automobile industry or other industries reduce their reliance on rare earth products, the resulting change in demand could have a material adverse effect on our business. In particular, if prices or demand for REEs were to decline, our share price would likely decline, and this could also impair our ability to obtain the funding needed for our operations including the demonstration plant and the Bear Lodge REE Project, and our ability to find purchasers for our products at prices acceptable to us or at all.

An increase in the global supply of rare earth products, dumping and/or predatory pricing by our competitors may materially adversely affect our ability to raise capital, develop our Bear Lodge REE Project or operate profitably.

The pricing and demand for REE products is affected by a number of factors beyond our control, including growth of economic development and the global supply and demand for REE products. REE supply markets continue to be dominated by production from China, which produced an estimated 62% of the global REE mine production and 83% of refined product in 2021. China also dominates the manufacture of metals, NdFeB magnets and other products from REE. The threat of increased competition may lead our competitors to engage in predatory pricing behavior or manipulation of the available supply of REEs. Advanced technology in recycling REEs may also impact supply and prices. Any increase in the amount of REE products exported from other nations and increased competition may result in price reductions, reduced margins or loss of potential market share, any of which could materially adversely affect our business. As a result of these factors, we may not be able to compete effectively against our future competitors.

The success of our business may depend, in part, on the establishment of new uses and markets for rare earth products.

The success of our business may depend, in part, on the establishment of new markets by us or third parties for certain rare earth products. Although we plan to produce rare earth products for use in end-products such as NdFeB magnets, which are used in critical existing and emerging technologies (hybrid and electric vehicles, wind power turbines, oil refining catalysts and compact fluorescent lighting), the success of our business may depend on the creation of new markets in addition to the successful commercialization of REE products in existing and emerging markets. Any unexpected costs or delays in the commercialization of any of the foregoing products or applications could have a material adverse effect on our ability to develop our Bear Lodge REE Project or operate our business profitably.

We are subject to significant governmental regulations, including permitting, licensing and approval processes that affect our operations and could impact the cost and timing of conducting our business.

Our current and future activities will be governed by laws and regulations, including the following, among others:

- laws and regulations governing mineral concession acquisition, prospecting, development, mining, processing, and production;
- laws and regulations related to exports, taxes and fees;
- labor standards and regulations related to occupational health and mine safety;
- laws and regulations relating to environmental protection concerning, among other things, waste management, transportation, and disposal of toxic and radioactive substances, land use, water, air and the protection of threatened and endangered species.

We believe that we hold, or are in the process of obtaining, all licenses and permits necessary to carry on the activities that we currently are conducting or propose to conduct in the near term under applicable laws and regulations. Such licenses and permits are subject to changes in regulations and changes in various operating circumstances. There can be no guarantee that we will be able to obtain all necessary licenses and permits that may be required to maintain the current or planned exploration, development and mining activities, including constructing mines and/or processing and/or beneficiation facilities, and commencing operations at the Bear Lodge REE Project. In addition, if we proceed to production on the Bear Lodge REE Project, we will be required to obtain and comply with permits and licenses that may contain specific operating or other conditions. There can be no assurance that we will be able to obtain such permits and licenses or that we will be able to comply with any such conditions. Our Sundance Gold Project, previously in the exploration stage, but on hold since 2014, does not currently have any of the permits or licenses that would be necessary to carry on further activities on the project. Costs related to applying for and obtaining permits and licenses may be prohibitive and could delay planned exploration and development activities. Failure to comply with applicable laws, regulations and permitting and licensing requirements may result in enforcement actions, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment or remedial actions.

Parties engaged in mining operations may be required to compensate those suffering loss or damage relating to mining activities and may be subject to civil or criminal liability, fines or penalties imposed for violations of applicable laws or regulations. Amendments to current laws, regulations and permits governing operations and activities of mining companies, or more stringent implementation thereof, could have a material adverse impact on our operations, cause increases in capital expenditures or production costs, or require abandonment or delays in the exploration or the development of either of the Projects.

Our activities are subject to environmental risks and compliance with environmental laws and regulations that are increasing and costly.

Our business is subject to environmental regulation in the jurisdictions in which we operate. Environmental laws and regulations at the local, state and federal level could evolve in a manner that may impose stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects, and a heightened degree of responsibility for companies and their officers, directors and employees. These laws address emissions into the air, discharges into water, management of waste and hazardous substances, protection of natural resources, antiquities, endangered species and reclamation of lands disturbed by mining operations. Compliance with environmental laws and regulations at the local, state and federal level and future changes in these laws and regulations may require significant capital outlays and may cause material changes or delays in our current and planned operations and future activities. It is possible that future changes in these laws or regulations could have a significant adverse impact on our Projects or some portion of our business, causing us to reevaluate those activities at that time.

Examples of some of the current U.S. federal laws that may affect our business and planned operations include, but are not limited to, the following:

- The National Environmental Policy Act of 1969 (“NEPA”) requires federal agencies to integrate environmental considerations into their decision-making processes by evaluating the environmental impacts of proposed actions, including issuance of permits to mining facilities, and assessing alternatives to those actions. Under NEPA, a federal agency must prepare an EIS detailing the environmental impacts of “major federal actions significantly affecting the quality of the human environment.” The EPA will, and other federal agencies and any interested third parties can, review and comment on the scope of the EIS and the adequacy of and findings set forth in the draft and final EIS.
- As required, we began in 2012 to undertake the NEPA process for the Bear Lodge REE Project. However, we have since placed the Bear Lodge REE Project under care-and-maintenance, and all permitting and licensing activities have been suspended, including the EIS process. The NEPA process can cause delays in issuance of required permits or result in changes to a project to mitigate potential environmental impacts, which in turn can impact the economic feasibility of a proposed project, including the ability to construct or operate the Bear Lodge REE Project or other projects entirely.
- The NRC, pursuant to its authority under the Atomic Energy Act of 1954, as amended (the “Atomic Energy Act”), oversees the regulatory framework governing the control of radioactive materials, including processing and/or beneficiation of REE that contain radioactive source materials such as uranium and thorium. The NRC is responsible for issuing licenses for source material involving concentrations of uranium or thorium that exceed 0.05% by weight. If a proposed action, including waste generation, results in materials with concentrations of uranium and thorium that equal or exceed 0.05% by weight, a license to receive title to, possess, use, transfer, or deliver source and byproduct materials may be required. As our operations are expected to exceed this concentration, we are required to follow the regulations pertaining to a license application for the demonstration project and the Bear Lodge REE Project. The licensing process, including NEPA review relating to the NRC licensing, may cause delays or result in changes to the demonstration plant and/or the Bear Lodge REE Project design to mitigate impacts as required under the license.
- Under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (“CERCLA”) and similar state laws, responsibility for the entire cost of cleanup of a contaminated site, as well as natural resource damages, can be imposed upon current or former site owners or operators, or upon any party who released one or more designated “hazardous substances” at the site, regardless of the lawfulness of the original activities that led to the contamination. CERCLA also authorizes the EPA and, in some cases, third parties to take actions in response to threats to public health or the environment and to seek to recover from the potentially

responsible parties the costs of such actions. We may also be an owner or operator of facilities at which hazardous substances have been released by previous owners or operators. We may be responsible under CERCLA for all or part of the costs of cleaning up facilities at which such substances have been released and for natural resource damages. We have not, to our knowledge, been identified as a potentially responsible party under CERCLA, nor are we aware of any prior owners or operators of our properties that have been so identified with respect to their ownership or operation of those properties.

- The Resource Conservation and Recovery Act, as amended (“RCRA”), and comparable state statutes, govern the disposal of “solid” and “hazardous” waste and authorize the imposition of substantial fines and penalties for noncompliance, as well as requirements for corrective actions. Although certain mining, mineral processing and/or beneficiation wastes currently are exempt from regulation as hazardous wastes under RCRA, the EPA has limited the disposal options for certain wastes designated as hazardous wastes under RCRA. It is possible that certain wastes generated by our potential future operations that currently are exempt from regulation as hazardous wastes may in the future be designated as hazardous wastes and may therefore become subject to more rigorous and costly management, disposal and clean-up requirements.
- The Clean Air Act, as amended (“CAA”), and comparable state statutes, restricts the emission of air pollutants from many stationary and mobile sources, including mining, processing and/or beneficiation activities. Our planned mining operations may produce air emissions, including fugitive dust and other air pollutants, from stationary equipment, storage facilities, and the use of mobile sources such as trucks and heavy construction equipment that are subject to review, monitoring, control requirements and emission limits under the CAA and state air quality laws. New facilities may be required to obtain permits before work can begin, and existing facilities may be required to incur capital costs to remain in compliance. In addition, permitting and licensing rules and issued permits may impose limitations on production levels or result in additional capital expenditures to comply with such rules or permits. In certain circumstances, private citizens may also sue sources of pollutants for alleged violations of the CAA.
- The Clean Water Act, as amended (“CWA”), and comparable state statutes impose restrictions and controls on the discharge of pollutants into waters of the U.S. These controls generally have become more stringent over time, and it is possible that additional restrictions will be imposed in the future. Violation of the CWA and similar state regulatory programs can result in civil, criminal and administrative penalties for unauthorized discharges of hazardous substances and other pollutants. They also can impose substantial liability for the costs of removal or remediation associated with such discharges. The CWA also requires a discharge permit for certain activities and requires the implementation of a Pollution Prevention Plan establishing best management practices, training, periodic monitoring of covered activities, and monitoring and sampling of stormwater run-off. The CWA and regulations implemented thereunder also prohibit discharges of dredged and fill material in wetlands and other waters of the U.S. unless authorized by a permit issued by the U.S. Army Corps of Engineers.
- The Safe Drinking Water Act, as amended (“SDWA”), and the Underground Injection Control (“UIC”) program promulgated thereunder regulate the drilling and operation of subsurface injection wells. The EPA directly administers the UIC program in some states, and in others the responsibility for certain aspects of the program has been delegated to the state. Violation of these regulations and/or contamination of groundwater by mining related activities may result in fines, penalties, and/or remediation costs, among other sanctions and liabilities under the SDWA and state laws.
- The Endangered Species Act (“ESA”) regulates activities that could have an adverse effect on threatened and endangered species, including the habitat and ecosystems upon which they depend. The ESA protects threatened and endangered species primarily by prohibiting the unauthorized “taking” of listed species. The ESA also requires consultation with other agencies in certain circumstances. Compliance with ESA requirements can significantly delay, limit, or even prevent the development of projects, including the development of mining claims, and can also result in increased development costs. In addition, the ESA authorized both civil and criminal penalties for ESA violations and authorizes citizen suits against any person alleged to be in violation of the ESA.

Regulations and pending legislation governing issues involving climate change could result in increased operating costs that could have a material adverse effect on our business.

A number of governments or governmental bodies have adopted or are contemplating regulatory changes in response to the potential impact of climate change. In the U.S., on December 15, 2009, the EPA published its findings that emissions of carbon dioxide, methane and other GHGs present an endangerment to public health and the environment because

emissions of such gases are, according to the EPA, contributing to the warming of the earth's atmosphere and other climate changes. Based on these findings, the EPA has developed and implemented regulations that restrict GHG emissions under existing provisions of the CAA, including one rule that limits GHG emissions from motor vehicles beginning with the 2012 model year. The EPA has asserted that these final motor vehicle GHG emission standards trigger the CAA construction and operating permit requirements for stationary sources, commencing when the motor vehicle standards took effect on January 2, 2011. On June 3, 2010, the EPA published its final rule to address the permitting of GHG emissions from stationary sources under the Prevention of Significant Deterioration ("PSD") and Title V permitting programs. This rule "tailored" these permitting programs to apply to certain stationary sources of GHG emissions in a multi-step process, with the largest sources first subject to permitting. However, based on a decision of the U.S. Supreme Court, only facilities already required to obtain PSD permits for other criteria pollutants must also reduce GHG emissions that exceed certain thresholds consistent with guidance for determining "best available control technology" standards for GHG, which guidance was published by the EPA in November 2010.

In addition, both houses of Congress have considered legislation to reduce GHG emissions and many states have already taken legal measures to reduce GHG emissions, primarily through the development of GHG inventories, GHG permitting and/or regional GHG "cap and trade" programs. Most of these "cap and trade" programs work by requiring major sources of emissions to acquire and surrender emission allowances, with the number of allowances available for purchase reduced each year until the overall GHG emission-reduction goal is achieved. The new U.S. presidential administration has made climate change legislation and regulation a priority, which, with the change of control of the U.S. Congress, increases the likelihood of increased regulation of GHG emissions.

Although the U.S. had withdrawn from the Paris Agreement, the U.S. formally rejoined the Paris Agreement in February 2021, and, in April 2021, the Biden administration set an economy-wide target of reducing its net greenhouse gas emissions by 50-52% below 2005 levels in 2030. With the U.S. recommitting to the Paris Agreement, additional executive orders may be issued or federal legislation or regulatory initiatives may be adopted to achieve the Paris Agreement's goals.

Legislation and increased regulation regarding climate change could impose significant costs on us and/or our suppliers, including costs related to increased energy requirements, capital equipment, environmental monitoring and reporting and/or other costs to comply with such regulations. Any adopted future climate change regulations could also negatively impact our ability to compete with companies situated in areas not subject to such regulations. Alternatively, climate change legislation potentially could benefit our business by driving demand for products utilizing rare earth containing products. We cannot predict how legislation and regulation will affect our financial condition, operating performance or ability to compete.

Even without such regulation, increased awareness or any adverse publicity in the global marketplace about the rare earth industry's potential impacts on climate change could harm our reputation and business.

The potential physical impacts of climate change on our operations are highly uncertain and would be particular to the geographic circumstances in areas in which we operate. These may include changes in precipitation, storm patterns and intensities, water shortages and changing temperatures. These factors may have an adverse impact on the cost, production or financial performance of our operations.

A shortage of equipment and supplies could adversely affect our ability to operate our business.

We currently do and likely will depend on various supplies and equipment to carry out our activities, including those for the demonstration plant, and, if warranted, future exploration, development and mining operations. A shortage of such supplies, equipment or parts could have a material adverse effect on our ability to carry out our planned activities or increase our operating costs and expenses.

Mineral exploration and development and mining are potentially hazardous and subject to conditions or events beyond our control, which could have a material adverse effect on our business or plans.

Mineral exploration, development and mining involve various types of risks and hazards, including, but not limited to the following:

- environmental hazards;
- power outages;
- metallurgical and other processing problems;
- unusual or unexpected geological formations or conditions;
- personal injury, flooding, fire, explosions, cave-ins, earthquakes, landslides and rock-bursts;
- mineral exploration, transportation or mining accidents;
- concentrate losses;
- fluctuations in exploration, development and production costs;
- labor disputes;
- supply interruptions;
- unanticipated variations in grade;
- mechanical equipment failure;
- periodic interruptions due to inclement or hazardous weather conditions; and
- regulatory delays, curtailments or shutdowns.

These risks could result in damage to, or destruction of, mineral properties, production equipment, facilities or other properties, personal injury, environmental damage, delays in mining, increased production costs, monetary losses or possible legal liability. We may not be able to obtain insurance to cover these risks at economically feasible premiums or at all. Insurance against certain environmental risks, including potential liability for pollution or other hazards resulting from the disposal of waste products from production, may be prohibitively expensive or not available. Any losses we incur related to any significant events that are not covered by insurance policies may have a material adverse effect on our business.

Mineral exploration and development is highly speculative, and certain inherent risks could have a negative effect on our business.

Our long-term success depends primarily on our ability to develop mineral deposits on existing properties that can be developed into commercially viable mining operations. Resource exploration is a highly 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 from finding mineral deposits which, though present, are insufficient in quantity and quality to return a profit from production. Substantial expenditures are required to establish proven and probable mineral reserves through drilling and analysis, to develop metallurgical processes to extract metal, and to develop the mining, processing and/or beneficiation facilities and infrastructure at any site chosen for mining. The marketability of minerals discovered by us may be affected by numerous factors that are beyond our control and cannot be accurately

predicted, such as market pricing fluctuations, the proximity and capacity of milling facilities, mineral markets demand, available supply and processing equipment, and other factors such as government regulations, including regulations relating to royalties, allowable production, importing and exporting of minerals, and environmental protection. Any one or a combination of these factors may result in a failure to receive an adequate return on our investment capital. The decision to abandon a project may have a material adverse effect on the market value of our common shares or our ability to complete future financings.

Title to our Bear Lodge Property may be subject to other claims, or we may lose our interest in our claims, which could affect our property rights and claims.

There are risks that title to our Bear Lodge Property may be challenged or impugned. Our Bear Lodge Property is located in the state of Wyoming and may be subject to prior unrecorded agreements, transfers or native land claims, and title may be affected by undetected defects. There may be valid challenges to the title of our Bear Lodge Property which, if successful, could impair or result in the cessation of development and/or operations.

The vast majority of the mineral rights to our Bear Lodge Property consist of “unpatented” mining claims created and maintained in accordance with the U.S. General Mining Act of 1872 (“U.S. General Mining Law”). Unpatented mining claims are unique property interests and are generally considered to be subject to greater title risk than are other real property interests because the validity of unpatented mining claims can be uncertain. This uncertainty arises, in part, out of the complex federal and state laws and regulations an owner of an unpatented mining claim must comply with to locate and maintain a valid claim. Also, unpatented mining claims are always subject to possible challenges by third parties or validity contests by the federal government. The validity of an unpatented mining claim, in terms of both its location and its maintenance, is dependent on strict compliance with not only a complex body of U.S. federal and state statutory law, but also administrative and judicial decisions interpreting those statutes and case law. In addition, there may be limitations as to the completeness of public records that determine prior claimants that could impact the validity or ownership of unpatented mining claims. The Company’s right to continue activities on the Bear Lodge Property is dependent upon our ability to pay annual claim maintenance fees.

Our operations are subject to significant uninsured risks that could negatively impact future profitability as we maintain limited insurance against our operations.

Any exploration of our Bear Lodge Property will entail certain risks including unexpected or unusual operating conditions, such as rockslides, cave-ins, flooding, fire and earthquakes. It is not always possible to insure against these risks. Should events such as these arise, they could reduce or eliminate our assets and shareholder equity as well as result in increased costs and/or a decline in the value of our assets or common shares. We expect to maintain general liability, director and officer insurance, and some insurance against our assets but not with the expectation of full replacement value. We may decide to update or amend our insurance portfolio in the future if coverage is available at economically viable rates.

Increased competition could adversely affect our ability to attract necessary capital funding.

The mining industry is intensely competitive, and we must compete with other individuals and companies, many of which have greater financial resources, operational experience and technical capabilities than we have. This competition from other mining companies could adversely impact our efforts to hire experienced mining professionals. Competition for resources at all levels can be very intense, particularly affecting the availability of manpower, drill rigs, mining equipment and production equipment. Increased competition could adversely affect our ability to attract necessary capital funding or attract or retain key personnel or outside technical resources.

Land reclamation requirements for our properties may be burdensome or too expensive.

Although land reclamation requirements vary depending on the location and governing authority, such requirements generally are imposed on mineral exploration companies as well as companies with mining and processing operations to minimize long-term effects of land disturbance.

Reclamation requirements may include the following, among other things:

- control dispersion of potentially deleterious effluents;
- manage and control mine tailings and other processing wastes;
- reduce open pit mine slope angles;
- treat ground and surface water to drinking water standards; and
- reasonably re-establish pre-disturbance vegetation and land forms.

To carry out reclamation obligations imposed on us in connection with the potential future development activities at the Bear Lodge Property, we must allocate financial resources that might otherwise be spent on further exploration and future development programs. We have set up a provision for reclamation obligations as currently anticipated for exploration completed on the Bear Lodge Property, as appropriate, but this provision may not be adequate. If we are required to carry out unanticipated reclamation work, our financial position could be adversely affected.

Legislation and regulations have been proposed that would significantly affect the mining industry and our business.

The U.S. Congress from time to time has considered proposed revisions to the U.S. General Mining Law. If Congress again considers and enacts any such revisions, such legislation could change the cost of holding unpatented mining claims or significantly impact our ability to develop mineralized resources on unpatented mining claims. The change in the U.S. presidential administration and change in composition of Congress in 2021 could increase the likelihood that Congress considers such revisions at some point. Past bills have proposed, among other things, to (i) impose a federal royalty on production from unpatented mining claims, (ii) impose a fee on the amount of material displaced at a mine, (iii) impose time limits on the effectiveness of plans of operation that may not coincide with mine life, (iv) impose more stringent environmental compliance and reclamation requirements on activities on unpatented mining claims, (v) establish a mechanism that would allow states, localities and Native American tribes to petition for the withdrawal of identified tracts of federal land from the operation of the U.S. General Mining Law, (vi) replace the location of mining claims with federal leases for locatable minerals, and (vii) allow for administrative determinations that mining would not be allowed where undue degradation of the federal lands in question could not be prevented. Although we cannot predict what legislated royalties might be, the enactment of a federal royalty or other provisions contained in any such proposed bills could adversely affect the potential for development of our unpatented mining claims, our ability to operate, or our financial performance. The effect of any proposed revision of the U.S. General Mining Law on operations cannot be determined until enactment. However, it is possible that revisions would materially increase the carrying and operating costs of mineral properties located on federal unpatented mining claims.

Risks Related to Our Common Stock

We may elect to deregister our common shares under the Exchange Act. Deregistration would result in less disclosure about us and may negatively affect the liquidity and trading prices of our common shares.

Due to the relatively high cost of being a public company in the U.S., our Board of Directors may elect to voluntarily deregister our common shares under the Exchange Act and suspend our reporting obligations in the U.S., possibly in combination with an effort to list our common shares on another securities exchange. No Board approval of deregistration has taken place, but in the future, the Board may authorize the Company to file with the SEC a Form 15 to voluntarily deregister our common shares under Section 12(g) of the Exchange Act and suspend our reporting obligations under Section 15(d) of the Exchange Act. If the Board approves such deregistration, we would file a Form 15 and our obligations to file periodic reports, such as annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, would be suspended immediately upon the filing of the Form 15 with the SEC, and our proxy statement, Section 16 and other Section 12(g) reporting responsibilities would terminate effective 90 days after the filing of the Form 15. We believe that we are eligible to deregister under the Exchange Act. If we were to file a Form 15, we expect

that our common shares, which currently trade on the OTCQB Venture Marketplace, would not continue to be quoted on the OTCQB Venture Marketplace. Following any deregistration, we would not expect to publish periodic financial information or furnish such information to our shareholders except as may be required by applicable laws or stock exchange rules. As a result of the foregoing factors, deregistration may result in less disclosure about us and may negatively affect the liquidity and trading prices of our common shares.

We do not currently intend to pay cash dividends.

We have not declared any dividends since our incorporation and do not anticipate that we will do so in the foreseeable future. Our present policy is to retain all available funds for use in our business development and operations. Payment of future cash dividends, if any, will be at the discretion of the Board of Directors and will depend on our financial condition, results of operations, contractual restrictions, capital requirements, business prospects and other factors that the Board of Directors considers relevant. In the absence of dividends, investors will only see a return on their investment if the value of our common shares appreciates.

Future sales of our securities in the public or private markets could adversely affect the trading price of our common shares or our ability to continue to raise funds in new equity offerings.

It is possible that we will sell common shares, or securities exercisable or convertible into common shares, in order to finance our planned development activities. Future sales of substantial amounts of our securities in the public or private markets would dilute our existing shareholders and potentially adversely affect the trading prices of our common shares or could impair our ability to raise capital through future offerings of securities. Alternatively, we may rely on debt financing and assume debt obligations that require us to make substantial interest and principal payments that could adversely affect our business or future growth potential.

Price volatility of our publicly traded securities could adversely affect investors' portfolios.

In recent years and months, the securities markets in the U.S. and Canada have experienced high levels of price and volume volatility, and the market prices of securities of many companies have experienced wide fluctuations that have not necessarily been related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that continual fluctuations in the market price of our common shares will not occur. It may be anticipated that any quoted market for the common shares will be subject to market trends and conditions generally, notwithstanding any potential success we have in creating revenues, cash flows or earnings. The price of our common shares has been subject to price and volume volatility in the past and will likely continue to be subject to such volatility in the future.

Because our common shares are not listed on a national securities exchange, a broker-dealer may find it more difficult to trade our common shares, and an investor may find it more difficult to acquire or dispose of our common shares in the secondary market.

We are subject to the so-called "penny stock" rules. The SEC has adopted regulations that define a "penny stock" to be any equity security that has a market price per share of less than \$5.00, subject to certain exceptions, such as any securities listed on a national securities exchange. For any transaction involving a "penny stock," unless exempt, the rules impose additional sales practice requirements on broker-dealers, subject to certain exceptions. A broker-dealer may find it more difficult to trade, and an investor may find it more difficult to acquire or dispose of, our common shares on the OTCQB Venture Marketplace. These factors could significantly negatively affect the market price of our common shares and our ability to raise capital.

General Risk Factors

Market factors outside of our control could have significant adverse impacts on our business, operations and/or prospects.

Operating in the volatile and cyclical natural resource industry subjects us to numerous market factors outside of our control that could have significant and sometimes adverse impacts on our business. Such factors could include significant

price declines for key rare earth materials, inflationary impacts on capital and operating costs, public opposition, poor financial and operating performance of other companies in the same industry sector, environmental incidents from resource projects, major technological advances that reduce demand for key rare earth products, unforeseen regulation, military conflict, such as the Russia/Ukraine war, terrorism or other geopolitical events that broadly impact the global economy or natural resource industry. To the extent that such events affect attitudes toward investments in the natural resource sector generally or the rare earths industry specifically, they could affect our ability to raise the additional capital needed to continue to advance our Projects and business plan.

Our directors, officers and consultants may be engaged in other businesses. Potential conflicts of interest or other obligations of directors, officers and consultants could interfere with corporate operations.

Some of our directors, officers and consultants may be engaged in additional businesses, or situations may arise where our directors, officers and consultants could be in direct competition with us. Conflicts, if any, will be dealt with in accordance with the relevant provisions of applicable policies, regulations and legislation. Some of our directors and officers are or may become directors or officers of other entities engaged in other business ventures. As a result of their other business endeavors, our directors, officers and consultants may not be able to devote sufficient time to our business affairs, which may negatively affect our ability to conduct ongoing operations or to generate revenues.

We are subject to the risk of litigation, the causes and costs of which are not always known.

We are subject to litigation arising in the normal course of business and may be involved in disputes that may result in litigation. Although we are not aware of any material pending or threatened litigation or of any legal proceedings known to be contemplated which are, or would be, likely to have a material adverse effect upon us or our operations, taken as a whole, the causes of potential future litigation cannot be known and may arise from, among other things, business activities, environmental and health and safety concerns, share price volatility or failure to comply with disclosure obligations. The results of litigation cannot be predicted with certainty but could include costly damage awards or settlements, fines, and the loss of licenses, concessions or rights, among other things. If we are unable to resolve a dispute favorably, either by judicial determination or settlement, it may have a material adverse effect on our financial condition, cash flows or results of operations.

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

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

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

BEAR LODGE PROPERTY (WYOMING, USA)

The Bear Lodge Property contains two projects, the Bear Lodge REE Project and the Sundance Gold Project. The Bear Lodge REE Project consists of the Bull Hill deposit, inclusive of the Bull Hill and Whitetail Ridge deposits and the exploration targets of East Taylor and Carbon, all of which are located near Sundance, Wyoming. The Bear Lodge REE Project also includes the proposed hydrometallurgical plant site to be located on private property in Upton, Wyoming that we currently have an option to purchase. Additional details on each of these areas are set forth below under the heading “Bear Lodge REE Project.” We hold our interest in the Bear Lodge Property through our indirect wholly owned subsidiary, Rare Element Resources, Inc., a Wyoming corporation.

The Bear Lodge Property is located in central Crook County, northeast Wyoming, and is approximately 19 kilometers northwest of Sundance, Wyoming. The Bear Lodge Property is accessible by paved and well-maintained gravel roads. The Bear Lodge Property lies within the Black Hills National Forest along the crest of the northern part of the Bear Lodge Mountains, a narrow northwest-trending range. Physiographically, it is the northwest extension of the Black Hills in western South Dakota and is characterized by rolling grass and pine-covered mountains that reach elevations of 1,950 meters within the Bear Lodge Property. The mountains have moderate slopes covered by western yellow pine forest interspersed with dense thickets of brush. Narrow grassy meadows cover the upper reaches of seasonal drainages. The lowest point within the Bear Lodge Property is about 1,768 meters in elevation. The climate during the summer is warm and relatively dry, followed by cold winters with variable amounts of snow.

We control 100% of the mineral rights at the Bear Lodge Property, consisting of unpatented mining claims and a right of repurchase on adjacent private land. We hold 499 unpatented mining claims located on land administered by the USFS. The Bear Lodge Property is located within parts of Sections 5, 7 through 9, Sections 14 through 23 and Sections 26 through 35 in Township 52 North and Range 63 West, Sixth Principal Meridian, Crook County, Wyoming. All of the public property mining claims are unpatented, such that the paramount title to the land is held by the U.S. All of our mineral resources are located on mining claims that we hold.

Pursuant to an asset purchase agreement (the “Asset Purchase Agreement”), dated October 20, 2016 and as amended on October 25, 2021, between us and Whitelaw Creek LLC, a Wyoming limited liability company (“Whitelaw Creek”), we have the right to repurchase (the “Repurchase Option”) from Whitelaw Creek approximately 640 acres of non-core real property located in Crook County, Wyoming, that we sold to Whitelaw Creek in October 2016 for approximately \$600 in cash. The property is under consideration for a stockpile facility for the Bear Lodge REE Project. The Repurchase Option terminates on October 26, 2022 but may be extended for up to two additional years, subject to annual option extension payments from us to Whitelaw Creek of \$25 in cash per year (each, a “Repurchase Option Extension Payment”). We have the right to repurchase the land for a price to be determined by a mutually agreed upon real estate appraiser (the “Repurchase Price”), provided that (i) the Repurchase Price must not be less than \$1,200 or greater than \$1,850 in the form of cash, our common shares, or a combination of cash and our common shares and (ii) any Repurchase Option Extension Payments paid by us to Whitelaw Creek (including a Repurchase Option Extension Payment made on or prior to November 2, 2021) must be credited toward our payment of the Repurchase Price if the Repurchase Option is later exercised.

Our 100% interest in the 499 unpatented mining claims was, in part, acquired from Phelps Dodge Exploration Company (now a subsidiary of Freeport-McMoRan Copper and Gold Inc. (“Freeport”)) by way of a Mineral Lease and Option for Deed in 2000, and 404 claims were transferred from Newmont Mining Corporation (“Newmont”) to us in May 2010.

Some of our mining claims and a portion of a defined area of influence surrounding the claims were previously subject to a production royalty of 2% of NSR royalty payable to Freeport, but the Company purchased the NSR royalty in March 2009. We hold an unencumbered REE project, including all 499 unpatented mining claims, free of third-party royalties for REE production.

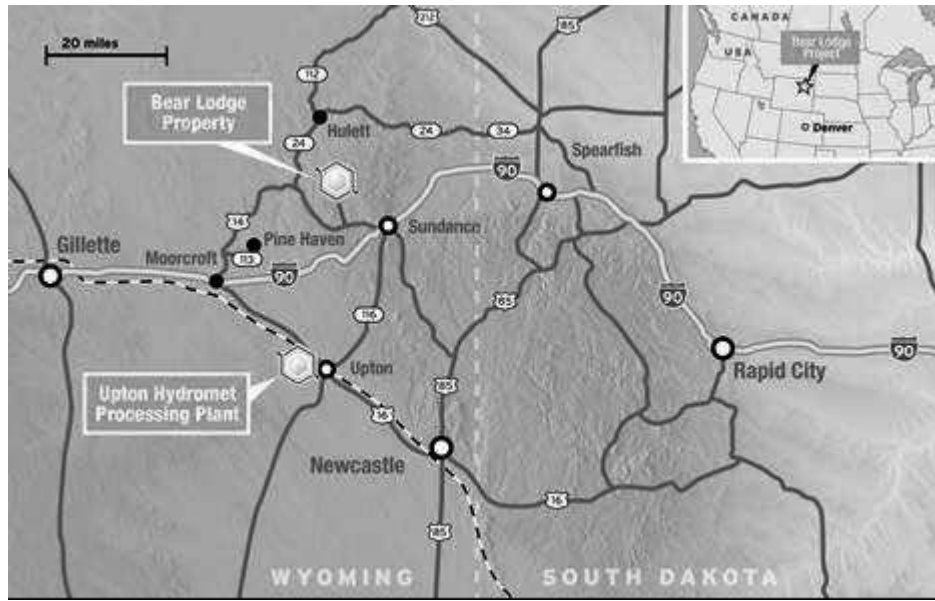
Exploration has been carried out on the Bear Lodge Property since 1949. In addition to Freeport, several mining companies have conducted exploration and drilling programs at or near the Bear Lodge Property since the discovery of mineralization. No mining operations were conducted at the Bear Lodge Property by any of the prior owners.

Necessary infrastructure, such as housing, food and fuel is available in communities in close proximity to the Bear Lodge Property. Supplies can be delivered on both U.S. Interstate Highway 90 and rail lines. A Burlington Northern rail transport line also runs through Moorcroft, 55 kilometers west of Sundance, and through Upton, the site of the proposed hydrometallurgical plant, 64 kilometers south of Sundance. The Gillette, Wyoming area, located approximately 89 kilometers to the west, has two coal-fired power plants and is currently a major logistics center for Powder River Basin coal mining activity and will serve as such for any development at the Bear Lodge Property. The current size of the Bear Lodge Property is sufficiently large to support a mining operation, with no foreseeable obstacles regarding expansion, subject to a favorable outcome regarding permitting.

We are not aware of any outstanding environmental liabilities associated with the Bear Lodge Property, except for required reclamation work associated with our exploration and drilling activities. Previous exploration activities were approved by both the USFS and the Wyoming Department of Environmental Quality. We have an approved reclamation plan and a posted surety bond to cover the required reclamation.

Additional local, state and federal licenses and permits will be required for exploration, mining, processing and/or beneficiation operations, if we decide to proceed with further exploration or mine development and operations.

Bear Lodge Property – Location Map



Geological Setting

The Bear Lodge Mountains of northeast Wyoming are composed primarily of the upper levels of a mineralized tertiary alkaline-igneous complex that is a component of the Black Hills Uplift of western South Dakota and northeast Wyoming. Tertiary alkaline intrusive bodies in the northern Black Hills occur along a N70-80W trending belt that extends from Bear Butte in South Dakota, through the Bear Lodge Mountains, to Devil's Tower and Missouri Buttes in northeast Wyoming. The Bear Lodge mining district is in the Bear Lodge Mountains, near the western end of the northern Black Hills intrusive belt. The Bear Lodge Mountains expose and are underlain by multiple alkaline plugs, sills, and dikes and intruded into Precambrian basement and Paleozoic and Mesozoic sedimentary rocks approximately 38–52 million years ago. REE and gold mineralization are found in separate areas of the central crest and northern part of the Bear Lodge Mountains.

The Bear Lodge alkaline-igneous complex is a northwest-trending alkaline intrusive dome with dimensions of approximately 10 kilometers NW-SE by 6 kilometers NE-SW. The complex consists predominantly of multiple intrusions of phonolite, trachyte, and other alkaline igneous rocks, and a variety of associated breccias and diatremes.

Exploration and Drilling

The Bear Lodge Mountains were initially prospected for gold during the late nineteenth and early twentieth century. Rare earth mineralization was first discovered in approximately 1949. Various companies conducted sporadic exploration of the area from the 1970s through the 1990s, both for rare earths and for gold. Commencing in 2004, we initiated REE exploration activities and from 2004 through 2013, a total of more than 160,000 feet of drilling was completed in over 200 core holes. Our exploration activities between 2013 through 2015 were limited as our focus turned to development drilling at the Bull Hill and Whitetail Ridge deposits. These exploration activities included geochemical, geophysical, geological and mineralogical modeling of the district and individual deposits.

The 2013 drilling program involved infill drilling at the Whitetail Ridge deposit including 14 core holes for a total of 3,556 meters (11,697 feet). The second phase consisted of 21 core holes totaling 3,247 meters (10,650 feet) and six reverse circulation ("RC") twin holes totaling 832 meters (2,730 feet). The RC twin holes were drilled using a center return hammer with the objective of minimizing hole erosion and obtaining assay data directly correlative to that from the adjacent core holes.

The 2014 program consisted of the excavation of a test trench along the southwestern flank of Bull Hill in August. The main mineralized zone (Bull Hill Main) was exposed and exploited for the collection of geological information including dike dimension and structural continuity, grade variation, ore and gangue mineralogy, pit slope stability engineering and confirmation of parameters utilized in ore resource calculations. The program netted 907 tonnes (1,000 tons) of material the bulk of which is stored for current and future metallurgical work.

The 2015 condemnation program consisted of six rotary holes, and a total of 3,000 feet was drilled in September of 2015 to complete a program that was halted by the USFS in 2012 due to an archeological discovery. The program evaluated the subsurface for carbonatite-hosted REE mineralization and followed up on gold mineralization discovered in 2010 within and adjacent to the proposed physical upgrade (“PUG”) site. Based on results from the 2015 condemnation program, the PUG area is considered void of economic mineralization.

No drilling was performed from 2017 through 2021.

Bear Lodge REE Project

The Bear Lodge REE Project comprises several REE resource areas within the Bear Lodge Property. REE mineralization at the Bear Lodge Property occurs in the central lobe of the Bear Lodge Property alkaline-igneous complex. Most of the important identified REE deposits and occurrences within the Bear Lodge Property alkaline complex are contained within the Company’s block of unpatented lode mining claims. The REE deposits are located primarily in the vicinity of the Bull Hill deposit.

REE mineralized bodies occur as dikes, veins, and stockworks within the Bull Hill and Whitetail Ridge deposit areas of the Bear Lodge Property. The mineralization includes a well-defined, near-surface, oxidized FMR zone; a near-surface, oxidized, but incompletely leached, carbonatite zone (oxide-carbonate zone); a transitional or mixed zone (oxide + sulfide); and a deeper sulfide-bearing carbonatite (a high-carbonate igneous rock) zone. The oxide-carbonate and transitional zones were referred to collectively as a “transitional zone” in some prior news releases and technical reports. The mineralized zones were subsequently sub-classified, based on key characteristics of those zones. The FMR dikes and veins contain no matrix carbonates or sulfides. The sulfides are completely oxidized to hydrous iron oxides, and the non-REE bearing carbonate minerals (calcite and strontianite) show near-complete leaching from the zone, which ranges from the surface to depths of about 90–150 meters. The oxide-carbonate zone generally occurs beneath the oxide zone but approaches the surface locally in select dikes. It is characterized by the near absence of sulfides, with the residual iron oxides formed during almost complete oxidation of the former sulfide minerals, and by variable amounts of relict matrix carbonates (calcite ± strontianite) and the REE mineral, ancylite (a hydrous Strontianite-REE carbonate).

Bull Hill Deposit

The Bull Hill deposit mineralized bodies occur as steeply dipping, FMR-carbonatite dike swarms and associated stockwork. Geological interpretation of results from the 2010–2014 drill and trench programs indicates that the Bull Hill resource area is dominated by northwest-striking mineralized bodies in the southern two-thirds of the resource area, while the northern part of the resource area exhibits a transitional change in strike from dominantly northwesterly to almost due north. The dike swarm primarily intrudes heterolithic intrusive breccia of the Bull Hill diatreme and adjacent trachytic and phonolitic intrusive rocks. Carbonatite dikes at depth are interpreted to transition toward the surface into oxide-carbonate and FMR bodies. The mineralized structures range in size from veinlets to large dikes more than 30 meters in width. The Bull Hill deposit consists of one dominant dike set and several subsidiary dike sets in a swarm that has dimensions of more than 457 meters along strike and less than 100 meters in width. The dikes appear to pinch and swell in both strike and dip directions, and they can be traced in drill holes more than 305 meters down dip.

The Whitetail Ridge mineralization occurs about 700 meters northwest of the Bull Hill deposit. The REE mineralization consists of northwest- and north-striking FMR dikes, and an FMR stockwork zone that is also elongated northeasterly, with dimensions of roughly 380 meters by 290 meters. The enveloping gravity and radiometric geophysical anomalies and coincident soil geochemical anomalies are larger and may indicate a broader distribution of REE mineralization beneath the extensive soil and colluvial cover. Drilling conducted in 2011 through 2013 indicates that much of the mineralization is confined within the volume of the Whitetail Ridge diatreme.

Pre-feasibility Study

In 2013 and 2014, we worked on optimizing the Bull Hill deposit plan, the mineral process methods and the Bear Lodge REE Project economics. In 2014, a Technical Report meeting the requirements of Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects was completed and included a PFS containing an estimate of the mineralization at the Bear Lodge REE Project as well as preliminary estimates of initial and life-of mine capital costs for the potential development of the project. These estimates have not been updated since the date of that report and the assumptions contained therein may need to be updated to be accurate in today's environment.

Permitting and Licensing Progress

The USFS is the lead agency in the NEPA process to prepare an EIS on the Bear Lodge REE Project. This process is essential to securing the permits and approvals necessary to move into production. In early 2012, we submitted the plan of operations for the Bear Lodge REE Project, which the USFS accepted as complete in May 2013. The USFS selected a project manager and prime contractor for preparation of the EIS, published notice in the Federal Register and completed necessary scoping work. The USFS issued a draft EIS on January 15, 2016, outlining plan alternatives and proffering a preferred alternative. The U.S. Army Corps of Engineers and the appropriate state and local government agencies are involved in the EIS process as cooperating agencies. On January 22, 2016, our Board of Directors decided to continue to conserve cash due to the then difficult market conditions and suspend all permitting and licensing efforts, including the EIS process. We notified the USFS and cooperating agencies, the NRC and the state of Wyoming of our decision to suspend permitting and licensing efforts, and the parties acknowledged receipt of the notice. Assuming permitting and licensing efforts resume within a reasonable time, the final EIS and draft Record of Decision, the decision document that establishes the acceptable operating conditions, would be expected within 18 to 30 months of the resumption of such permitting and licensing efforts. During 2018, the Company undertook to update the baseline environmental data for the Bear Lodge REE Project which is scheduled for a further update in 2022.

Metallurgy and Mineralization

A planned PUG plant, located within the Bear Lodge REE Project area, was designed to maximize concentration of the rare earth minerals and produce a mineral concentrate using a crushing, screening, and gravity separation process depending on the material type. The PUG process was designed to concentrate the rare earth-bearing fines and reduce the physical mass. There are areas of the historical mineable pit that contain variable amounts of weathered oxide material or oxide-carbonate Mineralized Material, and that contain variable grades of stockwork mineralization adjacent to the higher-grade material. Each of these material types was projected to have a different upgrade percentage and mass reduction in the PUG circuit. The historical mining plan anticipated exploitation of a distinct high-grade zone early in the Bear Lodge REE Project that was planned to allow for preferential mining in the initial years of the mine. Low and mid-grade material were to also be mined and stockpiled for future PUG processing.

Reclamation of mining-related facilities was planned to occur during mine operations, where applicable, and upon completion of mining and stockpiling of materials. Other facilities, including the PUG plant, would be reclaimed as soon as the stockpiled materials are depleted.

The Company had historically conducted metallurgical test work primarily at SGS Lakefield Research Limited of Lakefield, Ontario, Canada, which is independent from the Company. The 2020 UIT pilot plant test work was completed in December 2020, and test work reports were provided to the Company in early 2021. The results are being utilized in the development of the demonstration plant.

Other Exploration Target Areas at the Bear Lodge REE Project

Discovery of high-grade REE mineralization at the East Taylor Target Area and the Carbon Target Area expanded the area of known REE mineralization outside of the Bull Hill and Whitetail Ridge deposits. The data indicate that the Bear Lodge REE Project area covers a crudely elliptical area that extends approximately 1,750 meters northwest-southeast by 1,300 meters northeast-southwest. The Carbon exploration target area is located northwest of the Bull Hill deposit, and the East Taylor Target Area is located west of the Bull Hill deposit. Drill assay data from the East Taylor Target Area and

the Carbon Target Area identify these areas as zones of HREE-enrichment relative to the Bull Hill deposit. These two exploration target areas, along with the Whitetail Ridge deposit, are peripheral to the Bull Hill deposit. The discovery of these target areas indicates good potential for additional deposits of high-grade REE in the western half of the Bear Lodge REE Project, and those deposits appear to be particularly enriched in HREE.

RARE EARTH PROCESSING AND SEPARATION DEMONSTRATION PLANT PROJECT

A consortium of companies, of which the Company is a member, led by General Atomics, has secured with the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy (“DoE”) a \$21,900 Assistance Agreement for the engineering, construction and operation of a rare earth separation and processing demonstration plant to be located in Upton, Wyoming at a leased industrial site near infrastructure. The consortium created by General Atomics, an affiliate of Synchron, includes certain of General Atomics’ affiliates, the Company, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor. The Company, as a subrecipient of the award, along with the other consortium members, commenced work on the planning and design of the demonstration project in November 2021, and the Company’s contractual arrangement with General Atomics was finalized in December 2021. The DoE funding represents approximately one-half of the total estimated costs for the project.

Pursuant to the Cost Share Funding Assumption Agreement, dated as of November 30, 2021, between the Company and General Atomics, the Company agreed to assume and pay for the approximately one-half non-federal costs incurred by General Atomics and the consortium for the design, construction, and operation of the demonstration plant. The non-federal cost-share funding for the plant was secured by the Company through the rights offering that closed in December 2021 and is more fully described in “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this report.

The demonstration plant will process and separate certain rare earth elements from high-grade sample material from the Bear Lodge REE Project, utilizing the Company’s proprietary extraction and separation processes. The plant will be designed as a demonstration scale facility that will produce high-purity Neodymium/Praseodymium (“NdPr”), as well as other rare earth oxides and serve as a precursor to the future full-scale production facility.

Demonstration Plant Permitting and Licensing

The demonstration plant will encompass the physical processing of the sample material followed by chemical processing to extract selected elements. All chemicals will be managed in accordance with federal, state, and local environmental and safety regulations. The Company is seeking a source materials possession license from the NRC, as well as an air quality permit, and a water discharge permit, if required, from the Wyoming Department of Environmental Quality. A road use permit will also be required from the USFS to improve the access road to the sample storage location. The permitting and licensing process is underway.

Demonstration Plant Project Schedule

To achieve the demonstration plant project objectives, the schedule is divided into three distinct performance periods covering a total of 40 months, which commenced on October 1, 2021.

- Period 1: Design, Permitting and Licensing Commencement – 12 months
- Period 2: Procurement and Construction – 12 months
- Period 3: Operations – 16 months

Licensing and permitting, commencing in Period 1, will extend into Period 2 and may extend into the early part of Period 3. The objective of Period 1 is completion of the design of the facility and the establishment of requirements and standards to support the subsequent procurement of process equipment. This objective will be validated through a final design review and subsequent go/no-go decision, along with DoE concurrence, as to the technical and economic feasibility of the proposed design to achieve the project objectives.

The objective of Period 2 is procurement of the process equipment and construction of the demonstration plant and the validation of the readiness of the facility and equipment to begin operations. A second go/no-go decision point, in concurrence with DoE, allows for full review of the status of the facility, its safety and waste handling systems, as well as the status of the required licenses and permits. The objective of Periods 2 and 3 is readiness for operations and operation of the plant in Period 3. Operation is expected to last up to 16 months and will be conducted in accordance with all local, state, and federal permits, licenses, and regulations.

End-of-Project Goals

The goal of the project is to build and operate a permitted and licensed demonstration plant that:

- demonstrates the separation of NdPr and La at commercially required purity;
- produces commercial-purity NdPr as well as mixed light/medium REE concentrate, subject to further refining;
- provides a path for the separation of other rare earths, including Sm, Dy and other essential heavy elements;
- provides a basis for economic scale-up to future commercial capacity;
- provides a basis for the demonstration of improved separation economics with expected fewer process steps and a smaller closed-cycle plant as compared with traditional processing methods; and
- demonstrates a process which may be capable of processing feed from other sources, either from the U.S. or obtained from allied countries consistent with Department of Defense initiatives.

SUNDANCE GOLD PROJECT

The Sundance Gold Project is the second project located on our Bear Lodge Property. The Sundance Gold Project consists of 288 unpatented lode mining claims adjacent to the Bull Hill Rare Earth Project in Crook County, Wyoming. In 2011, we published a technical report that contains dated estimates of inferred mineral resources on the Sundance Gold Project. As a result of the Company's current focus on the Bear Lodge REE Project, no drilling or exploration on the Sundance Gold Project has been conducted since the end of 2011. We have not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves, and we are not treating the estimate as current mineral resources or mineral reserves.

ITEM 3. LEGAL PROCEEDINGS

We are not aware of any material pending or threatened litigation or of any proceedings known to be contemplated by governmental authorities which are, or would be, likely to have a material adverse effect upon the Company or our operations, taken as a whole. There are no material proceedings pursuant to which any of our directors, officers or affiliates or any owner of record or beneficial owner of more than 5% of our securities or any associate of any such director, officer or security holder is a party adverse to the Company or has a material interest adverse to it.

ITEM 4. MINE SAFETY DISCLOSURES

We consider health, safety and environmental stewardship to be a core value for the Company.

Pursuant to Section 1503(a) of the Dodd-Frank Act, issuers that are operators, or that have a subsidiary that is an operator, of a coal or other mine in the U.S. are required to disclose in their periodic reports filed with the SEC information regarding specified health and safety violations, orders and citations, related assessments and legal actions, and mining-related fatalities under the regulation of the Federal Mine Safety and Health Administration of 1977 under the Federal Mine Safety and Health Act of 1977. During the year ended December 31, 2021, the Company was not subject to any regulation by the Mine Safety and Health Administration under the Federal Mine Safety and Health Act of 1977.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION

Our common shares currently trade on the OTCQB Venture Marketplace under the ticker symbol "REEMF." As of March 16, 2022, we had approximately 47 shareholders of record who hold 212,466,889 common shares issued and outstanding.

DIVIDEND POLICY

We do not anticipate that we will declare any dividends in the foreseeable future. Payment of any future dividends, if any, will be at the discretion of the Board of Directors after taking into account many factors, including operating results, financial conditions and anticipated cash needs.

REPURCHASES OF EQUITY SECURITIES

During the quarter ended December 31, 2021, neither the Company nor any affiliate of the Company repurchased any common shares of the Company registered under Section 12 of the Exchange Act.

RECENT SALES OF UNREGISTERED SECURITIES

There were no sales of unregistered securities during the year ended December 31, 2021 that were not previously included in a Current Report on Form 8-K or Quarterly Report on Form 10-Q of the Company.

EQUITY COMPENSATION PLAN INFORMATION

As of December 31, 2021, we had one equity compensation plan under which our common shares have been authorized for issuance to our officers, directors, employees and non-employee consultants: our 10% Rolling Stock Option Plan (the "RSOP") which was adopted by our shareholders on December 2, 2011, and amended and restated on April 7, 2020, as approved by our Board.

The following table sets out those securities of the Company which have been authorized for issuance under our equity compensation plan at December 31, 2021:

Equity Compensation Plan Information

Plan category	Number of securities to be issued upon exercise of outstanding options and rights (a)	Weighted-average exercise price of outstanding options and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	2,180,000	\$ 1.18	19,066,689
Equity compensation plans not approved by security holders	N/A	N/A	N/A
Total	2,180,000	\$ 1.18	19,066,689

See "Part III Item 11. Executive Compensation" for additional information relating to our equity compensation plan.

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following discussion is a general summary of the material U.S. federal income tax consequences of the ownership and disposition of our common shares by a holder of our common shares that is a U.S. Holder (as defined below). This summary is general in nature and does not address the effects of any state or local taxes, U.S. federal estate, gift, or generation-skipping taxes, or the tax consequences in jurisdictions other than the U.S. In addition, this discussion does not discuss all aspects of U.S. federal income taxation that may be material to investors subject to special treatment under U.S. federal income tax law. For example, this discussion does not address all U.S. federal income tax aspects that may be material to U.S. Holders who own or have owned, directly or by the application of certain constructive ownership rules, 10% or more of the outstanding shares of the Company by either vote or by value, U.S. expatriates, insurance companies, tax-exempt entities, financial institutions, persons subject to the alternative minimum tax, or the base erosion and anti-abuse tax, regulated investment companies, securities broker-dealers or dealers, traders in securities who elect to apply a mark-to-market method of accounting, partnerships or other pass-through entities and investors in such an entity, persons holding our securities as part of a larger integrated transaction, persons who acquire our securities as compensation, persons who may be subject to the tax on global intangible low-taxed income, persons who may be eligible for a deduction for a portion of foreign-derived intangible income or global intangible low-tax income, and persons whose functional currency is not the U.S. dollar. This summary is based on the U.S. Internal Revenue Code of 1986, as amended (the “Code”), the regulations promulgated thereunder, court decisions and published rulings of the Internal Revenue Service (the “IRS”), as in effect on the date hereof, and the Convention between the U.S. and Canada with Respect to Taxes on Income and on Capital signed on September 26, 1980, as amended and currently in force (the “Treaty”), and does not take into account the possible effect of future legislative or administrative changes or court decisions. We will not request any rulings from the IRS or obtain any opinions from counsel on the tax consequences described below, or on any other issues. The IRS or a court might reach a contrary conclusion with respect to the issues addressed herein if the matter were to be contested. Future legislative or administrative changes or court decisions may significantly change the conclusions expressed herein, and any such changes or decisions may have a retroactive effect with respect to the matters discussed herein.

YOU SHOULD CONSULT YOUR OWN ADVISOR REGARDING THE U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR COMMON SHARES IN LIGHT OF YOUR PARTICULAR CIRCUMSTANCES.

Definition of a U.S. Holder

As used herein, the term “U.S. Holder” means a beneficial owner of our securities that is (a) an individual citizen or resident of the U.S. for U.S. federal income tax purposes; (b) a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the U.S. or any state thereof or the District of Columbia; (c) an estate the income of which is subject to U.S. federal income taxation regardless of its source; or (d) a trust, if (i) a court within the U.S. can exercise primary supervision over the administration of the trust and one or more U.S. persons are authorized to control all substantial decisions of the trust or (ii) a valid election is in effect under applicable Treasury Regulations to treat such trust as a U.S. person.

Passive Foreign Investment Company Rules

We will be classified as a passive foreign investment company (a “PFIC”) in any taxable year in which, after taking into account the income and assets of certain subsidiaries, either (i) at least 75% of our gross income is passive income, or (ii) at least 50% of the average value of our assets is attributable to assets that produce or are held for the production of passive income. Whether we will be classified as a PFIC in any taxable year is a factual determination and will depend upon our assets, the market value of our common shares, and our activities in each year and is therefore subject to change.

We believe that we were a PFIC for the year ended December 31, 2021. We expect that we will be a PFIC for the year ending December 31, 2022, and we may also be a PFIC for subsequent years. The tests for determining PFIC status depend upon a number of factors, some of which are beyond our control and can be subject to uncertainties. Accordingly, we cannot provide certainty that we were or were not a PFIC for the year ended December 31, 2021, or that we will or will not be a PFIC for the year ending December 31, 2022, or for any future year. We will use commercially reasonable efforts to provide information as to our status as a PFIC and the PFIC status of any subsidiary in which the Company owns more

than 50% of such subsidiary's total aggregate voting power to U.S. Holders who make a written request for such information.

If we are classified as a PFIC for any taxable year, the so-called "excess distribution" regime will apply to any U.S. Holder of common shares that does not make a QEF election or mark-to-market election, as described below. Under the excess distribution regime, (i) any gain the U.S. Holder realizes on the sale or other disposition of the common shares (possibly including a gift, exchange in a corporate reorganization, or grant as security for a loan) and any "excess distribution" that we make to such U.S. Holder (generally, any distributions to such holder in respect of the common shares during a single taxable year that are greater than 125% of the average annual distributions received by such U.S. Holder in the three preceding years or, if shorter, such holder's holding period for the common shares), will be treated as ordinary income that was earned ratably over each day in such U.S. Holder's holding period for the common shares; (ii) the portion of any excess distributions allocated to the current year or prior years before the first day of the first taxable year beginning after December 31, 1986, in which we became a PFIC would be includible by the U.S. Holder as ordinary income in the current year; (iii) the portion of such gain or distribution that is allocable to prior taxable years during which we were a PFIC will be subject to tax at the highest rate applicable to ordinary income for the relevant taxable years, regardless of the tax rate otherwise applicable to such U.S. Holder and without reduction for deductions or loss carryforwards; and (iv) the interest charge generally applicable to underpayments of tax will be imposed with respect of the tax attributable to each such year. The interest charge discussed above generally will be non-deductible interest expense for individual U.S. Holders.

Certain elections may be available with respect to our common shares (the so-called "QEF," "mark-to-market," and "deemed sale" elections) if we are a PFIC, but these elections may accelerate the recognition of taxable income and may result in the recognition of ordinary income.

If a U.S. Holder makes for any tax year a timely election to treat the Company as a "qualifying electing fund" or "QEF" (a "QEF election") with respect to such U.S. Holder's interest therein, the above-described rules regarding excess distributions generally will not apply. Instead, the electing U.S. Holder would include annually in its gross income its pro rata share of our ordinary earnings and any net capital gain regardless of whether such income or gain was actually distributed. Special rules apply to U.S. Holders who own their interests in a PFIC through intermediate entities or persons.

A U.S. Holder may make a QEF election only if the U.S. Holder receives certain information (known as a "PFIC annual information statement") from us annually. We will use commercially reasonable efforts to make available to U.S. Holders, upon written request, an accurate PFIC annual information statement for each year in which the Company is a PFIC. A QEF election is generally timely filed only if it is made on a timely filed federal income tax return for the first year in the U.S. Holder's holding period for our common shares in which we were a PFIC. A U.S. Holder for whom a QEF election would otherwise be untimely may be able to make a special "deemed sale" election pursuant to which the U.S. Holder recognizes any gain inherent in the U.S. Holder's common shares and restarts the U.S. Holder's holding period in our common shares for purposes of making a QEF election. A deemed sale election generally can be made only if the U.S. Holder owns common shares on the first day of our taxable year in which the election is to be effective.

Alternatively, a U.S. Holder of common shares may elect to recognize any gain or loss on its common shares on a mark-to-market basis at the end of each taxable year, so long as the common shares are regularly traded on a qualified exchange. The OTCQB Venture Marketplace, on which our common shares currently trade, may not be a qualified exchange for this purpose. Therefore, we cannot provide assurance that our common shares are regularly traded on a qualified exchange for PFIC purposes, and we provide no assurance that our common shares will be regularly traded on a qualified exchange for this or any subsequent year in which we may be a PFIC.

If a mark-to-market election is made, the excess distribution regime will not apply to amounts received with respect to our common shares from and after the effective time of the election, and any mark-to-market gains or losses on disposition will be treated as ordinary income. Mark-to-market losses and losses on disposition will be treated as ordinary losses to the extent of the U.S. Holder's unrecovered prior net mark-to-market gains. Losses in excess of prior net mark-to-market gains will generally not be recognized. The mark-to-market election must be made by the due date (as may be extended) for filing the U.S. Holder's federal income tax return for the first year in which the election is to take effect. A mark-to-market

election applies to all future years of an electing U.S. Holder during which the stock is regularly traded on a qualifying exchange, unless revoked with the IRS's consent.

The QEF election and mark-to-market election rules are complex. U.S. Holders should consult their tax advisor regarding the availability and procedure for making these elections.

Special adverse rules apply to U.S. Holders of our common shares for any year in which we are a PFIC and own or dispose of shares in another corporation that is also a PFIC (a "lower-tier PFIC"), as might be the case with our wholly owned subsidiary, Rare Element Holdings, Ltd. A U.S. Holder who owned our common shares while we were a PFIC will be taxable under the excess distribution rules described above with respect to any gain that we recognize from a disposition of shares in a lower-tier PFIC, or if the U.S. Holder disposes of all or part of its common shares. Moreover, a QEF election or mark-to-market election that is made for our common shares would not apply to a lower-tier PFIC. While a separate QEF election may be made for a lower-tier PFIC, we do not undertake to provide the financial information to U.S. Holders that would allow them to make a QEF election for any lower-tier PFIC. A mark-to-market election generally may not be made with respect to a lower-tier PFIC.

A U.S. Holder who makes a QEF election for our common shares but not for shares of a lower-tier PFIC will be taxable under the excess distribution regime on gain that we recognize on the sale of shares of the lower-tier PFIC. Any U.S. Holder who makes a mark-to-market or deemed sale election for our common shares could be subject to the PFIC rules with respect to income of the lower-tier PFIC, even though the value of the lower-tier PFIC already was subject to tax via mark-to-market or deemed sale adjustments.

The IRS has issued proposed regulations that, subject to certain exceptions, would treat as taxable certain transfers of PFIC stock by a U.S. Holder that has not made a timely QEF election or mark-to-market election that are generally not otherwise taxed, such as gifts, exchanges pursuant to corporate reorganizations, and transfers at death. Generally, in such cases, the basis of our common shares in the hands of the transferee and the basis of any property received in the exchange for those shares would be increased by the amount of gain recognized. The specific tax effect to the U.S. Holder and the transferee may vary based on the manner in which the common shares are transferred. Each U.S. Holder should consult a tax advisor with respect to how the PFIC rules affect their tax situation prior to transferring PFIC shares.

Special adverse rules that impact certain estate planning goals could apply to our common shares if we are a PFIC. Special rules apply with respect to the calculation of the amount of the foreign tax credit with respect to excess distributions by a PFIC.

Each U.S. Holder that has a direct or indirect interest in our common shares for a year for which we were a PFIC, generally would be required to file an IRS Form 8621 ("Form 8621"), if, during such year, the U.S. Holder received distributions or recognized gain with respect to our common shares, or was deemed to receive an indirect distribution from a lower-tier PFIC or to recognize gain on an indirect disposition of lower-tier PFIC stock, or in such other situations as the IRS may require. Form 8621 also is used to make certain elections with respect to PFICs, including a QEF election and a mark-to-market election. Each U.S. Holder should consult its tax advisor regarding these and any other relevant information or other reporting requirements.

If we are a PFIC in the taxable year in which we pay a dividend or the immediately preceding taxable year, dividends on our common shares will not be "qualified dividend income," and such dividends received by individual U.S. Holders generally will be taxed at ordinary income tax rates, subject to the tax rules that apply to excess distributions from PFICs, as discussed above.

Sale or Other Disposition of Our Common Shares

The tax treatment of a sale or other disposition of our common shares by a U.S. Holder will differ based upon whether the PFIC rules apply and whether the U.S. Holder has made any of the elections described above.

If the excess distribution regime discussed above applies to the sale or disposition of our common shares, the rules regarding the taxation of excess distributions will generally apply upon a sale or other disposition of the common shares.

If the excess distribution regime discussed above does not apply to the sale or disposition of our common shares, the difference between the amount received and the adjusted tax basis of the common shares will be a gain or loss. If, as usually is the case, the common shares are a capital asset in the hands of the U.S. Holder, such gain or loss will be a capital gain or loss. If the U.S. Holder has made a QEF election with respect to the shares, the adjusted basis will be increased by the U.S. Holder's proportionate share of income and capital gains taken into account each year as a result of the QEF election. If the U.S. Holder has made a mark-to-market election with respect to the shares, the adjusted basis will be increased by the net income recognized on the common shares as a result of the mark-to-market election. Capital gain or loss with respect to common shares generally will be long-term capital gain or loss if the holding period for the shares giving rise to such gain or loss exceeds one year. Under current law, long-term capital gains realized by individual U.S. Holders are taxed at reduced rates. Short-term capital gains are taxed at ordinary income rates. The deductibility of capital losses is subject to significant limitations.

Distributions

We do not expect to pay dividends in the foreseeable future. However, subject to the PFIC rules discussed below, a U.S. Holder must include in gross income as dividend income the gross amount of any distribution (including the amount of any Canadian withholding tax thereon) paid by the Company out of its current or accumulated earnings and profits (as determined for U.S. federal income tax purposes) with respect to our common shares. A distribution on our common shares in excess of current or accumulated earnings and profits will be treated as a tax-free return of capital to the extent of the U.S. Holder's adjusted basis in such common shares (thus reducing, but not below zero, the adjusted tax basis of such common shares), and thereafter as gain from the sale or exchange of common shares. See "Sale or Other Disposition of Our Common Shares" above.

If we are a PFIC in the taxable year in which we pay a dividend or the immediately preceding taxable year, dividends received by individual U.S. Holders generally will be taxed at ordinary income tax rates, subject to the rules that apply to excess distributions from PFICs, as discussed above.

If we are not a PFIC in the taxable year in which we pay a dividend or the immediately preceding taxable year, dividends received by individual U.S. Holders will be taxed to such U.S. Holder at the rates applicable to long-term capital gains as "qualified dividend income" if (i) we are eligible for benefits of the Treaty or (ii) our common shares are readily tradable on an established securities market. We have not determined if we are eligible for such benefits, and our common shares are not currently readily tradable on an established securities market. However, dividend income will not be qualified dividend income (and will be taxed at ordinary income rates) if the U.S. Holder has not held its common shares for at least 61 days during the 121-day period beginning 60 days before the ex-dividend date (or as noted above, if we are a PFIC for the taxable year in which the dividend is paid or in the preceding taxable year).

Dividends paid to a corporate U.S. Holder will be taxed as ordinary income and will not generally be eligible for the dividends received deduction.

Surcharge on Net Investment Income; Other Tax Rules

A surtax of 3.8% (the "unearned income Medicare contribution tax") is imposed on the "net investment income" of certain U.S. citizens and resident aliens, and on the undistributed "net investment income" of certain estates and trusts, in each case in excess of a threshold amount. Net investment income generally includes dividends and net gain from the disposition of property (other than property held in a "non-passive" trade or business). Net investment income is reduced by deductions that are properly allocable to such income. Special rules determine when the unearned income Medicare contribution tax applies to distribution or income with respect to PFICs. U.S. Holders should consult with their U.S. tax advisors concerning how these rules would apply to an investment in our common shares.

Foreign Currency Transactions

Generally, amounts received by a U.S. Holder in foreign currency (including dividends paid in foreign currency) will be valued at the rate of exchange on the date of receipt. The subsequent disposition of any foreign currency received (including an exchange for U.S. currency) will generally give rise to ordinary gain or loss should the rate of exchange subsequently change.

Foreign Tax Credit or Deduction

A U.S. Holder who pays (or has withheld from distributions) Canadian income tax with respect to the ownership of our common shares may be entitled, at the election of the U.S. Holder, to either receive a deduction or a tax credit for U.S. federal income tax purposes with respect to such foreign tax paid or withheld. Significant and complex limitations apply to the foreign tax credit, including the general limitation that the credit cannot exceed the proportionate share of the U.S. Holder's U.S. income tax liability that the U.S. Holder's "foreign source" income bears to his or its worldwide taxable income. In applying this limitation, the various items of income and deduction must be classified as either "foreign source" or "U.S. source." Complex rules govern this classification process.

In lieu of a credit, a U.S. Holder who itemizes deductions may elect to deduct all of such holder's foreign taxes in the taxable year. A deduction does not reduce U.S. tax on a dollar-for-dollar basis like a tax credit, but the deduction for foreign taxes is not subject to the same limitations applicable to foreign tax credits. U.S. Holders are urged to consult their own tax advisors regarding the availability of foreign tax credits.

A U.S. Holder's ability to use foreign tax credits could be adversely affected if we are a PFIC.

Information Reporting and Backup Withholding

Certain U.S. Holders are required to report information relating to an interest in our common shares, subject to certain exceptions, by attaching a completed IRS Form 8938, Statement of Specified Foreign Financial Assets, with their tax return for each year in which they hold an interest in our common shares or warrants. U.S. Holders are urged to consult their own tax advisors regarding information reporting requirements relating to their ownership of our common shares.

Dividend payments made with respect to our common shares and proceeds from the sale or other disposition of our common shares may be subject to information reporting requirements and to U.S. backup withholding.

In general, backup withholding will apply, currently at a rate of 24%, with respect to reportable payments made to a U.S. Holder unless (i) the U.S. Holder is a corporation or other exempt recipient, and if required, demonstrates such exemption, or (ii) the U.S. Holder furnishes the payor with a taxpayer identification number on IRS Form W-9 in the manner required, certifies under penalty of perjury that such U.S. Holder is not currently subject to backup withholding and otherwise complies with the backup withholding requirements.

Backup withholding is not an additional tax. Rather, the amount of any backup withholding imposed on a payment to a holder will be allowed as a refund or a credit against such holder's U.S. federal income tax liability, provided that the required information is timely furnished to the IRS.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and related notes appearing elsewhere in this Annual Report. This discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. See “Cautionary Note Regarding Forward-Looking Statements.” Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including, but not limited to, those set forth in “Item 1A. Risk Factors” and elsewhere in this Annual Report.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and accompanying notes included in Item 8 of this Annual Report. This Management’s Discussion and Analysis (this “MD&A”) has been prepared based on information known to management as of March 22, 2022. This MD&A is intended to help the reader understand the consolidated audited financial statements of the Company.

All currency amounts are expressed in thousands of U.S. dollars, except per share and common share amounts, unless otherwise noted.

OUTLOOK

During the year ended December 31, 2021, the Company focused on (i) completing the confirmation and enhancement of our proprietary technology for rare earth processing and separation through pilot testing (“piloting”), (ii) finalizing the demonstration plant project cooperative agreement with the Department of Energy (“DoE”), and (iii) securing funding for the non-federal cost-share portion of the demonstration plant and general corporate needs.

As to item (i) above, we completed the pilot plant phase for the confirmation and enhancement of our proprietary technology for recovery and separation of rare earth elements. The work was conducted by Umwelt-und Ingenieurtechnik GmbH Dresden (“UIT”), an affiliate of Synchron, under an agreement with the Company (see “Contractual Obligations” below for further details). The results are to be incorporated into the demonstration plant, as described below.

As to item (ii) above, in 2021, a consortium of companies, of which the Company is a member, finalized negotiations with the DoE to secure a \$21,900 financial award for the engineering, construction and operation of a rare earth separation and processing demonstration plant (see “Liquidity and Capital Resources” below for further details). The consortium of companies is led by General Atomics, an affiliate of Synchron, and includes certain of General Atomics’ affiliates, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor. The Company, as a subrecipient of the award, along with the other consortium members, commenced work on the planning and design of the demonstration project in November 2021, and the Company’s contractual arrangement with General Atomics was finalized in December 2021. The DoE funding represents approximately one-half of the total estimated costs for the project. The demonstration plant will process already stockpiled high-grade material from the Bear Lodge REE Project.

As to item (iii) above, in December 2021, the Company completed a rights offering for gross proceeds of approximately \$25,400 (see “Liquidity and Capital Resources” below for further details). The Company plans to use the net proceeds from the rights offering for the permitting, licensing, engineering, construction and operation of the rare earth separation and processing demonstration plant near the Company’s Bear Lodge Project and other general corporate purposes, with a portion utilized for the prepayment of outstanding indebtedness in the principal amount of \$1,000, which repayment was completed in December 2021. The previously discussed \$21,900 financial award from the DoE for the demonstration plant will fund approximately one-half of the expected total cost of the demonstration plant, with the balance of the required funding being provided by the Company utilizing the proceeds of the rights offering.

Further, throughout 2021, we continued to monitor the general U.S. political climate and actions taken by the U.S. government to secure a domestic, rare earth supply chain (see “Item 1. Business—Recent Corporate Developments” above for further details). The Company monitors and participates in the various federal government initiatives as they are critical

to the production of rare earth magnets used in the United States to support the manufacturing of, among other things, defense technologies, electric vehicles, wind turbines, consumer electronics, and oil refining equipment.

In 2022, the Company, along with the consortium members, plans to further progress the demonstration plant project which includes completing the final plant design, continuing the licensing and permitting of the plant, commence procurement of long lead-time equipment, and initiating early construction activities. In addition, the Company plans to update its baseline environmental data for the Bear Lodge REE Project.

COVID-19 Impact on Business

In response to the COVID-19 pandemic, we implemented travel restrictions, both domestically and internationally, and our employee and consultants abided by government guidance and orders. As a result, we saw delays in the metallurgical studies conducted by UIT that slowed the progression of the prior test work. Any continued pandemic impact may be material to the completion of the design inputs needed for the demonstration plant. Any further economic downturn triggered by COVID-19 and any resulting direct and indirect negative impact on us could have a material adverse impact on our future activities, cash flows and liquidity. We may experience higher prices for the equipment and raw materials for the demonstration plant due to shortages, commodity inflation and supply chain issues, including transportation delays as a result of COVID-19 and other economic factors. Further, it is unknown what, if any, impact COVID-19 and any resulting economic factors will have on rare earth prices and market supply and demand fundamentals. For further discussion of this matter, refer to “Item 1A. Risk Factors” in Part II of this report.

RESULTS OF OPERATIONS

Year Ended December 31, 2021 Compared to the Year Ended December 31, 2020

Summary

Our consolidated net loss for the year ended December 31, 2021 was \$5,402, or \$0.03 per share, compared with our consolidated net loss of \$3,228, or \$0.02 per share, for the same period in 2020. See the discussion below for the primary drivers regarding the change in net loss period-to-period.

Exploration and Evaluation

Exploration and evaluation costs increased to \$2,089 for the year ended December 31, 2021 compared with \$1,347 for the same period in 2020. Costs were primarily related to processing and separation studies and pilot plant testing under the UIT technology agreement for the year ended December 31, 2021. Additionally, we continued activities at the Bear Lodge REE Project related to our environmental obligations.

Corporate Administration

Corporate administration costs increased to \$3,114 for the year ended December 31, 2021, compared with \$1,823 for the same period in 2020. The increase from the prior period was primarily due an increase of \$1,150 for stock-based compensation resulting from a higher fair value associated with the stock options granted in 2021 compared to the stock options granted in 2020.

Impairment Charges

During the year ended December 31, 2021, we incurred impairment charges of \$30 related to certain equipment that was no longer in use. There were no similar charges for the year ended December 31, 2020.

Accretion Expense

Accretion expense was \$114 and \$80 for the years ended December 31, 2021 and 2020, respectively. We record accretion expense at each reporting period to increase the Repurchase Option liability to the anticipated exercise amount of \$1,850.

The Repurchase Option liability is related to the Company's option to purchase approximately 640 acres of non-core real property in Wyoming for up to \$1,850 in the form of cash, common shares of the Company, or a combination of cash and common shares of the Company pursuant to the asset purchase agreement (the "Asset Purchase Agreement") dated October 20, 2016 between the Company and Whitelaw Creek LLC, a Wyoming limited liability company ("Whitelaw Creek").

On October 25, 2021, the Company and Whitelaw Creek entered into an amendment (the "Amendment") to the Asset Purchase Agreement. Pursuant to and subject to the terms of the Amendment, among other things, the term of the Repurchase Option (which was to expire on October 26, 2021) was extended for up to three additional years, subject to annual option extension payments from the Company to Whitelaw Creek of \$25 in cash per year (each, a "Repurchase Option Extension Payment"); and the exercise price of the Repurchase Option was increased from \$1,000 to a price to be determined by a mutually agreed upon real estate appraiser (the "Repurchase Price"), provided that (i) the Repurchase Price must not be less than \$1,200 or greater than \$1,850 and (ii) any Repurchase Option Extension Payments paid by the Company to Whitelaw Creek must be credited toward the Company's payment of the Repurchase Price if the Repurchase Option is later exercised.

Interest Expense

During the year ended December 31, 2021, we incurred \$25 of interest expense related to a short-term loan which was outstanding during the fourth quarter of 2021. There were no such transactions during the year ended December 31, 2020.

FINANCIAL POSITION, LIQUIDITY AND CAPITAL RESOURCES

Cash Flows

Operating Activities

Net cash used in operating activities was \$2,842 for the year ended December 31, 2021, compared with \$3,119 for the same period in 2020. The decrease is related to a higher accounts payable and accrued liabilities balance, partially offset by an increase in non-cash stock-based compensation.

Financing Activities

During the year ended December 31, 2020, the Company received proceeds of \$161 from the exercise of stock options.

During the year ended December 31, 2021, the Company received net proceeds of \$24,950 from the rights offering (discussed below) and \$133 from stock option exercises.

Liquidity and Capital Resources

At December 31, 2021, our total current assets were \$25,128, as compared with \$2,753 as of December 31, 2020, which is an increase of \$22,375. The increase in total current assets is primarily due to an increase in the combination of cash and cash equivalents due to the net proceeds from the rights offering, partially offset by cash utilized to fund our operations. Our working capital as at December 31, 2021 was \$23,885 as compared with \$2,638 at December 31, 2020. The increase in working capital is primarily due to an increase in the combination of cash and cash equivalents, partially offset by an increase in accounts payables and accrued expense due to funding our operations and an increase in current lease liabilities.

In January 2021, a consortium of companies, of which the Company is a member, received notice from the DoE that the consortium had been selected for negotiation of a potential financial award for the engineering, construction and operation of a rare earth separation and processing demonstration plant. The consortium of companies is led by General Atomics, an affiliate of Synchron, and includes certain of General Atomics' affiliates, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor. A formal proposal was submitted by the consortium in response to a published Funding Opportunity Announcement in mid-2020 for the construction and operation of a rare earth separation and processing plant utilizing proprietary technology to produce commercial grade products. The DoE finalized the award,

and an agreement was executed by the DoE's grants/agreement officer on September 27, 2021, with an effective date of October 1, 2021. The Company, as a subrecipient of the award, along with the other consortium members, commenced work on the planning and design of the demonstration project in November 2021, with the Company's contractual arrangement with General Atomics finalized in December 2021. The DoE funding is in the amount of \$21,900 and represents approximately one-half of the total estimated costs for the project. The demonstration plant will process already stockpiled high-grade material from the Bear Lodge REE Project.

To address the Company's funding needs, during December 2021, the Company completed a rights offering for gross proceeds of approximately \$25,400 in which each holder of the Company's common shares as of the close of business on the record date of October 19, 2021 was eligible to participate. Terms of the rights offering included the issuance of one subscription right for each common share owned by each holder on the record date with each subscription right entitling the holder to purchase one common share of the Company at a subscription price of \$0.24 per share (the "basic subscription privilege"). If any holder exercised its basic subscription privilege in full, the holder could also exercise an oversubscription privilege to purchase additional common shares for which were unsubscribed at the expiration of the rights offering, subject to availability and pro rata allocation of shares among persons exercising the oversubscription privilege. The Company plans to use the net proceeds from the rights offering for the permitting, licensing, engineering, construction and operation of the rare earth separation and processing demonstration plant near the Company's Bear Lodge Project and other general corporate purposes, with a portion to be used for the prepayment of outstanding indebtedness, in the principal amount of \$1,000, which repayment was completed in December 2021. The previously discussed \$21,900 financial award from the DoE for the demonstration plant will fund approximately one-half of the expected total cost of the demonstration plant, with the balance of the required funding being provided by the Company.

Even with the completion of the rights offering, the Company does not have sufficient funds to progress with longer-term activities beyond the demonstration plant project, including feasibility studies, permitting and licensing, development and construction related to the Bear Lodge REE Project. Therefore, the achievement of these longer-term activities will be dependent upon additional financings, off-take agreements, joint ventures, strategic transactions, or sales of various assets. There is no assurance, however, that the Company will be successful in completing other financings or transactions. Ultimately, in the event that the Company cannot secure additional financial resources, or complete a strategic transaction in the longer term, it may need to suspend its operational plans or even have to liquidate its business interests, and investors may lose all or part of their investment.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements required to be disclosed in this Annual Report.

Contractual Obligations

Cost Share Agreement – Related Party

On November 30, 2021, the Company and General Atomics entered into a Cost Share Funding Assumption Agreement (the "Cost Share Agreement") pursuant to which the Company agreed to assume and pay for certain costs incurred by General Atomics and the consortium for the design, construction, and operation of a rare earth separation and processing demonstration plant near the Bear Lodge REE Project in Upton, Wyoming.

As previously discussed, in January 2021, the DoE announced that a consortium of companies, which includes the Company, led by General Atomics, an affiliate of Synchron, and certain of its affiliates, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor, was selected for a potential financial award in the amount of \$21,900 for the engineering, construction and operation of a rare earth separation and processing demonstration plant. The DoE award was finalized through a cooperative agreement dated October 1, 2021 (the "Cooperative Agreement") between General Atomics and the DoE with respect to the engineering, permitting and licensing, construction and operation of the demonstration plant. The Cooperative Agreement provides that up to approximately \$43,900 in allowable costs for the demonstration plant would be funded on a cost-share basis, 50% by the DoE and 50% by a non-federal entity.

Pursuant to the terms of the Cost Share Agreement, the Company is obligated to make an initial prepayment to General Atomics of \$2,700 for the first Company-assumed costs for the demonstration plant, with the number and amount of additional prepayments to be subject to the mutual written agreement of the parties. Because the Company made this initial prepayment during January 2022, the \$2,700 was classified as restricted cash on the Company's balance sheet as of December 31, 2021.

The term of the Cost Share Agreement will continue until the date of completion of the demonstration plant, unless terminated earlier by either party. Either party may terminate the Cost Share Agreement immediately upon written notice to the other party if any of the following events occurs: (a) the Cooperative Agreement is terminated for any reason prior to the completion of the demonstration plant; (b) the other party commits a material breach of its obligations under the Cost Share Agreement and fails to cure such breach within 30 days; or (c) the other party makes an assignment for the benefit of its creditors, files a petition in bankruptcy, is adjudicated insolvent or bankrupt, or commences any insolvency or bankruptcy proceedings. Upon any early termination of the Cost Share Agreement, the Company must pay for all costs incurred by or on behalf of General Atomics to wind down the demonstration plant other than any allowable costs for such wind-down paid for by the DoE.

Intellectual Property Rights – Related Party

During October 2017, the Company and Synchron executed an intellectual property rights agreement, whereby Synchron received rights to use and improve the Company's intellectual property relating to the Company's patents and patents-pending and related technical information. The Company retains the right to use any such improvements. See "Item 1A. Risk Factors" of this Annual Report.

Land Purchase Option

On October 25, 2021, the Company and Whitelaw Creek LLC, a Wyoming limited liability company ("Whitelaw Creek"), entered into an amendment (the "Amendment") to the previously announced asset purchase agreement dated October 20, 2016 between the Company and Whitelaw Creek (the "Asset Purchase Agreement"). The Amendment modified certain provisions of the Asset Purchase Agreement related to the terms and conditions of the Company's option to repurchase (the "Repurchase Option") approximately 640 acres of non-core real property located in Crook County, Wyoming, that is under consideration for a waste rock facility for the Bear Lodge REE Project. Pursuant to and subject to the terms of the Amendment, among other things the term of the Repurchase Option (which was to expire on October 26, 2021) was extended for up to three additional years, subject to annual option extension payments from the Company to Whitelaw Creek of \$25 in cash per year (each, a "Repurchase Option Extension Payment"); and the exercise price of the Repurchase Option was increased from \$1,000 to a price to be determined by a mutually agreed upon real estate appraiser (the "Repurchase Price"), provided that (i) the Repurchase Price must not be less than \$1,200 or greater than \$1,850 and (ii) any Repurchase Option Extension Payments paid by the Company to Whitelaw Creek must be credited toward the Company's payment of the Repurchase Price if the Repurchase Option is later exercised

CRITICAL ACCOUNTING POLICIES

For a summary of our significant accounting policies, including those discussed below, see Note 3 in our Consolidated Financial Statements.

CRITICAL ACCOUNTING ESTIMATES

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. The amounts which involve significant estimates include reclamation obligations and income tax.

Reclamation Obligations

Our mining and exploration activities are subject to various laws and regulations, including legal and contractual obligations to reclaim, remediate, or otherwise restore properties at the time the property is removed from service. Reclamation obligations are recognized when incurred and recorded as liabilities at fair value. The reclamation obligation is based on when spending for an existing disturbance will occur. We reclaim the disturbance from our exploration programs on an ongoing basis and, therefore, the portion of our reclamation obligation corresponding to our exploration programs will be settled in the near term and is classified as a current liability. The remaining reclamation associated with environmental monitoring programs is classified as a long-term liability; however, because we have not declared proven and probable reserves as defined under Item 1300 of Regulation S-K, the timing of these reclamation activities is uncertain as the reclamation areas will be utilized once the project is operating. For exploration stage properties that do not qualify for asset capitalization, the costs associated with the obligation are charged to operations. For Development and Production Stage properties, the costs are added to the capitalized costs of the property and amortized using the units-of-production method. We review, on a quarterly basis, unless otherwise deemed necessary, the reclamation obligation in connection with the Bear Lodge Property.

Reclamation obligations are secured by surety bonds held for the benefit of the state of Wyoming in amounts determined by applicable federal and state regulatory agencies.

Accounting for reclamation and remediation obligations requires management to make estimates unique to each mining operation of the future costs the Company expects to incur to complete the reclamation and remediation work required to comply with existing laws and regulations. These estimates require considerable judgment and are sensitive to changes in underlying inputs and assumptions. Such changes, including, but not limited to, (i) changes to environmental laws and regulations, which could increase the scope and extent of work required, (ii) changes in the timing of reclamation and remediation activities, which could occur over an extended future period and (iii) changes in the methods and technology utilized to settle reclamation and remediation obligations, could have a material impact on our business, financial condition, results of operations and cash flows.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following Consolidated Financial Statements and Report of Independent Registered Public Accountants are filed as part of this Item 8 and are included in this Annual Report.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Directors
Rare Element Resources Ltd.
Littleton, Colorado

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Rare Element Resources Ltd. (the “Company”) as of December 31, 2021 and 2020, the related consolidated statements of operations, shareholders’ equity, and cash flows for each of the years then ended, and 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 at December 31, 2021 and 2020, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

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 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Accounting Treatment of Reimbursable Funds

As described in Note 9, the Company entered into various agreements with General Atomics, a related party, during the year. These agreements resulted in 1) the Company agreeing to assume and pay for certain costs incurred by General Atomics for the design, construction, and operation of a planned rare earth separation and processing demonstration plant, and 2) 50% of those costs incurred by the Company will be eligible for reimbursement by General Atomics under a

Cooperative Agreement between General Atomics and the Department of Energy. As of December 31, 2021, the Company had \$106,000 due from General Atomics under the agreements.

We identified management's assessment and determination of the appropriate accounting treatment of funds to be received as reimbursements as a critical audit matter due to the significant judgments used in the Company's assessment, including (i) the judgment that both parties are exposed to significant risks and rewards resulting from the arrangement and (ii) the determination that activity completed by the Company as outlined by the agreements with General Atomics falls within the scope of activity conducted under a contractual arrangement. Auditing these elements involved subjective auditor judgment due to the nature and extent of audit effort required to address these matters.

The primary procedures we performed to address this critical audit matter included:

- Assessed management's judgmental conclusions of the risks and rewards exposed to both parties and determination of the activity completed by independently assessing relevant guidance applicable to the presentation and treatment of the balance of funds to be received as reimbursements.
- Reviewing the cost share agreement and subcontract agreement entered into by the Company to ensure significant judgments made by management include all relevant information and factors outlined within the agreements.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2020.

Spokane, Washington

March 22, 2022

RARE ELEMENT RESOURCES LTD.
CONSOLIDATED BALANCE SHEETS
(Expressed in thousands of U.S. Dollars, except shares outstanding)

	December 31,	
	2021	2020
ASSETS:		
CURRENT ASSETS		
Cash and cash equivalents	\$ 22,247	\$ 2,706
Restricted cash	2,700	—
Due from related party	106	—
Prepaid expenses and other	75	47
Total Current Assets	<u>25,128</u>	<u>2,753</u>
Equipment, net	16	51
Right of use asset	372	—
Investment in land	600	600
Total Assets	<u>\$ 26,116</u>	<u>\$ 3,404</u>
LIABILITIES:		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities	\$ 407	\$ 115
Due to related party	712	—
Lease liability, current	124	—
Total Current Liabilities	<u>1,243</u>	<u>115</u>
Reclamation obligation	132	132
Lease liability, long-term	253	—
Repurchase option	1,047	933
Total Liabilities	<u>2,675</u>	<u>1,180</u>
Commitments and Contingencies (Note 9)		
SHAREHOLDERS' EQUITY:		
Common shares, no par value – unlimited shares authorized; shares outstanding December 31, 2021 and December 31, 2020 – 212,466,889 and 105,308,445, respectively	136,906	111,823
Additional paid in capital	25,753	24,217
Accumulated deficit	(139,218)	(133,816)
Total Shareholders' Equity	<u>23,441</u>	<u>2,224</u>
Total Liabilities and Shareholders' Equity	<u>\$ 26,116</u>	<u>\$ 3,404</u>

See accompanying notes to consolidated financial statements.

RARE ELEMENT RESOURCES LTD.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Expressed in thousands of U.S. Dollars, except per share and common share amounts)

	Year Ended December 31,	
	2021	2020
Operating expenses:		
Exploration and evaluation (\$606, net to related party)	\$ (2,089)	\$ (1,347)
Corporate administration	(3,114)	(1,823)
Depreciation and amortization	(30)	(5)
Impairment charges	(30)	—
Total operating expenses	(5,263)	(3,175)
Non-operating income (expense):		
Interest income	—	27
Accretion expense	(114)	(80)
Interest expense	(25)	—
Total non-operating income (expense)	(139)	(53)
Net loss	\$ (5,402)	\$ (3,228)
LOSS PER SHARE - BASIC AND DILUTED	\$ (0.03)	\$ (0.02)
WEIGHTED AVERAGE NUMBER OF SHARES OUTSTANDING	173,490,546	167,774,213

See accompanying notes to consolidated financial statements.

RARE ELEMENT RESOURCES LTD.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Expressed in thousands of U.S. Dollars)

	For the year ended December 31,	
	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	\$ (5,402)	\$ (3,228)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	5	5
Accretion expense	114	80
Impairment charges	30	—
Right of use asset amortization	25	—
Lease liability	(20)	—
Stock-based compensation	1,536	386
	(3,712)	(2,757)
Changes in working capital		
Receivables	(106)	—
Prepaid expenses and other	(28)	(7)
Accounts payable and accrued liabilities	1,004	(355)
Net cash used in operating activities	<u>(2,842)</u>	<u>(3,119)</u>
CASH FLOWS FROM FINANCING ACTIVITIES:		
Stock option exercise	133	161
Financing transaction, net (Note 7)	24,950	—
Net cash and cash equivalents provided by financing activities	<u>25,083</u>	<u>161</u>
Increase (decrease) in cash and cash equivalents	22,241	(2,958)
Cash and cash equivalents - beginning of the period	2,706	5,664
Cash, cash equivalents and restricted cash - end of the period	<u>\$ 24,947</u>	<u>\$ 2,706</u>
Supplemental cash flow disclosures:		
Right of use asset - operating lease capitalized	\$ 397	\$ —
Reconciliation of amounts in the Balance Sheet to amounts in the Cash Flow Statement		
Cash and Cash equivalents	\$ 22,247	\$ 2,706
Restricted cash	2,700	—
Total of cash, cash equivalents and restricted cash - end of period	<u>\$ 24,947</u>	<u>\$ 2,706</u>

Supplemental disclosure with respect to cash flows – Note 10

See accompanying notes to the consolidated financial statements.

RARE ELEMENT RESOURCES LTD.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(Expressed in thousands of U.S. Dollars)

	Common Shares	Amount	Additional Paid in Capital	Accumulated Deficit	Total
Balance, December 31, 2019	<u>103,966,880</u>	<u>\$ 111,662</u>	<u>\$ 23,831</u>	<u>\$ (130,588)</u>	<u>\$ 4,905</u>
Stock option exercises	928,365	161	—	—	161
Stock-based compensation	—	—	386	—	386
Net loss	—	—	—	(3,228)	(3,228)
Balance, December 31, 2020	<u>104,895,245</u>	<u>111,823</u>	<u>24,217</u>	<u>(133,816)</u>	<u>2,224</u>
Stock option exercises	1,763,200	133	—	—	133
Stock-based compensation	—	—	1,536	—	1,536
Financing transaction	105,808,444	24,950	—	—	24,950
Net loss	—	—	—	(5,402)	(5,402)
Balance, December 31, 2021	<u>212,466,889</u>	<u>\$ 136,906</u>	<u>\$ 25,753</u>	<u>\$ (139,218)</u>	<u>\$ 23,441</u>

See accompanying notes to consolidated financial statements.

RARE ELEMENT RESOURCES LTD.
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2021

(all amounts stated in thousands of U.S. dollars except share and per share amounts)

1. NATURE OF OPERATIONS

Rare Element Resources Ltd. (“we,” “us,” “Rare Element” or the “Company”) was incorporated under the laws of the Province of British Columbia, Canada, on June 3, 1999.

Rare Element is the 100%-holder of the Bear Lodge REE Project located near the town of Sundance in northeast Wyoming. The Bear Lodge REE Project consists of several large, disseminated rare earth elements (“REE”) deposits that comprise one of the highest-grade REE deposits identified in North America and one of the highest-grade europium (Eu) deposits in the world. In addition, the Bear Lodge REE Project has a favorable distribution of the remaining critical rare earth elements. The Company also holds a 100% interest in the Sundance Gold Project that is adjacent to the Bear Lodge REE Project and contains a historical inferred mineral resource primarily composed of three gold targets within the area of the Bear Lodge property. Given the Company’s longstanding focus on the Bear Lodge REE Project and the current interest in REE, the advancement of the Sundance Gold Project has been on hold since 2011 and will likely remain so for the foreseeable future.

During the year ended December 31, 2021, the Company completed the pilot plant phase for the confirmation and enhancement of its proprietary technology for recovery and separation of rare earth elements. The work was conducted by Umwelt-und Ingenieurtechnik GmbH Dresden (“UIT”), an affiliate of Synchron, our largest shareholder and of General Atomics Corporation (“General Atomics”), per an agreement with the Company. The results are being incorporated into the demonstration plant, as described below.

In January 2021, a consortium of companies, of which the Company is a part, received notice from the Department of Energy (“DoE”) that the consortium had been selected for negotiation of a potential financial award for the engineering, construction and operation of a rare earth separation and processing demonstration plant. The consortium of companies is led by General Atomics, an affiliate of Synchron, and includes certain of General Atomics’ affiliates, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor. A formal proposal was submitted by the consortium in response to a published Funding Opportunity Announcement in mid-2020 for the construction and operation of a rare earth separation and processing plant utilizing proprietary technology to produce commercial grade products. The DoE funding is in the amount of \$21,900 and represents approximately one-half of the total estimated costs for the project. The demonstration plant will process already stockpiled high-grade material from the Bear Lodge REE Project. The DoE agreement was executed by the DoE’s grants/agreement officer on September 27, 2021, with an effective date of October 1, 2021. The Company, as a subrecipient of the award, along with the other consortium members, finalized contractual arrangements with General Atomics in order to commence work on the project in November 2021.

However, even with the completion of the rights offering (Note 7), the Company does not have sufficient funds to progress with longer-term activities beyond the demonstration plant project, including feasibility studies, permitting and licensing, development and construction related to the Bear Lodge REE Project. Therefore, the achievement of these longer-term activities will be dependent upon receipt of additional funds through financings, off-take agreements, joint ventures, strategic transactions, or sales of various assets. There is no assurance, however, that the Company will be successful in completing other financings or transactions. Ultimately, in the event that the Company cannot secure additional financial resources, or complete a strategic transaction in the longer term, it may need to suspend its operational plans or even have to liquidate its business interests, and investors may lose all or part of their investment.

COVID-19 Impact on Business

In response to the COVID-19 pandemic, we implemented travel restrictions, both domestically and internationally, and our employee and consultants abided by government guidance and orders. As a result, we saw delays in the metallurgical studies conducted by UIT that slowed the progression of the prior test work. Any continued pandemic impact may be material to the completion of the design inputs needed for the demonstration plant. Any further economic downturn triggered by COVID-19 and any resulting direct and indirect negative impact on us could have a material adverse impact on our future activities, cash flows and liquidity. We may experience higher prices for the equipment and raw materials

RARE ELEMENT RESOURCES LTD.
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2021

(all amounts stated in thousands of U.S. dollars except share and per share amounts)

for the demonstration plant due to shortages, commodity inflation and supply chain issues, including transportation delays as a result of COVID-19 and other economic factors. Further, it is unknown what, if any, impact COVID-19 and any resulting economic factors will have on rare earth prices and market supply and demand fundamentals.

2. BASIS OF PRESENTATION

Principles of Consolidation

These consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (“GAAP”) and are inclusive of the accounts of Rare Element Resources Ltd. and its directly and indirectly held wholly owned subsidiaries, which consist of its wholly owned subsidiary Rare Element Holdings Ltd. (“Holdings”) and Holdings’ wholly owned subsidiary, Rare Element Resources, Inc.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. The amounts that involve significant estimates include our reclamation obligations.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and liquid investments with an original maturity of three months or less. At December 31, 2021 and 2020, cash and cash equivalents consisted of \$22,247 and \$2,706, respectively, of funds held in bank accounts with financial institutions in the United States.

The Company continually monitors its cash positions with, and the credit quality of, the financial institutions with which it invests. The Company maintains balances in various U.S. financial institutions in excess of U.S. federally insured limits.

Mineral Properties and Exploration and Evaluation Costs

Mineral property acquisition costs, including indirectly related acquisition costs, are capitalized when incurred. Acquisition costs include cash consideration and the fair market value of common shares issued as consideration. Properties acquired under option agreements, whereby payments are made at the sole discretion of the Company, are capitalized as mineral property acquisition costs at such time as the payments are made. Exploration costs are expensed as incurred. When it is determined that a mining deposit can be economically and legally extracted or produced based on established proven and probable mineral reserves under Item 1300 of Regulation S-K, development costs related to such reserves and incurred after such determination will be considered for capitalization. The establishment of proven and probable reserves is based on results of feasibility studies. Upon commencement of commercial production, capitalized costs will be amortized over their estimated useful lives or units of production, whichever is a more reliable measure. Capitalized amounts relating to a property that is abandoned or otherwise considered uneconomic for the foreseeable future will be written off.

Reclamation Obligations

The Company’s mining and exploration activities are subject to various laws and regulations, including legal and contractual obligations to reclaim, remediate, or otherwise restore properties at the time the property is removed from service. Reclamation obligations are recognized when incurred and recorded as liabilities at fair value. The reclamation

RARE ELEMENT RESOURCES LTD.
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(all amounts stated in thousands of U.S. dollars except share and per share amounts)

obligation is based on when spending for an existing disturbance will occur. The Company reclaims the disturbance from its exploration programs on an ongoing basis; therefore, the portion of its reclamation obligation corresponding to its exploration programs will be settled in the near term and is classified as a current liability. The remaining reclamation associated with environmental monitoring programs is classified as a long-term liability; however, because we have not declared proven or probable mineral reserves as defined under Item 1300 of Regulation S-K, the timing of these reclamation activities is uncertain as the reclamation areas will only be utilized once the Bear Lodge REE Project is operating. For exploration stage properties that do not qualify for asset capitalization, the costs associated with the reclamation obligation are charged to operations. For development and production stage properties, the costs are added to the capitalized costs of the property and amortized using the units-of-production method. We review, on a quarterly basis, unless otherwise deemed necessary, the reclamation obligation in connection with the Bear Lodge Property.

Reclamation obligations are secured by surety bonds held for the benefit of the state of Wyoming in amounts determined by applicable federal and state regulatory agencies. The Company's reclamation obligation was \$132 as of December 31, 2021 and 2020.

Depreciation

Depreciation is computed using the straight-line method. The Company depreciates computer equipment, furniture and fixtures and geological equipment over a period of three to ten years. The Company depreciates vehicles over a period of five years.

Stock-based Compensation

The fair value of stock-based compensation awards is measured at the date of grant and amortized over the requisite service period, which is generally the vesting period, with a corresponding increase in additional paid-in capital. The Company uses the Black-Scholes option valuation model to calculate the fair value of awards granted.

In the case of a share-based compensation award that is either cancelled or forfeited prior to vesting, the amortized expense associated with the unvested awards is reversed. The Company has elected to account for forfeitures as they occur.

Income Taxes

The Company accounts for income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Under the asset and liability method, the effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance is recognized if it is more likely than not that the entire or some portion of the deferred tax asset will not be recognized.

Loss per Share

The loss per share is computed using the weighted average number of shares outstanding during the period. During December 2021, the Company completed a rights offering (Note 7) whereby the Company offered existing shareholders the right to purchase additional common shares at \$0.24 (the "offer price"). The offer price was significantly lower than the fair value of the common shares at that time. The discounted offer price is considered a bonus element that is similar to a stock dividend. As a result, the earnings per share calculation is adjusted retroactively for the bonus element for all periods presented. For the years ended December 31, 2021 and 2020, the Company's basic and diluted earnings per share calculation has been adjusted to include the impact of the bonus element.

RARE ELEMENT RESOURCES LTD.
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(all amounts stated in thousands of U.S. dollars except share and per share amounts)

To calculate diluted loss per share, the Company uses the treasury stock method and the if-converted method. Diluted loss per share is not presented, as the effect on the basic loss per share would be anti-dilutive. At December 31, 2021 and 2020, we had 2,180,000 and 3,100,000 of potentially dilutive securities, respectively related to outstanding stock options.

Fair Value

GAAP defines fair value as the price that would be received to sell an asset or be paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price) and establishes a fair-value hierarchy that prioritizes the inputs used to measure fair value using the following definitions (from highest to lowest priority):

- Level 1 — Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2 — Observable inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data by correlation or other means.
- Level 3 — Prices or valuation techniques requiring inputs that are both significant to the fair-value measurement and unobservable.

Financial assets and liabilities subject to fair value measurements on a recurring basis and the level of inputs used in such measurements by major security type as of December 31, 2021 and 2020 are presented in the following table:

Fair value at December 31, 2021				
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds	\$ 22,700	\$ 22,700	\$ —	\$ —
Fair value at December 31, 2020				
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds	\$ 2,569	\$ 2,569	\$ —	\$ —

Money Market Funds are valued at cost, which approximates fair value. These amounts are included in Cash and cash equivalents and Restricted Cash on the Balance Sheet as of December 31, 2021 and 2020.

Recently Issued Accounting Pronouncements

Financial Disclosures of Government Assistance

In November 2021, ASU No. 2021-10 was issued which provides guidance for required annual disclosures about transactions with a government that are accounted for by applying a grant or contribution accounting model by analogy. The guidance is effective for all entities for annual periods beginning after December 15, 2021. The Company is still completing its evaluation of the impact of ASU 2021-10.

4. LEASES

The Company accounts for leases in accordance with ASC 842 – *Leases*. This accounting standard requires all lessees to record the impact of leasing contracts on the balance sheet as a right to use asset and corresponding liability. This is measured by taking the present value of the remaining lease payments over the lease term and recording a right to use

RARE ELEMENT RESOURCES LTD.
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2021

(all amounts stated in thousands of U.S. dollars except share and per share amounts)

asset ("ROU") and corresponding lease obligation for lease payments. Rent expense is realized on a straight-line basis and the lease obligation is amortized based on the effective interest method. The amounts recognized reflect the present value of remaining lease payments for all leases that have a lease term greater than 12 months. The discount rate used is an estimate of the Company's incremental borrowing rate based on information available at lease commencement in determining present value of lease payments.

In considering the lease asset value, the Company considers fixed or variable payment terms, prepayments and options to extend, terminate or purchase. Renewal, termination or purchase options affect the lease term used for determining lease asset value only if the option is reasonably certain to be exercised.

Effective September 21, 2021, the Company entered into a lease agreement for real property including land, a facility and office space in Upton, Wyoming for the demonstration plant. The lease is a 12-month lease with annual renewal terms. The agreement, which is classified as an operating lease, generally provides for base rent and requires the Company to pay all insurance, taxes and other maintenance costs. The lease agreement does not include variable lease payments, nor does it contain residual value guarantees or contain restrictive covenants.

The total future minimum lease payments as of December 31, 2021 is as follows:

2022	\$	124
2023		124
2024		124
2025		93
Total		465
Less interest		88
Present value of lease payments	\$	377

In connection with this lease, the Company obtained right-of-use assets in exchange for lease liabilities of approximately \$397 upon commencement of new operating leases during year ended December 31, 2021. The weighted average lease term for operating leases is 3.75 years (including renewal options) and the weighted average discount rate is 12%.

5. MINERAL PROPERTIES

Bear Lodge Property, Wyoming, USA

The Company, through its indirectly held, wholly owned subsidiary, Rare Element Resources, Inc., holds a 100% interest in 499 unpatented mining claims located on land administered by the USFS and a repurchase option (see Note 6 for discussion) on approximately 640 acres (257 hectares) of fee property, together which contain (1) the Bear Lodge REE Project that contains REE mineralization; and (2) the Sundance Gold Project that contains gold mineralization. The property is situated in the Bear Lodge Mountains of Crook County, in northeast Wyoming.

RARE ELEMENT RESOURCES LTD.
NOTES TO FINANCIAL STATEMENTS
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(all amounts stated in thousands of U.S. dollars except share and per share amounts)

6. EQUIPMENT AND LAND

At December 31, 2021 and 2020, equipment consisted of the following:

	December 31, 2021			December 31, 2020		
	Cost	Accumulated depreciation	Net book value	Cost	Accumulated depreciation	Net book value
Computer equipment	\$ —	\$ —	\$ —	\$ 1	\$ 1	\$ —
Furniture	—	—	—	13	13	—
Geological equipment	240	224	16	346	296	50
Vehicles	50	50	—	87	86	1
	<u>\$ 290</u>	<u>\$ 274</u>	<u>\$ 16</u>	<u>\$ 447</u>	<u>\$ 396</u>	<u>\$ 51</u>

Depreciation expense for the years ended December 31, 2021 and 2020 was \$5 and \$5, respectively. The Company evaluates the recoverability of the carrying value of equipment when events and circumstances indicate that such assets might be impaired. As a result of this evaluation, during the year ended December 31, 2021, the Company recorded impairment charges of \$30 related to assets no longer in use. There were no such charges during the year ended December 31, 2020.

Pursuant to an asset purchase agreement (the “Asset Purchase Agreement”), dated October 20, 2016 and as amended on October 25, 2021, between the Company and Whitelaw Creek LLC, a Wyoming limited liability company (“Whitelaw Creek”), the Company has the right to repurchase (the “Repurchase Option”) from Whitelaw Creek approximately 640 acres of non-core real property located in Crook County, Wyoming, that we sold to Whitelaw Creek in October 2016 for approximately \$600 in cash. The property is under consideration for a stockpile facility for the Bear Lodge REE Project. The Repurchase Option terminates on October 26, 2022 but may be extended for up to two additional years, subject to annual option extension payments from the Company to Whitelaw Creek of \$25 in cash per year (each, a “Repurchase Option Extension Payment”). The Company has the right to repurchase the land for a price to be determined by a mutually agreed upon real estate appraiser (the “Repurchase Price”), provided that (i) the Repurchase Price must not be less than \$1,200 or greater than \$1,850 in the form of cash, our common shares, or a combination of cash and the Company’s common shares and (ii) any Repurchase Option Extension Payments paid by the Company to Whitelaw Creek (including a Repurchase Option Extension Payment made on, or prior to, November 2, 2021) must be credited toward the Company’s payment of the Repurchase Price if the Repurchase Option is later exercised. Payment of any common shares of the Company is subject to a beneficial ownership limitation for Whitelaw Creek and its affiliates collectively of 9.9% of the then-current total number of outstanding common shares of the Company, and in no event may the portion of the Repurchase Price paid in common shares of the Company exceed 5 million shares.

For accounting purposes, the Company has classified our value in the land as an asset on its Consolidated Balance Sheets titled “Investment in land” and the value of the Repurchase Price as a liability on our Consolidated Balance Sheets titled “Repurchase option”. Additionally, the Company is increasing the Repurchase Option liability on a straight-line basis through accretion expense until the liability reaches anticipated repurchase amount of \$1,850.

7. SHAREHOLDERS’ EQUITY

Stock-based Compensation

The Company has options outstanding and exercisable that were issued under the 10% Rolling Stock Option Plan (the “RSOP”). The terms of the RSOP were approved by our shareholders at the annual meeting of shareholders on December 2, 2011, and the RSOP was amended and restated on April 7, 2020, as approved by the Board. The RSOP established the maximum number of common shares which may be issued under the RSOP as a variable amount equal to 10% of the issued and outstanding common shares on a non-diluted basis. Under the RSOP, our Board of Directors may from time to time grant stock options to individual eligible directors, officers, employees or consultants. The maximum

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term of any stock option is 10 years. Options generally vest over two years. The exercise price of a stock option is not less than the closing price on the last trading day preceding the grant date. The Board retains the discretion to impose vesting periods on any options granted.

The fair value of stock option awards granted to directors, officers, employees and/or consultants of the Company are estimated on the grant date using the Black-Scholes option valuation model and the closing price of our common shares on the grant date. The significant assumptions used to estimate the fair value of 855,000 and 750,000 stock option awards granted during the years ended December 31, 2021 and 2020, respectively, using the Black-Scholes option valuation model are as follows:

	Year Ended December 31,	
	2021	2020
Risk-free interest rate	1.69 %	1.45 %
Expected volatility	146 %	148 %
Expected dividend yield	Nil	Nil
Expected term in years	8	5

The following table summarizes stock option activity for each of the years ended December 31, 2021 and 2020:

	Year Ended December 31,			
	2021		2020	
	Number of Stock Options	Weighted Average Exercise Price	Number of Stock Options	Weighted Average Exercise Price
Outstanding, beginning of period	3,100,000	\$ 0.28	3,450,000	\$ 0.16
Granted	855,000	2.25	750,000	0.83
Exercised	(1,775,000)	0.13	(1,100,000)	0.28
Outstanding, end of period	2,180,000	\$ 1.18	3,100,000	\$ 0.28
Exercisable, end of period	1,377,500	\$ 0.94	1,925,000	\$ 0.12
Non-vested, end of period	802,500	\$ 1.59	1,175,000	\$ 0.48

The stock-based compensation cost recognized in the Company's Consolidated Statements of Operations for the years ended December 31, 2021 and 2020 was \$1,536 and \$386, respectively. As of December 31, 2021, there was \$565 of unrecognized compensation cost related to 802,500 unvested stock options. This cost is expected to be recognized over a weighted-average remaining period of approximately one year.

At December 31, 2021, the intrinsic value of outstanding and exercisable stock options was \$1,014 and \$856, respectively. The intrinsic value of stock options exercised during the year ended December 31, 2021 and 2020 was \$2,985 and \$514, respectively. The intrinsic value of non-vested stock options at December 31, 2021 was \$158.

The weighted-average grant-date fair value of options granted during the years December 31, 2021 and 2020 was \$2.25 and \$0.75, respectively.

At December 31, 2021, the weighted average remaining life of stock options outstanding, stock options exercisable and unvested stock options was 4.2 years, 4.5 years and 3.7 years, respectively.

See Note 12 for discussion of stock options granted subsequent to December 31, 2021.

RARE ELEMENT RESOURCES LTD.
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Rights Offering

During December 2021, the Company completed a rights offering for gross proceeds of approximately \$25,400 in which each holder of the Company's common shares as of the close of business on the record date of October 19, 2021 was eligible to participate. Terms of the rights offering included the issuance of one subscription right for each common share owned by each holder on the record date with each subscription right entitling the holder to purchase one common share of the Company at a subscription price of \$0.24 per share (the "basic subscription privilege"). If any holder exercised its basic subscription privilege in full, the holder could also exercise an oversubscription privilege to purchase additional common shares for which were unsubscribed at the expiration of the rights offering, subject to availability and pro rata allocation of shares among persons exercising the oversubscription privilege. The Company plans to use the net proceeds from the rights offering for the permitting, licensing, engineering, construction and operation of the rare earth separation and processing demonstration plant near the Company's Bear Lodge Project and other general corporate purposes, with a portion to be used for the prepayment of outstanding indebtedness, in the principal amount of \$1,000, which repayment was completed in December 2021. The previously discussed \$21,900 financial award from the DoE for the demonstration plant will fund approximately one-half of the expected total cost of the demonstration plant, with the balance of the required funding being provided by the Company.

8. INCOME TAX

The Company recognizes future tax assets and liabilities for each tax jurisdiction based on the difference between the financial reporting and tax bases of assets and liabilities using the enacted tax rates expected to be in effect when the taxes are paid or recovered. A valuation allowance is provided against net future tax assets for which the Company does not consider the realization of such assets to meet the required "more likely than not" standard.

The Company's future tax assets and liabilities at December 31, 2021 and 2020 include the following components:

	As of December 31,	
	2021	2020
Deferred tax assets:		
Non-current:		
Accrued vacation and deferred revenue	\$ —	\$ 3
Noncapital loss carryforwards, Canada	2,651	2,579
Capital loss carryforwards, Canada	6	6
Net operating loss carryforwards, U.S.	22,235	20,242
Mineral properties	1,714	2,322
Reclamation provision	28	28
Equipment	91	85
Share based compensation	237	65
Research and development	513	761
Deferred tax assets	27,475	26,091
Valuation allowance	(27,475)	(26,091)
Net	\$ —	\$ —
Deferred tax liabilities:		
Deferred tax liabilities	\$ —	\$ —
Net deferred tax asset/(liability)	\$ —	\$ —

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The composition of the Company's valuation allowance by tax jurisdiction is summarized as follows:

	As of December 31,	
	2021	2020
Canada	\$ 3,093	\$ 3,022
United States	24,382	23,069
Total valuation allowance	\$ 27,475	\$ 26,091

It is more likely than not that the net deferred tax assets will not be realized, therefore the Company continues to record a 100% valuation allowance against the net deferred tax assets.

The valuation allowance increased \$1,384 from the year ended December 31, 2020 to the year ended December 31, 2021. The increase in the deferred tax assets resulted primarily from the increase in net operating loss carryforwards ("NOLs") and noncapital loss carryforwards, partially offset by amortization of capitalized exploration costs.

At December 31, 2021, we had U.S. NOL carryforwards of approximately \$92,708, which expire from 2022 to indefinitely. As a result of the Tax Cuts and Jobs Act, U.S. NOLs generated in years ending after 2017 have an indefinite carryforward rather than the previous 20-year carryforward. This does not affect losses incurred in years ended in 2017 or earlier. In addition, we had Canadian non-capital loss carryforwards of approximately C\$12,563, which expire from 2025 to 2040. As of December 31, 2021, there were Canadian capital loss carryforwards of C\$59. A full valuation allowance has been recorded against the tax effected U.S. and Canadian loss carryforwards as we do not consider realization of such assets to meet the required 'more likely than not' standard.

Section 382 of the Internal Revenue Code could apply and limit our ability to utilize a portion of the U.S. NOL carryforwards. No Section 382 study has been completed; therefore, the actual usage of U.S. NOL carryforwards has not been determined.

For financial reporting purposes, loss from continuing operations before income taxes consists of the following components:

	For the year ended December 31,	
	2021	2020
Canada	\$ (310)	\$ (238)
United States	(5,092)	(2,990)
	\$ (5,402)	\$ (3,228)

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A reconciliation of expected income tax on net income at statutory rates is as follows:

	As of December 31,	
	2021	2020
Net loss	\$ (5,402)	\$ (3,228)
Statutory tax rate	27 %	27 %
Tax expense at statutory rate	(1,459)	(872)
State taxes	(290)	(309)
Foreign rate differential	302	130
Change in tax rates	43	—
Share issuance costs amortization	(3)	(3)
Stock-based compensation	56	20
Nondeductible expenses	11	40
Expired net operating loss carryovers	9	24
Prior year true-up	(53)	88
Change in valuation allowance	1,384	882
Income tax expense	<u>\$ —</u>	<u>\$ —</u>

The Company does not have any unrecognized income tax benefits. Should the Company incur interest and penalties relating to tax uncertainties, such amounts would be classified as a component of the interest expense and operating expense, respectively.

Rare Element and its wholly owned subsidiary, Rare Element Holdings Ltd., file income tax returns in the Canadian federal jurisdiction and provincial jurisdictions, and its wholly owned subsidiary, Rare Element Resources, Inc., files in the U.S. federal jurisdiction and various state jurisdictions. The years still open for audit are generally the current year plus the previous three. However, because we have NOLs carrying forward, certain items attributable to closed tax years are still subject to adjustment by applicable taxing authorities through an adjustment to tax losses carried forward to open years.

9. COMMITMENTS AND CONTINGENCIES

Potential Environmental Contingency

The Company's exploration and development activities are subject to various federal and state laws and regulations governing the protection of the environment. These laws and regulations are continually changing and generally have become more restrictive. The Company conducts its operations to protect public health and the environment and believes that its operations are materially in compliance with all applicable laws and regulations. The Company has made, and expects to make in the future, expenditures to comply with such laws and regulations. The ultimate amount of reclamation and other future site-restoration costs to be incurred for existing mining interests is uncertain.

Contract Commitment – Related Party

On March 9, 2020, the Board of Directors approved the engagement of UIT for further test work in an amount not to exceed \$650. Under the 2020 engagement, UIT optimized certain process steps, developed scale-up design criteria for a demonstration plant, and confirmed operating and capital cost estimates. Consistent with the prior Board of Directors' action engaging UIT, the three directors of Rare Element nominated by Synchron abstained because Synchron is a majority shareholder of the Company and is an affiliate of UIT.

The 2020 UIT test work was completed in December 2020, and test work reports were provided to the Company in early 2021.

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In January 2021, the Board of Directors approved \$500 for additional UIT test work in the first half of 2021 to include optimizing of certain process steps, developing scale-up design criteria for a demonstration plant, and confirming operating and capital cost estimates. Consistent with the prior Board of Directors' action engaging UIT, the three directors of Rare Element nominated by Synchron abstained because Synchron is a majority shareholder of the Company and is an affiliate of UIT. The 2021 contract work by UIT was completed in August 2021 and a report was issued with recommendations to proceed with the incorporation of the technology in the demonstration plant project.

For the years ended December 31, 2021 and 2020, the Company paid \$740 and \$1,131, respectively, for services rendered by UIT. There were no amounts owed to UIT as of December 31, 2021.

On November 30, 2021, the Company and General Atomics entered into a Cost Share Funding Assumption Agreement (the "Cost Share Agreement") pursuant to which the Company agreed to assume and pay for certain costs incurred by General Atomics for the design, construction, and operation of a planned rare earth separation and processing demonstration plant near the Bear Lodge REE Project in Upton, Wyoming.

As previously discussed, in January 2021, the DoE announced that a consortium of companies, which includes the Company, led by General Atomics, an affiliate of Synchron, and certain of its affiliates, and LNV, an Ardurra Group, Inc. company, as engineering and construction subcontractor, was selected for a potential financial award in the amount of \$21,900 for the engineering, construction and operation of a rare earth separation and processing demonstration plant. The DoE award was finalized through a cooperative agreement dated October 1, 2021 (the "Cooperative Agreement") that was awarded by the DoE for the demonstration plant. The Cooperative Agreement provided that up to approximately \$43,900 in allowable costs for the demonstration plant would be funded on a cost-share basis, 50% by the DoE and 50% by a non-federal entity.

Pursuant to the terms of the Cost Share Agreement, the Company is obligated to make a prepayment to General Atomics of \$2,700 for the first \$2,700 of Company-assumed costs for the demonstration plant, with the number and amount of additional prepayments to be subject to the mutual written agreement of the parties. Because the Company made this prepayment during January 2022, the \$2,700 was classified as restricted cash on the Company's balance sheet as of December 31, 2021. Additionally, as of December 31, 2021, under the terms of the Cost Share Agreement, the Company has a receivable of \$106 related to amounts due from General Atomics and an accrued liability of \$712 related to estimated amounts due to General Atomics.

The term of the Cost Share Agreement will continue until the date of completion of the demonstration plant, unless terminated earlier by either party. Either party may terminate the Cost Share Agreement immediately upon written notice to the other party if any of the following events occurs: (a) the Cooperative Agreement is terminated for any reason prior to the completion of the demonstration plant; (b) the other party commits a material breach of its obligations under the Cost Share Agreement and fails to cure such breach within 30 days; or (c) the other party makes an assignment for the benefit of its creditors, files a petition in bankruptcy, is adjudicated insolvent or bankrupt, or commences any insolvency or bankruptcy proceedings. Upon any early termination of the Cost Share Agreement, the Company must pay for all costs incurred by or on behalf of General Atomics to wind down the demonstration plant other than any allowable costs for such wind-down paid for by the DoE.

Land Purchase Option

On October 25, 2021, the Company and Whitelaw Creek LLC, a Wyoming limited liability company ("Whitelaw Creek"), entered into an amendment (the "Amendment") to the previously announced asset purchase agreement dated October 20, 2016 between the Company and Whitelaw Creek (the "Asset Purchase Agreement"). The Amendment modified certain provisions of the Asset Purchase Agreement related to the terms and conditions of the Company's option to repurchase (the "Repurchase Option") approximately 640 acres of non-core real property located in Crook County, Wyoming, that is under consideration for a waste rock facility for the Bear Lodge REE Project. Pursuant to and subject to the terms of the

RARE ELEMENT RESOURCES LTD.
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Amendment, among other things the term of the Repurchase Option (which was to expire on October 26, 2021) was extended for up to three additional years, subject to annual option extension payments from the Company to Whitelaw Creek of \$25 in cash per year (each, a “Repurchase Option Extension Payment”); and the exercise price of the Repurchase Option was increased from \$1,000 to a price to be determined by a mutually agreed upon real estate appraiser (the “Repurchase Price”), provided that (i) the Repurchase Price must not be less than \$1,200 or greater than \$1,850 and (ii) any Repurchase Option Extension Payments paid by the Company to Whitelaw Creek must be credited toward the Company’s payment of the Repurchase Price if the Repurchase Option is later exercised.

10. SUPPLEMENTAL DISCLOSURE WITH RESPECT TO CASH FLOWS

The Company did not have any significant non-cash transactions during the years ended December 31, 2021 or 2020.

11. SEGMENT INFORMATION

The Company operates in a single reportable operating segment, being the exploration of mineral properties. The Company’s chief executive officer, who is the chief operating decision maker, reviews financial information on an aggregate basis for allocating and evaluating financial performance. All of the Company’s long-lived assets are located in the United States.

12. SUBSEQUENT EVENTS

On January 5, 2022, the Company granted 1,705,000 stock options to certain employees, directors and consultants with an exercise price of \$1.42. The vesting schedule for these stock options is 50% on July 5, 2022 and 50% on January 5, 2023.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

The principal executive officer and principal financial officer, with the supervision of the Board of Directors and Audit Committee and participation of management, have evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act), as of December 31, 2021. Based on the evaluation, the principal executive officer and principal financial officer concluded that the disclosure controls and procedures in place are effective to ensure that information required to be disclosed by the Company in reports that the Company files or submits under the Exchange Act is recorded, processed, summarized and reported within time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including our principal executive and financial officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting of the Company. Internal control over financial reporting is defined in Rule 13a-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers, and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.
- Because of their inherent limitations, internal controls over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2021. In making this assessment, our management used the criteria set forth in the Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our management assessment, we have concluded that, as of December 31, 2021, our internal control over financial reporting was effective. Because we are a smaller reporting company and a non-accelerated filer, our independent registered public accounting firm is not required to attest to or issue a report on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during the quarter ended December 31, 2021 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item will be included under the section entitled “Information on the Board of Directors and Executive Officers” in our definitive proxy statement to be filed with the SEC pursuant to Regulation 14A in connection with the 2022 annual meeting of shareholders (the “Proxy Statement”), which information is incorporated by reference to this Annual Report.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item will be included under the section entitled “Executive Compensation” in the Proxy Statement to be filed with the SEC pursuant to Regulation 14A, which information is incorporated by reference into this Annual Report.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item will be included under the section entitled “Security Ownership of Certain Beneficial Owners and Management” in the Proxy Statement to be filed with the SEC pursuant to Regulation 14A, which information is incorporated by reference into this Annual Report.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS; AND DIRECTOR INDEPENDENCE

The information required by this Item will be included under the section entitled “Certain Relationships and Related Transactions” in the Proxy Statement to be filed with the SEC pursuant to Regulation 14A, which information is incorporated by reference into this Annual Report.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item will be included under the section entitled “Principal Accountant Fees and Services” in the Proxy Statement to be filed with the SEC pursuant to Regulation 14A, which information is incorporated by reference into this Annual Report.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

Documents filed as part of this Annual Report or incorporated by reference:

- (1) The consolidated financial statements are presented in “Item 8. Financial Statements and Supplementary Data.”
- (2) Financial Statement Schedules (omitted because they are either not required, not applicable, or the required information is disclosed in the Notes to the Consolidated Financial Statements or related notes).
- (3) Reference is made to the Exhibit Index that follows the signature pages on this report.

ITEM 16. FORM 10-K SUMMARY

None.

INDEX TO EXHIBITS

Exhibit Number	Description
3.1	Certificate of Incorporation (incorporated by reference to Exhibit 1.1 to the Company's Form 20-F filed with the SEC on November 17, 2009)
3.2	Certificate of Name Change (incorporated by reference to Exhibit 1.2 to the Company's Form 20-F filed with the SEC on November 17, 2009)
3.3	Articles (incorporated by reference to Exhibit 1.3 to the Company's Form 20-FR filed with the SEC on November 17, 2009)
4.1+	Description of Securities
10.1*	Asset Purchase Agreement, dated as of October 20, 2016, by and between Rare Element Resources, Inc. and Whitehall Creek, LLC (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the SEC on October 26, 2016)
10.1.1	First Amendment to Asset Purchase Agreement, dated as of October 25, 2021, by and between Rare Element Resources, Inc. and Whitehall Creek, LLC (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the SEC on October 27, 2021)
10.2	Term Sheet for Purchase of Common Shares, Options and Intellectual Property Rights, dated August 18, 2017, by and between the Company and General Atomics Uranium Resources, LLC (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 13, 2017)
10.3	Investment Agreement, dated October 2, 2017, by and between the Company and Synchron (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 13, 2017)
10.4	Intellectual Property Rights Agreement, dated October 2, 2017, by and between the Company and Synchron (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 13, 2017)
10.5	Cost Share Funding Assumption Agreement entered into on November 30, 2021 by and between General Atomics and Rare Element Resources, Inc. (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the SEC on December 2, 2021)
10.6*	10% Rolling Stock Option Plan of the Company, as Amended and Restated on April 7, 2020 (Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 11, 2020)
10.7*	Employment Agreement, effective January 1, 2018, by and between Rare Element Resources, Inc. and Randall J. Scott (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the SEC on February 26, 2018)
10.8*	Form of Indemnity Agreement (Directors and Officers) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 7, 2021)
21.1	Subsidiaries of the Company (incorporated by reference to Exhibit 21.1 to the Company's Form 10-K filed with the SEC on September 28, 2011)
23.1+	Consent of Registered Public Accounting Firm (BDO USA, LLP; Spokane, WA; PCAOB ID #243)
31.1+	Certification of the Principal Executive Officer pursuant to Rule 13a-14 of the Exchange Act
31.2+	Certification of the Principal Financial Officer pursuant to Rule 13a-14 of the Exchange Act
32.1++	Certification of the Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2++	Certification of the Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS+	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH+	XBRL Schema Document
101.CAL+	XBRL Calculation Linkbase Document
101.DEF+	XBRL Definition Linkbase Document
101.LAB+	XBRL Label Linkbase Document
101.PRE+	XBRL Presentation Linkbase Document

104 Cover Page Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101)

+ Filed herewith.

++ Furnished herewith.

* Indicates a management contract or compensatory plan, contract or arrangement.

SIGNATURES

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

RARE ELEMENT RESOURCES LTD.

By: /s/ Randall J. Scott
Randall J. Scott, President, Chief Executive Officer
and Director
(Principal Executive Officer)

By: /s/ Adria Hutchison
Adria Hutchison, (Principal Financial Officer)

Date: March 22, 2022

Date: March 22, 2022

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

By: /s/ Gerald W. Grandey
Gerald W. Grandey, Chairman of the Board of Directors
Date: March 22, 2022

By: /s/ Paul J. Schlauch
Paul J. Schlauch, Director
Date: March 22, 2022

By: /s/ Lowell A. Shonk
Lowell A. Shonk, Director
Date: March 22, 2022

By: /s/ David Roberts
David Roberts, Director
Date: March 22, 2022

By: /s/ Kenneth J. Mushinski
Kenneth J. Mushinski, Director
Date: March 22, 2022

By: /s/ Barton S. Brundage
Barton S. Brundage, Director
Date: March 22, 2022

By: /s/ Randall J. Scott
Randall J. Scott, President, CEO and Director (Principal
Executive Officer)
Date: March 22, 2022

By: /s/ Adria Hutchison
Adria Hutchison, (Principal Financial Officer)
Date: March 22, 2022

