

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

FORM 10-Q

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

For the quarterly period ended September 30, 2021

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

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

000-54416

(Commission File Number)

SCANDIUM INTERNATIONAL MINING CORP.

(Exact name of registrant as specified in its charter)

British Columbia, Canada

(State or other jurisdiction  
of incorporation or organization)

98-1009717

(IRS Employer  
Identification No.)

1430 Greg Street, Suite 501, Sparks, Nevada 89431

(Address of principal executive offices) (Zip Code)

(775) 355-9500

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report)

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

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 (§232.405 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 the 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [ ] No [X]

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: **As of November 5, 2021, the registrant's outstanding common stock consisted of 316,272,595 shares.**

## **PART I. FINANCIAL INFORMATION**

### **Item 1. Financial Statements**

## **Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations**

The following discussion of the operating results, corporate activities and financial condition of Scandium International Mining Corp. (hereinafter referred to as “we”, “us”, “SCY”, “Scandium International” or the “Company”) and its subsidiaries provides an analysis of the operating and financial results for the three and nine month periods ended September 30, 2021 and should be read in conjunction with our unaudited interim consolidated financial statements and the notes thereto for the nine month period ended September 30, 2021, and with the Company’s audited consolidated financial statements and the notes thereto for the year ended December 31, 2020 (the “Annual Statements”).

This discussion and analysis contain forward-looking statements that involve risks, uncertainties and assumptions. 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 under the heading “Risk Factors and Uncertainties” in our Annual Report on Form 10-K for the year ended December 31, 2020, and elsewhere in this Quarterly Report on Form 10-Q.

The interim statements have been prepared in accordance with US Generally Accepted Accounting Principles, as required under U.S. federal securities laws applicable to the Company, and as permitted under applicable Canadian securities laws. The Company is a reporting company under applicable securities laws in Canada and the United States. The reporting currency used in our financial statements is the United States Dollar.

The information contained within this report is current as of November 5, 2021, unless otherwise noted. Additional information relevant to the Company’s activities can be found on SEDAR at [www.sedar.com](http://www.sedar.com) and on EDGAR at [www.sec.gov](http://www.sec.gov).

Technical information in this Form 10-Q, including the MD&A, has been reviewed and approved by Willem Duyvesteyn, a Qualified Person as defined by Canadian National Instrument 43-101 (“NI 43-101”). Mr. Duyvesteyn is a director of and consultant to Scandium International.

### **Cautionary Note to U.S. Investors Regarding Reserve and Resource Estimates**

The Company uses Canadian Institute of Mining, Metallurgy and Petroleum definitions for the terms “proven reserves”, “probable reserves”, “measured resources” and “indicated resources”. U.S. investors are cautioned that while these terms are recognized and required by Canadian regulations, including National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (“NI 43-101”), the U.S. Securities and Exchange Commission (“SEC”) does not recognize them. Canadian mining disclosure standards differ from the requirements of the SEC under SEC Industry Guide 7, and reserve and resource information referenced in this Form 10-Q may not be comparable to similar information disclosed by companies reporting under U.S. standards. In particular, and without limiting the generality of the foregoing, the term “resource” does not equate to the term “reserve”. Under United States standards, mineralization may not be classified as a “reserve” unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. The SEC’s disclosure standards normally do not permit the inclusion of information concerning “measured mineral resources” or “indicated mineral resources” or other descriptions of the amount of mineralization in mineral deposits that do not constitute “reserves” by U.S. standards in documents filed with the SEC. Disclosure of “contained ounces” in a resource estimate is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute “reserves” by SEC standards as tonnage and grade without reference to unit measures. The requirements of NI 43-101 for identification of “reserves” are also not the same as those of the SEC, and reserves in compliance with NI 43-101 may not qualify as “reserves” under SEC standards.

### **Cautionary Note Regarding Forward-Looking Statements**

Certain statements made in this Quarterly Report on Form 10-Q may constitute forward-looking statements about the Company and its business. Forward looking statements are statements that are not historical facts and include, but are not limited to, reserve and resource estimates, estimated value of the project, projected investment returns, anticipated mining and processing methods for the project, the estimated economics of the project, anticipated scandium recoveries, production rates, scandium grades, estimated capital costs, operating cash costs and total production costs, planned additional processing work and environmental permitting. The forward-looking statements in this report are subject to various risks, uncertainties and other factors that could cause the Company's actual results or achievements to differ materially from those expressed in or implied by forward looking statements. These risks, uncertainties and other factors include, without limitation, risks related to uncertainty in the demand for scandium and pricing assumptions; uncertainties related to raising sufficient financing to fund the Nyngan Scandium Project in a timely manner and on acceptable terms; changes in planned work resulting from logistical, technical or other factors; the possibility that results of work will not fulfill expectations and realize the perceived potential of the Company's properties; uncertainties involved in the estimation of scandium reserves and resources; the possibility that required permits may not be obtained in a timely manner or at all; the possibility that capital and operating costs may be higher than currently estimated and may preclude commercial development or render operations uneconomic; the possibility that the estimated recovery rates may not be achieved; risk of accidents, equipment breakdowns and labor disputes or other unanticipated difficulties or interruptions; the possibility of cost overruns or unanticipated expenses in the work program; risks related to projected project economics, recovery rates, and estimated NPV and anticipated IRR and other factors identified in the Company's SEC filings and its filings with Canadian securities regulatory authorities. Forward-looking statements are based on the beliefs, opinions and expectations of the Company's management at the time they are made, and other than as required by applicable securities laws, the Company does not assume any obligation to update its forward-looking statements if those beliefs, opinions or expectations, or other circumstances, change.

## **Scandium International Corporate Overview**

Scandium International is a specialty metals company focused on the evaluation and potential development of projects into producing assets. The Company pursues project opportunities from both known geologic resources and existing mine process solutions where it identifies further recovery potential. The Company has recently added a wider range of critical metals opportunities to its target list, based on a patent portfolio and processing capabilities in metals extraction and recovery from existing mine processing solutions, specifically in copper mining businesses.

The Company was formed in 2006, under the name Golden Predator Mines Inc. As part of a reorganization and spin-out of the Company's precious metals portfolio in March 2009, the Company changed its name to EMC Metals Corp. In order to reflect our emphasis on mining for scandium minerals, effective November 19, 2014, we changed our name to Scandium International Mining Corp. The Company currently trades on the Toronto Stock Exchange under the symbol "SCY."

Our most advanced development project is the Nyngan Scandium Project, located in New South Wales, Australia (the "Nyngan Scandium Project"), on which we hold a mine lease grant and a development consent. We also hold an exploration license on a scandium mineral property located near Nyngan known as the "Honeybugle Scandium property" and a reservation on an exploration license on a scandium mineral property in Finland, known as the "Kiviniemi Scandium property."

In addition to these scandium mining project interests, the Company is pursuing copper industry interest in our ion exchange ("IX") technology and knowhow to recover scandium, nickel, cobalt, high purity alumina ("HPA") and other technology-driven metals from mineral processing solutions, and other acidic waste streams in certain acid leach copper operations. This project effort is known as the "Critical Metals Recovery ("CMR") Project," with a specific focus on North American opportunities. During June 2021, the Company announced signing a Letter of Intent ("LOI") with Nevada Gold Mines ("NGM") to initiate a joint technical and economic feasibility program at NGM's Phoenix Mine, near Battle Mountain, Nevada (the "Phoenix CMR Project"). The purpose of the joint development program is to confirm the economic and technical viability of a critical metals recovery project at the mine site. The Company has

been granted a US Patent Office Patent for scandium recovery and has filed additional patent applications for other metals, each using either IX or SX (or both) technologies which are directly applicable to this joint development program with NGM, and to specific investigations at Phoenix Mine.

We are also pursuing industry interest in our technology and capability to produce high purity alumina (HPA) from various aluminum-containing feedstocks. This project effort is known as the “HPA Project,” and it has a focus on global opportunities. The HPA opportunity can be considered as a complimentary addition to specific CMR Projects located at copper mines, or could be associated with non-mine aluminum feedstock suppliers on-site, or could be stand-alone. Aluminum is also included on the US Department of Commerce 35 Critical Metals list, and the Company considers HPA to be contained within its CMR program descriptions and initiatives at this time. The Company filed for US Patent Office protection through patent application filings on HPA processing technology in 2020 and 2021.

It is the Company’s intent to add a series of related metal recovery business opportunities alongside the Nyngan Scandium Project, which has otherwise been SCY’s primary project and product focus. This change reflects a marketplace priority for production of identified critical metals from new, local sources. Scandium is clearly identified as a critical metal, but it finds nickel and cobalt companions in many orebodies. That fact, along with the Company’s CMR capability, has broadened the immediate product opportunity for SCY. This strategy reflects SCY’s desire to build a suite of projects that can deliver products tailored directly to lithium-ion battery markets, and specifically to battery components that have application in the electric vehicle industry.

SCY’s critical metals recovery programs, including scandium and now HPA, are supported by a series of patent-protected processes and pending protections, filing-date preserved. With these process technology underpinnings in place, and projects scoped, the Company is in position to undertake advanced HPA development and piloting, and to work with project partners, where we require or desire them

Corporate activity during the third quarter of 2021 focused on initial development work related to the Phoenix CMR Project, involving our ion exchange technology and knowhow to recover scandium, cobalt and other critical metals from solvent extraction raffinate related to the Phoenix Mine heap leach copper circuit. In addition, we continue to advance Nyngan Scandium Project activities including scandium marketing arrangements.

Our plan of operation for the remainder of 2021 is to execute the Phoenix CMR Project action plan, to consider additional copper industry partners for our ion exchange technology, and to subsequently secure offtake sales agreements with counterparties for those critical metals planned to be produced at participating separation sites. We also intend to pursue industry partners for our HPA recovery technology, and subsequently secure offtake agreements for the benefit of any participating HPA manufacturing facilities where we have direct interest. The Company continues to seek scandium product customers for offtakes, either from critical metals projects or from the Nyngan Scandium Project product.

We will seek additional funding for execution of the Phoenix CMR Project action plan, for corporate working capital in 2021, and also for advanced development of approved CMR Projects and an HPA Project, in support of specific project targets and plans as they are identified.

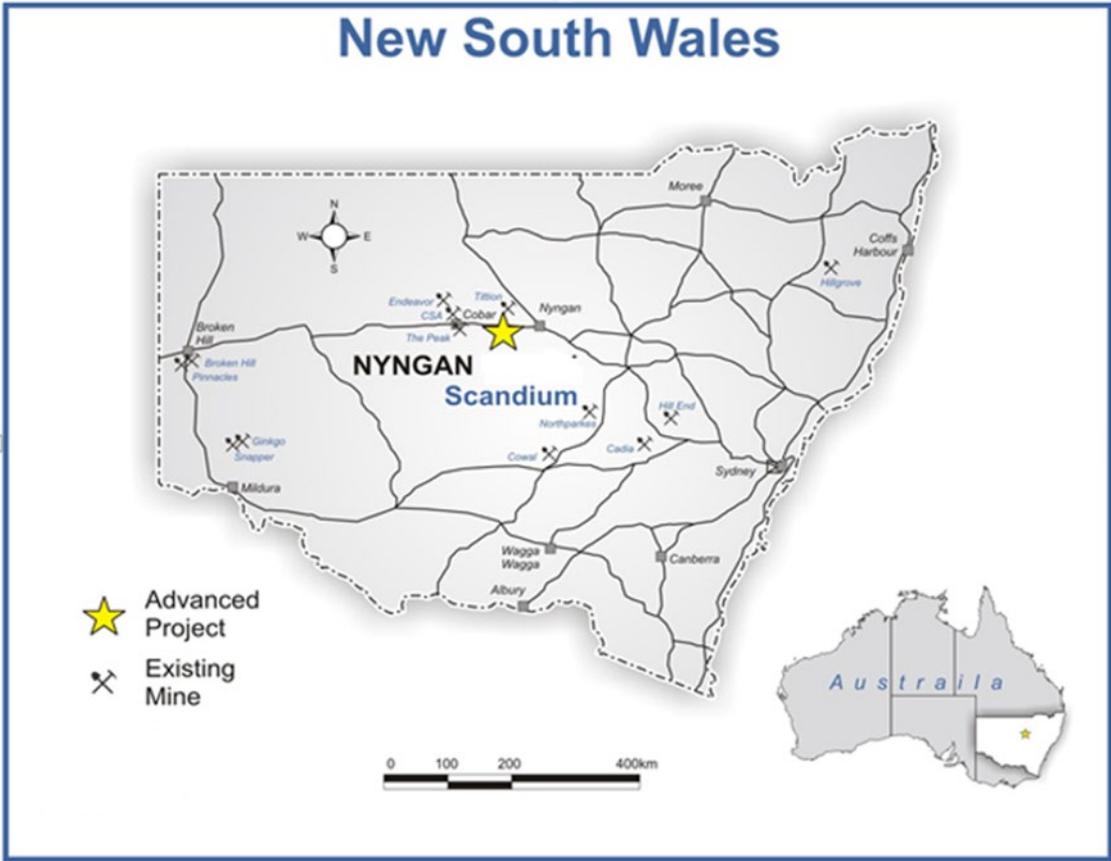
## **Principal Properties Review**

### **Nyngan Scandium Project (NSW, Australia)**

#### **Nyngan Property Description and Location**

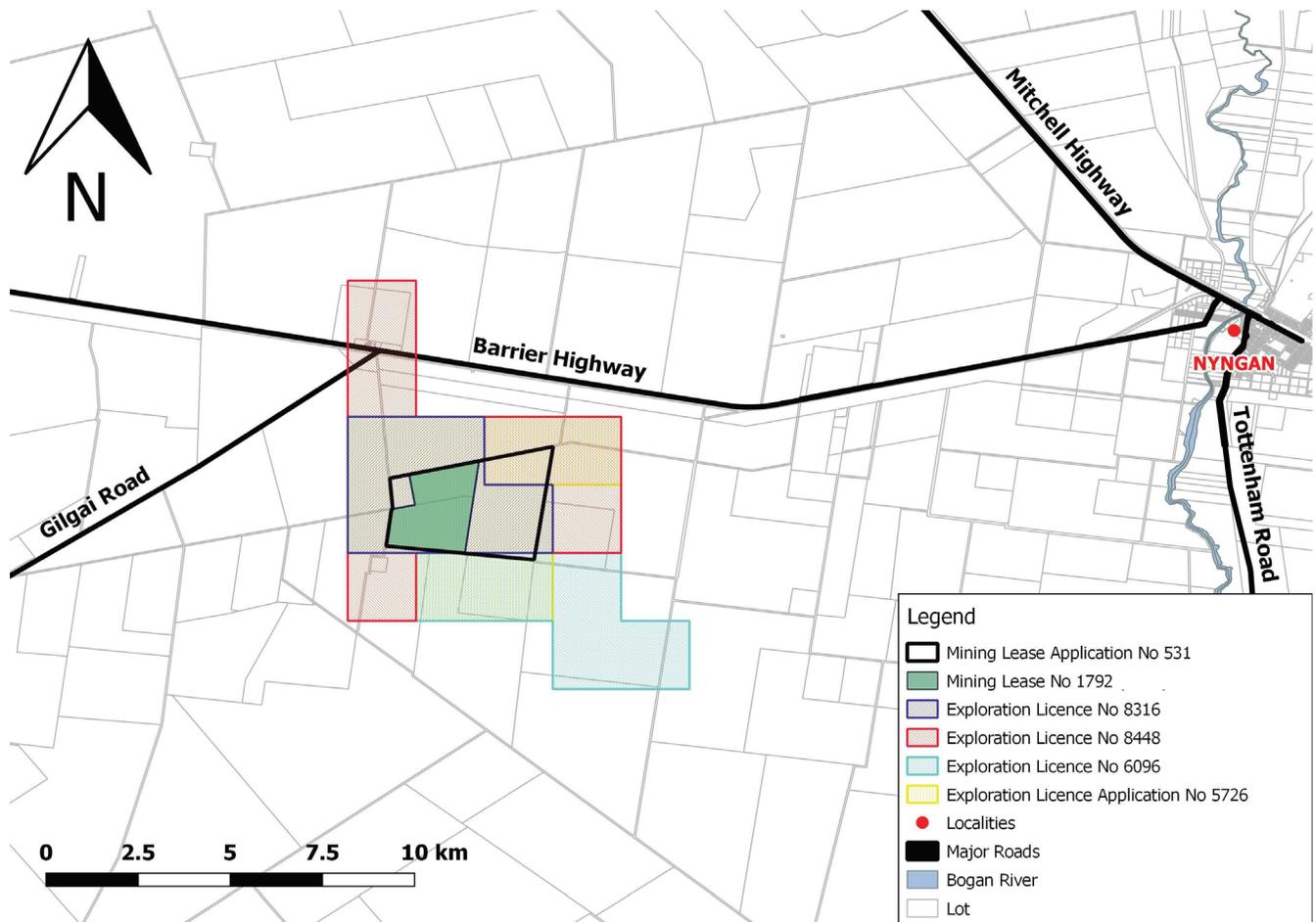
The Nyngan Scandium Project site is located approximately 450 kilometers northwest of Sydney, NSW, Australia and approximately 20 kilometers due west of the town of Nyngan, a rural town of approximately 2,900 people. The general area can be characterized as flat countryside and is classified as agricultural land, used predominantly for wheat farming and livestock grazing.

**Figure 1: Location of Nyngan Project**



**Note: None of the Existing Mines identified in Figure 1 produce scandium.**

**Figure 2: Location of the Exploration Licenses and Mining Lease for the Nyngan Scandium Project**



Note: All Exploration Licenses and Leases described in Figure 2 are held 100% by EMC-A.

### Nyngan Project Ownership

The Company originally acquired a 100% interest in the Nyngan Scandium Project in June of 2014 pursuant to the terms of a settlement agreement with Jervois Mining Ltd. of Melbourne, Australia. The project is held through our Australian subsidiary, EMC Metals Australia Pty Ltd. (“EMC Australia” or “EMC-A”), which also holds the Honeybugle Scandium Property.

The Company funded the acquisition of these project assets and rights from Jervois Mining Ltd. with proceeds from a June 2014 US\$2.5M Convertible Note, issued by Scandium Investments LLC (“SIL”). The convertible option was subsequently exercised by SIL in August 2015, whereby SIL became a 20% JV owner in Nyngan and Honeybugle, as a 20% shareholder in EMC Australia.

In June 2017, pursuant to a share exchange agreement, the Company acquired SIL’s 20% interest in EMC Australia in exchange for an aggregate of 58,830,645 SCY common shares. At that time, SIL also received a right to nominate two individuals to the board of the Company for so long as SIL holds at least 15% of SCY’s issued and outstanding stock.

Today SCY owns a 100% interest in EMC Australia, which currently holds a 100% interest in both the Nyngan and Honeybugle scandium projects.

### Nyngan Feasibility Study

On April 18, 2016, the Company announced the results of an independently prepared feasibility study on the Nyngan Scandium Project. The technical report on the feasibility study entitled “*Feasibility Study – Nyngan Scandium Project, Bogan Shire, NSW, Australia*” is dated May 4, 2016, and was independently compiled pursuant to the requirements of NI 43-101 (the “Feasibility Study” or the “DFS”). The report was filed on May 6, 2016 and is available on SEDAR ([www.sedar.com](http://www.sedar.com)), on the Company’s website ([www.scandiummining.com](http://www.scandiummining.com)) and the SEC’s website ([www.sec.gov](http://www.sec.gov)). A full discussion on the technical report was provided in the Company’s Form 10-Q for the quarterly period ending March 31, 2016, as filed with the SEC and on SEDAR on May 13, 2016.

The Feasibility Study concluded that the Nyngan Scandium Project has the potential to produce an average of 37,690 kilograms of scandium oxide (scandia) per year, at grades of 98.0%-99.8%, generating an after-tax cumulative cash flow over a 20 year Project life of US\$629 million; with an NPV<sub>10%</sub> of US\$177 million. The average process plant feed grade over the 20 year Project life is 409ppm of scandium.

The financial results of the Feasibility Study are based on a conventional flow sheet, employing continuous high pressure acid leach (“HPAL”) and solvent extraction (SX) techniques. The flow sheet was modeled and validated from METSIM modeling and considerable bench scale/pilot scale metallurgical test work utilizing Nyngan resource material. A number of the key elements of this flowsheet work have been protected by the Company under US patent applications, four of which have been granted, with two of those four directly applicable in the flowsheet applied to the current Feasibility Study.

The Feasibility Study has been developed and compiled to an accuracy level of +15%/-5% by a globally recognized engineering firm that has considerable expertise in laterite deposits and process facilities, as well as in smaller mining and processing projects, and has excellent familiarity with the Nyngan Scandium Project location and environment.

#### FEASIBILITY STUDY HIGHLIGHTS;

- Capital cost estimate for the Project is US\$87.1 million,
- Annual scandium oxide product volume estimates average 37,690 kg per year over 20 years,
- Annual revenue of US\$75.4 million (oxide price assumption of US\$2,000/kg),
- Operating cost estimate for the Project is US\$557/kg scandium oxide,
- Project Constant Dollar NPV<sub>10%</sub> is US\$177 million, NPV<sub>8%</sub> is US\$225 million,
- Project Constant Dollar IRR is 33.1%,
- Oxide product grades of 98-99.8% based on customer requirements,
- Project resource increases by 40% to 16.9 million tonnes, grading 235ppm Sc, at a 100ppm cut-off in the measured and indicated categories, and
- Project Reserve totaling 1.43 million tonnes, grading 409ppm Sc was established on part of the resource.

The production assumptions in the Feasibility Study are backed by solid independent flow sheet test work on the planned process for scandium recovery and consolidate a significant amount of metallurgical test work and prior study on the Nyngan Scandium Project. The entire body of work demonstrates a viable, conventional process flow sheet utilizing a continuous-system HPAL leaching process, and good metallurgical recoveries of scandium from the resource. The metallurgical assumptions are supported by various bench and pilot scale independent test work programs that are consistent with known outcomes in other laterite resources. The continuous autoclave configuration, as opposed to batch systems explored in previous flow sheets, is also a more conventional and current design choice.

The level of accuracy established in the Feasibility Study substantially reduces the uncertainty levels inherent in earlier studies. The greater confidence intervals around the Feasibility Study were achieved by reliance on significant project engineering work, a capital and operating cost estimate supported by detailed requirements and vendor pricing, plus one conditional offtake agreement and an independent marketing assessment, both supportive of the marketing assumptions on the business.

The Feasibility Study delivered a positive result on the Nyngan Scandium Project, and recommended the Nyngan Scandium Project owners seek finance and proceed to construction. Recommendations were made therein for additional immediate work, notably to complete some optimizing flow sheet studies, and to initiate as early as possible detailed engineering required on certain long-lead capital items. The Company has subsequently completed certain confirmatory flow sheet studies and test results, but intends to defer cost on detailed project engineering until such time as long term offtake agreements for scandium product have been secured.

### **Confirmatory Metallurgical Test Results**

On June 29, 2016, we announced the results of a confirmatory metallurgical test work report from Altrius Engineering Services (“AES”) of Brisbane, Australia. The test work results directly relate to the list of recommended programs included in the Feasibility Study. AES devised and supervised these test work programs at the SGS laboratory in Perth, Australia and at the Nagrom laboratory in Brisbane, Australia.

The project DFS recommended a number of process flowsheet test work programs be investigated prior to commencing detailed engineering and construction. Those study areas included pressure leach (HPAL), counter-current decant circuits, solvent extraction, and oxalate precipitation, with specific work steps suggested in each area. This latest test work program addressed all of these recommended areas, and the results confirm recoveries and efficiencies that either meet or exceed the parameters used in the DFS. Highlights of the testing are:

- Pressure leach test work achieved 88% recoveries, from larger volume tests,
- Settling characteristics of leach discharge slurry show substantial improvement,
- Residue neutralization work meets or exceeds all environmental requirements as presented in the DFS and the environmental impact statement,
- Solvent extraction circuit optimization tests generated improved performance, exceeding 99% recovery in single pass systems, and
- Product finish circuits produced 99.8% scandium oxide, completing the recovery process from Nyngan ore to finished scandia product.

### **Engineering, Procurement and Construction Management Contract**

On May 30, 2017, the Company announced that its subsidiary EMC Australia signed an Engineering, Procurement and Construction Management (“EPCM”) contract with Lycopodium Minerals Pty Ltd (“Lycopodium”), to build the Nyngan Scandium Project in New South Wales, Australia. The EPCM contract also provides for start-up and commissioning services.

The EPCM contract appoints Lycopodium (Brisbane, QLD, Australia) to manage all aspects of project construction. Lycopodium is the principal engineering firm involved with the DFS. Lycopodium's continued involvement in project construction and commissioning ensures valuable technical and management continuity for the project during the construction and start-up of the project.

On October 19, 2017, we announced that Lycopodium has been instructed to initiate critical path engineering for the Nyngan Scandium Project. Lycopodium commenced work on select critical path components for the project, including design and specification engineering on the high-pressure autoclave unit, associated flash and splash vessels and several specialized high-pressure input pumps. The engineering work was completed in 2018 and will enable final supplier selection, firm component pricing and delivery dates for these key process components.

### **Environmental Impact Statement**

On May 2, 2016, the Company announced the filing of an Environmental Impact Statement (“EIS”) with the New South Wales Department of Planning and Environment (the “Department”) in support of the planned development of the Nyngan Scandium Project. The EIS was prepared by R.W. Corkery & Co.

Pty. Limited, on behalf of the Company's subsidiary, EMC Australia, to support an application for Development Consent for the Nyngan Scandium Project. The EIS is a self-contained set of documents, which includes a Specialist Consultants' Study Compendium, and is considered the foundational environmental document used to seek a Development Consent.

#### EIS HIGHLIGHTS:

- The EIS finds residual environmental impacts represent negligible risk.
- The proposed development design achieves sustainable environmental outcomes.
- The EIS finds net-positive social and economic outcomes for the community.
- Nine independent environmental consulting groups conducted analysis over five years and contributed report findings to the EIS.
- The Nyngan Project development is estimated to contribute A\$12.4M to the local and regional economies, and A\$39M to the State and Federal economies, annually.
- The EIS is fully aligned with the DFS and with a NSW Mining License Application for the Nyngan Project.

The conclusion statement in the EIS reads as follows: "In light of the conclusions included throughout this *Environmental Impact Statement*, it is assessed that the Proposal could be constructed and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations."

#### **Development Consent Grant**

The Development Consent is considered the key approval required to build a mine facility in Australia. As the Nyngan Scandium Project is considered a State Significant Project (capital cost + A\$30 million), the Minister of Planning and Environment is designated to manage the investigation and approval process for any granting of a Development Consent.

On November 10, 2016, the Company announced that the Development Consent had been granted. This Development Consent represents an approval to develop the Nyngan Scandium Project and is based on facts and findings contained in the EIS. The Development Consent follows an in-depth review of the EIS, the project plan, community impact studies, public EIS exhibition and commentary, and economic viability, and involved more than 12 specialized governmental agencies and groups.

#### **Mining Lease Grant**

During July 2019, EMC Australia received notice of approval for its most current mining lease ("ML") application. The ML (ML 1792) overlays select areas previously covered by exploration licenses and represents the final major development approval required from the NSW Government to begin construction on the project. The ML 1792 grant is issued for a period of 21 years and is based on the development plans and intent submitted in the ML application. The ML can be modified by NSW regulatory agencies, as requested by EMC Australia over time, to reflect changing operating conditions.

In addition to these two key governmental approvals, other required licenses and permits must be acquired but are considered routine and require only compliance with fixed standards and objective measurements. These remaining approvals include submittal of numerous plans and reports supporting compliance with Development Consent and Mining Lease. In addition, the following water, roads, dam and electrical access reviews and arrangements must be finalized:

- Water Supply Works and Use Approval and Water Access License,
- State and local approval for construction of the intersection of the Site Access Road and Gilgai Road,
- An approval from the NSW Dams Safety Committee for the design and construction of the Residue Storage Facility, and
- A high voltage connection agreement with Essential Energy.

The 2019 ML 1792 grant covers 810 acres (370 hectares) of surface area fully owned by the Company, an area adequate to construct and operate a scandium mine of a scale outlined in the definitive Feasibility Study. The Company had originally filed a mining lease application (MLA 531) covering an area of 874 hectares, which was granted in 2017 as a mining lease (ML 1763), and later ruled invalid. At that time, it was unknown, to both the Department and the Company, that a local landowner had filed a prior, timely and valid objection to the granting of that mining lease. The reduction in area between the initial 2017 ML 1763 and the replacement 2019 ML 1792 represented acreage protested in an "Agricultural Land" objection lodged by a local landowner. The landowner holds freehold surface ownership over a portion of the original grant that was previously covered by the 2017 ML 1763.

On September 10, 2020, the Company announced receipt of a final determination letter from the Deputy Secretary, Department of Regional NSW, Division of Mining, Exploration and Geoscience resolving the outstanding objection filed by the landowner in 2016.

This Final Determination from the NSW Government will again allow all measured and indicated resource included in the Nyngan Scandium Project DFS to be reinstated in a new mining lease grant, which will require the filing of a new mine lease application.

Written advice from the Department to the Company makes clear that all required independent investigative processes, and all affected party comment periods, were completed, and the Department's decision in this dispute matter is final. There are further state courts of appeal available to the landowner, but the facts supporting this final decision are confirmed by the NSW Department of Primary Industry and follow governing law.

### **Downstream Scandium Products Research**

In February 2011, we announced the results of a series of laboratory-scale tests investigating the production of aluminum-scandium master alloys directly from aluminum oxide and scandium oxide feed materials. The overall objective of this research was to demonstrate and commercialize the production of aluminum-scandium master alloy using impure scandium oxide as the scandium source, potentially significantly improving the economics of aluminum-scandium master alloy production. In October 2019, the Company was granted Patent No. 10450634, titled "Scandium-Containing Master Alloys And Method For Making The Same."

During the 2015-2017 timeframe, we continued our own internal laboratory-scale investigations into the production of aluminum-scandium master alloys, furthering our understanding of commercial processes, and achievable recoveries. We also advanced our abilities to make a commercial-grade 2% scandium master alloy product.

On March 2, 2017, we announced the signing of a Memorandum of Understanding ("MOU") with Weston Aluminium Pty Ltd. ("Weston") of Chatswood, NSW, Australia. The MOU defines a cooperative commercial alliance to jointly develop the capability to manufacture aluminum-scandium master alloy. The intended outcome of this alliance will be to develop the capability to offer Nyngan Scandium Project aluminum alloy customers scandium in form of Al-Sc master alloy, should customers prefer that product form.

The MOU outlines steps to jointly establish the manufacturing parameters, metallurgical processes, and capital requirements to convert Nyngan Scandium Project scandium product into Master Alloy, on Weston's existing production site in NSW. The MOU does not include a binding contract with commercial terms at this stage, although the intent is to pursue the necessary technical elements to arrive at a commercial contract for conversion of scandium oxide to master alloy, and to do so prior to first mine production from the Nyngan Scandium Project.

On March 5, 2018, the Company announced that it had initiated a small scale pilot program (4kg scale) at the Alcerco Inc. metallurgical research facilities in Kingston, Ontario, to confirm and refine previous lab-scale work on the manufacture of aluminum-scandium 2% master alloy (MA). The program advanced

the process understanding for commercial scale upgrade of Nyngan scandium oxide product to master alloy product.

The 2018 pilot program consisted of 5 separate trials on two MA product types, production of MA in various forms, and gross analysis to ascertain scandium recoveries to product. The mass of master alloy and product variants produced in the program totaled approximately 20kg and was completed in December of 2018. The results of the program included the successful production of 2% grade MA, with recoveries of scandium to product of 85%.

A second phase of the small-scale pilot program was initiated in the first half of 2019, again at 4kg scale, building on the work done in phase I. The results of this second program included successful production of 2% grade MA, with improvements in form of rapid kinetics, and recoveries of scandium to product of +90%.

On March 5, 2018, the Company also announced that it filed for patent protection on certain process refinements for master alloy manufacture that it believes are novel methods, and also on certain product variants that it believes represent novel forms of introducing scandium more directly into aluminum alloys. In April of 2021, the Company was granted Patent No. 10,988,830, titled “Scandium Master Alloy Production.”

### **Master Alloy Capability Demonstrated**

On February 24, 2020, the Company announced the completion of a three year, three stage program to demonstrate the capability to manufacture aluminum-scandium master alloy (Al-Sc2%), from scandium oxide, using a patent pending melt process involving aluminothermic reactions.

This master alloy capability will allow the Company to offer scandium product from the Nyngan Scandium Project in a form that is used directly by aluminum alloy manufacturers globally, either major integrated manufacturers or smaller wrought or casting alloy consumers.

### **RESEARCH HIGHLIGHTS:**

- Program achieved full 2% target product quality requirement,
- Sc recoveries from oxide exceeded target, demonstrated in final tests,
- The microstructure and metal quality meet major alloy producers’ specifications,
- Rapid kinetics achieved, important for commercial viability,
- Individual testing batches done at 4kg scale, and
- Successful program testing forms a basis for a larger scale demonstration facility, supporting large scale samples required for industrial aluminum alloy trials.

### **Focus on Aluminum Alloy Applications for Scandium Products**

The Company is in the process of obtaining sales agreements for scandium products produced from our Nyngan Scandium Project. Our focus is on the use of scandium as an alloying ingredient in aluminum-based products. The specific scandium product forms we intend to sell from the Nyngan project include both scandium oxide ( $\text{Sc}_2\text{O}_3$ ) and aluminum-scandium master alloys (Al-Sc 2%).

Scandium as an alloying agent in aluminum allows for aluminum metal products that are much stronger, more easily weldable and exhibit improved performance at higher temperatures than current aluminum-based materials. This means lighter structures, lower manufacturing costs and improved performance in areas that aluminum alloys do not currently compete.

## **Aluminum Alloy Research Partner – Alcereco**

In 2015, the Company entered into a memorandum of understanding (“MOU”) with Alcereco Inc. of Kingston, Ontario (“Alcereco”), forming a strategic alliance to develop markets and applications for aluminum alloys containing scandium. This MOU represented keen mutual interest in foundry-based test work on aluminum alloys containing scandium, based on understandings that Alcereco’s team had gained from prior work with Alcan Aluminum, and based on SCY’s twin goals of understanding and identifying quality applications for scandium, and also understanding the scandium value proposition for customers.

The Company subsequently sponsored considerable research work with the Alcereco team. This work has developed and documented the improvement in strength characteristics scandium can deliver to aluminum alloys without degrading other key properties. The Alcereco team has run multiple alloy mix programs where scandium loading is varied, in order to look at response to scandium additions on a cost/benefit basis. This work has been done in the context of industries and applications where these alloys are suitable for application today. The programs focused on 1000 series, 3000 Series, 5000 Series and 7000 Series Al-Sc alloys, and have served to make independent data and volume samples available for sales efforts.

Along with the signing of the MOU in 2015, the parties also signed an offtake agreement for scandium sales from the Nyngan Scandium Project. The 2015 offtake agreement specified product prices, annual delivery volumes, and timeframes for commencement of delivery of scandium oxide product. This offtake agreement expired in late 2017 and was renewed on similar price/volume terms, although the sale product was redefined to an aluminum-scandium 2% master alloy. Neither of these offtake agreements contained a mandatory annual minimum purchase volume of scandium product by Alcereco, nor any requirement for payment in lieu of purchase.

The 2017 Alcereco offtake agreement expired in December 2020, and was not renewed by the parties. Alcereco was seeking new company sponsorship at this time, was financially distressed, and the parties could see no benefit to renew the offtake agreement under those circumstances. Alcereco subsequently notified SCY of a planned closure of operations in December 2020, with future re-start possibilities unknown. Alcereco then halted operations in late December 2020, at which time all current programs with SCY were completed. No further work is planned with this research partner at this time.

The results of our research work with Alcereco are positive, and consistent with the body of published literature available today on aluminum scandium alloys. We are observing noteworthy strengthening effects with scandium additions at and above 0.1%, and dramatic strengthening improvements with additions of 0.3%, while preserving or enhancing other alloy properties and characteristics. We have also demonstrated that alloy hardening process techniques can have significant effect on the final alloy properties, offering the opportunity to tune alloy characteristics to suit specific applications. These findings belong to SCY, and can continue to be shared with select potential customers, as is deemed relevant to their specific areas of commercial interest.

## **Letters of Intent Signed with Testing Partners**

During 2018 and 2019, the Company announced that it entered into letter of intent (“LOI”) agreements with nine unrelated partnering entities. In each LOI, we have agreed to contribute scandium samples, either in form of scandium master alloy product, or aluminum-scandium alloy product, for trial testing by the partners in their downstream manufacturing applications. Each of the parties to the LOI agreements have agreed to report the parameters and general results of the testing program utilizing these scandium-containing alloys, upon completion of testing. The Company has signed no additional industry partnering LOI’s to date in 2021, but does plan to continue the LOI program of introducing scandium for trial testing by both existing and new partners through general agreements in the future.

These formal LOI agreements, with distinct industry segment leaders, represent a key marketing program demonstrating precisely how scandium will perform in specific products, and in production-specific environments. Potential scandium customers insist on these sample testing opportunities, directly in their

research facilities or on their shop floor, to ensure their full understanding of the impacts, benefits, and costing implications of introducing scandium into their traditional aluminum feedstocks.

The partnering entities in these formal 2018-2019 LOI agreements are set out below:

Austral Ltd. (“Austral”) headquartered in Henderson, Western Australia, (Australia). Austral is a public corporation, listed on the Australian Stock Exchange (ASX), with shipbuilding facilities in Perth, Australia, Mobile, Alabama (USA), Vung Tau, Vietnam and Balamban, Cebu (Philippines). The company maintains a focus on research and development of emerging maritime technologies and cutting-edge ship designs, and is a recognized world leader in the design and construction of large aluminum commercial and defense vessels. Austral continues to test and report on material samples, both plate and wire, under this program.

Impression Technologies Ltd. (“ITL”), based in Coventry, UK. ITL is a privately-held technology company, developing and licensing its advanced aluminum forming technology, Hot Form Quench (“HFQ®”), to automotive, aerospace, rail and electronics industries, globally. ITL manufactures custom parts for customers with its patented HFQ® technology, which enables the single-pass forming of complex, lightweight, high-strength aluminum parts that cannot otherwise be similarly formed today. ITL has completed their samples testing and no further testing is planned at this time.

PAB Coventry Ltd. (“PAB”), based in Coventry, UK. PAB is a privately-held manufacturing and prototyping company offering specialty metal parts and design capabilities, serving the automotive, aerospace, defense and HVAC industries. PAB has been a well-known parts and forms supplier to the premium market segment of the British automotive industry for decades. PAB has completed their samples testing and no further testing is planned at this time.

Eck Industries Inc. (“Eck”), based in Manitowoc, Wisconsin, USA. Eck is a privately-held manufacturer of precision sand cast parts, and engineering services. Eck Industries operates a 210,000 sq. ft. facility with over 250 employees, and 110 customers. Customer segments include commercial aircraft parts, automotive and trucking cast parts, military drivetrain casings, marine propulsion system castings, and military aerospace components. ECK continues to test and report on scandium material samples, and to employ both scandium and cerium in samples they cast for their external customers.

Grainger & Worrall Ltd. (“GW”), based in Shropshire, UK. GW is a privately-held manufacturer of precision sand cast parts, and engineering services. GW is a well-recognized precision air-set sand cast parts manufacturer in the UK, specializing in low to intermediate volume cast parts for commercial automotive, motorsports/racing, defense, marine, and aerospace applications. GW has completed their samples testing and no further testing is planned at this time.

Gränges AB (“Gränges”), based in Stockholm, Sweden. Gränges is a public company, traded on the NASDAQ Stockholm Stock Exchange (GRNG:OMX), and a large global player in the rolled aluminum products business, with production assets in Europe, USA, and China, and a worldwide customer base, majority concentrated in the USA. Gränges is focused on advanced aluminum materials, and holds a leading global position in rolled products for brazed heat exchangers, which it estimates at 20%. Granges has completed their samples testing and no further testing is planned at this time.

Ohm & Häner Metallwerk GmbH & Co. GK (“O&H”), based in Olpe, Germany. O&H is a privately-held manufacturer of sand cast and gravity die cast parts, using metal alloys, servicing a significant, global customer base. O&H produces over 3,000 individual cast parts, and currently works with over 40 different alloys, primarily aluminum and copper-based alloys. O&H has completed their samples testing and no further testing is planned at this time.

AML Technologies (“AML”), an Adelaide, Australia based start-up company with proprietary technology for applying aluminum alloys to additive layer manufacturing processes, also commonly referred to as 3D printing. AML continues to test and report on scandium wire samples, under this program.

Bronze-Alu Group (“BAL”), based in La Couture-Boussey, northern France. BAL is a privately-held manufacturer of precision high-pressure die cast parts, and offers prototyping, machining, finishing and engineering services, employing both aluminum and copper-based alloys. BAL exports approximately 80% of its products to customers outside of France. BAL has completed their samples testing and no further testing is planned at this time.

These LOI agreements are part of a developing strategy by the Company to engage with innovative, research-capable partners, willing to test scandium in their applications. The Company also has similar agreements with other research capable partners who do not wish to be publicly named at this time. We are selecting and approaching these specific partners because we have an understanding, from our commissioned alloy mixing programs, that scandium additions can make value-added contributions to their specific products, and we have the alloy samples to enable an expedient uptake on that validation. The scandium market for aluminum alloys needs to be built, and that construction should be seen as underway in the most direct sense. The Company plans to conduct further application-specific programs in pursuit of sales contracts with quality, predominantly existing aluminum alloy customers across numerous industry segments.

### **Cerium-Scandium Aluminum Alloy Program Agreement**

On February 27, 2020, the Company announced signing a Program Agreement with Eck Industries (“ECK”) located in Manitowoc, Wisconsin, to pursue novel alloy development of a combined cerium-scandium aluminum alloy, based on previous work done independently by the companies in this area.

The companies intend to pursue alloy refinements in both wrought and cast alloy applications, specifically targeting property improvements related to strength, corrosion resistance, and heat-working tolerance, principally in A5000 series alloys.

#### **PROGRAM HIGHLIGHTS:**

- Joint economic and technical support to alloy design,
- Joint sharing of previous data, and new data produced from this program,
- Samples production for customer trials, either as cast products, or wrought sample shapes for various potential customers and alloy manufacturers,
- Initial high value application expected to be in marine applications, and
- Program work is protected by existing patent applications filed by ECK.

### **Use Of Scandium In Lithium-Ion Batteries**

On September 24, 2020 the Company announced the filing of a provisional patent application with the US Patent Office seeking patent rights on various applications of scandium in lithium-ion batteries. The patent application covers a number of scandium enhancements, including doping potential for both anodes and cathodes, and for solid electrolytes.

#### **PATENT APPLICATION HIGHLIGHTS:**

- US Patent Application filed for use of scandium in lithium-ion battery applications.
- Scandium doping applications are explained for anodes, cathodes and electrolytes.
- Scandium offers conductivity advantages as a dopant, over other options, and
- Scandium in other aluminum components offers numerous property improvements, including conductivity, strength and corrosion resistance.

Rechargeable lithium-ion batteries (LIBs) are a staple of everyday life. The search for improved performance through design and materials advances is intense today. Considerable effort is being expended in developing next-generation materials for LIBs that will make batteries safer, lighter, more durable, faster to charge, more powerful, and more cost-effective. A sampling of some these efforts are as follows:

- Minimizing or removing cobalt from cathode materials, based on cost, supply and geographic sourcing issues.
- Improving the durability of liquid electrolytes with dopants, or substitution with safer and higher performing liquid or solid electrolyte systems.
- Designing for higher voltage potential by utilizing different anode or cathode materials.
- Determining combinations of metals that can better withstand harsh internal conditions.

Scandium, along with other specialty metals, has a clear role to play in each of these areas.

One particularly promising area for scandium contributions is in a lithium nickel manganese oxide (LNMO) battery. The cathode in this design substitutes manganese for cobalt and supports a higher nickel content as well. The substitution then delivers higher working potentials (voltage), higher energy densities, and faster charge/discharge rates, all of which offer the promise of improved battery performance.

Delivering on that promise requires a number of improvements, including employing a dopant for stabilization of the manganese in the LNMO cathode, potential stabilization of lithium titanate (LTO) anode materials as well, and use of dopants to improve the conductivity of both these anode and cathode materials. Conventional liquid electrolytes may see improved function and longevity with the improved cathode and anode conductivity. Scandium represents a suitable and effective dopant in each of these applications.

Solid state electrolytes (SSEs) represent another potential break-through improvement in LIBs. They will handle higher voltages, higher temperatures, greater power densities, are potentially easier to package, and are considered safer in use. Scandium represents a suitable and effective dopant in these applications, analogous to the use of scandium to stabilize solid zirconia electrolytes in solid oxide fuel cells. Recently technical papers (available upon request) covering the use of Lithium Super Ion Conductors (LiSICON) for SSEs have indicated that primary compounds containing scandium, such as  $\text{Li}_3\text{Sc}_2(\text{PO}_4)_3$ ,  $\text{LiScP}_2\text{O}_7$  and  $\text{Li}_3\text{Sc}(\text{BO}_3)_2$ ,  $\text{LiScO}_2$  as well as certain doped compounds such as  $\text{Li}_{1.33}\text{ScSi}_{0.33}\text{P}_{1.67}\text{O}_7$ ,  $\text{Li}_{3.375}\text{Mg}_{0.375}\text{Sc}_{0.625}(\text{BO}_3)_2$ ,  $\text{Li}_{1.5}\text{Al}_{0.33}\text{Sc}_{0.17}\text{Ge}_{1.5}(\text{PO}_4)_3$ , etc. can provide desirable crystal structural frameworks for solid state electrolytes. Non-oxide LiSICON fast conductors have also been identified recently, such as some lithium cryolite types:  $\text{Li}_3\text{ScCl}_6$ , as well as its fluoride counterpart  $\text{Li}_3\text{ScF}_6$ .

Lithium-ion batteries employ aluminum in a number of areas, specifically in cathode structure, current connectors, and in general battery structure. Aluminum-scandium alloys represent an enhanced aluminum alloy option, based on their combination of conductivity and strength.

The intent of this SCY patent filing was to advise the battery industry that scandium is a prospective dopant choice for enhanced performance of LIBs, both under existing design parameters and in particular for next-generation LNMO batteries. We want to ensure that battery research and design groups consider scandium additions, amongst their various materials choices, as they race to build a better lithium-ion battery.

### **Critical Metals Recovery Technology Program**

On May 13, 2020, we announced the Company's pursuit of copper industry interest in our ion exchange (IX) technology and knowhow to recover scandium, cobalt and other critical metals from solvent extraction (SX) raffinate and other acidic waste streams in certain acid leach copper operations.

Recovery metals targeted by this application include cobalt, copper, nickel, scandium, and zinc, and possibly other metals and rare earth elements, specifically including high purity alumina (HPA), depending on recovery economics. The suitability of this IX technology, and the target metal opportunities, vary with the specifics of individual orebodies, and associated SX plant characteristics. Depending on specific project variables, and the value and volume of critical metals recovered, the end result economics are expected to be significant to the parties involved.

## PROGRAM HIGHLIGHTS:

- IX technology offers rapid deployment to existing Cu operation waste streams,
- Recoveries target critical metals with transparent, established markets,
- Includes potential for significant scandium production alongside other valuable products,
- Represents near term production sources that can address security of supply issues, and concentrated supply source issues,
- Represents a project focus on metals prominent in the US Critical Metals priority list, and on production from US and North American operation locations, and
- Promises real potential to deliver positive economic benefits to both SCY and the established copper producers that can host this program.

The copper industry is fully aware of the opportunity to harvest valuable metals from copper process waste streams, and the industry does so with significant success today in precious metals. Most specialty metals recovery work has historically been considered un-economic, based on effective recovery costs and recovered metals pricing. The technology in this area has advanced, improving both operating costs and recoveries. New, technology-driven uses for critical metals are stressing supply channels. Traditional jurisdiction risk concerns are now multiplied by ethical sourcing issues, and long-term sustainability questions, all of which elevate the interest in broader, more localized sourcing. These issues are receiving heightened governmental and industry priority, and metals markets customers are now seeking and favoring new, economic, responsible solutions.

On the basis of this dynamic critical metals opportunity, and the fact that SCY has a significant capability to apply advanced mineral recovery technologies to the separation of critical metals from both ores and waste streams, the Company began a search for a North American copper industry host, in order to build a Critical Metals Recovery (CMR) Project. This effort immediately recognized an attractive economic value from recovery of multiple metals, specifically metals used in lithium-ion battery manufacture, along with scandium, zinc and other metals present in source systems employing solvent extraction techniques.

The potential new revenue stream of the combined metals residual varies by orebody, and also by the specifics of the mineral processing systems in place, but collectively the metals basket is more instantly marketable and shows superior economics to the solo scandium target we had in mind at the start. This IX technology also represents a viable precursor for direct refining cobalt, nickel and potentially copper into high purity sulfate product forms, as required for battery manufacture, specifically in the electric vehicle (EV) industry.

The Company has made two filings with the US Patent Office seeking patent protection on various aspects of its relevant technical program ideas, using technical information from preliminary bench scale testing with actual copper SX raffinate solutions. The first of those applications, filed in 2018, was granted in April 2021, US Patent No, 10,988,828, titled ‘Extraction of Scandium Values from Copper Leach Solutions’. The Company believes this extraction technology can be demonstrated with a working and successful copper plant installation, with proven knowhow.

### **Phoenix CMR Project Initiated**

On June 28, 2021, the Company announced signing a Letter of Intent (“LOI”) with Nevada Gold Mines (“NGM”) to initiate a joint technical and economic feasibility program at NGM’s Phoenix Mine, near Battle Mountain, Nevada (the “Phoenix CMR Project”). The purpose of this joint development program is to confirm the economic and technical viability of a critical metals recovery project at the mine site. The LOI defines a detailed US\$2.7 million spend program which includes bench test work, pilot plant testing, and feasibility study design work. The program is anticipated to require 15 months to complete. With program completion, the partners intend to take an investment decision on construction and operation of a plant facility to recover critical metals from mine solutions. The LOI also outlines key parameters of a

partnership, including formation of a joint venture to hold the plant facility, and a 50:50 ownership in the recovery circuit asset.

#### HIGHLIGHTS:

- LOI signed between SCY and NGM, defining a development program for CMR.
- Program designed to confirm technical feasibility and economic recovery of critical metals from heap leach solutions at Phoenix Mine.
- LOI outlines a multi-step development program, totaling US\$2.7M spend, and 15 months to complete, including an on-site pilot plant.
- LOI further outlines 50:50 JV partnership, if parties agree to construct an onsite recovery circuit to produce a series of metal concentrates.
- Where a further refining circuit is required, that circuit would be located off-site Phoenix Mine and 100% owned and operated by SCY
- Metals targets include nickel, cobalt, scandium, zinc, high purity alumina, and possibly others.

The project is envisioned as a combination of ion-exchange and solvent extraction recovery systems, capturing critical metals that are currently recirculating in heap leach copper solutions at Phoenix Mine.

The Phoenix CMR Project, and other similar projects in development, have the potential to produce material quantities of strategically important metals, tailored to today's tech-driven products, and can do so from a distributed global copper production base. The environmental impact from this production process is minimal – no new mines are required. From a copper industry standpoint, this CMR process can effectively increase mine valuations, can effectively extend mine/reserve life at current production rates, and will result in cleaner tailings, potentially lower ongoing environmental management costs, and lower final reclamation expense.

The Phoenix Mine is a gold-copper producer owned and operated by Nevada Gold Mines, a joint venture between Barrick Gold Corporation (61.5%) and Newmont Corporation (38.5%). The mine produces a copper/gold concentrate, copper cathode and gold dore. Nevada Gold Mines assets in Nevada represent the single largest gold-producing complex in the world.

The reader should note that more discussion on the Phoenix CMR Project is included as a Subsequent Event, at the end of this business discussion.

#### **Principal Projects - Planned Activities for 2021-2022**

The following development steps are planned for the Company's initiatives in 2021 and 2022:

- Commence Phoenix CMR Project development, including advanced test work, pilot plant studies, and high grade financial and costing studies required to take Final Investment Decision (FID). Work begins in Q3 2021, completes at end 2022
- Investigate and identify suitable customers for specific products planned for CMR production,
- Seek additional copper industry host(s) for additional CMR Project developments,
- Seek possible partners or collaborations that will support an HPA project, , specifically targeting opportunities in North America and Europe.
- With results of a successful CMR development program with NGM, raise capital for a Phoenix CMR Project in late 2022.

With successful conclusion of the Phoenix CMR development program in late 2022, and a mutual decision between NGM and SCY to build a critical metals recovery project at Phoenix Mine, the Company intends to commence construction of production facilities and make product available for sale in early 2024.

Project work on a potential stand-alone HPA project will follow a similar but independent course to the Phoenix CMR Project, and is subject to identifying suitable industry partners, in those individual situations where a partner is deemed required.

## **Other Properties Review**

### **Honeybugle Scandium Property (NSW, Australia)**

On April 2, 2014, the Company announced that it had secured a 100% interest in an exploration license (EL 7977) covering 34.7 square kilometers in New South Wales, Australia. The license area we call the 'Honeybugle Scandium Property' is located approximately 24 kilometers west-southwest from the Company's Nyngan Scandium Project and approximately 36 kilometers southwest from the town of Nyngan, NSW. Exploration rights for the Honeybugle Scandium Property include certain minimum expenditure requirements. The Company intends to fulfill those minimum expenditure requirements.

On May 7, 2014, the Company announced completion of an initial program of 30 air core ("AC") drill holes on the property, specifically at the Seaford anomaly, targeting scandium (Sc). Results on 13 of these holes are shown in detail, in the table below. These holes suggest the potential for scandium mineralization on the property similar to Nyngan.

#### **INITIAL DRILLING HIGHLIGHTS:**

- The highest 3-meter intercept graded 572 ppm scandium (hole EHAC 11).
- EHAC 11 also generated two additional high grade scandium intercepts, grading 510 ppm and 415 ppm, each over 3 meters.
- The program identified a 13-hole cluster which was of particular interest; intercepts on these 13 holes averaged 270 ppm scandium over a total 273 meters, at an average continuous thickness of 21 meters per hole, representing a total of 57% (354 meters) of total initial program drilling.
- The 13 holes produced 29 individual (3-meter) intercepts over 300 ppm, representing 31% of the mineralized intercepts in the 273 meters of interest.
- This initial 30-hole AC exploratory drill program generated a total of 620 meters of scandium drill/assay results, over approximately 1 square kilometer on the property.

### **Kiviniemi Scandium Property (Eastern Finland Province, Finland)**

On September 25, 2017, the Company announced that its wholly-owned subsidiary company, Scandium International Mining Corp., Norway AS, was granted a reservation on an Exploration License for the Kiviniemi Scandium property in central Finland from the Finnish regulatory body governing mineral exploration and mining in Finland. The exploration license was subsequently granted during August 2018.

The Geological Survey of Finland ("GTK") conducted airborne survey work on the area in 1986, conducted exploration drilling on the property in 2008-2010, and published those program results on their public GTK website in 2016. The Company's Exploration License area is approximately 24.6 hectares (0.25 square kilometer), identical to the historic GTK exploration license on the property.

#### **KIVINIEMI HIGHLIGHTS:**

- Kiviniemi property previously identified for scandium and explored by GTK.
- Property is a high iron content, medium grade scandium target, located on surface, with on-site upgrade potential.
- Early resource upgrade work done for GTK promising, confirmed by SCY.
- Property is all-weather accessible, close to infrastructure.
- Finland location is mining-friendly and ideally suited to EU customer markets.

The Kiviniemi property represents a medium grade scandium resource target that has remained unrecognized and overlooked by exploration work, largely due to the absence of the more commonly sought-after minerals in the region, specifically copper, nickel and cobalt. We believe that Kiviniemi is Europe's largest underdeveloped primary scandium resource.

The target has benefited significantly from valuable early exploration work by the GTK, which has advanced the property to a stage where successful metallurgical investigations may prove value that offsets grade concerns. SCY estimates roughly US\$2M of work value has been directed at this property to date, including field work, drilling programs, assay work, overheads, and metallurgical upgrade studies, but firm numbers are not available.

Advancing this property will require two work programs: 1). A limited drill program to augment and independently confirm the existing GTK data, to establish a NI 43-101 Resource on the property, and to provide more sample material for metallurgical test work programs, and 2). A metallurgical study program to define and test economic site upgrade possibilities on the scandium mineralization and provide independent support to processing technology pathways the Company believes would be viable for development of the property.

## **Patent Applications and Grants**

### **Patent Protection Filing On High Purity Alumina Manufacturing Process**

On May 27, 2021 the Company announced filing a final patent application with the US Patent Office, pertaining to the manufacture of high purity alumina products ("HPA"). The patent application outlines methods, chemistries, processes, and flowsheet design for the manufacture of an HPA product, grading 4N+ purity (99.99%, or better), from either aluminum-containing solution feedstocks, alumina powders, or alumina precursor feedstocks. This application represents a final submission for review and consideration of an award of acceptance and grant.

It is the Company's intent to pursue a business in high purity alumina, and to employ the designs and methods contained in the patent application to manufacture HPA, for application in both the LED lighting industry and the lithium-ion battery industry.

#### **PATENT APPLICATION HIGHLIGHTS – "Process for the Preparation of High Purity Alumina"**

- Final application filed May 17, 2021, for US Patent Office examination.
- Defines methods for refining aluminum feedstocks to HPA product standards.
- Includes a multi-step process flowsheet, driven initially by acid leaching.
- Employs solvent extraction, ion exchange, and other processes to achieve 4N+ HPA product.
- Utilizes a closed loop reagent recycling system that generates extremely low levels of process residues and disposable waste, depending on aluminum input source.

High purity alumina represents a new product target for SCY, although one that has been under consideration by the Company for several years. SCY's recent focus on critical metals recovery (CMR) from copper raffinates, and other acidic processing solutions in mining applications, raised the prospect of also extracting aluminum from these same solutions. This opportunity formed the basis of a separate provisional HPA patent in May 2020, with recovery and purification concepts tailored to high purity HPA product. The May 2021 HPA final patent application now includes HPA technology production claims related to a wider array of mine-based acidic solution aluminum sources, along with claims for producing HPA from smelter-grade alumina powders, and from alumina precursor feedstocks as well.

The specialty metals and chemicals industries fully understand the challenge of consistently making products that meet the high purity standards required in electrical and semi-conductor applications. These high-quality standards are then generally matched by stronger pricing and higher product margins, which

is certainly the case for HPA over common smelter-grade alumina. This opportunity reflects the very high value applications for HPA today, specifically:

- LED lighting components. HPA is the foundation for synthetic sapphire manufacture, forming substrates for LED lights, and also for certain semiconductor wafers.
- Scratch-resistant glass. Synthetic sapphire is used to form scratch-resistant lenses for wristwatch faces, optical windows, and smartphone components.
- Lithium-ion batteries (LiB's). HPA is applied as a protective coating on separators in LiB's, adding performance, longevity, and safety to high power-density battery configurations. HPA will very likely be used for similar reasons in future solid-state electrolyte and electrode designs.

The Company plans to pursue an HPA development program, including confirmation of both detailed technical production steps and positive initial financial projections, with the intent to enter the HPA business. The HPA effort will focus on Europe and the USA/Canada, both as to markets and production location. HPA initiatives may or may not involve partnering efforts with other companies, depending on the aluminum feedstock source, and other project or partner specifics.

### **Patent Grants and Applications - Scandium Related**

On May 20, 2021, the Company announce it has received notice of two separate patent grants from the US Patent Office in late April 2021, pertaining to work done by the Company to reserve rights in the recovery of scandium from copper raffinate solutions via ion exchange techniques, and to reserve rights in the manufacture of aluminum-scandium master alloys via these defined techniques. Both of these patent grants are directly applicable to processes and projects the Company is currently engaged in, with the intent to produce scandium products for use in both aluminum alloys and other technical applications.

#### **HIGHLIGHTS – “Extraction of Scandium Values from Copper Leach Solutions,”**

- Patent Number 10,988,828 granted April 27, 2021.
- Defines methods for recovering scandium from copper mine acidic solutions.
- Tailored specifically to oxide copper heap leach solvent extraction (SX) raffinates.
- Specifically employs ion-exchange technologies, pre or post copper recovery.

#### **HIGHLIGHTS – “Scandium Master Alloy Production.”**

- Patent Number 10,988,830 granted April 27, 2021.
- Defines methods for manufacturing aluminum-scandium master alloy (2%).
- Identifies a two-flux system, containing a fluoride and an alkali metal chloride.
- Allows for a rare earth element oxide addition, if desired.
- Further allows for other critical metal additions to master alloys, where those are demanded as metal additions in the final aluminum alloy.

The Company announced in May 2020 that it was immediately focusing on critical metals recovery from acid leachate solutions common to oxide copper recovery plants, initially in the USA. Two provisional patent applications had already been filed by the Company at the time of that 2020 public announcement, both specific to recovery of critical metals from acidic copper systems, and encompassing a broad list of metals recovery possibilities.

One of these two existing applications subsequently received a grant by the Patent Office in April 2021 (Scandium Extraction from Copper Leach Solutions, US Patent number 10,988,828), and is specific to scandium.

The other existing application remains under review by the US Patent Office at this time. This final application is more encompassing with regard to metals targets identified and covered, including nickel, cobalt, copper, zinc, manganese, beryllium, aluminum, rhenium and scandium (and others), together with various recovery methods based on both ion exchange and solvent extraction methods. This broader

patent application specifically covers copper systems where sulfuric acid leachates are present, but has been expanded to also cover similar leachate solutions in primary lithium, vanadium, and nickel systems. The pending patent application is titled “Recovery of Critical Metals from SX-EW Copper Raffinate and other Solutions Derived from Leaching Ores with Sulfuric Acid.”

The Company received a grant on a second patent application in April 2021, specifically related to the manufacture of scandium master alloy (Scandium Master Alloy Production, US Patent number 10,988,830). This granted US Patent is a companion patent to an earlier master alloy patent granted to W. P. C. Duyvesteyn in 2018, and assigned to the Company.

The earlier 2018 patent (Scandium-Containing Master Alloy and Method for Making the Same.”, US Patent number 10,450,634), claimed capability for master alloy production from various scandium precursors (such as oxalates), defined processes by which either aluminum or magnesium master alloys could be made, and defined processes for manufacture. This patent also claimed capability to make aluminum or magnesium alloys containing scandium with direct additions of scandium precursors.

The subsequent 2021 patent grant goes further into aluminum-scandium master alloy production, is based on bench scale test work done by SCY and is supported by success achieved in those test programs. Specific test work results confirmed achievement of 2% scandium content in master alloy, at commercially acceptable recovery levels.

A third master alloy patent application remains under review by the US patent office, titled “Direct Scandium Alloying,” which employs a novel approach to fusing ground scandium oxide together with halides (fluorides) and chloride salts in a casting, which can be directly introduced into an aluminum or magnesium melt to manufacture final alloys. This alternative manufacture of direct scandium-containing flux/oxide additions avoids the high temperature processing and gas stirring that comes with traditional master alloy manufacture. This non-conventional product form for introducing scandium into aluminum promises advantages in alloy production as well, with minimal stirring, no gas injection requirement, faster process times, and potentially improved recovery rates, from oxide to scandium in alloy.

All of these patent grants and patent pending applications have direct use in projects the Company is currently considering. Our previous patent grants relating to flowsheet design for the Nyngan Scandium Project, (NSW, AUSTRALIA), regarding high pressure acid leaching and solvent extraction processes, remain relevant to that project today. In fact, the three patent grants we have on segments of Nyngan plant process have spawned other applications on ore leaching, which then guided us to CMR and solution-based extraction of scandium, and immediately also to other metals present in those same leachates. Our work on scandium master alloys began with initial studies in 2011 with the CSIRO in Australia, and has progressed to a capability to add product value to our scandium production sources, wherever we can develop them, globally.

Most importantly, our work on solution separation technologies using ion exchange and/or solvent extraction has widened our opportunity to pursue recovery of a suite of battery metals, along with a significant segment of the growing list of critical metals, as defined by governments, concerned customers, and industry groups.

### **Subsequent Event – Third Quarter 2021**

On November 8, 2021, the Company announced an addition to the target metals that will be investigated as a part of the previously announced LOI and joint technical development program.

Early work on the development program has now confirmed the presence of significant aluminum content in both the Phoenix Mine copper oxide ore, and raffinate. This contained aluminum represents a suitable feedstock for high purity alumina (HPA) product manufacture, and is now anticipated to play a significant role in overall CMR project economics. The June 2021 news release did not specifically identify HPA as a CMR project target, alongside other named critical metals targets, but it is now included as a central part of the technical development work program.



(Loss) per share attributable to Scandium Mining Corp.						
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### Results of Operations for the three months ended September 30, 2021

The net loss for the quarter was \$278,704, an increase of \$13,647 from \$265,057 in the same quarter of the prior year. Details of the individual items contributing to the increased net loss are set out below at Table 11:

**Table 11. Variance Analysis for Net Loss**

Q3 2021 vs. Q3 2020 - Variance Analysis		
Item	Variance Favourable / (Unfavourable)	Explanation
General and administrative	\$(20,647)	The variance is due largely to patent costs which were incurred during Q3 2021 with no comparable charge in Q3 2020.
Exploration	\$(13,764)	Costs were higher due to our participation in the CMR project with Nevada Gold Mines.
Consulting	\$(5,001)	A fee accrued for a consultant working on the Critical Materials Recovery program drove the costs for this category higher when compared to Q3 in 2020.
Insurance	\$(1,443)	The slightly higher cost in Q3 2021 is due to overall increases in insurance premiums for the Company's operations.
Salaries and benefits	\$27	Costs were almost the same for the comparable periods.
Amortization	\$157	The slightly lower expense is attributable to certain assets being fully depreciated in 2021.
Professional fees	\$2,050	Due to lower activity levels in Q3 2021, costs for professional fees were lower when compared to the comparable quarter in 2020.
Foreign exchange	\$24,974	The US dollar strengthened during Q3 2021 resulting in our liabilities held in foreign funds were reduced giving us a favourable variance.

### Results of Operations for the nine months ended September 30, 2021

The net loss for the nine-month period was \$1,351,921, an increase of \$670,387 from \$681,534 in the same nine-month period of the prior year. Details of the individual items contributing to the increased net loss are set out below at Table 12:

**Table 12. Variance Analysis for Net Loss**

<b>Nine-months ended September 30, 2021, vs. nine-months ended September 30, 2020 - Variance Analysis</b>		
<b>Item</b>	<b>Variance Favourable / (Unfavourable)</b>	<b>Explanation</b>
Sale of royalty interest	\$(382,430)	In January of 2020, the Company sold a royalty interest for net proceeds of \$382,430. This was a non-recurring event.
Stock-based compensation	\$(352,009)	In the first nine months of 2021 the Company issued 6,175,000 stock options at an average price of C\$0.18. In the comparative period in 2020, the Company issued 8,525,000 stock options at an average price of C\$0.065. The lower price of the options issued in the prior year resulted in a much lower expense despite more options being issued.
Professional fees	\$(9,099)	Timing of charges for the annual tax returns preparation and higher legal expenses led to the increase in 2021.
Exploration	\$(6,998)	Costs were higher due to our participation in the CMR project with Nevada Gold Mines.
Salaries and benefits	\$(5,738)	This unfavorable variance is due to foreign exchange impacts to accrued payments due individuals.
Insurance	\$(3,457)	The slightly higher cost in 2021 is due to overall increases in insurance premiums for the Company's operations.
Consulting	\$(2,058)	Additional fees related to accrued one-time costs for a consultant were partially offset by overall lower costs for normal items included here.
Amortization	\$421	The slightly lower expense is attributable to certain assets being fully depreciated in Q2 2021.
Foreign exchange	\$44,844	The Company maintains a significant portion of our cash in Canadian dollar accounts. The US dollar weakened against the Canadian dollar in 2021 whereas in 2020 the US dollar was strengthening.

<b>Nine-months ended September 30, 2021, vs. nine-months ended September 30, 2020 -  Variance Analysis</b>		
<b>Item</b>	<b>Variance  Favourable /  (Unfavourable)</b>	<b>Explanation</b>
General and administrative	\$46,137	The decrease in 2021 when compared to the same period one year ago is due to the reversal of accruals in prior periods for property taxes based on revised assessments on the Nyngan property.

### **Cash flow discussion for the nine-month period ended September 30, 2021, compared to September 30, 2020**

The cash outflow for operating activities was \$333,047, an increase of \$363,304 (September 30, 2020 – \$(30,257)), due mainly to the sale of a royalty interest in Q1 2020 and costs for patents and filing fees in 2021.

Cash inflows from financing activities of \$227,064 reflect the fact that there were options exercised in the current nine-month period when compared to the nine-month period ended September 30, 2020, in which there were no private placements or options exercised.

### **Financial Position**

#### *Cash*

The Company's cash position decreased during the nine-month period by \$105,983 to \$64,301 (December 31, 2020 - \$170,284) due mainly to the sale of a royalty in 2020 which was offset by the exercising of options in 2021.

#### *Prepaid expenses and receivables*

Prepaid expenses and accounts receivable decreased by \$24,161 to \$18,269 during the nine-month period due to the expensing of the prepaids without additional funds being added to the prepaid accounts (December 31, 2020 - \$42,430).

#### *Property and equipment*

Property and equipment consist of computer equipment at the Sparks, Nevada office. The decrease of \$1,309 to \$3,351 (December 2020 - \$4,660) is due to amortization of that computer equipment in the nine-month period.

#### *Mineral interests*

Mineral interests remained the same at \$704,053.

#### *Accounts payable, accrued liabilities and accounts payable with related parties*

Accounts payable has increased by \$383,019 to \$1,537,407 (December 2020– \$1,154,388) due to the continued deferral of salaries to certain individuals which is partially offset by the removal of accruals for property taxes at Nyngan.

### *Capital Stock*

Capital stock increased by \$406,003 to \$110,033,074 (December 31, 2020 - \$109,627,071) due to the exercising of options.

Additional paid-in capital increased by \$431,446, to \$6,936,862 (December 31, 2020 - \$6,505,416) as a result of option expensing which is partially offset by the exercising of stock options.

### **Liquidity and Capital Resources**

At September 30, 2021, the Company had a working capital of \$(1,454,837) including cash of \$64,301 as compared to a working capital of \$(941,674) including cash of \$170,284 at December 31, 2020.

At September 30, 2021, the Company had a total of 35,500,000 stock options exercisable between C\$0.065 and C\$0.37 that have the potential upon exercise to generate a total of C\$6,215,500 in cash over the next four and three quarter years. There is no assurance that these securities will be exercised. The Company's continued development is contingent upon its ability to raise sufficient financing both in the short and long term. There are no guarantees that additional sources of funding will be available to the Company; however, management is committed to pursuing all possible sources of financing in order to execute its business plan. The Company continues its cost control measures to conserve cash to meet its operational obligations.

### **Outstanding share data**

At the date of this report, the Company has 316,272,595 issued and outstanding common shares and 35,500,000 stock options currently outstanding at a weighted average exercise price of C\$0.175.

### **Off-balance sheet arrangements**

At September 30, 2021, the Company had no material off-balance sheet arrangements such as guarantee contracts, contingent interest in assets transferred to an entity, derivative instruments obligations or any obligations that trigger financing, liquidity, market or credit risk to the Company.

### **Transactions with related parties**

During the nine-month period ended September 30, 2021, the Company expensed \$441,277 for stock-based compensation for stock options issued to Company directors. During the nine-month period ended September 30, 2020, the Company expensed \$196,551 for stock-based compensation for stock options issued to Company directors.

During the nine-month period ended September 30, 2021, the Company expensed a consulting fee of \$76,500 to one of its directors. During the nine-month period ended September 30, 2020, the Company expensed a consulting fee of \$76,500 to one of its directors. The expensed consulting fees in both years were accrued and remain unpaid.

As at September 30, 2021, the Company owed \$1,042,619 to various directors and officers of the Company. (December 31, 2020 - \$702,456)

### **Proposed Transactions**

There are no proposed transactions outstanding other than as disclosed.

## **Critical Accounting Estimates**

The preparation of financial statements in conformity with generally accepted accounting policies requires management of the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on past experience, industry trends and known commitments and events. By their nature, these estimates are subject to measurement uncertainty and the effects on the financial statements of changes in such estimates in future periods could be significant. Actual results will likely differ from those estimates.

### *Stock-based compensation*

The Company uses the Black-Scholes option pricing model to calculate the fair value of stock options and compensatory warrants granted. This model is subject to various assumptions. The assumptions the Company makes will likely change from time to time. At the time the fair value is determined, the methodology the Company uses is based on historical information, as well as anticipated future events. The assumptions with the greatest impact on fair value are those for estimated stock volatility and for the expected life of the instrument.

### *Future income taxes*

The Company accounts for tax consequences of the differences in the carrying amounts of assets and liabilities and their tax bases using tax rates expected to apply when these temporary differences are expected to be settled. When the future realization of income tax assets does not meet the test of being more likely than not to occur, a valuation allowance in the amount of the potential future benefit is taken and no future income tax asset is recognized. The Company has taken a valuation allowance against all such potential tax assets.

### *Mineral properties and exploration and development costs*

The Company capitalizes the costs of acquiring mineral rights at the date of acquisition. After acquisition, various factors can affect the recoverability of the capitalized costs. The Company's recoverability evaluation of our mineral properties and equipment is based on market conditions for minerals, underlying mineral resources associated with the assets and future costs that may be required for ultimate realization through mining operations or by sale. The Company is in an industry that is exposed to a number of risks and uncertainties, including exploration risk, development risk, commodity price risk, operating risk, ownership and political risk, funding and currency risk, as well as environmental risk. Bearing these risks in mind, the Company has assumed recent world commodity prices will be achievable. The Company has considered the mineral resource reports by independent engineers on the Nyngan Scandium Project in considering the recoverability of the carrying costs of the mineral properties. All of these assumptions are potentially subject to change, out of our control, however such changes are not determinable. Accordingly, there is always the potential for a material adjustment to the value assigned to mineral properties and equipment.

## **Recent Accounting Pronouncements**

Accounting Standards Update 2021-04 - Earnings Per Share (Topic 260), Debt Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718), and Derivatives and Hedging Contracts in Entity's Own Equity (Subtopic 815-40). This update is to provide clarity around earnings per share calculations and is effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. The Company is reviewing this standard but expects little or no impact on its financial statements.

Accounting Standards Update 2019-12 – Income Taxes (Topic 740). The Financial Accounting Standards Board issued this Update as part of its initiative to reduce complexity in accounting standards. This

standard is effective for interim and annual reporting periods beginning after December 15, 2020, with early adoption permitted. The Company has implemented this standard for 2021, with little or no impact on its financial statements.

Accounting Standards Update 2019-01 – Leases (Topic 842) Codification Improvements - Issue 3 Transition Disclosures Related to Topic 250, Accounting Changes and Error Corrections. The amendments in this Update clarify the Board’s original intent by explicitly providing an exception to the paragraph 250-10-50-3 interim disclosure requirements in the Topic 842 transition disclosure requirements. The Company has implemented this standard for 2021, with little or no impact on its financial statements.

### **Financial instruments and other risks**

The Company’s financial instruments consist of cash, receivables, accounts payable, accounts payable with related parties, accrued liabilities and promissory notes payable. It is management's opinion that the Company is not exposed to significant interest, currency or credit risks arising from its financial instruments. The fair values of these financial instruments approximate their carrying values unless otherwise noted. The Company has its cash primarily in three commercial banks: (i) one in Vancouver, British Columbia, Canada, (ii) one in Mackay, Queensland, Australia, and (iii) one in Chicago, Illinois, United States.

### **Information Regarding Forward-Looking Statements**

This Management’s Discussion and Analysis of Financial Condition and Results of Operations contain certain forward-looking statements. Forward-looking statements include but are not limited to those with respect to the prices of metals, the estimation of mineral resources and reserves, the realization of mineral reserve estimates, the timing and amount of estimated future production, costs of production, capital expenditures, costs and timing of the development of new deposits, success of exploration activities, permitting time lines, currency fluctuations, requirements for additional capital, government regulation of mining operations, environmental risks, unanticipated reclamation expenses, title disputes or claims and limitations on insurance coverage and the timing and possible outcome of pending litigation. In certain cases, forward-looking statements can be identified by the use of words such as “plans”, “expects” or “does not expect”, “is expected”, “estimates”, “intends”, “anticipates” or “does not anticipate” or “believes” or variations of such words and phrases, or statements that certain actions, events or results “may”, “could”, “would”, or “will” be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance, or achievements of Scandium International to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, the actual results of current exploration activities, conclusions or economic evaluations, changes in project parameters as plans continue to be refined, possible variations in grade and or recovery rates, failure of plant, equipment or processes to operate as anticipated, accidents, labor disputes or other risks of the mining industry, delays in obtaining government approvals or financing or incompleteness of development or construction activities, risks relating to the integration of acquisitions, to international operations, and to the prices of metals and risks relating to the COVID-19 pandemic. While Scandium International has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Scandium International expressly disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

### **Item 3. Quantitative and Qualitative Disclosures About Market Risk**

Not applicable.

#### **Item 4. Controls and Procedures**

##### **Disclosure controls and procedures**

The Company's management is responsible for establishing and maintaining adequate disclosure controls and procedures. The Company's management, including our principal executive officer and our principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) as of the end of the period covered by this report. Based on that evaluation, the principal executive officer and principal financial officer concluded that as of the end of the period covered by this report, the Company has maintained effective disclosure controls and procedures in all material respects, including those necessary to ensure that information required to be disclosed in reports filed or submitted with the SEC (i) is recorded, processed, and reported within the time periods specified by the SEC, and (ii) is accumulated and communicated to management, including the principal executive officer and principal financial officer, as appropriate to allow for timely decision regarding required disclosure.

##### **Changes in Internal Control**

There have been no changes in internal control over financial reporting that occurred during the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.



Edward Dickinson  
Principal Financial Officer