



## **MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE YEAR ENDED DECEMBER 31, 2020**

*The following management's discussion and analysis ("MD&A") of financial results is dated April 29, 2021 and reviews the business of BacTech Environmental Corporation (the "Company" or "BacTech"), for the year ended December 31, 2020, and should be read in conjunction with the accompanying annual consolidated financial statements and related notes for the year ended December 31, 2020. This MD&A and the accompanying annual consolidated financial statements and related notes for the year ended December 31, 2020 have been reviewed by the Company's Audit Committee and approved by the Company's Board of Directors.*

*This MD&A contains certain forward-looking statements, such as statements regarding potential mineralization, resources and research results, and future plans and objectives of the Company, that are subject to various risks and uncertainties. There can be no assurance that such statements will prove to be accurate, and actual results and future events could differ materially from those anticipated in such statements. Readers are cautioned not to place undue reliance on these forward-looking statements. Forward-looking statements contained herein are made as of the date of this MD&A and the Company disclaims, other than as required by law, any obligation to update any forward-looking statements whether as a result of new information, results, future events, circumstances, or if management's estimates or opinions should change, or otherwise.*

### **A. Core Business Strategy**

BacTech Environmental Corporation was incorporated by REBgold Corporation ("REBgold" and formerly known as BacTech Mining Corporation) on October 5, 2010 under the *Canada Business Corporations Act*. Through the completion of the Plan of Arrangement, the Company was granted a perpetual, exclusive, royalty free license to use REBgold Corporation's proprietary bioleaching technology ("BACOX") in the remediation business for mining wastes and was listed on what is today the Canadian Stock Exchange under the symbol "BAC".

The BACOX technology utilizes bacteria to liberate precious and base metals and has been traditionally used to treat difficult-to-treat sulphide ores and concentrates. The business plan for the Company is to apply the bioleaching technology to abatement and reclamation projects to remove harmful elements such as arsenic and sulphur from the environment, where this can be assisted by a positive cash flow from metal recovery. Examples of metals which can be extracted include gold, silver, cobalt, nickel, copper, uranium and zinc.

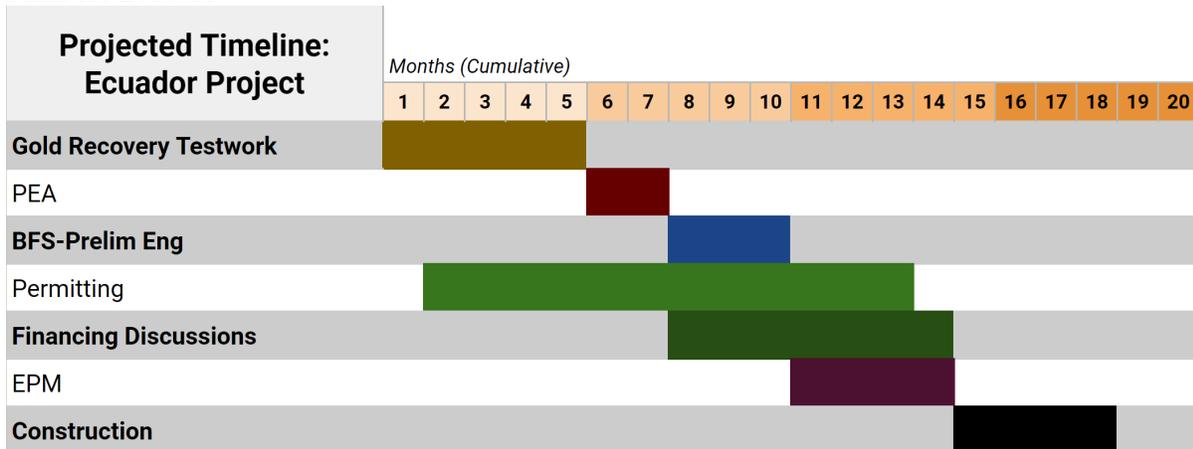
Bioleaching is an environmentally-friendly process technology for treating difficult-to-treat sulphide ores and concentrates. By replacing smelting and/or roasting with a bioleach process, the production of sulphur dioxide emissions, which is the primary source of acid rain, and arsenic trioxide are eliminated. Furthermore, the capital and operating costs of a bioleach facility are significantly less when compared to other existing treatment methods.

## B. Mineral Reclamation Projects

### Ecuador

BacTech has identified the Ponce Enriquez area of southern Ecuador as an area where the Company’s bioleaching technology can be successfully deployed for environmental processing of locally produced concentrates. Given the high levels of arsenic contained in the ore from the area, miners receive significantly reduced prices for their concentrates due to penalties applied by the buyers. The buyers tend to be from Asia where concentrates are shipped for conventional smelting and/or roasting. The concentrates are subject to a 3% royalty on the gold value payable by the miner to the Government of Ecuador. BacTech believes that by implementing an in-country bioleach plant it can offer superior pricing for these concentrates to the local producers, better payment terms, provide domestic Ecuadorian employment opportunities; and, increase local and federal tax revenue for the government. It should be noted that the final arsenical product resulting from bioleaching, ferric arsenate, is a US Environmental Protection Agency approved land-fillable form of arsenic.

Plans for Ecuador



The initial capacity for the proposed plant would be 50 tonnes per day of arsenopyrite and refractory pyrite concentrates. At this stage the Company will be pursuing its goals with 100% ownership but BacTech would consider a joint venture partner going forward. BacTech will act strictly as a purchaser and processor of third party concentrates and will not own any mineral properties in Ecuador.

In the above chart we can see that the first step in the process involves ear-marking suitable concentrates for which a detailed bioleach test program will be undertaken. The Company collected samples from 6 different mines in the area from which 3 were selected as candidates for bioleaching. These samples will be assayed for gold and arsenic content before being subjected to bioleach test work to be carried out at ALS Labs in Perth, Australia. A first step in the process is completion of a diagnostic leach study to get a better understanding of the leachability of the gold. On April 21, 2021, BacTech announced that it has achieved gold recoveries of over 99%. The estimated time to complete the test work is 16-20 weeks after which BacTech would establish the projected gold recovery and sulphide oxidation ratios as well as gaining a good understanding of the flow sheet for the plant.

During this period BacTech would also begin the process of identifying a suitable site for the proposed plant and obtaining permits for the plant. Applications will be made to the Ministries of Mining, Water and Environment, for approval of a water usage license, and tailings approval for the post bioleach residues. There will also be consultation with the local municipal government with respect to land

acquisition and approval for building permits for the plant. It should be noted that Ponce Enriquez is a very active mining area with over 90 producing mines of various sizes, and we do not expect to face local opposition given the environmental and economic benefits associated with our project.

If the results of the bioleach test work are in line with projections, BacTech will begin a bankable feasibility study. It should be noted that these studies are for a commercial operating plant and do not involve any aspects of underground resource estimation or mining engineering. For this reason, the study should be relatively straight forward and less costly than a usual full-scale bankable study.

Using the flow sheet developed by the bioleach test work, the final piece of this phase of the project would be detailed engineering. It is our intent to rely heavily on the designs from previous plants that BacTech has built which addressed material with very similar mineralogical structure.

We estimate that the cost to get the project to a “shovel ready” state will be approximately US\$800,000. The actual budget for construction, procurement and materiel is estimated to be \$US 10M with a 20% variance, based on costs from past projects. The detailed engineering will allow the company to reduce the variance in the budget. The estimated time to complete the pre-construction studies is approximately 12 months with the permitting being the longest part of the process. At the end of this process BacTech will actively pursue contractual concentrate feeds from local sources and quite possibly from neighbouring countries such as Peru. Once the Company successfully completes the initial plant, it is conceivable we will attract enough feed to exceed the plant’s capacity. This could lead to a straight-forward expansion as BacTech’s plants are modular in design.

With respect to the current financing where BacTech has filed a Form 1-A Regulation A Offering with the Securities Exchange Commission, BacTech will use a portion of the proceeds to conduct the above mentioned assay and bioleach test work. Results will be published at the end of the study in approximately 5-6 months.

## **Bolivia**

On May 24, 2016, BacTech announced that its 98% owned Bolivian subsidiary, EMABSA, had signed an Association Contract with COMIBOL, the state mining company of Bolivia. On September 15, 2016, the Bolivian government by Law N degrees 831, approved and ratified the agreement.

On September 9, 2019, BacTech announced that it will not proceed with the reclamation of the Telamayu tailings project in Bolivia. After completing metallurgical test work on the project and evaluating the economics of the project it was decided that the project would be too difficult to finance. It was estimated that the project would cost approximately \$US 9M.

The inability to recover tin into a suitable concentrate severely hampered the economics of the project. Given the fact that the value of the tin made up roughly 50% of the value of the contained metal in the tailings, financing the project was deemed to be too difficult.

## **Other Projects**

The Company continues to evaluate other projects in Canada, Mexico, South America and Europe.

On May 15, 2019 BacTech announced that it had signed a letter of intent with GMR Inc. ("GMR") to license BacTech's proprietary bioleach technology. BacTech joins Dundee Sustainable Technologies (CSE:DST) as a technology partner with GMR to develop a potential solution for the remediation of the Gold Residual Stockpile in Snow Lake, Manitoba. Through this agreement, BacTech received a \$20,000 cash payment as an advance for the right to utilize the BacTech proprietary bioleach technology on the Gold Residual Stockpile in Snow Lake, Manitoba. In addition, BacTech will earn 3% undivided equity interest in the net income of the project. GMR is relying on BacTech's historical research conducted in 2011 and 2012 that showed oxidation rates of 95% and gold recovery of 88.6% on material obtained from the arsenic stockpile.

### Colombia

On August 10, 2020 the Company announced that it has agreed to participate in an evaluation of mine tailings near Medellin, Colombia. The grades of gold and platinum were very high compared to normal tailings grades. Even though MetalTec LLC, the prospective partner company, provided assay results from ALS Laboratories, it was decided that an independent contractor should be engaged to conduct an arm's length study of the tonnage and grade of contained metal. The tailings also contain 1% arsenic.

### East Africa

On April 26, 2021, the Company announced that it has executed a strategic Memorandum of Understanding ("MOU") with Curatio Gold Limited ("Curatio") to source refractory ores for processing from Eastern Africa. Curatio was recently established to provide funding to support improved metallurgical processing, with the goal of eliminating the dangerous and environmentally unfriendly use of mercury for gold liberation. The group will initially focus its efforts in East Africa on an active Artisanal and Small-scale mining ("ASM") industry. The principal founders of Curatio have many years of technical mining expertise and are well versed in supporting small and medium-sized businesses in Africa. Curatio CEO Doug Ramsey, R.P.Bio., is a biologist with expertise in environmental mercury concerns and four decades of experience in solving mining related environmental issues. Prior to founding Curatio with Mark Francis, Doug was CEO and VP Sustainability with a junior miner and a consultant to industry and government

### C. Selected Annual Information

The following table presents selected financial information in Canadian dollars (\$), for each of the three most recently completed financial years and has been prepared in accordance with International Financial Reporting Standards (“IFRS”).

	2020	2019	2018
	\$	\$	\$
License fee	Nil	20,000	Nil
Gain from forgiveness of debt	1,219,674	Nil	Nil
Gain from debenture conversion	163,162	Nil	Nil
Net income (loss) for the year	861,145	(1,084,611)	(1,273,778)
Net income (loss) per share	0.01	(0.01)	(0.02)
Total assets <sup>(1)</sup>	33,673	34,161	139,809
Total current liabilities	2,653,880	4,053,596	3,323,813

<sup>(1)</sup> The Company does not capitalize any of its developmental expenditures notwithstanding that they may have enduring value in future operations.

The Company does not generate any recurring revenue at this time except for the one time advance payment for \$20,000 received in fiscal 2019 for use of the Company’s technology. The funding of the Company’s operations since inception in December 2010 has been from the exercise of warrants and options, equity private placements, debentures, bridge loans and notes, which have been used for general working capital, advancing the projects in Bolivia and Ecuador, as well as pursuing other projects of interest.

The increase in liabilities from 2015 through to 2019 is the result of limited funds available to fund project initiatives and corporate expenditures. A significant portion of accounts payable in 2019 and 2018 related to accrued salaries and consulting fees to officers and managers of the Company.

In fiscal 2020, certain officers and a consultant of the Company forgave the debts owing to them totalling \$1,219,674 from accrued salaries and management fees effective June 30, 2020. As a result, no salaries or fees were earned in the six months ended June 30, 2020 and all related debts owing to them from accrued salaries from previous years in the amount of \$1,219,674 were written down to \$Nil and resulted in a gain from forgiveness of debt for the year ended December 31, 2020. In addition, during 2020, a total of \$287,000 of debentures and related accrued interest of 120,480 were settled through the issuance of common shares of the Company. The difference between the fair value of the common shares issued and fair value of the debenture and interest payable created a gain from the settlement of the debenture through the issue of shares of \$163,162 for the year ended December 31, 2020. From these two transactions, involving the forgiveness debt for salaries and wages owing and the settlement of debentures and interest payable, the outstanding total current liabilities have been significantly reduced.

## **D. Results of Operations**

This analysis of the results of the Company's operations should be read in conjunction with the Company's annual consolidated financial statements for the year ended December 31, 2020.

### **Revenues**

The Company has no revenue or sources of recurring revenues for the periods reported except for the one time advance payment for \$20,000 received in fiscal 2019 for use of the Company's technology. Gain from debt forgiveness and debenture conversion discussed below.

### **Operating and Administrative Costs**

Operating and administrative expenses decreased to \$295,373 for the year ended December 31, 2020 from \$522,459 last year. Significant components of this expense include:

1. Salaries and management fees decreased to \$81,755 for the year ended December 31, 2020 from \$288,953 last year. These costs are for the salaries and management fees incurred directly in managing and operating the business of the Company. Given the Company's current financial situation, these amounts were accrued over the last few years.  
The officers and a consultant of the Company forgave the debts owing to them from accrued salaries and management fees effective June 30, 2020. As a result, no salaries or fees were earned in the six months ended June 30, 2020 and all related debts owing to them from accrued salaries from previous years were written down \$1,219,674 to \$Nil;
2. Share-based payments, as explained in note 13 to the annual consolidated financial statements, were \$74,900 for the year ended December 31, 2020 and \$Nil for year ended December 31, 2019. Yearly fluctuations in stock option expense are dependent on several factors including, but not limited to, number of options issued, valuation of options, vesting period and timing. For the year ended December 31, 2020 the Company granted 2,500,000 options (primarily in consideration of the forgiveness of the debt as explained above). For the year ended December 31, 2019, no new options were granted;
3. Professional fees decreased to \$57,570 for the year ended December 31, 2020 from \$72,884 last year. The Company had incurred additional professional fees in the prior year which includes the legal and consulting fees incurred to support and develop the projects in Ecuador. In the current period expenditures, the majority of fees incurred were on audit and legal fees related to the Regulation A offering and annual audit fees;
4. Travel costs decreased to \$655 for the year ended December 31, 2020, from \$10,566 last year. Travel expenditures were reduced and kept to a minimum as a result of the travel restrictions from the COVID19 pandemic; and
5. Shareholder information and filing fees expenses decreased to \$53,600 for the year ended December 31, 2020 from \$137,045 last year. This type of expense has been reduced, starting in fiscal 2019, and the trend has continued to the current period in an effort to conserve cash.

### **Project Expenditures**

On September 9, 2019, BacTech Environmental Corporation announced that it would not proceed with the reclamation of the Telamayu tailings project in Bolivia. After completing metallurgical test work on the project and evaluating the economics of the project it was decided that the project was not economically viable.

The majority of the historical project expenditures have been on the Bolivia Project, with the most significant cost in fiscal 2019 being the cost of the feasibility study. Project expenditures, not including

Bolivia, for the year ended December 31, 2020 were \$4,085 (2019 -\$3,807). Project expenditures remained low this year due to limited access Ecuador which is the result of the Government imposed travel restrictions and business restrictions from the the COVID19 pandemic.

The costs and liabilities for the Bolivia project are shown as discontinued operations for the year ended December 31, 2020 and year ended December 31, 2020. BacTech is abandoning the Bolivian subsidiary which is inactive. Management believes that there will be no impact on the business of the Company and accounts payable amounts will not be pursued by vendors. As at the balance sheet date, the financial statements reflect certain liabilities of the subsidiary which have remained on the balance sheet, but been segregated into a separate line item under discontinued operations.

### **Finance Charges and Debentures**

Finance charges are made up of interest charged by suppliers and vendors, loans payable and the debentures payable.

For the loan payable of \$150,000, interest expenses for the year ended December 31, 2020 was \$55,500 (2019 -\$69,280). This loan continues to accrue interest at a rate of 1.5% per month compounded monthly. In fiscal 2019 accumulated bonus interest that has been earned since inception was recorded and is the reason for the higher interest in the prior year. See note 9 to the annual consolidated financial statements for further details.

Between April 19, 2017 and September 26, 2017, BacTech completed three tranches of a debenture financing for gross proceeds of \$445,000. This debenture included bonus interest in the form of common shares. This debenture has generated interest expense of \$49,462 and accretion expense of \$11,323 for the year ended December 31, 2020. For the debenture holders that have reached their maturity date in fiscal 2019, the Company requested that the debenture holders extend the term of the debentures for an additional 12 months. In consideration of the extension of the maturity date, the Company has offered to issue a common share purchase warrant allowing the debenture holders to purchase a common share of the Company at five cents for a period of three years for each \$0.05 of debenture held. In fiscal 2020, \$20,000 of the debenture holders formally accepted the terms to extend the maturity date. A total of 496,000 warrants were issued at a value of \$6,072. On August 20, 2020, an arm's length debenture holder agreed to convert \$87,500 face value of debentures and the related accrued interest at \$0.05 per share. This transaction resulted in the issuance of 3,083,352 common shares and reduced \$154,168 in debenture and interest owing. For further information on the debenture converted to equity see the interim financial statements note - Capital 11(iii). See note 10(a) to the annual consolidated financial statements for further details.

Between August 14, 2017 and September 22, 2017, BacTech completed two tranches of a debenture financing for gross proceeds of \$200,000. This debenture included warrants and a Net Smelter Royalty ("NSR") on the project in Bolivia. This debenture has generated interest expense of \$12,000 for the year ended December 31, 2020. The debenture is in arrears and interest expense continues to be accrued. On August 20, 2020, an arm's length debenture holder agreed to convert \$200,000 face value of a debentures and the related accrued interest at \$0.05 per share. This transaction resulted in the issuance of 5,076,264 common shares and reduced \$253,863 in debenture and interest owing. For further information on the debenture converted to equity see the interim financial statements note - Capital 11(iii). See note 10(b) to the annual consolidated financial statements for further details.

On November 29, 2017, BacTech completed a debenture financing for gross proceeds of \$100,000 and accompanied it by the issuance of 400,000 common shares, which are included as a bonus equity interest and NSR of 0.50% in relation to the project in Bolivia. The debenture has a 2-year term and pays

12% interest. This debenture has generated interest expense of \$12,000 and accretion expense of \$7,700 for the year ended December 31, 2020. The debenture holder reached their maturity date in fiscal 2019. The Company requested that the debenture holder extend the term of the debentures. In consideration of the extension of the maturity date, the Company has offered to issue a common share purchase warrant allowing the investor to purchase a common share of the Company at five cents for a period of three years for each \$0.05 of debenture held. In fiscal 2020, the debenture holder formally accepted the terms to extend the maturity date. A total of 2,480,000 warrants were issued at a value of \$21,300. See note 10(c) to the annual consolidated financial statements for further details.

On May 14, 2018, BacTech completed a debenture financing for gross proceeds of \$85,000. The debentures were accompanied by the issuance of 340,000 common shares which are included as a bonus equity interest and NSR of 2.50% in relation to the project in Bolivia. The debenture has a 2-year term and pays 12% interest. This debenture has generated interest expense of \$10,200 and accretion expense of \$14,035 for the year ended December 31, 2020. The debenture holders reached their maturity date in fiscal 2020. The Company requested that the debenture holders extend the term of the debentures. In consideration of the extension of the maturity date, the Company has offered to issue a common share purchase warrant allowing the investor to purchase a common share of the Company at \$0.05 for a period of two years for each \$0.05 of debenture held. In fiscal 2020, the debenture holders formally accepted the terms to extend the maturity date. A total of 2,108,000 warrants were issued at a value of \$28,400. See note 10(d) to the annual consolidated financial statements for further details.

On May 1, 2019, the Company closed a \$150,000 Senior Bridge Debenture. The Senior Bridge Debenture is for one year and will pay 12% interest on redemption. This debenture included warrants. This debenture has generated interest expense of \$18,000 and accretion expense of \$25,293 for the year ended December 31, 2020. The debenture holders reached their maturity date in fiscal 2020. The Company requested that the debenture holders extend the term of the debentures. In consideration of the extension of the maturity date, the Company has offered to issue a common share purchase warrant allowing the investor to purchase a common share of the Company at \$0.05 for a period of two years for each \$0.05 of debenture held. In fiscal 2020, the debenture holders formally accepted the terms to extend the maturity date. A total of 3,360,000 warrants were issued at a value of \$61,070. Subsequent to year end, BacTech repaid the principal balance of \$75,000 plus interest to one of the convertible debentures holders that was completed in May 1, 2019. The remaining principal amount of the convertible debentures owing by the Company is now \$75,000. See note 10(e) to the annual consolidated financial statements for further details.

#### *Gain from forgiveness of debt*

The officers and a consultant of the Company forgave the debts owing to them from accrued salaries and management fees effective December 31, 2020. As a result, no salaries or fees were earned in the year ended December 31, 2020 and all related debts owing to them from accrued salaries from previous years were written down to \$Nil.

#### *Gain from conversion of Debentures*

On August 20, 2020, the Company completed the redemption of \$287,500 debentures plus all of the accrued interest since inception of the debentures for a total value of \$407,981, through the issue of 8,160,616 common shares of the company at a fair market value of \$244,819. This resulted in a gain on settlement of the debentures of \$163,162 for the year ended December 31, 2020.

## **Cash Flow Comparison**

Cash flow from financing activities: For the year ended December 31, 2020, the Company completed an equity private placement through the issuance of common shares for gross proceeds of \$129,880.

Cash flow from operating activities: This represents the cash paid for overhead expenditures and project expenditures. These payments were financed from the sources of cash in financing activities.

### **E. Liquidity and Capital Resources**

At December 31, 2020, the Company had cash of \$19,412 and a working capital deficit of \$2,620,207. Cash reserves, accounts receivable, two equity private placement for gross proceeds of \$129,880 and a government assistance loan of \$60,000 were used for general working capital for the year ended December 31, 2020.

Subsequent to December 31, 2020, a total of 1,100,000 common share stock options were exercised under the old plan at \$0.07 providing gross proceeds of \$77,000 to the Company. Furthermore, a total of 7,876,166 common share purchase warrants were exercised providing gross proceeds of \$393,808 to the Company.

On February 2, 2021, BacTech announced the closing of the second round of financing using the Regulation "A" exemption. In this round the Company raised US\$94,500 at US\$0.015 per share through the issuance of 6,300,000 common shares.

On February 5, 2021, BacTech announced that it closed the previously announced, non-brokered private placement. A total of \$153,500 was raised through the issuance of 5,116,666 common shares priced at \$0.03 per share. Four insiders of BacTech participated in the financing for a total of \$39,000 resulting in the issuance of 1,300,000 common shares.

On July 15, 2020, the Company's Tier 2 Regulation A offering memorandum originally filed on April 2, 2020, with the United States Securities and Exchange Commission (SEC) was qualified. The share price for the first tranche is US\$0.0150. On September 15, 2020, the Company closed its first tranche for gross proceeds US\$50,000 through the issuance of 3,333,333 common shares.

On February 13, 2020 and March 20, 2020, the Company completed a private placement for total gross proceeds of \$64,000 through the issue of 4,266,667 units at a price of \$0.015 per unit. Each unit consisted of one common share of the Company and one full common share purchase warrant exercisable at \$0.05 for 2 years.

On July 26, 2019 the Company closed an \$85,000 private placement. The private placement is a unit financing with each \$0.02 unit consisting of one common share of the company and one-half of a common share purchase warrant. One full warrant enables the holder to purchase one additional common share of the company at five cents for a period of two years from closing.

On May 1, 2019, the Company closed a \$150,000 Senior Bridge Debenture. The Senior Bridge Debenture is for one year and will pay 12% interest on redemption. In addition, the Company will issue a total of 1,500,000 common share purchase warrants with a two-year term which allow the holder to buy additional shares at \$0.05 per share (ten warrants issued per dollar of principal of Loan).

<b>Share Capital</b>				
	<b>December 31, 2020</b>		<b>December 31, 2019</b>	
	<b>Number of shares</b>	<b>\$ Amount</b>	<b>Number of shares</b>	<b>\$ Amount</b>
Balance, beginning of period	101,153,756	5,470,659	96,903,756	5,411,894
Shares issued from private placements	4,266,667	64,000	4,250,000	85,000
Shares issued from Reg A financing	3,333,333	65,880	-	-
Shares pursuant to conversion of debenture	8,160,616	244,819	-	-
Shares issued for debt	-	-	-	-
Less share issue costs				
Fair value of warrants	-	(29,850)	-	(24,200)
Share issue costs	-	(28,361)	-	(2,035)
Balance, end of period	116,914,372	5,787,147	101,153,756	5,470,659

For a description of the outstanding warrants and stock options that are outstanding to purchase common shares of the Company, please refer to Note 11 - Share Capital, Note 12 – Warrant, and Note 13 – Stock Options of the annual consolidated financial statements.

#### **F. Quarterly Information**

Selected quarterly information for the most recently completed quarter is presented below in Canadian currency (\$), and in accordance with International Financial Reporting Standards.

	<b>2020</b>				<b>2019</b>			
	Q4 \$000's	Q3 \$000's	Q2 \$000's	Q1 \$000's	Q4 \$000's	Q3 \$000's	Q2 \$000's	Q1 \$000's
License fees	-	-	-	-	-	-	20	-
Other items	-	163	1,220	-	-	-	-	-
Net Loss for the period	(159)	1	1,191	(172)	(193)	(266)	(276)	(349)
Loss per share (.)	0.00	0.00	0.01	0.00	0.00	(0.005)	0.00	(0.005)

#### **G. Fourth Quarter**

There were no substantive changes in administrative expenses, other than the decrease in project expenditures. With the contract for Bolivian Project being terminated in September 2019, project spending has decreased significantly, along with Corporate expenditures.

Some investigative work was completed on other projects, including the project in Ecuador but was limited which is the result of the Government imposed travel restrictions and business restrictions from the the COVID19 pandemic.

#### **H. Off-Balance Sheet Arrangements**

The Company had no off-balance sheet arrangements as of December 31, 2020.

#### **I. Financial Instruments**

The Company has not entered into any specialized financial arrangements to minimize its investment risk, currency risk or commodity risk.

## **J. Outlook**

While the volatility in the capital markets and markets for metals has subsided, the resource sector has relatively fallen from favour with investors making capital raising in the sector more difficult than it has traditionally been for junior companies in the resource sector and in the remediation and reclamation of mine waste and tailings. There can be no assurance that the Company will be successful in attracting either new financing or new opportunities to apply its technology.

## **K. Risks**

The Company's strategy emphasizes developing projects to leverage its intellectual property to create shareholder value. This strategy has required, and continues to require, significant financings, and is subject to risks associated with mineral prices, mineral resources and operations. Due to the nature of the Company's business, the present stage of development of its projects, and the constraints placed upon the Company's ability to move forward by its current liquidity situation, readers should carefully review and consider the financial, environmental and operational risk factors affecting the Company.

### **COVID-19 Pandemic**

The Company is subject to various market, political and regulatory constraints as a result of the COVID-19 situation and additional business and financial risks that may result therefrom. The duration of the COVID-19 outbreak and the resultant travel restrictions, social distancing, Government response actions, business closures and disruptions, can all have an impact on the Issuer's operations and access to capital. There can be no assurance that the Issuer will not be impacted by adverse consequences that may be brought about by the COVID-19 pandemic on global financial markets, share prices and financial liquidity and that may severely limit the financing capital available to the Company. While it appears that the pandemic is continuing longer than might originally have been expected, adaptation to the new requirements of a pandemic affected world seems generally to be taking place. The suggestion of relatively near term availability of vaccines appears to raise hopes of a gradual return to more normal conditions progressively through 2021.

### **Need for Additional Financing**

The Company currently has no source of operating cash flow, and there is no assurance that additional funding will be available to the Company as and when needed for further assessment and evaluation, as well as development of its projects, or to fulfill its obligations to its existing creditors. Volatile markets may make it difficult or impossible for the Company to obtain adequate debt or equity financing in the future, or on terms acceptable to the Company. The failure to obtain additional financing could force the Company to liquidate its assets to satisfy creditor claims.

### **Dependence on Management**

The Company's business and operations are dependent on recruiting and retaining the services of a small number of key members of management and qualified personnel. The success of the operations and activities of the Company are dependent, to a significant extent, on the efforts and abilities of the management of the Company. Investors must be willing to rely, to a significant extent, on the discretion and judgment of the management of the Company. Furthermore, while the Company believes that it will be successful in attracting qualified personnel and retaining its current management team, there can be no assurance of such success. The Company does not maintain key employee insurance on any of its employees.

### **Competition**

The Company competes with other engineering companies for the acquisition of mineral rich mine tailings and mine waste that can be developed economically. The Company competes with other engineering companies that have greater financial and technical resources and experience. Such competition may result in the Company being unable to acquire desired properties, to recruit or retain qualified employees, or to acquire the capital necessary to fund its operations and develop its properties. The inability of the Company to compete with other engineering companies for these resources would have a material adverse effect on the Company's results of operations and business.

Currently, the Company's bioleaching technology does not operate in an overly competitive marketplace; however, the Company anticipates that it may face increased competition in the future, as advanced technologies become available. While management believes that the Company's technology is more advanced, commercially proven and better situated than its competitors, there can be no assurance that the Company will be able to effectively compete with companies who have or may develop similar technologies and may possess greater financial resources and technical facilities. Competitive pressures, or the inability of the Company to successfully license its technology on terms that are acceptable, may have a material adverse effect on the Company's business, operating results and financial condition.

### **Protection of Intellectual Property Rights**

The Company is dependent not only on its ability to protect its intellectual property rights, but also upon the protection of rights of third parties from which it may license intellectual property rights. The Company currently holds patent rights and has pending patent applications. In addition, the Company relies upon certain other technologies, ideas; know how, secrets or other information, which it may not be able to protect. Notwithstanding precautions the Company may take to protect its rights, third parties may copy or obtain and use the Company's proprietary and licensed or optioned technologies, ideas, know how, secrets and other proprietary information without authorization or independently develop technologies similar or superior to the Company's proprietary and licensed or optioned technologies. The Company enters confidentiality and restriction on use agreements with its employees, strategic partners and others; however, these agreements may not provide meaningful protection of the Company's proprietary and licensed or optioned technologies or other intellectual property in the event of unauthorized use or disclosure. Policing unauthorized use of such technologies and intellectual property is extremely difficult, and the cost of enforcing the Company's rights through litigation may be prohibitive. Further, the laws of jurisdictions other than Canada and the United States may not provide meaningful protection of the intellectual property rights of the Company and such third parties.

### **Obtaining and Enforcing Patents**

The patent positions of technology firms, including the Company, are generally uncertain and involve complex legal and factual questions. The Company's success in utilizing and licensing its bioleaching technology will depend, in part, on its ability to obtain, enforce and maintain patent protection for its technology worldwide. The Company cannot be assured that patents will issue from any pending applications or that claims now or in the future allowed under issued patents will be sufficiently broad to protect its technology. In addition, no assurance can be given that any patents issued to or licensed by the Company will not be challenged, invalidated, infringed or circumvented, or that the rights granted thereunder will provide continuing competitive advantages to the Company. Furthermore, there is no assurance that the patents of others will not impede the ability of the Company to do business or that others will not independently develop similar products or technologies, duplicate any of the Company's products or technologies or, if patents are issued and licensed to the Company, design around the Company's patented product or technology.

Accordingly, the Company may not be able to obtain and enforce effective patents to protect its proprietary rights from use by competitors, and the patents of other parties could require the Company to stop using or pay to use certain intellectual property, and as such, the Company's competitive position and profitability could suffer as a result.

#### **Claims of Infringement of Proprietary Rights of Others**

The Company is not currently aware of any claims asserted by third parties that the Company's intellectual property infringes on their intellectual property. However, in the future, third parties may assert a claim that the Company infringes on their intellectual property. As a result, there is a risk that the Company, or one or more of its licensors, may become subject to litigation alleging that the products or technologies of the Company or its licensors infringe on the proprietary rights of third parties. Whether or not the products or technologies infringe on the proprietary rights of third parties, the Company or such licensors could incur significant expenses in defending allegations of infringement of proprietary rights. Further, the Company or such licensors may be required to modify their products or obtain licenses for intellectual property rights as a result of any alleged proprietary infringement which may not be achievable on commercially reasonable terms, in a timely manner, or at all, any of which could adversely affect the Company's business revenue, results from operations and financial condition.

#### **Conflicts of Interest**

Certain of the Company's directors and officers may serve as directors or officers of other reporting companies, companies providing services to the Company, or companies in which they may have significant shareholdings. To the extent that such other companies may participate in ventures in which the Company may participate, the directors of the Company may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. If such a conflict of interest arises at a meeting of the Company's directors, a director who has such a conflict will abstain from voting for or against the approval of such participation or such terms.

From time to time, several companies may participate in the acquisition, assessment and evaluation, and development of mineral reclamation properties, thereby allowing for the participation in larger programs, permitting involvement in a greater number of programs and reducing financial exposure in respect of any one program. It may also occur that a particular company will assign all or a portion of its interest in a particular program to another of these companies due to the financial position of the company making the assignment. In accordance with the laws of Canada, the directors of the Company are required to act honestly, in good faith and in the best interests of the Company. In determining whether the Company will participate in a program and the interest therein to be acquired by it, the directors will primarily consider the degree of risk to which the Company may be exposed and its financial position at the time.

#### **L. Related Party Transactions**

Please refer to Note 8 of the annual consolidated financial statements for the year ended December 31, 2020.

#### **M. Other MD&A Requirements**

Additional information related to the Company is filed electronically on the System for Electronic Document Analysis and Retrieval (SEDAR) at [www.sedar.com](http://www.sedar.com).