



## **MANAGEMENT DISCUSSION AND ANALYSIS FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2017**

*The following management discussion and analysis ("MD&A") of financial results is dated August 29, 2017, 2017 and reviews the business of BacTech Environmental Corporation (the "Company" or "BacTech"), for the three and six months ended June 30, 2017, and should be read in conjunction with the accompanying condensed interim consolidated financial statements and related notes for the three and six months ended June 30, 2017, as well as the audited annual financial statements for the year ended December 31, 2016 and related MD&A. This MD&A and the accompanying condensed interim consolidated financial statements and related notes for the three and six months ended June 30, 2017 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 (the "Company" or "BacTech") 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 and was listed on the Canadian National 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**

### Highlights Bolivia

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

The Company has completed the drill program on the Telamayu Tails and has released the assay results of 54 holes that were drilled. The dates of the press release were May 8, May 16 and June 27, all of which reported similar results. The results of the drill program confirmed our initial expectations of what is in the tailings. For details of the results see next section below.

The sampling results from this drill program will be the underpinning of a resource estimation following the guidelines established by National Instrument 43-101 reporting. A NI 43-101 compliant resource calculation will be completed in September 2017.

The Company has started the metallurgical test work to determine the appropriate method for metal recovery. Results from this work are expected to be released in October 2017.

### Highlights Ecuador

On May 2, 2017 the Company announced that their joint application with Laurentian University to Ontario Centres of Excellence has been approved for \$75,000 through OCE's Voucher for Innovation and Productivity II, offered on behalf of the Province of Ontario. These funds are to be leveraged against contributions from BacTech Environmental Corporation in the amounts of \$37,500 cash and \$37,500 in-kind.

On June 7, 2017, the Company reported that it had shipped approximately 150 kg of arsenopyrite gold concentrate, to Laurentian University in Canada. With the supervision of Inspectorate Ecuador (subsidiary of Bureau Veritas S.A.), the concentrates were collected from various flotation plants in Ponce Enriquez, Southern Ecuador. In addition to concentrate, smaller samples of oxidized tailings material and unprocessed arsenopyritic ore were shipped. The material contains various levels of arsenic and will be subject to a test work programme aimed at demonstrating the economic, environmental and technical viability of using BacTech's Bioleaching Technology as a pre-treatment method for gold extraction. The test work will be conducted and partially funded under the Ontario government's Center of Excellence program

## Bolivia

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

The ten year contract calls for the environmental remediation and restoration of the "Antigua" tailings and an option on the "Nuevo" tailings, both situated at the Telamayu mill site. Telamayu is situated near the town of Atocha in the Department of Potosi. The agreement envisions three phases, with the first phase focused on the completion of a technical study on the Antigua tails, which is almost complete. Included in the study will be the drilling of a grid of 10 metre holes, (drilling is now completed, see below for further information) that will provide information for a NI 43-101 study. In addition, tailings material will be used in metallurgical studies to determine the optimal flow chart for the proposed plant. Engineering of the plant will be conducted by Bumigeme Inc. of Montreal, Canada.

COMIBOL has estimated that there are approximately 500,000 tonnes at the Antigua tailings site. This will be confirmed with the publishing of the NI 43-101 resource report. Across the river lies an additional estimated 3-4 million tonnes of tailings from similar sources at the Nuevo tailings site. To date, no investigation has been initiated at the larger site. In addition, there are two additional tailings sites within 50 km that could be investigated in the future.

### Current Activities Fiscal 2017

On May 16, 2017 BacTech Environmental Corp. released assays for an additional 23 holes drilled at the Telamayu project. Fifty-seven holes were drilled in total. Additional results will be released as they become available. Highlights of the latest analyses include continued strong silver and tin results as presented in the attached table:

Hole	From	To	Length (m)	% Recovery	Ag g/t	Sn %	Sol. Cu %	Cu Total %
d6	0,45	11,65	11,20	98,44	253,29	2,07	0,54	1,08
d7	0,40	11,90	11,50	74,40	149,04	0,66	0,35	0,52
d9	0,20	10,80	10,60	100,00	151,26	1,39	1,19	1,40
e6	0,30	10,07	9,77	67,26	209,18	2,09	0,16	0,24
e7	0,30	11,87	11,57	86,78	174,31	1,75	0,18	0,25
e8	0,40	11,16	10,76	100,00	215,31	1,38	0,92	1,07
e9	0,35	11,99	11,64	99,02	226,63	1,91	0,21	0,59
f3	1,15	10,65	9,50	100,00	285,63	1,17	0,45	0,82
f4	0,20	11,45	11,25	100,00	269,69	1,30	1,00	2,74
f5	0,28	14,70	14,42	100,00	249,95	1,03	0,99	3,19
f9	0,30	11,87	11,57	97,26	276,24	1,34	0,24	0,41
g3	0,13	12,94	12,81	100,00	290,06	1,11	0,32	0,54
g4	0,37	13,52	13,15	100,00	381,25	1,57	1,16	1,65
g6	0,40	11,16	10,76	72,60	156,56	1,52	0,27	0,31
g8	0,35	11,99	11,64	86,27	311,45	1,78	0,71	1,38

<b>g9</b>	1,15	10,65	9,50	94,07	346,14	1,47	0,27	0,46
<b>h3</b>	0,10	13,01	12,91	100,00	422,77	1,56	0,45	0,64
<b>h4</b>	1,28	14,48	13,20	100,00	424,50	1,27	1,21	1,82
<b>h8</b>	0,50	11,45	10,95	96,70	327,66	1,64	0,26	0,95
<b>i3</b>	0,38	14,73	14,35	100,00	584,34	1,18	1,08	1,86
<b>i4</b>	0,28	14,70	14,42	95,86	449,49	1,34	0,78	1,97
<b>i6</b>	0,70	12,70	12,00	84,30	226,15	1,75	0,13	0,23
<b>i8</b>	0,25	11,95	11,70	97,01	345,76	1,51	0,35	0,56
<b>Average</b>			<b>11,79</b>	<b>93,48</b>	<b>292,46</b>	<b>1,47</b>	<b>0,57</b>	<b>1,07</b>

Results from the June 27, 2017 press release are shown below:

<b>Hole</b>	<b>From</b>	<b>To</b>	<b>Length (m)</b>	<b>% Recovery</b>	<b>Ag g/t</b>	<b>Sn %</b>	<b>Sol. Cu %</b>	<b>Cu Total %</b>
<b>f8</b>	0,24	10,31	10,07	100,00	252,01	1,88	0,53	0,83
<b>c8</b>	0,30	12,30	12,00	100,00	212,10	0,69	3,45	8,00
<b>b8</b>	0,30	11,75	11,45	100,00	290,17	1,24	0,24	0,48
<b>b7</b>	0,40	10,70	10,30	100,00	176,01	1,14	1,01	1,34
<b>b6</b>	0,50	10,80	10,30	100,00	205,82	0,77	1,06	1,24
<b>b5</b>	0,40	11,50	11,10	100,00	274,30	0,84	0,38	0,55
<b>b3</b>	0,38	12,48	12,10	100,00	208,14	0,98	0,13	0,24
<b>c2</b>	0,10	10,01	9,91	100,00	259,18	1,35	0,72	1,09
<b>b2</b>	0,33	12,48	12,15	98,00	260,72	0,75	0,73	0,88
<b>a2</b>	0,32	12,22	11,90	98,00	198,91	0,74	0,86	1,03
<b>c9</b>	0,35	8,55	8,20	100,00	160,04	0,93	1,53	1,87
<b>c7</b>	0,33	8,96	8,63	100,00	126,98	0,62	0,74	1,41
<b>e3</b>	0,23	10,91	10,68	100,00	221,09	0,59	0,80	1,15
<b>e4</b>	0,44	10,81	10,37	98,00	274,25	0,68	1,47	2,84
<b>e5</b>	0,40	13,30	12,90	100,00	311,19	1,15	1,25	1,85
<b>d5</b>	0,42	12,87	12,45	100,00	247,53	0,93	0,52	1,02
<b>d4</b>	0,33	14,14	13,81	100,00	141,26	0,74	0,77	1,26
<b>d8</b>	0,19	13,38	13,19	100,00	185,32	1,31	1,78	3,57
<b>d3</b>	0,28	10,14	9,86	100,00	211,12	0,85	1,44	1,93
<b>d2</b>	0,10	11,63	11,53	100,00	191,22	0,73	0,59	0,64
<b>c3</b>	0,38	10,13	9,75	100,00	234,10	1,28	0,22	0,30
<b>c4</b>	0,30	11,24	10,94	100,00	159,49	0,70	0,48	0,83
<b>c5</b>	0,38	10,97	10,59	100,00	219,07	0,88	0,34	0,66
<b>c6</b>	0,24	12,16	11,92	100,00	275,11	1,43	0,47	0,85
<b>Average</b>			<b>11,13</b>	<b>99,74</b>	<b>219,27</b>	<b>0,93</b>	<b>0,91</b>	<b>1,52</b>

The above results will make a significant contribution toward the NI 43-101 resource calculation that will be released in September 2017. The Company can confirm that the results were in line with previous results issued by COMIBOL.

For additional information please refer to the press releases issued on May 8, May 16 and June 27.

### Activities Fiscal 2016

The definitive agreement has been under negotiation since the beginning of March 2015 and has now been fully signed as of May 24, 2016 and subsequently ratified by the Bolivian legislature in September 2016.

On July 7, 2016, BacTech provided an update on the status of the Telamayu project. The Company recently arranged for a site visit by Bumigeme Inc., a Montreal-based engineering company to visit the Telamayu mill site in Bolivia. The purpose of the trip was to undertake a due diligence review on behalf of the Montreal-based engineering company. The following benefits were identified by the engineers:

- Availability of ample space in the existing plant;
- Water in sufficient quantity;
- Good power costs and availability (four cents to five cents per kilowatt-hour);
- New tailings site to be built at a small distance from the existing mill;
- Qualified manpower available locally; and
- Space for offices and housing is available.

The engineers made the following recommendations for the next phase of the project:

- Subsequent coring, sampling and analysis of the tailings (a 500-metre program), confirming the concentrations of tin and gold, in addition to silver and copper;
- Preparation of a 400-kilogram sample for new metallurgical test work;
- Completing a National Instrument 43-101 resource estimation, report and recommendations.

### Activities Fiscal 2015 and prior

In January 2013, the Company announced that it had signed a Memorandum of Understanding (“MOU”) with the Corporación Minera de Bolivia (“COMIBOL”), the state-owned mining company, for the Telamayu tailings site in Bolivia. Telamayu is a former mill site and consists of two tailings deposits created through custom milling for numerous mines in the area. Highlights of the MOU include:

- COMIBOL and BacTech will be partners in a Joint Venture (“JV”) Bolivian company;
- COMIBOL will provide the JV with suitable tailings for reprocessing and make existing infrastructure available;
- BacTech holds the right to export concentrates from the Telamayu Tailings site for bioleaching or conventional treatment at its discretion; and
- BacTech will provide all capital necessary to study the Telamayu tailings, including gravity, flotation and copper cementation test work.

BacTech had previously announced assay results from a composite sample taken in May 2012 from one of the two tailings sites. Silver and copper values were 282 g/t and 2.24% respectively, illustrating the high-grade nature of the tailings. This compared favorably with COMIBOL's results from a 2005 sampling and assay program that reported 258 g/t Ag and 1.05% Cu. BacTech enlisted the services of SGS Bolivia

S.A. to oversee the sampling of some 2,000 bags of tailings assembled by COMIBOL. In essence, material was bagged at 1 meter intervals by COMIBOL from 8 test holes of roughly 10 meters in depth. A "pipe" was used to extract a sample from every bag and a larger sample of 200 kg was created. This larger sample was bagged and secured at site before making its way to Lima, Peru. From there, the samples were shipped to Inspectorate Exploration and Mining Services Ltd. ("Inspectorate") in Vancouver, Canada for assaying.

On April 28, 2014, the Company announced the initial flotation results for the Telamayu tailings which are as follows: *(The Company has not investigated or verified the sampling program conducted by COMIBOL.)*

#### Assay chart

Element	Unit of measure	Telamayu Tailing Comp.
Ag	g/mt	275.0
Au	g/mt	0.24
As	ppm	3,145
Sb	ppm	853.61
Cu	ppm	22417
Bi	ppm	557.97
Sn	ppm	1,571.8

#### Flotation results

Element	Maximum Metal Recovered to Concentrate	Recovery
AG	35 oz/t	60 – 64%
CU (i)	4.2 – 4.4 %	33 -35%
AS	0.65%	n/a

(i)Copper recovery is 33-35% of the remaining unoxidized sulphides in the tailings.

(ii) The tonnages provided by COMIBOL are of a historical nature and have not been confirmed by the Company. BacTech is not treating the historical estimate as current mineral resources or mineral reserves as they are not NI 43-101 compliant. The Qualified Person ("QP") for the above information is Gary Williams, P.Geo.

It was noted that roughly 50% of the sulphides in the sample had been oxidized. Two rougher kinetic flotation tests were carried out on the sample at different grinds to evaluate the tailings response to flotation. Results from these preliminary tests showed that after four stages of rougher flotation approximately 15% of the material was removed to a bulk rougher concentrate assaying 31-35oz/t silver (60-64% recovery), 4.2-4.4% (33-35% recovery) copper and 0.65% arsenic. There is also tin in the tailings that will be investigated for recovery. Additional tests will be undertaken to attempt to improve the recoveries for the silver component.

The copper recovery into concentrate at first glance would appear to be disappointing but upon further investigation it appears that approximately one half of the copper was extracted before flotation into the grind/wash water. If this is the case then recoveries of up to 80% were achieved if the wash water is included in the calculation. An operation may include a washing process from which the soluble copper is recovered prior to flotation.

## Future Plans

Following the completion of the drill program, the Company started the metallurgical test work to determine the appropriate method for metal recovery.

The second phase will be the construction of a processing plant that will create concentrates of silver, tin and copper using conventional processing. There will be contributions from gravity separation, flotation concentration, and copper precipitation from water creating the final products leaving site.

There is considerable infrastructure at the mill site including power, rail, a mill housing and a local workforce. The Telamayu mill has processed ores from the surrounding mines for over 70 years with the Antigua and Nuevo tailings created from the operation. The existing infrastructure should lead to reduced capital costs.

The final stage is the commercialization of the plant which is expected to be completed within the next 12 to 15 months. All three stages require the posting of a performance bond that is released upon completion of each phase. BacTech has posted a bond of \$32,000 to cover the initial phase.

## **Ecuador**

On January 27, 2016, the Company provided a Corporate on update on its activities and plans for the project in Ecuador. The following is the Company's vision for an Ecuadorian project, as reported in the press release, that includes the use of bioleaching to treat high-arsenic gold concentrates, resulting in a reduction in mercury use.

### Industry background

With the strengthening of the price of gold over the past 10 years, there has been a corresponding surge in the number of artisanal gold miners (AGM) globally. An AGM is someone who produces small amounts of ore, usually using rudimentary methods and tools. There are literally hundreds of thousands of these AGMs in the countries of Peru, Ecuador and Colombia, according to Dr. Marcelo Veiga of the University of British Columbia (UBC) School of Mining, a specialist in this field. Over 30 million people globally participate in at least one facet of the industry, and collectively, AGMs produce an estimated 10 million ounces of gold (Barrick Gold Corp. produced 5.5 million ounces in 2016).

### The Problem

After mining the ore, AGMs typically use mercury as an amalgamator of gold and silver, and the resulting environmental damage is significant. The use of mercury to obtain gold from arsenopyrite-rich material can be an exercise in futility, as normally less than 10 per cent of the gold is separated from this refractory type of ore. This is due to the gold being physically encapsulated within the arsenopyrite, which is unreactive and impervious to mercury amalgamation. The increased use of mercury over the past 10 years has led to many governments and non-governmental organizations looking for a solution to the problem. Interested readers should visit the company's website (under newsroom, May 24, 2016) to view a video produced by a documentary company, Vice, on AGM mining in Colombia that illustrates the health risks of dealing with mercury. The long-term effects of mercury exposure to humans have been well documented.

In Ponce Enriquez, southern Ecuador, steps were taken with the assistance of Dr. Veiga and the Canadian government to build sulphide flotation plants to produce arsenopyrite concentrates that are easier to ship and treat using methods other than mercury amalgamation. For the most part, especially in the case

of simple sulphides, this led to a noticeable reduction in the use of mercury. However, in cases where arsenopyrite is the main refractory mineral, it provided a double-edged sword, namely, very good gold grades in the concentrates but also prohibitively high arsenic levels (over 10 per cent), making the resulting product much less attractive to buyers.

### The Solution

This scenario creates a unique opportunity for BacTech and bioleaching. The reader may not be aware that bioleaching is an effective solution for processing high-arsenic compounds. Currently, due to the lack of buyers for arsenopyrite concentrates, in which arsenic can run as high as 17 per cent, there are few options for the miner to be paid a decent price for his labours. During the last year, over 150 tonnes per day of high arsenic compounds found their way to Asia for processing, but the prices paid to the miner can be as low as 50 per cent of the value of the concentrate before even more deductions are made for high-arsenic penalties. In addition, the buyer retains any mineral credits such as silver and copper. BacTech would be able to recover more of the gold, as well as most of the other mineral credits, thus allowing higher payments to be made to local AGMs for their concentrate.

The opportunity provided to BacTech is real. Given BacTech's experience in bioleaching, and after studying the local market with the assistance of the company's newly appointed country representative, Mr. Bernardo Brito, BacTech is confident that a strategy of building a bioleach circuit in Ponce Enriquez would provide healthy returns, not only for the company, but also for the local inhabitants. With Ponce Enriquez exports of high-arsenic concentrates growing at a 15-to-20-per-cent yearly rate during the last decade, BacTech would be able to capitalize on a booming mining district and contribute to its sustainability with minimal competition.

The benefits to Ecuador and Ponce Enriquez are readily identifiable: from the government's perspective, an increase in employment and subsequent tax receipts; from the locals' perspective, an increase in what they are paid for their ores, as well as an improvement in the environment in which they live due to the elimination of the use of mercury because of the reduced arsenic release into the local environment from processing the concentrate.

Should BacTech be successful in implementing its strategy for Ecuador, there are opportunities to duplicate these plants in other high-arsenic areas of the Andes Mountains, namely northern Peru and Colombia.

### Activities Fiscal 2017

On May 2, 2017 the Company announced that their joint application with Laurentian University to Ontario Centres of Excellence ("OCE") has been approved for \$75,000 through OCE's Voucher for Innovation and Productivity II ("VIP II"), offered on behalf of the Province of Ontario. These funds are to be leveraged against contributions from BacTech Environmental Corporation in the amounts of \$37,500 cash and \$37,500 in-kind.

The purpose of the funding is to test bioleaching against very high arsenic concentrates (+10%) that are becoming more prevalent, not only in Canada, but also in numerous South American countries. BacTech is interested in applying bioleaching as a process technology to treat high grade gold/arsenic concentrates being produced in Ponce Enriquez, Ecuador. Presently, these concentrates are being sold overseas and include penalties for high levels of arsenic. BacTech proposes a "made at home" solution whereby concentrates produced in Ponce Enriquez will be processed locally using bioleaching technology. It is hoped



that the introduction of a bioleach circuit would lead to lower levels of mercury use, as well as reduced discharges of arsenic into the local environment.

On June 7, 2017, the Company reported that it had shipped approximately 150 kg of arsenopyrite gold concentrate to Laurentian University in Canada. With the supervision of Inspectorate Ecuador (subsidiary of Bureau Veritas S.A.), the concentrates were collected from various flotation plants in Ponce Enriquez, Southern Ecuador. In addition to concentrate, smaller samples of oxidized rock and unprocessed arsenopyritic ore were shipped. The material contains various levels of arsenic and will be subject to a test work programme aimed at demonstrating the economic, environmental and technical viability of using bioleaching as a pre-treatment method for gold extraction. The test work will be conducted and partially funded under the Ontario government's Center of Excellence program

This OCE funded project will not only help advance the Ecuador work, but will also help advance the technology and potential application for re-processing various mine wastes in Ontario and elsewhere.

The study at Laurentian will be conducted under the guidance of Dr. Paul Miller, PhD (chemical engineering), CEng, MIMM, the company's vice-president of metallurgy and a leading expert in bioleaching. Dr. Nadia Mykytczuk of Laurentian will work in concert with BacTech, as well as oversee the work on behalf of the university.

## **Peru**

In a joint press release dated November 17, 2015, BacTech announced that it had signed a non-binding memorandum of understanding with Duran Ventures Inc. ("Duran")

The basis of the memorandum of understanding is to determine the financial viability of constructing a bioleach circuit to be built as an add-on to Duran's Aquila Norte mineral processing plant near Trujillo, Peru (see Duran news release dated Oct. 19, 2015). Construction of the Aquila Norte plant, has reached the commercialization stage and should begin processing sulphide ores shortly.

If further investigation shows favourable economics on identifiable mineralized material, a joint venture will be formed with Duran's 80% subsidiary (Minera Aguila de Oro SAC) and BacTech, with each party holding 50% ownership of the bioleach circuit. BacTech will finance the cost of the construction of the bioleach circuit. Duran will have the right to participate in BacTech's financing if a construction decision is considered.

There has been very little progress in this project to date due to delays experienced by Duran in completing their sulphide flotation plant.

## **Other Projects**

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

## C. Results of Operations

This analysis of the results of the Company's operations should be read in conjunction with the Company's condensed interim consolidated financial statements for the three and six months ended June 30, 2017.

### Revenues

The Company has no revenue or sources of recurring revenues at this time.

### Operating and Administrative Costs

Operating and administrative expenses increased to \$404,164 for the six months ended June 30, 2017 from \$370,228 in the same period year. Significant components of this expense include:

1. Salaries, management fees and related costs were \$143,350 for the six months ended June 30, 2017 compared to \$197,100 in the same period last year. In the prior year, the management fee associated with the general manager in Bolivia was not recorded as project expenditures until the last quarter after the final signing of the COMIBOL contract. If these costs were not included in the prior period, there would be no change in expenses between the periods. These costs are for the salaries, wages and management fees incurred directly in managing and operating the business of the Company, which includes the investigation and evaluation of potential projects. Considering its current financial situation, the majority of these amounts continue to be accrued for and have not been paid;
2. Share based payments, as explained in note 12 to the condensed interim consolidated financial statements, were \$85,200 for the year ended December 31, 2016. For the six months ended June 30, 2017 the expense was nil. 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, 2016 there were 2,850,000 options issued. No options were issued for the three and six months ended June 30, 2017;
3. Professional fees increased to \$133,025 for the six months ended June 30, 2017, from \$57,913 in the same period last year. The Company incurred significant professional fee expenditures as result of supporting the development of the Telamayu Tailings project in Bolivia as well as starting the project in Ecuador. The fees are for legal and general consulting fees incurred for the project in Bolivia and Ecuador;
4. Travel costs increased to \$17,755 for the six months ended June 30, 2017, from \$1,353 in the same period last year. For the first three quarters in fiscal 2016, the level of travel was low as a result of the delays with having the contract with COMIBOL signed and ratified. With the contract signed in September 2016, travel costs have increased starting with the fourth quarter in 2016 and has continued into the current period;
5. General office expenses decreased to \$10,426 for the six months ended June 30, 2017 from \$11,780 in the same period last year. The general office expenses remains low in order to reduce expenditures on non-project related activities; and
6. Shareholder information and filing fees expenses increased to \$99,608 for the six months ended June 30, 2017 from \$39,382 in the same period last year. Throughout the later part of fiscal 2016 and in the current period, the Company reignited the communication process with shareholders (current and new) in order to fund Company projects. With the approval of the contract by the Bolivian legislature, the Company is aggressively communicating its plans to the capital markets in both Canada and the United States.

## **Finance Charges**

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

The loans payable interest of \$13,450 is the accrued interest on \$150,000 loan payable. See note 9 to the interim financial statements for further details.

Between April 20, 2017 to June 26, 2017, BacTech completed three tranches of a debenture financing for gross proceeds of \$445,000. This new debenture has now incurred an interest expense of \$6,077 and accretion expense of \$1,880 for the six months ended June 30, 2017. See note 10 to the interim financial statements for further details.

## **D. Liquidity and Capital Resources**

At June 30, 2017, the Company had cash of \$11,240 and a working capital deficit of \$2,218,114. The existing cash reserves, increase in payables, as well as the proceeds from the private placements and debenture financing were used for general working capital and advancing the Bolivian Project and Ecuador Project for the period ended June 30, 2017.

On August 14, 2017, the Company announced a new non-brokered debenture financing (Series II) for gross proceeds of \$300,000, accompanied by 1,000,500 warrants and a 1.25% net smelter royalty ("NSR"). This new debenture includes an interest rate of 12% per year. The common share purchase warrants of the Corporation have an exercise price of \$0.05 for a period of 5 years. The NSR is on the Antiguu tails estimated to be 5 years. The debenture holder will close with three separate tranches of \$100,000 with the initial tranche paid on the first closing which occurred on August 14, 2017. Each of the next two tranches will be closed within 30 and 60 days after this initial closing to complete this financing.

Between April 20, 2017 and June 26, 2017, the Company closed three tranches of a debenture financing (Series I). The total proceeds from this financing was \$445,000. The unsecured debentures have a 2-year term and pay interest of 12% per annum. Interest payments will be paid at Maturity. In addition, each \$10,000 amount of the debentures, includes 40,000 common shares of the Company paid as bonus interest at the time of closing to the debenture holder. At the conclusion of this financing, 1,780,000 common shares were issued as Bonus Equity Interest to the debenture holders valued at \$70,100.

On December 20, 2016, January 19, 2017 and February 21, 2017 the Company completed the three tranches of a private placement for total gross proceeds of \$197,500 and issued 3,950,000 units at \$0.05 per unit. Each unit consisted of one common share and one half of one common share purchase warrant. Each whole warrant entitles the holder to purchase one common share of the Company at an exercise price of \$0.10 for a period of 2 years.

From June 8 to September 28, 2016, the Company completed four tranches of a private placement for total gross proceeds of \$525,599 and issued 13,138,986 units at \$0.04 per unit. Each unit consisted of one common share and one common share purchase warrant. Each warrant entitles the holder to purchase one common share of the Company at an exercise price of \$0.10 for a period of 2 years. The proceeds of the private placement will be used to repay a portion of the note payable, and initiate the drill program at the Telamayu tailings project in Bolivia to provide fresh material for assays of gold, silver, copper, tin and rare earths, as well as metallurgical studies.

<b>Share Capital</b>				
	<b>June 30, 2017</b>		<b>December 31, 2016</b>	
	<b>Number of shares</b>	<b>\$ Amount</b>	<b>Number of shares</b>	<b>\$ Amount</b>
Balance, beginning of period	58,032,930	4,430,282	42,393,944	4,007,574
Shares issued for conversion accounts payable	-	-	-	-
Shares issued for private placements	1,450,000	72,500	15,638,986	650,559
Shares pursuant to debenture financing	1,780,000	70,100	-	-
Less share issue costs				
Fair value of warrants	-	(15,430)	-	(217,300)
Share issue costs	-	(2,700)	-	(10,551)
Balance, end of period	61,262,930	4,554,752	58,032,930	4,430,282

For a description of the outstanding warrants and stock options that are available to purchase common shares of the Company, please refer to notes 12 and 13 of the interim financial statements.

#### **E. 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>2017</b>		<b>2016</b>				<b>2015</b>	
	<b>Q2</b>	<b>Q1</b>	<b>Q4</b>	<b>Q3</b>	<b>Q2</b>	<b>Q1</b>	<b>Q4</b>	<b>Q3</b>
	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's
Revenues	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
Operating loss	(492)	(233)	(566)	(209)	(179)	(212)	(250)	(126)
Loss for the period	(492)	(233)	(566)	(209)	(179)	(212)	(250)	(126)
Loss per share	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)

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

The Company had no off-balance sheet arrangements as of June 30, 2017.

#### **G. Financial Instruments**

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

#### **H. Outlook**

The current volatile state of the capital markets and the volatile price for precious and base metals has significantly reduced the ability to access capital for junior companies in the resource sector or 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.

## **I. Risks**

The Company's strategy emphasizes developing projects to leverage its intellectual property to drive 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.

### **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 there under 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.

**J. Related Party Transactions**

Please refer to note 8 of the financial statements for the three and six months ended June 30, 2017.

**K. 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).