

**American Manganese Inc.**  
**Management's Discussion and Analysis**  
**For the Three-Month Period Ended October 31, 2018**  
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This management's discussion and analysis of American Manganese Inc. (the "Company") contains analysis of the Company's operational and financial results for the three-month ended October 31, 2018. The following should be read in conjunction with the company's audited consolidated financial statements for the year ended July 31, 2018 and 2017 which were prepared in accordance with the International Financial Reporting Standards ("IFRS") as adopted by the International Accounting Standards Board ("IASB"). All figures are in Canadian dollars unless otherwise stated.

## **FORWARD-LOOKING STATEMENTS**

This MD&A contains "forward-looking information" within the meaning of applicable Canadian securities legislation. Forward-looking information includes, but is not limited to, information with respect to the Company's future business plans and strategy, exploration plans, and environmental protection requirements. Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" (or "does not expect"), "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" (or "does not anticipate"), or "believes", and other similar words and phrases, or which states that certain actions, events, or results "may", "could", "might", or "will" occur. Forward-looking information is subject to known and unknown risks and uncertainties that may cause the actual results, or performance of the Company to be materially different from those expressed or implied by such forward-looking information. These risks and uncertainties include risk and uncertainties associated with the mining industry and the exploration and development of mineral projects, such as the uncertainty of exploration results, the volatility of commodity prices, potential changes in government regulation, the uncertainty of potential title claims against the Company's projects, and the uncertainty of predicting operating and capital costs. They also include risks and uncertainties that affect the business environment generally, such as international political or economic developments, changes in interest rates and the condition of financial markets, and changes in exchange rates.

Forward-looking information is based on assumptions and expectations which the Company considers to be reasonable, and which are based on management's experience and its perception of trends, current conditions, and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made. Although the Company believes that the assumptions and expectations reflected in such forward-looking information are reasonable, undue reliance should not be placed on forward-looking information. The Company can give no assurance that forward-looking information, or the assumptions and expectations on which it is based, will prove to be correct. American Manganese Inc. does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

## **DATE OF REPORT**

The MD&A was prepared with the information available as at December 27, 2018.

## **NATURE OF BUSINESS AND OVERALL PERFORMANCE**

### **Jurisdiction of incorporation and corporate name**

The Company was incorporated under the *Company Act* (British Columbia) on July 8, 1987 as Navarre Resources Corporation. The Company changed its name to Ameridex Minerals Corp. on June 4, 1998, to Rocher Deboile Minerals Corporation on September 13, 2006, and to American Manganese Inc. on January 20, 2010.

The Company is a reporting issuer in the Provinces of British Columbia and Alberta. The Company's shares presently trade on the TSX Venture Exchange under the symbol "AMY", on the Frankfurt Exchange under the symbol "2AM" and on the pink sheets under the symbol "AMYZF".

The Company has one wholly owned subsidiary, Rocher Manganese Inc., incorporated in the State of Nevada. Rocher Manganese Inc. manages the exploration work on the Company's Artillery Peak property.

The Company's head office is located at Unit 2 17942 55 Avenue, Surrey, British Columbia V3S 6C8.

## **HIGHLIGHTS**

In December, 2018 the Company announced it has received the "Notice of Allowance" from the United States Patent and Trade Mark Office for the Company's lithium-ion battery recycling technology.

In November, 2018 the Company announced that it intends to complete a non-brokered private placement for gross proceeds of up to \$1,500,000 by way of a unit offering at a price of \$0.15 per unit. Over \$500,000 first tranche has been completed.

In July, 2018 the Company reported that they are advancing intellectual property portfolio for recycling lithium ion batteries.

1. A chemical method of detaching aluminum foil from active cathode compounds has been developed;
2. A novel gravity separation method has been developed to separate the detached aluminum foil from the active cathode compounds into separate streams;
3. A novel mineral processing method has been developed to separate residual carbon, graphite, copper and aluminum from shredded and heat-treated batteries sourced from a European recycler.
4. A novel hydrometallurgical treatment was developed to remove fluoride originating from the electrolyte in shredded and heat-treated batteries sourced from a European recycler.
5. A novel method to concentrate lithium was developed that will be integrated into the flowsheet which will reduce the number of steps and equipment required for AMY's flowsheet.

In March 2018, the Company closed its non-brokered private placement of 8,536,487 units of the Company, raising gross proceeds of \$2,048,757. Each Unit consists of one common share of AMY and one common share purchase warrant. Each Warrant will be exercisable for one Share at a price of \$0.30 per Share for the two years following the issuance of the Warrant.

In December 2017, the Company completed the non-brokered private placement by the issue of 1,378,666 Units of the Company for gross proceeds of \$248,160. Each Unit consists of one common share of the Company and one common share purchase warrant. Each warrant will be exercisable to acquire one common share at a price of \$0.25 for the two years following the issuance of the warrant.

In November 2017, the Company reported that it has achieved the following milestones:

- The bench scale research program initiated in 2016 to develop intellectual property for recycling lithium-ion battery cathode material has been successfully completed by Kemetco Research.
- Utilizing the flowsheets developed, 100% lithium recovery has been achieved with bench scale testing of the process. (This achievement is in addition to the previously announced 100% recoveries of cobalt, nickel and manganese from LCO, NMC, NCA and LMO cathode chemistries using the Company's proprietary technology.)
- The Company has filed its Non-Provisional Patent Application for recycling lithium ion battery cathode material with the United States Patent Office on November 7, 2017.
- The Company has filed its Patent Co-operative Treaty Patent Application on November 9, 2017.

With the filing of the US Patent application, the Company continues to add to its intellectual property portfolio. The aim is to develop a comprehensive set of patents that will enable the Company to exclusively capitalize on its innovative hydrometallurgical technologies.

In November 2017, the Company entered into an option agreement with **Liaz Pty Ltd** (which has since been acquired by **Longford Resources Limited** ('LRL')) whereby Liaz may earn a 60% interest in AMI's Rocher Deboule high-grade copper/gold/cobalt property. Consideration for the option consists of \$10,000 cash; an additional payment of \$5,000 or 50,000 shares of Liaz/LRL; exploration expenditures of \$2,000,000 over four years; and \$10,000 cash plus \$5000 cash or 50,000 shares of Liaz/LRL each year until the 60% interest has been fully earned by Liaz. Subsequent to year-end, Liaz informed the Company that it will be withdrawing from the option agreement.

In August 2017, the Company closed its non-brokered private placement totalling \$945,375 comprised of 5,252,081 units of the Company. Each Unit consists of one common share of AMI and one common share purchase

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warrant. Each Warrant is exercisable for one Share at a price of \$0.25 per Share for the two years following the issuance of the Warrant.

In July 2017, the Company announced that Kemetco Research Inc. has successfully produced Li:Ni:Mn:Co (NMC) cathode material and working coin cell rechargeable NMC batteries using recycled lithium, nickel, manganese, and cobalt from AMI's patent pending lithium ion battery cathode material recycling process.

In June 2017, the Company announced that Kemetco Research Inc. has extractions approaching 100% for lithium, nickel, manganese, cobalt and aluminum from typical NCA (lithium, nickel, cobalt, aluminum), and LMO (lithium manganese dioxide) cathode material chemistries using AMI's proprietary hydrometallurgical process. These results are in addition to the previously announced extraction results from LCO (lithium, cobalt), August 4, 2016, and NMC (lithium, nickel, cobalt, manganese), April 11, 2017, cathode material chemistries.

In April 2017, the Company announced that Kemetco Research Inc. has successfully extracted nickel, manganese, cobalt and lithium from an NMC cathode material chemistry using AMI's proprietary hydrometallurgical process. Seven leach tests were conducted with a range of conditions. Extractions of 100% for nickel, manganese, cobalt and lithium were achieved from cathode powders used in lithium ion batteries. The time required to extract these metals ranged from 30 to 120 minutes, depending on the leaching conditions.

Precipitation test work is underway to determine recoveries of the individual metals. The test data from the successful leach will form part of the intellectual property for which AMI intends to protect for the recycling of high value metals from lithium ion battery cathode materials of multiple chemistries – including, but not limited to: Nickel, Manganese, Cobalt, and Lithium.

In March 2017, the Company entered into a Memorandum of Understanding with Ames Laboratory, a U.S. Department of Energy National Laboratory, operated by Iowa State University. Ames is the lead national laboratory for the Critical Materials Institute, a U.S. Department of Energy Innovation hub established by Congress in 2013.

In January 2017, the Company announced a contribution agreement from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP) for the continued development of its spent electric vehicle battery cathode materials recycling technology.

In November 2016, the Company filed its provisional patent application with the US Patent and Trademark Office for its innovative process for recovering of cathode materials (lithium, cobalt, nickel, aluminum and manganese) from spent lithium ion electric vehicle (EV) batteries. The energy efficient, environmentally friendly hydrometallurgical process produces high purity metal products that have been demonstrated to be suitable for direct recycling back into new lithium ion batteries.

In October 2015, the Company announced that it has received the “**Chinese Patent No. 201180050306.7**” from the Peoples Republic of China for processing of manganous sulphate-dithionate liquor.

### **Nature of business**

The business of the Company is mineral exploration and development with focus on patenting intellectual property for recycling lithium ion electric vehicle batteries. The company's mineral and technological projects are described below.

### **Intellectual property rights**

In December, 2018 the Company received the “Notice of Allowance” from the United States Patent and Trade Mark Office for the Company's lithium-ion battery recycling technology.

Patent Co-operative Treaty Patent Application filed on November 9, 2017. With the filing of the PCT Application, the Company's proprietary technology becomes patent pending in 152 participating independent states and countries.

Non-Provisional Patent Application for recycling lithium ion battery cathode material filed with the United States Patent Office on November 7, 2017.

Advanced Hydrometallurgical Process where from manganous sulphate-dithionate liquor electrolytic manganese can

be recovered from a low-grade resource

US Patent No. 8460681, Chinese Patent No. 201180050306.7, Republic of South Africa Patent No. 2013/01364).

## **Mineral property projects**

### ***Artillery Peak Project, Arizona USA***

The Artillery Peak project includes 30 unpatented mineral claims covering approximately 600 acres and 13 patented surface estates. (13 patented Manganese Mesa leases).

In August 2018, 1 unpatented lode mining claim covering approximately 20 acres was not renewed.

During the year ended July 31, 2015 the Company has decided to suspend further exploration on the Artillery Peak Property and has written off a total of \$5,977,294 in deferred costs. The residual balance is based on an estimate of the cumulative hydrometallurgical and related exploration costs incurred in connection with the patented technology which has been developed by the Company.

In October 2012 the Company completed successful production of working lithium ion battery prototypes utilizing chemical manganese dioxide (CMD) generated from Artillery Peak material. These prototypes (button cell batteries) are for test purposes only.

Producing working prototype lithium ion batteries represents a key breakthrough for American Manganese in the continuing development of the Company's patented hydrometallurgical process. CMD manufactured with this process eliminates electro winning and the need for any mechanical means of size reduction for the final product.

In December 2012, the Company reported that it has developed a low-cost, environmentally friendly hydrometallurgical process to recover manganese (Mn) from this Manganese Oxide resource located in Arizona, USA. The Company has applied for a patent for their hydrometallurgical process that produces electrolytic manganese metal from this Manganese Oxide deposit, with low energy and water consumption. As a development of the existing process, American Manganese has commissioned this research to determine uses of Artillery Peak manganese resource material to generate high value alternative products. Chemical manganese dioxide (CMD) and lithiated manganese oxide ( $\text{Li}_x\text{Mn}_2\text{O}_4$ ) for use in rechargeable batteries were the areas researched.

The research was successful in producing CMD from Artillery Peak resource material with low cation impurities and further avoiding processing steps that are known to introduce metallic impurities in the final product. Cation impurities cause capacity fade, whereas metallic impurities are known to cause catastrophic failures such as fire and explosions in lithium ion batteries. Working rechargeable lithium ion coin cell battery prototypes were produced from the CMD material.

The company received a report describing the results of this research project contracted by American Manganese to Kemetco Research Inc. The test program was partially funded by the Canadian Government through the National Research Council, Industrial Research Assistance Program (NRC-IRAP) for development work conducted over a five month period.

In February 2013, the Company reported that the Company has received the "Notice of Allowance" from the United States Patent and Trade Mark Office for the Company's manganese recovery process. The "Notice of Allowance" is formal documentation indicating that the examination of the invention has been completed by the US Patent and Trademark Office and allowed for issuance as a patent. The Company's attorney completed documentation and submitting fees for formal issuance of the US Patent. "Allowance of this patent is a significant milestone for the Company as the invention is now secured as a key asset that can be exclusively capitalized." The invention is a technical break-through as it enables the recovery of manganese from these low grade multiple surface Manganese Oxide deposit with significantly less energy and environmental impact than conventional processing methods.

In June, 2013 the Company announced that it has received the "**US Patent No. 8460681**" from the United States Patent and Trade Mark Office for the Company's manganese recovery process. The Company intends to continue to explore various commercial opportunities generated by this intellectual property including but not limited to manganese metal or dioxide production from its Artillery Peak claims; technology licensing; potential royalty

streaming; and applications for electric vehicle cathode materials recovery and recycling.

The Artillery Peak project includes 13 unpatented mineral claims covering approximately 260 acres. The 36 patented mineral claims covering approximately 698 acre and 8 fee simple parcels covering 1280 acres were returned to the vendors upon the respective anniversary dates (May 31, July 15, August 8) because the holding costs were deemed to be to onerous.

In 2012 the Company purchased 639.81 acres of patented surface, from local owners and real property holders embracing the reserved patented surface estates on 34 patented mining claims.

***Rocher Deboule property, British Columbia***

In May 2016, the Company reduced the number of Roche Deboule mineral claims it holds to 2, which cover an area of 998 hectares. The Company initially acquired by staking 4 mineral claims covering 1,325 hectares, and subsequently expanded the area by additional staking to cover 10,230 hectares.

The Company has obtained a NI 43-101 report on the Rocher Deboule property prepared by A.A. Burgoyne, P. Eng., M.Sc., dated December 18, 2007. A copy of the report is also available on the SEDAR filing service at [www.sedar.com](http://www.sedar.com).

In August 2011, the Company conducted a mapping and sampling program at the Rocher Deboule property. The program entailed 22 km of ground magnetometer survey, 841 soil samples, 455 rock samples and 68 silt samples. The fieldwork carried out in 2012 focused on 3 areas of Cu-Ag-Au bearing mineralization.

In November 2012, the Company reported that the Geological fieldwork returned encouraging Cu-Ag-Au geochemical values at the Rocher Deboule project upper silvertip CK basin stockwork, lower silvertip CK No 2 & 4 veins and a new Iron Oxide Copper Gold ("IOCG") target south of the historic Victoria vein mine. The results of the program were reported in the Company's press release dated November 20, 2012, a copy of which is available on the SEDAR filing service at [www.sedar.com](http://www.sedar.com).

In November 2017, the Company entered into an option agreement with Liaz Pty Ltd ('Liaz'), an Australian public company, which has since been acquired by Longford Resources Limited ('LRL'), whereby Liaz may earn a 60% interest in the Rocher Deboule property. Consideration consists of an initial payment of \$10,000, an additional payment of \$5,000 or 50,000 shares of LRL; completion of exploration expenditures of \$2,000,000 over four years; and \$10,000 cash plus \$5,000 cash or 50,000 shares of LRL each subsequent year until the 60% interest has been fully earned. Subsequent to year-end, Liaz informed the Company that it will be withdrawing from the option agreement.

***Lonnie property, British Columbia***

The Lonnie property is a niobium exploration property. The property covers approximately 3,477 hectares in the Omineca Mining Division of British Columbia. The Company initially staked mineral claims covering an area of approximately 692 hectares. In October 2007, the Company acquired additional claims covering approximately 2,735 hectares at a cost of \$10,000 and 100,000 shares of the Company.

In September 2010, the Company conducted a geochemical prospecting program on the Lonnie-Virgil occurrence. The results of the program were reported in the Company's press release dated October 1, 2010, a copy of which is available on the SEDAR filing service at [www.sedar.com](http://www.sedar.com).

In May 2011, the Company entered into an option agreement with Echelon Petroleum Corp. (Formerly Rara Terra Capital Corp. ("Echelon")) where Echelon has the right to earn a 60% interest in the Lonnie property in exchange for a cash payment of \$60,000 (\$24,603 paid) and issuance of 285,000 common shares of Echelon (150,000 received). To acquire the 60% interest, Echelon must also spend \$500,000 in exploration expenditures on the property.

In 2012, the Company and Echelon agreed to amend the amount due on the first anniversary from \$20,000 to \$4,603 in light of the additional costs incurred by Echelon in exploring the property during the year.

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In September 2011, Echelon commenced a trenching and sampling program on the Property. A total of 876 soil samples were collected and analyzed. The results are encouraging, especially for three strongly anomalous zones returning up to 8467 ppm total Rare Earth Elements + Yttrium (TREE+Y) being delineated along a consistent five kilometre long NW trend. Additional anomalous zones have also been located, generally along the same strike trend, and could prove to be extensions of the known zones. Where warranted, anomalies will be followed-up by trenching and drilling programs to begin later this year.

In April, 2013 Echelon terminated the option agreement and transferred all claim blocks to the Company. The Company owns a 100% interest in the property.

**SELECTED ANNUAL INFORMATION**

The following table shows total revenues, loss, assets, liabilities, and shareholders' deficiency for each of the three most recent fiscal years of the Company. The results of operations from years 2016 to 2018 are stated in accordance with accordance with the International Financial Reporting Standards.

|                                         | <u>2018</u>    | <u>2017</u>     | <u>2016</u>     |
|-----------------------------------------|----------------|-----------------|-----------------|
| (a) Total Revenues                      | \$ 135         | \$ 86           | \$ 31           |
| (b) Loss:                               |                |                 |                 |
| i) In Total                             | \$ 2,426,494   | \$ 2,006,934    | \$ 810,270      |
| ii) On a per share basis <sup>(1)</sup> | \$ 0.02        | \$ 0.01         | \$ 0.01         |
| (c) Total Assets                        | \$ 6,756,780   | \$ 5,846,175    | \$ 5,398,351    |
| (d) Total Liabilities                   | \$ 222,593     | \$ 382,045      | \$ 973,123      |
| (e) Total Accumulated Deficit           | \$(33,135,781) | \$ (30,709,287) | \$ (28,702,353) |

<sup>(1)</sup> Fully diluted loss per share amounts have not been calculated as they would be anti-dilutive

**RESULTS OF OPERATIONS**

Net loss for the fiscal year ended July 31, 2018 was \$2,426,494, compared to \$2,006,934 for the previous fiscal year. The Company does not generate revenue from operations and has no revenues other than interest earned on the Company's balances of cash and cash equivalents. Accordingly, the Company's net loss for the fiscal year ended July 31, 2018 increased. Due to successful financing the Company has significantly increased its administrative and operating expenses to expedite research and development of intellectual property.

The Company recorded a net cash flow increase of \$680,698 (2017 – \$407,654). The increase in net cash flow is principally a result of equity financing. In March 2018, the Company closed its non-brokered private placement improving its cash flow position.

**Analysis of income statement items for the fiscal year ended July 31, 2018**

The Company recorded expenses of \$926,743 for research and development (2017, \$688,323). This expense is related to proof of concept process research and testing. This expense will increase as the Company seeks to file patent and continue research and have pilot plant construction completed in the upcoming months.

During the fiscal year ended July 31, 2018, the Company expensed \$318,503 in shareholder communications (2017, \$272,146). The Company increased its information dissemination through various platforms to market and inform shareholders and potential shareholders on the Company's projects.

During the fiscal year ended July 31, 2018, the Company recorded \$692,665 in share based payments (2017, \$582,032). Additional detail on the financings is set out below under "Liquidity and Capital Resources".

The Company recorded \$230,184 for wages and benefits (2017, \$214,950). The Company added personnel and realigned salary with increased responsibilities and market conditions.

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**Analysis of balance sheet items – July 31, 2018**

Cash and cash equivalents increased from \$486,088 as at July 31, 2017 to \$1,166,786 as at July 31, 2018, principally as a result of private placement financing. Additional detail on the financings is set out below under “Liquidity and Capital Resources”.

Prepaid expenses in the amount of \$292,344 was recorded for marketing and project advances during the fiscal year ended July 31, 2018 (2017 - \$233,541).

Mineral property interests increased from \$5,021,687 as at July 31, 2017 to \$5,213,065 as at July 31, 2018. Additional information on this item is given below under “*Analysis of mineral property costs*”.

The Company reported share capital \$25,772,440 as at July 31, 2017 (147,801,195 shares) to \$27,549,194 (165,049,403 shares) as at July 31, 2018. Additional information on the share issuances is contained under “*Liquidity and Capital Resources*”.

**SELECTED QUARTERLY INFORMATION**

The following table summarizes information derived from the Company's financial statements for each of the eight most recently completed quarters:

| <b>Quarter Ended:</b>          | <b>31-Oct</b> | <b>31-Jul</b> | <b>30-Apr</b> | <b>31-Jan</b> | <b>31-Oct</b> | <b>31-Jul</b> | <b>30-Apr</b> | <b>31-Jan</b> |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Year:</b>                   | <b>2018</b>   | <b>2018</b>   | <b>2018</b>   | <b>2018</b>   | <b>2017</b>   | <b>2017</b>   | <b>2017</b>   | <b>2017</b>   |
| Total Revenues                 | \$34          | \$0           | \$69          | \$32          | \$34          | (\$50)        | \$48          | \$37          |
| Loss in Total                  | \$815,893     | \$1,142,268   | \$436,763     | \$303,402     | \$544,061     | \$1,014,068   | \$519,828     | \$106,777     |
| Per share basis <sup>(1)</sup> | \$0.005       | \$0.007       | \$0.003       | \$0.000       | \$0.004       | \$0.006       | \$0.000       | \$0.000       |

<sup>(1)</sup> Fully diluted loss per share amounts have not been calculated as they would be anti-dilutive

**Analysis of income statement items for the three-month period ended October 31, 2018**

Net Loss for the three-month period ended October 31, 2018, was \$815,693, compared to net loss of \$544,016 for the prior year three-month period.

The increase in net loss for the period ended October 31, 2018 was principally due to increased consulting fees, share based payments, advancing research and development and wages and benefits.

The Company has increased expenditures to advance the research and development project, keeping its premises and properties in good standing.

Overall due to successful of financing and working capital the Company has significantly increased all expenses and all categories.

The following financial data are derived from our consolidated interim financial statements for three-month period ended October 31, 2018 and 2017.

*Consulting fees (2018 – \$20,000; 2017 – \$nil)*

The Company recorded increased consulting fees during this three-month period compared to prior year same period. The increase in consulting fees is due to hire of Chief Technology Officer to be the oversight of our research and development. The Company plans to maintain consulting fees by continuously assessing the future needs for consultants to strive with the project progress.

*Sharebased payments (2018 – \$231,366; 2017 – \$154,921)*

The Company recorded increased share-based payments of newly awarded stock-based compensation as per Black Scholes model.

*Research and development (2018 - \$401,375; 2017 –\$249,005)*

The Company plans to continue conducting research and development to patent its proof of concept. Additionally, the Company has filed for patent in November 2017. Our contractors are focused on completing the pilot plant and complete the filing of issuance of patent.

**Analysis of balance sheet items for the period ended October 31, 2018**

Cash and cash equivalents decreased from \$1,166,786 as at July 31, 2018 to \$411,888 as at October 31, 2018.

The Company continues to seek sources of private placement financings and partners' in capital project expenditures. In March 2018, the Company has closed \$2,048,757 of non-brokered private placement. Currently, \$1,500,000 private placement is in progress.

Amounts receivable increased from \$42,423 as at July 31, 2018 to \$73,161 at as October 31, 2018. These are primarily Goods and Services Input tax credits receivable. \$42,423 refund was received in November 2018

Prepaid expenses decreased from \$292,344 as at July 31, 2018 to \$277,344 as at October 31, 2018. The Company has advanced multimedia communication companies to disseminate corporate information and to create awareness of Company's projects. The amount also includes \$106,436 for research and development project advance. The Company expects to maintain dissemination of corporate and project progress information thus increasing trend in prepaid expenses.

Accounts payable and accrued liabilities decreased from \$209,170 as at July 31, 2018 to \$27,000 as at October 31, 2018. All amounts remain current trade payables mainly for research and development related expenses.

The Company reviewed individual properties for impairment tests based on facts and circumstances available at the time for individual exploration and evaluation assets for impairment as per International Accounting Standard (IAS) 36 and International Financial Reporting Standard (IFRS) 6. The key factors were if there exist potential joint venture, property options opportunity and validity/ renewal of claims.

Additional information on this item is given below under "Analysis of mineral property costs".



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**Analysis of Mineral Property Costs**

The following table shows a breakdown of the Company's capitalized exploration and development costs for the three month period ended October 31, 2018 and years ended July 31, 2018 and 2017.

| <b>Rocher Deboile Property,<br/>British Columbia</b> | <b>Balance<br/>July 31, 2017</b> | <b>Expenditures</b> | <b>Translation<br/>adjustments</b> | <b>Balance<br/>July 31, 2018</b> | <b>Expenditures</b> | <b>Translation<br/>adjustments</b> | <b>Balance<br/>October 31, 2018</b> |
|------------------------------------------------------|----------------------------------|---------------------|------------------------------------|----------------------------------|---------------------|------------------------------------|-------------------------------------|
| Acquisition and staking                              | \$ 164,452                       | \$ -                | \$ -                               | \$ 164,452                       | \$ -                | \$ -                               | \$ 164,452                          |
| Assays & analysis                                    | 73,767                           | -                   | -                                  | 73,767                           | 0                   | -                                  | 73,767                              |
| Camp & supplies                                      | 59,504                           | -                   | -                                  | 59,504                           | -                   | -                                  | 59,504                              |
| Drilling                                             | 146,826                          | -                   | -                                  | 146,826                          | -                   | -                                  | 146,826                             |
| Geological and geophysical                           | 574,024                          | 11,330              | -                                  | 585,354                          | -                   | -                                  | 585,354                             |
| Travel and accommodation                             | 21,197                           | -                   | -                                  | 21,197                           | -                   | -                                  | 21,197                              |
| Freight and transport                                | 97,638                           | -                   | -                                  | 97,638                           | -                   | -                                  | 97,638                              |
| Mineral property option                              | -                                | -                   | -                                  | (24,500)                         | -                   | -                                  | (24,500)                            |
| BC Mining Exploration Tax Credit                     | (280,438)                        | -                   | -                                  | (284,577)                        | -                   | -                                  | (284,577)                           |
| Impairment                                           | (532,000)                        | -                   | -                                  | (532,000)                        | -                   | -                                  | (532,000)                           |
|                                                      | \$ 324,970                       | 11,330              | \$ -                               | \$ 307,661                       | 0                   | \$ -                               | \$ 307,660                          |
| <b>Lonnie property</b>                               |                                  |                     |                                    |                                  |                     |                                    |                                     |
| <b>British Columbia</b>                              |                                  |                     |                                    |                                  |                     |                                    |                                     |
| Acquisition and staking                              | \$ 54,121                        | \$ -                | \$ -                               | \$ 54,121                        | \$ -                | \$ -                               | \$ 54,121                           |
| Assays & analysis                                    | 4,528                            | -                   | -                                  | 4,528                            | -                   | -                                  | 4,528                               |
| Drilling                                             | 60,073                           | -                   | -                                  | 60,073                           | -                   | -                                  | 60,073                              |
| Geological and geophysical                           | 45,915                           | -                   | -                                  | 45,915                           | -                   | -                                  | 45,915                              |
| Travel and accommodation                             | 186                              | -                   | -                                  | 186                              | -                   | -                                  | 186                                 |
| Mineral property option                              | (56,000)                         | -                   | -                                  | (56,000)                         | -                   | -                                  | (56,000)                            |
| BC Mining Exploration Tax Credit                     | (28,480)                         | -                   | -                                  | (28,480)                         | -                   | -                                  | (28,480)                            |
|                                                      | \$ 80,343                        | -                   | \$ -                               | \$ 80,343                        | -                   | \$ -                               | \$ 80,343                           |
| <b>Artillery Peak property</b>                       |                                  |                     |                                    |                                  |                     |                                    |                                     |
| <b>Arizona</b>                                       |                                  |                     |                                    |                                  |                     |                                    |                                     |
| Acquisition and staking                              | \$ 3,047,301                     | \$ 9,000            | 131,948                            | 3,188,249                        | -                   | -                                  | 3,188,249                           |
| Assays & analysis                                    | 396,586                          | -                   | 17,121                             | 413,707                          | -                   | -                                  | 413,707                             |
| Drilling                                             | 2,966,215                        | -                   | 128,058                            | 3,094,273                        | -                   | -                                  | 3,094,273                           |
| Equipment and rentals                                | 11,256                           | -                   | 486                                | 11,742                           | -                   | -                                  | 11,742                              |
| Geological and geophysical                           | 4,604,521                        | -                   | 198,787                            | 4,803,308                        | -                   | -                                  | 4,803,308                           |
| Travel and accommodation                             | 219,704                          | -                   | 9,485                              | 229,189                          | -                   | -                                  | 229,189                             |
| Property maintenance                                 | 38,704                           | -                   | 1,671                              | 40,375                           | -                   | -                                  | 40,375                              |
| Other fieldwork                                      | 4,455                            | -                   | 192                                | 4,647                            | -                   | -                                  | 4,647                               |
| Impairment                                           | (6,672,368)                      | -                   | (288,060)                          | (6,960,428)                      | -                   | -                                  | (6,960,428)                         |
|                                                      | \$ 4,616,374                     | \$ 9,000            | \$ 199,688                         | \$ 4,825,062                     | \$ -                | \$ -                               | \$ 4,825,062                        |
| <b>Total</b>                                         | <b>\$ 5,021,687</b>              | <b>\$ 20,330</b>    | <b>\$ 199,688</b>                  | <b>\$ 5,213,066</b>              | <b>\$ 0</b>         | <b>\$ -</b>                        | <b>\$ 5,213,065</b>                 |

**LIQUIDITY AND CAPITAL RESOURCES**

The Company has historically relied upon equity financings to satisfy its capital requirements and will continue to depend heavily upon the capital markets to finance its activities. There can be no assurance the Company will be able to obtain required financing in the future on terms acceptable to Company. The Company anticipates it will need additional capital in the future to finance ongoing research and development, exploration and administrative operations, which will be derived from the exercise of stock options and warrants, and/or private placements.

As at October 31, 2018 the Company has \$411,888 cash and equivalent balance (July 31, 2018 the Company had a cash and cash equivalent balance of \$1,166,786) and working capital of \$737,892, compared to a working capital of \$1,265,237 as at July 31, 2018. The decrease in the Company's cash balance and in working capital resulted from lack of equity financing.

During the three-month period ended October 31, 2018 1,010,000 options were exercised for proceeds of \$50,500. During the year ended July 31, 2018 6,142,500 warrants were exercised for proceeds of \$334,625 and 1,160,000 options were exercised for proceeds of \$58,000. During the year ended July 31, 2017, 5,509,999 warrants

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were exercised for proceeds of \$305,500 and 2,450,000 options were exercised for proceeds of \$177,500. During the years year ended July 31, 2016 and 2015 there were no warrants or options exercised.

During the ended July 31, 2018 16,000 broker warrants expired unexercised.

In November 2018, the Company intends to complete a non-brokered private placement for gross proceeds of up to \$1,500,000 by way of a unit offering at a price of \$0.15 per unit.

In March 2018, the Company closed its non-brokered private placement of 8,536,487 units of the Company, raising gross proceeds of \$2,048,757. Each Unit consists of one common share of AMY and one common share purchase warrant. Each Warrant will be exercisable for one Share at a price of \$0.30 per Share for the two years following the issuance of the Warrant.

In December 2017, the Company completed the non-brokered private placement by the issue of 1,378,666 Units of the Company for gross proceeds of \$248,160. Each Unit consists of one common share of the Company and one common share purchase warrant. Each warrant will be exercisable to acquire one common share at a price of \$0.25 for the two years following the issuance of the warrant.

In June, 2017, the Company issued 5,221,526 units at a purchase price of \$0.18 per Unit for aggregate gross proceeds of \$939,875. Each Unit is comprised of one common share in the capital of the Company and one share purchase warrant. Each Warrant entitles the holder to purchase one Share at a price of \$0.25 during the two years following the Warrant's date of issuance. In August 2017, the Company closed the third and final tranche of the non-brokered private placement by the issue of 30,555 Units of the Company for proceeds of \$5,500 bringing the total aggregate gross proceeds of \$945,375 through this private placement.

In January 2017, the Company announced a contribution agreement from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP) for the continued development of its spent electric vehicle battery cathode materials recycling technology.

In November 2016, the Company filed Company's Stock Option Plan adopting a fixed plan reserving 27,148,600 shares being 20% of the issued and outstanding as at adopted date.

In September 2016, the Company closed its non-brokered private placement offering of 10,068,790 units at a purchase price of \$0.14 per Unit for aggregate gross proceeds of \$1,409,631. Each Unit is comprised of one common share in the capital of the Company and one share purchase warrant. Each Warrant entitles the holder to purchase one Share at a price of \$0.20 during the two years following the Warrant's date of issuance. The placement was oversubscribed and was closed on September 9, 2016 and the gross proceeds were \$1,409,631.

In May 2016, the Company closed a non-brokered private placement to raise \$200,500 through the sale of units priced at \$0.02 per unit. Each unit consisted of 1 common share in the capital of the Company and a share purchase warrant. Each Warrant entitles the holder to purchase 1 share at a price of \$0.05 during the 2 years following the date of issuance. The placement was oversubscribed and was closed on May 17, 2016 and the gross proceeds were \$200,500.

On March 2016, the Company announced that it has granted 9,000,000 incentive stock options pursuant to its stock option plan for its directors, officers, advisers, and consultants. The options are exercisable at a price of \$0.05 per share for a period of 5 years.

Excluding exploration costs, the Company's current general and administrative cash expenditures are approximately \$55,400 per month.

The Company is investigating sources of further funding and anticipates raising additional funds in the next fiscal year. The Company also anticipates that it will continue its exploration program on the Artillery Peak property group as well as focusing additional resources on other aspects of the development of the Artillery Peak Property Group, metallurgy and feasibility studies. The Company does not generate revenue from operations, and has been dependent upon its ability to raise equity capital through the issuance of shares to pay ongoing operating expenses and the costs associated with its exploration and development activities.

## USE OF PROCEEDS FROM FINANCINGS

| <u>Date of financing and planned use of proceeds</u>                                                                                                                                                                                                                                                   | <u>Actual use of proceeds</u>                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| May 17, 2016 Financing \$200,500 to be used towards advance concept research and general working capital                                                                                                                                                                                               | All funds committed as per plan                                          |
| September 2, 2016 Financing \$1,409,631.<br>The Company intends to use the net proceeds from the Offering for continued metallurgical testing of the Company's proprietary hydrometallurgical process for large-scale recycling of lithium-ion vehicle batteries, debt settlement and working capital. | All funds committed as per plan                                          |
| June 2017, Financing \$945,375.<br>The Company intends to use the net proceeds from the Offering for expediting the Company's proprietary hydrometallurgical process for patent filing of recycling of lithium-ion vehicle batteries, and working capital.                                             | All funds committed as per plan to expedite the research and development |
| December 2017, Financing \$248,160.<br>The Company intends to use the net proceeds from the Offering for expediting the Company's proprietary hydrometallurgical process for patent filing of recycling of lithium-ion vehicle batteries, and working capital.                                         | All funds committed as per plan to expedite the research and development |
| March 2018, Financing \$2,048,757.<br>The Company intends to use the net proceeds from the Offering for demonstration plant to proof Company's proprietary hydrometallurgical process for recycling of lithium-ion vehicle batteries, and working capital.                                             | All funds committed as per plan to expedite the research and development |

## OUTSTANDING SHARE DATA

As at October 31, 2018 the Company had 166,059,403 shares issued and outstanding.

As at July 31, 2018 the Company had 165,049,403, as at July 31, 2017 the Company had 147,801,195 and as at July 31, 2016 the Company had 124,550,880 common shares issued and outstanding.

Subsequent to period end, 3,382,999 shares were issued as part of first tranche in connection with November 2018 non-brokered private placement.

In March 2018, the Company closed its non-brokered private placement of 8,536,487 units of the Company, raising gross proceeds of \$2,048,757. Each Unit consists of one common share of AMY and one common share purchase warrant. Each Warrant will be exercisable for one Share at a price of \$0.30 per Share for the two years following the issuance of the Warrant.

In December 2017, the Company completed the non-brokered private placement by the issue of 1,378,666 Units of the Company for gross proceeds of \$248,160. Each Unit consists of one common share of the Company and one common share purchase warrant. Each warrant will be exercisable to acquire one common share at a price of \$0.25 for the two years following the issuance of the warrant.

In June 2017, the Company issued 5,221,526 units at a purchase price of \$0.18 per Unit for aggregate gross proceeds of \$939,875. Each Unit is comprised of one common share in the capital of the Company and one share purchase warrant. Each Warrant entitles the holder to purchase one Share at a price of \$0.25 during the two years following the

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Warrant's date of issuance. In August 2017, the Company closed the third and final tranche of the non-brokered private placement by the issue of 30,555 Units of the Company for proceeds of \$5,500 bringing the total aggregate gross proceeds of \$945,375 through this private placement.

In September 2016, the Company issued 10,068,790 units. Each Unit is comprised of one common share in the capital of the Company and one share purchase warrant. Each Warrant entitles the holder to purchase one Share at a price of \$0.20 during the two years following the Warrant's date of issuance.

In May 2016, the Company issued 10,025,000 units. Each unit consists of one common share at \$0.02 per share and one non-transferable share purchase warrant exercisable at \$0.05 per share for a period of 24 month following closing.

Finder's fees amounted to \$6,500 and 17,500 non-transferable warrants. All securities issued for this private placement are subject to a four-month hold, expiring September 18, 2016.

As at October 31, 2017 the Company had outstanding share option to purchase 10,250,000 common share of the Company at an average price of \$0.09. As at July 31, 2017, the Company had outstanding share option to purchase 10,850,667 common share of the Company at an average price of \$0.09 per share. During fiscal year July 31, 2016 533,333 options expired without exercise.

The following table shows information relating to the Company's outstanding stock options.

**Stock options granted**

|                         | 2018     | 2017     |
|-------------------------|----------|----------|
| Dividend yield          | 0%       | 0%       |
| Expected volatility     | 278.79%  | 232.88%  |
| Risk-free interest rate | 2.14%    | 0.76%    |
| Expected lives          | 5.00     | 5.00     |
| Grant date fair value   | \$0.2068 | \$0.1536 |

**OFF-BALANCE SHEET ARRANGEMENTS**

The Company does not have material off-balance sheet arrangements.

**RELATED PARTY TRANSACTIONS**

**a) Investment in subsidiaries**

The wholly owned subsidiary of the Company has been incorporated in the USA and is included in these consolidated financial statements.

**b) Transactions with related parties**

During the period ended October 31, 2018 all related party amounts were settled.

At July 31, 2018 \$13,423 (July 31, 2017-\$7,093) is payable to the CEO and a director of the Company for expenses and accrued salary, as well as \$nil (2016 - \$24,622) payable to a director of the Company for consulting fees. The amounts are non-interest bearing, unsecured and has no fixed terms of repayment.

In October 2012, the Company terminated all employment contracts due to budgetary and financial constraint. The Company calculated severance compensation based on employment contract and length of service as per British Columbia Employment Standards Act. During the fiscal year ended July 31, 2013 the Company recorded compensation liabilities in the amount of \$396,019, of which \$nil (2017 - \$134,356) remains in accounts payable and accrued liabilities. Accrued severance for directors, officers, and management will be paid when the Company

undertakes a debt settlement or a major financing.

**c) Compensation of key management personnel**

The Company's key management personnel have authority and responsibility for overseeing, planning, directing and controlling the activities of the Company and consist of the Company's Board of Directors and the Company's Executive Leadership Team. The Executive Leadership Team consists of the CEO and President, a Director and Chief Operating Officer and the CFO.

Total compensation expense for key management personnel and the composition thereof, is as follows:

|                          | <b>October 31, 2018</b> |        | <b>July 31, 2018</b> |         |
|--------------------------|-------------------------|--------|----------------------|---------|
| Short term benefits      | \$                      | 48,821 | \$                   | 215,000 |
| Share based compensation |                         | 21,555 |                      | 106,431 |
|                          | \$                      | 70,376 | \$                   | 321,431 |

**CRITICAL ACCOUNTING ESTIMATES**

The preparation of the Company's consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the reported amounts of assets, liabilities and contingent liabilities at the date of the consolidated financial statements and reported amounts of revenues and expenses during the reporting period. Estimates and assumptions are continuously evaluated and are based on management's experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. However, actual outcomes can differ from these estimates.

Areas requiring a significant degree of estimation and judgment relate to the recoverability of the carrying value of exploration and evaluation assets, fair value measurements for financial instruments and share-based payments and other equity-based payments, the value of the premium included in flow-through share issuances and the estimated useful life and recoverability of equipment. Actual results may differ from those estimates and judgments.

**FUTURE ACCOUNTING PRONOUNCEMENTS**

The Company has reviewed new and revised accounting pronouncements that have been issued but are not yet effective and determined that the following may have an impact on the Company:

**a) IFRS 9 – Financial Instruments**

IFRS 9, 'Financial Instruments' was issued in November 2009 as the first step in its project to replace IAS 39 'Financial Instruments: Recognition and Measurement'. IFRS 9 introduces new requirements for classifying and measuring financial assets that must be applied starting January 1, 2015, with early adoption permitted. The IASB intends to expand IFRS 9 during the intervening period to add new requirements for classifying and measuring financial liabilities, de-recognition of financial instruments, impairment and hedge accounting. The Company is currently assessing the impact of this standard.

**RISK FACTORS RELATING TO THE COMPANY'S BUSINESS**

As a company, active in the mineral resource exploration and development industry, American Manganese Inc. is exposed to a number of risks.

*Exploration Stage Operations*

The Company's operations are subject to all of the risks normally incident to the exploration for and the development and operation of mineral properties. Mineral exploration is a business of high inherent risk. Most exploration programs fail to locate a body of commercial ore. All exploration and mining programs face a risk of unknown and unanticipated geological conditions, and promising indications from early results may not be borne out in further exploration work. Few properties which are explored are ever developed into producing mines. A mineral exploration program often

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requires substantial cash investment, which can be lost in its entirety if it does not result in the discovery of a commercial ore body. The commercial viability of a mineral deposit is dependent on a number of factors, some of which are the particular attributes of the deposit, such as size, grade and proximity to infrastructure, as well as metal prices. Most of these factors are beyond the control of the Company. Mineral exploration involves risks which even a combination of careful evaluation, experience, and knowledge cannot eliminate.

In addition, even if the Company is successful in locating a commercial ore body, there is no assurance that the Company will be able to bring such an ore body into commercial production. Development of a producing mine generally requires large capital investment and numerous permits from government regulatory agencies. There is no assurance that the funds required to exploit mineral reserves and resources discovered by the Company will be obtained on a timely basis or at all. There is also no assurance that the Company will be able to obtain the government permits required to exploit a commercial ore body. The costs and time involved in the permitting process may also delay the commencement of mining operations, or make the development of a producing mine uneconomic.

If the Company is able to bring an ore body into commercial production, operating mines also face substantial operating risks, which include, but are not limited to, unusual or unexpected geological conditions, formation pressures, fires, power outages, labour disruptions, flooding, explosions, tailings impoundment failures, cave-ins, landslides and inability to obtain adequate machinery, equipment or labour.

If the Company is unsuccessful in its attempts to locate a commercial ore body and to commence commercial production, the Company may seek to transfer its property interests or otherwise realize value, or may even be required to abandon its business and fail as a going concern.

#### *Competition*

The mining industry is intensely competitive in all of its phases, and the Company competes with other companies with greater technical and financing resources than itself with respect to acquire properties of merit, and the recruitment and retention of qualified employees and other persons to carry out its mineral exploration activities. Competition in the mining industry could adversely affect the Company's prospects for mineral exploration in the future.

#### *Financial Markets*

The Company is dependent on the equity markets as its sole source of operating working capital and the Company's capital resources are largely determined by the strength of the junior resource markets and by the status of the Company's projects in relation to these markets, and its ability to compete for the investor support of its projects.

#### *Environmental and Government Regulation*

Mining and exploration activities are subject to various laws and regulations relating to the protection of the environment, historical and archaeological sites and endangered and protected species of plants and animals. The Company has implemented safety and environmental measures designed to comply with government regulations, and to ensure safe, reliable and efficient operations in all phases of its operations. In addition, the Company maintains liability and property insurance, where reasonably available, in such amounts it considers prudent. However, the Company may become subject to liability for hazards against which it cannot insure or which it may elect not to insure against because of high premium costs or other reasons. In addition, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit or curtail production or development. Amendments to current laws and regulations governing the operations and activities of the Company or more stringent implementation thereof could have a substantial adverse impact on the Company.

#### *Title to Properties*

While the Company has investigated the title to all of the properties for which it holds concessions or other mineral leases or licenses or in respect of which it has a right to earn an interest, the Company cannot guarantee that title to such properties will not be challenged or impugned. The Company can never be certain that it will have valid title to its mineral properties. Mineral properties sometimes contain claims or transfer histories that examiners cannot verify, and transfers under foreign law are often complex. The Company does not carry title insurance on its properties. A

successful claim that the Company or its option partner does not have title to a property could cause the Company to lose its rights to that property, perhaps without compensation for its prior expenditures relating to the property.

*Foreign Currency*

A portion of the Company's expenses are incurred in foreign currencies. Fluctuations in the exchange rate between the Canadian dollar and such other currencies may have a material effect on our business, financial condition and results of operations. The Company does not hedge against foreign currency fluctuations.

**ADDITIONAL INFORMATION**

Additional information about the Company is available at the website of the System for Electronic Document Analysis and Retrieval ("SEDAR") at [www.sedar.com](http://www.sedar.com).