# American Manganese Inc. Management's Discussion and Analysis For the Three and Six-Month Period Ended January 31, 2020 Page 1 of 15

This management's discussion and analysis of American Manganese Inc. (the "Company") contains an analysis of the Company's operational and financial results for the three and six-month period ended January 31, 2020. The following should be read in conjunction with the company's unaudited condensed consolidated interim financial statements for the period ended January 31, 2020, 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 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 of March 27, 2020.

### 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 Deboule 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 Arizona. 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.

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### HIGHLIGHTS

In February, 2020 the Company announced that it will receive advisory services and conditional funding from the National Research Council of Canada Industrial Research Assistance Program.

In November, 2019 the Company's RecycLiCo process successfully recovered of high purity (**99.977%**) nickel-cobalt hydroxide from the NCA cathode scrap material received from a third party.

In October, 2019 the Company announced **99.98%** purity results from recycled NCA cathode scrap material received from a third party.

In September, 2019 the Company completed initial tests of the final stage of the lithium-ion battery recycling Pilot Plant project.

In August, 2019 the Company achieved Pilot Plant results of 99.94% Purity from recovered NCA cathode material

In June, 2019 the Company was granted United States Patent and Trade Mark patent No. 10,308,523B1. The Company now has a patent portfolio to six patents and an additional seven filed for recycling around the globe.

In May, 2019 the Company applies for recycling patents in seven countries.

In May, 2019 the Company completed a non-brokered non-flow-through private placement for aggregate proceeds of \$568,074 by way of a unit offering at a price of \$0.15 per unit.

In April, 2019 the Company's RecycLiCo Patented Process achieves high extraction from Lithium-ion battery cathode material using the Pilot Plant project.

In April, 2019 the Company was granted U.S. Patent No. 10,246,343 for Lithium-ion Battery Cathode Material Recycling Technology.

In March, 2019 the Company entered in a U.S. Department of Energy (DOE) project to advance the economic recovery of Lithium-ion battery materials from electric vehicles and other consumer goods.

In March, 2019 the Company completed a non-brokered non-flow-through private placement for aggregate proceeds of \$350,210 by way of a unit offering at a price of \$0.15 per unit.

In February, 2019 the Company filed a Continuation in Part (C-I-P) patent application with the United States Patent Office, receiving Serial No. 16/353,140. The C-I-P application adds subject matter not previously disclosed in the parent patent application covering American Manganese flagship lithium-ion battery recycling technology.

### Nature of business

The business of the Company is mineral exploration and development with a 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 June, 2019 the Company is granted patent No. 10,308,523B1 from the United States Patent and Trade Mark Office

In April, 2019 the Company is granted U.S. Patent No. 10,246,343 for Lithium-ion Battery Cathode Material recycling technology.

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.

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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 electrowinning 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 its 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 the uses of Artillery Peak manganese resource material to generate high value alternative products. Chemical manganese dioxide (CMD) and lithiated manganese oxide (LixMn2O4) 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

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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 acres 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 too 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.

During the fiscal year ended July 31, 2019, the Company decided to write-down \$4,879,733 of the Artillery Peak property under fair value assessment.

### Rocher Deboule property, British Columbia

In May 2016, the Company reduced the number of Roche Deboule mineral claims it holds to 2, which covers 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.

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 <u>www.sedar.com</u>.

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.

During the fiscal year ended July 31, 2019 the Company performed geological and geophysical work on the property using the flow through fund. The Company is awaiting on report.

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#### 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 <u>www.sedar.com</u>.

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.

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.

During the fiscal year ended July 31, 2019 the Company performed geological and geophysical work on the property using the flow through fund.

In July, 2019 the Company announced the results of rock sampling on the Lonnie mineral claims located on Granite Creek, south east of Manson Creek in north central British Columbia. The Lonnie claims feature rare earth element (REE) and niobium bearing mineralization hosted in carbonatite intrusive sills. Carbonatite is associated with gossanous weathering, aegirine sovite, muscovite, phlogopite, magnetite, ilmenite, apatite, calcite, with trace amounts of pyrochlore, pyrrhotite, arfvedsonite, and zircon. Carbonatite is also spatially associated with minor syenitic, granitic, monzo-dioritic (alkaline) composition pegmatite and aplite dyke/sills.

### 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 2017 to 2019 are stated in accordance with the International Financial Reporting Standards.

	<u>2019</u>	<u>2018</u>	<u>2017</u>		
(a) Total Revenues	\$ 396	\$ 135	\$	86	
(b) Loss:					
i) In Total	\$ 8,054,671	\$ 2,426,494	\$	2,006,934	
ii) On a per share basis <sup>(1)</sup>	\$ 0.05	\$ 0.02	\$	0.01	
(c) Total Assets	\$ 1,065,354	\$ 6,756,780	\$	5,846,175	
(d) Total Liabilities	\$ 45,092	\$ 222,593	\$	382,045	
(e) Total Accumulated Deficit	\$ (41,190,452)	\$ (33,135,781)	\$	(30,709,287)	

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

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### **RESULTS OF OPERATIONS**

Net loss for the fiscal year ended July 31, 2019 was \$8,054,671, compared to \$2,426,494 for the fiscal year ended July 31, 2018. The Company does not generate revenue from operations and has no revenues other than the interest earned on the Company's balances of cash and cash equivalents, and recognized a \$4,879,733 write-down of its exploration and evaluation assets during the year. Accordingly, the Company's net loss for the fiscal year ended July 31, 2019 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 cash and cash equivalents decreased by \$679,654 during the year ended July 31, 2019 (2018 – \$680,698 increase). The decrease in cash is principally a result of increased expenditure towards research and development and a lack of equity financing. During the fiscal year ended July 31, 2019 the Company closed non-brokered private placements for gross proceeds of \$1,613,484, including \$80,000 pursuant to issuing flow-through common shares, improving its cash flow position.

### Analysis of income statement items for the fiscal year ended July 31, 2019

The Company recorded \$116,268 for office and miscellaneous (2018, \$71,495). The Company recorded an increase in office administrative expenses due to increased responsibilities involving disseminating project information to potential investors.

During the fiscal year ended July 31, 2019, the Company recorded \$91,050 in consulting fees (2018, \$25,500). During the year additional consultants were hired to manage the construction of the Pilot Plant project and to assist in managing technical data.

The Company recorded expenses of \$1,353,430 for research and development (2018, \$926,743). This expense is related to the filing of patent and the completion of Pilot Plant project construction.

During the fiscal year ended July 31, 2019, the Company recorded \$838,274 in share-based payments expense (2018, \$692,665) due to the vesting of options granted during fiscal 2018. Additional detail on the financings is set out below under "Liquidity and Capital Resources".

### Analysis of balance sheet items - July 31, 2019

Cash and cash equivalents decreased from \$1,166,786 as at July 31, 2018 to \$487,132 as at July 31, 2019, principally as a result of lack of private placement financing and increased research and development expenditure to advance the Pilot Plant project. Additional detail on the financings is set out below under "Liquidity and Capital Resources". Prepaid expenses in the amount of \$92,326 was recorded for marketing and project advances during the fiscal year ended July 31, 2019 (2018 - \$292,344). The Company had fewer long-term advertising and promotion agreements and services engaged compared to prior fiscal year.

Mineral property interests decreased from \$5,213,065 as at July 31, 2018 to \$420,684 as at July 31, 2019, primarily due to the write-down of \$4,879,733 in capitalized exploration and evaluation expenditures incurred relating to the Artillery Peak project in Arizona. Additional information on this item is given below under "Analysis of mineral property costs".

The Company share capital increased from \$27,549,194 as at July 31, 2018 (165,049,403 shares) to \$28,625,654 (176,882,628 shares) as at July 31, 2019. Additional information on the share issuances is contained under "*Liquidity and Capital Resources*".

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### SELECTED QUARTERLY INFORMATION

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

Quarter Ended: Year: Total revenue	<b>31-Jan</b> <b>2020</b> \$ -	<b>31-Oct</b> <b>2019</b> \$51	<b>31-Jul</b> <b>2019</b> \$284	<b>30-Apr</b> <b>2019</b> \$78	<b>31-Jan</b> <b>2019</b> \$ -	<b>31-Oct</b> <b>2018</b> \$34	<b>31-Jul</b> <b>2018</b> \$ -	<b>30-Apr</b> <b>2018</b> \$69
Net loss	\$479,524	\$344,123	\$5,750,468	\$602,101	\$886,209	\$815,893	\$1,142,268	\$436,763
Per share basis <sup>(1)</sup>	\$0.002	\$0.002	\$0.033	\$0.000	\$0.005	\$0.005	\$0.007	\$0.003

<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 January 31, 2020

Net loss for the three-month period ended January 31, 2020, was \$479,524, compared to net loss of \$886,209 for the prior year three-month period.

The decrease in net loss for the period ended January 31, 2020 was principally due to decrease in research and development expenditure, office and miscellaneous.

The Company has recorded reduced expenditures on research and development project as the Pilot Plant project has been substantially completed.

The following financial data are derived from our consolidated interim financial statements for three-month period ended January 31, 2020 and 2019.

### *Shareholder communication* (2020 – \$131,896; 2019 – \$38,404)

The Company recorded increased shareholder communication expenses during this three-month period compared to prior year same period. The Company engaged corporate and project communication agencies during the three-month period. As the project and Pilot Plant advances the Company expects to see increasing shareholder communication. Over the last six month the has increased marketing efforts to bring awareness to the RecycLiCo project.

### *Office and miscellaneous* (2020 – \$23,643; 2019 – \$40,763)

The Company recorded reduced office expenses compared to prior year same period. Offices expenses primarily include expenses related to daily administration to maintain premises, stationery and administration support. As the Company moves forward with adding staff, promoting the project, we expect to see an increasing trend in office and miscellaneous expenses. However, the Company managed reduced general administration expenses to preserve cash.

### Research and development (2020 - \$nil; 2019 - \$602,554)

The Company recorded significantly reduced research and development expenditures compared to the three months ended January 31, 2019. Our contractors have completed the recycling pilot plant project. Additionally, a continuance of patent has been applied. Our contractors are now focused on treatment of third-party material. The Company expects to see increasing expenses towards research and development progressing towards commercialization and testing various materials.

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### Analysis of balance sheet items for the period ended January 31, 2020

Cash and cash equivalents increased from \$487,132 as at July 31, 2019 to \$660,722 as at January 31, 2020.

Warrants exercise of 3,133,600 units at \$0.20 per unit for gross proceeds of \$626,720 was principally the reason for cash increase.

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

From December 2018 to May 2019, the Company received gross proceeds of \$1,613,484 via the completion of a non-flow-through private placement in four tranches and a flow-through private placement.

Amounts receivable decreased from \$13,176 as at July 31, 2019 to \$8,743 at as January 31, 2020. These are primarily Goods and Services Input tax credits receivable. \$12,789 refund was received in November 2019.

Prepaid expenses decreased from \$92,326 as at July 31, 2019 to \$48,742 as at January 31, 2020. The Company has advanced multimedia communication companies to disseminate corporate information and create awareness of the Company's projects. \$43,584 has been amortized over last six months for advertising and corporate project marketing. 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 \$45,092 as at July 31, 2019 to \$5,274 as at January 31, 2020. All amounts remain current trade payables mainly for office and administration related expenses.

The Company reviewed individual properties for impairment based on facts and circumstances available at the time as per International Accounting Standard (IAS) 36 and International Financial Reporting Standard (IFRS) 6. The Company wrote-down \$4,879,733 in capitalized exploration and evaluation costs during the fiscal year ended July 31, 2019.

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 sixmonth period ended January 31, 2020 and year ended July 31, 2019:

Rocher Deboule Property,	Balance		Translation	Balance				Translation	Balance
British Columbia	July 31, 2018	Expenditures	adjustments	July 31, 2019		Expenditures		adjustments	January 31, 2020
Acquisition and staking	\$ 164,452	\$ -	\$ -	\$ 164,452	\$	-	\$	-	\$ 164,452
Assays & analysis	73,767	-	-	73,767		-		-	73,767
Camp & supplies	59,504	-	-	59,504		-		-	59,504
Drilling	146,826	-	-	146,826		-		-	146,826
Geological and geophysical	585,354	-	-	585,354		(38,728)		-	624,082
Travel and accommodation	21,197	-	-	21,197		(7,000)		-	28,197
Freight and transport	97,638	-	-	97,638		-		-	97,638
Mineral property option	(24,500)	-	-	(24,500)		-		-	(24,500)
BC Mining Exploration Tax Credit	(284,577)	(3,430)	-	(288,007)		-		-	(288,007)
Impairment	(532,000)	-	-	(532,000)		-		-	(532,000)
	\$ 307,661	(3,430)	\$ -	\$ 304,231		(45,728)	\$	-	\$ 349,959
Lonnie property									
British Columbia									
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	-	-	82,025		-		-	82,025
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	-	\$ -	\$ 116,453		-	\$	-	\$ 116,453
Artillery Peak property									
Arizona									
Acquisition and staking	\$ 3,188,249	\$ 6,118	32,082	3,226,449		-		-	3,226,449
Assays & analysis	413,707	-	4,163	417,870		-		-	417,870
Drilling	3,094,273	-	31,137	3,125,410		-		-	3,125,410
Equipment and rentals	11,742	-	118	11,860		-		-	11,860
Geological and geophysical	4,803,308	-	48,334	4,851,642		-		-	4,851,642
Travel and accommodation	229,189	-	2,306	231,495		-		-	231,495
Property maintenance	40,375	-	406	40,781		-		-	40,781
Other fieldwork	4,647	-	47	4,694		-		-	4,693
Impairment	(6,960,428)	(4,879,733)	(70,039)	(11,910,200)		-		-	(11,910,200)
	\$ 4,825,062	\$ (4,873,615)	\$ 48,554	\$ 1	\$	-	\$	-	\$ -
Total	\$ 5,213,066	\$ (4,877,045)	\$ 48,554	\$ 420,685	Ś	(45,728)	Ś	-	\$ 466,412

### 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 January 31, 2020 the Company has \$660,722 cash and cash equivalents balance (July 31, 2019 - \$487,132) and working capital of \$726,967, compared to a working capital of \$559,476 as at July 31, 2019. The increase in the Company's cash balance and in working capital resulted from exercise of warrant and share-based options.

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During the six-month period ending January 31, 2020 3,133,600 units issued pursuant to warrant exercise at \$0.20 for proceeds of \$626,720 and 130,000 units issued pursuant to option exercise at \$0.15 and 440,000 units issued pursuant option exercise at \$0.05 totalling proceeds of \$41,500.

During the year ended July 31, 2019 there were 1,150,000 options exercised for proceeds of \$57,500. During the year ended July 31, 2018 there were 6,142,500 warrants 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, there were 5,509,999 warrants exercised for proceeds of \$305,500 and 2,450,000 options were exercised for proceeds of \$177,500.

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

From December 2018 to May 2019, the Company received gross proceeds of \$1,613,484 via the completion of a non-flow-through private placement in four tranches and a flow-through 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 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 \$65,400 per month.

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The Company is investigating sources of further funding and anticipates raising additional funds in the next fiscal year. 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**

Date of financing and planned use of proceeds	Actual use of proceeds					
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. 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. 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. 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. 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					
November 2018 – May 2019, Financing \$1,533,484. The Company intends to use the net proceeds from the Offering for pilot 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					

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### **OUTSTANDING SHARE DATA**

As at January 31, 2020 the Company had 180,586,228 shares issued and outstanding. As at July 31, 2019 the Company had 176,882,628 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.

During the six-month period ended January 31, 2020 3,133,600 units of common shares were issued pursuant to warrant exercise at \$0.20 per share receiving \$626,720 and 440,000 common shares issued pursuant to exercise of stock options including 130,000 stock options exercised at \$0.15 and 440,000 stock options exercised at \$0.05 per share receiving proceeds of \$25,500.

During the fiscal year ended July 31, 2019 10,283,225 shares were issued as part of four tranches in connection with a November 2018 non-brokered private placement. In December, 2018 400,000 shares were issued as part of Flow-Through financing.

In August 2019, the Company entered into a stock option agreement granting 5,880,000 common stock options exercisable at a price of \$0.21 per share.

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 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.

### **OFF-BALANCE SHEET ARRANGEMENTS**

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

### **RELATED PARTY TRANSACTIONS**

# American Manganese Inc. Management's Discussion and Analysis For the Three and Six-Month Period Ended January 31, 2020 Page 13 of 15

### 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

As at January 31, 2020 \$14,034 was receivable from the CEO of the Company (July 31, 2019 - \$11,934 payable) for advances for business expenses. The amounts had been non-interest bearing, unsecured and has no fixed terms of repayment.

### 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, the CFO and Chief Technical Officer.

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

	Jai	nuary 31, 2020	July 31, 2019
Short term benefits	\$	121,000	\$ 347,000
Share based compensation		46,500	140,300
	\$	167,500	\$ 487,300

### 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.

### **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 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

## American Manganese Inc. Management's Discussion and Analysis For the Three and Six-Month Period Ended January 31, 2020 Page 14 of 15

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

# American Manganese Inc. Management's Discussion and Analysis For the Three and Six-Month Period Ended January 31, 2020 Page 15 of 15

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 <u>www.sedar.com</u>.