2019 Annual Regulatory Reporting

March 30, 2020

Prepared for:
Maritime House Metals Inc.

 Reference #: 10222-001

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EXECUTIVE SUMMARY

Cambium Inc. was retained by Maritime House Metals Inc. to complete an accounting report that would satisfy the requirements of the following programs and regulations:

- National Pollutant Release Inventory program;
- Ontario Regulation 77/19: Greenhouse Gas Emissions: Quantification, Reporting, and Verification
- The greenhouse gas program under the Canadian Environmental Protection Act; and,
- Ontario Regulation 455/09: Toxic Reduction Act (TRA).

Cambium has assisted with the submission of the Accounting Reports for the 2019 operating year for Maritime House Metals Inc. through the Single Window Information Manager. Maritime House Metals Inc. must make the reports, documenting the monitored release of the contaminants specified in these regulations available to the Public and the Ministry of the Environment, Conservation and Parks. Maritime House Metals Inc. must also post a summary of the Toxics Reduction Act report on their website.

Reporting requirements vary depending on the regulation; however, this report summarizes each program's requirements and demonstrates whether Maritime House Metals Inc. qualifies for reporting to each program. In 2019, Maritime House Metals Inc. employees worked in excess of 20,000 hours and their Facility used a number of substances identified in the regulations. In addition, Maritime House Metals Inc. falls under the North American Industry Classification System code 331410 (Non-ferrous Metal (except aluminum) Smelting and Refining).

The required calculations and tabulations are included in the attached appendices. The facility is required to report to the National Pollutant Release Inventory, and the Toxics Reduction Act, however not to the greenhouse gas programs.

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1.0 INTRODUCTION

Cambium Inc. (Cambium) was retained by Maritime House Metals Inc. to provide the required annual report detailing the assessment and quantification needed to meet compliance with four programs and regulations for their facility located at 248 Kimmetts Side Road, in Napanee, Ontario (the Facility). The regulations addressed in this report include:

- The National Pollutant Release Inventory (NPRI) program;
- Ontario Regulation 77/19: Greenhouse Gas Emissions: Quantification, Reporting, and Verification (O. Reg. 77/19);
- The greenhouse gas program under the CEPA; and,
- Ontario Regulation 455/09: Toxic Reduction Act (TRA) (O. Reg. 455/09).

The North American Industry Classification System (NAICS) code that best applies to the facility is 331410 (Non-ferrous Metal (except aluminum) Smelting and Refining). Maritime House Metals Inc. should post a summary of this report's TRA section on their website as per O. Reg. 455/09. The report and any supporting information must be stored on-site to make the documentation available for any Provincial or Federal inspector. Similarly, Maritime House Metals Inc. must provide the public with a summary of the information contained within the report upon request; however, detailed proprietary or financial information does not need to be included. We have provided the required general Facility information in Table 1 through Table 8.

2.0 CALCULATIONS

Our calculations are based on the purchasing and usage records for 2019 provided by Maritime House Metals Inc. staff as shown in Appendix A. Additionally, we calculated the air emission using either the GHG reporting guidelines or the results provided in the most recent Emission Summary and Dispersion Modelling (ESDM) report (Cambium Inc., 2019). We have detailed the supporting calculations for air emissions in Appendix B.

3.0 NATIONAL POLLUTANT RELEASE INVENTORY (NPRI)

The NPRI program is a federal program enforced under the Canadian Environmental Protection Act (CEPA). The NPRI program requires annual reporting of specified substances that exceed their defined thresholds. Facilities that are not exempt by their activities must quantify the disposal, release, and transferring of the substances exceeding their thresholds. Quantification of NPRI contaminants was necessary for the 2019 operating year, because Maritime House Metals Inc. employees worked in excess of 20,000 hours at the Facility and NPRI substances of concern were used. The contaminants that were determined to require reporting at the Facility are as follows:

- Hydrochloric acid
- Cobalt (and its compounds)
- Nitric acid
- Nickel (and its compounds)

The document *Guide for Reporting to the National Pollutant Release Inventory*, 2018 and 2019 (the Guide) (Environment and Climate Change Canada, 2018), was consulted to determine reporting requirements for the 2019 operating year. The airborne substances are divided into five parts:

- Part 1A – Core Substances;
- Part 1B – Alternate Threshold Substances;
- Part 2 – Polycyclic Aromatic Hydrocarbons;
- Part 3 – Dioxins, Furans, and Hexachlorobenzene;
- Part 4 – Criteria Air Contaminants (CACs); and,
- Part 5 – Speciated Volatile Organic Compounds.

In 2019, the Facility used substances listed in Part 1A and 1B. Air emissions of substances listed in Part 4 are produced from combustion of natural gas and propane, which were calculated emission factors. Emission calculations are included in Appendix B and we have provided a summary of the Facility's NPRI reporting in Appendix C.

Cambium has reviewed the changes to reporting requirements in the Guide and did not find any new reporting thresholds or contaminants that would require additional reporting for the Facility.

4.0 TOXICS REDUCTION ACT ANNUAL ACCOUNTING

This section summarizes the specific requirements of the TRA annual accounting report required by the Ministry of the Environment, Conservation and Parks (the MECP). The TRA is enforced under Ontario Regulation 455/09. TRA accounting reports are required where employees worked in excess of 20,000 hours at a facility, the facility's NAICS

code begins with 31, 32, 33, or 212, and where NPRI contaminants are required to be reported. Since the Facility meets all of these specifications, it must report to the TRA program.

For a summary of the Facility wide TRA reporting values see Appendix D. We have outlined the regulatory reporting requirements in section 4.1; the reporting outline follows the regulatory requirements precisely. All of the substances are reported together in one report.

4.1 ONTARIO REGULATION 455/09 SUBSECTION 12 (1)

This section describes the contaminant quantities that must be reported as per O. Reg. 455/09.

4.1.1 PARAGRAPH 1: AMOUNT OF THE SUBSTANCE ENTERING THE PROCESS

Maritime House Metals Inc. purchases hydrochloric acid and nitric acid in bulk for use in the metal extraction process. Nickel and cobalt entered the Facility within the feedstock material used for metal extraction. Refer to Appendix D for the specific tabulations.

4.1.2 PARAGRAPH 2: AMOUNT OF THE SUBSTANCE THAT IS CREATED

None of the toxic substances associated with the Facility were created on-site.

4.1.3 PARAGRAPH 3: AMOUNT OF THE SUBSTANCE DESTROYED OR TRANSFORMED

The toxic substances hydrochloric acid and nitric acid are destroyed on-site. This is based on the definition of destruction; specifically, that if a substance is transformed into a substance that is considered non-toxic, it is destroyed. These 2 acids are transformed either through reacting with metal feedstock to become salts and metal sulphates, or during neutralizations in the metal extraction process.

4.1.4 PARAGRAPH 4: AMOUNT OF THE SUBSTANCE RELEASED, DISPOSED OF, OR TRANSFERRED

A certain amount of hydrochloric and nitric acid are transferred off-site from the Facility in some quantity. Appendix D summarizes the amount of each substance transferred off-site. The two acids leave the site either within waste solution, or within scrubber liquid, at which point they are properly disposed. The amount of each substance disposed of was based on either waste disposal invoices, or engineering estimates completed by Maritime House Metals Inc.

The nickel and cobalt present in the feedstock is recovered and sold as a product, the amount is based on detailed sales records and engineering estimates.

As per the ESDM report (Cambium Inc., 2019), hydrochloric acid, nitric acid, nickel, and cobalt have reportable air emissions. The air emissions at the Facility were assessed in the ESDM as required for the purpose of the ECA application. We have calculated the emissions of hydrochloric and nitric acid using the Ministry's guidance

associated with the rate of evaporation of contaminants to the air (MOECC, 2019). Estimates of the amount of nickel and cobalt emitted to the air are based on typical chemical composition of the feedstock and potential particulate emissions. We have extrapolated emission values to predict the annual emission of each substance based on the maximum working hours of the Facility, which average to 10 hours per day and 253 days per year.

4.2 SUBSECTION 12 (2)

This section describes the process information that must be reported as per O. Reg. 455/09.

4.2.1 PARAGRAPH 1: RECORD DESCRIBING THE PROCESS

The Facility operates as a metal extraction and recycling facility. Figure 1 outlines each stage of the manufacturing process including those that use the toxic substances and those that do not. Only the processes in which toxics are present are discussed in this section.

4.2.1.1 STAGE 1

Stage 1 – Shipping and Receiving consists of the following 2 processes: the receipt of the feedstock consisting of various metals, and the receipt of process additives. This stage identifies how the substance is transferred onto the site and into storage in preparation for its use in the extraction process. Refer to Figure 2.

4.2.1.2 STAGE 2

Stage 2 – Preparation consists of processes to prepare the metal feedstock for processing. This may include grinding, centrifuge, and calcination in order to prepare metals.

4.2.1.3 STAGE 3

Stage 3 - Process consists of the leaching, filtration and neutralization. In addition, there is equipment that is associated with the processes such as chemical scrubbers for control of air emissions. The leaching process consists of mixing the acids and feedstock to begin the process of digesting the desired metals. The filter feed tank and neutralization process consists of various processes that are required to remove the less desirable metals. Wastes produced include the scrubber solutions and the unwanted raffinate solution. Some of this solution is re-used, however, ultimately the undesired metals are disposed of. Refer to Figure 3.

4.2.1.4 STAGE 4

The solution that contains the desired metals is sent to Stage 4; however, by this point, the substances considered toxic are no longer present and therefore Stage 4 is not documented.

4.2.2 PARAGRAPH 2: PROCESS FLOW DIAGRAMS

See the attached figures for the required process flows diagrams.

4.2.3 PARAGRAPH 3: RECORD OF TRACKING AND QUANTIFICATION

Maritime House Metals Inc. tracks and quantifies the amount of toxic substances through the site by reviewing records for the amounts initially purchased, the amounts disposed of, and the amounts sold as product. The quantities of process additives brought on-site are tracked through purchasing records, whereas the quantities of feedstock would be quantified in the saleable product stage and disposal records. Disposal records are tracked through third-party disposal invoices. The remaining quantities of process additives are calculated through mass balance or through the application of the emission rates described in the ESDM report (Cambium Inc., 2019).

4.2.4 PARAGRAPH 4: JUSTIFICATION FOR APPROXIMATELY EQUAL MASS BALANCE

Based on the analysis of the available tracking and quantification data it was determined that the input and output of all toxic substances from the site is approximately equal, after accounting for the transformation of process additives through mass balance. The tracking of toxic substances in the form of metals (feedstock) is based on the saleable product and disposed material leaving the Facility and is easily and accurately accounted for. However, various factors can introduce uncertainly into the tracking of toxic substances in the form of process additives, which cannot be overcome with different tracking and quantification measures because they will not be technically or economically feasible. First, the amount of additive substance that is transformed in the neutralization process cannot be calculated with certainty. Second, the leach tank components are re-used for an indefinite amount of time, and the quantities of toxic substance present in the tanks at any given time can only be estimated.

However, the overall site-wide results of the analysis are approximately equal, which supports the fact that the assumptions made are correct. It is not suspected that any toxic substance releases from the Facility have not been accounted for.

4.2.5 PARAGRAPH 5: METHOD OF TRACKING AND QUANTIFICATION

The methods used to track and quantify toxic substances in each process include:

1. Purchasing records of process additives – This method was chosen to quantify the amount of toxic substances coming into the site due to the fact that the information is easily obtainable and accurate. The data quality of this information is considered to be average due to the controlled sale of hazardous chemicals (additives).
2. Engineering Estimates – Maritime House Metals Inc. provided estimates of the amount of substances destroyed within their processes, based on their knowledge of the chemistry of the reactions taking place. Data quality for this information is considered average.

3. Air Emissions – The fugitive emissions of toxic substances in the form of process additives (acids) were obtained from the ESDM report (Cambium Inc., 2019). These emissions were based on information provided by Maritime House Metals Inc., as well as through engineering estimates and mass balance. Data quality for this information is considered average.
4. Waste Disposal Records – The disposal of acid additives (nitric and hydrochloric acid) was quantified and tracked through waste disposal records. The substances leaves the site in raffinate after the metal extraction process, at which point they are properly disposed of. This method was chosen because it includes an accurate record of the mass of disposed material. Data quality for this information is considered average.
5. Sales Records – The amount of nickel and cobalt sold as product was quantified and tracked through sales records. Since the materials are sold the concentration and mass of the metals present is well known. This method was chosen because it includes accurate records of mass and concentration of sold material. Data quality for this information is considered average.

4.3 CERTIFICATION STATEMENTS

As required, the highest-ranking employee at the Facility must complete the following certification statements for each substance reported under the TRA.

4.3.1 ANNUAL REPORT CERTIFICATION STATEMENT

As of APRIL 1ST 2020, I, Jason Butts, certify that I have read the reports on the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the information contained in the reports is factually accurate and the reports comply with the Toxics Reduction Act, and Ontario Regulation 455/09 (General) made under that Act.

[Hydrochloric Acid]

[Nitric Acid]

[Nickel]

[Cobalt]

Signed: _____

Plant Director

5.0 GREENHOUSE GAS (GHG) REPORTING SUMMARY

Reporting to the greenhouse gas program under the CEPA is required when 10,000 tonnes of carbon dioxide equivalent units is emitted by a facility (Environment Canada, 2019). Additionally, O. Reg. 77/19 requires greenhouse gas reporting only when the facility's activities correspond to those defined in the regulation when the same 10,000 tonne limit is exceeded.

The list of activities of O. Reg. 77/19 includes sources of general combustion that occurs at the Facility. Therefore, following provincial guidelines, the GHG emissions due to general combustion were calculated and compared to the reporting threshold of 10,000 tonnes of equivalent carbon dioxide.

The Facility is not required to report to either GHG program. Appendix E summarizes all the GHG emissions at the Facility and compares the relevant totals to the reporting thresholds.

6.0 ONLINE REPORTING

We have submitted the data presented in this report to the appropriate authorities through the Single Window Information Management (SWIM) system, which we have provided in Appendix F. The relevant data is available to the public through this system for the Facility; we have provided the public report in Appendix G.

7.0 CONCLUSIONS

This report combined with the online submission of data satisfies the requirements of the NPRI, TRA, both GHG programs, and Ontario Regulation 127/01. Note that the TRA requires that a public report be made available on the Maritime House Metals Inc. website. In addition, all programs require that a report be available to the public on request. Maritime House Metals Inc. should maintain this report, along with any records used by Cambium, on-site so they are available to Federal or Provincial officers upon request.

If you have any questions regarding this report, please feel free to contact the undersigned at (705) 742-7900.

Respectfully submitted,

CAMBIUM INC.

Trevor Copeland, P. Eng.
Project Coordinator

Cody Given, EIT
Technician

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QUALIFICATIONS AND LIMITATIONS

Limited Warranty

In performing work on behalf of a client, Cambium relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium determines the precise nature of the work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

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Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in a report prepared by Cambium, are beyond the scope of the work performed by Cambium and such matters have not been investigated or addressed.

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Cambium's services, work and reports may be relied on by the client and its corporate directors and officers, employees, and professional advisors. Cambium is not responsible for the use of its work or reports by any other party, or for the reliance on, or for any decision which is made by any party using the services or work performed by or a report prepared by Cambium without Cambium's express written consent. Any party that relies on services or work performed by Cambium or a report prepared by Cambium without Cambium's express written consent, does so at its own risk. No report of Cambium may be disclosed or referred to in any public document without Cambium's express prior written consent. Cambium specifically disclaims any liability or responsibility to any such party for any loss, damage, expense, fine, penalty or other such thing which may arise or result from the use of any information, recommendation or other matter arising from the services, work or reports provided by Cambium.

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Potential liability to the client arising out of the report is limited to the amount of Cambium's professional liability insurance coverage. Cambium shall only be liable for direct damages to the extent caused by Cambium's negligence and/or breach of contract. Cambium shall not be liable for consequential damages.

Personal Liability

The client expressly agrees that Cambium employees shall have no personal liability to the client with respect to a claim, whether in contract, tort and/or other cause of action in law. Furthermore, the client agrees that it will bring no proceedings nor take any action in any court of law against Cambium employees in their personal capacity.

REFERENCES

Cambium Inc. (2019). *Emission Summary and Dispersion Modelling Report.*

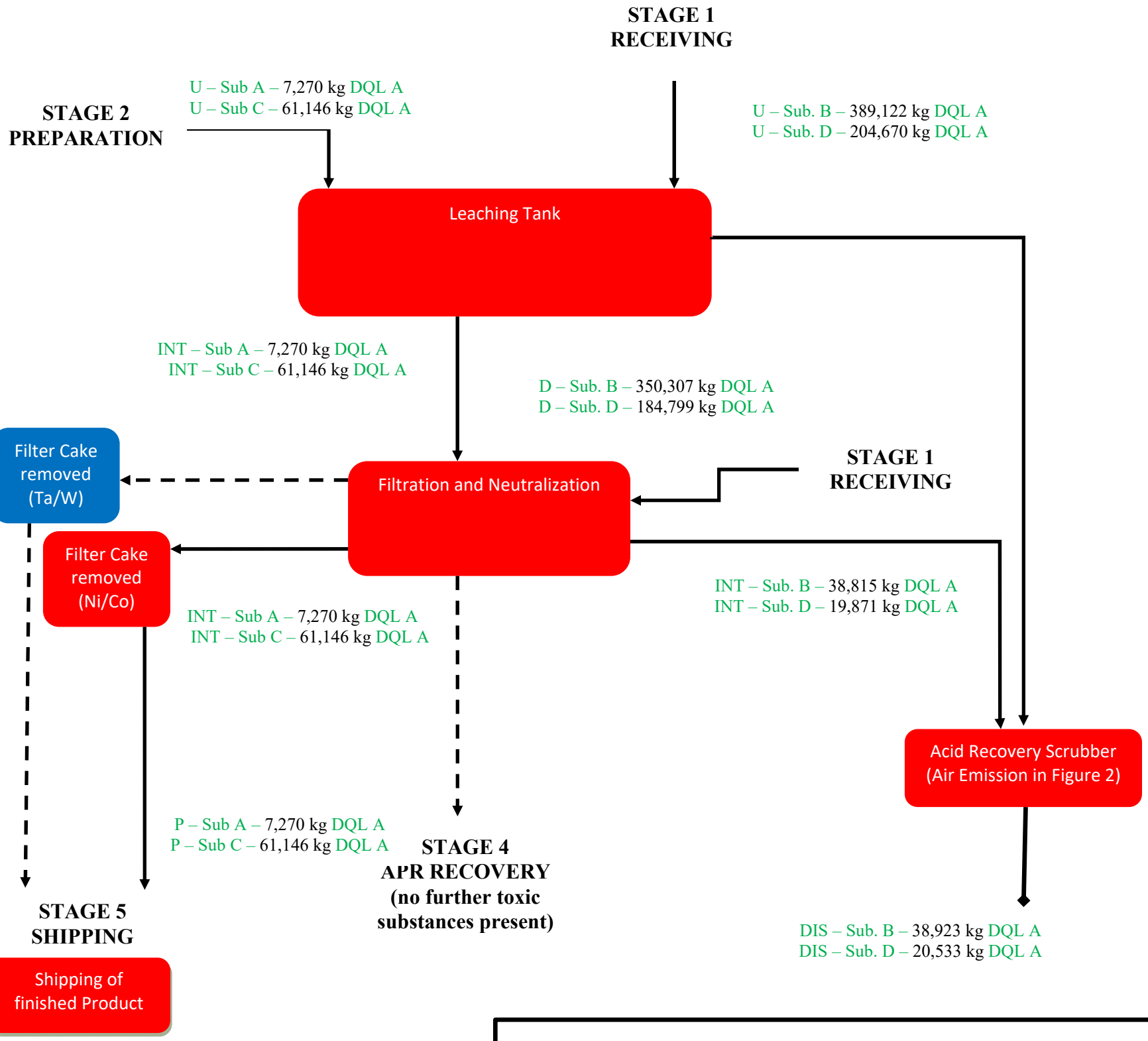
Environment and Climate Change Canada. (2018). *Guide for Reporting to the National Pollutant Release Inventory: 2018 & 2019.*

Environment Canada. (2019). Notice with respect to reporting of greenhouse gases (GHGs) for 2018. *Canada Gazette*.

MOECC. (2019). *Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling Report.* Ontario Ministry of the Environment and Climate Change.

Appended Figures

STAGE 3
LEACHING PROCESS



Written Description of Leaching Process

Scrap metals are placed into a tank and leached with acids, during this leaching process some of the acids are destroyed as they react with the metals to pull them into solution. Some metals will not be dissolved by the acids and a first filter stage is completed to remove the solids from solution. Then during neutralization the nickel metal is precipitated out of solution and filtered out of the material for sale. The hydrochloric acid is either destroyed in the leaching process, or the neutralization process, or else it is shipped offsite for disposal after use. The Arsenic represents a process that will be being phased out of the Napanee Facility, it is included in the process flow for representation however the exact process is slightly different than the process presented here. That being said the arsenic will be entirely eliminated from this site and therefore details assessment is less critical. Stage 4 is not included in these process flow diagrams since it does not contain any toxic substances.

Legend

U	Enters the process (Use) of toxic substance
C	Creation of toxic substance
T	Transformation of toxic substance
D	Destruction of toxic substance
P	Toxic substance contained in Product
A	Onsite release of toxic substance to Air
L	Onsite release of toxic substance to Land
W	Onsite release of toxic substance to Water
DIS	On or off site Disposal of toxic substance
TR	Offsite Transfer of toxic substance
INT	Intermediate step in process
DQI	Data Quality Level (H=high, AA=above average, A=average, U=Uncertain

- Denotes Absence of toxic substance
- Denotes on or off site release of toxic substance
- Denotes the presence of toxic substance

Sub. A	Cobalt (and its compounds)
Sub. B	Hydrochloric Acid
Sub. C	Nickel (and its compounds)
Sub. D	Nitric Acid

Process — Denotes absence of toxic substance in process

Process — Denotes presence of toxic substance in process

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Checked by: CWG	Scale: NA
Date: March 2020	

STAGE 3 PROCESS FLOW DIAGRAM
Annual Regulatory Reporting 2019 - Metal Recovery Facility
Maritime House Metals Inc., Napanee, Ontario

Figure No: **4**

STAGE 2
PREPARATION

STAGE 1
RECEIVING

INT – Sub. A – 7,270 kg DQL A
INT – Sub. C – 61,146 kg DQL A

Preparation Activities

Grinding Dust collected

DIS – Sub. A – 0.01 kg DQL A
DIS – Sub. C – 0.05 kg DQL A

INT – Sub. A – 7,270 kg DQL A
INT – Sub. C – 61,146 kg DQL A

STAGE 3
PROCESS

Written Description of Preparation Stage

Depending on the condition of the incoming feedstock, Preparation Stage processes must be utilized to ensure that the feedstock is in appropriate condition to enter the Process Stage. The processes are utilized to separate grindings that are small enough for Stage 3 Processing from larger scrap. Larger scrap is ground to reduce the particle size to a usable amount. Depending on the conditions of the swarf material from the Receiving Stage, it may or may not be sent through other processes. These processes are used to remove any residual contaminants from the swarf to ensure that pure super alloy is what is fed into the grinding process. Once all the feedstock has been reduced to the appropriate size it is sent on the Stage 3, the Process Stage.

Legend

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STAGE 2 PROCESS FLOW DIAGRAM
Annual Regulatory Reporting 2019 - Metal Recovery Facility
Maritime House Metals Inc., Napanee, Ontario

Figure No: **3**

STAGE 1
RECEIVING

Receiveing of Incoming Feedstock

INT – Sub. A – 7,270 kg DQL A
INT –Sub. C – 61,146 kg DQL A

STAGE 2
PREPARATION

INT – Sub. B – 389,122 kg DQL A
INT – Sub. D – 204,670 kg DQL A

STAGE 3
PROCESS

Receiving of Process Additives

INT – Sub. B – 389,230 kg DQL A
INT – Sub. D – 205,333 kg DQL A

INT – Sub. B – 108 kg DQL A
INT – Sub. D -663 kg DQL A

Liquids Stored In Tanks

Acid Recovery Scrubber

Offsite Acid Recycling Facility

DIS – Sub. B – 62 kg -DQL A
DIS – Sub. D – 593 kg -DQL A

Emitted to Air After Scrubber

A – Sub. B - 46 kg DQL A
A – Sub. D - 70 kg DQL A

Written Description of Receiving Stage

The Maritime House Metals ULC Napanee Facility's main operations are the recycling of super alloy materials. Therefore, the facility accepts scrap for recycling and must purchase chemical additives to complete the recycling process. Stage 1 of the operations consists of the Receiving processes of the facility. Incoming feedstock including toxic substances Nickel and Arsenic are received by the facility generally in the form of grinds or swarfs. These feedstock materials are stored on site until they are processed in the next stage. Since the superalloy scrap is in a solid state and stored indoors there are no releases of the product. In addition to feedstock material the facility receives a number of chemical additives required for the recycling process, these include the toxic substances hydrochloric acid and nitric acid. The acid is received and pumped into storage tanks. The storage tanks are vented to an acid recovery scrubber system. Air emission calculations from the Emission Summary and Dispersion Modelling report have been previously calculated for the hydrochloric and nitric acid tank and the acid recovery tank based on the expected rate of evaporation for the tank, using process outlined by the United States Environmental Protection Agency (USEPA). The evaporated toxic is sent through the scrubber system where the majority is condensed from the exhaust air and returned to a storage tank for recovered acid, a small amount of hydrochloric and nitric acid is released to the air through the scrubber. Once the acid has been piped to the acid recovery tank it again has the opportunity to evaporate, this potential has been considered in the ESDM calculations. The acid recovery tanks are periodically emptied by a hazardous waste disposal company and taken offsite for recycling. Ultimately the majority of the hydrochloric and nitric acid is retained and sent on to be utilized in Stage 3, the recycling process itself.

Legend

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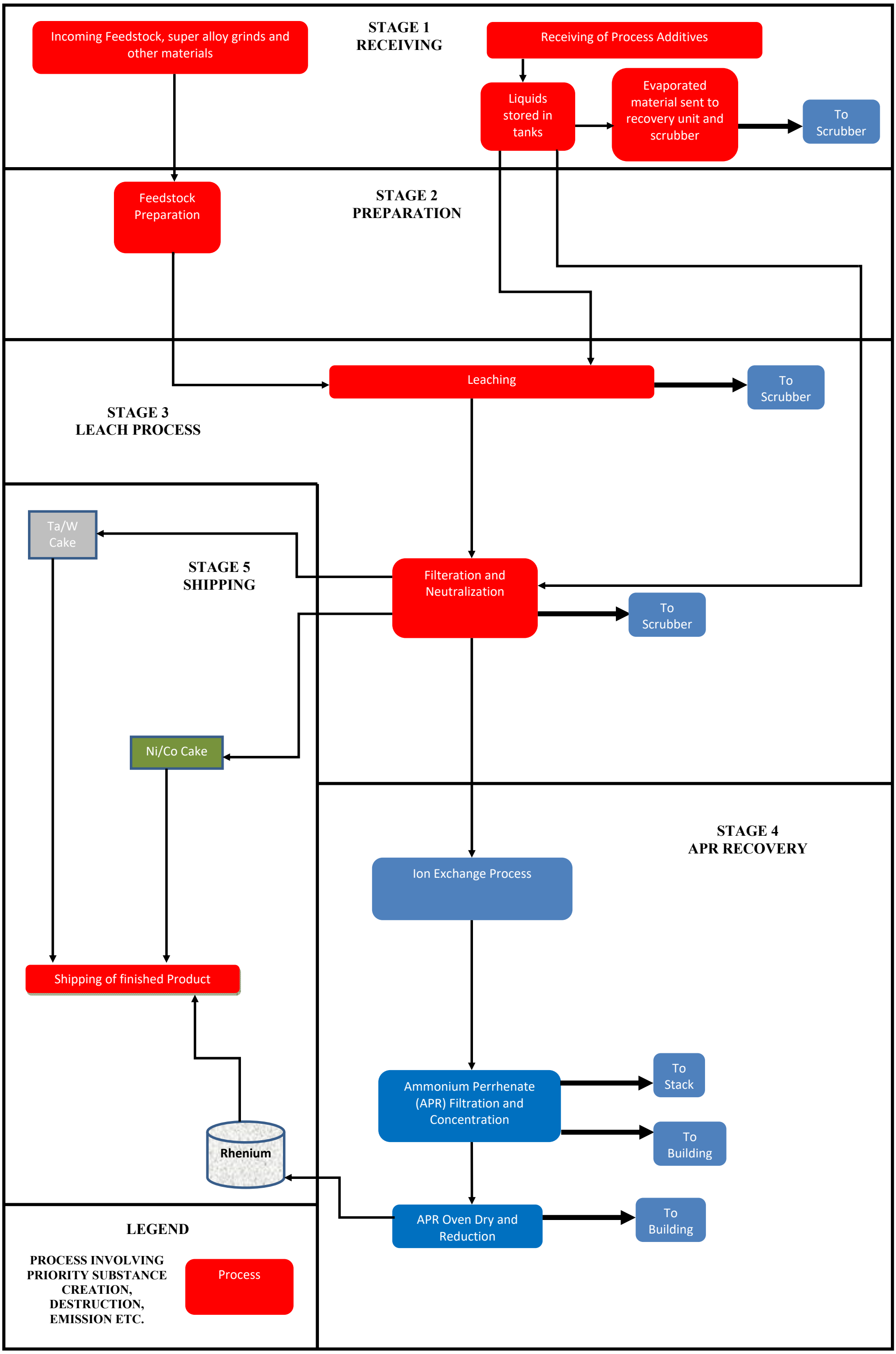
STAGE 1 PROCESS FLOW DIAGRAM
Annual Regulatory Reporting 2019 - Metal Recovery Facility
Maritime House Metals Inc., Napanee, Ontario

Figure No: **2**



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OVERALL PROCESS FLOW DIAGRAM
Annual Regulatory Reporting 2019 - Metal Recovery Facility
Maritime House Metals Inc., Napanee, Ontario

Figure No: **1**

Appended Tables

Table 1 General Facility Information

Company Name	Maritime House Metals Inc.
Facility Name	Maritime House Metals Inc. - Napanee Facility
Facility Address	248 Kimmets Side Road, Napanee, Ontario, K7R 3L2
NPRI ID	11787
Ontario MOE ID	7783-9JFMN7
Website Address	www.maritimehouse.co.uk
Business Number	83311 5371
NAICS Code	331410

Table 2 Company Contact Information

Facility Public Contact	Jason Butts
Facility Public Contact Address	248 Kimmetts Side Road, Napanee, Ontario, K7R 3L2
Facility Technical Contact	Trevor Copeland, Cambium Inc.
Facility Tech. Contact Adress	PO Box 325, 52 Hunter Street East, Peterborough Ontario
Certifying Official	Jason Butts
Certifying Official's Address	248 Kimmetts Side Road, Napanee, Ontario, K7R 3L2
Highest Ranking Employee	Jason Butts
Highest Ranking Address	248 Kimmetts Side Road, Napanee, Ontario, K7R 3L2

Table 3 Parent Company Information

Parent Company Name	Maritime House Ltd.
Parent Company Address	Burns House, Harlands Road, Haywards Heath, West Sussex, RH16 1PG, United Kingdom
Percent Ownership	100%
Business # for Parent Company	

Table 4 Disposal/Recycling Company Information

Disposal Company 1 Name	Stablex Canada Inc.
Disposal Company 2 Name	
Recycling Company 1 Name	
Recycling Company 2 Name	

Table 5 Other Environmental Regulations and Permits

Ontario Haz. Waste Number	ON2678601
Environmental Approval	0403-53ZPUK
Environmental Activity Sector Registry	
Other	

Table 6 Operations and Employees

Days Of Operation	4-5 days a week
Hours of Operation	24 Hours a day
Start Time	7:00 AM
Shutdowns longer than 1 week?	Yes
Dates of shutdowns	
Confirm whether site roads are paved. If not, answer the following six (6) items	Yes
Private Cars/Pickup Trucks on Site per day	
Average trip length	
Loaders on Site Per Day	
Average km/day	
Heavy Trucks on Site Per Day	
Average trip length	
Number of Full-Time Employees (or eq.)	16

Table 7 Monthly Percent of Annual Production

January-March	25
April-June	25
July-September	25
October-December	25

Table 8 Pollution Prevention Activities (mandatory reporting for NPRI)

Does the Facility have a documented site-wide pollution prevention plan?	No
Were any pollution prevention activities completed this year? If yes provide Detail	No

Appendix A
Data Provided by Client

Table A - NPRI/TRA Reporting Information

Substances	CAS	Used Strictly for Research or Testing? (Yes or No)	Reporting Threshold (mass, concentration)	Total quantity of product manufactured, processed or otherwise used (including disposed quantity)			Reporting Required?	Quantities Required for NPRI and TRA Substances: (tonnes)			Quantities Required for TRA Priority Substances: (tonnes)				Is the product manufactured, processed or otherwise used at a concentration >1% by weight? (Yes or No)	Is the use of this substance anticipated to be the same over the next three years?	List any pollution prevention activities implemented specific to this substance
				Reported	Units	Tonnes		Disposed	Transferred for Recycling	Contained in Product	Created On-site	Destroyed On-site	Transformed On-site	Emitted as Pollution (air/water/soil)			
Hydrochloric Acid	7647-07-0	No	10,000 kg, 1%	389230	kg	3.89E+02	Yes	3.89E+01	-	-	-	3.50E+02	-	4.63E-02	Yes	Expected to increase	Wet Scrubbers, Spill Response Training
Nitrate Ion			10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia			10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrofluoric Acid	7664-39-3		10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropyl Alcohol	67-63-0		1,000 kg if VOC overall exceed 10,000 kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methanol	67-56-1		10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitric Acid	7697-37-2	No	10,000 kg, 1%	205333	kg	2.05E+02	Yes	2.05E+01	-	-	-	1.85E+02	-	6.97E-02	Yes	Expected to increase	Wet Scrubbers, Spill Response Training
Sulphuric Acid	7664-93-9		10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphurous Acid	7782-99-2		20 tonnes air release (as sulphur dioxide)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrogen Sulphide	7783-06-4		10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorine	7782-50-5		10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrogen Cyanide	74-90-8		10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides (ionic)			(Ionic) 10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum			(fume or dust only) 10,000 kg. 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic			50 kg, 0.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt		No	50 kg, 0.1%	7270	kg	7.27E+00	Yes	-	-	7.27E+00	-	-	-	7.39E-06	Yes	Expected to increase	Dust Collector Filter, Spill Response Training
Cadmium			5 kg, 0.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper			10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead			50 kg, 0.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese			10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver			10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Hydroxide	1336-21-6	No	(as ammonia) 10,000 kg, 1%	1075	L	9.46E-01	No	-	-	-	-	-	-	-	-	-	-
Selenium			100 kg, 0.000005%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel		No	10,000 kg, 1%	61146	kg	6.11E+01	Yes	-	-	6.11E+01	-	-	-	4.80E-05	Yes	Expected to increase	Dust Collector Filter, Spill Response Training
Zinc			10,000 kg, 1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propane as fuel (list amount used only)		No	Not applicable (must convert to combustion products)	3455	lbs	-	-	-	-	-	-	-	-	-	-	Expected to increase	-
Propane as Heat (list amount used only)			Not applicable (must convert to combustion products)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Natural gas as fuel (list amount used only)			Not applicable (must convert to combustion products)	121830	m^3	-	-	-	-	-	-	-	-	-	-	Expected to increase	-

Table A - NPRI/TRA Reporting Information

Substances	CAS	Used Strictly for Research or Testing? (Yes or No)	Reporting Threshold (mass, concentration)	Total quantity of product manufactured, processed or otherwise used (including disposed quantity)			Reporting Required?	Quantities Required for NPRI and TRA Substances: (tonnes)			Quantities Required for TRA Priority Substances: (tonnes)				Is the product manufactured, processed or otherwise used at a concentration >1% by weight? (Yes or No)	Is the use of this substance anticipated to be the same over the next three years?	List any pollution prevention activities implemented specific to this substance
				Reported	Units	Tonnes		Disposed	Transferred for Recycling	Contained in Product	Created On-site	Destroyed On-site	Transformed On-site	Emitted as Pollution (air/water/soil)			
Natural Gas as heat (list amount used only)		No	Not applicable (must convert to combustion products)	4000	m^3	-	-	-	-	-	-	-	-	-	-	Expected to increase	-
Diesel Fuel (list amount used only)			Not applicable (must convert to combustion products)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heating Oil (list amount used only)			Not applicable (must convert to combustion products)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kerosene			Not applicable (must convert to combustion products)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Calculations

Table B1 - Calculation of Air Emissions - Natural Gas Combustion

Natural Gas Consumption

Year	Volume	Units	HHV[1]	Units
2015	104,083	m^3	38.9	MJ/m^3
2016	128,688	m^3		
2017	135,553	m^3		
2018	168,897	m^3		
2019	125,830	m^3		

Substance Name	CAS Number	Greenhouse Gas Emission Factor[2] (g/m^3)	Emissions Factor ($lb/10^6$ scf)	Emission Factor[3] ($kg/10^6$ m^3)	Mass Released (tonne)	Equivalency Factor	Equivalent Carbon Dioxide Emissions (tonne CO_2e)	Comments
Carbon Dioxide	124-38-9	1.95E+03	-	-	2.45E+02	1	245	See Table 3 for Total Emission Summary
Methane	74-82-8	3.70E-05	-	-	4.66E-06	25	0	
Nitrous Oxide	10024-97-2	3.50E-05	-	-	4.40E-06	298	0	
Carbon Monoxide	630-08-0	-	84	1346	1.69E-01	-	-	
Oxides of Nitrogen	10102-43-9	-	100	1602	2.02E-01	-	-	
Sulphur Dioxide	7446-09-5	-	0.6	10	1.21E-03	-	-	
Total Particulate Matter	-	-	7.6	122	1.53E-02	-	-	
Particulate Matter $_{10}$	-	-	5.7	91	1.15E-02	-	-	
Particulate Matter $_{2.5}$	-	-	1.9	30	3.83E-03	-	-	
Volatile Organic Compounds	-	-	5.5	88	1.11E-02	-	-	

Notes:

[1] The 2019 natural gas HHV was taken from the annual average presented in the Enbridge Gas Inc. 2019 Gas Composition and High Heating Value Data table.

[2] Developed from Equations 2-9, and 2-13 of Canada's Greenhouse Gas Quantification Requirements (December 2019).

[3] Values from US EPA *AP-42 Fifth Edition, Volume 1, Chapter 1.4: Natural Gas Combustion*

Table B2 - Process Emission Summary Table [1]

Contaminant	CAS Number	Total Facility Emission Rate (g/s)	Predicted Annual Emissions (24/7 Operation) (tonnes)	Research Only	Particulate	Volatile Organic Compound
Aluminum	7429-90-5	1.01E-07	9.23E-07	No	Yes	No
Ammonia	7664-41-7	9.45E-03	8.61E-02	No	No	No
Chlorine	7782-50-5	4.23E-03	3.85E-02	No	No	No
Chromium Compounds (metallic, divalent and trivalent forms)	7440-47-3	1.01E-07	9.23E-07	No	Yes	No
Cobalt	7440-48-4	8.11E-07	7.39E-06	No	Yes	No
Hydrogen chloride	7647-01-0	5.09E-03	4.63E-02	No	No	No
Molybdenum	7439-98-7	1.62E-07	1.48E-06	No	Yes	No
Nickel and Nickel Compounds	7440-02-0	5.27E-06	4.80E-05	No	Yes	No
Nitrate and Nitrite	84145-82-4	5.64E-04	5.14E-03	No	No	No
Nitric acid	7697-37-2	7.65E-03	6.97E-02	No	No	No
Nitrogen oxides	10102-44-0	7.97E-02	7.26E-01	No	No	No
Nitrogen oxides (gen.)	10102-44-0 (gen.)	3.73E-01	3.40E+00	No	No	No
Potassium nitrate	7757-79-1	3.31E-03	3.02E-02	No	Yes	No
Rhenium	7440-15-5	2.43E-07	2.22E-06	No	Yes	No
Sodium chloride	7647-14-5	3.25E-24	2.96E-23	No	Yes	No
Sodium chlorite	7758-19-2	1.94E-02	1.77E-01	No	No	No
Sodium hydroxide	1310-73-2	8.99E-16	8.18E-15	No	No	No
Sodium nitrate	7631-99-4	1.27E-02	1.15E-01	No	No	No
Sodium sulfide	1313-82-2	3.09E-19	2.81E-18	No	No	No
Tantalum	7440-25-7	7.30E-07	6.65E-06	No	Yes	No
Thiocyanate sodium	540-72-7	2.80E-12	2.55E-11	No	No	No
Tin	7440-31-5	1.01E-07	9.23E-07	No	Yes	No
Tungsten	7440-33-7	4.87E-07	4.43E-06	No	Yes	No

Notes:

[1] Emission rates as calculated in the Emission Summary and Dispersion Modelling Report (April 2019), extrapolated based on operating time

Table B3 - Calculation of Air Emissions - Propane Combustion

Propane Consumption

Year	Amount[1]	Units
2015	1.54	m^3
2016	2.61	m^3
2017	2.30	m^3
2018	3.23	m^3
2019	1,567	kg
2019	3.17	m^3

Substance Name	CAS Number	Emission Factor[2] (kg/m^3)	Emission Factor[3] (g/L)	Mass Released (tonne)	Equivalency Factor	Equivalent Carbon Dioxide Emissions (tonne CO_2e)	Comments
Carbon Dioxide	124-38-9	-	1515	4.81E+00	1	4.81	See Table 3 for Total Emission Summary
Methane	74-82-8	-	6.4E-01	2.03E-03	25	0.05	
Nitrous Oxide	10024-97-2	-	8.7E-02	2.76E-04	298	0.08	
Carbon Monoxide	630-08-0	1.6E+01	-	5.08E-02	-	-	
Oxides of Nitrogen	10102-44-0	2.5E+01	-	7.93E-02	-	-	
Polycyclic Aromatic Hydrocarbons	-	6.0E-08	-	1.90E-10	-	-	
Volatile Organic Compounds	-	2.1E+00	-	6.66E-03	-	-	

Notes:

[1] Conversion to cubic metres based on liquid propane density of 494 kg/m^3 at 25°C

[2] Values for forklift emissions from Australian Government National Pollutant Inventory Emission Estimation Technique Manual for Combustion Engines, Version 3.0, June 2008, Table 25 - Assumed uncontrolled

[3] Developed from Equations 2-2, and 2-13 of Canada's Greenhouse Gas Quantification Requirements (December 2019).

Appendix C
NPRI Reporting Information

Table C1 - NPRI Part 1 Substances Total Facility Emissions

Substance Name	CAS Number	MPO Threshold (tonne)	MPO Concentration	Total Quantity Used (tonne)	Necessary to Report (Yes or No)	Air Emission (tonne)	Estimation Method	Disposal (tonne)	Estimation Method
Aluminum	7429-90-5	10	1.0%	-	No				
Ammonia	7664-41-7	10	1.0%	1.74E+00	No				
Arsenic	7440-38-2	0.05	0.1%	-	No				
Cadmium	7440-43-9	0.005	0.1%	-	No				
Chlorine	7782-50-5	10	1.0%	-	No				
Cobalt	7440-48-4	0.05	1.0%	7.27E+00	Yes	7.39E-06	A	-	-
Copper	-	10	1.0%	-	No				
Cyanides (ionic)	-	10	1.0%	-	No				
Hydrochloric acid	7647-01-0	10	1.0%	3.89E+02	Yes	4.63E-02	A	3.89E+01	B
Hydrogen cyanide	74-90-8	10	1.0%	-	No				
Hydrofluoric Acid	7664-39-3	10	1.0%	-	No				
Hydrogen sulphide	7783-06-4	10	1.0%	-	No				
Isopropyl alcohol	67-63-0	1 if overall VOC exceeds 10	N/A	-	No				
Lead	7439-92-1	0.05	0.1%	-	No				
Manganese	7439-96-5	10	1.0%	-	No				
Methanol	67-56-1	10	1.0%	-	No				
Nickel	7440-02-0	10	1.0%	6.11E+01	Yes	4.80E-05	A	-	-
Nitrate ion	-	10	1.0%	-	No				
Nitric acid	7697-37-2	10	1.0%	2.05E+02	Yes	6.97E-02	A	2.05E+01	B
Selenium	7782-49-2	0.1	0.000005%	-	No				
Silver	7440-22-4	10	1.0%	-	No				
Sulphuric acid	7664-93-9	10	1.0%	-	No				
Zinc	7440-66-6	10	1.0%	-	No				

Estimate Methods
A - From ESDM report, typically a combination of emission factors and engineering calculations
B - From waste disposal records

Table C2 - NPRI Part 2 Substances Total Facility emissions

Substance Name	CAS Number	MPO Threshold	MPO Concentration	Total Quantity Used (tonne)	Necessary to Report (Yes or No)	Air Emission (tonne)	Estimation Method	Disposal (tonne)	Estimation Method
No Part 2 Substances Released									

Table C3 - NPRI Part 3 Substances Total Facility emissions

Substance Name	CAS Number	MPO Threshold	MPO Concentration	Total Quantity Used (tonne)	Necessary to Report (Yes or No)	Air Emission (tonne)	Estimation Method	Disposal (tonne)	Estimation Method
Facility does not participate in specified activities for NPRI Part 3									

Table C4 - NPRI Part 4 Substances Total Facility emissions

Substance Name	CAS Number	MPO Threshold for Air Release (tonne)	MPO Concentration	Air Emission (tonne)	Necessary to Report (Yes or No)	Estimation Method
Carbon monoxide	630-08-0	20	-	0.22	No	C
Nitrogen oxides (expressed as nitrogen dioxide)	11104-93-1	20	-	4.40	No	A,C
PM2.5 - Particulate Matter <= 2.5 Microns	*	0.3	-	0.00	No	C
PM10 - Particulate Matter <= 10 Microns	*	0.5	-	0.01	No	C
Sulphur dioxide	7446-09-5	20	-	0.00	No	A,C
Total Particulate Matter	*	20	-	0.05	No	A,C
Volatile Organic Compounds (VOCs)	*	10	-	0.02	No	A.C

Estimate Methods
A - From ESDM report, typically a combination of emission factors and engineering calculations
B - From waste disposal records
C - Emission factors from US EPA AP-42 Fifth Edition, Volume 1

Table C5 - NPRI Part 5 Substances Total Facility emissions

Substance Name	CAS Number	MPO Threshold	MPO Concentration	Air Emission (tonne)	Necessary to Report (Yes or No)	Estimation Method
10 Tonne overall VOC release threshold not met, therefore Part 5 reporting is not required						

Appendix D
TRA Reporting Information

Table D1 - Toxics Reduction Act Accounting Reporting

Substance Name	CAS Number	Quantity (tonne)																Difference (input-output)	Mass Balance
		Amount MPO'd	Estimation Method	Disposed	Estimation Method	Transferred For Recycling	Estimation Method	Contained in Product	Estimation Method	Created On-site	Estimation Method	Destroyed On-site	Estimation Method	Transformed On-site	Estimation Method	Emitted	Estimation Method		
Hydrochloric acid	7647-01-0	**389.230**	**D**	38.923	B	-	-	-	-	-	-	350.307	F	-	-	0.046	A	**-0.05**	Acceptable
Nitric acid	7697-37-2	**205.333**	**D**	20.533	B	-	-	-	-	-	-	184.799	F	-	-	0.070	A	**-0.07**	Acceptable
Nickel	7440-02-0	**61.146**	**D**	-	-	-	-	61.146	D	-	-	-	-	-	-	0.00005	A	**0.00**	Acceptable
Cobalt	7440-48-4	**7.270**	**D**	-	-	-	-	7.270	D	-	-	-	-	-	-	0.00001	A	**0.00**	Acceptable

Estimate Methods
A - ESDM report, typically a combination of emission factors and engineering calculations
B - Waste disposal records and engineering estimations of content of waste
C - Emission factors from US EPA AP-42 Fifth Edition, Volume 1
D- Purchasing/Sales records
E- Disposal invoices
F- Mass balance of estimated chemical reactions

Appendix E

Federal and Provincial Greenhouse Gas Assessment

Table E1 - Annual Greenhouse Gas Summary Reporting

Identified Process	Substance	CAS Number	Emission (tonnes)		Equivalency Factor	Carbon Dioxide Equivalent Emissions (tonnes)
			Emitted	Estimation Method		
General Stationary Combustion	Carbon Dioxide	124-38-9	2.45E+02	G	1	245.42
General Stationary Combustion	Methane	74-82-8	4.66E-06	G	25	0.00
General Stationary Combustion	Nitrous Oxide	10024-97-2	4.40E-06	G	298	0.00
On-site Transportation	Carbon Dioxide	124-38-9	4.81E+00	H	1	4.81
On-site Transportation	Methane	74-82-8	2.03E-03	H	25	0.05
On-site Transportation	Nitrous Oxide	10024-97-2	2.76E-04	H	298	0.08
Process	Nitrogen Oxides (as nitrous oxide)	-	4.12E+00	A	298	1228.43

Reporting Program	Substance	Overall Emission (tonnes)	Reporting Threshold (tonnes)	Reporting Required?
Environment Canada	Equivalent Carbon Dioxide	1479	10000	No
Ministry of the Environment (Ontario)	Equivalent Carbon Dioxide	245	10000	No

Estimate Methods

A - ESDM report, typically a combination of emission factors and engineering calculations
B - Waste disposal records and engineering estimations of content of waste
C - Emission factors from US EPA AP-42 Fifth Edition, Volume 1
D- Purchasing records
E- Disposal invoices
F- Mass balance of estimated chemical reactions
G- Guideline for Greenhouse Gas Emissions Reporting (February 2012)
H- Environment Canada Mobile Combustion Emission Factors for GHG reporting

Appendix F

SWIM System Input (includes TRA plan comparison)

Report Preview

Report Details

Report Year	2019
Report Type:	NPRI,ON MECP TRA
Report Status:	Ready to Submit
Modified Date/Time:	2020-03-30 6:03 PM

Company and Facility Details

Company Name:	Maritime House Metals ULC
Business Number:	833115371
Mailing Address:	Address Line 1: 248 Kimmetts Road City: Napanee Province/Territory: Ontario Postal Code: K7R 3N4 Country: Canada
Facility Name:	Maritime House Metals Inc - Napanee Facility
NAICS Code:	331410
NPRI ID:	11787
Portable:	No
Physical Address:	Address Line 1: 248 Kimmetts Side Road City: Napanee Province/Territory: Ontario Postal Code: K7R 3N4 Country: Canada Latitude: 44.2828 Longitude: -76.9636 UTM Zone: 18 UTM Easting: 343410 UTM Northing: 4904879

Permits

Number or Permit Number:	0403-53ZPUK
Government Department, Agency, or Program Name:	Ontario Ministry of the Environment
Number or Permit Number:	ON2678601
Government Department, Agency, or Program Name:	Hazardous Waste Information Network

Contacts Details

Contact Type	Technical Contact, Contractor Contact, Person who prepared the report, Person who coordinated the preparation of the Toxics Reduction Plan
Name:	Trevor Copeland
Position:	Project Coordinator
Telephone:	7057427900
Email:	trevor.copeland@cambium-inc.com
Independent contractor/consultant company name:	Cambium Inc.
Contact Type	Certifying Official, Company Coordinator, Highest Ranking Employee, Public Contact
Name:	Jason Butts
Position:	Manager
Telephone:	6133543808
Email:	jason.butts@maritimehousemetals.com

General Information

Number of employees:	16
Activities for Which the 20,000-Hour Employee Threshold Does Not Apply:	None of the above
Activities Relevant to Reporting Dioxins, Furans and Hexacholorobenzene:	None of the above
Activities Relevant to Reporting of Polycyclic Aromatic Hydrocarbons (PAHs):	Wood preservation using creosote: No
Does this facility release less than the reporting threshold for each Part 4 substance AND have one or more light or medium crude oil batteries with a total oil throughput for the battery components of the facility of ≥1,900 m3 per year?	No
Did the facility operate one or more electricity generation units that had a capacity of 25 MW or more and that distributed or sold to the grid 33% or more of its potential electrical output in the calendar year?	No
Is this the first time the facility is reporting to the NPRI (under current or past ownership):	No
Is the facility controlled by another Canadian company or companies:	No
Does this facility solely consist of compression equipment in the oil and gas extraction sector?	No
Is the facility required to report one or more NPRI Part 4 substances (Criteria Air Contaminants):	No
Operating Schedule - Days of the Week:	Mon, Tue, Wed, Thu, Fri
Usual Number of Operating Hours per day:	24.00
Usual Daily Start Time (24h) (hh:mm):	07:00

Substance List

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
NA - 05	Cobalt (and its compounds)	0.010000	N/A	N/A	N/A	kg

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
7647-01-0	Hydrochloric acid	0.046000	N/A	38.920000	N/A	tonnes
NA - 11	Nickel (and its compounds)	0.000050	N/A	N/A	N/A	tonnes
7697-37-2	Nitric acid	0.070000	N/A	20.533000	N/A	tonnes

Applicable Programs

CAS RN	Substance Name	NPRI	ON MECP TRA	First report for this substance to the ON MECP TRA
NA - 05	Cobalt (and its compounds)	Yes	Yes	No
7647-01-0	Hydrochloric acid	Yes	Yes	No
NA - 11	Nickel (and its compounds)	Yes	Yes	No
7697-37-2	Nitric acid	Yes	Yes	No

General Information about the Substance - Releases and Transfers of the Substance

CAS RN	Substance Name	Was the substance released on-site	The substance will be reported as the sum of releases to all media (total of 1 tonne or less)	1 tonne or more of a Part 5 Substance (Speciated VOC) was released to air
NA - 05	Cobalt (and its compounds)	Yes	No	No
7647-01-0	Hydrochloric acid	Yes	No	No
NA - 11	Nickel (and its compounds)	Yes	No	No
7697-37-2	Nitric acid	Yes	No	No

General Information about the Substance - Disposals and Off-site Transfers for Recycling

CAS RN	Substance Name	Was the substance disposed of (on-site or off-site), or transferred for treatment prior to final disposal	Is the facility required to report on disposals of tailings and waste rock for the selected reporting period	Was the substance transferred off-site for recycling
NA - 05	Cobalt (and its compounds)	No	No	No
7647-01-0	Hydrochloric acid	Yes	No	No
NA - 11	Nickel (and its compounds)	No	No	No
7697-37-2	Nitric acid	Yes	No	No

General Information about the Substance - Nature of Activities

CAS RN	Substance Name	Manufacture the Substance	Process the Substance	Otherwise Use of the Substance
NA - 05	Cobalt (and its compounds)		As a by-product	
7647-01-0	Hydrochloric acid			As a physical or chemical processing aid
NA - 11	Nickel (and its compounds)		As a by-product	
7697-37-2	Nitric acid			As a physical or chemical processing aid

TRA Quantifications

CAS RN	Substance Name	Use, Creation, Contained in Product	Quantity	Use ranges for public reporting
NA - 05	Cobalt (and its compounds)	Use	7270 kg	Yes
NA - 05	Cobalt (and its compounds)	Creation	0 kg	Yes
NA - 05	Cobalt (and its compounds)	Contained in Product	7270 kg	Yes
7647-01-0	Hydrochloric acid	Use	389.23 tonnes	Yes
7647-01-0	Hydrochloric acid	Creation	0 tonnes	Yes
7647-01-0	Hydrochloric acid	Contained in Product	0 tonnes	Yes
NA - 11	Nickel (and its compounds)	Use	61.146 tonnes	Yes
NA - 11	Nickel (and its compounds)	Creation	0 tonnes	Yes
NA - 11	Nickel (and its compounds)	Contained in Product	61.146 tonnes	Yes

CAS RN	Substance Name	Use, Creation, Contained in Product	Quantity	Use ranges for public reporting
7697-37-2	Nitric acid	Use	205.333 tonnes	Yes
7697-37-2	Nitric acid	Creation	0 tonnes	Yes
7697-37-2	Nitric acid	Contained in Product	0 tonnes	Yes

TRA Quantifications - Others

CAS RN	Substance Name	Change in Method of Quantification	Reasons for Change	Description of how the change impact tracking and quantification of the substance	Description of how an incident(s) affected quantifications	Significant Process Change	Reason for the significant process change
NA - 05	Cobalt (and its compounds)					No	
7647-01-0	Hydrochloric acid					No	
NA - 11	Nickel (and its compounds)					No	
7697-37-2	Nitric acid					No	

On-site Releases - Releases to air

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
NA - 05	Cobalt (and its compounds)	Stack or Point Releases	O - Engineering Estimates		0.01 kg
7647-01-0	Hydrochloric acid	Stack or Point Releases	O - Engineering Estimates		0.046 tonnes
NA - 11	Nickel (and its compounds)	Stack or Point Releases	O - Engineering Estimates		0.00005 tonnes
7697-37-2	Nitric acid	Stack or Point Releases	O - Engineering Estimates		0.070 tonnes

On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
NA - 05	Cobalt (and its compounds)	0.01 kg
7647-01-0	Hydrochloric acid	0.046 tonnes
NA - 11	Nickel (and its compounds)	0.00005 tonnes
7697-37-2	Nitric acid	0.070 tonnes

On-site Releases - Total

CAS RN	Substance Name	Total releases
NA - 05	Cobalt (and its compounds)	0.01 kg
7647-01-0	Hydrochloric acid	0.046 tonnes
NA - 11	Nickel (and its compounds)	0.00005 tonnes
7697-37-2	Nitric acid	0.070 tonnes

On-site Releases - Quarterly Breakdown of Annual Releases

CAS RN	Substance Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NA - 05	Cobalt (and its compounds)	25	25	25	25
7647-01-0	Hydrochloric acid	25	25	25	25
NA - 11	Nickel (and its compounds)	25	25	25	25
7697-37-2	Nitric acid	25	25	25	25

On-site Releases - Reasons for Changes in Quantities Released from Previous Year

CAS RN	Substance Name	Reasons for Changes in Quantities from Previous Year	Comments
7647-01-0	Hydrochloric acid	No significant change (i.e. <10% or no change)	No change.
7697-37-2	Nitric acid	No significant change (i.e. <10% or no change)	
NA - 05	Cobalt (and its compounds)	No significant change (i.e. <10% or no change)	
NA - 11	Nickel (and its compounds)	No significant change (i.e. <10% or no change)	

Disposals - Off-site Transfers (excluding Tailings and Waste Rock)

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
7647-01-0	Hydrochloric acid	Chemical Treatment	O - Engineering Estimates		38.92 tonnes
7697-37-2	Nitric acid	Chemical Treatment	O - Engineering Estimates		20.533 tonnes

Disposals - Off-site Transfers (excluding Tailings and Waste Rock) - Total

CAS RN	Substance Name	Total - Treatment Prior to Final Disposal
7647-01-0	Hydrochloric acid	38.92 tonnes
7697-37-2	Nitric acid	20.533 tonnes

Disposals - Off-site Transfers (excluding Tailings and Waste Rock) - By Facilities

CAS RN	Substance Name	Category	Off-site Name	Off-site Address	Quantity
7647-01-0	Hydrochloric acid	Chemical Treatment	Stablex Canada Inc.	760, boul. Industriel, Blainville, QC, Canada	38.92 tonnes
7697-37-2	Nitric acid	Chemical Treatment	Stablex Canada Inc.	760, boul. Industriel, Blainville, QC, Canada	20.533 tonnes

Disposals - Total Quantity Disposed (All Media)

CAS RN	Substance Name	Total Quantity Disposed (All Media)
7647-01-0	Hydrochloric acid	38.92 tonnes
7697-37-2	Nitric acid	20.533 tonnes

Disposals - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Disposed	Reasons for Changes in Quantities from Previous Year	Comments
7647-01-0	Hydrochloric acid	Production residues	No significant change (i.e. <10% or no change)	Normal Variability in Production.
7697-37-2	Nitric acid	Production residues	No significant change (i.e. <10% or no change)	
NA - 05	Cobalt (and its compounds)		No significant change (i.e. <10% or no change)	
NA - 11	Nickel (and its compounds)		No significant change (i.e. <10% or no change)	

Recycling - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Recycled	Reasons for Changes in Quantities Recycled from Previous Year	Comments
7647-01-0	Hydrochloric acid		No significant change (i.e. <10% or no change)	
7697-37-2	Nitric acid		No significant change (i.e. <10% or no change)	
NA - 05	Cobalt (and its compounds)		No significant change (i.e. <10% or no change)	
NA - 11	Nickel (and its compounds)		No significant change (i.e. <10% or no change)	

Comparison Report - Enters, Creation, Contained in Product

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 05	Cobalt (and its compounds)	No	Enters the facility (Use)	7270 kg	6429 kg	2018	841	13.08
NA - 05	Cobalt (and its compounds)	No	Creation	0 kg	0 kg	2018	0	
NA - 05	Cobalt (and its compounds)	No	Contained in Product	7270 kg	6429 kg	2018	841	13.08
7647-01-0	Hydrochloric acid	No	Enters the facility (Use)	389.23 tonnes	410.85 tonnes	2018	-21.62	-5.26
7647-01-0	Hydrochloric acid	No	Creation	0 tonnes	0 tonnes	2018	0	
7647-01-0	Hydrochloric acid	No	Contained in Product	0 tonnes	0 tonnes	2018	0	
NA - 11	Nickel (and its compounds)	No	Enters the facility (Use)	61.146 tonnes	54.077 tonnes	2018	7.069	13.07

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 11	Nickel (and its compounds)	No	Creation	0 tonnes	0 tonnes	2018	0	
NA - 11	Nickel (and its compounds)	No	Contained in Product	61.146 tonnes	54.077 tonnes	2018	7.069	13.07
7697-37-2	Nitric acid	No	Enters the facility (Use)	205.333 tonnes	209.410 tonnes	2018	-4.077	-1.95
7697-37-2	Nitric acid	No	Creation	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Contained in Product	0 tonnes	0 tonnes	2018	0	

Comparison Report - Enters, Creation, Contained in Product : Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - 05	Cobalt (and its compounds)	Other	Normal Variability in Production.
7647-01-0	Hydrochloric acid	Other	Normal Variability in Production.
NA - 11	Nickel (and its compounds)	Other	Normal Variability in Production.
7697-37-2	Nitric acid	No reasons - quantities approximately the same	

Comparison Report - On-site Releases

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - 05	Cobalt (and its compounds)	No	Total Releases to Air	0.01 kg	0.01 kg	2018	0.00	0
NA - 05	Cobalt (and its compounds)	No	Total Releases to Water	0 kg	0 kg	2018	0	
NA - 05	Cobalt (and its compounds)	No	Total Releases to Land	0 kg	0 kg	2018	0	
NA - 05	Cobalt (and its compounds)	No	Total Releases to All Media	0 kg	0 kg	2018	0	
7647-01-0	Hydrochloric acid	No	Total Releases to Air	0.046 tonnes	0.046 tonnes	2018	0.000	0
7647-01-0	Hydrochloric acid	No	Total Releases to Water	0 tonnes	0 tonnes	2018	0	
7647-01-0	Hydrochloric acid	No	Total Releases to Land	0 tonnes	0 tonnes	2018	0	
7647-01-0	Hydrochloric acid	No	Total Releases to All Media	0 tonnes	0 tonnes	2018	0	
NA - 11	Nickel (and its compounds)	No	Total Releases to Air	0.0001 tonnes	0.0001 tonnes	2018	0.0000	0
NA - 11	Nickel (and its compounds)	No	Total Releases to Water	0 tonnes	0 tonnes	2018	0	
NA - 11	Nickel (and its compounds)	No	Total Releases to Land	0 tonnes	0 tonnes	2018	0	
NA - 11	Nickel (and its compounds)	No	Total Releases to All Media	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total Releases to Air	0.070 tonnes	0.070 tonnes	2018	0.000	0
7697-37-2	Nitric acid	No	Total Releases to Water	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total Releases to Land	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total Releases to All Media	0 tonnes	0 tonnes	2018	0	

Comparison Report - On-site Releases - Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - 05	Cobalt (and its compounds)	No reasons - quantities approximately the same	
7647-01-0	Hydrochloric acid	No reasons - quantities approximately the same	
NA - 11	Nickel (and its compounds)	No reasons - quantities approximately the same	
7697-37-2	Nitric acid	No reasons - quantities approximately the same	

Comparison Report - Disposals On-site, Off-site and Tailings and Waste Rock

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
7647-01-0	Hydrochloric acid	No	Total On-site Disposals	0 tonnes	0 tonnes	2018	0	
7647-01-0	Hydrochloric acid	No	Total Off-site Disposals	0 tonnes	0 tonnes	2018	0	
7647-01-0	Hydrochloric acid	No	Total Off-site transfer for treatment Prior to Final Disposal	38.92 tonnes	41.09 tonnes	2018	-2.17	-5.28
7647-01-0	Hydrochloric acid	No	Total On-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2018	0	
7647-01-0	Hydrochloric acid	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total On-site Disposals	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total Off-site Disposals	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total Off-site transfer for treatment Prior to Final Disposal	20.533 tonnes	20.94 tonnes	2018	-0.407	-1.94
7697-37-2	Nitric acid	No	Total On-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2018	0	
7697-37-2	Nitric acid	No	Total Off-site Disposal of Tailings and Waste Rock	0 tonnes	0 tonnes	2018	0	

Comparison Report - Disposals On-site, Off-site and Tailings and Waste Rock - Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
7647-01-0	Hydrochloric acid	Other	Normal Variability in Production.
7697-37-2	Nitric acid	No reasons - quantities approximately the same	

Pollution Prevention

Does the facility have a documented pollution prevention plan?	No
Did the facility complete any pollution prevention activities in the current NPRI reporting year	No
If no, please select all applicable reasons from the list below:	Substance, process or technology alternatives are unknown or unavailable Concern that product quality may decline as a result of activities

Progress on TRA Plan - Objectives

CAS RN	Substance Name	Objectives
NA - 05	Cobalt (and its compounds)	While Maritime House Metals Ltd. does not intend to reduce its use of Cobalt, it will continue to uphold toxic accounting principles which allow for accurate measurement and understanding of the varying feed characteristics it processes.
7647-01-0	Hydrochloric acid	Molycorp intends to reduce its use of Hydrochloric Acid per kilogram of Rhenium produced by 25% within the upcoming year.
NA - 11	Nickel (and its compounds)	Overall usage of Nickel cannot be included in the reduction target as it is directly linked to the productivity of our company through our primary Rhenium feeds. However we will continue to uphold toxic accounting principles, which allow for accurate measurement and understanding of the varying feeds processed.
7697-37-2	Nitric acid	Molycorp Minerals ULC intends to reduce the use and subsequently the disposal of Hydrochloric Acid and Nitric Acid by 25% each, through the implementation of an Acid Recovery and Recycling Process. This initiative is pro-rated to Rhenium production.

Progress on TRA Plan - Use Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 05	Cobalt (and its compounds)	No quantity target	No timeline target	
7647-01-0	Hydrochloric acid	98.01 tonnes	1	The reduction target of 98.014 tonnes is based on 25% of 2011's Hydrochloric Acid usage. The reduction target is proportional to the kilograms of Rhenium produced at the facility.
NA - 11	Nickel (and its compounds)	No quantity target	No timeline target	
7697-37-2	Nitric acid	35500 kg	1	

Progress on TRA Plan - Creation Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 05	Cobalt (and its compounds)	No quantity target	No timeline target	
7647-01-0	Hydrochloric acid	No quantity target	No timeline target	
NA - 11	Nickel (and its compounds)	No quantity target	No timeline target	
7697-37-2	Nitric acid	No quantity target	No timeline target	

Progress on TRA Plan - Toxic Reduction Options Implemented

CAS RN	Substance Name	Activity	Steps that were taken in the reporting period to implement the toxic reduction option	Public summary of the description of the steps	Comparison of the steps that were described in the plan for implementation with the actual steps taken during the reporting period	Public summary of the comparison of the steps
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	No additional steps taken.	No additional steps taken.	No additional steps taken.	No additional steps taken.
7697-37-2	Nitric acid	Instituted recirculation within a process	No additional steps taken.	No additional steps taken.	No additional steps taken.	No additional steps taken.

CAS RN	Substance Name	Activity	Will the timelines in the current version of the plan will be met	Comments:
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	Yes	
7697-37-2	Nitric acid	Instituted recirculation within a process	Yes	

Progress on TRA Plan - Reductions due to Options Implemented - On-site reuse, recycling or recovery

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
7647-01-0	Hydrochloric acid	Instituted recirculation within a process	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
7697-37-2	Nitric acid	Instituted recirculation within a process	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the steps described:	No Amount

Progress on TRA Plan - Additional Actions

CAS RN	Substance Name	Were there any additional actions outside the plan taken during the reporting period to reduce the use and/or creation of the substance?	Describe any additional actions that were taken during the reporting period to achieve the plan's objectives	Provide a public summary of the description of the additional action taken

NA - 05	Cobalt (and its compounds)	No		
7647-01-0	Hydrochloric acid	No		
NA - 11	Nickel (and its compounds)	No		
7697-37-2	Nitric acid	No		

Progress on TRA Plan - Reductions due to additional actions taken

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
NA - 05	Cobalt (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 05	Cobalt (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7647-01-0	Hydrochloric acid	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 11	Nickel (and its compounds)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
7697-37-2	Nitric acid	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in **release to air** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in **release to water** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
7697-37-2	Nitric acid	The amount of reduction in the substance **disposed on-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in the substance **disposed off-site** (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7697-37-2	Nitric acid	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	

Progress on TRA Plan - Amendments

CAS RN	Substance Name	Were any amendments made to the toxic substance reduction plan during the reporting period	Description any amendments that were made to the toxic substance reduction plan during the reporting period	Provide a public summary of the description of any amendments that were made to the toxic substance reduction plan during the reporting period
NA - 05	Cobalt (and its compounds)	No		
7647-01-0	Hydrochloric acid	No		
NA - 11	Nickel (and its compounds)	No		
7697-37-2	Nitric acid	No		

Feedback

Comments on the Reporting System: Completely satisfied. The reporting system works well and saves me time.

Version: 3.16.0

Appendix G
Public Report

Table 1 General Facility Information

Company Name	Maritime House Metals Inc.
Facility Name	Maritime House Metals Inc. - Napanee Facility
Facility Address	248 Kimmets Side Road, Napanee, Ontario, K7R 3L2
NPRI ID	11787
Ontario MOE ID	7783-9JFMN7
Employees (full time)	16
Website Address	www.maritimehouse.co.uk
NAICS Code	331410
UTM Coordinates (Zone, Easting, Northing)	18, 343410, 4904879
Public Contact	Jason Butts
Contact Information	248 Kimmets Side Road, Napanee, Ontario, K7R 3L2
Person Who Prepared Report	Trevor Copeland, Cambium Inc.
Contact Information	PO Box 325, 52 Hunter Street East, Peterborough Ontario K9H 7B9 705-742-7900
Parent Company	Maritime House Ltd.
Parent Company Address	Burns House, Harlands Road, Haywards Heath, West Sussex, RH16 1PG, United Kingdom
Percent Ownership	100%

Table 2 Summary of reasons for changes from previous year

Hydrochloric Acid	Changes in Production
Nitric Acid	Changes in Production
Steps taken in Reporting Year	Changes in Production

Table 3 Reduction Plan Information (Hydrochloric Acid)

Objective	Maritime intends to reduce its use of Hydrochloric Acid per kilogram of Rhenium produced by 25% within the upcoming year.
Target	25% Reduction
Timeframe	Passed
Target Description	The reduction target of 25% of 2011's Hydrochloric Acid usage. The reduction target is proportional to the kilograms of Rhenium produced at the facility.
Steps taken in Reporting Year	No steps this year

Table 4 Reduction Plan Information (Nitric Acid)

Objective	Maritime intends to reduce its use of nitric acid per kilogram of Rhenium produced by 25%
Target	25% Reduction
Timeframe	Passed
Target Description	The reduction target of 25% of 2012's Hydrochloric Acid usage. The reduction target is proportional to the kilograms of Rhenium produced at the facility.
Steps taken in Reporting Year	No steps this year

Table 5 Reduction Plan Information (Nickel)

Objective	Overall usage of Nickel cannot be included in the reduction target as it is directly linked to the productivity of our company through our primary Rhenium feeds. However we will continue to uphold toxic accounting principles, which allow for accurate measurement and understanding of the varying feeds processed.
Target	None
Timeframe	None
Target Description	None
Steps taken in Reporting Year	No steps this year

Table 6 Reduction Plan Information (Cobalt)

Objective	2016 was the first year where reporting of cobalt was required. Usage is being evaluated and a reduction plan considered.
Target	None
Timeframe	None
Target Description	None
Steps taken in Reporting Year	No steps this year

Table 7 - 2019 Toxics Reduction Act Accounting Reporting

Substance Name	Units	CAS Number	Quantity (tonne)					
			Amount MPO'd	Disposed	Transferred For Recycling	Contained in Product	Created On-site	Emitted
Hydrochloric acid	Tonnes	7647-01-0	100-1000	10-100	-	-	-	0-1
Nitric acid	Tonnes	7697-37-2	100-1000	10-100	-	-	-	0-1
Nickel	Tonnes	7440-02-0	10-100	-	-	10-100	-	0-1
Cobalt	Kg	7440-48-4	1-10	-	-	1-10	-	0-1

Table 8 - 2019 Toxics Reduction Act Accounting Comparison to 2018 (Units)

Substance Name	Units	CAS Number	Quantity					
			Amount MPO'd	Disposed	Transferred For Recycling	Contained in Product	Created On-site	Emitted
Hydrochloric acid	Tonnes	7647-01-0	-10-100	-1-10	-	-	-	0-1
Nitric acid	Tonnes	7697-37-2	-1-10	-0-1	-	-	-	0-1
Nickel	Tonnes	7440-02-0	1-10	-	-	1-10	-	0-1
Cobalt	Kg	7440-48-4	0-1	-	-	0-1		0-1

Table 9 - 2019 Toxics Reduction Act Accounting Comparison to 2018 (percent)

Substance Name	CAS Number	Quantity (tonne)					
		Amount MPO'd	Disposed	Transferred For Recycling	Contained in Product	Created On-site	Emitted
Hydrochloric acid	7647-01-0	-5.26%	-5.26%	-	-	-	0.00%
Nitric acid	7697-37-2	-1.95%	-1.95%	-	-	-	0.00%
Nickel	7440-02-0	13.07%	-	-	13.07%	-	0.00%
Cobalt	7440-48-4	13.08%	-	-	13.08%	-	0.00%