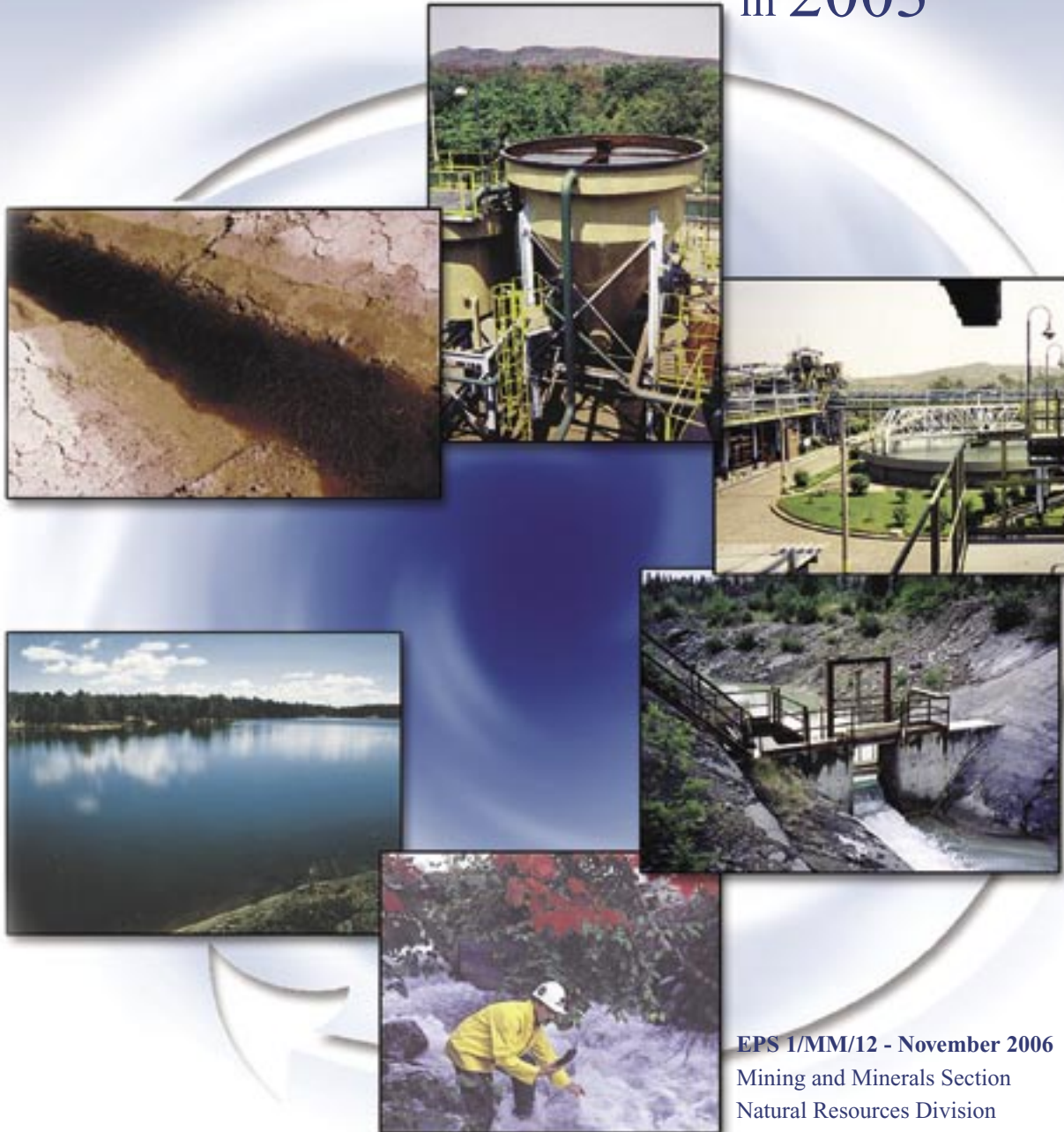


Status Report on WATER POLLUTION PREVENTION AND CONTROL

under the *Metal Mining Effluent Regulations*
in 2003



EPS 1/MM/12 - November 2006
Mining and Minerals Section
Natural Resources Division
Pollution Prevention Directorate
Environmental Stewardship Branch
Environment Canada

NATIONAL LIBRARY OF CANADA CATALOGUING IN PUBLICATION DATA

Main entry under title:

**Status report on water pollution prevention and control under the
Metal Mining Effluent Regulations in 2003.**

Annual

Issued also in French under title: Rapport d'étape sur la prévention de la pollution
et la dépollution de l'eau en vertu du *Règlement sur les effluents des mines
de métaux* en 2003.

Available also on the Internet.

ISSN 1719-4598

ISBN 0-662-43337-8

EPS 1/MM/12

Cat. no. En49-15/12E

1. Mineral industries – Waste disposal – Canada – Statistics – Periodicals.
 2. Mineral industries – Environmental aspects – Canada – Statistics – Periodicals.
 3. Water – Pollution – Canada – Statistics – Periodicals.
 4. Effluent quality – Canada – Evaluation – Statistics – Periodicals.
- I. Canada. Environment Canada. Mining and Minerals Section

TD428.M47S72

363.739'463

C2006-980118-5



This document is printed on
Ecology® certified paper.

Status Report on WATER POLLUTION PREVENTION AND CONTROL

under the *Metal Mining Effluent Regulations*

in 2003



EPS 1/MM/12 - November 2006

Mining and Minerals Section

Natural Resources Division

Pollution Prevention Directorate

Environmental Stewardship Branch

Environment Canada



Environment Canada
Environnement Canada

Canada



READERS' COMMENTS

Comments and inquiries about the content of this report should be addressed to:

Mining and Minerals Section
Natural Resources Division
Pollution Prevention Directorate
Environmental Stewardship Branch
Environment Canada
Ottawa, Ontario
Canada K1A 0H3

Additional copies of this report are available from:

Publishing and Special Events
Communications Services
Communications Branch
Environment Canada
Ottawa, Ontario
K1A 0H3

Telephone: 819-953-5750,
Toll-free 1-800-734-3232
Fax: 819-994-5629
e-mail: eps pubs@ec.gc.ca



REVIEW NOTICE

This report has been reviewed by officials of the Mining and Minerals Section, Environment Canada, and approved for publication. Approval does not necessarily signify that the contents reflect the views and policies of Environment Canada. Mention of trade names or commercial products does not constitute recommendation or endorsement for use.

The data used in this report were provided to Environment Canada regional staff under section 22 of the *Metal Mining Effluent Regulations* (MMER), which requires mines to submit annual reports to Environment Canada. They were compiled by staff of the Mining and Minerals Section in Environment Canada headquarters and are presented as provided by the mines from their submitted annual reports. Occasionally, quarterly reports were used by Environment Canada regional staff to complete missing information that was not properly reported by the owners or operators of some mines.

This report has been compiled to inform the regulated community, other stakeholders, and the interested public on the performance of mines subject to the MMER in 2003. The material has been prepared for informational purposes only. For all purposes of interpreting and applying the law, users should consult the Regulations, as registered by the Clerk of the Privy Council and published in Part II of the *Canada Gazette*.



ABSTRACT

This report summarizes the performance of Canadian metal mines with respect to selected standards prescribed by the *Metal Mining Effluent Regulations* (MMER), which were registered on June 6, 2002, and came fully into force on December 6, 2002.

This is the first report on performance with respect to the MMER since the *Metal Mining Liquid Effluent Regulations* were repealed and replaced by the new Regulations on December 6, 2002. Environment Canada expects to publish a report on mine performance with respect to the MMER every year.

More information on the MMER and related guidance documents is available on Environment Canada's Green Lane at www.ec.gc.ca/nopp/docs/regs/mmer/en/index.cfm

TABLE OF CONTENTS

ABSTRACT	v
SUMMARY	xi
1.0 INTRODUCTION	1
2.0 METAL MINING EFFLUENT REGULATIONS (MMER)	3
2.1 Application	3
2.2 Prescribed Parameters, pH, and Acute Lethality	3
2.3 Effluent Monitoring	3
2.3.1 Prescribed Deleterious Substances and pH	3
2.3.2 Acute Lethality Testing	4
2.3.3 Flow and Loading	5
2.3.4 Reporting	5
2.4 Transitional Authorizations (TAs)	5
2.5 Recognized Closed Mines	6
2.6 Environmental Effects Monitoring (EEM)	6
2.7 Compliance and Enforcement	7
3.0 MINES SUBJECT TO THE MMER IN 2003	9
4.0 PERFORMANCE DATA	13
4.1 Data Collection	13
4.2 National Summary	13
4.2.1 Prescribed Deleterious Substances and pH	13
4.2.2 Rainbow Trout Acute Lethality and <i>Daphnia magna</i> Monitoring Tests	16
5.0 COMPLIANCE SUMMARY FOR 2003	19
5.1 Compliance Summary for Prescribed Deleterious Substances and pH	19
5.2 Compliance Summary for Acute Lethality and <i>Daphnia magna</i> Monitoring Tests	19
5.3 Summary Tables and Data for Individual Mines	19
5.4 Reporting Irregularities	20
6.0 CONCLUSIONS	21
7.0 FUTURE CONSIDERATIONS	23
REFERENCES	25
LIST OF ACRONYMS AND ABBREVIATIONS	27
APPENDIX A: TRANSITIONAL AUTHORIZATIONS GRANTED PURSUANT TO SECTION 35 OF THE METAL MINING EFFLUENT REGULATIONS (MMER)	29
APPENDIX B: MINING FACILITIES SUBJECT TO THE MMER IN 2003	31
APPENDIX C: MINING COMPANIES INCLUDED IN THE ASSESSMENT	37
APPENDIX D: PERFORMANCE SUMMARY OF MINE EFFLUENTS IN 2003	39
APPENDIX E: EFFLUENT QUALITY DATA OF MINES IN 2003	49



LIST OF TABLES

Table 1: Authorized Levels Prescribed in the MMER	4
Table 2: Summary of Transitional Authorizations Granted Pursuant to Section 35 of the MMER	6
Table 3: Mining Facilities Subject to the MMER in 2003	10
Table 4: Distribution of Final Discharge Points (FDPs) per Facility	11
Table 5: Distribution of Facilities and FDPs per Jurisdiction	11
Table 6: Performance Summary for Mines without TAs: Exceedances of Limits Prescribed in Schedule 4 ...	13
Table 7: Performance Summary for Mines with TAs: Exceedances of Limits Prescribed in Schedule 4 ...	13
Table 8: Distribution of Exceedances by Jurisdiction: Mines without TAs	15
Table 9: Distribution of Exceedances by Jurisdiction: Mines with TAs	15
Table 10: Distribution of Exceedances by Mining Subsector: Mines without TAs	16
Table 11: Distribution of Exceedances by Mining Subsector: Mines with TAs	16
Table 12: Performance Summary: Acute Lethality and <i>Daphnia magna</i> Testing, by Jurisdiction	17
Table 13: Performance Summary: Acute Lethality and <i>Daphnia magna</i> Testing, by Mining Subsector ...	17
Table 14: Compliance Summary for Prescribed Deleterious Substances and pH	19



LIST OF FIGURES

Figure 1: Location of Mining Facilities Subject to the MMER in 2003	11
Figure 2: Distribution of Facilities per Jurisdiction for which Exceedances were Reported (All Mines) . . .	14
Figure 3: Distribution of Exceedances per Jurisdiction (All Mines)	14

SUMMARY

This report summarizes the performance of Canadian metal mines with respect to selected standards prescribed by the *Metal Mining Effluent Regulations* (MMER), which came fully into force on December 6, 2002. This is the first report on performance with respect to the MMER since the *Metal Mining Liquid Effluent Regulations* were repealed and replaced by the new Regulations.

The MMER require at least weekly sampling of effluent and the submission of quarterly and annual reports of results within specified time limits. The data used in this report were provided to Environment Canada under section 22 of the MMER, which requires mines to submit annual reports to Environment Canada. The format for these reports is specified in Schedule 6 of the MMER. The reports include:

- a) monthly mean concentrations for metals and total suspended solids (TSS);
- b) monthly pH range; and
- c) summary results of acute lethality tests and *Daphnia magna* monitoring tests.

Data were provided to Environment Canada regional staff and compiled by staff of the Mining and Minerals Section in Environment Canada headquarters. Data are generally presented as provided by the mines from their submitted annual reports. Occasionally, quarterly reports were used by Environment Canada regional staff to correct or complete missing information that was not properly reported by the owner or operator of a mine. For these facilities, a comment has been added in the appropriate summary tables presented in Appendix E to identify which information was not submitted as part of the annual report.

In 2003, 73 mining facilities operating in Canada were subject to the MMER. No metal mines were subject to the Regulations in Yukon, Alberta, Nova Scotia, or Prince Edward Island. The MMER define a mine as a stand-alone mining operation, a stand-alone mill, or a combination of both. In some cases, it was observed that several mines were combining their effluents prior to treatment and discharge. Consequently, the number of facilities subject to the MMER does not represent the total number of producing metal mines in Canada.

Pursuant to sections 9 and 10 of the Regulations, 119 final discharge points (FDPs) were identified as being subject to the Regulations. Reported data indicate that 60 FDPs had continuous effluent discharge, 55 FDPs had intermittent discharge, and 4 FDPs did not have any discharge in 2003.

Transitional Authorizations (TAs) were granted to 18 facilities. The authorizations applied to 21 FDPs for which new limits were set for TSS or pH or allowing the deposit of acutely lethal effluents.

Overall, the metal mining sector achieved over 99% compliance with the prescribed limits for arsenic, copper, lead, nickel, zinc, Radium 226, and pH and 100% compliance for cyanide. Only a few sporadic exceedances were reported for arsenic, copper, lead, nickel, zinc, and Radium 226. Some mines were challenged to routinely meet TSS limits, and the overall compliance rate was 92.1%.

With respect to rainbow trout acute lethality and *Daphnia magna* monitoring tests, the metal mining sector achieved a non-acutely lethal effluent compliance rate of 95.0% for rainbow trout and 94.2% for *Daphnia magna*.

In total, 106 exceedances of the prescribed limits for metals and pH were reported. TSS exceedances account for 75.5% of all exceedances, metal exceedances for 17%, and pH exceedances for 7.5%. Forty-nine facilities complied with the maximum authorized monthly mean concentrations and pH. Twenty-four facilities reported at least one exceedance in 2003, and six facilities exceeded their TA limits once.

Of the total number of exceedances that were reported in 2003, 41% occurred in facilities located in Newfoundland and Labrador, 14% in facilities in Quebec, 8% in Ontario, and 12% in each of Manitoba, British Columbia, and the Northwest Territories. Exceedances reported by facilities located in Saskatchewan accounted for 1%. No exceedances were reported by mines located in New Brunswick or Nunavut. The iron ore subsector accounted for 42.5% of all exceedances, the base metals subsector for 45.3%, and the precious metals subsector for 12.2%. No exceedances were reported from the uranium subsector.

In 2003, 48 effluents from 12 facilities were reported to be acutely lethal to rainbow trout. Of those, 39.6% were from facilities located in Newfoundland and Labrador, 31.25%

from facilities in Quebec, and less than 10% from the other jurisdictions. None of the effluents tested in Nunavut and the Northwest Territories were acutely lethal to rainbow trout. On a sectoral basis, 52.1% of acutely lethal effluents were from the base metals subsector, 39.6% from the iron ore subsector, 6.2% from the precious metals subsector, and 2.1% from the uranium subsector.

In 2003, 56 effluents from 17 facilities resulted in a *Daphnia magna* mortality rate greater than 50%. Quebec had the highest percentage (37.5%) of tests in which *Daphnia magna* mortality was greater than 50%, followed by British Columbia (23.2%), Newfoundland and Labrador (12.5%), Manitoba (10.7%), New Brunswick (7.1%), and all other jurisdictions (about 5%); the exception was the Northwest Territories, where *Daphnia magna* mortality was in all cases less than 50%. On a sectoral basis, 76.8% of effluents leading to greater than 50% *Daphnia magna* mortality were from the base metals subsector, 12.5% from the iron ore subsector, 7.1% from the precious metals subsector, and 3.6% from the uranium subsector.

SOMMAIRE

Ce rapport donne un aperçu sommaire de la performance des mines de métaux canadiennes en ce qui a trait à certaines normes prescrites par le *Règlement sur les effluents des mines de métaux* (REMM), enregistré le 6 juin 2002 et entré en vigueur le 6 décembre de la même année. Il s'agit du premier rapport de performance présenté en vertu du REMM, depuis que le *Règlement sur les effluents liquides des mines de métaux* (RELM) a été abrogé et remplacé par le nouveau règlement.

Le REMM prévoit l'échantillonnage de l'effluent au moins une fois par semaine et la présentation de rapports de résultats trimestriels et annuels selon un échéancier précis. Les données utilisées dans le présent rapport ont été transmises à Environnement Canada en vertu de l'article 22 du REMM, qui exige la présentation de rapports annuels au Ministère. Le format de ces rapports est présenté à l'annexe 6 du REMM. Les rapports doivent comprendre les renseignements suivants :

- les concentrations moyennes mensuelles pour les métaux et le total des solides en suspension;
- la plage mensuelle du pH;
- les résultats sommaires des essais de détermination de la létalité aiguë et des essais de suivi avec bioessais sur *Daphnia magna*.

Les données ont été fournies à Environnement Canada par le personnel régional et compilées par le personnel de la Section des mines et minéraux, à l'administration centrale d'Environnement Canada. Ces données sont généralement présentées telles que fournies par les propriétaires ou exploitants de mines dans leurs rapports annuels. À l'occasion, le personnel régional d'Environnement Canada a dû recourir aux rapports trimestriels pour compléter l'information manquante qui n'avait pas été convenablement fournie par le propriétaire ou l'exploitant d'une mine. Dans ces cas-là, on a ajouté, dans les tableaux récapitulatifs pertinents de l'annexe E, un commentaire indiquant les renseignements non mentionnés dans le rapport annuel.

En 2003, 73 installations minières exploitées au Canada étaient assujetties au REMM. Aucune mine de métaux n'était réglementée au Yukon, en Alberta, en Nouvelle-Écosse ou à l'Île-du-Prince-Édouard. Le REMM définit une mine comme une exploitation minière autonome, une installation autonome de préparation du minerai ou une

combinaison des deux. Comme dans plusieurs cas on a observé que plusieurs mines combinaient leurs effluents avant de les traiter et de les rejeter, le nombre d'installations visées par le REMM ne représente donc pas le nombre total de mines de métaux en exploitation au Canada.

Un total de 119 points de rejet final (PRF) ont été recensés aux termes des articles 9 et 10 du règlement. D'après les données présentées, 60 points de rejet final ont déversé des effluents en continu et 55 de façon intermittente en 2003, et 4 n'en ont déversé aucun.

Des autorisations transitoires ont été accordées à 18 installations. Ces autorisations s'appliquaient à 21 points de rejet final, pour lesquels elles fixaient de nouvelles limites pour le total des solides en suspension et le pH, et permettaient le rejet d'effluents à létalité aiguë.

Dans l'ensemble, le secteur des mines de métaux s'est conformé à plus de 99 % aux limites prescrites pour l'arsenic, le cuivre, le plomb, le nickel, le zinc, le Radium 226 et le pH, et à 100 % pour les cyanures. Seuls quelques dépassements sporadiques ont été signalés pour l'arsenic, le cuivre, le plomb, le nickel, le zinc et le Radium 226. Certaines mines semblent avoir du mal à respecter systématiquement les limites fixées pour le total des solides en suspension, dont le taux global de conformité était de 92,1 %.

En ce qui a trait aux essais de détermination de la létalité aiguë chez la truite arc-en-ciel et aux essais de suivi avec bioessais sur *Daphnia magna*, le secteur des mines de métaux a obtenu un taux de conformité de 95 % pour les effluents à létalité non aiguë pour la truite arc-en-ciel, et de 94,2 % pour *Daphnia magna*.

Au total, 106 dépassements des limites prescrites ont été signalés pour les métaux et le pH. Les dépassements des limites fixées pour le TSS représentent 75,5 % de tous les dépassements, ceux des limites fixées pour les métaux, 17 %, et ceux des limites pour le pH, 7,5 %. Quarante-neuf installations ont respecté les concentrations moyennes mensuelles maximales permises et les limites fixées pour la plage du pH. Vingt-quatre ont déclaré au moins un dépassement en 2003, et 6 ont dépassé les limites fixées par les autorisations transitoires (AT) une seule fois.

Sur l'ensemble des dépassements signalés en 2003, 41 % sont survenus dans des installations situées à

Terre-Neuve-et-Labrador, 14 % au Québec, 8 % en Ontario, et environ 12 % chacun au Manitoba, en Colombie-Britannique et dans les Territoires du Nord-Ouest. Les dépassements signalés par les installations de la Saskatchewan représentaient 1 % du total. Aucun dépassement n'a été signalé dans les mines du Nouveau-Brunswick et du Nunavut. Le sous-secteur du minerai de fer était responsable de 42,5 % de tous les dépassements, celui des métaux communs, de 45,3 %, et celui des métaux précieux, de 12,2 %. Aucun dépassement n'a été signalé pour le sous-secteur de l'uranium.

En 2003, 48 effluents à létalité aiguë pour la truite arc-en-ciel ont été relevés dans 12 installations. De ces effluents, 39,6 % provenaient d'installations situées à Terre-Neuve-et-Labrador, 31,25 % d'installations situées au Québec, et moins de 10 % d'installations dans d'autres provinces ou territoires. Aucun des effluents testés au Nunavut et dans les Territoires du Nord-Ouest n'a fait état d'une létalité aiguë pour la truite arc-en-ciel. Par secteur, 52,1 % des effluents à létalité aiguë provenaient du sous-secteur des métaux communs, 39,6 % de celui du minerai de fer, 6,2 % de celui des métaux précieux, et 2,1 % de celui de l'uranium.

En 2003, 56 essais ont mis en évidence un taux de mortalité supérieur à 50 % pour *Daphnia magna* dans les effluents de 17 installations. C'est le Québec qui vient en tête à cet égard (37,5 %), suivi par la Colombie-Britannique (23,2 %), Terre-Neuve-et-Labrador (12,5 %), le Manitoba (10,7 %), le Nouveau-Brunswick (7,1 %) et les autres provinces (à raison d'environ 5 % chacune); dans les Territoires du Nord-Ouest, le taux de mortalité pour *Daphnia magna* a été dans tous les cas inférieur à 50 %. Par secteur, 76,8 % des effluents létaux provenaient du sous-secteur des métaux communs, 12,5 % de celui du minerai de fer, 7,1 % de celui des métaux précieux et 3,6 % de celui de l'uranium.

1.0 INTRODUCTION

This report summarizes the performance of Canadian metal mines with respect to some key aspects of the *Metal Mining Effluent Regulations* (MMER) under the *Fisheries Act* for the calendar year 2003. This is the first report on performance with respect to the MMER since the Regulations came fully into force on December 6, 2002.

The *Fisheries Act* provides the primary legislative authority for federal water pollution control programs. Subsection 36(3) of the *Fisheries Act* prohibits the deposit of deleterious substances into waters frequented by fish, unless authorized by regulations.

These regulations replace the *Metal Mining Liquid Effluent Regulations* (MMLER), which had been in place since 1977, and repeal the *Alice Arm Tailings Deposit Regulations*, which were promulgated in 1979. The MMER apply to all operating metal mines in Canada, whereas the MMLER applied only to those that began operation after 1977 and those that did not use cyanide in the milling process.

The MMER also introduced:

- more comprehensive and stringent effluent quality standards based on best available technologies economically achievable;

- a new requirement for mines to produce effluent that is non-acutely lethal to rainbow trout; and
- a requirement for all mines to conduct a comprehensive environmental effects monitoring (EEM) program, including submission of various reports on their effluent characterization, water quality monitoring, sublethal toxicity testing, biological monitoring, study designs, and interpretive reports.

Benefits include increased treatment of effluent, resulting in a decrease in the discharge of pollutants; increased monitoring and reporting; enhanced protection of aquatic environments, including a reduction in toxicity; and world leadership in mining environmental practices and technologies.

An overview of the MMER and their application to Canadian metal mines is presented in Section 2.

The status of individual mines in meeting the effluent quality standards of the Regulations in 2003 is reviewed in Sections 3 and 4.

2.0 METAL MINING EFFLUENT REGULATIONS (MMER)

The MMER were registered on June 6, 2002, under subsections 34(2), 36(5), and 38(9) of the *Fisheries Act*. The MMER replaced the MMLER and the associated Metal Mining Liquid Effluent Guidelines, which came into force in February 1977. The MMER also repealed the *Alice Arm Tailings Deposit Regulations*, which were promulgated in 1979.

The Regulations are the result of extensive and comprehensive consultation processes spanning a period of approximately six years. These consultations included the “Assessment of the Aquatic Effects of Mining in Canada” (AQUAMIN) process and a number of subsequent consultations that involved representatives of other federal departments, provincial governments, industry, environmental non-government organizations, Aboriginal groups, and scientific and engineering communities. The Regulations represent an appropriate balance of the divergent views and preferences of stakeholders, consistent with appropriate scientific, technological, environmental, economic, social, and legal considerations.

The MMER prescribe authorized concentration limits for deleterious substances in mine effluents that discharge to waters frequented by fish. The regulated parameters are arsenic, copper, cyanide, lead, nickel, zinc, total suspended solids (TSS), Radium 226, and pH.

2.1 Application

The MMER apply to all Canadian metal mines (except placer mines) that exceeded an effluent flow rate of 50 m³ per day at any time after the Regulations were registered. Mines are defined as facilities where ore is mined or milled and include mines under development, new mines, and reopened mines.

The MMER apply to effluent from all final discharge points (FDPs) at a mine site. An FDP is defined in the Regulations as a point beyond which the mine no longer exercises control over the quality of the effluent.

2.2 Prescribed Parameters, pH, and Acute Lethality

Schedule 4 of the MMER specifies the deleterious substances and the maximum prescribed limits under which these substances may be discharged in mine effluent. The

maximum allowable concentrations of these substances are presented in Table 1.

Included in the list of deleterious substances is cyanide, a chemical commonly used in the processing of ores containing gold and silver and sometimes used in the processing of nickel, copper, lead, and zinc. Since cyanide is an additive, monitoring of this parameter is required only at those sites where it is used as a process chemical. The MMER require Radium 226 monitoring at all metal mines.

The MMER also specify maximum and minimum pH values (Table 1) for effluent and include a requirement that effluent be non-acutely lethal to rainbow trout. In addition, a *Daphnia magna* monitoring test must be conducted at the same time that an acute lethality test is conducted on rainbow trout.

The MMER limits are based on a comprehensive review and assessment of national and international mining effluent standards, pollution prevention practices, control technologies of relevance to the mining sector, and the performance of the Canadian mining sector in terms of effluent quality. The limits reflect the effluent quality that was achieved by the best-performing (upper 50th percentile) Canadian metal mines at the time the review was completed (SENES, 1999) and thus are based on the availability of demonstrated technology.

2.3 Effluent Monitoring

2.3.1 Prescribed Deleterious Substances and pH

Effluent monitoring requirements are specified in sections 12 through 19 of the MMER. Sampling and analysis requirements specify that the deleterious substances set out in column 1 of Schedule 4 and pH must be sampled and analyzed not less than once a week. However, the MMER also specify conditions under which the frequency of monitoring may be reduced to quarterly for arsenic, copper, cyanide, lead, nickel, zinc, and Radium 226. There is no such relief for TSS and pH monitoring, both of which must always be done on a weekly basis, along with effluent flow measurements. In addition, the owner or operator is not required to collect samples for the purpose of recording the concentrations of cyanide if that substance is not used as a process reagent within the operation area. In the event that a mine that is on a reduced or quarterly monitoring scheme

cannot meet the requirements described in the MMER, the owner or operator is required to resume monitoring on a weekly basis until such time as the mine requalifies for reduced frequency of monitoring.

The MMER do not specify analytical procedures for analysis of samples, but do specify minimum analytical detection limits, as well as accuracy and precision for all analyses used. The *Guidance Document for the Sampling and Analysis of Metal Mining Effluents* (Environment Canada, 2001a) provides references to suitable analytical methods and discusses sampling and chemical analysis considerations and procedures for use with metal mining effluents.

2.3.2 Acute Lethality Testing

As indicated in Table 1, the MMER include a requirement that effluent be non-acutely lethal to rainbow trout. Acute lethality testing must be done once a month, in accordance with the procedures set out in Environment Canada's Reference Method EPS 1/RM/13 (Environment Canada, 2000a).

In the event that a sample is determined to be acutely lethal to rainbow trout, the owner or operator of the mine is required to increase the frequency of acute lethality testing at all FDPs to twice a month. The mine owner or operator is also required to notify an inspector at Environment Canada

regarding the failure of the test. Monthly acute lethality testing may resume if, in three consecutive tests, the effluent is determined not to be acutely lethal.

The frequency of acute lethality testing may be reduced to quarterly if effluent is determined not to be acutely lethal over a period of 12 consecutive months. If effluent is subsequently determined to be acutely lethal, the mine must then increase the sampling frequency to twice a month. If results permit, the owner or operator must then follow the procedure outlined in the MMER to restore the monthly sampling schedule and then the quarterly sampling frequency.

Each time that an acute lethality test is conducted on rainbow trout, the owner or operator of the mine is also required to conduct a lethality test on *Daphnia magna*, a small aquatic organism known as a water flea. The results of these tests must be recorded, but there is no requirement in the MMER that effluent be non-acutely lethal to *Daphnia magna*. This monitoring test must be done in accordance with Environment Canada's Reference Method EPS 1/RM/14 (Environment Canada, 2000b).

When samples are collected for acute lethality testing, samples are also collected to conduct effluent characterization, if required. In the event that a sample is determined to be acutely lethal to rainbow trout, then effluent characterization must be conducted. The

Table 1: Authorized Levels Prescribed in the MMER⁽¹⁾

Deleterious Substance	Units	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Arsenic (As)	mg/L	0.5	0.75	1.0
Copper (Cu)	mg/L	0.3	0.45	0.6
Cyanide (CN)	mg/L	1.0	1.5	2.0
Lead (Pb)	mg/L	0.2	0.3	0.4
Nickel (Ni)	mg/L	0.5	0.75	1.0
Zinc (Zn)	mg/L	0.5	0.75	1.0
Radium 226	Bq/L	0.37	0.74	1.11
Total suspended solids (TSS)	mg/L	15	22.5	30
Percentage of non-acutely lethal effluent ⁽²⁾		100%		
pH range		6.0 – 9.5		

Notes:

(1) All concentrations are total values.

(2) For the purposes of the MMER, non-acutely lethal means survival of at least 50% of rainbow trout subjected to 100% concentration effluent for a period of 96 hours.

effluent characterization involves analyzing the samples for aluminum, cadmium, iron, mercury, molybdenum, ammonia, and nitrate. The main objective of these tests is to help determine the cause of acute lethality.

2.3.3 Flow and Loading

The owner or operator of a mine must measure the effluent flow rate at the same time that effluent samples are collected for analysis for deleterious substances. Based on these weekly measurements, the total monthly effluent volume can be calculated for each FDP, which is a reporting requirement.

Under the MMER, a mine owner or operator must use calibrated flow monitoring equipment that is accurate to within $\pm 15\%$ of the measured flow. The MMER also requires that the equipment be calibrated annually. The *Guidance Document for Flow Measurement of Metal Mining Effluents* (Environment Canada, 2001b) provides references for selection, design, installation, maintenance, calibration, and reporting protocols of flow measurement systems. The document stresses the use of performance-based methods and how such methods should be applied to the mining industry.

Flow measurement data and data from the analysis of samples for prescribed deleterious substances are used to calculate the daily mass loading of each deleterious substance set out in column 1 of Schedule 4 of the MMER. These calculations are then used to determine the monthly mass loading for each deleterious substance. If the owner or operator of a mine has reduced the frequency of testing to not less than once in each calendar quarter, the owner or operator must calculate the mass loading for that quarter in accordance with subsection 20(4) of the MMER.

2.3.4 Reporting

The owner or operator of a mine is required to submit four quarterly and one annual monitoring report to the appropriate authorization officer each year. The MMER requires that this information be submitted in a written form and in an electronic form, where such a system is provided by Environment Canada. The Regulatory Information Submission System (RISS) is the electronic system being developed by Environment Canada to address this need. For the purposes of MMER data reporting, the system should be implemented nationally in 2005. The system will make the submission of reports easier and allow for more efficient management of the submitted data.

Under the MMER, mine owners or operators are required to submit detailed quarterly reports. These reports must be submitted no later than 45 days after the end of the calendar quarter and must include:

- results of all analyses of pH and deleterious substances and the monthly mean concentrations of deleterious substances;
- whether a composite or grab sample collection method was used;
- results of all acute lethality tests conducted on rainbow trout and all *Daphnia magna* monitoring tests;
- effluent flow data, including the total volume of effluent discharged during each month of the reporting quarter;
- mass loadings of deleterious substances; and
- results of any effluent characterization test conducted in that quarter.

Annual reports must be submitted no later than March 31 in each year, for data collected in the previous calendar year. The annual reports provide less detail than the quarterly reports, but do require the reporting of:

- the monthly mean concentrations of deleterious substances;
- the monthly pH range;
- the monthly volume of effluent discharged; and
- the results of all acute lethality tests conducted on rainbow trout and all *Daphnia magna* monitoring tests.

Mines are also required to provide information if the effluent was non-compliant with the acute lethality requirements or the authorized levels of deleterious substances or pH prescribed in the MMER. The requested information includes the causes of non-compliance as well as remedial measures planned or implemented in response to exceedances or failure of acute lethality tests.

2.4 Transitional Authorizations (TAs)

During the development of the MMER, it was recognized that some mines would have difficulty complying with all provisions of the MMER when the Regulations came into force. The Transitional Authorization (TA) concept is based on a consensus recommendation of the multistakeholder AQUAMIN report, which states: "It is recommended that there be a transition period to ensure that any mines that are not under regulation or not in compliance have a reasonable time to improve their control systems." Therefore, the MMER allows for the opportunity for some mines, under specified conditions, to obtain a TA that provides additional time to come into compliance with the new effluent

standards. Mines were able to apply for TAs where it could be demonstrated that a mine would be unable to comply with prescribed limits in those cases where:

- the mine was not subject to the MMLER; or
- the mine was unable to eliminate deposits of acutely lethal effluent; or
- the mine was unable to meet new prescribed limits (i.e., for cyanide and TSS); and
- reasonable measures were being taken to comply, e.g., through the preparation of remedial plans.

Where provincial or territorial requirements are the same as or more stringent than the federal regulations, the more stringent requirements would prevail, and such mines would not be eligible for a TA.

Mines were required to apply for TAs by September 6, 2002, and these TAs expired on December 6, 2004. TAs granted are summarized in Table 2, and more detailed information is provided in Appendix A.

Table 2: Summary of Transitional Authorizations Granted Pursuant to Section 35 of the MMER

Parameter	Number of Facilities	Number of FDPs
TSS only	9	12
TSS and acute lethality	2	2
pH only	2	2
pH and acute lethality	2	2
Acute lethality only	3	3
Total	18	21

2.5 Recognized Closed Mines

When a mine ceases commercial operation, the owner or operator may notify Environment Canada of the intent to become a recognized closed mine. A mine becomes a recognized closed mine three years from the date of notification, provided that the mine's production remains at less than 25% of the design rated capacity. During this three-year period, all regulatory requirements of the MMER remain in place, and the mine must continue all specified monitoring and reporting to Environment Canada.

At the end of the three-year period, the mine becomes a recognized closed mine and is subject to section 36(3) of the *Fisheries Act*, which prohibits any discharge of any deleterious substance into fish-bearing waters. However, the owner or operator must continue to provide information to Environment Canada regarding any changes in site ownership.

These provisions are voluntary, and, at the end of commercial operations, an owner or operator may choose not to become a recognized closed mine and to remain subject to the full requirements of the MMER.

2.6 Environmental Effects Monitoring (EEM)

The objective of the metal mining EEM program is to evaluate the effects of mining effluent on the aquatic environment, specifically fish, fish habitat, and the use of fisheries resources. The program will help evaluate the effectiveness of current and future pollution prevention and control technologies, practices, and programs within the mining sector and will help evaluate the need for more enhanced protection of fish, fish habitat, and fisheries resources on a site-specific basis. Each mine owner or operator is required to develop, conduct, and report the findings of a site-specific EEM program that monitors key components of the aquatic ecosystem. All mines are required to:

- submit study designs detailing each field monitoring study;
- conduct a field monitoring program as described by the study design;
- submit interpretive reports after completion of each field study; and
- conduct ongoing effluent characterization, sublethal toxicity testing, and water quality monitoring.

The biological monitoring program encompasses a fish population survey and a benthic invertebrate community survey. The fish survey is designed to assess effects on fish growth, reproduction, condition, and survival. Required measurements include sex, age, length, weight, liver size, gonad size, fecundity, egg size, and external condition. The benthic invertebrate community survey is used in EEM to provide an indication of the health of fish habitat. Measures of changes in community structure and composition are used to indicate impairment that results from contaminant or nutrient stressors.

The frequency and nature of EEM monitoring will vary at each site, depending upon the results of previous monitoring studies. Where an effect on fish or benthic invertebrates is found and confirmed, mines will be required to conduct focused monitoring to determine the extent and magnitude of the effect. As well, investigations will be undertaken to determine the cause of the effect. Where EEM studies confirm that there are no effects, the mine will be required to conduct periodic monitoring with a reduced frequency in comparison with focused monitoring.

Reporting requirements for the EEM program are detailed in Schedule 5 of the MMER. Mines submit annual reports by March 31 on their effluent characterization, water quality monitoring, and sublethal toxicity testing. In fulfilment of the biological monitoring reporting requirements, study designs were submitted by December 6, 2003, and first interpretive reports were submitted by June 6, 2005. Mines that had historical data were permitted to submit a report on historical data by December 6, 2003, and were given an additional year to submit their first study design, by December 6, 2004. The first interpretive reports on biological monitoring for mines that submitted reports on historical data are due by June 6, 2006.

2.7 Compliance and Enforcement

These Regulations are enforced by Environment Canada in accordance with the Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the *Fisheries Act*. Under this policy, the following general principles apply:

- Compliance with the habitat protection and pollution prevention provisions and their accompanying regulations is mandatory.
- Compliance will be encouraged through communication with parties affected by the habitat protection and pollution prevention provisions of the *Fisheries Act*.
- Enforcement personnel will administer the provisions and regulations in a manner that is fair, predictable, and consistent. Rules, sanctions, and processes securely founded in law will be used.
- Enforcement personnel will administer the provisions and accompanying regulations with an emphasis on preventing harm to fish, fish habitat, or human use of fish caused by physical alteration or pollution of waters frequented by fish. Priority for action to deal with suspected violations will be guided by:
 - the degree of harm to fish, fish habitat, or human use of fish caused by physical alteration of habitat or pollution of water frequented by fish, or the risk of that harm; and/or
 - whether or not the alleged offence is a repeat occurrence.
- Enforcement personnel will take action consistent with this policy.
- The public will be encouraged to report suspected violations of the Habitat Protection and Pollution Prevention Provisions of the *Fisheries Act*.

Compliance monitoring is conducted to verify that metal mining activities are carried out in accordance with the Regulations. Compliance monitoring may also measure potentially harmful impacts on the environment associated with the suspected violations.

Means to accomplish compliance monitoring include site and administrative inspections, validation of mandatory reporting, sampling by enforcement officials, and monitoring of releases.

In verifying compliance with these Regulations, inspectors abide by the Compliance and Enforcement Policy, which sets out a range of possible responses to offences, including warnings, inspector's directions, ministerial orders, injunctions, prosecution, and civil suits by the Crown for the recovery of costs. If an inspector confirms that an infraction has been committed, the inspector will select the appropriate response based on the following criteria: nature of the offence, effectiveness in achieving the desired result with the offender, and consistency.

3.0 MINES SUBJECT TO THE MMER IN 2003

In 2003, 73 facilities in Nunavut, the Northwest Territories, and all provinces except Yukon, Alberta, Nova Scotia, and Prince Edward Island were subject to the MMER. These facilities are listed in Table 3, and their locations are illustrated in Figure 1. Additional information on these facilities is provided in Appendix B. For the purposes of the MMER, a facility is defined as a stand-alone mine, a stand-alone mill, or a combination of both. In some cases, it was observed that several mines use the same tailings facility to treat and discharge their mine/mill effluents. Consequently, the number of facilities subject to the MMER does not represent the number of producing metal mines in Canada.

Pursuant to sections 9 and 10 of the Regulations, 119 FDPs were identified. Of those, 60 FDPs had continuous effluent discharge, 55 had intermittent effluent discharge (i.e., did not discharge 12 months a year), and 4 did not have any effluent discharge in 2003. The number of FDPs per facility ranged from one to eight, as illustrated in Table 4. Distributions of facilities and FDPs per jurisdiction are shown in Table 5.

Table 3: Mining Facilities Subject to the MMER in 2003

Facility		Jurisdiction	Facility		Jurisdiction
1	Myra Falls Operations	British Columbia	38	Holt McDermott	Ontario
2	Endako	British Columbia	39	Kidd Mine	Ontario
3	Huckleberry Mine	British Columbia	40	Kidd Metallurgical Division	Ontario
4	Eskay Creek	British Columbia	41	Montcalm	Ontario
5	Kemess South	British Columbia	42	Macassa Mine	Ontario
6	Cluff Lake Operation	Saskatchewan	43	McAlpine Mill	Ontario
7	Key Lake Operation	Saskatchewan	44	Lockerby Mine	Ontario
8	McArthur River Operation	Saskatchewan	45	Strathcona Tailings Treatment System	Ontario
9	Cigar Lake Project	Saskatchewan	46	Copper Cliff Complex	Ontario
10	McClellan Lake Operation	Saskatchewan	47	Crean Hill Mine	Ontario
11	Rabbit Lake Operation	Saskatchewan	48	Garson Mine	Ontario
12	Seabee Mine	Saskatchewan	49	Haley Plant	Ontario
13	Konuto Lake Mine	Saskatchewan	50	Matagami (Mine) (Bell Allard)	Quebec
14	Flin Flon Complex	Manitoba	51	Géant Dormant	Quebec
15	Trout Lake Mine	Manitoba	52	Bouchard-Hébert (Mine)	Quebec
16	Chisel North Mine	Manitoba	53	Louvicourt (Mine)	Quebec
17	Snow Lake Mill	Manitoba	54	Laronde	Quebec
18	Ruttan Mine	Manitoba	55	Mouska	Quebec
19	Birchtree Mine	Manitoba	56	Doyon	Quebec
20	Thompson Mine/Mill	Manitoba	57	Kiena (Complexe)	Quebec
21	New Britannia Mine	Manitoba	58	Malartic (Usine)	Quebec
22	Tanco Mine	Manitoba	59	Sigma-Lamaque	Quebec
23	Cantung Mine	Northwest Territories	60	Beaufor	Quebec
24	Con Mine	Northwest Territories	61	Camflo (Usine)	Quebec
25	Giant Mine	Northwest Territories	62	Principale	Quebec
26	Lupin Operations	Nunavut	63	Joe Mann	Quebec
27	Polaris Mine	Nunavut	64	Copper Rand (Mine)	Quebec
28	Nanisivik Mine	Nunavut	65	Troilus	Quebec
29	Red Lake Mine	Ontario	66	Raglan	Quebec
30	Campbell Mine	Ontario	67	Niobec	Quebec
31	Musselwhite Mine	Ontario	68	Tio (Mine)	Quebec
32	Lac des Iles Mine	Ontario	69	Mont-Wright (Mine)	Quebec
33	Golden Giant Mine	Ontario	70	Wabush (Scully Mine)	Newfoundland and Labrador
34	Williams Mine	Ontario	71	Iron Ore Company of Canada	Newfoundland and Labrador
35	Eagle River Mine	Ontario	72	Nugget Pond	Newfoundland and Labrador
36	Eagle River Mill	Ontario	73	Brunswick #12	New Brunswick
37	Porcupine Joint Venture	Ontario			

Figure 1: Location of Mining Facilities Subject to the MMER in 2003

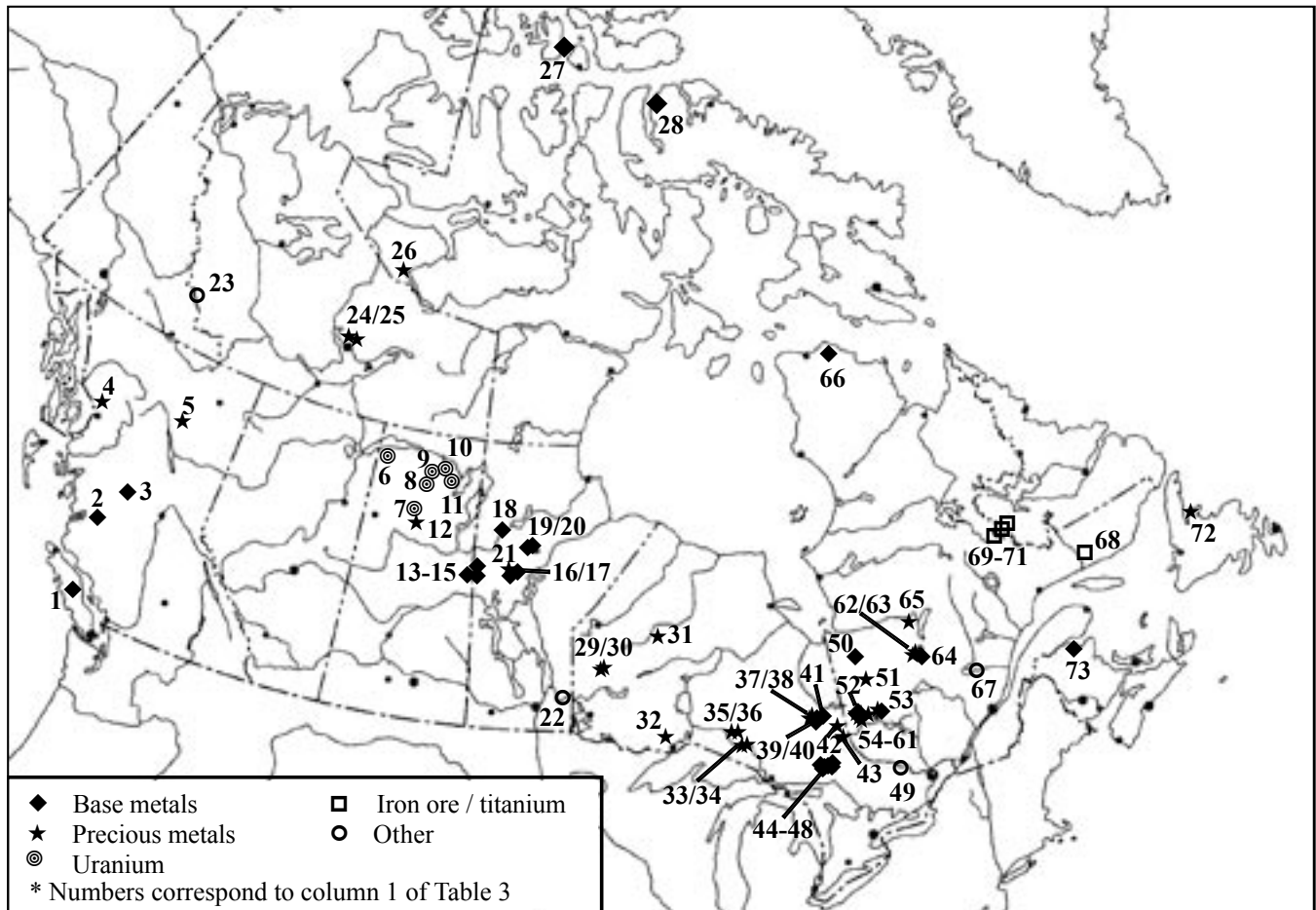


Table 4: Distribution of Final Discharge Points (FDPs) per Facility

Number of FDPs	Number of Facilities
1	51
2	12
3	4
4	2
5	2
6	1
8	1

Table 5: Distribution of Facilities and FDPs per Jurisdiction

Jurisdiction	Number of Facilities	Number of FDPs
British Columbia	5	15
Saskatchewan	8	14
Manitoba	9	11
Northwest Territories	3	3
Nunavut	3	3
Ontario	21	28
Quebec	20	30
New Brunswick	1	1
Newfoundland and Labrador	3	14
Total	73	119

4.0 PERFORMANCE DATA

4.1 Data Collection

The data used in this report were provided under section 22 of the MMER, which requires mines to submit annual reports to Environment Canada. The format for these reports is specified in Schedule 6 of the MMER. The reports include:

- monthly mean concentrations for metals;
- monthly pH range;
- monthly volume of effluent discharged; and
- results of acute lethality tests and *Daphnia magna* monitoring tests.

Data submitted by mines were validated by Environment Canada regional staff and then provided to staff at the Mining and Minerals Section at Environment Canada headquarters for compilation. Data are presented as provided by the mines from their submitted annual reports. Occasionally, quarterly reports were used by Environment Canada regional staff to complete missing information that was not properly reported by the owners or operators of some mines. For these facilities, a comment has been added in the appropriate summary tables presented in Appendix E indicating which information was not submitted as part of the annual report.

4.2 National Summary

4.2.1 Prescribed Deleterious Substances and pH

For the purpose of this report, performance of mines is based on an analysis of monthly effluent quality data, which include monthly mean concentrations for prescribed deleterious substances and pH range limit values that exceeded the MMER prescribed limits.

4.2.1.1 Summary of Exceedances

In 2003, 106 exceedances were reported. Among the 73 facilities that were subject to the MMER in 2003, 49 facilities complied with all maximum authorized monthly mean concentrations and pH range limits, whereas 24 facilities reported at least one exceedance.

For facilities without TAs, 18 reported at least one exceedance. Among the 18 facilities for which a TA had been granted, 6 exceeded their TA limits once; of those, 4 exceeded other MMER prescribed limits as well. Tables 6 and 7 show the distribution of exceedances for facilities with and without TAs. TSS exceedances accounted for 75.5% of all exceedances. No exceedances were reported for cyanide.

Table 6: Performance Summary for Mines without TAs

Exceedances of Limits Prescribed in Schedule 4		
Substance/ Parameter	Number of Exceedances	Number of Facilities
Arsenic	2	2
Copper	2	1
Cyanide	–	–
Lead	1	1
Nickel	4	2
Zinc	2	2
TSS	75	13
Ra-226	7	2
pH	7	5
Total	100	28

Table 7: Performance Summary for Mines with TAs

Exceedances of Limits Prescribed in Schedule 4		
Substance/ Parameter	Number of Exceedances	Number of Facilities
Arsenic	–	–
Copper	–	–
Cyanide	–	–
Lead	–	–
Nickel	–	–
Zinc	–	–
TSS	5	5
Ra-226	–	–
pH	1	1
Total	6	6

4.2.1.2 Summary of Performance by Jurisdiction

Figure 2 shows the distribution, by jurisdiction, of all the facilities subject to the MMER in 2003, as well as the number of facilities for which exceedances were reported.

The distribution of exceedances by jurisdiction is shown in Figure 3, whereas Tables 8 and 9 provide detailed summaries of exceedances and their distribution by jurisdiction. These summary tables are provided for mines with and without TAs.

Of the total number of exceedances that were reported in 2003, 41% occurred in facilities located in Newfoundland and Labrador, 14% in facilities in Quebec, 8% in Ontario, and 12% in each of Manitoba, British Columbia, and the Northwest Territories. Exceedances reported by facilities located in Saskatchewan accounted for 1%. No exceedances were reported by mines located in New Brunswick or Nunavut.

Figure 2: Distribution of Facilities per Jurisdiction for which Exceedances were Reported (All Mines)

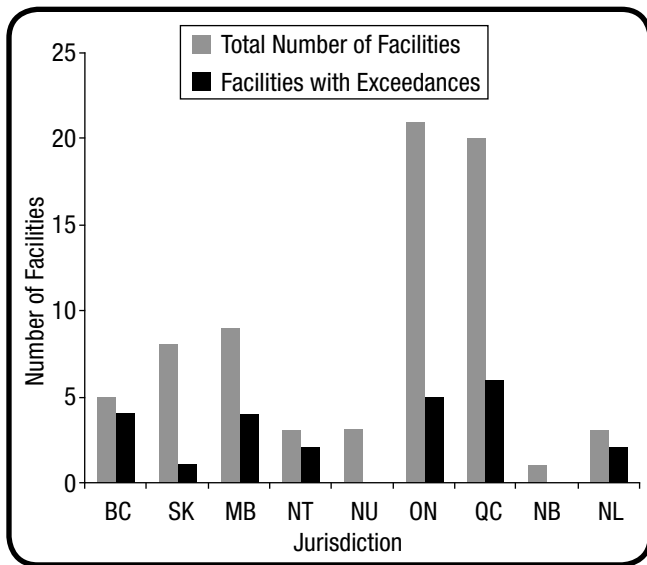


Figure 3: Distribution of Exceedances per Jurisdiction (All Mines)

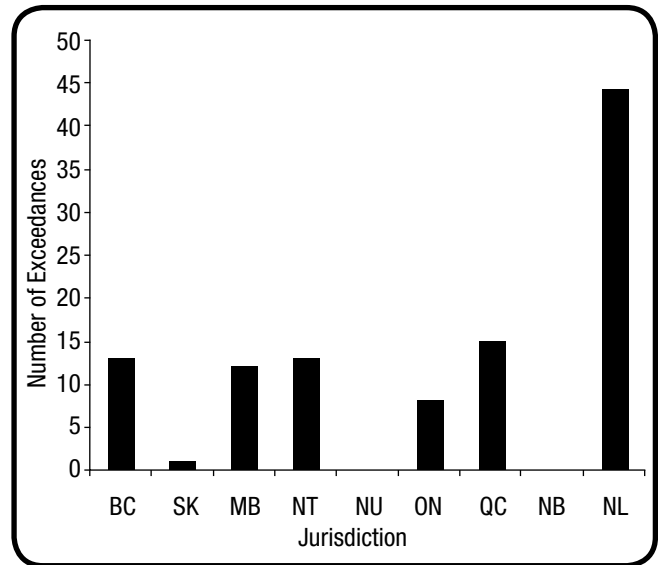


Table 8: Distribution of Exceedances by Jurisdiction: Mines without TAs

Jurisdiction	As	Cu	Pb	Ni	Zn	TSS	Ra-226	pH	Total	Number of Facilities
British Columbia	–	–	–	–	–	12	–	–	12	4
Saskatchewan	–	–	–	–	–	1	–	–	1	1
Manitoba	–	–	–	1	–	8	2	–	11	3
Northwest Territories	1	2	1	–	–	9	–	–	13	2
Nunavut	–	–	–	–	–	–	–	–	–	–
Ontario	1	–	–	–	1	2	–	4	8	5
Quebec	–	–	–	3	–	4	5	–	12	5
New Brunswick	–	–	–	–	–	–	–	–	–	–
Newfoundland and Labrador	–	–	–	–	1	39	–	3	43	2
Total	2	2	1	4	2	75	7	7	100	22

Table 9: Distribution of Exceedances by Jurisdiction: Mines with TAs

Jurisdiction	TSS	pH	Total	Number of Facilities
British Columbia	–	1	1	1
Saskatchewan	–	–	–	–
Manitoba	1	–	1	1
Northwest Territories	–	–	–	–
Nunavut	–	–	–	–
Ontario	–	–	–	–
Quebec	3	–	3	3
New Brunswick	–	–	–	–
Newfoundland and Labrador	1	–	1	1
Total	5	1	6	6

4.2.1.3 Summary of Performance by Mining Subsector

The distribution of exceedances by mining subsector is presented in Tables 10 and 11. For mines without TAs, 43 exceedances were reported by only 2 iron ore facilities, whereas 13 base metals facilities reported 44 exceedances and 7 precious metals facilities reported 13 exceedances. No exceedances were reported by the uranium facilities.

Table 10: Distribution of Exceedances by Mining Subsector: Mines without TAs

Subsector	As	Cu	Pb	Ni	Zn	TSS	Ra-226	pH	Total	Number of Facilities
Base metals	2	2	1	4	1	25	7	2	44	13
Precious metals	–	–	–	–	–	11	–	2	13	7
Uranium	–	–	–	–	–	–	–	–	–	–
Iron	–	–	–	–	1	39	–	3	43	2
Total	2	2	1	4	2	75	7	7	100	22

Table 11: Distribution of Exceedances by Mining Subsector: Mines with TAs

Subsector	As	Ni	Zn	TSS	Ra-226	pH	Total	Number of Facilities
Base metals	–	–	–	3	–	1	4	4
Precious metals	–	–	–	–	–	–	–	–
Uranium	–	–	–	–	–	–	–	–
Iron	–	–	–	2	–	–	2	2
Total	–	–	–	5	–	1	6	6

4.2.2 Rainbow Trout Acute Lethality and *Daphnia magna* Monitoring Tests

Tables 12 and 13 provide an overview of rainbow trout acute lethality and *Daphnia magna* monitoring tests that were conducted in 2003 based on the MMER requirements. The distributions of tests and results are provided by jurisdiction and mining subsector. The tables show the number of samples that were acutely lethal to rainbow trout and the number of tests for which *Daphnia magna* mortality was greater than 50%. As indicated in Section 2.3.2, the MMER do not require that effluent be non-acutely lethal to *Daphnia magna*, but tests must be done, recorded, and reported each time that a rainbow trout acute lethality test is conducted. It should be noted that this assessment does not include rainbow trout and *Daphnia magna* monitoring results for the seven facilities that had a TA for acute lethality.

The main observations are as follows:

- In total, 964 and 966 tests were conducted for rainbow trout acute lethality and *Daphnia magna* monitoring, respectively.
- In 95.0% of tests for rainbow trout acute lethality, samples were not acutely lethal.

- In 94.2% of *Daphnia magna* monitoring tests, the mortality rate was less than 50%.

4.2.2.1 Rainbow Trout Acute Lethality Tests

The results of the rainbow trout acute lethality tests can be summarized as follows:

- Samples were acutely lethal to rainbow trout in 48 tests.
- Twelve facilities had at least one sample that was acutely lethal to rainbow trout in 2003. Of those, six facilities had only one test failure.
- Of the 48 samples that were acutely lethal, 39.6% were from facilities located in Newfoundland and Labrador, 31.25% from facilities in Quebec, and less than 10% from other jurisdictions. None of the samples from mines in Nunavut and the Northwest Territories were acutely lethal to rainbow trout.
- On a sectoral basis, 52.1% of acutely lethal samples were from the base metals subsector, 39.6% from the iron ore subsector, 6.2% from the precious metals subsector, and 2.1% from the uranium subsector.

4.2.2.2 *Daphnia magna* Monitoring Tests

The results of the *Daphnia magna* monitoring tests can be summarized as follows:

- The mortality of *Daphnia magna* was greater than 50% in 56 tests.
- Seventeen facilities had at least one *Daphnia magna* test with a mortality rate greater than 50% in 2003.
- Quebec had the highest percentage (37.5%) of tests in which *Daphnia magna* mortality was greater than 50%, followed by British Columbia (23.2%), Newfoundland and Labrador (12.5%), Manitoba (10.7%), New Brunswick (7.1%), and all other jurisdictions (about 5%), with the exception of the Northwest Territories, where *Daphnia magna* mortality was in all cases less than 50%.
- On a sectoral basis, 76.8% of tests in which *Daphnia magna* mortality was greater than 50% were from the base metals subsector, 12.5% from the iron ore subsector, 7.1% from the precious metals subsector, and 3.6% from the uranium subsector.

Table 12: Performance Summary: Acute Lethality and *Daphnia magna* Testing, by Jurisdiction

Jurisdiction	Rainbow Trout Acute Lethality Tests			<i>Daphnia magna</i> Monitoring Tests		
	Total No. of Tests	>50% Mortality		Total No. of Tests	>50% Mortality	
		No. of Tests	No. of Facilities		No. of Tests	No. of Facilities
British Columbia	158	3	2	157	13	2
Saskatchewan	148	1	1	149	2	2
Manitoba	75	4	1	75	6	3
Northwest Territories	9	–	–	9	–	–
Nunavut	5	–	–	5	2	1
Ontario	197	5	4	197	1	1
Quebec	230	15	2	233	21	6
New Brunswick	15	1	1	15	4	1
Newfoundland and Labrador	127	19	1	126	7	1
Total	964	48	12	966	56	17

Table 13: Performance Summary: Acute Lethality and *Daphnia magna* Testing, by Mining Subsector

Subsector	Rainbow Trout Acute Lethality Tests			<i>Daphnia magna</i> Monitoring Tests		
	Total No. of Tests	>50% Mortality		Total No. of Tests	>50% Mortality	
		No. of Tests	No. of Facilities		No. of Tests	No. of Facilities
Base metals	404	25	8	406	43	12
Precious metals	298	3	2	298	4	2
Uranium	126	1	1	127	2	2
Iron	136	19	1	135	7	1
Total	964	48	12	966	56	17

5.0 COMPLIANCE SUMMARY FOR 2003

5.1 Compliance Summary for Prescribed Deleterious Substances and pH

Table 14 provides an assessment of mine performance in 2003 with respect to prescribed deleterious substances and pH range limits under the MMER. The percentages of compliance for the substances are based on the number of months for which an effluent was discharged compared with the number of samples that were in compliance with the monthly mean concentration set as per either column 2 of Schedule 4 of the MMER or TA limits that were granted. The compliance assessment of pH was based on the monthly pH ranges that were in compliance with the MMER authorized limit compared with the number of months for which an effluent was discharged. The pH range values are defined as the lowest and highest values obtained from all measurements taken during a given month.

It should be noted that more than 80 monthly pH results were reported not as a range but rather as a monthly average. In some of these cases, Environment Canada staff consulted quarterly reports to determine pH ranges for those months. For cyanide and Radium 226, the number of reported results is less due to the fact that several mines do not use cyanide as a process reagent in their operation and several mines are on reduced frequency of testing for Radium 226.

The overall compliance assessment achieved by metal mines in 2003 is above 99% for all parameters with the exception of TSS, for which the compliance rate is 92.1%. A limited number of mines were challenged to routinely meet the TSS limits.

5.2 Compliance Summary for Acute Lethality and *Daphnia magna* Monitoring Tests

The assessment of compliance rate for rainbow trout acute lethality and *Daphnia magna* monitoring tests was based on the total number of results that were reported, the number of tests that were acutely lethal to rainbow trout, and the number of tests that were acutely lethal to *Daphnia magna*. A test was considered acutely lethal when more than 50% of the species tested did not survive in an effluent at 100% concentration over a period of 96 hours.

Based on Tables 12 and 13, the compliance rates for rainbow trout acute lethality and *Daphnia magna* monitoring tests were 95.0% and 94.2%, respectively, in 2003.

5.3 Summary Tables and Data for Individual Mines

Data for each individual FDP for mines subject to the MMER in 2003 are listed in Appendix E. Tables are presented in alphabetical order based on mine/mill name. The tables show the summary of the monthly monitoring results of each FDP identified pursuant to sections 9 and 10 of the MMER. Data are presented as provided by the mines except where comments indicate that some data were added, for completeness, based on quarterly reports.

Supporting information includes the name of the mine or mill, the name of the operator, the list of the metal(s) that are produced, the mine address, the identification of the

Table 14: Compliance Summary for Prescribed Deleterious Substances and pH

	As	Cu	CN	Pb	Ni	Zn	TSS	Ra-226	pH Low	pH High
Number of exceedances	2	2	0	1	4	2	80	7	3	5
Total number of months for which results were reported	1022	1022	311	1022	1022	1022	1021	730	938	938
Compliance rate (%)	99.8	99.8	100	99.9	99.6	99.8	92.1	99.0	99.7	99.5

final effluent discharge point, the limits of the parameters, the monthly mean concentrations of the deleterious substances, the monthly pH range (low and high), the monthly effluent volume, the results of the acute lethality tests, the results of *Daphnia magna* monitoring tests, and comments (if applicable).

Highlighted data indicate that a monthly effluent quality standard (MEQS) was exceeded for a given month. A “Pass” for the rainbow trout acute lethality test and *Daphnia magna* monitoring test indicates that the mortality rate was less than or equal to 50%. A “Fail” indicates that the mortality rate was greater than 50%.

The tables presented in Appendix D summarize the effluent quality data for mines subject to the MMER in 2003. The summaries include site identification (i.e., mine/mill name and effluent discharge name) and number of months of discharge. Table D1 summarizes the distribution of the non-compliant parameters for metals and pH, whereas Table D2 summarizes the results of rainbow trout (RT) acute lethality tests and *Daphnia magna* (DM) monitoring tests.

5.4 Reporting Irregularities

An examination of data provided by individual mines reveals a number of reporting irregularities. These may be summarized as follows:

- *Reporting of Results Below Detection Limits*
 - Analytical results less than the method detection limit are conventionally reported as less than the detection limit. For example, if the method detection limit for a given analysis is 0.005 mg/L, then a result less than this detection limit would, by convention, be reported as <0.005 mg/L.
 - The MMER indicate that if an analytical result is less than one-tenth of the method detection limit set out in column 4 of Schedule 3 of the MMER, the test result shall be considered to be zero (subsection 20(5)). A number of mines reported results that were greater than one-tenth of the method detection limit set out in column 4 of Schedule 3 but less than the method detection limit as zero.
- *Reporting of pH*
 - Schedule 6 of the MMER requires that a monthly pH range be provided as part of the annual report, but a number of mines provided average monthly pH instead.
- *Reporting of Flow Measurement*
 - Some mines did not report flow measurements for all months.
- *Acute Lethality*
 - Several mines appear to be missing at least one test for rainbow trout acute lethality.
 - Some mines do not appear to be increasing the frequency of testing after failure of rainbow trout acute lethality testing.
- *Reporting of Non-Compliance*
 - Schedule 6 of the MMER requires that: “If effluent was non-compliant with the authorized limits set out in Schedule 4, indicate the cause(s) of non-compliance and remedial measures planned or implemented. Also indicate remedial measures planned or implemented in response to the failure of acute lethality tests.” A number of mines did not provide this information as part of their annual reports.
- *Reporting of Effluent Volume*
 - Schedule 6 of the MMER requires that mines report the effluent volume discharged for each month in which there was a discharge. A number of mines did not provide all effluent volume data.
- *Measurements Not Required*
 - Schedule 6 of the MMER requires that mines identify any measurements not taken because no measurement was required (i.e., reduced frequency, cyanide not used in the process, no effluent discharge, etc.). A number of mines did not fill in their annual reports accordingly.

The new electronic reporting system called “Regulatory Information Submission System” (RISS), which is being developed and implemented by Environment Canada, will help to improve reporting accuracy and quality by minimizing/eliminating these reporting irregularities.

6.0 CONCLUSIONS

In 2003, 73 facilities were subject to the MMER, from which a total of 119 FDPs were identified. TAs were granted to 18 facilities. The authorizations applied to 21 FDPs for which new limits were set, on a site-specific basis, for TSS or pH or allowing the deposit of acutely lethal effluents.

From the annual reports submitted by all the metal mines subject to the MMER in 2003, the main observations are as follows:

- *Overall Compliance Assessment for Prescribed Deleterious Substances and pH*
 - Overall, the metal mining sector is achieving over 99% compliance with the prescribed limits for arsenic, copper, lead, nickel, zinc, Radium 226, and pH; only a few sporadic exceedances were reported for those prescribed parameters.
 - A 100% compliance rate was achieved by metal mines for cyanide.
 - Some mines appear to be challenged to routinely meet TSS limits, with the overall compliance rate being 92.1%.
- *Overall Assessment of Results for Rainbow Trout Acute Lethality and Daphnia magna Monitoring Tests*
 - Overall, the metal mining sector has achieved a compliance rate of 95.0% with respect to effluent that is non-acutely lethal to rainbow trout.
 - In 94.2% of *Daphnia magna* monitoring tests, the mortality rate was less than 50%.

7.0 FUTURE CONSIDERATIONS

Environment Canada is proposing refinements to the legal language used in the MMER, based on implementation experience, in order to improve the clarity of the Regulations. A series of amendments are presently proposed for discussion with stakeholders. Some of those amendments will contribute to improve the clarity of Schedule 6.

Based on the annual reports submitted in 2003, it is obvious that consideration needs to be given to additional promotion of compliance with respect to the requirements of Schedule 6.

Finally, the new electronic reporting system called “Regulatory Information Submission System” (RISS), which is being developed and implemented by Environment Canada, should help to improve reporting accuracy, quality, and turnaround time for public reporting.



REFERENCES

Department of Fisheries and Oceans (2002) *Metal Mining Effluent Regulations, Part II, Canada Gazette*, Queen's Printer for Canada, June 19, 2002.

Environment Canada (2000a) *Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout*, Environmental Protection Series, Method Development and Applications Section, Environmental Technology Centre, Environment Canada, EPS 1/RM/13 Second Edition, December 2000.

Environment Canada (2000b) *Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna*, Environmental Protection Series, Method Development and Applications Section, Environmental Technology Centre, Environment Canada, EPS 1/RM/14 Second Edition, December 2000.

Environment Canada (2001a) *Guidance Document for the Sampling and Analysis of Metal Mining Effluents*, Minerals and Metals Division, Environmental Protection Service, Environment Canada, EPS 2/MM/5, April 2001.

Environment Canada (2001b) *Guidance Document for Flow Measurement of Metal Mining Effluents*, Minerals and Metals Division, Environmental Protection Service, Environment Canada, EPS 2/MM/4, April 2001.

SENES (1999) *Report on Technologies Applicable to Management of Canadian Mining Effluents*, prepared for Environment Canada by SENES Consultants Limited, March 1999.

LIST OF ACRONYMS AND ABBREVIATIONS

AQUAMIN	Assessment of the Aquatic Effects of Mining in Canada
As	arsenic
BC	British Columbia
Bq/L	becquerels per litre
CN	cyanide
Cu	copper
DM	<i>Daphnia magna</i>
EEM	environmental effects monitoring
FDP	final discharge point
m ³	cubic metres
MB	Manitoba
MEQS	monthly effluent quality standard
mg/L	milligrams per litre
MMER	<i>Metal Mining Effluent Regulations</i>
MMLER	<i>Metal Mining Liquid Effluent Regulations</i>
NB	New Brunswick
Ni	nickel
NL	Newfoundland and Labrador
NT	Northwest Territories
NU	Nunavut
ON	Ontario
Pb	lead
pH	potential of Hydrogen
QC	Quebec
Ra-226	Radium 226
RT	rainbow trout
RISS	Regulatory Information Submission System
SK	Saskatchewan
TA	Transitional Authorization
t/d	tonnes per day
t/y	tonnes per year
TSS	total suspended solids
Zn	zinc

APPENDIX A: TRANSITIONAL AUTHORIZATIONS GRANTED PURSUANT TO SECTION 35 OF THE *METAL MINING EFFLUENT REGULATIONS* (MMER)

Mine	Final Discharge Point	Province/ Territory	TSS (mg/L)	pH High	Acute Lethality
Eskay Creek	D7 Pond	British Columbia	20	–	–
Myra Falls Operations	11-A Runoff	British Columbia	–	11	–
Konuto Lake Mine		Saskatchewan	25	–	Yes
Seabee Mine	FDP 1.2	Saskatchewan	25	–	–
Chisel North Mine		Manitoba	–	10.51	Yes
Flin Flon Complex		Manitoba	–	11.32	–
Tanco Mine	Compliance Point	Manitoba	25	–	–
Trout Lake Mine		Manitoba	–	10.36	Yes
Con Mine		Northwest Territories	–	–	Yes
Doyon	Bassin A	Quebec	23.8	–	–
Géant Dormant	Lamellar clarifier	Quebec	–	–	Yes
Laronde		Quebec	–	–	Yes
Mont-Wright (Mine)	MS-2	Quebec	25	–	–
Niobec	Mine Water	Quebec	21	–	Yes
Tio (Mine)	Mine Water	Quebec	25	–	–
Raglan	DIR-UT	Quebec	18	–	–
Iron Ore Company of Canada	Beaver Bay Discharge	Newfoundland and Labrador	2 200	–	–
Iron Ore Company of Canada	Old Tailings Pumphouse	Newfoundland and Labrador	74 000	–	–
Iron Ore Company of Canada	Ore Car Flume	Newfoundland and Labrador	74 000	–	–
Iron Ore Company of Canada	Main Tailings Discharge	Newfoundland and Labrador	230 000	–	–
Wabush (Scully Mine)	Tailings Line Discharge	Newfoundland and Labrador	608 000	–	–

APPENDIX B: MINING FACILITIES SUBJECT TO THE MMER IN 2003

	Mine	Operator	Province/Territory (Location)	Products	Production Capacity	Process
1	Myra Falls Operations	Boliden Westmin (Canada) Limited	British Columbia (Vancouver Island)	Copper, zinc, gold, silver	4 000 t/d	Flotation
2	Endako	Thompson Creek Mining Limited	British Columbia (west-central BC)	Molybdenum	27 000 t/d	Flotation
3	Huckleberry Mine	Huckleberry Mines Limited	British Columbia (central BC, southwest of Houston)	Copper, molybdenum, gold, silver	21 000 t/d	Flotation
4	Eskay Creek	Barrick Gold Corporation	British Columbia (northwestern BC, east of Alaska Panhandle)	Gold, silver	300 t/d	Crushing only
5	Kemess South	Northgate Exploration Limited	British Columbia (north-central BC)	Gold, copper	49 000 t/d	Flotation
6	Cluff Lake Operation	Cogema Resources Inc.	Saskatchewan (northwestern SK, south of Lake Athabaska)	Uranium	Closed	
7	Key Lake Operation	Cameco Corporation	Saskatchewan (northern SK)	Uranium	Mill only; annual production capacity of 18 million pounds of U ₃ O ₈	Leaching and solvent extraction
8	McArthur River Operation	Cameco Corporation	Saskatchewan (northern SK)	Uranium	150 t/d	Crushing only; processed at Key Lake
9	Cigar Lake Project	Cameco Corporation	Saskatchewan (northern SK)	Uranium	Mine under development	
10	McClellan Lake Operation	Cogema Resources Inc.	Saskatchewan (northeastern SK, Wollaston Lake area)	Uranium	300 t/d	Leaching and solvent extraction
11	Rabbit Lake Operation	Cameco Corporation	Saskatchewan (northeastern SK, Wollaston Lake area)	Uranium	Annual production capacity of 12 million pounds of U ₃ O ₈	Leaching and solvent extraction
12	Seabee Mine	Claude Resources Inc.	Saskatchewan (northern SK)	Gold	800 t/d	Cyanidation
13	Konuto Lake Mine	Hudson Bay Mining and Smelting Co. Ltd.	Saskatchewan (east-central SK, near Flin Flon, MB)	Copper, zinc, gold, silver, selenium, tellurium	800 t/d	Mining only; ore shipped to Flin Flon Mill
14	Flin Flon Complex	Hudson Bay Mining and Smelting Co. Ltd.	Manitoba (west-central MB, in Flin Flon)	Copper, lead, zinc	5 500 t/d	Flotation

Mine	Operator	Province/Territory (Location)	Products	Production Capacity	Process	
15	Trout Lake Mine	Hudson Bay Mining and Smelting Co. Ltd.	Manitoba (west-central MB, near Flin Flon)	Copper, zinc, gold, silver	2 500 t/d	Flotation
16	Chisel North Mine	Hudson Bay Mining and Smelting Co. Ltd.	Manitoba (west-central MB, near Snow Lake)	Zinc	750 t/d	Mining only; ore shipped to Stall/Snow Lake Mill
17	Snow Lake Mill	Hudson Bay Mining and Smelting Co. Ltd.	Manitoba (west-central MB, near Snow Lake)	Copper, zinc, selenium, tellurium, silver	3 600 t/d	Flotation
18	Ruttan Mine	Hudson Bay Mining and Smelting Co. Ltd.	Manitoba (northern MB, near Leaf Rapids)	Copper, zinc	Closed?	
19	Birchtree Mine	Inco Limited	Manitoba (northern MB, near Thompson)	Nickel, copper	3 175 t/d	Mining only; ore shipped to Thompson Complex
20	Thompson Mine / Mill	Inco Limited	Manitoba (northern MB, in Thompson)	Nickel, copper	12 000 t/d	Flotation
21	New Britannia Mine	Kinross Gold Corporation	Manitoba (west-central MB, near Snow Lake)	Gold	2 200 t/d	Cyanidation
22	Tanco Mine	Tantalum Mining Corporation of Canada Limited	Manitoba (southeastern MB, northeast of Winnipeg)	Tantalum, lithium, cesium, rubidium	Varies by commodity	Gravity, flotation, dry grinding, leach
23	Cantung Mine	North American Tungsten Corporation Limited	Northwest Territories (east of Yukon border)	Tungsten	3 000 t/d	Flotation
24	Con Mine	Miramar Mining Corporation	Northwest Territories (Yellowknife)	Gold	750 t/d	Cyanidation
25	Giant Mine	Miramar Mining Corporation	Northwest Territories (Yellowknife)	Gold	5 800 t/month	Mining only; ore shipped to Con Mine
26	Lupin Operations	Kinross Gold Corporation	Nunavut (western NU, northeast of Yellowknife)	Gold		
27	Polaris Mine	Cominco Mining Partnership and Teck Cominco Ltd.	Nunavut (Little Cornwallis Island)	Lead, zinc	Closed	
28	Nanisivik Mine	CanZinco Limited	Nunavut (northern Baffin Island)	Zinc, lead, silver	Closed	
29	Red Lake Mine	Goldcorp Inc.	Ontario (northwestern ON, Red Lake area)	Gold, silver	600 t/d	Gravity, cyanidation, flotation
30	Campbell Mine	Placer Dome (CLA) Limited	Ontario (northwestern ON, Red Lake area)	Gold	≥1 000 t/d	Cyanidation
31	Musselwhite Mine	Placer Dome Canada Limited	Ontario (northwestern ON)	Gold, silver	3 300 t/d	Cyanidation
32	Lac des Iles Mine	Lac des Iles Mines Limited	Ontario (northwestern ON, northwest of Thunder Bay)	Palladium, platinum, gold, copper, nickel, cobalt	15 000 t/d	Flotation

	Mine	Operator	Province/Territory (Location)	Products	Production Capacity	Process
33	Golden Giant Mine	Newmont Canada Limited	Ontario (northern ON, east of Marathon)	Gold	3 000 t/d	Cyanidation
34	Williams Mine	Williams Operating Corporation	Ontario (northern ON, east of Marathon)	Gold, silver	10 000 t/d	Cyanidation, gravity
35	Eagle River Mine	River Gold Mines Limited	Ontario (northern ON, west of Wawa)	Gold, silver	850 t/d	Mining only; ore shipped to River Gold Mill
36	Eagle River Mill (Mill, Mishi Pit, and Magnacon Mine)	River Gold Mines Limited	Ontario (northern ON, west of Wawa)	Gold, silver	1 000 t/d	Cyanidation
37	Porcupine Joint Venture (Dome Mine, Owl Creek Pit)	Placer Dome (CLA) Limited and Kinross Gold Corporation	Ontario (northeastern ON, Timmins area)			
38	Holt McDermott	Barrick Gold Corporation	Ontario (northeastern ON, Timmins area)	Gold, silver	2 500 t/d	Cyanidation
39	Kidd Mine	Falconbridge Limited	Ontario (northeastern ON, Timmins area)	Zinc, copper, cadmium, indium, cobalt, selenium, silver, palladium, platinum	10 000 t/d	Mining only; ore shipped to Kidd Metallurgical Division
40	Kidd Metallurgical Division	Falconbridge Limited	Ontario (northeastern ON, Timmins area)	Zinc, copper, cadmium, indium, cobalt, selenium, silver, palladium, platinum	10 000 t/d	Flotation
41	Montcalm	Falconbridge Limited	Ontario (northeastern ON, Timmins area)	Nickel, copper, cobalt	Mine under development	
42	Macassa Mine	Kirkland Lake Gold Inc.	Ontario (northeastern ON, Kirkland Lake area)	Gold	1 450 t/d	Cyanidation
43	McAlpine Mill	SMC (Canada) Limited	Ontario (northeastern ON, Cobalt area)	Precious metals	200 t/d Processes metallurgical wastes	Gravity and flotation
44	Lockerby Mine	Falconbridge Limited	Ontario (Sudbury area)	Copper, nickel, cobalt	≥700 t/d	Mining only; ore shipped to Strathcona Mill
45	Strathcona Tailings Treatment System (includes Fraser, Strathcona Mine and Mill, Craig and Onaping Mines; also includes Inco's Coleman and McCreedy East Mines)	Falconbridge Limited	Ontario (Sudbury area)	Nickel, copper, cobalt, platinum, palladium	8 200 t/d	Flotation

Mine	Operator	Province/Territory (Location)	Products	Production Capacity	Process	
46	Copper Cliff Complex (includes Clarabelle Mill, smelter, Copper Cliff North, Copper Cliff South, Creighton, Gertrude, Froid and Stobie Mines)	Inco Limited	Ontario (Sudbury area)	Nickel, copper, cobalt, platinum	27 300 t/d for Clarabelle Mill	Flotation
47	Crean Hill Mine	Inco Limited	Ontario (Sudbury area)	Nickel, copper, cobalt, platinum	Closed?	
48	Garson Mine	Inco Limited	Ontario (Sudbury area)	Nickel, copper, cobalt, platinum	2 400 t/d	Mining only; ore shipped to Copper Cliff Complex – Clarabelle Mill
49	Haley Plant	Timminco Limited	Ontario (southeastern ON, west of Ottawa)	Magnesium, calcium, strontium	7500 t/y magnesium, 900 t/y calcium	Calcining, reduction, refining, melting, casting, extruding
50	Matagami (Mine) (Bell Allard)	Noranda Inc.	Quebec (northeastern QC, near Matagami)	Zinc, copper	2 000 t/d	Flotation
51	Géant Dormant	Cambior Inc.	Quebec (northeastern QC, Abitibi region)	Gold, silver	900 t/d	Cyanidation
52	Bouchard-Hébert (Mine)	Ressources Breakwater Ltd.	Quebec (northeastern QC, Abitibi region)	Zinc, copper, gold, silver	2 800 t/d	Flotation
53	Louvicourt (Mine)	Les Ressources Aur Inc.	Quebec (northeastern QC, Abitibi region)	Copper, zinc, silver, gold	4 000 t/d	Flotation
54	Laronde	Les Mines Agnico-Eagle Ltd.	Quebec (northeastern QC, Abitibi region)	Gold, silver, copper, zinc	5 000 t/d	Flotation, leaching, gravity concentration
55	Mouska	Cambior Inc.	Quebec (northeastern QC, Abitibi region)	Gold	600 t/d	Mining only; ore shipped to Doyon Mill
56	Doyon	Cambior Inc.	Quebec (northeastern QC, Abitibi region)	Gold	3 500 t/d	Cyanidation
57	Kiena (Complexe)	Les Mines McWatters Inc.	Quebec (northeastern QC, Abitibi region)	Gold, silver	2 000 t/d	Cyanidation
58	Malartic (Usine)	Les Mines McWatters Inc.	Quebec (northeastern QC, Abitibi region)	Copper, gold, silver	3 000 t/d	Gravity, flotation, cyanidation
59	Sigma-Lamaque	Les Mines McWatters Inc.	Quebec (northeastern QC, Abitibi region)	Gold	5 000 t/d	
60	Beaufor	Mines Richmond Inc.	Quebec (northeastern QC, Abitibi region)	Gold	820 t/d	Mining only; ore shipped to Camflo
61	Camflo (Usine)	Mines Richmond Inc.	Quebec (northeastern QC, Abitibi region)	Gold	1 300 t/d (mill only)	Cyanidation
62	Principale	Ressources Meston Inc. (Ressources Campbell Inc.)	Quebec (northeastern QC, Chibougamau area)	Gold, copper	3 000 t/d (mill only)	Cyanidation

Mine	Operator	Province/Territory (Location)	Products	Production Capacity	Process	
63	Joe Mann	Ressources Meston Inc. (Ressources Campbell Inc.)	Quebec (northeastern QC, Chibougamau area)	Gold, copper	1 000 t/d	Mining only; ore shipped to Camchib
64	Copper Rand (Mine)	Ressources Meston Inc. (Ressources Campbell Inc.)	Quebec (northeastern QC, Chibougamau area)	Copper, gold, silver		Gravity, flotation
65	Troilus	Corporation minière Inmet	Quebec (northeastern QC, north of Chibougamau)	Gold, copper, silver	15 000 t/d	Gravity, flotation
66	Raglan	Falconbridge Ltd.	Quebec (northern QC, west of Ungava Bay)	Nickel, copper, cobalt, platinum group metals, palladium	3 000 t/d	Flotation
67	Niobec	Services minéraux industriels Inc.	Quebec (central QC, Lac St. Jean region)	Niobium	3 500 t/d	Flotation, magnetic separation
68	Tio (Mine)	QIT-Fer et Titane Inc.	Quebec (eastern QC, north of Havre-Saint-Pierre)	Titanium, iron ore	8 000 t/d	Mining only; ore processed at plant in Sorel, QC
69	Mont-Wright (Mine)	Compagnie minière Québec Cartier	Quebec (northeastern QC, near Wabush, NL)	Iron ore	125 000 t/d	Grinding and spiral separation
70	Wabush (Scully Mine)	Cleveland-Cliffs Inc.	Newfoundland and Labrador (western Labrador, Wabush, Labrador City area)	Iron ore	54 400 t/d	Grinding, spiral and high-tension separation
71	Iron Ore Company of Canada	Iron Ore Company of Canada	Newfoundland and Labrador (western Labrador, Wabush, Labrador City area)	Iron ore	140 000 t/d	Spirals and magnetic separators, flotation
72	Nugget Pond	Richmont Mines Inc. - Newfoundland Division	Newfoundland and Labrador (north-central NL, northwest of Grand Falls)	Gold	350 t/d (mill only)	
73	Brunswick #12	Noranda Inc.	New Brunswick (northern NB, south of Bathurst)	Lead, zinc, copper, silver	10 000 t/d	Flotation

APPENDIX C: MINING COMPANIES INCLUDED IN THE ASSESSMENT

Barrick Gold Corporation

Boliden Westmin (Canada) Ltd.

Cambior Inc.

Cameco Corporation

CanZinco Ltd.

Claude Resources Inc.

Cleveland-Cliffs Inc.

Cogema Resources Inc.

Cominco Mining Partnership

Compagnie minière Québec Cartier

Corporation minière Inmet

Falconbridge Ltd.

Goldcorp Inc.

Huckleberry Mines Ltd.

Hudson Bay Mining and Smelting Co. Ltd.

Inco Ltd.

Iron Ore Company of Canada

Kirkland Lake Gold Inc.

Kinross Gold Corporation

Lac des Iles Mines Ltd.

Les Mines Agnico-Eagle Ltd.

Les Mines McWatters Inc.

Les Ressources Aur Inc.

Mines Richmond Inc.

Miramar Mining Corporation

Newmont Canada Limited

Northgate Exploration Ltd.

Noranda Inc.

North American Tungsten Corporation Limited

Placer Dome Canada Ltd.

Placer Dome (CLA) Ltd.

QIT-Fer et Titane Inc.

Ressources Breakwater Ltd.

Ressources Campbell Inc.

Resources Meston Inc.

Richmont Mines Inc.

River Gold Mines Ltd.

Services minéraux industriels Inc.

SMC (Canada) Ltd.

Tantalum Mining Corporation of Canada Ltd.

Teck Cominco Ltd.

Thompson Creek Mining Ltd.

Timminco Ltd.

Williams Operating Corporation

APPENDIX D: PERFORMANCE SUMMARY OF MINE EFFLUENTS IN 2003

Note to Readers

The tables presented in this appendix summarize the effluent quality data for mines subject to the MMER in 2003. The summaries include site identification (i.e., mine/mill name and effluent discharge name) and number of months of discharge. Table D1 summarizes the distribution of the non-compliant parameters for metals and pH, whereas Table D2 summarizes the results of rainbow trout (RT) acute lethality tests and *Daphnia magna* (DM) monitoring tests. Metal exceedances represent the number of monthly mean concentrations that exceeded the prescribed limits for a given month, whereas pH exceedances represent the number of times that the monthly pH range was exceeded. The parameters included are arsenic (As), copper (Cu), cyanide (CN), lead (Pb), nickel (Ni), zinc (Zn), total suspended solids (TSS), total Radium 226 (Ra-226), and pH.

Table D1: Summary of Exceedances for Mines Subject to the MMR in 2003: Prescribed Parameters and pH

Site Identification		Months of Discharge	As 0.5 mg/L	Cu 0.3 mg/L	CN 1.0 mg/L	Pb 0.2 mg/L	Ni 0.5 mg/L	Zn 0.5 mg/L	TSS 15 mg/L	Ra-226 0.37 Bq/L	pH Low 6	pH High 9.5
Mine/Mill Name	Effluent Discharge Name											
Beaufor	18U 3003797 - UTM 5337224	12										
Birchtree Mine	BT Confluence/BT Effluent Treatment Plant	12							8			
Bouchard-Hébert (Mine)	North End of Dam No.4 East	8										
Brunswick #12	Effluent Treatment Plant Discharge (3333)	12										
Camflo (Usine)		7										
Campbell Mine	WETOUT	6										
Cantung Mine	#4 Polishing Pond Effluent	12	1	2		1			5			
Chisel North Mine	Treatment Plant Effluent	12										
Cigar Lake Project	Station 2.2	12										
Cluff Lake Operation		8										
Con Mine		6							4			
Copper Cliff Complex	Copper Cliff Wastewater Treatment Plant	12										1
Copper Cliff Complex	Nolin Creek Wastewater Treatment Plant	12										1
Copper Rand (Mine)	Point #2.1c	11										
Crean Hill Mine	Crean Hill Mine	12										
Doyon	Bassin A	12										
Eagle River Mill		3										
Eagle River Mine		12							2		1	
Endako	En.A1 - Tailings Pond #1 South	12										
Endako	En.H1 - Tailings Pond #2 Higginbotham	12							2			
Endako	En.N1 - Tailings Pond #1 North	11										
Endako	En.S2 - Tailings Pond #2 South	12										
Endako	En.SBC - Endako Pit	12										
Endako	En.W2 - Denak West Pit	5										

Table D1: Summary of Exceedances for Mines Subject to the MMR in 2003: Prescribed Parameters and pH (Cont'd)

Site Identification		Months of Discharge	As 0.5 mg/L	Cu 0.3 mg/L	CN 1.0 mg/L	Pb 0.2 mg/L	Ni 0.5 mg/L	Zn 0.5 mg/L	TSS 15 mg/L	Ra-226 0.37 Bq/L	pH Low 6	pH High 9.5
Mine/Mill Name	Effluent Discharge Name											
Eskay Creek	Es.W20 – Albino Discharge Point	12										
Eskay Creek	Es.D7 – Treatment Pond Discharge Point	12										
Eskay Creek	Es.TM1 – Tom MacKay Discharge Point	12										
Flin Fion Complex	North Weir Discharge	12										
Garson Mine	Garson Mine	12										
Géant Dormant	Mine Water	12										
Géant Dormant	Lamellar Clarifier	4										
Giant Mine	SNP 43-1	4										
Golden Giant Mine	WGS84 Datum	5										
Haley Plant		12										
Holt McDermott	S8	3										
Huckleberry Mine	Hu.EZDD – East Zone Diversion Ditch	5						3				
Huckleberry Mine	Hu.SC3 – Sediment Control Structure #3	12										
Huckleberry Mine	Hu.SC4 – Sediment Control Structure #4	12						3				
Iron Ore Company of Canada	Ore Car Flume	12										
Iron Ore Company of Canada	Main Tailings Discharge	12										
Iron Ore Company of Canada	Beaver Bay Discharge	12										
Iron Ore Company of Canada	MD5	7										1
Iron Ore Company of Canada	Old Tailings Pumphouse Discharge Point #10	12										
Joe Mann		12										
Kemess South	KS.WQ14 – Runoff	12							1			
Kemess South	KS.WQBLX – Sedimentation Pond Decant	2										
Key Lake Operation	Dewatering Discharge to Horsefly Lake	12										
Key Lake Operation	Mill Effluent to Wolf Lake	12										
Kidd Mine	Wastewater Treatment Pond – Final Effluent	11						1				
Kidd Metallurgical Division	Final Effluent Monitoring Point	12										

Table D1: Summary of Exceedances for Mines Subject to the MMR in 2003: Prescribed Parameters and pH (Cont'd)

Site Identification		Months of Discharge	As 0.5 mg/L	Cu 0.3 mg/L	CN 1.0 mg/L	Pb 0.2 mg/L	Ni 0.5 mg/L	Zn 0.5 mg/L	TSS 15 mg/L	Ra-226 0.37 Bq/L	pH Low 6	pH High 9.5
Mine/Mill Name	Effluent Discharge Name											
Kiena (Complexe)		3										
Konuto Lake Mine	Konuto Surface Sump Discharge	10							1			
Lac des Iles Mine		2										
Laronde		12							2			
Lockerby Mine	#4 Pond Effluent	12										
Louvicourt (Mine)	Polishing Pond – Final Effluent (PP-FE)	5										
Lupin Operations	Tailings Containment Area Final Discharge Point (Station 925-10)	0										
Macassa Mine	C Dam	12										1
Magnacon Mine (part of Eagle River Mill)		2										
Malartic (Usine)		4										
Matagami (Mine) (Bell Allard)	WLD	12							1			
McAlpine Mill		12	1									
McArthur River Operation	Mine Water Treatment Plan - #2 88HP Pump	5										
McArthur River Operation	Mine Water Treatment Plant - 88HP Pump	3										
McArthur River Operation	Mine Water Treatment Plant - Station 2.1	12										
McArthur River Operation	Shaft #3 - Station 2.7	5										
McClean Lake Operation	CM01	12										
McClean Lake Operation	SUE Water Treatment Plant Effluent (SC01)	2										
Mishi Pit (part of Eagle River Mill)		4										
Montcalm	Final Effluent	1										
Mont-Wright (Mine)	HS-1	12										
Mont-Wright (Mine)	MS-2	7										
Mouska	Bellot Creek	12							1			

Highlighted data indicate the number of times that the authorized limits set as per Transitional Authorization (TA) were exceeded.

Table D1: Summary of Exceedances for Mines Subject to the MMR in 2003: Prescribed Parameters and pH (Cont'd)

Site Identification		Months of Discharge	As 0.5 mg/L	Cu 0.3 mg/L	CN 1.0 mg/L	Pb 0.2 mg/L	Ni 0.5 mg/L	Zn 0.5 mg/L	TSS 15 mg/L	Ra-226 0.37 Bq/L	pH Low 6	pH High 9.5
Mine/Mill Name	Effluent Discharge Name											
Muskelwhite Mine	EF3	6										
Myra Falls Operations	MF:11A – Runoff Myra Ponds Effluent	12							3			1
Nanisivik Mine	159-4	4										
New Britannia Mine	SWM03	1										
Niobec	Tailings Pond Effluent	12										
Niobec	Mine Water Effluent	12						1		5		
Nugget Pond	Rocky Pond (Polish Pond)	8										
Polaris Mine	Garrow Lake Siphons	3										
Porcupine Joint Venture	Mine Water Storage Pond – Dome Mine	12										
Porcupine Joint Venture	Owl Creek Discharge 1	7										
Porcupine Joint Venture	Owl Creek Discharge 2	8										
Porcupine Joint Venture	Effluent Treatment Plant – Dome Mine	5										
Principale	Point #20	6										
Rabbit Lake Operation	Station 2.3, Weir#3 – Final Effluent	12										
Raglan	DIR-HAS (Final Effluent – Acidic Waste Rock of Areas 2 and 3)	4										
Raglan	DIR-UT (Mill – Final Effluent)	12										
Red Lake Mine	G1	2										
Ruttan Mine	Brehault Weir	6										
Seabee Mine	2 Mine Settling Pond Discharge (FDP 1.2)	12										
Seabee Mine	5-1 Mine Settling Pond Discharge (FDP 1.3)	12							1			
Sigma-Lamaque		4										
Snow Lake Mill	Treatment Plant Effluent	0										
Strathcona Tailings Treatment System	Fecunis RR Bridge	12										
Tanco Mine	Compliance Point	12										
Tanco Mine	Phreatic or Groundwater	9										

Highlighted data indicate the number of times that the authorized limits set as per Transitional Authorization (TA) were exceeded.

Table D1: Summary of Exceedances for Mines Subject to the MMR in 2003: Prescribed Parameters and pH (Cont'd)

Site Identification		Months of Discharge	As 0.5 mg/L	Cu 0.3 mg/L	CN 1.0 mg/L	Pb 0.2 mg/L	Ni 0.5 mg/L	Zn 0.5 mg/L	TSS 15 mg/L	Ra-226 0.37 Bq/L	pH Low 6	pH High 9.5
Mine/Mill Name	Effluent Discharge Name											
Thompson Mine / Mill	Station B	12										
Thompson Mine / Mill	Weir	12				1						
Tio (Mine)	Effluent ANO (Industrial Water Pond ANO)	0										
Tio (Mine)	Effluent Grondin (Formerly Grondin Lake)	2				2						
Tio (Mine)	Mine Water	9				1		1				
Troilus	BS-2 (Mine Water Discharge)	12						1				
Troilus	PR-1	12										
Troilus	PR-2 (Tailings Pond Seepage)	3										
Troilus	PR-5 (Tailings Pond Seepage)	3										
Troilus	PR-6 (Tailings Pond Seepage)	3										
Trout Lake Mine	Trout Lake Surface Sump Discharge	10								2		
Wabush (Scully Mine)	Shops South	9							9			
Wabush (Scully Mine)	Tailings Line Discharge	12						1	1			
Wabush (Scully Mine)	Tailings Line Emergency Dump Basin #1	8							7			
Wabush (Scully Mine)	West Pit Extension	12							4			
Wabush (Scully Mine)	East Pit No. 2	12										
Wabush (Scully Mine)	East Pit No.1	8										
Wabush (Scully Mine)	Knoll Lake	12								12	2	
Wabush (Scully Mine)	Shops East	11							7			
Williams Mine	Treated Effluent Discharge	6										
Williams Mine	Pond 400 Discharge	0										
Total Number of Exceedances			2	2	0	1	4	2	80	7	3	5

Highlighted data indicate the number of times that the authorized limits set as per Transitional Authorization (TA) were exceeded.

Table D2: Performance Summary for Mines Subject to the MMER in 2003: Acute Lethality and *Daphnia magna* Monitoring Tests

Site Identification		Months of Discharge	RT Total	RT Fail	DM Total	DM Fail
Mine/Mill Name	Effluent Discharge Name					
Beaufor	18U 3003797 - UTM 5337224	12	17	2	17	
Birchtree Mine	BT Confluence/BT Effluent Treatment Plant	12	12		12	3
Bouchard-Hébert (Mine)	North End of Dam No.4 East	8	17		20	5
Brunswick #12	Effluent Treatment Plant Discharge (3333)	12	15	1	15	4
Camflo (Usine)		7	5		5	
Campbell Mine	WETOUT	6	7		7	
Cantung Mine	#4 Polishing Pond Effluent	12	5		5	
Chisel North Mine	Treatment Plant Effluent	12				
Cigar Lake Project	Station 2.2	12	12		12	
Cluff Lake Operation		8	7		7	
Con Mine		6				
Copper Cliff Complex	Copper Cliff Wastewater Treatment Plant	12	11		11	
Copper Cliff Complex	Nolin Creek Wastewater Treatment Plant	12	11		11	
Copper Rand (Mine)	Point #2.1c	11	11		11	
Crean Hill Mine	Crean Hill Mine	12	10		10	
Doyon	Bassin A	12	11		11	
Eagle River Mill		3	2		2	
Eagle River Mine		12	12		12	
Endako	En.A1 – Tailings Pond #1 South	12	11		11	
Endako	En.H1 – Tailings Pond #2 Higginbotham	12	11		11	
Endako	En.N1 – Tailings Pond #1 North	11	9		9	
Endako	En.S2 – Tailings Pond #2 South	12	11		11	
Endako	En.SBC – Endako Pit	12	11		11	
Endako	En.W2 – Denak West Pit	5	5		5	
Eskay Creek	Es.W20 – Albino Discharge Point	12	12		12	
Eskay Creek	Es.D7 – Treatment Pond Discharge Point	12	12		12	
Eskay Creek	Es.TM1 – Tom MacKay Discharge Point	12	12		12	
Flin Flon Complex	North Weir Discharge	12	12		12	
Garson Mine	Garson Mine	12	10		10	
Géant Dormant	Mine Water	12	13		13	
Géant Dormant	Lamellar Clarifier	4				
Giant Mine	SNP 43-1	4	4		4	
Golden Giant Mine	WGS84 Datum	5	5		5	
Haley Plant		12	13	2	13	
Holt McDermott	S8	3	3		3	

Highlighted boxes indicate that the mine had a Transitional Authorization for Acute Lethality.

Table D2: Performance Summary for Mines Subject to the MMER in 2003: Acute Lethality and *Daphnia magna* Monitoring Tests (Cont'd)

Site Identification		Months of Discharge	RT Total	RT Fail	DM Total	DM Fail
Mine/Mill Name	Effluent Discharge Name					
Huckleberry Mine	Hu.EZDD – East Zone Diversion Ditch	5	8	2	8	6
Huckleberry Mine	Hu.SC3 – Sediment Control Structure #3	12	14		14	4
Huckleberry Mine	Hu.SC4 – Sediment Control Structure #4	12	14		14	
Iron Ore Company of Canada	Ore Car Flume	12	6		6	
Iron Ore Company of Canada	Main Tailings Discharge	12	6		6	
Iron Ore Company of Canada	Beaver Bay Discharge	12	11		11	
Iron Ore Company of Canada	MD5	7	6		6	
Iron Ore Company of Canada	Old Tailings Pumphouse Discharge	12	11		11	
Joe Mann	Point #10	12	12		12	
Kemess South	KS.WQ14 - Runoff	12	11		11	
Kemess South	KS.WQBXL – Sedimentation Pond Decant	2	2		2	
Key Lake Operation	Dewatering Discharge to Horsefly Lake	12	15		15	1
Key Lake Operation	Mill Effluent to Wolf Lake	12	23	1	23	
Kidd Mine	Wastewater Treatment Pond – Final Effluent	11	9		9	
Kidd Metallurgical Division	Final Effluent Monitoring Point	12	14	1	14	
Kiena (Complexe)		3	3		3	
Konuto Lake Mine	Konuto Surface Sump Discharge	10				
Lac des Iles Mine		2	1	1	1	1
Laronde		12	12		12	
Lockerby Mine	#4 Pond Effluent	12	11		11	
Louvicourt (Mine)	Polishing Pond – Final Effluent (PP-FE)	5	5		5	
Lupin Operations	Tailings Containment Area Final Discharge Point (Station 925-10)	0				
Macassa Mine	C Dam	12	12		12	
Magnacon Mine (part of Eagle River Mill)		2	1		1	
Malartic (Usine)		4	4		4	
Matagami (Mine) (Bell Allard)	WLD	12	6		6	
McAlpine Mill		12	12		12	
McArthur River Operation	Mine Water Treatment Plan – #2 88HP Pump	5	6		6	
McArthur River Operation	Mine Water Treatment Plant – 88HP Pump	3	6		6	
McArthur River Operation	Mine Water Treatment Plant – Station 2.1	12	24		25	1
McArthur River Operation	Shaft #3 – Station 2.7	5	7		7	
McClellan Lake Operation	CM01	12	12		12	
McClellan Lake Operation	SUE Water Treatment Plant Effluent (SC01)	2	2		2	

Highlighted boxes indicate that the mine had a Transitional Authorization for Acute Lethality.

Table D2: Performance Summary for Mines Subject to the MMER in 2003: Acute Lethality and *Daphnia magna* Monitoring Tests (Cont'd)

Site Identification		Months of Discharge	RT Total	RT Fail	DM Total	DM Fail
Mine/Mill Name	Effluent Discharge Name					
Mishi Pit (part of Eagle River Mill)		4	3		3	
Montcalm	Final Effluent	1	1		1	
Mont-Wright (Mine)	HS-1	12	12		12	
Mont-Wright (Mine)	MS-2	7	7		7	
Mouska	Bellot Creek	12	11		11	1
Musselwhite Mine	EF3	6	6		6	
Myra Falls Operations	MF.11A – Runoff Myra Ponds Effluent	12	15	1	14	3
Nanisivik Mine	159-4	4	2		2	2
New Britannia Mine	SWM03	1	1		1	
Niobec	Tailings Pond Effluent	12	12		11	1
Niobec	Mine Water Effluent	12				
Nugget Pond	Rocky Pond (Polish Pond)	8	10		10	
Polaris Mine	Garrow Lake Siphons	3	3		3	
Porcupine Joint Venture	Mine Water Storage Pond - Dome Mine	12	6		6	
Porcupine Joint Venture	Owl Creek Discharge 1	7	4		4	
Porcupine Joint Venture	Owl Creek Discharge 2	8	8		8	
Porcupine Joint Venture	Effluent Treatment Plant – Dome Mine	5	5		5	
Principale	Point #20	6	5		5	3
Rabbit Lake Operation	Station 2.3.3, Weir#3 – Final Effluent	12	12		12	
Raglan	DIR-HAS (Final Effluent – Acidic Waste Rock of Areas 2 and 3)	4	4		4	
Raglan	DIR-UT (Mill – Final Effluent)	12	19	13	19	10
Red Lake Mine	G1	2	2	1	2	
Ruttan Mine	Brehault Weir	6	4		4	1
Seabee Mine	2 Mine Settling Pond Discharge (FDP 1.2)	12	11		11	
Seabee Mine	5-1 Mine Settling Pond Discharge (FDP 1.3)	12	11		11	
Sigma-Lamaque		4	4		4	
Snow Lake Mill	Treatment Plant Effluent	0				
Strathcona Tailings Treatment System	Fecunis RR Bridge	12	12		12	
Tanco Mine	Compliance Point	12	11		11	
Tanco Mine	Phreatic or Groundwater	9	11	4	11	2
Thompson Mine / Mill	Station B	12	12		12	
Thompson Mine / Mill	Weir	12	12		12	
Tio (Mine)	Effluent ANO (Industrial Water Pond ANO)	0				
Tio (Mine)	Effluent Grondin (Formerly Grondin Lake)	2	1		1	1
Tio (Mine)	Mine Water	9	6		7	

Highlighted boxes indicate that the mine had a Transitional Authorization for Acute Lethality.

Table D2: Performance Summary for Mines Subject to the MMER in 2003: Acute Lethality and *Daphnia magna* Monitoring Tests (Cont'd)

Site Identification		Months of Discharge	RT Total	RT Fail	DM Total	DM Fail
Mine/Mill Name	Effluent Discharge Name					
Troilus	BS-2 (Mine Water Discharges)	12	12		12	
Troilus	PR-1	12	12		12	
Troilus	PR-2 (Tailings Pond Seepage)	3	3		3	
Troilus	PR-5 (Tailings Pond Seepage)	3	3		3	
Troilus	PR-6 (Tailings Pond Seepage)	3	3		3	
Trout Lake Mine	Trout Lake Surface Sump Discharge	10				
Wabush (Scully Mine)	Shops South	9	16	12	15	3
Wabush (Scully Mine)	Tailings Line Discharge	12	9	1	9	1
Wabush (Scully Mine)	Tailings Line Emergency Dump Basin #1	8	1		1	
Wabush (Scully Mine)	West Pit Extension	12	12	1	12	
Wabush (Scully Mine)	East Pit No. 2	12	8		8	
Wabush (Scully Mine)	East Pit No.1	8	5		5	
Wabush (Scully Mine)	Knoll Lake	12	13	1	13	1
Wabush (Scully Mine)	Shops East	11	13	4	13	2
Williams Mine	Treated Effluent Discharge	6	6		6	
Williams Mine	Pond 400 Discharge	0				
Summary			964	48	966	56

Highlighted boxes indicate that the mine had a Transitional Authorization for Acute Lethality.

APPENDIX E: EFFLUENT QUALITY DATA OF MINES IN 2003

Note to Readers

The tables presented in this appendix show the summary of the monthly monitoring results of each final discharge point identified pursuant to sections 9 and 10 of the MMER. Effluent results were provided to Environment Canada pursuant to section 22 of the MMER, which requires mines to submit annual reports to Environment Canada. The format for these reports is specified in Schedule 6 of the MMER. Data are presented as provided by the mines except where comments indicate that some data were added, for completeness, based on quarterly reports.

Supporting information includes:

- Mine/Mill Name
- Mine/Mill Operator Name
- Mine/Mill Product(s)
- Mine/Mill Address
- Identification of Final Effluent Discharge Point
- Parameter Limits
- Monthly Mean Concentrations of the Deleterious Substances
- Monthly pH Range (Low and High)
- Monthly Effluent Volume
- Results of Acute Lethality Tests
- Results of *Daphnia magna* Monitoring Tests
- Comments (if applicable)

Highlighted data indicate that a monthly effluent quality standard (MEQS) is exceeded for a given month. A “Pass” for the rainbow trout acute lethality test and *Daphnia magna* monitoring test indicates that the mortality rate was less than or equal to 50%. A “Fail” indicates that the mortality rate was greater than 50%. Tables are sorted in alphabetical order based on mine/mill name.

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Beaufor												
Operator Name	Mines Richmond Inc.												
Product (s)	Gold												
Address	776, chemin Perron, Val-Senneville, Quebec J0Y 2P0												
Effluent Discharge Point	18U 3003797 – UTM 5337224												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cu (mg/L)	0.3	0.001	0.011	0.010	0.009	0.009	0.009	0.009	0.009	0.008	0.012	0.011	0.010
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ni (mg/L)	0.5	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.020
Zn (mg/L)	0.5	0.007	0.006	0.005	0.014	0.008	0.073	0.005	0.004	0.025	0.009	0.006	0.014
TSS (mg/L)	15	3.000	2.750	3.000	4.500	2.100	2.250	2.100	2.500	1.800	1.870	4.250	1.720
Ra-226 (Bq/L)	0.37	<0.010	<0.010	<0.010	-	-	-	NMR	NMR	<0.010	NMR	<0.010	NMR
pH low	≥6.0	7.8	7.7	7.7	8.0	7.8	7.7	7.8	7.9	7.8	7.8	7.9	7.8
pH high	≤9.5	-	7.8	7.9	-	7.9	8.0	8.0	8.0	8.1	8.0	8.2	8.0
Flow (m ³ /month)	-	10 089	19 858	23 882	5 299	31 962	18 598	14 910	24 998	26 438	25 780	25 056	15 267
Rainbow Trout	Pass	2	1	1	-	2	3	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	1	1	-	-	-	-	-	-	-	-
Daphnia magna	Pass	2	1	2	1	2	3	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<p>Comments: pH was given as an average instead of a range. pH range was provided from the quarterly reports. No Radium 226 test result was provided for the second quarter.</p>													
<p>Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality</p> <p>Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.</p> <p>A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.</p>													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Birchtree Mine												
Operator Name	Inco Limited												
Product (s)	Nickel-Copper												
Address	P.O. Box 5000, Thompson, Manitoba R8N 1P3												
Effluent Discharge Point	BT Confluence/BT Effluent Treatment Plant												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cu (mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
CN (mg/L)	1.0	0.016	0.003	0.006	0.009	0.004	0.002	0.003	0.006	0.010	0.006	0.007	0.004
Pb (mg/L)	0.2	0.002	0.010	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.030	0.020	0.020
Ni (mg/L)	0.5	0.120	0.100	0.110	0.100	0.060	0.080	0.080	0.100	0.090	0.180	0.230	0.120
Zn (mg/L)	0.5	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.030	0.010
TSS (mg/L)	15	24,000	23,000	18,000	35,000	15,000	18,000	23,000	27,000	23,000	5,000	6,000	4,000
Ra-226 (Bq/L)	0.37	0.020	0.017	0.020	0.040	0.030	NMR	0.006	NMR	NMR	0.040	NMR	NMR
pH low	≥6.0	6.6	6.8	6.9	6.8	7.3	7.3	7.6	7.3	7.5	7.3	7.2	7.2
pH high	≤9.5	7.5	7.1	7.3	7.5	7.7	7.7	7.8	7.7	7.7	7.7	7.6	7.9
Flow (m ³ /month)	-	255 066	243 852	247 632	307 545	307 564	300 170	175 392	235 872	193 536	28 834	24 188	26 012
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	1	1	1	1	1	1	1	1	-	-	-
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	1	1	1

Comments:

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Bouchard-Hébert (Mine)												
Operator Name	Ressources Breakwater Ltée.												
Product (s)	Zinc-Copper-Gold-Silver												
Address	596 Rang des Ponts, Cléricy, Quebec J0Z 1P0												
Effluent Discharge Point	North End of Dam #4 East												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.008	0.008	0.004	0.006	0.003	0.008	0.015	0.006
Cu (mg/L)	0.3	ND	ND	ND	ND	0.020	0.030	0.040	0.030	0.020	0.020	0.020	0.060
CN (mg/L)	1.0	ND	ND	ND	ND	MMR	MMR	MMR	MMR	MMR	MMR	MMR	MMR
Pb (mg/L)	0.2	ND	ND	ND	ND	0.010	0.030	0.008	0.010	0.010	0.010	0.010	0.010
Ni (mg/L)	0.5	ND	ND	ND	ND	0.040	0.040	0.060	0.060	0.050	0.050	0.050	0.100
Zn (mg/L)	0.5	ND	ND	ND	ND	0.100	0.080	0.230	0.060	0.040	0.040	0.050	0.060
TSS (mg/L)	15	ND	ND	ND	ND	2.600	10.400	7.500	6.200	7.900	8.700	1.300	0.800
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.005	0.005	0.009	0.007	0.007	0.005	0.006	0.007
pH low	≥6.0	ND	ND	ND	ND	7.0	7.2	6.8	8.4	6.7	7.3	7.9	8.8
pH high	≤9.5	ND	ND	ND	ND	7.0	8.1	7.8	8.6	9.2	8.9	8.8	8.8
Flow (m ³ /month)	-	ND	ND	ND	ND	10 363	42 594	129 892	199 683	141 983	225 187	149 997	38 527
Rainbow Trout	Pass	ND	ND	ND	ND	1	2	2	3	3	2	4	-
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	1	2	1	2	3	2	3	1
Monitoring Test	Fail	-	-	-	-	-	-	1	1	1	1	1	-
Comments: No toxicity test result provided for December. Only one sample taken in May and December. Test result for September was provided from the quarterly report.													
Notes:	ND: No Deposit	MMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Brunswick #12												
Operator Name	Noranda Inc.												
Product (s)	Lead-Zinc-Copper-Silver												
Address	P.O. Box 3000, Bathurst, New Brunswick E2A 3Z8												
Effluent Discharge Point	Effluent Treatment Plant Discharge (3333)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.002	0.002	0.001	0.002	0.002	0.002	0.004	0.005	0.004	0.004	0.003	0.002
Cu (mg/L)	0.3	0.069	0.061	0.110	0.047	0.008	0.007	0.011	0.011	0.013	0.013	0.024	0.006
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.003	0.001	0.006	0.005	0.001	0.001	0.002	0.005	0.002	0.001	0.002
Ni (mg/L)	0.5	0.038	0.023	0.006	0.016	0.004	0.003	0.004	0.002	0.004	0.005	0.003	0.002
Zn (mg/L)	0.5	0.117	0.230	0.130	0.144	0.228	0.132	0.085	0.098	0.140	0.090	0.142	0.098
TSS (mg/L)	15	2,270	3,470	3,000	2,300	3,850	3,550	4,660	5,020	2,700	7,500	6,000	3,440
Ra-226 (Bq/L)	0.37	<0.010	<0.010	<0.010	NMR	NMR	<0.010	NMR	NMR	<0.010	<0.010	NMR	NMR
pH low	≥6.0	9.0	9.0	9.1	9.2	8.7	8.7	7.8	8.7	8.7	8.0	8.6	8.9
pH high	≤9.5	9.2	9.3	9.3	9.3	9.2	8.8	8.8	8.9	9.1	9.0	9.0	9.2
Flow (m ³ /month)	-	775 000	970 000	1 122 000	1 889 000	1 595 000	1 056 000	692 000	1 264 000	391 000	940 000	1 450 000	1 300 000
Rainbow Trout	Pass	1	1	1	1	1	2	1	1	2	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	1	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	-	1	1	1	1	-	2	1	1	1
Monitoring Test	Fail	-	-	1	-	-	2	-	1	-	-	-	-
Comments:													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Camflo (Usine)												
Operator Name	Mines Richmond Inc.												
Product (s)	Gold												
Address	100 Road 17, P.O. Box 640, Malartic, Quebec J0Y 1Z0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	<0.010	<0.010	<0.010	ND	ND	<0.010	<0.010	<0.010	<0.010
Cu (mg/L)	0.3	ND	ND	ND	0.013	0.014	0.029	ND	ND	0.014	0.016	0.014	0.032
CN (mg/L)	1.0	ND	ND	ND	<0.050	<0.050	<0.050	ND	ND	0.080	0.050	0.090	0.100
Pb (mg/L)	0.2	ND	ND	ND	<0.010	<0.010	<0.010	ND	ND	<0.010	<0.010	<0.010	<0.010
Ni (mg/L)	0.5	ND	ND	ND	<0.010	<0.010	<0.010	ND	ND	<0.010	<0.010	<0.010	0.022
Zn (mg/L)	0.5	ND	ND	ND	0.003	0.004	0.004	ND	ND	0.022	0.022	0.020	0.020
TSS (mg/L)	15	ND	ND	ND	3.000	6.000	4.000	ND	ND	3.000	3.000	6.000	1.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	<0.010	<0.010	<0.010	ND	ND	<0.010	<0.010	<0.010	0.009
pH low	≥6.0	ND	ND	ND	7.6	7.5	7.9	ND	ND	7.3	7.1	6.9	6.99
pH high	≤9.5	ND	ND	ND	-	8.0	8.0	ND	ND	7.4	7.7	7.2	7.3
Flow (m ³ /month)	-	ND	ND	ND	28 512	147 312	20 506	ND	ND	7 682	23 503	15 584	9 508
Rainbow Trout	Pass	ND	ND	ND	-	1	1	ND	ND	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	ND	ND	ND	-	1	1	ND	ND	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	pH was given as an average instead of a range. No toxicity test results were provided for April and September. pH range was provided from the quarterly reports as well as Zn and TSS results for June.												
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Campbell Mine												
Operator Name	Placer Dome (CLA) Limited												
Product (s)	Gold												
Address	P.O. Box 10, Balmertown, Ontario P0V 1C0												
Effluent Discharge Point	WETOUT												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	0.018	0.032	0.009	0.007	0.048	0.012	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	0.023	0.019	0.014	0.010	0.016	0.019	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	0.017	0.026	0.039	0.035	0.067	0.226	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	0.002	0.001	0.000	0.001	0.000	0.001	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	0.074	0.060	0.065	0.068	0.074	0.061	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	0.069	0.054	0.050	0.032	0.047	0.033	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	0.58	0.530	0.846	1.154	0.920	3.250	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	0.005	0.000	0.003	0.000	0.000	0.005	ND
pH low	≥6.0	ND	ND	ND	ND	ND	7.0	6.8	6.7	6.7	6.5	6.5	ND
pH high	≤9.5	ND	ND	ND	ND	ND	7.2	7.1	7.0	7.0	7.3	6.8	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	75 496	232 496	274 830	243 456	220 846	124 499	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	1	1	1	1	2	1	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	1	1	1	1	2	1	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	Annual report provided pH as an average instead of a range. pH range was obtained from the quarterly reports. Flow data were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Cantung Mine												
Operator Name	North American Tungsten Corporation Ltd.												
Product (s)	Tungsten												
Address	P.O. Box 856, Watson Lake, Yukon Y0A 1C0												
Effluent Discharge Point	#4 Polishing Pond Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	<0.200	<0.200	-	<0.200	<0.200	<0.200	<3.000	0.001	<0.001	<0.200	<0.001	-
Cu (mg/L)	0.3	0.120	0.060	-	0.030	0.020	1.790	4.130	<0.010	<0.010	<0.010	0.136	-
CN (mg/L)	1.0	NMR	NMR	-	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	-
Pb (mg/L)	0.2	<0.050	<0.050	-	<0.050	<0.050	<0.500	<0.050	<0.050	<0.050	<0.050	<0.050	-
Ni (mg/L)	0.5	<0.050	<0.050	-	<0.050	<0.050	<0.500	<0.500	<0.050	<0.050	<0.050	<0.050	-
Zn (mg/L)	0.5	0.026	0.009	-	<0.005	<0.005	0.320	0.046	0.016	0.016	0.014	0.022	-
TSS (mg/L)	15	94.000	<3.000	-	12.000	16.000	929.000	2 010.000	16.500	9.000	5.200	6.800	-
Ra-226 (Bq/L)	0.37	-	-	-	-	<0.010	<0.010	-	<0.005	<0.010	<0.005	-	-
pH low	≥6.0	8.0	8.4	-	8.3	8.3	8.4	8.5	8.1	8.3	8.1	8.1	-
pH high	≤9.5	-	-	-	-	-	-	-	-	-	-	-	-
Flow (m ³ /month)	-	149 317	134 681	164 508	37 789	112 945	94 395	104 297	109 004	101 309	96 031	96 731	6 355
Rainbow Trout	Pass	-	-	-	-	-	1	-	1	1	1	1	-
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	-	-	-	-	-	1	-	1	1	1	1	-
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	No annual report was provided. Data were obtained from the quarterly reports. Mine closed on December 4, 2003. From August to October, effluent monitoring was done from monitoring wells #4-28-1 and #4-28-2. From November 1 st onwards, it was a combination of the 2 locations. pH was provided as an average instead of a range. No toxicity test result was provided from January to May and July. No sampling results in March - site frozen.												
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Chisel North Mine												
Operator Name	Hudson Bay Mining and Smelting Co. Ltd.												
Product (s)	Zinc												
Address	Snow Lake, Manitoba												
Effluent Discharge Point	Treatment Plant Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.001	0.001	0.010	0.002	0.001	0.001	0.001	0.002	0.002	0.004
Cu (mg/L)	0.3	0.002	0.004	0.003	0.021	0.006	0.003	0.015	0.029	0.005	0.007	0.008	0.010
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.004	0.006	0.006	0.004	0.013	0.010	0.004	0.012	0.014	0.011	0.005	0.014
Ni (mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.005	0.001	0.001	0.002	0.003
Zn (mg/L)	0.5	0.147	0.054	0.041	0.214	0.123	0.097	0.139	0.134	0.15	0.204	0.201	0.314
TSS (mg/L)	15	7.000	3.000	1.000	2.000	2.000	3.000	3.000	2.000	1.000	3.000	2.000	3.000
Ra-226 (Bq/L)	0.37	0.100	0.120	0.130	0.190	0.210	0.130	0.190	0.360	0.130	0.200	0.230	0.170
pH low	≥6.0	9.9	9.2	9.8	9.8	9.7	9.8	9.8	9.8	10.2	9.9	9.9	7.9
pH high	≤9.5	10.4	10.1	10.3	9.8	10.2	10.0	10.1	10.0	10.4	10.3	10.3	9.8
Flow (m ³ /month)	-	59 150	53 450	48 600	17 750	57 950	96 000	106 400	95 100	92 000	82 000	93 500	107 144
Rainbow Trout	Pass	1	1	1	-	2	-	1	1	1	1	1	1
Acute Lethality Test	Fail	1	1	-	-	-	1	-	1	-	-	-	-
<i>Daphnia magna</i>	Pass	2	2	1	-	2	1	1	2	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: TA was granted for pH upper limit of 10.51 and acute lethality. No toxicity test result was provided for April.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Cigar Lake Project	
Operator Name Cameco Corporation	
Product (s) Uranium	
Address 2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3	
Effluent Discharge Point Station 2.2	
Parameters	Limits
As (mg/L)	0.5
Cu (mg/L)	0.3
CN (mg/L)	1.0
Pb (mg/L)	0.2
Ni (mg/L)	0.5
Zn (mg/L)	0.5
TSS (mg/L)	15
Ra-226 (Bq/L)	0.37
pH low	≥6.0
pH high	≤9.5
Flow (m ³ /month)	-
Rainbow Trout	Pass
Acute Lethality Test	Fail
<i>Daphnia magna</i>	Pass
Monitoring Test	Fail
Comments: pH was provided as an average instead of a range.	
Notes: ND: No Deposit NMR: No Measurement Required Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.	Pass: ≤50% Mortality Fail: >50% Mortality

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Cluff Lake Operation												
Operator Name	Cogema Resources Inc.												
Product (s)	Uranium												
Address	P.O. Box 9204, 817 - 45 th Street West, Saskatoon, Saskatchewan S7K 3X5												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	0.001	0.018	ND	0.010	0.007	ND	0.006	0.006	0.004	0.002
Cu (mg/L)	0.3	ND	ND	0.002	0.002	ND	0.001	0.001	ND	<0.002	<0.001	0.002	<0.001
CN (mg/L)	1.0	ND	ND	NMR	NMR	ND	NMR	NMR	ND	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	<0.002	<0.002	ND	<0.002	<0.002	ND	<0.002	<0.002	<0.002	<0.002
Ni (mg/L)	0.5	ND	ND	0.018	0.022	ND	0.013	0.009	ND	0.011	0.014	0.015	0.018
Zn (mg/L)	0.5	ND	ND	0.008	<0.007	ND	<0.006	<0.007	ND	<0.009	<0.005	0.011	<0.006
TSS (mg/L)	15	ND	ND	2.000	3.750	ND	2.000	2.000	ND	4.000	9.000	5.000	3.000
Ra-226 (Bq/L)	0.37	ND	ND	0.007	0.022	ND	<0.008	<0.005	ND	<0.010	0.020	0.020	<0.008
pH low	≥6.0	ND	ND	7.2	7.0	ND	7.7	7.6	ND	7.4	7.4	7.4	7.4
pH high	≤9.5	ND	ND	7.2	7.3	ND	7.8	7.7	ND	7.7	7.4	7.6	7.7
Flow (m ³ /month)	-	ND	ND	3 586	98 304	ND	103 873	149 369	ND	118 841	31 128	82 896	82 610
Rainbow Trout	Pass	ND	ND	-	1	ND	1	1	ND	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	-	1	ND	1	1	ND	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	Missing acute lethality test result for March as effluent discharge for the year began March 30, 2003.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Con Mine												
Operator Name	Miramar Mining Corporation												
Product (s)	Gold												
Address	P.O. Box 2000, Yellowknife, Northwest Territories X1A 3P6												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.017	0.003	0.002	0.013	0.011	0.017	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	0.178	0.141	0.184	0.196	0.194	0.247	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	0.301	0.409	0.364	0.427	0.668	0.619	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	0.028	0.012	0.006	0.003	<0.020	0.002	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.130	0.143	0.112	0.232	0.266	0.157	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.010	0.008	<0.020	<0.020	<0.020	0.017	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	13.550	12.250	16.000	20.300	16.000	26.000	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.040	0.049	0.124	0.150	0.158	0.140	ND	ND
pH low	≥6.0	ND	ND	ND	ND	8.3	8.5	8.1	8.4	7.9	7.7	ND	ND
pH high	≤9.5	ND	ND	ND	ND	-	-	-	-	-	-	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	125 387	239 140	249 595	230 491	196 892	85 556	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	2	1	-	-	-	1	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	2	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	-	-	-	-	-	-	ND	ND
Monitoring Test	Fail	-	-	-	-	2	1	-	-	-	3	-	-
Comments: TA was granted for acute lethality. No toxicity test results were provided for July, August and September. pH range was not provided.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Copper Cliff Complex												
Operator Name	Inco Limited												
Product (s)	Nickel-Copper-Cobalt-Platinum												
Address	155 Balsam Street, Copper Cliff, Ontario P0M 1N0												
Effluent Discharge Point	Copper Cliff Wastewater Treatment Plant												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.004	0.006	0.003	0.002	0.002	0.001	0.000	0.001	0.001	0.003	0.001	0.000
Cu (mg/L)	0.3	0.169	0.127	0.090	0.138	0.225	0.135	0.051	0.025	0.018	0.032	0.065	0.164
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.000	0.032	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.406	0.485	0.395	0.157	0.082	0.114	0.135	0.172	0.089	0.073	0.149	0.129
Zn (mg/L)	0.5	0.142	0.067	0.058	0.007	0.043	0.007	0.006	0.003	0.148	0.000	0.000	0.000
TSS (mg/L)	15	3.400	5.200	5.000	1.520	1.500	10.000	1.000	2.050	1.650	0.400	1.300	0.400
Ra-226 (Bq/L)	0.37	0.008	0.009	0.009	NMR	NMR	0.000	NMR	NMR	0.009	0.012	NMR	NMR
pH low	≥6.0	7.8	7.1	8.5	7.1	7.5	7.9	7.4	7.2	6.6	8.1	8.1	7.3
pH high	≤9.5	9.7	9.0	9.1	8.5	8.5	9.3	9.2	9.3	8.1	9.3	8.6	8.5
Flow (m ³ /month)	—	3 440 194	3 380 664	4 348 184	3 582 276	5 074 382	3 918 405	4 662 202	2 655 228	2 234 325	3 007 868	4 428 413	5 447 996
Rainbow Trout	Pass	2	1	1	1	1	1	1	1	1	NMR	NMR	1
Acute Lethality Test	Fail	—	—	—	—	—	—	—	—	—	—	—	—
<i>Daphnia magna</i>	Pass	2	1	1	1	1	1	1	1	1	NMR	NMR	1
Monitoring Test	Fail	—	—	—	—	—	—	—	—	—	—	—	—
Comments:	The mine is on reduced frequency testing for acute lethality. pH range for September and acute lethality test results for January were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name		Copper Cliff Complex											
Operator Name		Inco Limited											
Product (s)		Nickel-Copper-Cobalt-Platinum											
Address		155 Balsam Street, Copper Cliff, Ontario P0M 1N0											
Effluent Discharge Point		Nolin Creek Wastewater Treatment Plant											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000
Cu (mg/L)	0.3	0.013	0.005	0.012	0.081	0.039	0.026	0.011	0.015	0.043	0.019	0.043	0.098
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.113	0.057	0.079	0.337	0.170	0.199	0.115	0.104	0.427	0.127	0.302	0.342
Zn (mg/L)	0.5	0.046	0.011	0.014	0.004	0.009	0.004	0.001	0.000	0.039	0.000	0.000	0.000
TSS (mg/L)	15	2.880	0.000	6.250	2.040	1.850	9.000	2.240	5.600	3.800	0.000	1.450	0.000
Ra-226 (Bq/L)	0.37	0.005	0.011	0.010	NMR	NMR	0.000	NMR	NMR	0.012	NMR	0.008	NMR
pH low	≥6.0	8.1	6.6	6.5	7.7	8.1	7.5	6.8	8.6	8.6	7.0	7.5	7.6
pH high	≤9.5	9.7	8.6	8.6	9.0	8.6	9.1	9.2	9.5	8.6	8.3	8.3	8.6
Flow (m ³ /month)	-	74 028	38 836	224 719	726 966	750 696	722 415	363 270	636 345	669 060	605 314	589 770	664 603
Rainbow Trout	Pass	1	-	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	-	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:		Toxicity test for February was provided from the quarterly report. Flow measurements for September and October were corrected from the quarterly reports.											
Notes:		ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality											
		Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.											

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Copper Rand (Mine)													
Operator Name	Ressources Meston Inc. (Ressources Campbell Inc.)													
Product (s)	Copper-Gold-Silver													
Address	P.O. Box 8000, Chibougamau, Quebec G8P 2L1													
Effluent Discharge Point	Point #2.1c													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	
As (mg/L)	0.5	0.002	0.004	0.004	0.004	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.003	ND
Cu (mg/L)	0.3	0.025	0.042	0.043	0.037	0.110	0.067	0.044	0.032	0.030	0.024	0.041	0.041	ND
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	ND
Pb (mg/L)	0.2	0.007	0.002	0.002	0.003	0.006	0.003	0.003	0.003	0.003	0.003	0.003	0.003	ND
Ni (mg/L)	0.5	0.009	0.007	0.010	0.012	0.014	0.015	0.038	0.010	0.009	0.009	0.010	0.010	ND
Zn (mg/L)	0.5	0.004	0.008	0.011	0.013	0.013	0.005	0.008	0.006	0.007	0.008	0.007	0.007	ND
TSS (mg/L)	15	0.500	1.130	0.500	1.200	1.250	3.200	1.750	1.250	2.000	2.500	3.500	3.500	ND
Ra-226 (Bq/L)	0.37	0.015	0.015	NMR	NMR	NMR	0.010	NMR	NMR	0.010	0.010	NMR	NMR	ND
pH low	≥6.0	7.6	7.6	7.4	7.5	7.4	7.8	7.7	7.9	7.5	7.8	7.4	7.4	ND
pH high	≤9.5	7.9	7.7	7.8	7.7	8.0	8.1	8.0	8.0	7.9	8.1	7.6	7.6	ND
Flow (m ³ /month)	-	119 331	107 777	100 723	115 774	226 409	188 705	191 382	160 905	165 930	65 680	28 908	28 908	ND
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-	-
Comments: pH was given as an average instead of a range. pH range was provided from the quarterly reports.														
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.														

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Crean Hill Mine												
Operator Name		Inco Limited												
Product (s)		Nickel-Copper-Cobalt-Platinum												
Address		155 Balsam Street, Copper Cliff, Ontario P0M 1N0												
Effluent Discharge Point		Crean Hill Mine												
Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As	(mg/L)	0.5	0.000	0.000	0.000	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.000
Cu	(mg/L)	0.3	0.011	0.004	0.006	0.015	0.015	0.008	0.006	0.003	0.001	0.007	0.014	0.018
CN	(mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb	(mg/L)	0.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ni	(mg/L)	0.5	0.258	0.185	0.194	0.117	0.132	0.129	0.084	0.099	0.122	0.274	0.409	0.284
Zn	(mg/L)	0.5	0.015	0.005	0.005	0.003	0.005	0.003	0.000	0.000	0.000	0.003	0.000	0.006
TSS	(mg/L)	15	2.120	0.000	0.730	1.280	0.750	3.500	0.000	0.000	0.000	0.000	0.550	0.480
Ra-226	(Bq/L)	0.37	0.019	0.023	0.023	NMR	NMR	0.010	NMR	NMR	0.017	NMR	0.007	NMR
pH low		≥6.0	8.3	7.0	8.4	8.5	8.4	7.4	6.6	7.8	8.0	8.6	8.2	8.7
pH high		≤9.5	8.4	8.8	8.6	8.9	9.1	8.7	8.6	8.3	8.1	9.0	9.1	9.0
Flow	(m ³ /month)	-	13 485	6 300	3 388	64 728	58 327	48 630	5 245	1 535	9 620	29 533	143 153	34 354
Rainbow Trout		Pass	-	-	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test		Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna		Pass	-	-	1	1	1	1	1	1	1	1	1	1
Monitoring Test		Fail	-	-	-	-	-	-	-	-	-	-	-	-

Comments: No toxicity test results were provided for January and February. Tests were not done. Flow measurements for March, September and October were corrected from the quarterly reports.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Doyon												
Operator Name	Cambior Inc.												
Product (s)	Gold												
Address	P.O. Box 970, Rouyn-Noranda, Quebec J9X 5C8												
Effluent Discharge Point	Bassin A												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.002	0.004	0.003	0.004	0.004	0.003	0.003	0.003	0.002	0.004	0.003	0.002
Cu (mg/L)	0.3	0.040	0.040	0.040	0.030	0.040	0.020	0.030	0.040	0.040	0.030	0.050	0.060
CN (mg/L)	1.0	0.049	0.108	0.115	0.018	0.018	0.019	0.011	0.009	0.011	0.018	0.017	0.014
Pb (mg/L)	0.2	0.110	0.050	0.060	0.010	0.090	0.040	0.050	0.010	0.010	0.010	0.010	0.010
Ni (mg/L)	0.5	0.100	0.070	0.080	0.110	0.040	0.030	0.080	0.050	0.040	0.070	0.070	0.070
Zn (mg/L)	0.5	0.040	0.050	0.050	0.040	0.030	0.030	0.010	0.030	0.020	0.020	0.020	0.010
TSS (mg/L)	15	4.700	4.700	4.400	4.300	4.700	3.900	2.300	5.200	3.900	2.100	2.400	3.000
Ra-226 (Bq/L)	0.37	0.024	0.032	0.109	0.009	0.016	0.013	NMR	NMR	0.011	NMR	NMR	0.011
pH low	≥6.0	6.6	6.6	6.6	7.1	7.3	7.2	7.1	7.2	7.1	7.3	6.6	6.6
pH high	≤9.5	8.9	7.1	7.3	8.4	8.4	7.5	7.5	8.2	7.5	7.7	7.0	9.2
Flow (m ³ /month)	–	100 765	82 900	157 056	326 958	604 109	393 923	126 561	164 275	269 632	635 096	499 781	281 568
Rainbow Trout	Pass	1	–	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	–	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	TA was granted for TSS limit of 23.8 mg/L. pH was given as an average instead of a range. pH range was provided from the quarterly reports as well as the reduced frequency for Radium 226. The sample for the Rainbow Trout and <i>Daphnia magna</i> for February froze.												
Notes:	ND: No Deposit	NMR: No Measurement Required	Pass: ≤50% Mortality										Fail: >50% Mortality
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Eagle River Mill											
Operator Name		River Gold Mines Ltd.											
Product (s)		Gold											
Address		127 Mission Rd., P.O. Box 1520, Wawa, Ontario P0S 1K0											
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.028	0.008	0.005	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.034	0.028	0.030	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	NMR	NMR	NMR	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	0.010	0.010	0.010	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.026	0.007	0.016	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.007	0.011	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	2.000	1.800	2.000	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	0.079	0.057	0.036	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	7.1	7.3	7.6	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	7.8	7.8	7.7	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	386	542	87	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	-	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	-	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:		No toxicity test result was provided for November. Toxicity test results for September and October were provided from the quarterly reports.											
Notes:		ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.											

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Eagle River Mine												
Operator Name	River Gold Mines Ltd.												
Product (s)	Gold												
Address	127 Mission Rd., P.O. Box 1520, Wawa, Ontario P0S 1K0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.002	0.003	0.002	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.005	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.053	0.005	0.004
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.007
Ni (mg/L)	0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
Zn (mg/L)	0.5	0.005	0.013	0.012	0.014	0.009	0.002	0.006	0.007	0.015	0.004	0.015	0.001
TSS (mg/L)	15	7.250	15.500	27.250	14.800	5.250	4.750	5.500	4.670	14.800	3.600	11.000	13.000
Ra-226 (Bq/L)	0.37	0.150	0.010	0.010	0.010	NMR	NMR	NMR	0.010	NMR	NMR	0.010	NMR
pH low	≥6.0	6.8	7.3	6.2	5.3	6.9	7.2	7.4	7.2	7.0	7.3	7.1	6.7
pH high	≤9.5	7.1	7.3	7.0	7.3	7.3	7.3	7.5	7.3	7.5	7.3	7.4	7.1
Flow (m ³ /month)	–	7 321	5 600	14 299	15 432	11 966	8 745	3 540	5 307	8 436	9 864	9 390	4 818
Rainbow Trout	Pass	1	1	–	2	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	–	2	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	No toxicity test result was provided for March. Flow measurements for February and March were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Endako												
Operator Name	Thompson Creek Mining Ltd.												
Product (s)	Molybdenum												
Address	Bag 4001, Fraser Lake, British Columbia V0J 1S0												
Effluent Discharge Point	En.A1 – Tailings Pond #1 South												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	0.001	0.000	0.001	0.001	0.000	0.001	0.005	0.005	0.001	0.002	0.000	0.000
CN (mg/L)	1.0	0.028	0.030	0.026	0.019	0.015	0.013	0.015	0.009	0.017	0.016	0.019	0.026
Pb (mg/L)	0.2	0.004	0.004	0.004	0.004	0.008	0.004	0.004	0.016	0.005	0.000	0.000	0.000
Ni (mg/L)	0.5	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.003	0.003	0.003
Zn (mg/L)	0.5	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
TSS (mg/L)	15	4.130	5.000	4.380	4.600	2.250	4.000	2.380	1.500	1.500	2.600	5.000	2.560
Ra-226 (Bq/L)	0.37	0.004	0.003	NMR	NMR	0.003	NMR	NMR	NMR	0.005	NMR	0.003	NMR
pH low	≥6.0	7.9	7.9	7.6	7.5	7.9	7.8	7.8	7.7	8.0	7.9	7.9	8.0
pH high	≤9.5	7.9	8.0	7.9	7.9	8.0	8.0	8.2	8.1	8.2	8.1	8.1	8.0
Flow (m ³ /month)	–	61 967	55 937	60 374	71 749	64 351	71 333	64 389	69 121	70 027	82 334	73 664	92 988
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–

Comments: Starting in December 2003, the mine is on reduced frequency testing for acute lethality. Flow measurements for January and August were corrected from the quarterly reports.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Endako												
Operator Name	Thompson Creek Mining Ltd.												
Product (s)	Molybdenum												
Address	Bag 4001, Fraser Lake, British Columbia V0J 1S0												
Effluent Discharge Point	En.H1 – Tailings Pond #2 Higginbotham												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	0.000	0.000	0.001	0.001	0.001	0.001	0.005	0.005	0.002	0.001	0.000	0.000
CN (mg/L)	1.0	0.070	0.074	0.070	0.062	0.068	0.066	0.071	0.068	0.069	0.065	0.067	0.073
Pb (mg/L)	0.2	0.004	0.004	0.004	0.004	0.008	0.004	0.004	0.016	0.004	0.000	0.000	0.000
Ni (mg/L)	0.5	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.001	0.002	0.003	0.003	0.003
Zn (mg/L)	0.5	0.003	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
TSS (mg/L)	15	7.000	8.250	8.500	19.400	15.800	10.200	11.250	13.750	14.400	10.730	7.380	7.100
Ra-226 (Bq/L)	0.37	0.004	0.003	NMR	NMR	0.006	NMR	NMR	NMR	0.005	NMR	0.003	NMR
pH low	≥6.0	7.9	7.9	7.8	7.6	7.8	7.8	7.8	7.8	8.0	8.0	8.0	8.0
pH high	≤9.5	8.0	8.0	7.9	8.0	8.0	8.0	8.1	8.1	8.2	8.2	8.1	8.1
Flow (m ³ /month)	–	45 392	39 544	46 339	43 283	48 888	42 050	43 417	44 421	49 696	48 815	47 855	66 635
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	Starting in December 2003, the mine is on reduced frequency testing for acute lethality. Flow measurements for January, May, August and November were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.	Fail: >50% Mortality											

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Endako												
Operator Name	Thompson Creek Mining Ltd.												
Product (s)	Molybdenum												
Address	Bag 4001, Fraser Lake, British Columbia V0J 1S0												
Effluent Discharge Point	En.N1 – Tailings Pond #1 North												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	ND	0.000	0.001	0.001	0.000	0.001	0.005	0.005	0.002	0.002	0.000	0.000
CN (mg/L)	1.0	ND	0.032	0.027	0.021	0.014	0.010	0.011	0.009	0.012	0.014	0.025	0.029
Pb (mg/L)	0.2	ND	0.004	0.004	0.004	0.008	0.004	0.004	0.016	0.004	0.000	0.000	0.000
Ni (mg/L)	0.5	ND	0.001	0.001	0.000	0.000	0.001	0.000	0.003	0.002	0.003	0.003	0.003
Zn (mg/L)	0.5	ND	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
TSS (mg/L)	15	ND	1.500	5.500	3.500	1.880	2.400	3.400	3.380	2.000	3.300	2.200	2.300
Ra-226 (Bq/L)	0.37	ND	0.003	NMR	NMR	0.003	NMR	NMR	NMR	0.005	NMR	0.003	NMR
pH low	≥6.0	ND	7.9	7.7	7.7	7.8	7.9	8.0	8.0	8.0	8.1	8.0	7.8
pH high	≤9.5	ND	7.9	7.8	8.0	8.1	8.1	8.2	8.1	8.2	8.3	8.1	8.1
Flow (m ³ /month)	–	ND	37 899	38 913	59 822	41 202	37 407	43 398	35 989	36 800	15 456	29 888	45 040
Rainbow Trout	Pass	ND	1	1	1	1	1	1	1	1	–	1	–
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Daphnia magna	Pass	ND	1	1	1	1	1	1	1	1	–	1	–
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–

Comments: No toxicity test results were provided for October and December. Flow measurement for August was corrected from the quarterly report.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Endako												
Operator Name	Thompson Creek Mining Ltd.												
Product (s)	Molybdenum												
Address	Bag 4001, Fraser Lake, British Columbia V0J 1S0												
Effluent Discharge Point	En.S2 – Tailings Pond #2 South												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	0.000	0.000	0.001	0.001	0.000	0.002	0.021	0.005	0.003	0.000	0.000	0.000
CN (mg/L)	1.0	0.078	0.767	0.072	0.041	0.012	0.011	0.024	0.009	0.012	0.023	0.057	0.075
Pb (mg/L)	0.2	0.004	0.004	0.004	0.004	0.009	0.004	0.004	0.016	0.004	0.000	0.000	0.000
Ni (mg/L)	0.5	0.000	0.000	0.000	0.001	0.006	0.000	0.003	0.000	0.001	0.003	0.003	0.003
Zn (mg/L)	0.5	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
TSS (mg/L)	15	1.500	1.880	2.500	1.500	1.500	1.500	2.380	2.130	2.200	2.980	2.600	1.500
Ra-226 (Bq/L)	0.37	0.003	0.003	NMR	NMR	0.003	NMR	NMR	NMR	0.005	NMR	0.003	NMR
pH low	≥6.0	7.9	7.9	7.8	7.5	7.8	7.8	7.7	7.7	7.9	8.0	7.9	7.9
pH high	≤9.5	8.0	8.0	7.9	7.9	8.0	8.1	8.1	8.0	8.2	8.1	8.1	8.0
Flow (m ³ /month)	–	54 889	58 616	70 795	87 617	64 320	53 477	55 454	56 539	58 894	72 376	61 341	58 434
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Starting in December 2003, the mine is on reduced frequency testing for acute lethality. Flow measurements for January and August were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Endako												
Operator Name	Thompson Creek Mining Ltd.												
Product (s)	Molybdenum												
Address	Bag 4001, Fraser Lake, British Columbia V0J 1S0												
Effluent Discharge Point	En.SBC – Endako Pit												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	0.002	0.003	0.002	0.002	0.003	0.003	0.009	0.005	0.003	0.003	0.002	0.002
CN (mg/L)	1.0	NMR	NMR	0.067	0.014	0.009	0.009	0.007	0.004	0.006	0.005	0.004	0.009
Pb (mg/L)	0.2	0.004	0.004	0.004	0.004	0.009	0.004	0.004	0.016	0.004	0.008	0.000	0.000
Ni (mg/L)	0.5	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.003	0.003	0.003
Zn (mg/L)	0.5	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.003	0.003
TSS (mg/L)	15	2.130	1.500	3.500	3.200	2.750	2.700	2.380	3.750	3.600	6.900	3.580	2.720
Ra-226 (Bq/L)	0.37	0.004	0.003	NMR	NMR	0.007	NMR	NMR	NMR	0.005	NMR	0.010	NMR
pH low	≥6.0	8.0	8.0	7.9	7.7	8.0	8.0	8.0	7.9	8.0	8.1	8.0	8.0
pH high	≤9.5	8.1	8.1	8.0	8.1	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.1
Flow (m ³ /month)	–	31 509	21 060	41 949	142 917	65 517	46 696	50 285	65 335	30 614	50 501	33 519	35 801
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Daphnia magna	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–

Comments: Starting in December 2003, the mine is on reduced frequency testing for acute lethality. Flow measurements for January, July and August were corrected from the quarterly reports.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Endako												
Operator Name	Thompson Creek Mining Ltd.												
Product (s)	Molybdenum												
Address	Bag 4001, Fraser Lake, British Columbia V0J 1S0												
Effluent Discharge Point	En.W2 – Denak West Pit												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	0.002	0.002	0.002	0.005	0.003	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	NMR	NMR	0.004	0.006	0.005	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	0.004	0.004	0.004	0.004	0.008	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	0.003	0.003	0.003	0.003	0.003	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	1.500	1.500	2.380	1.800	1.880	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	0.003	0.003	NMR	NMR	NMR	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	7.9	7.9	7.8	7.5	7.9	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	8.0	8.0	7.9	7.8	8.1	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	–	11 154	16 188	18 919	74 476	42 245	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	1	1	1	1	1	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Flow measurement for January was corrected from the quarterly report.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Eskay Creek												
Operator Name	Barrick Gold Corporation												
Product (s)	Gold-Silver												
Address	P.O. Box 3908, Smithers, British Columbia V0J 2N0												
Effluent Discharge Point	Es.W20 – Albino Discharge Point												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.020	0.021	0.024	0.024	0.013	0.011	0.016	0.013	0.019	0.016	0.016	0.014
Cu (mg/L)	0.3	0.000	0.000	0.000	0.001	0.001	0.002	0.000	0.000	0.001	0.000	0.001	0.000
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.005	0.003	0.000	0.002	0.013	0.031	0.013	0.003	0.009	0.009	0.011	0.007
Ni (mg/L)	0.5	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Zn (mg/L)	0.5	0.005	0.006	0.004	0.003	0.016	0.014	0.006	0.004	0.005	0.007	0.007	0.007
TSS (mg/L)	15	1.500	2.000	1.500	2.000	2.000	4.000	2.000	2.000	3.000	3.000	2.000	2.000
Ra-226 (Bq/L)	0.37	0.003	0.005	0.0064	0.011	0.007	0.008	NMR	0.003	NMR	NMR	0.006	NMR
pH low	≥6.0	7.9	8.1	7.2	7.8	7.7	7.6	7.4	7.5	7.6	7.6	7.7	7.6
pH high	≤9.5	8.5	8.3	8.3	8.0	8.2	8.1	7.7	7.8	8.2	8.2	7.9	8.2
Flow (m ³ /month)	–	57 921	18 265	21 695	38 038	188 158	279 936	46 470	24 842	156 038	143 294	40 306	36 373
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Flow measurements for January, February and March were corrected from the quarterly report.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Eskay Creek												
Operator Name	Barrick Gold Corporation												
Product (s)	Gold-Silver												
Address	P.O. Box 3908, Smithers, British Columbia V0J 2N0												
Effluent Discharge Point	Es.D7 – Treatment Pond Discharge Point												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.002	0.001	0.002	0.005	0.003	0.002	0.002	0.001	0.002	0.000
Cu (mg/L)	0.3	0.005	0.005	0.005	0.005	0.005	0.031	0.005	0.005	0.005	0.005	0.005	0.000
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.015	0.015	0.015	0.030	0.020	0.031	0.021	0.026	0.029	0.023	0.019	0.024
Ni (mg/L)	0.5	0.007	0.005	0.005	0.010	0.005	0.006	0.006	0.006	0.006	0.011	0.011	0.014
Zn (mg/L)	0.5	0.013	0.022	0.030	0.040	0.022	0.022	0.017	0.013	0.016	0.022	0.012	0.015
TSS (mg/L)	15	7.000	6.000	5.000	8.000	6.000	8.000	6.000	5.000	6.000	6.000	5.000	4.000
Ra-226 (Bq/L)	0.37	0.020	0.020	0.015	0.020	0.020	0.010	NMR	0.010	NMR	0.005	0.010	0.020
pH low	≥6.0	7.6	7.6	7.2	7.2	7.3	6.9	7.0	7.0	6.9	6.8	7.3	7.6
pH high	≤9.5	7.8	7.9	7.8	7.7	7.5	9.1	7.7	7.6	7.9	7.5	7.8	8.0
Flow (m ³ /month)	–	104 056	91 930	65 532	57 154	112 895	200 465	149 053	120 863	122 187	144 901	131 025	103 118
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	TA was granted for TSS limit of 20 mg/L. Flow measurements from January to June were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Eskay Creek												
Operator Name	Barrick Gold Corporation												
Product (s)	Gold-Silver												
Address	P.O. Box 3908, Smithers, British Columbia V0J 2N0												
Effluent Discharge Point	Es.TM1 – Tom MacKay Discharge Point												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.003	0.003	0.003	0.003	0.002	0.001	0.002	0.002	0.003	0.004	0.004	0.003
Cu (mg/L)	0.3	0.000	0.000	0.000	0.001	0.005	0.005	0.005	0.000	0.000	0.000	0.001	0.000
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.008	0.006	0.004	0.005	0.026	0.000	0.000	0.005	0.005	0.016	0.018	0.007
Ni (mg/L)	0.5	0.000	0.000	0.000	0.001	0.000	0.007	0.000	0.002	0.007	0.000	0.000	0.000
Zn (mg/L)	0.5	0.015	0.015	0.015	0.015	0.012	0.007	0.015	0.005	0.001	0.013	0.014	0.009
TSS (mg/L)	15	2.000	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	2.700	3.400	1.500
Ra-226 (Bq/L)	0.37	0.003	0.003	0.006	0.003	0.003	0.002	NMR	0.003	NMR	0.005	0.003	0.003
pH low	≥6.0	7.5	7.4	7.2	6.9	7.4	7.3	7.3	7.5	7.7	7.5	7.6	7.6
pH high	≤9.5	8.2	-	7.4	7.9	7.6	8.3	7.6	7.6	8.2	8.2	8.0	8.2
Flow (m ³ /month)	-	454 727	194 323	220 790	228 226	1 257 107	3 249 850	1 333 310	239 181	1 325 393	1 347 838	511 726	412 045
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: Flow measurements from January to June were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Flin Flon Complex												
Operator Name	Hudson Bay Mining and Smelting Co. Ltd.												
Product (s)	Copper-Lead-Zinc												
Address	P.O. Box 1500, Flin Flon, Manitoba R8A 1N9												
Effluent Discharge Point	North Weir Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.005	0.005	0.009	0.014	0.006	0.003	0.002	0.002	0.003	0.003	0.004	0.005
Cu (mg/L)	0.3	0.003	0.001	0.092	0.064	0.026	0.014	0.066	0.011	0.013	0.010	0.039	0.011
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.004	0.004	0.005	0.009	0.004	0.006	0.009	0.014	0.004	0.005	0.004	0.005
Ni (mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.002	0.002	0.002	0.001
Zn (mg/L)	0.5	0.034	0.034	0.147	0.186	0.196	0.051	0.083	0.145	0.139	0.222	0.157	0.087
TSS (mg/L)	15	2.000	2.000	2.000	2.000	1.000	2.000	2.000	3.000	2.000	1.000	2.000	2.000
Ra-226 (Bq/L)	0.37	0.020	0.020	0.010	0.010	-	-	0.020	-	-	-	0.050	0.050
pH low	≥6.0	9.8	9.6	10.0	9.3	8.5	9.2	9.9	9.5	8.9	9.0	8.2	9.6
pH high	≤9.5	10.1	10.6	10.4	10.4	9.0	10.0	10.5	10.4	9.5	9.2	9.0	10.6
Flow (m ³ /month)	-	612 900	479 400	273 100	1 076 600	1 261 300	1 022 700	1 341 700	478 400	775 800	622 500	532 100	484 100
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: TA was granted for pH upper limit of 11.32.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Garson Mine												
Operator Name	Inco Limited												
Product (s)	Nickel-Copper-Cobalt-Platinum												
Address	155 Balsam Street, Copper Cliff, Ontario P0M 1N0												
Effluent Discharge Point	Garson Mine												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.002	0.000	0.001	0.001	0.000	0.000	0.001	0.000	0.001	0.000
Cu (mg/L)	0.3	0.005	0.002	0.005	0.000	0.001	0.003	0.001	0.001	0.000	0.002	0.005	0.002
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.199	0.076	0.097	0.088	0.088	0.092	0.132	0.096	0.068	0.069	0.072	0.069
Zn (mg/L)	0.5	0.155	0.013	0.017	0.003	0.000	0.005	0.013	0.004	0.126	0.000	0.000	0.000
TSS (mg/L)	15	1.600	0.800	3.130	1.560	3.050	0.000	2.600	0.000	2.100	0.000	0.000	0.000
Ra-226 (Bq/L)	0.37	0.017	0.018	0.018	NMR	NMR	0.010	NMR	NMR	0.013	0.013	NMR	NMR
pH low	≥6.0	7.5	6.7	7.2	7.5	8.4	7.6	7.7	7.3	7.7	8.1	7.2	7.3
pH high	≤9.5	8.6	7.9	8.7	8.5	8.7	8.6	9.0	9.2	9.0	9.0	9.1	8.3
Flow (m ³ /month)	-	50 623	75 264	52 320	80 814	64 449	36 825	39 432	37 735	46 680	72 776	86 415	86 670
Rainbow Trout	Pass	-	-	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	-	-	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-

Comments: No toxicity test results were provided for January and February. Tests were not done. Flow measurement for March was corrected from the quarterly report.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Géant Dormant												
Operator Name	Cambior Inc.												
Product (s)	Gold												
Address	KM 118 Road 109 North, Amos, Quebec												
Effluent Discharge Point	Mine Water												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Cu (mg/L)	0.3	0.020	0.020	0.010	0.030	0.030	0.010	0.030	0.020	0.050	0.020	0.010	0.010
CN (mg/L)	1.0	0.031	0.031	0.020	0.016	0.013	0.024	0.015	0.022	0.020	0.030	0.013	0.019
Pb (mg/L)	0.2	0.030	0.010	0.010	0.010	0.020	0.010	0.020	0.010	0.010	0.010	0.010	0.010
Ni (mg/L)	0.5	0.010	0.040	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010
Zn (mg/L)	0.5	0.110	0.140	0.110	0.100	0.080	0.060	0.050	0.030	0.050	0.080	0.060	0.080
TSS (mg/L)	15	4.250	5.200	3.600	7.680	8.300	3.050	2.120	5.100	5.600	2.500	4.300	0.760
Ra-226 (Bq/L)	0.37	0.033	0.092	0.041	0.008	0.009	0.010	0.009	NMR	0.006	NMR	NMR	0.008
pH low	≥6.0	7.6	7.7	7.6	7.6	7.6	7.6	7.5	7.5	7.0	7.3	7.5	7.4
pH high	≤9.5	7.9	7.8	7.9	8.0	7.9	8.1	7.9	7.9	7.9	7.8	7.7	7.7
Flow (m ³ /month)	-	31 806	28 123	26 226	22 032	58 032	60 336	7 142	32 257	33 385	78 678	57 780	76 245
Rainbow Trout	Pass	2	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	2	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: pH was given as an average instead of a range. pH range was provided from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Géant Dormant												
Operator Name	Cambior Inc.												
Product (s)	Gold												
Address	KM 118 Road 109 North, Amos, Quebec												
Effluent Discharge Point	Lamellar Clarifier												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	0.002	0.002	0.004	0.002	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	0.130	0.060	0.080	0.090	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	0.020	0.066	0.160	0.131	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	0.010	0.010	0.010	0.010	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	0.020	0.020	0.020	0.020	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	0.010	0.020	0.020	0.010	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	5.730	2.400	2.200	6.200	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	0.010	0.008	0.005	0.005	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	7.1	6.9	7.0	7.1	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	7.4	7.6	7.6	7.2	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	60 739	91 088	112 019	125 866	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	1	-	2	-	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	1	1	2	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	1	-	-	-	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	1	3	2	-
Comments: TA was granted for acute lethality.													
<p>Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality</p> <p>Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.</p> <p>A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.</p>													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Giant Mine												
Operator Name	Miramar Mining Corporation												
Product (s)	Gold												
Address	P.O. Box 2000, Yellowknife, Northwest Territories X1A 3P6												
Effluent Discharge Point	SNP 43-1												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	0.312	0.361	0.371	0.417	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	0.015	0.012	0.018	0.026	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	0.017	0.016	0.013	0.013	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	<0.030	<0.030	<0.030	<0.030	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	0.042	0.040	0.057	0.052	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	0.007	0.005	0.006	0.005	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	1.200	1.120	0.200	2.280	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	<0.010	<0.010	<0.010	<0.010	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	8.0	7.9	7.9	8.0	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	8.2	8.2	8.2	8.1	ND	ND	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	139 187	225 458	125 150	55 313	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	1	1	1	1	ND	ND	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	1	1	1	1	ND	ND	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name		Golden Giant Mine											
Operator Name		Newmont Canada Ltd.											
Product (s)		Gold											
Address		Yellow Brick Road, Hwy. 17, P.O. Box 40, Marathon, Ontario P0T 2E0											
Effluent Discharge Point		WGS84 Datum											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
		As (mg/L)	0.5	ND	ND	ND	ND	<0.003	<0.002	<0.002	<0.002	<0.002	<0.002
Cu (mg/L)	0.3	ND	ND	ND	ND	<0.005	<0.005	0.014	0.024	0.024	0.009	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	0.028	0.020	0.013	0.024	0.024	0.089	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.073	0.149	0.320	0.308	0.103	0.103	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.013	0.020	0.020	0.024	0.024	0.015	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	3.000	2.200	1.750	<1.600	<1.600	1.250	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
pH low	≥6.0	ND	ND	ND	ND	7.0	6.6	6.8	6.6	6.6	6.5	ND	ND
pH high	≤9.5	ND	ND	ND	ND	7.0	7.8	7.2	6.9	6.9	7.0	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	125 409	225 305	218 122	210 045	186 811	186 811	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	1	1	1	1	1	1	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	ND	ND	ND	ND	1	1	1	1	1	1	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: Flow, pH and monthly data were corrected from the quarterly reports.													
<p>Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality</p> <p>Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.</p> <p>A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.</p>													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Haley Plant												
Operator Name	Timminco Ltd.												
Product (s)	Magnesium-Calcium-Strontium												
Address	962 Magnesium Road, Haley Station, Ontario K0J 1Y0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	0.003	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Zn (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
TSS (mg/L)	15	0.000	2.000	2.000	0.000	0.000	0.000	4.500	0.000	2.670	0.000	2.000	3.500
Ra-226 (Bq/L)	0.37	0.013	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.010
pH low	≥6.0	7.5	7.6	7.5	7.4	7.3	7.3	7.3	7.1	7.1	7.4	7.6	7.6
pH high	≤9.5	7.7	8.2	7.9	7.8	7.6	7.4	7.6	7.9	7.6	7.6	7.8	7.8
Flow (m ³ /month)	-	18 678	1 009	38 970	35 160	58 637	85 305	23 951	18 608	89 070	80 600	120 623	22 066
Rainbow Trout	Pass	1	-	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	1	1	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	2	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: pH, flow and acute lethality data were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Holt McDermott												
Operator Name	Barrick Gold Corporation												
Product (s)	Gold												
Address	Ontario												
Effluent Discharge Point	S8												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.004	0.005	0.004	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.009	0.011	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.008	0.007	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<0.001	<0.001	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.039	0.042	0.034	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.004	0.023	0.008	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	2.660	6.250	9.500	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<0.001	<0.001	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	6.8	6.7	6.7	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	6.9	7.0	7.3	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	785 124	1 532 415	380 606	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: pH and flow data were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Huckleberry Mine												
Operator Name	Huckleberry Mines Ltd.												
Product (s)	Copper-Molybdenum-Gold-Silver												
Address	P.O. Box 3000, Houston, British Columbia V0J 1Z0												
Effluent Discharge Point	Hu.EZDD – East Zone Diversion Ditch												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.003	0.003	0.000	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	0.180	0.138	0.133	0.146	0.173	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	0.000	0.001	0.001	0.000	0.003	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	0.017	0.015	0.011	0.015	0.014	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	0.019	0.011	0.017	0.023	0.014	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	10.500	3.370	21,250	22,000	19,500	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	0.003	0.003	NMR	NMR	0.003	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	7.3	7.5	7.1	6.8	6.7	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	7.6	7.5	7.7	7.8	7.4	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	–	8 610	4 389	8 537	7 878	46 58	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	1	–	1	3	1	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	–	1	1	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	–	–	–	2	–	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	1	1	2	1	1	–	–	–	–	–	–	–
Comments: Flow measurement for May was corrected from the quarterly report.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Huckleberry Mine												
Operator Name	Huckleberry Mines Ltd.												
Product (s)	Copper-Molybdenum-Gold-Silver												
Address	P.O. Box 3000, Houston, British Columbia V0J 1Z0												
Effluent Discharge Point	Hu.SC3 – Sediment Control Structure #3												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000
Cu (mg/L)	0.3	0.060	0.073	0.073	0.068	0.040	0.035	0.040	0.041	0.043	0.055	0.071	0.082
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.001	0.001	0.002	0.002	0.004	0.000	0.001	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.000	0.000	0.000	0.004	0.001	0.001	0.001	0.002	0.003	0.003	0.003	0.003
Zn (mg/L)	0.5	0.009	0.012	0.008	0.009	0.003	0.003	0.004	0.004	0.005	0.008	0.013	0.010
TSS (mg/L)	15	2.330	1.870	1.870	2.900	1.500	2.120	1.500	1.870	1.500	1.500	1.870	1.800
Ra-226 (Bq/L)	0.37	0.006	0.005	NMR	0.005	0.003	NMR	NMR	NMR	0.007	0.006	NMR	NMR
pH low	≥6.0	7.3	7.8	7.7	7.3	7.6	7.9	7.3	7.8	7.9	7.7	7.9	7.5
pH high	≤9.5	7.9	7.9	7.8	7.8	7.9	8.0	7.8	7.9	8.2	8.0	8.0	8.0
Flow (m ³ /month)	–	33 422	13 462	15 906	24 546	29 050	13 641	25 363	14 808	15 470	26 060	17 244	14 496
Rainbow Trout	Pass	1	1	2	3	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	–	1	2	1	1	1	1	1	1	1	–	NMR
Monitoring Test	Fail	1	–	–	2	–	–	–	–	–	–	1	–
Comments:	Starting in December 2003, the mine is on reduced frequency testing for acute lethality. TSS value for August was corrected from the quarterly report.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Huckleberry Mine												
Operator Name	Huckleberry Mines Ltd.												
Product (s)	Copper-Molybdenum-Gold-Silver												
Address	P.O. Box 3000, Houston, British Columbia V0J 1Z0												
Effluent Discharge Point	Hu.SC4 – Sediment Control Structure #4												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.001	0.002	0.002	0.004	0.003	0.002	0.004	0.003	0.000	0.000
Cu (mg/L)	0.3	0.032	0.022	0.025	0.043	0.025	0.032	0.034	0.021	0.021	0.056	0.026	0.011
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.002	0.001	0.002	0.003	0.004	0.001	0.001	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.005	0.007	0.004	0.005	0.006	0.005	0.003	0.004	0.004	0.005	0.004	0.003
Zn (mg/L)	0.5	0.020	0.034	0.015	0.020	0.015	0.011	0.010	0.008	0.007	0.012	0.008	0.003
TSS (mg/L)	15	21.120	15.250	12.000	8.800	12.750	9.870	6.400	5.250	6.000	29.500	7.150	2.960
Ra-226 (Bq/L)	0.37	0.003	0.013	NMR	NMR	0.007	NMR	NMR	NMR	0.003	0.003	NMR	NMR
pH low	≥6.0	7.6	7.8	7.6	7.3	7.8	7.8	7.9	7.9	7.9	7.8	7.8	7.9
pH high	≤9.5	7.8	7.9	7.8	7.8	7.9	8.0	8.0	8.1	8.2	8.0	8.0	8.0
Flow (m ³ /month)	–	170 737	134 355	1 544	100 253	77 379	76 876	126 842	206 154	155 735	316 405	7 425	80 237
Rainbow Trout	Pass	1	1	2	3	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	2	3	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	Starting in December 2003, the mine is on reduced frequency testing for acute lethality. TSS values for July, November and December were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Iron Ore Company of Canada												
Operator Name	Iron Ore Company of Canada												
Product (s)	Iron												
Address	Carol Project, P.O. Box 1000, Labrador City, Newfoundland and Labrador A2V 2L8												
Effluent Discharge Point	Ore Car Flume												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.034	0.062	0.068	0.047	0.075	0.044	0.057	0.015	0.061	0.026	0.002	0.070
Cu (mg/L)	0.3	0.039	0.037	0.024	0.082	0.060	0.047	0.056	0.027	0.033	0.036	0.001	0.049
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.008	0.006	0.006	0.007	0.010	0.007	0.008	0.007	0.009	0.007	0.012	0.012
Ni (mg/L)	0.5	0.026	0.014	0.016	0.020	0.060	0.035	0.040	0.032	0.029	0.033	0.052	0.055
Zn (mg/L)	0.5	0.094	0.069	0.062	0.066	0.114	0.075	0.117	0.090	0.099	0.061	0.138	0.183
TSS (mg/L)	15	9 194.000	11 255.000	14 519.000	14 971.000	14 932.000	10 158.000	13 300.000	7556.000	14 418.000	13 628.000	15 850.000	14 560.000
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	0.010	NMR	0.010	0.010	0.010	NMR	0.010	NMR	NMR
pH low	≥6.0	7.9	8.0	8.0	8.2	8.2	8.0	8.1	8.1	8.1	8.1	8.1	8.1
pH high	≤9.5	8.2	8.3	8.3	8.5	8.4	8.4	8.4	8.2	8.3	8.3	8.2	8.4
Flow (m ³ /month)	-	2 918 793	2 112 334	3 746 722	2 901 522	2 441 653	2 260 665	2 719 029	3 387 934	3 415 224	4 151 908	3 147 780	3 189 443
Rainbow Trout	Pass	1	1	NMR	1	NMR	1	NMR	NMR	-	1	1	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	1	NMR	1	NMR	1	NMR	NMR	-	1	1	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: TA was granted for TSS limit of 74 000 mg/L. The mine is on reduced frequency testing for acute lethality. Missing acute lethality test result for the third quarter of 2003. Annual report completed from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Iron Ore Company of Canada												
Operator Name	Iron Ore Company of Canada												
Product (s)	Iron												
Address	Carol Project, P.O. Box 1000, Labrador City, Newfoundland and Labrador A2V 2L8												
Effluent Discharge Point	Main Tailings Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.061	0.135	0.157	0.106	0.087	0.077	0.077	0.033	0.103	0.062	0.030	0.097
Cu (mg/L)	0.3	0.224	0.072	0.057	0.077	0.122	0.125	0.069	0.075	0.059	0.109	0.066	0.096
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.024	0.012	0.018	0.017	0.023	0.024	0.018	0.023	0.017	0.024	0.025	0.023
Ni (mg/L)	0.5	0.057	0.032	0.031	0.044	0.086	0.117	0.085	0.101	0.050	0.106	0.079	0.112
Zn (mg/L)	0.5	0.368	0.164	0.194	0.272	0.289	0.254	0.224	0.275	0.168	0.203	0.191	0.243
TSS (mg/L)	15	24 757.000	15 523.000	37 887.000	40 343.000	33 360.000	40 925.000	40 580.000	32 114.000	30 660.000	40 300.000	24 150.000	26 096.000
Ra-226 (Bq/L)	0.37	0.012	0.015	0.010	0.020	NMR	0.010	0.010	0.010	NMR	0.010	NMR	NMR
pH low	≥6.0	7.7	8.1	8.0	8.2	8.1	8.1	8.1	8.2	8.2	8.2	8.1	8.2
pH high	≤9.5	8.2	8.3	8.4	8.3	8.3	8.4	8.4	8.2	8.4	8.3	8.2	8.4
Flow (m ³ /month)	-	5 354 618	5 569 396	6 017 162	4 910 694	5 791 133	6 508 725	6 320 528	6 616 578	5 511 222	4 978 918	5 178 210	6 460 642
Rainbow Trout	Pass	1	1	NMR	1	NMR	1	NMR	NMR	-	1	1	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	NMR	1	NMR	1	NMR	NMR	-	1	1	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	TA was granted for TSS limit of 230 000 mg/L. The mine is on reduced frequency testing for acute lethality. Missing acute lethality test result for the third quarter of 2003. Annual report completed from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Iron Ore Company of Canada												
Operator Name	Iron Ore Company of Canada												
Product (s)	Iron												
Address	Carol Project, P.O. Box 1000, Labrador City, Newfoundland and Labrador A2V 2L8												
Effluent Discharge Point	Beaver Bay Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.006	0.011	0.007	0.022	0.004	0.006	0.008	0.005	0.010	0.006	0.008	0.012
Cu (mg/L)	0.3	0.004	0.004	0.003	0.010	0.003	0.003	0.003	0.004	0.004	0.005	0.002	0.004
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.001	0.001	0.003	0.001	0.003	0.001	0.002	0.003	0.002	0.002	0.002
Ni (mg/L)	0.5	0.003	0.002	0.002	0.007	0.060	0.002	0.001	0.004	0.004	0.004	0.002	0.004
Zn (mg/L)	0.5	0.011	0.015	0.007	0.035	0.060	0.028	0.026	0.020	0.039	0.013	0.006	0.032
TSS (mg/L)	15	622.000	1 167.000	782.000	1 185.000	267.000	575.000	539.000	704.000	994.000	1 074.000	411.000	1 178.000
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	0.010	NMR	0.010	0.010	0.010	NMR	0.010	NMR	NMR
pH low	≥6.0	7.8	7.9	7.8	8.1	7.8	8.4	7.9	8.2	7.9	7.9	7.7	7.8
pH high	≤9.5	8.0	8.8	8.2	8.4	8.0	10.2	8.6	8.9	8.7	8.9	8.2	8.8
Flow (m ³ /month)	-	1 733 898	1 389 339	1 660 283	1 654 338	2 304 943	1 897 800	1 437 600	1 648 557	1 618 056	1 443 887	1 501 673	1 764 018
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	1	1	1	1	1	1	1	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	TA was granted for TSS limit of 2 200 mg/L. No toxicity test result was provided for September.												
Notes:	ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Iron Ore Company of Canada												
Operator Name	Iron Ore Company of Canada												
Product (s)	Iron												
Address	Carol Project, P.O. Box 1000, Labrador City, Newfoundland and Labrador A2V 2L8												
Effluent Discharge Point	MD5												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Cu (mg/L)	0.3	ND	ND	ND	ND	0.001	0.002	0.001	0.002	0.001	0.001	0.041	ND
CN (mg/L)	1.0	ND	ND	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	0.001	0.001	0.001	0.001	0.001	0.001	0.001	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.001	0.001	0.001	0.001	0.001	0.001	0.001	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.016	0.038	0.190	0.008	0.009	0.066	0.025	ND
TSS (mg/L)	15	ND	ND	ND	ND	6.000	6.000	7.000	12.000	5.000	8.000	5.000	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.010	0.010	0.010	0.010	NMR	0.010	NMR	ND
pH low	≥6.0	ND	ND	ND	ND	7.6	7.7	7.9	8.0	7.7	7.8	7.9	ND
pH high	≤9.5	ND	ND	ND	ND	7.9	8.4	8.5	8.4	8.0	8.0	7.9	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	135 741	34 492	101 563	130 874	83 172	199 144	70 504	ND
Rainbow Trout	Pass	ND	ND	ND	ND	1	1	1	1	-	1	1	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	1	1	1	1	-	1	1	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-

Comments: No toxicity test result was provided for September. Submitted flow measurement for November was corrected from the quarterly report.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Iron Ore Company of Canada												
Operator Name	Iron Ore Company of Canada												
Product (s)	Iron												
Address	Carol Project, P.O. Box 1000, Labrador City, Newfoundland and Labrador A2V 2L8												
Effluent Discharge Point	Old Tailings Pumphouse Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.023	0.042	0.009	0.024	0.005	0.010	0.012	0.013	0.007	0.015	0.005	0.002
Cu (mg/L)	0.3	0.020	0.023	0.004	0.010	0.004	0.007	0.008	0.010	0.003	0.007	0.003	0.001
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.003	0.003	0.001	0.002	0.001	0.002	0.002	0.003	0.002	0.003	0.001	0.001
Ni (mg/L)	0.5	0.012	0.010	0.002	0.006	0.002	0.004	0.006	0.011	0.003	0.007	0.003	0.001
Zn (mg/L)	0.5	0.050	0.048	0.013	0.055	0.012	0.017	0.038	0.031	0.014	0.029	0.191	0.023
TSS (mg/L)	15	4 109.000	3 184.000	1 715.000	3 163.000	747.000	1 671.000	1 665.000	2 282.000	674.000	2 079.000	1 198.000	141.000
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	0.010	NMR	0.010	0.010	0.010	NMR	0.010	NMR	NMR
pH low	≥6.0	7.6	7.6	7.5	7.9	7.8	8.0	8.0	8.1	7.9	8.0	7.9	7.6
pH high	≤9.5	8.2	8.2	8.1	8.2	8.2	8.1	8.2	8.2	8.1	8.1	8.0	7.7
Flow (m ³ /month)	-	335 959	267 073	270 857	298 680	107 384	228 720	281 269	230 842	680 496	427 653	379 815	226 089
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	1	1	1	1	1	1	1	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: TA was granted for TSS limit of 74 000 mg/L. No toxicity test results were provided for September.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Joe Mann												
Operator Name	Ressources Meston Inc. (Ressources Campbell Inc.)												
Product (s)	Gold-Copper												
Address	P.O. Box 8000, Chibougamau, Quebec G8P 2L1												
Effluent Discharge Point	Point #10												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.006	0.006	0.023	0.006	0.006	0.007	0.006	0.006	0.010	0.006	0.008	0.008
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.007	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.008	0.003
Ni (mg/L)	0.5	0.005	0.002	0.006	0.002	0.003	0.001	0.001	0.007	0.002	0.001	0.001	0.001
Zn (mg/L)	0.5	0.005	0.008	0.010	0.009	0.008	0.004	0.004	0.004	0.004	0.006	0.005	0.007
TSS (mg/L)	15	0.880	0.880	0.500	1.000	1.000	11.200	1.500	1.250	2.000	1.250	1.000	1.000
Ra-226 (Bq/L)	0.37	0.015	0.015	NMR	NMR	NMR	0.010	NMR	NMR	0.010	0.010	NMR	NMR
pH low	≥6.0	7.6	7.7	7.6	7.8	7.8	8.1	7.9	8.1	7.9	7.9	7.8	7.6
pH high	≤9.5	7.9	7.9	8.0	7.9	8.2	8.3	8.4	8.2	8.2	8.2	8.0	7.7
Flow (m ³ /month)	-	136 486	118 861	118 463	117 790	120 817	138 656	146 483	128 007	118 064	103 371	122 277	108 048
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: Annual report provided pH as an average instead of a range. pH range was obtained from the quarterly reports.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Kemess South												
Operator Name	Northgate Exploration Ltd.												
Product (s)	Gold-Copper												
Address	P.O. Box 3519, Smithers, British Columbia V0J 2N0												
Effluent Discharge Point	KS.WQ14 – Runoff												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.005	0.010	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.002	0.001	0.002	0.010	0.003	0.002	0.001	0.001	0.002	0.001	0.002	0.002
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Ni (mg/L)	0.5	0.004	0.004	0.004	0.006	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Zn (mg/L)	0.5	0.003	0.003	0.004	0.023	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
TSS (mg/L)	15	1.620	1.750	2.300	156.500	6.500	1.800	1.250	5.370	2.100	1.900	1.600	1.000
Ra-226 (Bq/L)	0.37	0.003	0.003	0.003	NMR	NMR	0.003	NMR	NMR	0.003	0.003	NMR	NMR
pH low	≥6.0	7.9	8.0	8.0	7.9	8.1	8.0	7.9	8.3	8.1	7.9	8.0	8.0
pH high	≤9.5	8.1	8.1	8.1	8.0	8.3	8.3	8.4	9.0	8.3	8.2	8.2	8.1
Flow (m ³ /month)	–	319 399	128 351	270 801	319 985	320 160	193 350	68 296	29 578	49 823	65 031	35 564	37 329
Rainbow Trout	Pass	1	1	1	2	1	1	1	–	1	1	1	–
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Daphnia magna	Pass	1	1	1	2	1	1	1	–	1	1	1	–
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	No toxicity test results were provided for August and December. Tests were not done. Some values for As, Ni, Zn and TSS were corrected from the quarterly reports. Flow measurements were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Kemess South												
Operator Name	Northgate Exploration Ltd.												
Product (s)	Gold-Copper												
Address	Box 3519, Smithers, British Columbia V0J 2N0												
Effluent Discharge Point	KS.WQBXL – Sedimentation Pond Decant												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	-	-	-	-	-	-	-	-	0.005	0.005	ND	ND
Cu (mg/L)	0.3	-	-	-	-	-	-	-	-	0.003	0.002	ND	ND
CN (mg/L)	1.0	-	-	-	-	-	-	-	-	NMR	NMR	ND	ND
Pb (mg/L)	0.2	-	-	-	-	-	-	-	-	0.015	0.015	ND	ND
Ni (mg/L)	0.5	-	-	-	-	-	-	-	-	0.004	0.004	ND	ND
Zn (mg/L)	0.5	-	-	-	-	-	-	-	-	0.003	0.003	ND	ND
TSS (mg/L)	15	-	-	-	-	-	-	-	-	1.166	1.200	ND	ND
Ra-226 (Bq/L)	0.37	-	-	-	-	-	-	-	-	0.003	0.003	ND	ND
pH low	≥6.0	-	-	-	-	-	-	-	-	8.0	7.9	ND	ND
pH high	≤9.5	-	-	-	-	-	-	-	-	8.1	8.2	ND	ND
Flow (m ³ /month)	-	-	-	-	-	-	-	-	-	1 038	1 851	ND	ND
Rainbow Trout	Pass	-	-	-	-	-	-	-	-	1	1	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	-	-	-	-	-	-	-	-	1	1	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	This effluent was designated by Environment Canada as a new final discharge point on August 29, 2003. Some monthly values for Cu, TSS and Radium 226, flow measurements as well as acute lethality results were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required	Pass: ≤50% Mortality										Fail: >50% Mortality
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Key Lake Operation											
Operator Name		Cameco Corporation											
Product (s)		Uranium											
Address		2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3											
Effluent Discharge Point		Dewatering Discharge to Horsefly Lake											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cu (mg/L)	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ni (mg/L)	0.5	0.052	0.046	0.053	0.038	0.023	0.034	0.033	0.039	0.034	0.028	0.034	0.046
Zn (mg/L)	0.5	0.006	<0.005	0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.005	0.005
TSS (mg/L)	15	2.300	1.300	1.700	0.300	0.200	0.400	0.100	0.800	<0.100	0.200	0.200	0.500
Ra-226 (Bq/L)	0.37	0.030	0.010	0.030	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010
pH low	≥6.0	6.1	6.4	6.3	6.2	6.1	6.4	6.2	6.1	6.2	6.0	6.0	6.0
pH high	≤9.5	6.4	6.5	6.5	6.7	6.3	6.7	6.3	6.4	6.5	6.7	6.5	7.1
Flow (m ³ /month)	-	9 981	7 288	8 948	37 849	17 164	17 808	21 047	12 988	12 554	17 968	14 618	18 712
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	4	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	-	1	1	4	1
Monitoring Test	Fail	-	-	-	-	-	-	-	1	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Key Lake Operation												
Operator Name	Cameco Corporation												
Product (s)	Uranium												
Address	2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3												
Effluent Discharge Point	Mill Effluent to Wolf Lake												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.003	0.006	0.002	0.005	0.002	0.004	0.007	0.002	0.003	0.008	0.018	0.024
Cu (mg/L)	0.3	0.006	0.006	0.005	0.006	<0.005	0.005	0.005	<0.005	0.006	0.005	0.008	0.027
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	<0.010
Ni (mg/L)	0.5	0.028	0.031	0.015	0.080	0.050	0.039	0.031	0.012	0.016	0.014	0.046	0.117
Zn (mg/L)	0.5	0.006	0.012	0.006	0.011	0.006	0.005	0.033	0.005	0.006	0.007	0.010	0.006
TSS (mg/L)	15	1.600	1.200	3.500	3.300	2.300	2.000	2.000	2.500	1.200	2.200	3.100	3.500
Ra-226 (Bq/L)	0.37	0.070	0.040	0.050	0.030	0.010	0.010	0.040	0.070	0.050	0.090	0.140	0.120
pH low	≥6.0	6.4	6.1	6.2	6.1	6.1	6.3	6.1	6.0	6.3	6.0	6.0	6.1
pH high	≤9.5	6.9	6.7	6.9	6.6	6.9	6.8	6.8	6.6	6.6	6.6	6.6	6.4
Flow (m ³ /month)	-	111 150	128 000	135 000	135 000	100 000	155 000	120 000	130 000	137 400	113 900	105 000	95 000
Rainbow Trout	Pass	1	2	5	1	1	1	1	3	3	1	2	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	1	-
<i>Daphnia magna</i>	Pass	1	2	5	1	1	1	1	3	3	1	3	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Kidd Mine											
Operator Name		Falconbridge Ltd.											
Product (s)		Zinc-Copper-Silver-Lead-Cadmium											
Address		Hwy 655, P.O. Box 2002, Timmins, Ontario P4N 7K1											
Effluent Discharge Point		Wastewater Treatment Pond – Final Effluent											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.010	ND	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cu (mg/L)	0.3	0.020	ND	0.020	0.040	0.010	0.020	0.010	0.000	0.000	0.020	0.030	0.020
CN (mg/L)	1.0	NMR	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	ND	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.000	ND	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000
Zn (mg/L)	0.5	0.030	ND	0.130	0.700	0.140	0.070	0.050	0.020	0.060	0.180	0.390	0.100
TSS (mg/L)	15	0.800	ND	1.400	1.700	1.200	0.700	0.700	1.100	1.500	1.300	0.700	1.000
Ra-226 (Bq/L)	0.37	0.010	ND	NMR	0.010	NMR	NMR	NMR	NMR	ND	-	-	-
pH low	≥6.0	7.4	ND	7.6	7.3	7.5	7.0	7.8	7.7	7.7	7.6	7.3	7.0
pH high	≤9.5	7.4	ND	7.9	8.0	8.1	8.1	7.9	8.1	8.0	7.8	7.5	7.9
Flow (m ³ /month)	-	33 264	ND	172 050	864 000	581 250	33 575	192 133	267 000	251 667	610 557	560 000	78 044
Rainbow Trout	Pass	-	ND	1	1	1	-	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	-	ND	1	1	1	-	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	No toxicity test results were provided for January and June. Scheduled toxicity on days where the mine had no flow. The mine is on reduced frequency for Radium 226 but mine failed to do Radium 226 tests for quarters 3 and 4. Flow and pH data were corrected from the quarterly reports.												
Notes:	ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Kidd Metallurgical Division												
Operator Name	Falconbridge Ltd.												
Product (s)	Zinc-Copper-Silver-Lead-Cadmium												
Address	P.O. Box 2002, Highway 101 East, Timmins, Ontario P4N 7K1												
Effluent Discharge Point	Final Effluent Monitoring Point												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001
Cu (mg/L)	0.3	0.026	0.023	0.009	0.015	0.012	0.009	0.010	0.008	0.008	0.013	0.007	0.009
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.002	0.002	0.002	0.002	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.001
Ni (mg/L)	0.5	0.003	0.003	0.002	0.002	0.003	0.002	0.003	0.003	0.003	0.007	0.003	0.003
Zn (mg/L)	0.5	0.124	0.162	0.062	0.064	0.067	0.040	0.041	0.036	0.051	0.061	0.063	0.111
TSS (mg/L)	15	2.250	1.000	2.000	3.750	2.000	2.000	2.500	1.750	2.200	5.750	1.250	1.600
Ra-226 (Bq/L)	0.37	0.007	0.003	NMR	NMR	NMR	0.000	NMR	0.010	NMR	0.000	NMR	0.000
pH low	≥6.0	7.7	7.7	8.1	8.2	7.5	7.5	7.2	7.8	6.7	7.6	7.5	7.6
pH high	≤9.5	8.5	8.9	8.8	9.0	8.8	8.4	9.1	8.5	8.4	8.0	8.7	8.3
Flow (m ³ /month)	-	1 175 985	2 888 340	1 170 219	2 604 525	1 453 513	697 020	1 477 538	1 150 953	1 597 560	1 307 193	2 373 600	1 377 454
Rainbow Trout	Pass	1	1	1	1	2	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	1	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	2	2	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: Flow data were corrected from the quarterly reports.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.	Fail: >50% Mortality											

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Kiena (Complexe)											
Operator Name		Les Mines McWatters Inc.											
Product (s)		Gold											
Address		P.O. Box 9000, Val-d'Or, Quebec J9P 6A5											
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.003	0.003	0.003	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.022	0.017	0.009	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	0.024	0.029	0.022	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.006	0.004	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.040	0.057	0.043	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.014	0.013	0.019	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	3.000	4.200	3.800	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.006	0.005	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	7.6	7.7	7.4	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	7.9	8.3	7.9	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	163 728	282 571	129 528	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Konuto Lake Mine												
Operator Name	Hudson Bay Mining and Smelting Co. Ltd.												
Product (s)	Copper-Zinc												
Address	P.O. Box 1500, Flin Flon, Manitoba R8A 1N9												
Effluent Discharge Point	Konuto Surface Sump Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	ND	ND	0.002	0.009	0.001	0.001	0.001	0.001	0.002	0.002	0.003
Cu (mg/L)	0.3	0.026	ND	ND	0.042	0.048	0.091	0.043	0.053	0.023	0.045	0.079	0.045
CN (mg/L)	1.0	NMR	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.004	ND	ND	0.010	0.022	0.008	0.005	0.012	0.010	0.008	0.004	0.004
Ni (mg/L)	0.5	0.010	ND	ND	0.003	0.006	0.005	0.003	0.009	0.004	0.005	0.006	0.003
Zn (mg/L)	0.5	0.098	ND	ND	0.094	0.100	0.099	0.092	0.156	0.095	0.093	0.153	0.105
TSS (mg/L)	15	3.000	ND	ND	2.000	24.000	24.000	30.000	2.000	3.000	12.000	14.000	6.000
Ra-226 (Bq/L)	0.37	0.005	ND	ND	0.010	0.010	NMR	0.010	NMR	NMR	NMR	0.010	NMR
pH low	≥6.0	7.2	ND	ND	7.6	8.3	7.1	8.6	7.1	7.0	7.5	7.2	7.4
pH high	≤9.5	7.3	ND	ND	7.6	9.1	8.5	9.2	7.3	7.5	8.0	7.5	7.7
Flow (m ³ /month)	-	2 700	ND	ND	750	2 850	4 800	2 850	4 250	4 750	6 600	5 200	4 001
Rainbow Trout	Pass	-	ND	ND	-	1	2	2	1	1	1	1	1
Acute Lethality Test	Fail	1	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	ND	ND	-	1	2	2	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	TA was granted for TSS limit of 25 mg/L and acute lethality. No toxicity test results were provided for April. Mine is on reduced frequency testing for Radium 226.												
Notes:	ND: No Deposit	NMR: No Measurement Required	Pass: ≤50% Mortality										Fail: >50% Mortality
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Lac des Iles Mine												
Operator Name	Lac des Iles Mines Ltd.												
Product (s)	Paladium-Platinum-Gold-Copper-Nickel												
Address	P.O. Box 10547, Thunder Bay, Ontario P7B 6T9												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.002	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	0.001	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	MMR	MMR	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.001	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019	0.015	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.003	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.670	10.420	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010	0.010	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.0	7.9	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.1	8.0	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	42 102	62 198	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	1	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	1	-
Comments: No toxicity test result was provided for October. Annual report provided pH as an average instead of a range. pH data were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Laronde												
Operator Name	Les Mines Agnico-Eagle Ltée.												
Product (s)	Gold-Silver-Copper-Zinc												
Address	20 Road 395, Cadillac, Quebec J0Y 1C0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.015	0.014	0.033	0.011	0.023	0.006	0.006	0.006	0.005	0.010	0.012	0.008
Cu (mg/L)	0.3	0.050	0.053	0.060	0.080	0.090	0.053	0.083	0.080	0.113	0.060	0.063	0.070
CN (mg/L)	1.0	0.074	0.052	0.025	0.051	0.040	0.019	0.026	0.031	0.012	0.022	0.036	0.030
Pb (mg/L)	0.2	<0.010	<0.010	<0.010	0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ni (mg/L)	0.5	0.075	0.070	0.050	0.080	0.100	0.097	0.080	0.117	0.087	0.083	0.093	0.114
Zn (mg/L)	0.5	0.095	0.097	0.103	0.400	0.200	0.237	0.183	0.267	0.133	0.155	0.157	0.096
TSS (mg/L)	15	9.100	7.300	7.600	7.600	16.800	17.700	12.700	13.200	9.900	9.200	8.030	5.500
Ra-226 (Bq/L)	0.37	0.025	0.020	0.011	0.013	0.009	0.010	0.006	NMR	NMR	<0.001	NMR	0.000
pH low	≥6.0	6.8	7.7	7.6	7.1	7.4	8.2	7.3	7.3	7.5	7.5	7.6	7.9
pH high	≤9.5	6.9	8.7	8.5	7.6	-	8.6	8.1	8.1	7.9	7.8	8.2	8.8
Flow (m ³ /month)	-	33 120	37 680	30 542	25 344	24 436	21 456	31 500	29 376	42 804	60 840	83 160	67 853
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: TA was granted for acute lethality. pH was given as an average instead of a range. pH range was provided from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Lockerby Mine												
Operator Name	Falconbridge Ltd.												
Product (s)	Copper-Nickel-Cobalt												
Address	412 Crean Hill Road, Whitefish, Ontario P0M 3E0												
Effluent Discharge Point	#4 Pond Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.001
Cu (mg/L)	0.3	0.006	0.003	0.005	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.009	0.005
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001
Ni (mg/L)	0.5	0.185	0.228	0.086	0.183	0.217	0.191	0.130	0.087	0.136	0.134	0.177	0.220
Zn (mg/L)	0.5	0.007	0.005	0.003	0.008	0.008	0.010	0.008	0.002	0.006	0.007	0.007	0.009
TSS (mg/L)	15	1.300	1.200	1.020	0.720	1.420	1.020	0.720	0.420	0.320	1.580	1.250	0.490
Ra-226 (Bq/L)	0.37	0.018	0.015	0.020	0.030	NMR	NMR	NMR	NMR	0.040	NMR	0.030	NMR
pH low	≥6.0	7.3	7.2	7.2	7.2	7.2	7.2	7.2	6.9	7.2	7.0	6.9	7.0
pH high	≤9.5	7.6	7.4	7.3	7.6	7.4	7.3	7.3	7.3	7.3	7.3	7.5	7.5
Flow (m ³ /month)	-	11 904	16 287	26 486	72 180	74 090	79 110	66 991	63 891	56 430	59 055	89 640	49 383
Rainbow Trout	Pass	1	1	1	-	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	-	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	No toxicity test result was provided for April. Acute lethality test for April was compromised during shipping. Flow data were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Louvicourt (Mine)												
Operator Name	Les Ressources Aur Inc.												
Product (s)	Copper-Zinc-Silver-Gold												
Address	5999, 3 rd Avenue East, P.O. Box 2117, Val d'Or, Quebec J9P 6V2												
Effluent Discharge Point	Polishing Pond – Final Effluent (PP-FE)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	<0.003	ND	<0.003	<0.003	0.003	0.004	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	0.008	ND	0.004	0.005	0.018	0.015	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	NMR	ND	NMR	NMR	NMR	NMR	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	<0.001	ND	<0.001	<0.001	0.001	0.001	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	<0.011	ND	0.016	0.021	0.013	0.016	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	0.019	ND	0.019	0.021	0.025	0.036	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	3.500	ND	4.500	5.700	5.800	5.400	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	<0.005	ND	0.008	0.007	0.008	0.006	ND
pH low	≥6.0	ND	ND	ND	ND	ND	7.1	ND	7.5	7.4	7.1	7.9	ND
pH high	≤9.5	ND	ND	ND	ND	ND	7.1	ND	8.5	7.9	7.5	8.3	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	171 910	ND	329 839	599 614	660 276	734 230	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	1	ND	1	1	1	1	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	1	ND	1	1	1	1	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:	pH was given as an average instead of a range. November acute lethality test result was missing from the annual report. Results were obtained from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.	Fail: >50% Mortality											

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Lupin Operations												
Operator Name	Kinross Gold Corporation												
Product (s)	Gold												
Address	9818 Edmonton International Airport, Edmonton, Alberta T5J 2T2												
Effluent Discharge Point	Tailings Containment Area Final Discharge Point (Station 925-10)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: No effluent discharge in 2003.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Macassa Mine												
Operator Name	Kirkland Lake Gold Inc.												
Product (s)	Gold												
Address	P.O. Box 370, Kirkland Lake, Ontario P2N 3J1												
Effluent Discharge Point	C Dam												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.003	0.004	0.004	0.007	0.004	0.005	0.005	0.005	0.004	0.004	0.004	0.006
Cu (mg/L)	0.3	0.006	0.006	0.018	0.009	0.012	0.025	0.013	0.007	0.016	0.005	0.114	0.016
CN (mg/L)	1.0	0.007	0.006	0.005	0.006	0.012	0.021	0.015	0.017	0.006	0.006	0.092	0.020
Pb (mg/L)	0.2	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.010
Ni (mg/L)	0.5	0.010	0.010	0.010	0.010	0.013	0.020	0.015	0.010	0.023	0.010	0.048	0.015
Zn (mg/L)	0.5	0.024	0.037	0.009	0.010	0.007	0.008	0.022	0.006	0.123	0.005	0.031	0.012
TSS (mg/L)	15	3.920	4.830	2.230	4.920	3.030	2.760	2.710	3.380	4.610	3.330	3.370	5.150
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	0.012	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
pH low	≥6.0	8.1	8.0	8.2	8.1	8.2	8.2	8.0	7.5	8.0	7.6	7.1	7.3
pH high	≤9.5	8.4	8.2	8.4	8.4	8.5	8.5	8.8	8.5	8.4	8.3	8.3	10.0
Flow (m ³ /month)	–	172 856	140 630	89 954	289 747	394 296	352 938	284 457	295 421	212 178	148 013	165 646	121 302
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: pH and flow data were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Magnacon Mine (part of Eagle River Mill)												
Operator Name	River Gold Mines Ltd.												
Product (s)	Gold												
Address	127 Mission Rd., P.O. Box 1520, Wawa, Ontario P0S 1K0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.003
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.005
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010	0.006
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.005
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.006
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.000	2.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010	0.010
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.4	7.6
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	7.7
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 680	5 580
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	–	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	–	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: No toxicity test result was provided for November. Failed to do November acute lethality. pH range for December was corrected from the quarterly report.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Malartic (Usine)												
Operator Name	Les Mines McWatters Inc.												
Product (s)	Gold												
Address	301 Norrie, Malartic, Quebec J0Y 1Z0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.003	0.003	0.002	0.003
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.025	0.032	0.026	0.019
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.007	0.008	0.008
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.004	0.000	0.003
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.026	0.032	0.019	0.037
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.030	0.032	0.106	0.025
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	3.500	3.520	3.200	7.130
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.006	0.007	0.009
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	7.5	6.9	7.1	7.0
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	7.5	7.7	7.3	7.2
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	ND	ND	ND	106 777	800 395	952 128	855 360
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Matagami (Mine) (Bell Allard)												
Operator Name	Noranda Inc.												
Product (s)	Zinc-Copper												
Address	500 Industriel Boulevard, Matagami, Quebec J0Y 2A0												
Effluent Discharge Point	WLD												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.004
Cu (mg/L)	0.3	0.017	0.023	0.023	0.022	0.016	0.011	0.013	0.012	0.012	0.019	0.015	0.011
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	<0.010	<0.010	<0.010	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.003
Ni (mg/L)	0.5	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Zn (mg/L)	0.5	0.007	0.016	0.009	0.154	0.363	0.019	0.047	0.033	0.045	0.095	0.041	0.035
TSS (mg/L)	15	<3.000	<3.000	17.000	10.000	5.000	<3.000	3.000	<3.000	<3.000	<3.000	<3.000	<0.800
Ra-226 (Bq/L)	0.37	<0.010	<0.010	<0.010	NMR	<0.010	NMR	<0.010	NMR	NMR	<0.010	NMR	NMR
pH low	≥6.0	8.9	9.1	8.6	7.9	7.1	8.9	7.5	7.1	8.5	7.6	8.6	8.8
pH high	≤9.5	9.3	9.3	9.5	9.5	9.0	9.0	8.6	8.5	9.1	7.8	9.2	9.2
Flow (m ³ /month)	-	238 218	353 281	709 587	1 210 147	1 009 927	524 509	755 185	799 810	994 442	883 886	843 121	661 607
Rainbow Trout	Pass	1	NMR	1	1	1	NMR	1	NMR	NMR	1	NMR	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	NMR	1	1	1	NMR	1	NMR	NMR	1	NMR	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	pH was given as an average instead of a range. pH range was provided from the quarterly reports. Mine is on reduced frequency for acute lethality testing.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.												
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												
	Pass: ≤50% Mortality												
	Fail: >50% Mortality												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	McAlpine Mill												
Operator Name	SMC (Canada) Ltd.												
Product (s)													
Address	Coleman Road P.O. Box 710, Cobalt, Ontario P0J 1C0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.180	0.220	0.450	0.250	0.390	0.310	0.620	0.460	0.350	0.350	0.480	0.130
Cu (mg/L)	0.3	0.020	0.010	0.010	0.020	0.040	0.040	0.010	0.010	0.010	0.010	0.010	0.010
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.020	0.020	0.020	0.010	0.030	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Ni (mg/L)	0.5	0.020	0.020	0.020	0.010	0.030	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Zn (mg/L)	0.5	0.010	0.010	0.010	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010
TSS (mg/L)	15	1.250	2.000	2.800	4.500	3.000	3.500	4.000	3.500	2.800	2.250	3.250	2.000
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	NMR	NMR	0.010	NMR	NMR	0.010	NMR	NMR	0.010
pH low	≥6.0	7.8	7.7	8.5	7.5	8.7	8.4	8.7	8.4	8.2	8.2	8.3	7.5
pH high	≤9.5	8.9	8.5	8.9	9.0	8.8	8.8	9.1	8.6	8.3	8.7	8.8	8.3
Flow (m ³ /month)	–	32 667	24 033	80 128	236 490	151 924	70 887	124 501	45 241	18 214	82 184	151 128	74 868
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		McArthur River Operation											
Operator Name		Cameco Corporation											
Product (s)		Uranium											
Address		2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3											
Effluent Discharge Point		Mine Water Treatment Plan – #2 88HP Pump											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.000	0.000	0.000	ND	ND	ND	0.001	0.001	ND
Cu (mg/L)	0.3	ND	ND	ND	0.002	0.002	0.002	ND	ND	ND	0.001	0.001	ND
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	NMR	ND	ND	ND	NMR	NMR	ND
Pb (mg/L)	0.2	ND	ND	ND	0.002	0.002	0.002	ND	ND	ND	0.002	0.002	ND
Ni (mg/L)	0.5	ND	ND	ND	0.001	0.001	0.001	ND	ND	ND	0.002	0.001	ND
Zn (mg/L)	0.5	ND	ND	ND	0.008	0.018	0.005	ND	ND	ND	0.018	0.007	ND
TSS (mg/L)	15	ND	ND	ND	3.600	2.500	1.700	ND	ND	ND	2.000	2.000	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.200	0.190	0.140	ND	ND	ND	0.180	0.100	ND
pH low	≥6.0	ND	ND	ND	6.9	7.0	7.2	ND	ND	ND	6.9	6.9	ND
pH high	≤9.5	ND	ND	ND	7.3	7.6	7.8	ND	ND	ND	7.2	7.3	ND
Flow (m ³ /month)	–	ND	ND	ND	102 960	103 001	73 440	ND	ND	ND	59 400	31 844	ND
Rainbow Trout	Pass	ND	ND	ND	2	3	1	ND	ND	ND	–	–	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	2	3	1	ND	ND	ND	–	–	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: No acute lethality test results were provided for October and November.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	McArthur River Operation												
Operator Name	Cameco Corporation												
Product (s)	Uranium												
Address	2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3												
Effluent Discharge Point	Mine Water Treatment Plant – 88HP Pump												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.005	0.000	0.000	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	0.001	0.002	0.002	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	NMR	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	0.002	0.002	0.002	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	0.001	0.001	0.001	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	0.008	0.015	0.006	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	3.700	2.700	1.100	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.190	0.160	0.150	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	6.8	7.0	7.0	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	7.6	7.8	7.6	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	–	ND	ND	ND	64 855	82 251	23 520	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	2	3	1	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	2	3	1	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		McArthur River Operation											
Operator Name		Cameco Corporation											
Product (s)		Uranium											
Address		2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3											
Effluent Discharge Point		Mine Water Treatment Plant – Station 2.1											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.002	0.003	0.001	0.000	0.000	0.002	0.002	0.002	0.001	0.002	0.002
Cu (mg/L)	0.3	0.001	0.001	0.001	0.001	0.003	0.001	0.002	0.001	0.001	0.001	0.001	0.001
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Ni (mg/L)	0.5	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.002	0.001
Zn (mg/L)	0.5	0.016	0.031	0.015	0.009	0.012	0.006	0.010	0.006	0.005	0.007	0.006	0.005
TSS (mg/L)	15	1.300	1.000	1.600	2.400	2.100	1.600	1.100	1.500	1.300	2.000	2.000	1.500
Ra-226 (Bq/L)	0.37	0.100	0.100	0.090	0.180	0.140	0.130	0.130	0.090	0.150	0.280	0.080	0.070
pH low	≥6.0	6.0	6.6	6.3	6.7	7.0	6.9	6.2	6.7	6.8	6.8	6.6	7.0
pH high	≤9.5	7.8	8.7	7.5	7.6	7.8	7.7	9.2	7.8	7.6	7.4	8.5	8.4
Flow (m ³ /month)	–	192 664	158 872	188 139	386 437	428 544	471 129	613 459	508 152	494 077	505 766	437 740	382 086
Rainbow Trout	Pass	1	1	1	5	4	2	1	1	2	4	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	–	1	5	4	2	1	1	2	5	1	1
Monitoring Test	Fail	–	1	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	McArthur River Operation												
Operator Name	Cameco Corporation												
Product (s)	Uranium												
Address	2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3												
Effluent Discharge Point	Shaft #3 – Station 2.7												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	0.001	0.001	0.001	0.001	0.001
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	0.002	0.002	0.002	0.002	0.002
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	0.001	0.001	0.001	0.001	0.001
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	0.008	0.009	0.009	0.015	0.018
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	1.000	1.000	1.000	2.000	2.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	0.020	0.030	0.030	0.030	0.030
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	6.9	6.9	7.0	6.8	6.8
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	7.5	7.5	7.2	7.2	7.5
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	ND	ND	48 204	50 664	45 216	37 128	56 664
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	2	1	2	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	2	1	2	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		McClellan Lake Operation												
Operator Name		Cogema Resources Inc.												
Product (s)		Uranium												
Address		P.O. Box 9204, 817 - 45 th Street West, Saskatoon, Saskatchewan S7K 3X5												
Effluent Discharge Point		CM01												
Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
As	(mg/L)	0.5	0.029	0.033	0.033	0.022	0.019	0.019	0.018	0.026	0.031	0.037	0.031	0.020
Cu	(mg/L)	0.3	0.003	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.002	0.002
CN	(mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb	(mg/L)	0.2	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Ni	(mg/L)	0.5	0.052	0.031	0.035	0.033	0.021	0.021	0.024	0.015	0.027	0.015	0.023	0.024
Zn	(mg/L)	0.5	0.013	0.010	0.010	0.007	0.002	0.002	0.004	0.003	0.006	0.006	0.009	0.010
TSS	(mg/L)	15	1.000	1.000	1.000	1.000	1.000	1.000	2.000	1.000	2.000	1.000	1.000	1.000
Ra-226	(Bq/L)	0.37	0.026	0.016	0.026	0.022	0.017	0.015	0.056	0.030	0.064	0.014	0.008	0.012
pH low		≥6.0	7.0	6.9	7.0	6.8	7.1	6.6	6.8	6.8	6.7	6.8	6.8	6.8
pH high		≤9.5	7.4	7.3	7.5	7.4	7.5	7.4	8.4	8.3	7.6	7.8	8.6	8.5
Flow	(m ³ /month)	-	122 429	127 920	141 405	138 513	148 266	134 121	118 899	142 302	144 490	136 739	114 906	91 795
Rainbow Trout		Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test		Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna		Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test		Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:														
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality														
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.														
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.														

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	McClean Lake Operation												
Operator Name	Cogema Resources Inc.												
Product (s)	Uranium												
Address	P.O. Box 9204, 817 - 45 th Street West, Saskatoon, Saskatchewan S7K 3X5												
Effluent Discharge Point	SUE Water Treatment Plant Effluent (SC01)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.005	0.025	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	<0.001	<0.001	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	<0.001	<0.001	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	0.007	0.014	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	<0.001	<0.001	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	<1.000	4.000	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.014	0.067	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	7.4	7.0	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	7.5	7.7	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	8 718	50 668	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	1	1	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	1	1	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Mishi Pit (part of Eagle River Mill)												
Operator Name	River Gold Mines Ltd.												
Product (s)	Gold												
Address	127 Mission Rd., P.O. Box 1520, Wawa, Ontario P0S 1K0												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.003	0.001	0.001	0.001
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.005	0.005	0.004
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	0.010	0.010	0.010	0.006
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.005	0.005	0.005
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.012	0.011	0.014	0.050
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	2.000	2.000	2.000	2.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	-	0.010	0.010	0.010
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	7.2	7.3	7.0	7.0
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	7.4	7.3	7.3	7.1
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	Flow measurements were not provided. No toxicity test result was provided for September as well as Radium 226 test result. Failed to do September acute lethality and Radium sample. pH range for December was corrected from the quarterly report.												
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Montcalm												
Operator Name	Falconbridge Ltd.												
Product (s)	Nickel-Copper-Cobalt												
Address	c/o P.O. Box 2002, Timmins, Ontario P4N 7K2												
Effluent Discharge Point	Final Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NMR
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.058
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.060
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8
Flow (m ³ /month)	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	32 685
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Acute Lethality Test	Fail	—	—	—	—	—	—	—	—	—	—	—	—
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Monitoring Test	Fail	—	—	—	—	—	—	—	—	—	—	—	—
Comments: No discharge for specified months. Information provided from Ontario regional office.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Mont-Wright (Mine)												
Operator Name		Compagnie minière Québec Cartier												
Product (s)		Iron												
Address		P.O. Box 1817, Mont-Wright, Quebec G0G 1J0												
Effluent Discharge Point		HS-1												
Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As	(mg/L)	0.5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Cu	(mg/L)	0.3	0.002	0.001	0.002	0.003	0.002	0.003	0.002	0.003	0.002	0.001	0.001	0.002
CN	(mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb	(mg/L)	0.2	<0.003	<0.003	<0.003	<0.003	0.009	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Ni	(mg/L)	0.5	0.006	0.004	0.006	0.006	0.012	0.007	0.007	0.005	0.008	0.006	0.003	0.012
Zn	(mg/L)	0.5	0.004	0.005	0.017	0.011	0.012	0.007	0.010	0.005	0.020	0.005	0.006	0.013
TSS	(mg/L)	15	<2.000	2.000	2.000	7.000	15.000	7.000	13.000	7.000	9.000	15.000	4.000	2.000
Ra-226	(Bq/L)	0.37	<0.030	<0.030	NMR	NMR	<0.010	NMR	NMR	<0.002	NMR	NMR	<0.010	NMR
pH low		≥6.0	6.8	6.5	6.5	6.4	6.3	6.6	6.6	6.5	6.5	6.8	6.8	6.7
pH high		≤9.5	7.5	6.5	6.6	6.5	6.7	6.9	6.8	6.6	6.6	7.1	7.3	6.8
Flow	(m ³ /month)	-	613 800	352 800	223 200	1 620 000	1 054 620	9 270 000	7 112 640	7 440 000	5 169 600	9 653 400	2 916 000	1 175 520
Rainbow Trout		Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test		Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna		Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test		Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:														
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality														
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.														
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.														

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Mont-Wright (Mine)												
Operator Name	Compagnie minière Québec Cartier												
Product (s)	Iron												
Address	P.O. Box 1817, Mont-Wright, Quebec G0G 1J0												
Effluent Discharge Point	MS-2												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	0.005	0.001	0.001	0.001	0.002	0.003	<0.001	ND
CN (mg/L)	1.0	ND	ND	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	0.009	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.028	0.022	0.014	0.016	0.020	0.024	0.034	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.012	0.008	0.006	0.010	0.010	0.010	0.017	ND
TSS (mg/L)	15	ND	ND	ND	ND	183.000	6.000	4.000	5.000	7.000	5.000	4.000	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.012	0.019	0.020	NMR	NMR	<0.01	NMR	ND
pH low	≥6.0	ND	ND	ND	ND	6.1	6.3	6.4	6.1	6.1	6.2	6.2	ND
pH high	≤9.5	ND	ND	ND	ND	6.3	6.9	6.7	7.1	6.5	6.4	6.2	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	233 430	58 680	91 066	58 218	87 120	100 440	67 680	ND
Rainbow Trout	Pass	ND	ND	ND	ND	1	1	1	1	1	1	1	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	1	1	1	1	1	1	1	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: TA was granted for TSS limit of 25 mg/L. Effluent frozen in December, only one sample was taken.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
 2003 Effluent Compliance

Mine/Mill Name	Mouska												
Operator Name	Cambior Inc.												
Product (s)	Gold												
Address	100 Chemin de la Pause, Cadillac, Quebec												
Effluent Discharge Point	Bellot Creek												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002
Cu (mg/L)	0.3	0.020	0.020	0.020	0.030	0.040	0.020	0.030	0.020	0.030	0.020	0.040	0.020
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.020	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Ni (mg/L)	0.5	0.020	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.020
Zn (mg/L)	0.5	0.060	0.030	0.040	0.050	0.030	0.020	0.010	0.020	0.010	0.040	0.020	0.010
TSS (mg/L)	15	5.800	6.000	6.200	6.700	3.600	2.900	2.700	4.700	5.400	4.800	6.500	6.300
Ra-226 (Bq/L)	0.37	0.015	0.025	0.006	NMR	NMR	0.012	NMR	NMR	0.007	NMR	NMR	0.010
pH low	≥6.0	7.8	7.8	7.8	7.6	7.2	7.7	7.7	7.5	7.6	7.6	7.4	7.5
pH high	≤9.5	8.0	7.9	7.9	7.9	7.9	7.7	7.9	7.8	7.9	7.9	7.8	7.9
Flow (m ³ /month)	-	72 540	65 926	72 540	75 200	75 200	71 025	76 868	69 378	67 902	73 433	63 450	69 370
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	1	1	1	1	1	1	1	1	-	1	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	1	-	-
Comments: pH was given as an average instead of a range. pH range was provided from the quarterly reports. Acute lethality test result was missing for December.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Musselwhite Mine												
Operator Name	Placer Dome Canada Limited												
Product (s)	Gold												
Address	P.O. Box 7500, Thunder Bay, Ontario P7B 6S8												
Effluent Discharge Point	EF3												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.003	0.002	0.002	0.003	0.003	0.003	0.003	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	0.004	0.003	0.002	0.002	0.001	0.001	0.001	ND
CN (mg/L)	1.0	ND	ND	ND	ND	0.038	0.022	0.018	0.022	0.028	0.051	0.051	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	0.001	0.001	0.001	0.001	0.001	0.001	0.001	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.001	0.001	0.001	0.003	0.005	0.005	0.005	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.005	0.005	0.005	0.005	0.005	0.005	0.005	ND
TSS (mg/L)	15	ND	ND	ND	ND	4.000	3.000	3.000	3.000	3.000	3.000	3.000	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.005	0.006	0.006	0.007	0.006	0.006	0.006	ND
pH low	≥6.0	ND	ND	ND	ND	7.2	7.6	7.2	7.2	7.2	7.1	7.1	ND
pH high	≤9.5	ND	ND	ND	ND	7.9	7.9	7.9	7.8	7.7	7.7	7.7	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	162 262	524 546	446 064	487 728	258 888	130 654	130 654	ND
Rainbow Trout	Pass	ND	ND	ND	ND	1	1	1	1	1	1	1	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	1	1	1	1	1	1	1	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Flow data were corrected from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Myra Falls Operations												
Operator Name	Boliden Westmin (Canada) Limited												
Product (s)	Copper-Zinc-Lead-Gold-Silver												
Address	P.O. Box 8000, Campbell River, British Columbia V9W 5E2												
Effluent Discharge Point	MF.11A – Runoff Myra Ponds Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.100	0.100	0.100	0.100	0.076	0.100	0.100	0.100	0.100	0.100	0.100	0.060
Cu (mg/L)	0.3	0.016	0.010	0.016	0.029	0.013	0.006	0.004	0.009	0.013	0.016	0.014	0.032
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.025	0.025	0.025	0.025	0.019	0.025	0.021	0.025	0.025	0.020	0.019	0.013
Ni (mg/L)	0.5	0.025	0.025	0.025	0.025	0.019	0.025	0.025	0.025	0.025	0.025	0.025	0.015
Zn (mg/L)	0.5	0.230	0.107	0.208	0.254	0.322	0.148	0.050	0.056	0.075	0.147	0.139	0.296
TSS (mg/L)	15	13.500	19.250	16.000	17.400	11.250	11.500	13.000	10.000	9.000	12.780	11.070	14.520
Ra-226 (Bq/L)	0.37	0.003	0.003	0.003	0.003	0.003	0.004	0.003	0.003	0.003	NMR	0.006	0.003
pH low	≥6.0	9.3	8.7	8.2	8.2	9.4	8.6	10.3	10.2	9.9	9.4	9.8	9.5
pH high	≤9.5	9.9	9.2	10.1	10.7	10.3	10.2	10.9	10.4	11.0	11.2	10.3	10.0
Flow (m ³ /month)	–	1 253 443	649 012	1 198 458	925 672	762 959	772 556	824 722	735 274	627 236	1 669 716	1 153 101	1 635 961
Rainbow Trout	Pass	1	1	3	1	–	1	1	1	1	2	1	1
Acute Lethality Test	Fail	–	–	–	–	1	–	–	–	–	–	–	–
Daphnia magna	Pass	–	1	3	1	1	–	1	1	1	–	1	1
Monitoring Test	Fail	–	–	–	–	–	1	–	–	–	2	–	–

Comments: TA was granted for pH upper limit of 11. Cu value for August, Ni value for May and flow measurements for October, November and December were corrected from the quarterly reports.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
 Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
 A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Nanisivik Mine												
Operator Name	CanZinco Ltd.												
Product (s)	Zinc-Lead-Silver												
Address	P.O. Box 225, Nanisivik, Nunavut X0A 0X0												
Effluent Discharge Point	159-4												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.001	0.002	0.002	0.003	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	0.025	0.063	0.085	0.105	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	NMR	NMR	NMR	NMR	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	0.008	0.016	0.019	0.023	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	<0.005	0.008	0.013	0.016	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.054	0.182	0.258	0.323	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	3.300	5.100	2.500	1.750	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	0.047	0.100	0.090	0.102	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	6.3	7.2	6.4	6.4	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	8.0	7.9	7.7	6.6	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	154 812	154 656	63 660	2 678	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	-	1	1	-	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	1	1	-	-	-
Comments: No toxicity test results were provided for July and October.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name		New Britannia Mine											
Operator Name		Kinross Gold Corporation											
Product (s)		Gold											
Address		114 Cedar Ave. Box 451, Snow Lake, Manitoba R0B 1M0											
Effluent Discharge Point		SWM03											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
		As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.236	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.074	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	0.046	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.054	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0.020	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	8.000	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	0.223	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	7.1	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	407 323	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Niobec												
Operator Name	Services minéraux industriels Inc.												
Product (s)	Niobium												
Address	3400 chemin du Columbiun, St-Honoré de Chicoutimi, Quebec G0V 1L0												
Effluent Discharge Point	Tailings Pond Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.003	0.005	0.004	0.003	0.003	0.004	0.002	<0.002	<0.002	<0.002	<0.002	0.009
Cu (mg/L)	0.3	0.004	0.009	0.010	0.005	0.005	0.005	0.010	0.020	0.022	0.008	0.010	0.006
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.038	0.006	0.005	0.055	0.038	0.053	0.053	0.025	<0.060	0.011	<0.006	0.006
Ni (mg/L)	0.5	0.028	0.038	0.040	0.020	0.040	0.038	0.045	0.020	0.042	0.031	0.045	0.055
Zn (mg/L)	0.5	0.014	0.043	0.029	0.023	0.111	0.040	0.061	0.058	0.023	0.028	0.028	0.024
TSS (mg/L)	15	5.500	5.750	10.750	14.000	12.250	9.250	5.000	4.000	5.250	6.200	6.250	4.400
Ra-226 (Bq/L)	0.37	0.078	0.073	0.085	0.055	0.055	0.050	0.051	0.064	0.064	0.056	0.052	0.042
pH low	≥6.0	7.4	7.5	7.5	7.4	7.6	7.9	7.9	7.6	7.7	7.7	7.3	7.7
pH high	≤9.5	7.7	7.7	7.8	7.8	7.9	8.0	8.2	8.0	8.0	7.9	7.8	7.8
Flow (m ³ /month)	-	102 688	114 758	252 340	333 480	188 325	187 350	60 630	303 064	176 033	302 417	230 400	209 529
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	-	1	1	1	-
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	1
Comments:	pH was given as an average instead of a range. pH range was provided from the quarterly reports. No <i>Daphnia magna</i> monitoring test result was provided for August.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.	Fail: >50% Mortality											

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Niobec												
Operator Name	Services minéraux industriels Inc.												
Product (s)	Niobium												
Address	3400 chemin du Columbiun, St-Honoré de Chicoutimi, Quebec G0V 1L0												
Effluent Discharge Point	Mine Water Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.009	0.001	0.014	0.002	0.040	0.001	0.002	<0.002	<0.002	<0.002	<0.002	0.009
Cu (mg/L)	0.3	0.005	0.010	0.006	0.005	0.029	0.029	0.032	0.057	0.057	0.025	0.006	0.009
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.074	0.042	0.015	0.098	<0.006	<0.006	<0.006	<0.006	<0.006	0.007	<0.006	<0.006
Ni (mg/L)	0.5	0.065	0.115	0.100	0.020	0.208	0.220	0.200	0.185	0.194	0.029	0.040	0.049
Zn (mg/L)	0.5	0.048	0.085	0.068	0.044	0.093	0.091	0.102	0.126	0.077	0.092	0.058	0.040
TSS (mg/L)	15	21.750	18.000	16.250	14.800	13.000	14.000	19.000	15.750	15.750	14.400	14.250	14.180
Ra-226 (Bq/L)	0.37	0.800	0.808	0.704	0.148	0.228	0.435	1.020	0.082	0.068	0.051	0.044	0.026
pH low	≥6.0	7.3	7.1	7.4	6.6	7.5	7.5	7.4	6.8	7.7	7.3	7.5	7.6
pH high	≤9.5	7.6	7.6	7.6	7.8	7.6	7.8	7.9	7.8	-	7.7	7.8	7.9
Flow (m ³ /month)	-	62 000	56 000	62 000	60 060	57 428	63 533	61 560	71 494	64 260	63 407	60 975	57 865
Rainbow Trout	Pass	-	1	1	1	1	1	1	1	1	2	1	1
Acute Lethality Test	Fail	1	-	-	-	-	-	-	-	1	-	-	-
Daphnia magna	Pass	-	-	-	-	1	-	-	1	1	1	1	-
Monitoring Test	Fail	1	1	1	1	-	1	1	-	1	1	-	1
Comments:	TA was granted for TSS limit of 21 mg/L and acute lethality. pH was given as an average instead of a range. pH range was provided from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.												
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												
	Pass: ≤50% Mortality												
	Fail: >50% Mortality												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Nugget Pond												
Operator Name	Richmont Mines Inc. - Newfoundland Division												
Product (s)	Gold												
Address	P.O. Box 580, Baie Verte, Newfoundland and Labrador A0K 1B0												
Effluent Discharge Point	Rocky Pond (Polish Pond)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	ND	ND	0.001	0.001	0.001	<0.001	ND	ND	<0.001	<0.001	<0.001
Cu (mg/L)	0.3	0.023	ND	ND	0.023	0.017	0.020	0.040	ND	ND	0.020	0.010	0.010
CN (mg/L)	1.0	0.028	ND	ND	0.016	0.017	0.020	0.025	ND	ND	0.023	0.018	0.001
Pb (mg/L)	0.2	<0.030	ND	ND	<0.030	<0.030	<0.030	<0.030	ND	ND	<0.030	<0.030	<0.030
Ni (mg/L)	0.5	<0.010	ND	ND	<0.010	<0.010	<0.010	<0.010	ND	ND	<0.010	<0.010	<0.010
Zn (mg/L)	0.5	<0.010	ND	ND	<0.010	<0.010	0.010	<0.010	ND	ND	<0.010	<0.010	0.010
TSS (mg/L)	15	<2.000	ND	ND	<2.000	2.000	1.000	<2.000	ND	ND	8.300	4.500	<2.000
Ra-226 (Bq/L)	0.37	<0.010	ND	ND	<0.010	<0.010	<0.010	<0.010	ND	ND	<0.010	<0.010	<0.010
pH low	≥6.0	7.1	ND	ND	7.0	6.8	7.2	7.0	ND	ND	7.6	7.6	7.0
pH high	≤9.5	7.2	ND	ND	7.5	7.5	7.3	7.2	ND	ND	7.6	7.6	7.0
Flow (m ³ /month)	-	88 750	ND	ND	177 500	177 500	88 750	88 750	ND	ND	88 750	88 750	88 750
Rainbow Trout	Pass	1	ND	ND	2	2	1	1	ND	ND	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	ND	ND	2	2	1	1	ND	ND	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
 2003 Effluent Compliance

Mine/Mill Name	Polaris Mine												
Operator Name	Cominco Mining Partnership and Teck Cominco Ltd.												
Product (s)	Lead-Zinc												
Address	P.O. Box 188, Resolute, Nunavut X0A 0B0												
Effluent Discharge Point	Garrow Lake Siphons												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.000	0.001	0.001	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	0.001	0.001	0.001	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	0.005	0.005	0.005	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	0.006	0.001	0.002	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.001	0.002	0.003	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.055	0.137	0.165	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	3.000	4.250	8.670	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	0.005	0.005	0.007	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	7.8	7.9	7.9	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	7.8	8.1	8.1	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	1 555 704	2 909 048	2 824 710	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	1	1	1	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	ND	ND	ND	ND	ND	ND	1	1	1	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Porcupine Joint Venture												
Operator Name	Placer Dome (CLA) Limited and Kinross Gold Corporation												
Product (s)	Gold												
Address	1 Goldmine Road, P.O. Box 70, South Porcupine, Ontario P0N 1H0												
Effluent Discharge Point	Mine Water Storage Pond – Dome Mine												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.015	0.007	0.006	0.007	0.008	0.023	0.020	0.017	0.014	0.024	0.013	0.016
Cu (mg/L)	0.3	0.000	0.000	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000
CN (mg/L)	1.0	0.007	0.005	0.006	0.024	0.008	0.036	0.008	0.000	0.006	0.000	0.010	0.010
Pb (mg/L)	0.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ni (mg/L)	0.5	0.042	0.033	0.031	0.040	0.030	0.027	0.030	0.047	0.030	0.038	0.041	0.053
Zn (mg/L)	0.5	0.022	0.024	0.014	0.009	0.009	0.012	0.010	0.014	0.013	0.011	0.020	0.016
TSS (mg/L)	15	2.700	1.900	2.900	3.500	2.000	2.100	3.700	3.200	4.000	4.100	4.500	2.500
Ra-226 (Bq/L)	0.37	0.000	NMR	NMR	NMR	0.000	NMR	NMR	NMR	-	NMR	NMR	0.000
pH low	≥6.0	7.4	7.2	6.9	7.4	7.0	7.1	7.4	7.5	7.4	7.8	7.8	7.9
pH high	≤9.5	8.1	7.9	7.8	7.9	8.4	8.0	8.2	8.0	8.2	8.1	8.1	8.1
Flow (m ³ /month)	-	35 860	20 654	51 072	59 600	47 490	37 754	48 828	47 761	50 030	50 425	68 018	42 641
Rainbow Trout	Pass	1	NMR	NMR	2	1	NMR	NMR	1	NMR	NMR	1	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	NMR	NMR	2	1	NMR	NMR	1	NMR	NMR	1	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	A radium sample was collected for the third quarter of 2003. However, the sample bottle broke during transit and laboratory failed to notify the contact person before the end of the quarter. The mine is on reduced frequency testing for acute lethality. pH and flow data were corrected from the quarterly reports.												
Notes:	ND: No Deposit	NMR: No Measurement Required	Pass: ≤50% Mortality										Fail: >50% Mortality
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Porcupine Joint Venture												
Operator Name	Placer Dome (CLA) Limited and Kinross Gold Corporation												
Product (s)	Gold												
Address	1 Goldmine Road, P.O. Box 70, South Porcupine, Ontario P0N 1H0												
Effluent Discharge Point	Owl Creek Discharge 1												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.009	ND	0.000	0.010	0.091	0.102	0.172	0.434
Cu (mg/L)	0.3	ND	ND	ND	ND	0.005	ND	0.005	0.003	0.059	0.010	0.026	0.130
CN (mg/L)	1.0	ND	ND	ND	ND	0.009	ND	0.004	0.003	0.003	0.000	0.003	0.009
Pb (mg/L)	0.2	ND	ND	ND	ND	0.001	ND	0.000	0.000	0.000	0.000	0.000	0.037
Ni (mg/L)	0.5	ND	ND	ND	ND	0.030	ND	0.020	0.017	0.056	0.078	0.116	0.342
Zn (mg/L)	0.5	ND	ND	ND	ND	0.010	ND	0.005	0.001	0.007	0.018	0.022	0.073
TSS (mg/L)	15	ND	ND	ND	ND	8.200	ND	2.550	2.583	3.350	3.633	3.475	1.400
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	-	ND	0.000	0.000	0.000	-	-	-
pH low	≥6.0	ND	ND	ND	ND	8.0	ND	6.3	7.8	8.3	8.4	8.0	8.3
pH high	≤9.5	ND	ND	ND	ND	8.0	ND	8.0	8.2	8.4	8.5	8.2	8.3
Flow (m ³ /month)	-	ND	ND	ND	ND	557	ND	20 724	42 878	33 920	55 456	93 125	3 564
Rainbow Trout	Pass	ND	ND	ND	ND	-	ND	1	1	1	-	1	-
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	ND	ND	ND	ND	-	ND	1	1	1	-	1	-
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Porcupine Joint Venture												
Operator Name	Placer Dome (CLA) Limited and Kinross Gold Corporation												
Product (s)	Gold												
Address	1 Goldmine Road, P.O. Box 70, South Porcupine, Ontario P0N 1H0												
Effluent Discharge Point	Owl Creek Discharge 2												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.010	0.030	ND	0.000	0.010	0.072	0.070	0.191	0.330
Cu (mg/L)	0.3	ND	ND	ND	0.050	0.017	ND	0.005	0.006	0.011	0.010	0.031	0.070
CN (mg/L)	1.0	ND	ND	ND	0.008	0.017	ND	0.000	0.000	0.000	0.000	0.000	0.000
Pb (mg/L)	0.2	ND	ND	ND	0.000	0.000	ND	0.000	0.007	0.000	0.000	0.000	0.014
Ni (mg/L)	0.5	ND	ND	ND	0.080	0.045	ND	0.020	0.014	0.055	0.055	0.130	0.235
Zn (mg/L)	0.5	ND	ND	ND	0.010	0.006	ND	0.005	0.002	0.008	0.019	0.027	0.058
TSS (mg/L)	15	ND	ND	ND	9.800	5.200	ND	2.600	2.700	3.900	2.600	3.000	3.100
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.000	0.000	ND	0.000	0.000	0.000	0.000	0.000	0.000
pH low	≥6.0	ND	ND	ND	7.6	6.7	ND	6.3	7.8	8.3	8.1	7.7	7.9
pH high	≤9.5	ND	ND	ND	7.8	8.0	ND	8.0	8.2	8.4	8.5	8.2	8.3
Flow (m ³ /month)	-	ND	ND	ND	36 276	134 967	ND	20 724	51 453	-	150 864	137 515	90 675
Rainbow Trout	Pass	ND	ND	ND	1	1	ND	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	1	1	ND	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: pH and flow data were corrected from the quarterly reports.													
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Porcupine Joint Venture												
Operator Name	Placer Dome (CLA) Limited and Kinross Gold Corporation												
Product (s)	Gold												
Address	1 Goldmine Road, P.O. Box 70, South Porcupine, Ontario P0N 1H0												
Effluent Discharge Point	Effluent Treatment Plant – Dome Mine												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	0.005	0.006	0.008	0.005	0.094	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	0.180	0.120	0.073	0.069	0.150	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	0.041	0.013	0.017	0.016	0.017	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	0.000	0.000	0.000	0.000	0.000	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	0.065	0.090	0.098	0.093	0.110	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	0.002	0.002	0.010	0.003	0.002	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	2.400	2.100	3.200	3.000	2.800	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	0.000	0.000	0.000	0.000	0.000	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	6.7	7.0	6.7	7.5	7.3	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	8.9	8.0	8.8	8.8	7.4	ND	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	713 798	649 537	700 378	1 026 174	349 645	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	1	1	1	1	1	ND	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	1	1	1	1	1	ND	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: pH and flow data were corrected from the quarterly reports.													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Principale												
Operator Name	Ressources Meston Inc. (Ressources Campbell Inc.)												
Product (s)	Gold-Copper												
Address	P.O. Box 8000, Chibougamau, Quebec G8P 2L1												
Effluent Discharge Point	Point #20												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.020	0.015	0.013	0.017	0.026	0.022
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	0.240	0.140	0.110	0.100	0.120	0.110
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	0.070	0.060	0.050	0.070	0.140	0.130
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	0.003	0.003	0.003	0.003	0.003	0.003
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.026	0.013	0.024	0.031	0.032	0.027
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.030	0.031	0.032	0.026	0.030	0.033
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	2,330	2,000	4,200	3,750	6,250	2,000
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	0.010	0.010	0.010	0.010	NMR	NMR
pH low	≥6.0	ND	ND	ND	ND	ND	ND	7.2	7.5	7.1	6.8	7.3	7.5
pH high	≤9.5	ND	ND	ND	ND	ND	ND	7.6	7.6	7.6	7.5	7.7	7.5
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	ND	259 705	231 675	251 777	530 734	499 446	43 413
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	1	1	1	1	1	–
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	–	–	–	1	1	–
Monitoring Test	Fail	–	–	–	–	–	–	1	1	1	–	–	–
Comments:	Annual report provided pH as an average instead of a range. pH range was obtained from the quarterly reports. Discharge from effluent stopped on Dec 5, 2003.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Rabbit Lake Operation												
Operator Name	Cameco Corporation												
Product (s)	Uranium												
Address	2121 11 th Street West, Saskatoon, Saskatchewan S7M 1J3												
Effluent Discharge Point	Station 2.3.3, Weir #3 – Final Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.008	0.004	0.006	0.009	0.008	0.060	0.025	0.020	0.013	0.165	0.018	0.012
Cu (mg/L)	0.3	0.002	0.002	0.001	0.002	0.003	0.003	0.001	0.001	0.002	0.003	0.003	0.003
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ni (mg/L)	0.5	0.016	0.010	0.009	0.014	0.035	0.088	0.059	0.042	0.043	0.042	0.040	0.032
Zn (mg/L)	0.5	0.010	0.008	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006
TSS (mg/L)	15	2.000	1.000	2.000	2.000	<1.000	1.000	1.000	<1.000	1.000	2.500	2.000	2.000
Ra-226 (Bq/L)	0.37	0.020	0.030	0.016	0.013	0.011	0.007	0.006	<0.005	0.007	0.011	0.033	0.040
pH low	≥6.0	7.2	7.1	7.0	7.0	7.2	6.8	6.8	6.9	7.0	7.1	6.9	7.0
pH high	≤9.5	7.4	7.4	7.3	7.2	7.4	7.1	7.1	7.1	7.3	7.2	7.1	7.5
Flow (m ³ /month)	–	265 476	231 442	225 350	307 286	392 298	375 476	307 286	392 298	375 476	360 639	355 820	411 362
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Raglan												
Operator Name	Falconbridge Ltd.												
Product (s)	Nickel-Copper												
Address	120, Avenue de l'Aéroport, Rouyn-Noranda, Quebec J9X 5B7												
Effluent Discharge Point	DIR-HAS (Final Effluent – Acidic Waste Rock of Areas 2 and 3)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	<0.005	<0.005	<0.005	<0.005	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	0.011	0.012	0.017	0.021	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	NMR	NMR	NMR	NMR	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	<0.005	0.006	<0.005	<0.005	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.404	0.190	0.400	0.170	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.005	0.003	0.004	0.004	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	<3.000	<3.000	<3.000	<3.000	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	<0.010	<0.010	<0.010	<0.010	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	6.6	6.7	7.1	7.0	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	8.5	7.0	7.6	7.0	ND	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	ND	89 544	179 928	158 928	107 462	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	1	2	–	1	ND	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	1	2	–	1	ND	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Acute lethality test result missing for September was done on August 31, 2003.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Raglan												
Operator Name	Falconbridge Ltd.												
Product (s)	Nickel-Copper												
Address	120, Avenue de l'Aéroport, Rouyn-Noranda, Quebec J9X 5B7												
Effluent Discharge Point	DIR-UT (Mill – Final Effluent)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	<0.050	<0.050	<0.050	0.020	0.014	0.014	0.006	<0.003	<0.003	<0.003	0.006	<0.003
Cu (mg/L)	0.3	0.020	0.080	0.040	0.042	0.064	0.030	0.019	0.017	0.008	0.010	0.013	0.008
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	<0.050	<0.050	<0.050	<0.001	0.004	<0.001	<0.001	0.004	<0.001	<0.001	0.003	<0.001
Ni (mg/L)	0.5	0.260	0.250	0.160	0.170	0.400	0.400	0.284	0.417	0.333	0.358	0.318	0.313
Zn (mg/L)	0.5	<0.010	0.030	<0.010	<0.003	0.009	0.020	<0.003	0.019	<0.017	<0.017	0.059	<0.014
TSS (mg/L)	15	15.000	14.000	9.000	4.000	11.000	8.300	<3.000	13.330	11.800	13.000	14.900	10.000
Ra-226 (Bq/L)	0.37	<0.010	<0.010	NMR	NMR	<0.010	NMR	<0.010	<0.010	<0.010	NMR	NMR	ND
pH low	≥6.0	8.8	8.8	9.1	9.0	8.5	8.1	7.5	7.9	7.7	7.6	7.6	7.0
pH high	≤9.5	9.1	9.0	9.1	9.0	8.5	8.3	8.1	8.0	8.0	7.9	7.8	7.5
Flow (m ³ /month)	–	93 444	69 790	20 753	25 014	21 232	83 513	93 671	74 800	46 626	39 494	33 193	62 566
Rainbow Trout	Pass	–	–	–	–	–	1	2	–	1	–	1	1
Acute Lethality Test	Fail	2	3	–	1	1	–	–	1	1	2	1	1
Daphnia magna	Pass	1	1	–	–	–	–	1	–	1	1	2	2
Monitoring Test	Fail	1	2	–	1	1	1	1	1	1	1	–	–
Comments: TA was granted for TSS limit of 18 mg/L. No toxicity test result was provided for March.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Red Lake Mine												
Operator Name	Goldcorp Inc.												
Product (s)	Gold												
Address	Mine Road, Balmertown, Ontario P0V 1C0												
Effluent Discharge Point	G1												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.190	ND	ND	ND	ND	0.140	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	0.034	ND	ND	ND	ND	<0.007	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	0.021	ND	ND	ND	ND	0.031	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	<0.006	ND	ND	ND	ND	<0.005	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.010	ND	ND	ND	ND	0.013	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	<0.006	ND	ND	ND	ND	<0.007	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	3.000	ND	ND	ND	ND	7.000	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	<0.010	ND	ND	ND	ND	<0.001	ND	ND
pH low	≥6.0	ND	ND	ND	ND	7.6	ND	ND	ND	ND	7.1	ND	ND
pH high	≤9.5	ND	ND	ND	ND	7.6	ND	ND	ND	ND	7.5	ND	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	348 304	ND	ND	ND	ND	649 127	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	–	ND	ND	ND	ND	1	ND	ND
Acute Lethality Test	Fail	–	–	–	–	1	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	1	ND	ND	ND	ND	1	ND	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Annual report provided pH as an average instead of a range. pH range was obtained from the quarterly reports.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A “Pass” for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Ruttan Mine												
Operator Name	Hudson Bay Mining and Smelting Co. Ltd.												
Product (s)	Copper-Zinc												
Address	20 km East of Leaf Rapids, Manitoba												
Effluent Discharge Point	Brehault Weir												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	0.000	0.000	0.001	0.002	0.001	0.001	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	0.002	0.002	0.007	0.010	0.010	0.010	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	0.001	0.000	0.012	0.040	0.040	0.040	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	0.001	0.001	0.004	0.010	0.010	0.010	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	0.056	0.022	0.026	0.010	0.017	0.030	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	2.000	3.000	9.000	-	2.000	3.000	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	0.030	0.010	0.010	0.010	0.010	0.030	ND
pH low	≥6.0	ND	ND	ND	ND	ND	7.4	-	7.4	8.0	7.3	7.8	ND
pH high	≤9.5	ND	ND	ND	ND	ND	-	-	7.9	8.2	7.6	-	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	410 000	423 700	423 700	423 700	438 000	175 200	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	1	1	1	-	-	1	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	1	1	-	-	-	1	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	1	-	-	-	-
Comments: No toxicity test results were provided for September and October.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Seabee Mine												
Operator Name	Claude Resources Inc.												
Product (s)	Gold												
Address	Saskatchewan												
Effluent Discharge Point	2 Mine Settling Pond Discharge (FDP 1.2)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	September	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.006	0.006	0.006	0.009	0.009	0.009	0.009	0.010	0.007	0.007	0.008	0.009
CN (mg/L)	1.0	0.048	0.018	0.066	0.013	0.018	0.020	0.014	0.013	0.011	0.014	0.019	0.012
Pb (mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002
Ni (mg/L)	0.5	0.014	0.012	0.012	0.011	0.012	0.012	0.012	0.012	0.011	0.010	0.012	0.014
Zn (mg/L)	0.5	0.010	0.011	0.009	0.009	0.010	0.009	0.011	0.015	0.012	0.011	0.010	0.012
TSS (mg/L)	15	8.000	9.000	9.000	14.000	7.000	10.000	17.000	14.000	10.000	14.000	7.000	12.000
Ra-226 (Bq/L)	0.37	0.006	0.006	0.005	0.005	0.005	0.005	0.005	NMR	NMR	<0.005	NMR	NMR
pH low	≥6.0	7.3	7.5	7.5	7.5	7.3	7.3	7.2	7.3	6.9	7.2	7.4	7.5
pH high	≤9.5	-	-	-	-	-	-	-	-	-	-	-	-
Flow (m ³ /month)	-	93 670	84 605	93 775	92 501	91 086	89 224	95 039	94 964	84 038	95 568	85 669	88 893
Rainbow Trout	Pass	-	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	-	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:	TA was granted for TSS limit of 25 mg/L. pH was provided as an average instead of a range. No toxicity test result was provided for January.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Seabee Mine												
Operator Name	Claude Resources Inc.												
Product (s)	Gold												
Address	Saskatchewan												
Effluent Discharge Point	5-1 Mine Settling Pond Discharge (FDP 1.3)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu (mg/L)	0.3	0.011	0.011	0.011	0.011	0.009	0.008	0.008	0.008	0.008	0.007	0.009	0.008
CN (mg/L)	1.0	0.032	0.004	0.044	0.002	0.003	0.001	0.002	0.003	0.001	0.002	0.002	0.005
Pb (mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Ni (mg/L)	0.5	0.002	0.004	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.004	0.003
Zn (mg/L)	0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
TSS (mg/L)	15	29.000	2.000	1.000	2.000	1.000	2.000	1.000	1.000	1.000	1.000	1.000	1.000
Ra-226 (Bq/L)	0.37	0.005	0.005	0.005	0.005	0.005	0.005	0.005	NMR	NMR	<0.005	NMR	NMR
pH low	≥6.0	7.6	7.7	7.9	8.2	8.4	8.4	8.2	8.1	8.1	8.0	7.9	8.0
pH high	≤9.5	-	-	-	-	-	-	-	-	-	-	-	-
Flow (m ³ /month)	-	14 788	12 466	13 730	13 638	13 535	13 412	13 595	13 215	12 216	13 970	12 316	12 805
Rainbow Trout	Pass	-	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	-	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: pH was provided as an average instead of a range. No toxicity test result was provided for January.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Sigma-Lamaque												
Operator Name	Les Mines McWatters Inc.												
Product (s)	Gold												
Address	300, 3 rd Avenue East, Val d'Or, Quebec J9P 4N8												
Effluent Discharge Point													
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.003	0.005	ND	0.003	0.003	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	0.015	0.025	ND	0.017	0.008	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	0.011	0.013	ND	0.011	0.010	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	0.001	0.010	ND	0.005	0.000	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.011	0.040	ND	0.026	0.026	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	0.037	0.020	ND	0.019	0.014	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	4.400	4.500	ND	8.000	7.400	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	0.005	0.006	ND	0.005	0.007	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	8.1	7.8	ND	7.5	7.7	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	8.1	7.9	ND	7.9	7.9	ND
Flow (m ³ /month)	–	ND	ND	ND	ND	ND	ND	22 378	100 094	ND	39 398	25 906	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	1	1	ND	1	1	ND
Acute Lethality Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	1	1	ND	1	1	ND
Monitoring Test	Fail	–	–	–	–	–	–	–	–	–	–	–	–
Comments: Only one pH value for July.													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Snow Lake Mill												
Operator Name	Hudson Bay Mining and Smelting Co. Ltd.												
Product (s)	Zinc												
Address	Snow Lake, Manitoba												
Effluent Discharge Point	Treatment Plant Effluent												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
<p>Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality</p> <p>Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.</p> <p>A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.</p>													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Strathcona Tailings Treatment System												
Operator Name	Falconbridge Ltd.												
Product (s)	Nickel-Copper-Cobalt-Platinum-Palladium												
Address	Onaping, Ontario P0M 2R0												
Effluent Discharge Point	Fecunis RR Bridge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.001	0.001	0.002	0.000	0.000	0.001	0.000	0.002	0.001	0.001	0.001
Cu (mg/L)	0.3	0.006	0.005	0.010	0.019	0.011	0.007	0.007	0.006	0.009	0.016	0.020	0.008
CN (mg/L)	1.0	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Pb (mg/L)	0.2	0.000	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001
Ni (mg/L)	0.5	0.060	0.045	0.078	0.097	0.058	0.049	0.054	0.064	0.063	0.064	0.086	0.085
Zn (mg/L)	0.5	0.005	0.003	0.004	0.009	0.009	0.006	0.002	0.015	0.002	0.014	0.005	0.007
TSS (mg/L)	15	0.850	0.870	0.620	0.520	0.400	0.640	0.950	1.000	0.700	0.470	0.870	0.640
Ra-226 (Bq/L)	0.37	0.010	0.010	NMR	NMR	NMR	0.010	0.010	NMR	NMR	0.010	NMR	NMR
pH low	≥6.0	7.3	7.5	7.5	7.5	7.4	7.1	6.8	6.9	7.2	7.4	7.3	7.5
pH high	≤9.5	7.6	7.8	7.7	7.8	7.6	7.5	7.2	7.2	7.5	7.8	7.7	7.7
Flow (m ³ /month)	-	759 275	219 618	1 129 811	2 536 800	2 777 000	4 490 531	1 087 231	642 657	882 992	2 032 171	3 683 058	3 826 278
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: Flow data for January, February and March were corrected from the quarterly report.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name		Tanco Mine											
Operator Name		Tantalum Mining Corporation of Canada Limited											
Product (s)		Lithium-Cesium-Rubidium											
Address		P.O. Box 2000, Lac du Bonnet, Manitoba R0E 1A0											
Effluent Discharge Point		Compliance Point											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.006	0.005	0.007	0.007	0.007	0.010	0.012	0.012	0.001	0.007	0.005	0.004
Cu (mg/L)	0.3	0.002	0.004	0.003	0.005	0.004	0.002	0.002	<0.004	0.001	<0.002	<0.002	<0.002
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.000	<0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.001	0.000	<0.000
Ni (mg/L)	0.5	0.004	0.004	0.005	0.009	0.006	0.004	0.003	0.003	0.002	0.003	0.005	0.005
Zn (mg/L)	0.5	0.017	0.019	0.014	0.026	<0.004	0.005	0.004	0.005	0.003	<0.004	0.004	0.007
TSS (mg/L)	15	7.000	5.000	3.000	10.000	10.000	20.000	17.000	18.000	21.000	21.000	<7.000	<7.000
Ra-226 (Bq/L)	0.37	<0.010	<0.010	<0.010	NMR	NMR	<0.010	NMR	NMR	<0.010	NMR	NMR	<0.010
pH low	≥6.0	6.5	6.6	6.8	7.7	9.2	9.1	9.1	9.4	9.0	8.7	7.5	7.3
pH high	≤9.5	-	-	-	-	-	-	-	-	-	-	-	-
Flow (m ³ /month)	-	124 738	78 463	178 390	216 270	223 898	568 019	154 423	190 022	160 590	168 231	157 192	177 289
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:		TA was granted for TSS limit of 25 mg/L. pH was given as an average instead of as a range. Starting in December 2003, the mine is on reduced frequency testing for acute lethality.											
Notes:		ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.											

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Tanco Mine												
Operator Name	Tantalum Mining Corporation of Canada Limited												
Product (s)	Lithium-Cesium-Rubidium												
Address	P.O. Box 2000, Lac du Bonnet, Manitoba R0E 1A0												
Effluent Discharge Point	Phreatic or Groundwater												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.005	0.005	0.007	0.007	0.008	0.005	0.004	0.004	0.006
Cu (mg/L)	0.3	ND	ND	ND	0.003	0.003	<0.002	<0.002	<0.004	<0.001	<0.002	<0.002	<0.002
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	0.001	<0.001	0.000	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Ni (mg/L)	0.5	ND	ND	ND	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001
Zn (mg/L)	0.5	ND	ND	ND	0.003	<0.009	<0.004	0.007	0.008	0.003	0.003	0.007	0.008
TSS (mg/L)	15	ND	ND	ND	7.000	7.000	<10.000	<3.000	5.000	4.000	<4.000	5.000	6.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.020	<0.010	<0.010	NMR	NMR	0.010	-	-	-
pH low	≥6.0	ND	ND	ND	8.0	8.2	8.5	8.0	8.0	7.6	7.5	7.4	7.5
pH high	≤9.5	ND	ND	ND	-	-	-	-	-	-	-	-	-
Flow (m ³ /month)	-	ND	ND	ND	1 390	3 011	2 048	1 624	2 271	1 792	2 275	1 845	855
Rainbow Trout	Pass	ND	ND	ND	1	1	1	1	1	-	1	1	-
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	1	1	1	1
<i>Daphnia magna</i>	Pass	ND	ND	ND	1	1	1	1	1	1	1	2	-
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	1	-	1
Comments: pH was given as an average instead of a range. No Radium 226 test result was provided for the fourth quarter.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
 2003 Effluent Compliance

Mine/Mill Name		Thompson Mine / Mill											
Operator Name		Inco Limited											
Product (s)		Nickel-Copper											
Address		P.O. Box 5000, Thompson, Manitoba R8N 1P3											
Effluent Discharge Point		Station B											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.004	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.010	0.010
Cu (mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
CN (mg/L)	1.0	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Pb (mg/L)	0.2	0.001	0.010	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Ni (mg/L)	0.5	0.240	0.330	0.400	0.350	0.420	0.270	0.170	0.140	0.180	0.300	0.360	0.310
Zn (mg/L)	0.5	0.013	0.010	0.030	0.020	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.030
TSS (mg/L)	15	3.000	3.000	2.000	6.000	4.000	5.000	2.000	2.000	10.000	5.000	5.000	3.000
Ra-226 (Bq/L)	0.37	0.008	0.005	0.005	0.005	0.005	NMR	0.005	NMR	NMR	0.005	NMR	NMR
pH low	≥6.0	6.4	6.2	6.3	6.4	7.4	7.2	7.1	7.0	7.0	7.2	6.9	6.4
pH high	≤9.5	6.9	6.7	6.1	7.3	8.4	7.5	7.6	7.4	7.3	7.8	7.5	7.1
Flow (m ³ /month)	-	1 543 000	1 054 000	1 540 000	1 544 000	2 336 000	1 161 216	627 480	241 920	1 439 424	598 752	855 792	1 197 504
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Thompson Mine / Mill												
Operator Name	Inco Limited												
Product (s)	Nickel-Copper												
Address	P.O. Box 5000, Thompson, Manitoba R8N 1P3												
Effluent Discharge Point	Weir												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cu (mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
CN (mg/L)	1.0	0.005	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Pb (mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Ni (mg/L)	0.5	0.610	0.400	0.310	0.270	0.180	0.160	0.180	0.210	0.190	0.230	0.220	0.210
Zn (mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010
TSS (mg/L)	15	4.000	3.000	2.000	2.000	6.000	3.000	2.000	1.000	1.000	6.000	8.000	4.000
Ra-226 (Bq/L)	0.37	0.005	0.005	0.005	0.005	0.007	NMR	0.005	NMR	NMR	0.005	NMR	NMR
pH low	≥6.0	6.9	8.4	8.6	6.4	7.4	7.2	7.5	7.8	8.0	8.1	7.1	7.4
pH high	≤9.5	8.2	8.8	9.0	7.3	8.4	7.5	8.8	8.5	8.3	8.3	8.2	8.0
Flow (m ³ /month)	—	2 351 749	2 031 209	2 160 800	2 242 073	3 240 833	1 998 548	1 906 755	1 480 330	1 915 147	2 725 697	2 243 271	2 723 471
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
 2003 Effluent Compliance

Mine/Mill Name	Tio (Mine)												
Operator Name	QIT-Fer et Titane Inc.												
Product (s)	Iron-Titanium												
Address	951 De l'Escale Boulevard, Havre St-Pierre, Quebec G0G 1P0												
Effluent Discharge Point	Effluent ANO (Industrial Water Pond ANO)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Tio (Mine)												
Operator Name	QIT-Fer et Titane Inc.												
Product (s)	Iron-Titanium												
Address	951 De l'Escale Boulevard, Havre St-Pierre, Quebec G0G 1P0												
Effluent Discharge Point	Effluent Grondin (Formerly Grondin Lake)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.000	0.000	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	0.013	0.023	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	NMR	NMR	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	0.090	0.060	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	1.325	1.421	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.140	0.150	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	3.000	3.000	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.005	0.010	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	7.0	7.0	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	7.1	-	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	27 000	3 240	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	1	-	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	-	-	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	1	-	-	-	-	-	-	-
Comments: pH was given as an average instead of a range. pH range was provided from the quarterly reports. No toxicity test result was provided for June.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name		Tio (Mine)											
Operator Name		QIT-Fer et Titane Inc.											
Product (s)		Iron-Titanium											
Address		951 De l'Escale Boulevard, Havre St-Pierre, Quebec G0G 1P0											
Effluent Discharge Point		Mine Water											
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.001	0.000	0.000	0.002	0.002	0.002	0.001	0.002	0.002
Cu (mg/L)	0.3	ND	ND	ND	0.007	0.005	0.005	0.054	0.005	0.038	0.011	0.007	0.004
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	0.005	0.023	0.040	0.040	0.006	0.002	0.023	0.006	0.004
Ni (mg/L)	0.5	ND	ND	ND	0.235	0.244	0.280	0.202	0.250	0.189	0.233	0.307	0.525
Zn (mg/L)	0.5	ND	ND	ND	0.015	0.060	0.040	0.104	0.010	0.102	0.009	0.023	0.007
TSS (mg/L)	15	ND	ND	ND	8.500	27.700	3.000	3.000	3.000	3.330	3.000	3.000	3.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.006	0.006	0.005	-	0.005	0.005	0.006	0.005	0.005
pH low	≥6.0	ND	ND	ND	7.6	7.7	7.8	7.8	7.8	7.6	7.7	7.7	7.7
pH high	≤9.5	ND	ND	ND	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7
Flow (m ³ /month)	-	ND	ND	ND	194 800	343 500	41 760	129 293	61 824	341 044	238 565	201 600	97 577
Rainbow Trout	Pass	ND	ND	ND	1	1	-	-	1	1	1	-	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	ND	ND	ND	1	1	-	1	1	1	1	-	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: TA was granted for TSS limit of 25 mg/L. No toxicity test results were provided for June, July and November.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Troilus												
Operator Name	Corporation minière Inmet												
Product (s)	Gold-Copper												
Address	P.O. Box 8700, Chibougamau, Quebec G8P 2Y6												
Effluent Discharge Point	BS-2 (Mine Water Discharge)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.018	0.010	0.010	0.010	0.020	0.009
Cu (mg/L)	0.3	0.014	0.013	0.015	0.019	0.015	0.013	0.014	0.012	0.013	0.017	0.022	0.013
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.018	0.010	0.010	0.010	0.020	0.009
Ni (mg/L)	0.5	0.015	0.015	0.015	0.012	0.015	0.020	0.022	0.010	0.013	0.014	0.025	0.017
Zn (mg/L)	0.5	0.067	0.059	0.065	0.045	0.063	0.055	0.059	0.052	0.049	0.034	0.031	0.029
TSS (mg/L)	15	8.750	4.500	4.750	8.200	5.250	3.000	3.000	4.000	3.250	9.400	18.500	7.600
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	NMR	NMR	0.010
pH low	≥6.0	7.7	7.8	7.6	7.0	7.6	7.6	7.4	7.6	7.7	7.6	7.7	7.7
pH high	≤9.5	7.9	7.9	7.9	7.8	7.8	7.8	7.7	7.7	7.9	7.8	7.8	7.9
Flow (m ³ /month)	-	108 770	104 770	112 940	209 110	233 440	179 820	195 420	216 300	203 750	310 200	277 050	167 730
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Troilus												
Operator Name	Corporation minière Inmet												
Product (s)	Gold-Copper												
Address	P.O. Box 8700, Chibougamau, Quebec G8P 2Y6												
Effluent Discharge Point	PR-1												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.008
Cu (mg/L)	0.3	0.004	0.006	0.003	0.003	0.006	0.006	0.004	0.003	0.005	0.005	0.005	0.005
CN (mg/L)	1.0	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.042
Pb (mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.009
Ni (mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.009
Zn (mg/L)	0.5	0.010	0.011	0.009	0.014	0.026	0.022	0.022	0.022	0.021	0.019	0.028	0.021
TSS (mg/L)	15	5.750	3.000	3.500	5.200	3.500	5.000	3.600	4.250	4.250	5.400	8.250	5.400
Ra-226 (Bq/L)	0.37	0.010	0.010	0.010	0.010	0.010	0.008	0.010	0.010	0.010	NMR	NMR	0.010
pH low	≥6.0	6.6	6.8	6.6	6.4	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.4
pH high	≤9.5	6.9	6.7	6.9	6.7	6.8	6.8	6.9	6.9	6.9	6.9	7.1	6.8
Flow (m ³ /month)	-	241 120	67 000	189 790	158 920	653 670	785 340	752 750	278 910	137 370	224 650	214 420	410 680
Rainbow Trout	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	1	1	1	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
<p>Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality</p> <p>Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.</p> <p>A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.</p>													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Troilus												
Operator Name	Corporation minière Inmet												
Product (s)	Gold-Copper												
Address	P.O. Box 8700, Chibougamau, Quebec G8P 2Y6												
Effluent Discharge Point	PR-2 (Tailings Pond Seepage)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.020	0.010	0.008
Cu (mg/L)	0.3	-	-	-	-	-	-	-	-	-	0.007	0.004	0.003
CN (mg/L)	1.0	-	-	-	-	-	-	-	-	-	0.050	0.050	0.048
Pb (mg/L)	0.2	-	-	-	-	-	-	-	-	-	0.030	0.020	0.009
Ni (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.030	0.020	0.008
Zn (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.008	0.009	0.008
TSS (mg/L)	15	-	-	-	-	-	-	-	-	-	3.750	6.750	3.200
Ra-226 (Bq/L)	0.37	-	-	-	-	-	-	-	-	-	0.038	0.043	0.032
pH low	≥6.0	-	-	-	-	-	-	-	-	-	6.7	6.6	6.6
pH high	≤9.5	-	-	-	-	-	-	-	-	-	6.9	6.7	6.7
Flow (m ³ /month)	-	-	-	-	-	-	-	-	-	-	40 920	37 200	38 688
Rainbow Trout	Pass	-	-	-	-	-	-	-	-	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	-	-	-	-	-	-	-	-	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: New final discharge point identified by Environment Canada. Effluent monitoring started in October 2003.													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Troilus												
Operator Name	Corporation minière Inmet												
Product (s)	Gold-Copper												
Address	P.O. Box 8700, Chibougamau, Quebec G8P 2Y6												
Effluent Discharge Point	PR-5 (Tailings Pond Seepage)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.030	0.010	0.008
Cu (mg/L)	0.3	-	-	-	-	-	-	-	-	-	0.005	0.004	0.003
CN (mg/L)	1.0	-	-	-	-	-	-	-	-	-	0.050	0.050	0.042
Pb (mg/L)	0.2	-	-	-	-	-	-	-	-	-	0.030	0.010	0.009
Ni (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.030	0.010	0.008
Zn (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.009	0.015	0.014
TSS (mg/L)	15	-	-	-	-	-	-	-	-	-	3.000	12.750	5.200
Ra-226 (Bq/L)	0.37	-	-	-	-	-	-	-	-	-	0.015	0.028	0.026
pH low	≥6.0	-	-	-	-	-	-	-	-	-	6.7	6.6	6.7
pH high	≤9.5	-	-	-	-	-	-	-	-	-	7.0	6.9	6.9
Flow (m ³ /month)	-	-	-	-	-	-	-	-	-	-	15 810	17 100	12 648
Rainbow Trout	Pass	-	-	-	-	-	-	-	-	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	-	-	-	-	-	-	-	-	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: New final discharge point identified by Environment Canada. Effluent monitoring started in October 2003.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Troilus												
Operator Name	Corporation minière Inmet												
Product (s)	Gold-Copper												
Address	P.O. Box 8700, Chibougamau, Quebec G8P 2Y6												
Effluent Discharge Point	PR-6 (Tailings Pond Seepage)												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.020	0.020	0.008
Cu (mg/L)	0.3	-	-	-	-	-	-	-	-	-	0.005	0.004	0.002
CN (mg/L)	1.0	-	-	-	-	-	-	-	-	-	0.050	0.050	0.042
Pb (mg/L)	0.2	-	-	-	-	-	-	-	-	-	0.020	0.010	0.009
Ni (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.020	0.010	0.008
Zn (mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.011	0.008	0.009
TSS (mg/L)	15	-	-	-	-	-	-	-	-	-	11.750	8.250	2.600
Ra-226 (Bq/L)	0.37	-	-	-	-	-	-	-	-	-	0.028	0.040	0.030
pH low	≥6.0	-	-	-	-	-	-	-	-	-	7.0	6.9	6.9
pH high	≤9.5	-	-	-	-	-	-	-	-	-	7.1	7.0	7.0
Flow (m ³ /month)	-	-	-	-	-	-	-	-	-	-	13 950	18 000	20 088
Rainbow Trout	Pass	-	-	-	-	-	-	-	-	-	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	-	-	-	-	-	-	-	-	-	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: New final discharge point identified by Environment Canada. Effluent monitoring started in October 2003.													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Trout Lake Mine												
Operator Name	Hudson Bay Mining and Smelting Co. Ltd.												
Product (s)	Copper-Zinc-Gold-Silver												
Address	Near Flin Flon, Manitoba												
Effluent Discharge Point	Trout Lake Surface Sump Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.003	0.001	ND	0.002	0.002	0.001	0.001	0.002	ND	0.003	0.002
Cu (mg/L)	0.3	0.008	0.006	0.011	ND	0.005	0.003	0.008	0.020	0.016	ND	0.020	0.010
CN (mg/L)	1.0	NMR	NMR	NMR	ND	NMR	NMR	NMR	NMR	NMR	ND	NMR	NMR
Pb (mg/L)	0.2	0.004	0.004	0.004	ND	0.004	0.008	0.008	0.012	0.004	ND	0.005	0.006
Ni (mg/L)	0.5	0.001	0.001	0.002	ND	0.001	0.002	0.002	0.001	0.002	ND	0.003	0.002
Zn (mg/L)	0.5	0.088	0.130	0.109	ND	0.082	0.022	0.025	0.087	0.254	ND	0.300	0.213
TSS (mg/L)	15	2.000	4.000	1.000	ND	7.000	2.000	2.000	2.000	7.000	ND	8.000	4.000
Ra-226 (Bq/L)	0.37	0.280	0.500	0.750	ND	0.140	0.080	0.083	0.060	0.090	ND	0.070	0.110
pH low	≥6.0	9.4	9.7	9.3	ND	9.5	9.5	9.2	9.2	9.1	ND	9.0	8.5
pH high	≤9.5	10.2	10.0	9.9	ND	-	9.7	9.7	9.4	9.7	ND	9.4	9.7
Flow (m ³ /month)	-	27 600	23 200	13 900	ND	7 900	27 300	34 100	25 600	28 900	ND	26 900	30 000
Rainbow Trout	Pass	-	-	1	ND	-	1	1	1	1	ND	1	1
Acute Lethality Test	Fail	2	2	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	-	-	-	ND	-	-	-	-	-	ND	-	-
Monitoring Test	Fail	2	2	1	-	-	1	1	1	1	-	1	1
Comments: TA was granted for pH upper limit of 10.36 and for acute lethality. No toxicity test result was provided for May.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	Shops South												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
Cu (mg/L)	0.3	ND	ND	ND	0.009	0.025	0.040	0.012	0.012	0.012	0.015	0.016	0.015
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	0.001	0.002	0.003	0.003	0.003	0.003	0.002	0.003	0.002
Ni (mg/L)	0.5	ND	ND	ND	0.003	0.004	0.013	0.013	0.013	0.010	0.010	0.013	0.001
Zn (mg/L)	0.5	ND	ND	ND	0.025	0.043	0.086	0.032	0.042	0.056	0.048	0.041	0.071
TSS (mg/L)	15	ND	ND	ND	111.750	95.120	114.750	91.600	75.000	171.500	101.200	52.500	117.000
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	NMR
pH low	≥6.0	ND	ND	ND	6.7	7.1	6.8	6.5	6.6	6.7	6.7	6.7	6.5
pH high	≤9.5	ND	ND	ND	7.7	8.8	8.0	6.6	7.0	8.9	7.3	7.1	8.9
Flow (m ³ /month)	-	ND	ND	ND	-	-	-	-	-	-	-	-	-
Rainbow Trout	Pass	ND	ND	ND	-	-	1	1	-	-	-	1	1
Acute Lethality Test	Fail	-	-	-	1	2	1	1	1	2	2	1	1
<i>Daphnia magna</i>	Pass	ND	ND	ND	1	1	1	2	1	1	1	2	2
Monitoring Test	Fail	-	-	-	-	-	1	-	-	1	1	-	-
Comments: Flow measurements were not provided because of no flow measurement device.													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	Tailings Line Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.033	0.009	0.017	0.006	0.005	0.062	0.028	0.003	0.003	0.003	0.003	0.002
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.007	0.015	0.003	0.003	0.003	0.003	0.001
Ni (mg/L)	0.5	0.036	0.047	0.011	0.017	0.003	0.037	0.028	0.013	0.013	0.013	0.013	0.001
Zn (mg/L)	0.5	0.197	0.139	0.068	0.011	0.073	0.680	0.284	0.009	0.006	0.087	0.004	0.017
TSS (mg/L)	15	511 380.000	480 650.000	583 875.000	547 420.000	693 766.000	562 850.000	533 060.000	500 525.000	527 175.000	485 240.000	490 625.000	518 375.000
Ra-226 (Bq/L)	0.37	<0.005	<0.005	<0.005	<0.005	0.011	0.013	0.018	0.006	0.011	0.005	0.005	NMR
pH low	≥6.0	7.0	7.0	6.9	6.8	6.8	6.1	6.2	6.4	6.5	6.6	6.7	6.6
pH high	≤9.5	7.2	7.4	7.6	7.1	7.4	6.5	7.2	7.0	6.9	7.0	6.9	7.0
Flow (m ³ /month)	-	1 389 947	1 140 629	1 300 752	1 576 368	1 258 850	1 324 605	1 318 610	1 434 432	1 302 023	1 321 921	1 427 505	1 357 769
Rainbow Trout	Pass	-	-	-	-	-	1	1	1	1	1	1	2
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	1	-
Daphnia magna	Pass	-	-	-	-	-	1	1	1	1	1	1	2
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	1	-
Comments:	TA was granted for TSS limit of 608 000 mg/L. No toxicity test results were provided from January to May because site location access was difficult.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	Tailings Line Emergency Dump Basin #1												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	0.000	0.001	0.001	0.001	ND	0.001	0.000	0.001	0.001
Cu (mg/L)	0.3	ND	ND	ND	0.001	0.004	0.005	0.003	ND	0.003	0.001	0.003	0.126
CN (mg/L)	1.0	ND	ND	ND	NMR	NMR	NMR	NMR	ND	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	ND	ND	ND	0.001	0.001	0.003	0.003	ND	0.003	0.001	0.003	0.003
Ni (mg/L)	0.5	ND	ND	ND	0.002	0.002	0.013	0.013	ND	0.013	0.006	0.013	0.001
Zn (mg/L)	0.5	ND	ND	ND	0.007	0.011	0.012	0.003	ND	0.003	0.001	0.003	0.017
TSS (mg/L)	15	ND	ND	ND	18,000	95,560	66,330	12,330	ND	33,000	1430,000	733,000	243,500
Ra-226 (Bq/L)	0.37	ND	ND	ND	0.003	0.003	0.005	0.005	ND	0.005	0.003	NMR	NMR
pH low	≥6.0	ND	ND	ND	6.8	7.4	6.6	6.6	ND	7.0	6.8	6.8	7.0
pH high	≤9.5	ND	ND	ND	6.8	7.4	6.9	6.9	ND	7.2	6.8	6.8	7.1
Flow (m ³ /month)	-	ND	ND	ND	-	-	-	-	ND	-	-	-	-
Rainbow Trout	Pass	ND	ND	ND	-	-	-	-	ND	-	1	-	-
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	-	-	-	-	ND	-	1	-	-
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: No acute lethality tests provided - no discharge on the selected sampling day. Flow measurements were not provided because of no flow measurement device.													
Notes:	ND: No Deposit	NMR: No Measurement Required										Pass: ≤50% Mortality	Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	West Pit Extension												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.002	0.008	0.001	0.001	0.001	0.012	0.003	0.003	0.003	0.005	0.008	0.001
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.003	0.003	0.001
Ni (mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.013	0.013	0.013	0.013	0.011	0.013	0.001
Zn (mg/L)	0.5	0.011	0.021	0.019	0.094	0.008	0.014	0.007	0.008	0.003	0.032	0.015	0.016
TSS (mg/L)	15	1.000	3.250	3.500	7.200	2.000	29.750	31.800	23.000	18.750	8.400	7.750	5.000
Ra-226 (Bq/L)	0.37	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	NMR
pH low	≥6.0	6.9	7.1	6.8	6.8	6.9	6.1	6.1	6.5	6.5	6.3	6.1	6.0
pH high	≤9.5	7.3	7.2	7.2	7.1	7.1	6.6	6.5	6.7	6.8	6.8	6.8	6.6
Flow (m ³ /month)	-	863 679	420 784	664 214	834 372	861 537	836 310	703 898	1 387 304	1 848 165	1 031 209	985 328	1 035 803
Rainbow Trout	Pass	1	1	1	1	1	1	1	NMR	NMR	1	2	1
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	1
Daphnia magna	Pass	1	1	1	1	1	1	1	NMR	NMR	1	2	2
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	East Pit No.1												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.001	0.002	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.001	0.004	0.001	0.001	0.001	0.012	0.007	0.003	0.003	0.003	0.003	0.003
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.003	0.007	0.003	0.003	0.003	0.003	0.003
Ni (mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Zn (mg/L)	0.5	0.002	0.001	0.002	0.007	0.003	0.011	0.003	0.003	0.003	0.003	0.003	0.003
TSS (mg/L)	15	1.000	1.620	1.250	1.700	1.000	1.000	7.600	1.000	1.000	1.000	1.000	1.000
Ra-226 (Bq/L)	0.37	0.003	0.004	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005
pH low	≥6.0	7.6	7.3	7.4	7.3	7.7	6.7	6.6	7.2	7.2	7.2	7.2	7.2
pH high	≤9.5	7.7	7.7	7.5	7.7	7.8	7.3	7.1	7.2	7.2	7.2	7.2	7.2
Flow (m ³ /month)	-	233 585	213 668	236 561	228 930	236 561	228 930	236 561	71 562	71 562	71 562	71 562	71 562
Rainbow Trout	Pass	1	1	1	1	1	NMR	1	NMR	1	NMR	1	NMR
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	1	1	1	1	1	NMR	1	NMR	1	NMR	1	NMR
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments:													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality													
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.													
A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	East Pit No.2												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.003	0.000	0.000	0.005	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.001	0.001	0.001	0.001	0.005	0.005	0.003	0.009	0.003	0.003	0.003	0.001
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.003	0.003	0.001
Ni (mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.013	0.013	0.013	0.013	0.013	0.013	0.001
Zn (mg/L)	0.5	0.003	0.009	0.009	0.017	0.009	0.005	0.005	0.005	0.003	0.021	0.029	0.013
TSS (mg/L)	15	8.620	4.000	1.000	2.000	3.250	2.500	4.200	5.500	1.250	5.600	1.250	1.000
Ra-226 (Bq/L)	0.37	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	NMR
pH low	≥6.0	7.0	7.1	7.0	7.0	7.0	6.2	6.2	6.7	6.7	6.7	6.0	6.1
pH high	≤9.5	7.2	7.1	7.0	7.2	7.3	6.9	6.8	7.0	7.4	7.3	6.9	7.0
Flow (m ³ /month)	-	1 199 065	1 086 708	1 184 200	1 092 372	1 612 062	2 092 838	1 713 457	1 520 147	1 593 090	1 052 202	1 067 003	878 354
Rainbow Trout	Pass	1	-	-	1	NMR	NMR	1	NMR	NMR	1	2	2
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Daphnia magna	Pass	1	-	-	1	NMR	NMR	1	NMR	NMR	1	2	2
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: Toxicity test results missing for February and March – site frozen.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER) 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	Knoll Lake												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.002	0.007	0.003	0.002	0.004	0.013	0.004	0.008	0.003	0.006	0.003	0.002
CN (mg/L)	1.0	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.008	0.007	0.003	0.001
Ni (mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.013	0.013	0.013	0.013	0.013	0.013	0.001
Zn (mg/L)	0.5	0.004	0.018	0.008	0.005	0.003	0.015	0.033	0.010	0.018	0.026	0.005	0.009
TSS (mg/L)	15	84.200	22.370	298.620	499.200	182.120	504.750	199.800	234.500	21.750	408.600	70.500	580.750
Ra-226 (Bq/L)	0.37	0.010	0.003	0.003	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	NMR
pH low	≥6.0	7.2	7.3	7.2	7.2	7.2	6.3	3.6	6.8	4.4	6.7	6.3	6.0
pH high	≤9.5	7.4	7.5	7.5	7.6	7.3	6.8	6.8	7.1	7.0	7.4	7.0	7.3
Flow (m ³ /month)	-	-	-	-	-	-	-	514 668	526 558	-	472 657	443 130	323 183
Rainbow Trout	Pass	1	1	1	1	1	1	-	2	1	1	1	1
Acute Lethality Test	Fail	-	-	-	-	-	-	1	-	-	-	-	-
Daphnia magna	Pass	1	1	1	1	1	1	-	2	1	1	1	1
Monitoring Test	Fail	-	-	-	-	-	-	1	-	-	-	-	-

Comments: Flow measurements missing from January to June and September because of site conditions (structural and seasonal).
Flow measurements could not be obtained accurately and safely.

Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality
Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.
A "Pass" for *Daphnia magna* monitoring test is not a requirement.

Metal Mining Effluent Regulations (MMER)
 2003 Effluent Compliance

Mine/Mill Name	Wabush (Scully Mine)												
Operator Name	Cleveland-Cliffs Inc.												
Product (s)	Iron												
Address	Scully Mine, P.O. Box 3000, Wabush, Newfoundland and Labrador A0R 1B0												
Effluent Discharge Point	Shops East												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
As (mg/L)	0.5	0.000	ND	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu (mg/L)	0.3	0.013	ND	0.005	0.008	0.015	0.024	0.018	0.006	0.005	0.012	0.014	0.010
CN (mg/L)	1.0	NMR	ND	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR	NMR
Pb (mg/L)	0.2	0.003	ND	0.001	0.001	0.001	0.012	0.009	0.014	0.003	0.003	0.003	0.001
Ni (mg/L)	0.5	0.002	ND	0.005	0.001	0.002	0.013	0.013	0.010	0.010	0.013	0.013	0.001
Zn (mg/L)	0.5	0.058	ND	0.096	0.049	0.085	0.056	0.056	0.021	0.029	0.077	0.052	0.051
TSS (mg/L)	15	5.500	ND	7.500	328.330	141.070	19.000	45.800	204.000	209.500	838.800	9.750	14.750
Ra-226 (Bq/L)	0.37	0.003	ND	0.003	0.003	0.004	0.005	0.005	0.005	0.005	0.005	0.005	NMR
pH low	≥6.0	7.3	ND	7.0	7.1	7.1	6.5	7.1	7.1	6.7	6.8	6.5	6.3
pH high	≤9.5	7.3	ND	7.0	7.9	7.4	6.9	7.3	7.3	7.5	7.6	7.1	7.2
Flow (m ³ /month)	-	-	ND	-	-	-	-	-	-	-	-	-	-
Rainbow Trout	Pass	-	ND	-	1	-	-	NMR	2	1	1	2	2
Acute Lethality Test	Fail	-	-	-	-	1	2	1	-	-	-	-	-
Daphnia magna	Pass	-	ND	-	1	1	1	-	2	1	1	2	2
Monitoring Test	Fail	-	-	-	-	-	NMR	2	-	-	-	-	-
Comments:	No toxicity test results were provided for January and March – effluent frozen. No flow measurements were provided because of site conditions (structural and seasonal). Flow measurements could not be obtained accurately and safely.												
Notes:	ND: No Deposit	NMR: No Measurement Required											
	Highlighted data indicate that a monthly effluent quality standard was exceeded for that month.	Pass: ≤50% Mortality Fail: >50% Mortality											
	A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.												

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Williams Mine												
Operator Name	Williams Operating Corporation												
Product (s)	Gold												
Address	P.O. Box 500, Marathon, Ontario P0T 2E0												
Effluent Discharge Point	Treated Effluent Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	0.000	0.000	0.000	0.000	0.000	0.000	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	0.020	0.020	0.010	0.040	0.030	0.020	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	0.010	0.030	0.020	0.020	0.030	0.030	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	0.000	0.000	0.000	0.000	0.010	0.000	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	0.090	0.120	0.110	0.150	0.150	0.150	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	0.009	0.010	0.000	0.020	0.020	0.010	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	3.200	0.000	0.000	0.000	0.000	0.000	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	0.009	0.010	0.000	0.010	0.010	0.000	ND	ND
pH low	≥6.0	ND	ND	ND	ND	7.5	7.5	7.5	7.5	7.3	7.4	ND	ND
pH high	≤9.5	ND	ND	ND	ND	7.5	7.7	7.7	7.7	7.6	7.6	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	67 675	430 395	445 817	445 470	431 034	431 498	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	-	1	1	1	1	2	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	-	1	1	1	1	2	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: No toxicity test result was provided for May. Effluent discharge started on May 27, 2003. pH range for October was corrected from the quarterly report.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													

Metal Mining Effluent Regulations (MMER)
2003 Effluent Compliance

Mine/Mill Name	Williams Mine												
Operator Name	Williams Operating Corporation												
Product (s)	Gold												
Address	P.O. Box 500, Marathon, Ontario P0T 2E0												
Effluent Discharge Point	Pond 400 Discharge												
Parameters	Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
As (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cu (mg/L)	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CN (mg/L)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pb (mg/L)	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ni (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zn (mg/L)	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (mg/L)	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ra-226 (Bq/L)	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH low	≥6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH high	≤9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flow (m ³ /month)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Rainbow Trout	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acute Lethality Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia magna</i>	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monitoring Test	Fail	-	-	-	-	-	-	-	-	-	-	-	-
Comments: No effluent discharge in 2003.													
Notes: ND: No Deposit NMR: No Measurement Required Pass: ≤50% Mortality Fail: >50% Mortality Highlighted data indicate that a monthly effluent quality standard was exceeded for that month. A "Pass" for <i>Daphnia magna</i> monitoring test is not a requirement.													