REPORT ON VARIOUS TOXIC SUBSTANCE REDUCTION PLANS (JUNE 2013)

This Report on Toxic Substance Reduction Plans has been prepared in accordance with, and satisfies the requirements of Section 10 of the *Toxics Reduction Act* (TRA) and Section 27 of Ontario Regulation (O.Reg.) 455/09 for TRA toxic substances listed in the table below.

Basic Facility Information

Mandatory Basic Facility Information Item	Details
Substance Name and Chemical Abstracts Service (CAS) Registry Number for the Substance(s) whose Toxic Substance Reduction Plans are covered by this Report on Toxic Substance Reduction Plans	This Plan Summary applies to the Toxic Substance Reduction Plans for the following prescribed Toxic Substances: Arsenic, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Zinc (Per O.Reg. 455/09; "no single CAS numbers apply to these substances"), Vanadium (CAS number 7440-62-2) and Hydrochloric Acid (CAS number 7647-01-0)
National Pollutant Release Inventory (NPRI) and O.Reg.127/01 Identification Numbers	NPRI ID: 5656 O.Reg.127/01 ID: N/A
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	Musselwhite Mine Goldcorp Canada Ltd. Kenora District, Ontario, Canada P7B 6S8
The number of full time employee equivalents at the facility	484
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	21 – Mining & Oil & Gas Extraction 2122 – Metal Ore Mining 212220 – Gold & Silver Ore Mining
Public contact	Shane Matson Sr. Environmental Coordinator Goldcorp Canada Ltd. Musselwhite Mine P.O. Box 7500 Thunder Bay Ontario P7B 6S8 (807) 928-2200 Extension 6243
The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum	UTM Zone 15 678336 E, 5831032 N
Parent Company Information	Goldcorp Inc. Suite 3400-666 Burrard Street, Park Place Vancouver, BC V6C 2X8 (604) 696-3000

List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

Arsenic*

Cadmium*

Chromium*

Cobalt*

Copper*

Lead*

Manganese*

Nickel*

Zinc*

Vanadium [CAS number 7440-62-2]

Cyanides (Ionic)*

Hydrochloric Acid [CAS number 7647-01-0]

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"

Toxic Substance Accounting Information

Refer to Appendix A: TRA Toxic Substance Quantification and Accounting Summary for the information required under s.12(1) of O.Reg.455/09.

Comparison of Toxic Substance Accounting to the Previous Calendar Year

Refer to Appendix B: Comparison of Toxic Substance Quantification and Accounting to the Previous Calendar Year for the information required by s.26(2) of O.Reg.455/09.

Changes in Quantification Methods

There were no changes made to any quantification methods since the preparation of the Toxic Substance accounting information for the previous calendar year and therefore no changes outlined in the above comparison occurred due to changes in quantification methods.

Objectives of Toxic Substance Reduction Plans

Refer to Appendix C: Plan Summaries which contains objectives of the respective Toxic Substance Reduction Plans covered by this Report, as required by s.26(2)3 of O.Reg. 455/09.

Toxic Substance Reduction Options Identified in Toxic Substance Reduction Plans

As outlined in the Plan Summaries attached in Appendix C, no toxic substance reduction options were identified in any of the respective Plans and therefore the information required by s.26(2)4, s.26(2)5 and s.26(2)6 is not applicable for this Report.

Amendments to Toxic Substance Reduction Plans

No Amendments have been made to any Toxic Substance Reduction Plans.

Certification Statement

As of June 3 2013, I certify that I have read the Report on the toxic substance reduction plans for the substances listed below and am familiar with its content and to my knowledge the information contained in the Report is factually accurate and the Report complies with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under the Act.

Arsenic*

Cadmium*

Chromium*

Cobalt*

Copper*

Lead*

Manganese*

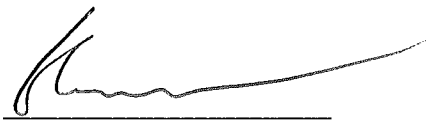
Nickel*

Zinc*

Vanadium [CAS number 7440-62-2]

Hydrochloric Acid [CAS number 7647-01-0]

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"



June 3, 2013

Gil Lawson

Date

APPENDIX A: TRA TOXIC SUBSTANCE QUANTIFICATION AND ACCOUNTING SUMMARY

TRA Toxic Substance Quantification and Accounting Summary

Toxic Substance	CAS No.*	Public Reportable Values (Report to Public)			
		Unit	Use	Creation	Contained in Product
Arsenic	N/A-2	kg	>10,000 to 100,000	0 to 1	0 to 1
Cadmium	N/A-3	kg	>1,000 to 10,000	0 to 1	0 to 1
Chromium	N/A-4	tonnes	>100 to 1,000	0 to 1	0 to 1
Cobalt	N/A-5	tonnes	>10 to 100	0 to 1	0 to 1
Copper	N/A-6	tonnes	>100 to 1,000	0 to 1	0 to 1
Lead	N/A-8	tonnes	>100 to 1,000	0 to 1	0 to 1
Manganese	N/A-9	tonnes	>100 to 1,000	0 to 1	0 to 1
Nickel	N/A-10	tonnes	>10 to 100	0 to 1	0 to 1
Phosphorus	N/A-17	tonnes	>100 to 1,000	0 to 1	0 to 1
Vanadium	7440-62-2	tonnes	>10 to 100	0 to 1	0 to 1
Zinc	N/A-14	tonnes	>10 to 100	0 to 1	0 to 1
Hydrochloric acid	7647-01-0	tonnes	>10 to 100	0 to 1	0 to 1

* Substances with CAS Numbers starting with "N/A" do not have CAS Numbers in NPRI or TRA guidance. The CAS Numbers assigned those substances are arbitrary CAS Numbers used for the purpose of this workbook.

APPENDIX B: COMPARISON OF TOXIC SUBSTANCE QUANTIFICATION AND ACCOUNTING TO THE PREVIOUS CALENDAR YEAR

TRA Quantification, Accounting and Reporting Comparison

The table below provides a comparison between the three TRA reportable activity quantities for each substance (Use, Creation, Contained in Product) for the current and previous year. The TRA requires a comment in the SWIM report for increases or decreases in these activities as compared to the previous year and therefore the comment provided on the column on the far right of each table should be provided within SWIM.

USE

Toxic Substance	CAS*	Reportable for the Current Year?	Reporting Units	Change in Reportable Value [Reporting Unit]	% Change	Comment if Change +/- 10%
Arsenic	N/A-2	YES	kg	-5,653	-10%	Change in Production Levels
Cadmium	N/A-3	YES	kg	-589	-10%	Change in Production Levels
Chromium	N/A-4	YES	tonnes	-11	-10%	Change in Production Levels
Cobalt	N/A-5	YES	tonnes	-1	-10%	Change in Production Levels
Copper	N/A-6	YES	tonnes	-12	-8%	Change in Production Levels
Lead	N/A-8	YES	kg	-49,041	-11%	Change in Production Levels
Manganese	N/A-9	YES	tonnes	-94	-10%	Change in Production Levels
Nickel	N/A-10	YES	tonnes	-5	-10%	Change in Production Levels
Phosphorus	N/A-17	YES	tonnes	-84	-10%	Change in Production Levels
Vanadium	7440-62-2	YES	tonnes	-9	-10%	Change in Production Levels
Zinc	N/A-14	YES	tonnes	-4	-10%	Change in Production Levels
Hydrochloric acid	7647-01-0	YES	tonnes	2	8%	Change in Production Levels

CREATION

Toxic Substance	CAS*	Reportable for the Current Year?	Reporting Units	Change in Reportable Value [Reporting Unit]	% Change	Comment if Change +/- 10%
Arsenic	N/A-2	YES	kg	0	—	—
Cadmium	N/A-3	YES	kg	0	—	—
Chromium	N/A-4	YES	tonnes	0	—	—
Cobalt	N/A-5	YES	tonnes	0	—	—
Copper	N/A-6	YES	tonnes	0	—	—
Lead	N/A-8	YES	kg	0	—	—
Manganese	N/A-9	YES	tonnes	0	—	—
Nickel	N/A-10	YES	tonnes	0	—	—
Phosphorus	N/A-17	YES	tonnes	0	—	—
Vanadium	7440-62-2	YES	tonnes	0	—	—
Zinc	N/A-14	YES	tonnes	0	—	—
Hydrochloric acid	7647-01-0	YES	tonnes	0	—	—

CONTAINED IN PRODUCT

Toxic Substance	CAS*	Reportable for the Current Year?	Reporting Units	Change in Reportable Value [Reporting Unit]	% Change	Comment if Change +/- 10%
Arsenic	N/A-2	YES	kg	0	—	—
Cadmium	N/A-3	YES	kg	0	—	—
Chromium	N/A-4	YES	tonnes	0	—	—
Cobalt	N/A-5	YES	tonnes	0	—	—
Copper	N/A-6	YES	tonnes	0	—	—
Lead	N/A-8	YES	kg	0	—	—
Manganese	N/A-9	YES	tonnes	0	—	—
Nickel	N/A-10	YES	tonnes	0	—	—
Phosphorus	N/A-17	YES	tonnes	0	—	—
Vanadium	7440-62-2	YES	tonnes	0	—	—
Zinc	N/A-14	YES	tonnes	0	—	—
Hydrochloric acid	7647-01-0	YES	tonnes	0	—	—

* Substances with CAS Numbers starting with "N/A" do not have CAS Numbers in NPRI or TRA guidance. The CAS Numbers assigned those substances are arbitrary CAS Numbers used for the purpose of this workbook.

APPENDIX C: PLAN SUMMARIES

TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

This Toxic Substance Reduction Plan Summary has been prepared in accordance with Section 8(2) of the *Toxics Reduction Act* and satisfies the minimum Plan Summary content requirements stipulated in Section 24 of Ontario Regulation (O.Reg.) 455/09.

Basic Facility Information

Mandatory Basic Facility Information Item	Details
Substance Name and Chemical Abstracts Service (CAS) Registry Number for the Substance whose Toxic Substance Reduction Plans are summarized by this this Plan Summary	Hydrochloric Acid (CAS No. 7647-01-0)
National Pollutant Release Inventory (NPRI) and O. Reg. 127/01 Identification Numbers	NPRI ID: 5656 O.Reg.127/01 ID: N/A
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	Musselwhite Mine Goldcorp Canada Ltd. Kenora District, Ontario, Canada P0V 1C0
The number of full time employee equivalents at the facility	484
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	21 – Mining & Oil & Gas Extraction 2122 – Metal Ore Mining 212220 – Gold & Silver Ore Mining
Public contact	Shane Matson Sr. Environmental Coordinator Goldcorp Canada Ltd. Musselwhite Mine P.O. Box 7500 Thunder Bay Ontario P7B 6S8 (807) 928-2200 Extension 6243
The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum	UTM Zone 15 678336 E, 5831032 N
Parent Company Information	Goldcorp Inc. Suite 3400-666 Burrard Street, Park Place Vancouver, BC V6C 2X8 (604) 696-3000

List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

Arsenic*

Cadmium*

Chromium*

Cobalt*

Copper*

Lead*

Manganese*

Nickel*

Phosphorus*

Zinc*

Vanadium [CAS number 7440-62-2]

Cyanides (Ionic)*

Hydrochloric Acid [CAS number 7647-01-0]

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"

Statement of Intent

As required by s.4(1) of the TRA, a Plan must include either a statement of the Facility's intent to reduce the use and/or creation of the Toxic Substance at the Facility, or the reasons for not including this statement, as well as objectives of the Plan.

A statement of the Facility's intent to reduce use of the Toxic Substance has not been included as a part of this Plan. The Toxic Substance is never created within the Facility's process and therefore no statement with respect to intent to reduce creation of the Toxic Substance is required.

The Facility is of the opinion it has previously optimized its use of the Toxic Substance using the best available technology and practices that are economically achievable at this time. This opinion is supported by the following three aspects which influence the way in which the Facility uses the Toxic Substance:

1) Plans, Policies and Procedures that Are Currently in Place at the Facility

The Facility currently has several standard policies and procedures in place which dictate practices at the Facility pertaining to the Toxic Substance, from operational and health and safety standpoints. These policies and procedures include the following:

- Procedure for Unloading Hydrochloric Acid.
- Procedure for Receiving Reagents.
- Procedure for Hydrochloric Acid Wash and Mixing.
- Spill Prevention, Contingency and Reporting Plan.
- Environmental Emergency Plan for Hydrochloric Acid.
- Mill Common Core Module.

The above noted standard plans, policies and procedures provide a framework for the safe use of hydrochloric acid, as well as step-by-step instructions on how hydrochloric acid is to be used within the Facility process.

The Facility is of the opinion that development and implementation of the above noted policies and procedures result in the safest and most efficient use of the Toxic Substance which can reasonably be expected.

2) Compliance with Environmental Legislation Pertaining to the Toxic Substance

The Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance, and possesses all applicable environmental approvals including:

- Air and Noise Approvals under s.9 of the Ontario *Environmental Protection Act*;
- Water Discharge Permit under the Ontario *Water Resources Act*; and
- Waste Permit under s.V of the Ontario *Environmental Protection Act* (Waste Generator number ON0434407).

The MOE has stated that the TRA is not intended to focus on these "end of pipe" emissions, however, the fact that the Facility meets or exceeds the strict release limits imposed by these regulations, despite the relatively large amount of the Toxic Substance that is required to be used in order to operate the Facility, is a further indication of optimal use of the Toxic Substance at the Facility.

3) Economic Factors Associated with the Use of the Toxic Substance

The purchase of the product which contains the Toxic Substance is a significant capital expenditure and therefore optimizing the use of the product which contains the Toxic Substance is in the Facility's best interest as it is directly related to cost control.

Throughout the course of achieving the current level of process and practice optimization with respect to the Toxic Substance, and considering the above noted aspects which influence the Facility's use of the Toxic Substance, the Facility has considered options to reduce its use of the Toxic Substance and has already completed internal assessments of some initiatives which could constitute toxic substance reduction options that could otherwise be identified for the purposes of this Plan. Some of these initiatives are mentioned within this Plan, however, they have not been provided as toxic substance reduction options for the purposes of this Plan since they have previously been deemed not to be feasible or implemented.

Objectives of the Toxic Substance Reduction Plan

The Objectives of the Plan are as follows:

- provide the reader with information on measures currently in place at the Facility which influence the way in which the Toxic Substance is used at the Facility;
- provide support for the Facility's position with respect to the Statement of Intent of this Plan; and
- document how, by preparing this Plan, the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.

Description of Why the Toxic Substance Is Used or Created

Hydrochloric acid is used at the Facility to remove lime buildup on the activated carbon that is used to recover gold in the carbon circuit. This use of the Toxic Substance allows for the re-use of the activated carbon within the carbon circuit, which is a significant cost saving measure for the Facility and a common practice within the gold ore processing industry. Currently no other reagent is known in the gold ore processing industry to be as effective as hydrochloric acid for this application. The Toxic Substance is never created at the Facility.

The removal of carbonate build-up is a non-continuous process that is completed only occasionally, as needed.

There may also be a small amount of the Toxic Substance that is occasionally used in the Facility's assay laboratory. This amount is very minor in comparison to the amount that is used in the Facility's process and therefore this Plan does not focus on this minor use of the Toxic Substance.

Rationale for Not Implementing Toxic Substance Reduction Options

As required by s.18(4) of O.Reg.455/09 (as amended by s.9(3) of O.Reg.214/11), a Plan must contain an explanation of why no toxic substance reduction options will be implemented.

Facility personnel have considered each of the seven categories for toxic substance reduction options, and, in light of the information provided in the Statement of Intent section of this Plan, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories.

Therefore the rationale for not implementing toxic substance reduction options is that no toxic substance reduction options could be identified.

Statement that the Plan Summary Accurately Reflects the Current Version of the Plan

As required by s.24(1)8 of O.Reg.455/09 this Plan Summary accurately reflects the current version of the Plan.

Planner License Number

As required by s.18(2) of O.Reg.455/09 (as amended by s. 9(2) of O.Reg.214/11), the Licensed Toxic Substance Reduction Planner responsible for providing Planner Recommendations on and certification of this Plan is as follows:

Russell Polack
Air Quality Specialist
Golder Associates Ltd.
Toxic Substance Reduction Planner License Number TSRP0002

Copies of the Certification

Certification statements are provided in the following page.

TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

This Toxic Substance Reduction Plan Summary has been prepared in accordance with Section 8(2) of the Toxics Reduction Act and satisfies the minimum Plan Summary content requirements stipulated in Section 24 of Ontario Regulation (O.Reg.) 455/09.

Basic Facility Information

Mandatory Basic Facility Information Item	Details
Substance Name and Chemical Abstracts Service (CAS) Registry Number for the Substance(s) whose Toxic Substance Reduction Plans are summarized by this this Plan Summary	This Plan Summary applies to the Toxic Substance Reduction Plans for the following prescribed Toxic Substances: Arsenic, Cadmium, Chromium, Cobalt, Manganese, Nickel, Phosphorus, Zinc (Per O.Reg. 455/09; "no single CAS numbers apply to these substances") and Vanadium (CAS number 7440-62-2)
National Pollutant Release Inventory (NPRI) and O.Reg.127/01 Identification Numbers	NPRI ID: 5656 O.Reg.127/01 ID: N/A
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	Musselwhite Mine Goldcorp Canada Ltd. Kenora District, Ontario, Canada P0V 1C0
The number of full time employee equivalents at the facility	484
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	21 – Mining & Oil & Gas Extraction 2122 – Metal Ore Mining 212220 – Gold & Silver Ore Mining
Public contact	Shane Matson Sr. Environmental Coordinator Goldcorp Canada Ltd. Musselwhite Mine P.O. Box 7500 Thunder Bay Ontario P7B 6S8 (807) 928-2200 Extension 6243
The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum	UTM Zone 17 482866 E, 5368194 N
Parent Company Information	Goldcorp Inc. Suite 3400-666 Burrard Street, Park Place Vancouver, BC V6C 2X8 (604) 696-3000

List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

Arsenic*

Cadmium*

Chromium*

Cobalt*

Copper*

Lead*

Manganese*

Nickel*

Phosphorus*

Zinc*

Vanadium [CAS number 7440-62-2]

Cyanides (Ionic)*

Hydrochloric Acid [CAS number 7647-01-0]

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"

Statement of Intent

As required by s.4(1) of the TRA, a Plan must include either a statement of the Facility's intent to reduce the use and/or creation of the Toxic Substance at the Facility, or the reasons for not including this statement.

A statement of the Facility's intent to reduce its "use" of the Toxic Substance has not been included as a part of this Plan. The Toxic Substance is never created within the Facility's process and therefore no statement with respect to intent to reduce creation of the Toxic Substance is required.

The Facility is captured by the requirements of the TRA pertaining to the Toxic Substance since the Facility meets the TRA's definition of target facilities "with North American Industry Classification System (NAICS) codes commencing with the digits 212 (mining – except oil and gas – that processes minerals, but only if the mineral processing at the facility involves the use of chemicals to separate, refine, smelt or concentrate metallic or non-metallic minerals from an ore)" and also triggered the Toxic Substance's TRA reporting threshold, which was adopted by the TRA from National Pollutant Release Inventory (NPRI).

Per guidance pertaining to the Toxic Substance, reporting is triggered if the Toxic Substance was "manufactured, processed, or otherwise used" (MPO) in the previous calendar year in an amount that is greater than a specified quantity. In the Facility's case, and following MOE guidance, processing of ore in which the Toxic Substance occurs naturally, at typical background concentrations and as a component of a mineral, meets the definition of MPO, despite the fact that the Toxic Substance's presence is due to natural occurrence in mined ore and the Toxic Substance travels through the Facility's gold extraction process without undergoing any significant chemical change.

Although the Toxic Substance is present in trace amounts in the processed ore, the Toxic Substance's "use"-based reporting threshold was exceeded due to the large quantity of ore that is processed at the Facility on an annual basis.

As a result, and in accordance with the TRA, this specified quantity has been reported to the MOE as a "use" of the Toxic Substance as a part of a mandatory Toxic Substance quantification, accounting and reporting exercise.

This document satisfies the additional TRA requirement of Toxic Substance Reduction Plan preparation, which requires the Facility to systematically examine opportunities to reduce its "use" of the Toxic Substance. Unlike tracking, accounting, reporting and preparation of a Toxic Substance Reduction Plan which are all requirements; the implementation toxic substance reduction options identified in the Plan (if any) is not a requirement of the TRA or O.Reg.455/09.

The Facility understands the benefits to reducing the use and creation of toxic substances, informing Ontarians about toxic substances in their community and helping Ontario position itself to compete in an increasingly green global economy. However, due to the fact that the only Facility activity which the TRA has defined as a "use" of the Toxic Substance is the processing of ore in which the Toxic Substance occurs naturally, there are no opportunities to reduce the "use" of the Toxic Substance aside from reducing the Facility's ore production.

As a part of fulfilling its requirements under the TRA and O.Reg.455/09, the Facility has prepared a total of nine Toxic Substance Reduction Plans and Plan Summaries for naturally occurring elements which are prescribed toxic substances and whose "use" cannot be reduced based on the factors presented above.

The MOE has stated that the TRA is not intended to focus on "end of pipe" emissions as they don't necessarily have any bearing on the amount of a substance that is "used" or "created," however the Facility would like to take this opportunity to inform the reader of the fact that the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance; meeting or exceeding the strict release limits imposed by these regulations for the Toxic Substance.

Objectives of the Toxic Substance Reduction Plan

The Objectives of the Plan are as follows:

- provide support for the Facility's position with respect to the Statement of Intent by providing an explanation of how the TRA's definition of the word "use", as applied to the Toxic Substance, renders it impossible to reduce the "use" of the Toxic Substance without reducing Facility production;

- provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a "use" of the Toxic Substance; and

- document how the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.

Description of Why the Toxic Substance Is Used or Created

As stated elsewhere in this Plan, the Facility activity that the MOE has defined for the purpose of the TRA as a "use" of the Toxic Substance is the handling and processing of mined materials in which the Toxic Substance occurs naturally, at typical background concentrations in the region and as a component of a mineral. Since the Toxic Substance occurs naturally in mined materials, and the Facility is a mining and mineral processing facility, it is impossible to reduce this "use" of the Toxic Substance without reducing the Facility's ore production. The Toxic Substance simply travels through the Facility process along with all other non-gold materials without undergoing any significant chemical change. It is impossible for the Toxic Substance to be created within the Facility process, since the Toxic Substance is reportable under the TRA and O.Reg.455/09 as an elemental mass contribution to the material in which it may be a component.

Rationale for Not Implementing Toxic Substance Reduction Options

As required by s.18(4) of O.Reg.455/09 (as amended by s.9(3) of O.Reg.214/11), a Plan must contain an explanation of why no toxic substance reduction options will be implemented.

Facility personnel have considered each of the seven categories for toxic substance reduction options, and, in light of the information provided in the Statement of Intent section of this Plan, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories.

Therefore the rationale for not implementing toxic substance reduction options is that no toxic substance reduction options could be identified.

Statement that the Plan Summary Accurately Reflects the Current Version of the Plan

As required by s.24(1)8 of O.Reg.455/09 this Plan Summary accurately reflects the current version of the Plan.

Planner License Number

As required by s.18(2) of O.Reg.455/09 (as amended by s. 9(2) of O.Reg.214/11), the Licensed Toxic Substance Reduction Planner responsible for providing Planner Recommendations on and certification of this Plan is as follows:

Russell Polack
Air Quality Specialist
Golder Associates Ltd.
Toxic Substance Reduction Planner License Number TSRP0002

Copies of the Certification

Certification statements are provided in the following page.

TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

This Toxic Substance Reduction Plan Summary has been prepared in accordance with Section 8(2) of the *Toxics Reduction Act* and satisfies the minimum Plan Summary content requirements stipulated in Section 24 of Ontario Regulation (O.Reg.) 455/09.

Basic Facility Information

Mandatory Basic Facility Information Item	Details
Substance Name and Chemical Abstracts Service (CAS) Registry Number for the Substance whose Toxic Substance Reduction Plans are summarized by this this Plan Summary	Copper (Per O.Reg.455/09; "no single CAS numbers apply to these substances")
National Pollutant Release Inventory (NPRI) and O.Reg.127/01 Identification Numbers	NPRI ID: 5656 O.Reg.127/01 ID: N/A
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	Musselwhite Mine Goldcorp Canada Ltd. Kenora District, Ontario, Canada P0V 1C0
The number of full time employee equivalents at the facility	484
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	21 – Mining & Oil & Gas Extraction 2122 – Metal Ore Mining 212220 – Gold & Silver Ore Mining
Public contact	Shane Matson Sr. Environmental Coordinator Goldcorp Canada Ltd. Musselwhite Mine P.O. Box 7500 Thunder Bay Ontario P7B 6S8 (807) 928-2200 Extension 6243
The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum	UTM Zone 15 678336 E, 5831032 N
Parent Company Information	Goldcorp Inc. Suite 3400-666 Burrard Street, Park Place Vancouver, BC V6C 2X8 (604) 696-3000

List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

Arsenic*

Cadmium*

Chromium*

Cobalt*

Copper*

Lead*

Manganese*

Nickel*

Phosphorus*

Zinc*

Vanadium [CAS number 7440-62-2]

Cyanides (Ionic)*

Hydrochloric Acid [CAS number 7647-01-0]

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"

Statement of Intent

As required by s.4(1) of the TRA, a Plan must include either a statement of the Facility's intent to reduce the use and/or creation of the Toxic Substance at the Facility, or the reasons for not including this statement, as well as objectives of the Plan.

A statement of the Facility's intent to reduce use of the Toxic Substance has not been included as a part of this Plan. The Toxic Substance is never created within the Facility's process and therefore no statement with respect to intent to reduce creation of the Toxic Substance is required.

The Toxic Substance has triggered reporting under the TRA and O.Reg.455/09 due to two activities at the Facility which are defined as "uses" of the Toxic Substance under the TRA framework.

The first Facility activity defined as a "use" is the processing of mined ore in which the Toxic Substance occurs naturally. In this case, the Toxic Substance flows through the Facility process without undergoing any chemical change and, due to its natural occurrence in feedstock, this Facility activity which the TRA has defined as a "use" of the Toxic Substance can only be reduced by reducing the Facility's production. Therefore, this Toxic Substance Reduction Plan does not address this "use" of the Toxic Substance any further.

The second activity which is defined as a "use" under the TRA framework is the use of the Toxic Substance in the form of copper sulphate which is a key component contributing to the destruction of cyanide (another prescribed toxic substance) within the Facility's detox system; a process component which is dedicated to cyanide destruction.

The Facility feels that its use of the copper sulphate product which contains the Toxic Substance is essential in destroying cyanide which is extremely important from an environmental standpoint.

The Facility is of the opinion that that it has previously optimized its use of the Toxic Substance using the best available technology and practices that are economically achievable at this time. This opinion is supported by the following three aspects which influence the way in which the Facility uses the Toxic Substance:

1) Plans, Policies and Procedures that Are Currently in Place at the Facility

The Facility currently has several standard policies and procedures in place which dictate practices at the Facility pertaining to the Toxic Substance, from operational and health and safety standpoints. These policies and procedures include the following:

- Procedure for Mixing Copper Sulphate.
- Procedure for Receiving Reagents.
- Spill Prevention, Contingency and Reporting Plan.

The above noted standard policies and procedures provide a framework for the safe use of copper sulphate, as well as step-by-step instructions on how copper sulphate is to be used within the Facility process.
The Facility is of the opinion that development and implementation of the above noted policies and procedures result in the safest and most efficient use of the Toxic Substance which can reasonably be expected.

2) Compliance with Environmental Legislation Pertaining to the Toxic Substance

The Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance, and possesses all applicable environmental approvals including:

- Air and Noise Approvals under s.9 of the Ontario *Environmental Protection Act*;
- Water Discharge Permit under the Ontario *Water Resources Act*; and
- Waste Permit under s.V of the Ontario *Environmental Protection Act* (Waste Generator number ON0434407).

The Ontario Ministry of the Environment has stated that the TRA is not intended to focus on these "end of pipe" emissions, however, the fact that the Facility meets or exceeds the strict release limits imposed by these regulations, despite the relatively large amount of the Toxic Substance that is required to be used in order to operate the Facility, is a further indication of optimal use of the Toxic Substance at the Facility.

3) Economic Factors Associated with the Use of the Toxic Substance

Excluding the "use" of the Toxic Substance as a component of processed ore, the purchase of the lone product that is used at the Facility which contains the Toxic Substance is a significant capital expenditure and therefore optimizing the use of the product which contains the Toxic Substance is in the Facility's best interest as it is directly related to cost control.

Throughout the course of achieving the current level of process and practice optimization with respect to the Toxic Substance, and considering the above noted aspects which influence the Facility's use of the Toxic Substance, the Facility has considered options to reduce its use of the Toxic Substance and has already completed internal assessments of some initiatives which could constitute toxic substance reduction options that could otherwise be identified for the purposes of this Plan.

Objectives of the Toxic Substance Reduction Plan

The objectives of this Plan are as follows:

- provide the reader with information on measures currently in place at the Facility which influence the way in which the Toxic Substance is used at the Facility;
- provide support for the Facility's position with respect to the Statement of Intent of this Plan; and
- document how, by preparing this Plan, the Facility has fulfilled the applicable requirements under the TRA and O.Reg.455/09 with respect to the Toxic Substance.

Description of Why the Toxic Substance Is Used or Created

The Toxic Substance is a component of copper sulphate, which is a key reagent in the destruction of cyanide in the Facility's detox process. Metal cyanides are oxidized to cyanate (much less toxic than cyanide) by sulphur dioxide and air in the presence of a soluble copper catalyst (copper sulphate). Current cyanide destruction measures at the Facility result in effluent discharge which complies with applicable environmental regulations.

Rationale for Not Implementing Toxic Substance Reduction Options

As required by s.18(4) of O.Reg.455/09 (as amended by s.9(3) of O.Reg.214/11), a Plan must contain an explanation of why no toxic substance reduction options will be implemented.

Facility personnel have considered each of the seven categories for toxic substance reduction options, and, in light of the information provided in the Statement of Intent section of this Plan, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories.

Therefore the rationale for not implementing toxic substance reduction options is that no toxic substance reduction options could be identified.

Statement that the Plan Summary Accurately Reflects the Current Version of the Plan

As required by s.24(1)8 of O.Reg.455/09 this Plan Summary accurately reflects the current version of the Plan.

Planner License Number

As required by s.18(2) of O.Reg.455/09 (as amended by s. 9(2) of O.Reg.214/11), the Licensed Toxic Substance Reduction Planner responsible for providing Planner Recommendations on and certification of this Plan is as follows:

Russell Polack
Air Quality Specialist
Golder Associates Ltd.
Toxic Substance Reduction Planner License Number TSRP0002

Copies of the Certification

Certification statements are provided in the following page.

TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

This Toxic Substance Reduction Plan Summary has been prepared in accordance with Section 8(2) of the Toxics Reduction Act and satisfies the minimum Plan Summary content requirements stipulated in Section 24 of Ontario Regulation (O.Reg.) 455/09.

Basic Facility Information

Mandatory Basic Facility Information Item	Details
Substance Name and Chemical Abstracts Service (CAS) Registry Number for the Substance(s) whose Toxic Substance Reduction Plans are summarized by this this Plan Summary	Lead (Per O.Reg. 455/09; "no single CAS number applies to these substances")
National Pollutant Release Inventory (NPRI) and O.Reg.127/01 Identification Numbers	NPRI ID: 5656 O.Reg.127/01 ID: N/A
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	Musselwhite Mine Goldcorp Canada Ltd. Kenora District, Ontario, Canada P0V 1C0
The number of full time employee equivalents at the facility	484
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	21 – Mining & Oil & Gas Extraction 2122 – Metal Ore Mining 212220 – Gold & Silver Ore Mining
Public contact	Shane Matson Sr. Environmental Coordinator Goldcorp Canada Ltd. Musselwhite Mine P.O. Box 7500 Thunder Bay Ontario P7B 6S8 (807) 928-2200 Extension 6243
The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum	UTM Zone 15 678336 E, 5831032 N
Parent Company Information	Goldcorp Inc. Suite 3400-666 Burrard Street, Park Place Vancouver, BC V6C 2X8 (604) 696-3000

List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

Arsenic*

Cadmium*

Chromium*

Cobalt*

Copper*

Lead*

Manganese*

Nickel*

Phosphorus*

Zinc*

Vanadium [CAS number 7440-62-2]

Cyanides (Ionic)*

Hydrochloric Acid [CAS number 7647-01-0]

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"

Statement of Intent

As required by s.4(1) of the TRA, a Plan must include either a statement of the Facility's intent to reduce the use and/or creation of the Toxic Substance at the Facility, or the reasons for not including this statement, as well as objectives of the Plan.

A statement of the Facility's intent to reduce use of the Toxic Substance has not been included as a part of this Plan. The Toxic Substance is never created within the Facility's process and therefore no statement with respect to intent to reduce creation of the Toxic Substance is required.

The Toxic Substance has triggered reporting under the TRA and O.Reg.455/09 due to two activities at the Facility which are defined as "uses" of the Toxic Substance under the TRA framework.

The first Facility activity defined as a "use" is the processing of mined ore in which the Toxic Substance occurs naturally. In this case, the Toxic Substance flows through the Facility process without undergoing any chemical change and, due to its natural occurrence in feedstock, this Facility activity which the TRA has defined as a "use" of the Toxic Substance can only be reduced by reducing the Facility's production.

The second activity which is defined as a use under the TRA framework is the use of the Toxic Substance as a component of lead nitrate which is a reagent that is commonly added to gold extraction processes at facilities which process sulphide gold ore. This reagent is known to increase gold recovery within the process and therefore the Facility feels the use of this reagent which contains the Toxic Substance is essential to the business.

After completing the TRA exercise for the above noted use of the Toxic Substance, the Facility is of the opinion that it has previously optimized this use of the Toxic Substance using the best available technology and practices that are economically achievable at this time. No obvious toxic substance reduction options were revealed by undertaking the TRA exercise with respect to the Toxic Substance.

It should also be noted that the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substances; meeting or exceeding the strict release limits imposed by these regulations for the Toxic Substance.

Objectives of the Toxic Substance Reduction Plan

The Objectives of the Plan are as follows:

- provide support for the Facility's position with respect to the Statement of Intent of this Plan; and
- document how the Facility has fulfilled the applicable requirements under the TRA and O. Reg. 455/09 with respect to the Toxic Substance.

Description of Why the Toxic Substance Is Used or Created

As stated elsewhere in this Plan, the Toxic Substance has triggered reporting under the TRA and O.Reg.455/09 due to two activities at the Facility which are defined as "uses" of the Toxic Substance under the TRA framework.

The first Facility activity defined as a "use" is the processing of mined ore in which the Toxic Substance occurs naturally. In this case, the Toxic Substance flows through the Facility process without undergoing any chemical change and, due to its natural occurrence in feedstock, this Facility activity which the TRA has defined as a "use" of the Toxic Substance can only be reduced by reducing the Facility's production.

The second activity which is defined as a use under the TRA framework is the use of the Toxic Substance as a component of lead nitrate which is a reagent that is commonly added to gold extraction processes at facilities which process sulphide gold ore. This reagent is known to increase gold recovery within the process.

Rationale for Not Implementing Toxic Substance Reduction Options

As required by s.18(4) of O.Reg.455/09 (as amended by s.9(3) of O.Reg.214/11), a Plan must contain an explanation of why no toxic substance reduction options will be implemented.

Facility personnel have considered each of the seven categories for toxic substance reduction options, and, in light of the information provided in the Statement of Intent section of this Plan, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories.

Therefore the rationale for not implementing toxic substance reduction options is that no toxic substance reduction options could be identified.

Planner License Number

As required by s.18(2) of O.Reg.455/09 (as amended by s. 9(2) of O.Reg.214/11), the Licensed Toxic Substance Reduction Planner responsible for providing Planner Recommendations on and certification of this Plan is as follows:

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