

## 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 Plan for the prescribed Toxic Substance "Nitrogen Oxides" [CAS number 11104-93-1]
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 POV 1C0
The number of full time employee equivalents at the facility	569
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]

Particulate Matter\*

PM10\*

PM2.5\*

Nitrogen Oxides [CAS number 11104-93-1]

Carbon Monoxide [CAS number 630-08-0]

Ammonia (Total)\*

Nitrate Ion\*

\*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 "creation" of the Toxic Substance has not been included as a part of this Plan. The Toxic Substance cannot be "used" in the Facility process and therefore no statement with respect to intent to reduce use of the Toxic Substance is required.

The Toxic Substance has triggered reporting under the TRA and O.Reg.455/09 due to its generation as a by-product of combustion of fuels in stationary equipment and detonation of explosives, which are classified as a "creation" of the Toxic Substance for the purpose of the required TRA Quantification, Accounting and Reporting exercise for the Toxic Substance.

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 in this case, "end of pipe" emission of the Toxic Substance are the determining factor of the Facility's TRA reporting status with respect to the Toxic Substance.

Despite the Facility's reporting status with respect to the Toxic Substance, the Facility feels that it has previously optimized its control of the "creation" and subsequent release of the Toxic Substance to the greatest extent that can reasonably be expected. This opinion is supported by the following two aspects:

### 1) Compliance with Regulatory Requirements

It is well documented that the release of combustion products such as the Toxic Substance is an inherent by-product of mining and mineral processing and that the activities leading to the release of combustion products are essential to the process of mining and mineral processing. In recognition of this, the MOE has imposed various regulatory requirements related to the release of combustion products, which include:

- Ontario Regulation 419/05, under which a Facility must demonstrate compliance with substance-specific ground-level concentration limits of emitted substances, including combustion products in all forms that are reportable under the NPRI and TRA reporting programs;
- The requirement for any Facility that may discharge any contaminant to the atmosphere to apply for and obtain an Environmental Compliance Approval (ECA) for air which approves the facility's emissions and provides performance limits, documentation requirements and reporting requirements which a Facility must meet in order to maintain compliance with the ECA on an ongoing basis;

The Facility currently meets and/or exceeds all of the above regulatory requirements which are designed to control the release of the Toxic Substance and minimize potential off-site impacts resulting from the release of the Toxic Substance.

### 2) Measures Currently in Place to Minimize Releases of Combustion Products

As a result of satisfying all of the above noted regulatory requirements in addition to voluntary actions with respect to combustion product releases, the Facility actively implements a variety of controls to minimize combustion product releases from different parts of its process components. These controls include, but are not limited to a Vehicle and Equipment Idling Policy which places limitation on engine idling.

## Objectives of the Toxic Substance Reduction Plan

- provide the reader with information on measures currently in place at the Facility which control the "creation" and subsequent release of the Toxic Substance;
- 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**

The activity that has been classified as a "creation" of the toxic substance for the purpose of the required TRA Quantification, Accounting and Reporting exercise for the Toxic Substance is the generation of the Toxic Substance as a by-product of combustion of fuels in stationary equipment and detonation of explosives. The Toxic Substance is never used at the Facility.

## **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.

December 6, 2013

Project No. 13-1192-0040

Shane Matson  
Musselwhite Mine

**LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT TOXIC  
SUBSTANCE REDUCTION PLANS FOR TRA PHASE II SUBSTANCES FOR GOLDCORP CANADA LTD.  
MUSSELWHITE MINE**

Dear Mr. Matson:

Golder Associates Ltd. (Golder) was retained by Goldcorp Canada Ltd. Musselwhite Mine (the Facility) to provide various services pertaining to Toxic Substance Reduction Plan for Phase II Substances preparation under the *Toxics Reduction Act* (TRA), including Toxic Substance Reduction Planner (Planner) certification of Phase II Toxic Substance Reduction Plans (the Plans).

The following Planner Certification Statement which is made under s.19.1(4) of Ontario Regulation (O.Reg.) 455/09 (as amended by s.11 of O.Reg.214/11) satisfies the Planner Certification requirements for the Plans that are assembled as a single document as of the date of this Certification Statement. Furthermore, the following Certification Statement is limited to the respective versions of the Plans which are dated as indicated in the Certification Statement:

*As of December 6, 2013, I, Russell Polack certify that I am familiar with the processes at the Goldcorp Canada Ltd. Musselwhite Mine facility that use or create the toxic substances referred to below, that I agree with the estimates referred to in subparagraphs 7 iii, iv and v of subsection 4 (1) of the Toxics Reduction Act, 2009 that are set out in the toxic substance reduction plans referred to below for the toxic substances and that the plans comply with that Act and Ontario Regulation 455/09 (General) made under that Act.*

- *Particulate Matter* (December 6, 2013)
- *PM10* (December 6, 2013)
- *PM2.5* (December 6, 2013)
- *Nitrogen Oxides* (December 6, 2013)
- *Carbon Monoxide* (December 6, 2013)
- *Nitrate Ion* (December 6, 2013)
- *Ammonia* (December 6, 2013)

**ORIGINAL SIGNED BY**

Russell Polack  
Toxic Substance Reduction Planner  
License No. TSRP0002  
DCC/RLP/FSC/ms

\_\_\_\_\_  
Date





December 6, 2013

Project No. 13-1192-0040

Shane Matson  
Musselwhite Mine

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Russell Polack  
Toxic Substance Reduction Planner  
License No. TSRP0002  
DCC/RLP/FSC/ms

December 6, 2013

Date





### Toxic Substance Reduction Plans Certification by Highest Ranking Employee

As required by s.4(2) of the *Toxics Reduction Act* (TRA), Toxic Substance Reduction Plans must contain a certification, signed by the highest ranking employee at the Facility who has management responsibilities relating to the Facility.

The following Certification Statement is being made under s.19(2) of Ontario Regulation (O.Reg.) 455/09 (as amended by s.11 of O.Reg.214/11) and satisfies the requirements of s.4(2) of the TRA for the Toxic Substance Plans that are assembled within this single document as of the date of this Certification Statement. Furthermore, the following Certification Statement is limited to the respective versions of the Plans which are dated as indicated in the Certification Statement:

As of December 11/13, I, (insert name) Bill Gascon certify that I have read the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the plans are factually accurate and comply with the *Toxics Reduction Act, 2009* and *Ontario Regulation 455/09 (General)* made under that Act.

- |                      |                          |
|----------------------|--------------------------|
| • Particulate Matter | (dated December 6, 2013) |
| • PM10               | (dated December 6, 2013) |
| • PM2.5              | (dated December 6, 2013) |
| • Nitrogen Oxides    | (dated December 6, 2013) |
| • Carbon Monoxide    | (dated December 6, 2013) |
| • Nitrate Ion        | (dated December 6, 2013) |
| • Ammonia            | (dated December 6, 2013) |



Signature



Date

Bill Gascon

Print Name

