# 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, if any** | This Plan Summary applies to the Toxic Substance Reduction Plans for the following prescribed Toxic Substances:<br>**Selenium and Thallium** (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: 1941<br>O.Reg.127/01 ID: 9490 |
| **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** | Porcupine Gold Mines<br>Goldcorp Inc.<br>4315 Gold Mine Road, South Porcupine, ON<br>P0N1H0 Canada |
| **The number of full time employee equivalents at the facility** | 791 |
| **North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code** | 21 - Mining & Oil & Gas Extraction<br>2122 - Metal Ore Mining<br>212220 - Gold & Silver Ore Mining |
| **Public contact** | Stephanie Thibeault<br>Environmental Manager<br>Goldcorp Canada Inc.<br>4315 Gold Mine Road, South Porcupine, ON<br>P0N1H0 Canada<br>(705) 235-6581 |
| **The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum** | UTM Zone 17<br>482866 E, 5368194 N |
| **Parent Company Information** | Goldcorp Inc.<br>Suite 3400-666 Burrard Street, Park Place<br>Vancouver, BC V6C 2X8<br>(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*

Mercury*

Nickel*

Selenium*

Thallium*

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 "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 TRAs 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 submitted reports to the TRA and National Pollutant Release Inventory (NPRI) for each of the Toxic Substances for the 2015 reporting year.

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 Ontario Ministry of the Environment and Climate Change (MOECC) guidance, processing of feedstocks in which the Toxic Substance is present due to natural deposition in previously mined and/or processed materials, meets the definition of MPO, despite the fact that the Toxic Substance travels through the Facility's concentration process without undergoing any significant chemical change.

As a result, and in accordance with the TRA, this specified quantity has been reported to the MOECC 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 of 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 production.

As a part of fulfilling its requirements under the TRA and O.Reg.455/09, the Facility has prepared a total of thirteen 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 MOECC 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 TRAs 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 MOECC 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 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 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 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.

*As of (insert date)* Oct 28/2016, *I,* Marc Lauzier, *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.*

- *Selenium* *(dated July 13, 2016)*
- *Thallium* *(dated July 13, 2016)*

*Signature*

Oct 28/2016

*Date*

Marc Lauzier

*Print Name*

July 13, 2016

Project No. 1544249

Stephanie Thibeault
Goldcorp Canada Ltd.

**LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTION PLANS FOR GOLDCORP CANADA LTD. PORCUPINE GOLD MINES**

Dear Ms. Thibeault:

Golder Associates Ltd. (Golder) was retained by Goldcorp Canada Ltd. Porcupine Gold Mines (the Facility) to provide various services pertaining to Toxic Substance Reduction Plan preparation under the *Toxics Reduction Act* (TRA), including Toxic Substance Reduction Planner (Planner) certification of Substance Reduction Plans for Various TRA Substances (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 under this cover 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 July 13, 2016, I, Russell Polack certify that I am familiar with the processes at the Goldcorp Canada Ltd. Porcupine Gold Mines 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.*

- *Thallium* *(July 13, 2016)*
- *Selenium* *(July 13, 2016)*

November 9, 2016

Russell Polack
Toxic Substance Reduction Planner
License No. TSRP0002

Date

DCC/RLP/NCJ/ms

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