TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

SUPPORTING VARIOUS
TOXIC SUBSTANCE REDUCTION PLANS
(METALS)
Basic Facility Information

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>This is a master Document which provides supporting information for Toxic Substance Reduction Plans for the following Metal Substances: Arsenic, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Phosphorus, Selenium, Silver, Zinc, Thallium, Antimony (no single CAS numbers apply to these substances) and Vanadium (CAS number 7440-62-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>Alamos Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
</tr>
</tbody>
</table>
| Facility physical and mailing address | Mine Site, Highway 566  
PO Box 187  
Matachewan, ON P0K 1M0       |
| Spatial Coordinates of Facility | UTM Zone 17  
524250 E, 5310450 N      |
| NPRI and O. Reg 127/01 Identification numbers | NPRI ID 26132                                                        |
| Number of Employees (end of 2012 - full time equivalent) | 575                                                                 |
| 2 digit NAICS code        | 21 - Mining & Oil and Gas Extraction                                                                                             |
| 4 Digit NAICS code        | 2122 - Metal Ore Mining                                                                                                           |
| 6 Digit NAICS code        | 212220 - Gold & Silver Ore Mining                                                                                               |
| Facility public contact   | Nancy Duquet-Harvey  
Environmental Superintendent  
Alamos Gold Young-Davidson Mine  
Address as per above  
705.565.9800 ext 2223 |
| Parent Company Information | Alamos Gold Inc.  
Suite 3910, 181 Bay Street  
Toronto, ON M5J 2T3  
416.368.9932 |

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
- Phosphorus
• Selenium
• Silver
• Zinc
• Thallium
• Antimony
• Vanadium
• Cyanides (Ionic)
• Hydrochloric Acid
• Carbon Disulphide
• Total Reduced Sulfur
• Nitrate ion
• Ammonia (total)
• Carbon Monoxide
• Nitrogen Oxides
• PM – Particulate Matter
• PM10 – Particulate Matter <= 10 micrometers
• PM2.5 – Particulate Matter <= 2.5 micrometers

Statement of Intent
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.

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.

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 part of the TRA requirements, the Facility has prepared fourteen 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.

Objectives of the 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 the Plan

• 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 Each Process That Uses the Toxic Substance

The activity at the Facility that “uses 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” 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.

Rationale for not implementing Toxic Reduction Options

A plan must contain an explanation of why no toxic substance options will be implemented.

The Facility have considered each of the seven categories and along with the information provided in the Statement of Intent it is impossible to reduce its use of the Toxic Substances without reducing production. 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

This Plan Summary accurately reflects the current version of the Plan.

Planner License Number

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Superintendent
Alamos Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

Certifications

Copies of the Certification statements are provided in the following pages.
LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTIONS PLANS FOR AURICO GOLD INC. YOUNG-DAVIDSON MINE

The following Planner Certification Statement which is made under section 19.1 (4) of the Ontario Regulation 455/09 (as amended 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 below:

As of May 25, 2016, I, Nancy Duquet-Harvey certify that I am familiar with the processes at the Alamos Gold Inc, Young-Davidson 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, 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.

- Arsenic (December 23, 2013)
- Cadmium (December 23, 2013)
- Chromium (December 23, 2013)
- Cobalt (December 23, 2013)
- Copper (December 23, 2013)
- Lead (December 23, 2013)
- Manganese (December 23, 2013)
- Mercury (December 23, 2013)
- Nickel (December 23, 2013)
- Phosphorus (December 23, 2013)
- Selenium (December 23, 2013)
- Silver (December 23, 2013)
- Thallium (May 25, 2016)
- Zinc (December 23, 2013)
- Antimony (December 23, 2013)
- Vanadium (December 23, 2013)
- Cyanides ( Ionic) (December 23, 2013)
- Hydrochloric Acid (December 23, 2013)
- Carbon Disulphide (December 23, 2013)
- Total Reduced Sulfur (December 23, 2013)
- Nitrate ion (December 23, 2013)
- Ammonia (total) (December 23, 2013)
- Carbon Monoxide (December 23, 2013)
- Nitrogen Oxides (December 23, 2013)
- PM – Particulate Matter (December 23, 2013)
- PM10 – Particulate Matter <= 10 micrometers (December 23, 2013)
- PM2.5 – Particulate Matter <= 2.5 micrometers (December 23, 2013)

Nancy Duquet-Harvey
Environmental Superintendent
Alamos Gold, Young-Davidson
TRA Planner License #: TSRP0264

May 25, 2014
Date
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

The following Certification Statement is being made under section 19 (2) of Ontario Regulation (O.Reg) 455/09 (as amended O.Reg 214/11) and satisfies the requirements of the Toxics Reduction Act for the Toxic Substance Reduction 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 May 25, 2016, I, Luc Guimond 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 the Ontario Regulation 455/09 (General) made under the Act.

- Arsenic (December 23, 2013)
- Cadmium (December 23, 2013)
- Chromium (December 23, 2013)
- Cobalt (December 23, 2013)
- Copper (December 23, 2013)
- Lead (December 23, 2013)
- Manganese (December 23, 2013)
- Mercury (December 23, 2013)
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- Phosphorus (December 23, 2013)
- Selenium (December 23, 2013)
- Silver (December 23, 2013)
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- Antimony (December 23, 2013)
- Vanadium (December 23, 2013)
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- Total Reduced Sulfur (December 23, 2013)
- Nitrate ion (December 23, 2013)
- Ammonia (total) (December 23, 2013)
- Carbon Monoxide (December 23, 2013)
- Nitrogen Oxides (December 23, 2013)
- PM – Particulate Matter <= 10 micrometers (December 23, 2013)
- PM2.5 – Particulate Matter <= 2.5 micrometers (December 23, 2013)

Luc Guimond
General Manager
Alamos Gold, Young-Davidson

Date

Young-Davidson Mine Site, P.O. Box 187
Matagami, ON PO Box 1M0
Phone: 705-565-9800 Fax: 705-565-2387
www.alamosgold.com
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY
CYANIDES (IONIC)
Basic Facility Information

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>Cyanides (ionic) (no single CAS numbers apply to this substance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
</tr>
<tr>
<td>Facility physical and mailing address</td>
<td>Mine Site, Highway 566 PO Box 187 Matachewan, ON P0K 1M0</td>
</tr>
<tr>
<td>Spatial Coordinates of Facility</td>
<td>UTM Zone 17 524250 E, 5310450 N</td>
</tr>
<tr>
<td>NPRI and O. Reg 127/01 Identification numbers</td>
<td>NPRI ID 26132</td>
</tr>
<tr>
<td>Number of Employees (end of 2012 - full time equivalent)</td>
<td>575</td>
</tr>
<tr>
<td>2 digit NAICS code</td>
<td>21 - Mining &amp; Oil and Gas Extraction</td>
</tr>
<tr>
<td>4 Digit NAICS code</td>
<td>2122 - Metal Ore Mining</td>
</tr>
<tr>
<td>6 Digit NAICS code</td>
<td>212220 - Gold &amp; Silver Ore Mining</td>
</tr>
<tr>
<td>Facility public contact</td>
<td>Nancy Duquet-Harvey</td>
</tr>
<tr>
<td></td>
<td>Environmental Coordinator</td>
</tr>
<tr>
<td></td>
<td>AuRico Gold Young-Davidson Mine</td>
</tr>
<tr>
<td></td>
<td>Address as per above</td>
</tr>
<tr>
<td></td>
<td>705.565.9800 ext 2223</td>
</tr>
<tr>
<td>Parent Company Information</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td></td>
<td>Suite 1601 - 110 Yonge Street</td>
</tr>
<tr>
<td></td>
<td>Toronto, ON M5C 1T4</td>
</tr>
<tr>
<td></td>
<td>647.260.8880</td>
</tr>
</tbody>
</table>

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
- Phosphorus
- Selenium
- Silver
- Zinc
- Antimony
- Vanadium
Statement of Intent

The Facility has reviewed its processes and intends to reduce its use of cyanides (ionic) on an intensity basis defined as tonnes of cyanide (ionic) per tonne of ore processed. The Facility is increasing its throughput and as a result the quantity of the Toxic Substance is expected to increase. In addition, the ore composition of the processed material varied from 2012 and as result, an increase in cyanide consumption occurred in 2013. Proactively, the Facility is still looking at ways to reduce the use of cyanide.

The toxic substance is never created at the site, therefore no statement to reduce its creation is included.

Objectives of the 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 the Plan
- 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

Target

The Facility intends to reduce the use of cyanide by 5% by the end of 2014:

Description of Each Process That Uses the Toxic Substance

The Toxic Substance is a component of sodium cyanide which is the key reagent used for gold recovery in the Facility’s Gold Recovery & Refining Stage. Currently no other reagent is known in the gold ore processing industry to be as effective as sodium cyanide and as such, is widely used globally. The Toxic Substance is never created at the Facility.
Description of Option to be implemented in the Equipment or Process Modification Category

Sodium cyanide is added to the carbon-in-leach tanks in the Gold Recovery & Refining stage through valves that are adjusted in the plant’s DCS or by manually adjusting cyanide dosing valves. Currently, cyanide is measured manually by operators every 3 hours utilizing a silver nitrate titration and colorimetric end point. The colorimetric end point method is sensitive to the subjective visual interpretation of the solution colour by the operator. The result obtained through the colorimetric endpoint method can also be interfered with by copper species which will result in an overestimation of the free cyanide concentration. In addition, operators usually air on the side of caution and slightly overdose cyanide to ensure that targets are met.

It is proposed to purchase and install a TAC 1000 Cyanide Analyzer & Controller with a sampling system. With this unit, titrations are performed by the unit, which controls the cyanide addition and maintains a constant level of cyanide in the carbon-in-leach process.

Through automation of the titration and dosage, the use of sodium cyanide will be reduced. Furthermore, the proposed unit is capable of conducting cyanide measurements on the cyanide destruction process, thereby optimizing this process which reduces the amount of cyanide placed into the tailings impoundment area.

Estimates of Potential Reductions Associated with the Toxic Substance Reduction Option

In the table below, the estimated reduction of Cyanide is shown. However, the reduction is based on 2013 data rather than 2012. During the mine start up in 2012, the early ore material was obtained from the upper levels of the open pit which differed from the ore that was mined in 2013 from the open pit and underground. The early ore consumed less cyanide. Although the ore composition cannot be changed, the Facility is still evaluating ways to reduce the use of cyanide.

Timetable for implementing Toxic Reduction Options

The Facility will be implementing a Toxic Substance Reduction Option with the installation of a TAC Cyanide Analyzer and Controller. The following timeline is estimated to achieve a reduction in the Toxic Substance.

<table>
<thead>
<tr>
<th>Reduction of CN with Installation of TAC Analyzer and Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Order TAC analyzer</td>
</tr>
<tr>
<td>Components to site</td>
</tr>
<tr>
<td>Installation and programming of TAC Analyzer &amp; Controller</td>
</tr>
</tbody>
</table>
Statement that the Plan Summary Accurately Reflects the Current Version of the Plan
This Plan Summary accurately reflects the current version of the Plan.

Planner License Number
The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

Certifications

Copies of the Certification statements are provided in the following pages.
LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTIONS PLANS FOR AURICO GOLD INC YOUNG-DAVIDSON MINE

The following Planner Certification Statement which is made under section 19.1 (4) of the Ontario Regulation 455/09 (as amended 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 below:

As of December 23, 2013, I, Nancy Duquet-Harvey certify that I am familiar with the processes at the AuRico Gold Inc, Young-Davidson 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, 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.

- Arsenic (December 23, 2013)
- Cadmium (December 23, 2013)
- Chromium (December 23, 2013)
- Cobalt (December 23, 2013)
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- Lead (December 23, 2013)
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- Ammonia (total) (December 23, 2013)
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- PM10 – Particulate Matter <= 10 micrometers (December 23, 2013)
- PM2.5 – Particulate Matter <= 2.5 micrometers (December 23, 2013)

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date: December 23, 2013
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

The following Certification Statement is being made under section 19 (2) of Ontario Regulation (O.Reg) 455/09 (as amended O.Reg 214/11) and satisfies the requirements of the Toxics Reduction Act for the Toxic Substance Reduction 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 [insert date] **Dec 23/13**, I, Luc Guimond 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 the Ontario Regulation 455/09 (General) made under the Act.

- Arsenic  (December 23, 2013)
- Cadmium  (December 23, 2013)
- Chromium  (December 23, 2013)
- Cobalt  (December 23, 2013)
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---

Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson

Date  
Dec 23/13
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

HYDROCHLORIC ACID
<table>
<thead>
<tr>
<th>Basic Facility Information</th>
<th>Hydrochloric acid CAS#7647-01-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name &amp; CAS # of Substance</td>
<td></td>
</tr>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
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<td>Facility physical and mailing address</td>
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<td>Environmental Coordinator</td>
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<td>AuRico Gold Young-Davidson Mine</td>
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<td>705.565.9800 ext 2223</td>
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<td>AuRico Gold Inc.</td>
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<tr>
<td></td>
<td>647.260.8880</td>
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List of All Substances for which Toxic Substance Reduction Plans have been Prepared at the Facility
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- Arsenic
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- Nickel
- Phosphorus
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- Zinc
- Antimony
- Vanadium
- Cyanides (Ionic)
• Hydrochloric Acid
• Carbon Disulphide
• Total Reduced Sulfur
• Nitrate ion
• Ammonia (total)
• Carbon Monoxide
• Nitrogen Oxides
• PM – Particulate Matter
• PM10 – Particulate Matter <= 10 micrometers
• PM2.5 – Particulate Matter <= 2.5 micrometers

Statement of Intent
The Facility has reviewed its processes and intends to reduce its use of hydrochloric acid on an intensity basis defined as tonnes of hydrochloric acid per tonne of ore processed. The Facility is increasing its throughput and as a result the quantity of the Toxic Substance will increase.

The toxic substance is never created as the site, therefore no statement to reduce its creation is included.

Objectives of the 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 the Plan
• 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

Target
The Facility intends to reduce the use of Hydrochloric Acid by 50% by the end of 2014.

Description of Each Process That Uses the Toxic Substance
Hydrochloric acid is used in the Gold Recovery & Refining Stage to remove carbonate build up on the activated carbon that is used to recover gold in the carbon circuit. This use of this Toxic Substance allows for re-use of activated carbon within the carbon circuit which is a significant cost saving measure for the Facility. It is also a common practice in 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 ultimately destroyed by neutralization in the acid wash vessel. The Toxic Substance is never created at the Facility.

Description of Option to be Implemented in the Training or Improved Operating Practices Category
The Mill and Safety departments have developed detailed standard operating procedures based on best management practices in the industry and safe operation for the operators. These procedures are reviewed and following a practical
period, a final sign off is completed by a trainer to certify that the worker is competent. Specifically, operators are trained in the offloading, mixing hydrochloric acid for the acid wash, and neutralizing the acid wash solution.

The acid wash cycle was commissioned later in the 2012 initial operating year of the process plant. As a result of the later start, a higher concentration of hydrochloric acid was initially utilized to remove the accumulated build-up of carbonate on the activated carbon. Acid wash is currently conducted before every carbon stripping. The Facility has identified an option to reduce the use of hydrochloric acid by acid washing every second batch of carbon destined for carbon stripping. The Facility will also reduce the concentration of hydrochloric acid in the acid wash solution to be in line with an industry standard of 3% concentration versus the initial 6% concentration. To ensure that these reductions do not negatively impact the efficiency of the activated carbon, testwork was conducted on the carbonate build-up on the activated carbon with fewer acid wash. Equipment was purchased to conduct the carbonate analysis at the Facility to reduce costs of the analysis and ensure proper turnaround time for the results.

### Estimates of Potential Reductions Associated with Each Identified Toxic Substance Reduction Option

<table>
<thead>
<tr>
<th>HCL (tonnes)</th>
<th>Reduction Option - Reducing concentration of HCl per acid wash</th>
<th>Used</th>
<th>Created</th>
<th>On-Site Releases</th>
<th>Disposal</th>
<th>Transfer off site for recycling</th>
<th>Contained in Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>tonnes</td>
<td>tonnes/tonne of ore*</td>
<td>Air</td>
<td>Water</td>
<td>Land</td>
<td>on-site</td>
</tr>
<tr>
<td>Baseline **</td>
<td></td>
<td>3</td>
<td>0.00004364</td>
<td>NA</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
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<tr>
<td>New Estimated amount</td>
<td></td>
<td>60</td>
<td>0.00002115</td>
<td>NA</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
</tr>
<tr>
<td>Reduction</td>
<td></td>
<td>-57</td>
<td>0.00002249</td>
<td>NA</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
</tr>
<tr>
<td>% Reduction</td>
<td></td>
<td>52%</td>
<td>NA</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

* expressed as an intensity based reduction since the Facility is in the process of optimizing ore throughput

** Baseline in 2012 does not reflect a full year of use of Hydrochloric acid

<table>
<thead>
<tr>
<th>HCL (tonnes)</th>
<th>Reduction Option - Reducing number of acid wash per year</th>
<th>Used</th>
<th>Created</th>
<th>On-Site Releases</th>
<th>Disposal</th>
<th>Transfer off site for recycling</th>
<th>Contained in Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>tonnes</td>
<td>tonnes/tonne of ore*</td>
<td>Air</td>
<td>Water</td>
<td>Land</td>
<td>on-site</td>
</tr>
<tr>
<td>Baseline **</td>
<td></td>
<td>3</td>
<td>0.00004364</td>
<td>NA</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
<td>0 t/t of ore</td>
</tr>
<tr>
<td>New Estimated amount</td>
<td></td>
<td>60</td>
<td>0.00002115</td>
<td>NA</td>
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<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

* expressed as an intensity based reduction since the Facility is in the process of optimizing ore throughput

** Baseline in 2012 does not reflect a full year of use of Hydrochloric acid

### Timetable for Implementing Toxic Reduction Options

The Facility will be implementing two Toxic Substance Reduction Option with the reduction in the concentration of hydrochloric acid in each acid wash and reducing the amount of acid washes in a year.

### Reduction of HCl Concentration for each Acid Wash

<table>
<thead>
<tr>
<th>Task</th>
<th>Completed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish onsite carbon analysis (purchase equipment, training)</td>
<td>1-15-14</td>
</tr>
<tr>
<td>Reduce concentration of HCL for acid wash (carbon analysis conducted off site)</td>
<td>12-15-13</td>
</tr>
</tbody>
</table>
Conduct ongoing carbon analysis to confirm efficiency of acid wash 1-15-14

Reduction of amount of Acid wash per year

<table>
<thead>
<tr>
<th>Task</th>
<th>Completed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish onsite carbon analysis (purchase equipment, training)</td>
<td>1-15-14</td>
</tr>
<tr>
<td>Reduce amount of acid wash by conducting an acid wash every second carbon strip</td>
<td>2-28-14</td>
</tr>
<tr>
<td>Conduct ongoing carbon analysis to confirm efficiency of reduced acid washes</td>
<td>3-15-14</td>
</tr>
</tbody>
</table>

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

This Plan Summary accurately reflects the current version of the Plan.

Planner License Number

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

Certifications

Copies of the Certification statements are provided in the following pages.
LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTIONS PLANS FOR AURICO GOLD INC YOUNG-DAVIDSON MINE

The following Planner Certification Statement which is made under section 19.1 (4) of the Ontario Regulation 455/09 (as amended 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 below:

As of December 23, 2013, I, Nancy Duquet-Harvey certify that I am familiar with the processes at the AuRico Gold Inc, Young-Davidson 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, 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.

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- Chromium (December 23, 2013)
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- Hydrochloric Acid (December 23, 2013)
- Carbon Disulphide (December 23, 2013)
- Total Reduced Sulfur (December 23, 2013)
- Nitrate ion (December 23, 2013)
- Ammonia (total) (December 23, 2013)
- Carbon Monoxide (December 23, 2013)
- Nitrogen Oxides (December 23, 2013)
- PM – Particulate Matter (December 23, 2013)
- PM10 – Particulate Matter <= 10 micrometers (December 23, 2013)
- PM2.5 – Particulate Matter <= 2.5 micrometers (December 23, 2013)

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date: December 23, 2013

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

The following Certification Statement is being made under section 19 (2) of Ontario Regulation (O.Reg) 455/09 (as amended O.Reg 214/11) and satisfies the requirements of the Toxics Reduction Act for the Toxic Substance Reduction 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 [insert date] **Dec 23/13**, I, Luc Guimond 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 the Ontario Regulation 455/09 (General) made under the Act.

- Arsenic (December 23, 2013)
- Cadmium (December 23, 2013)
- Chromium (December 23, 2013)
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- Selenium (December 23, 2013)
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- Zinc (December 23, 2013)

- Antimony (December 23, 2013)
- Vanadium (December 23, 2013)
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- PM – Particulate Matter (December 23, 2013)
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- PM2.5 – Particulate Matter <= 2.5 micrometers (December 23, 2013)

---

Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson

**Dec 23/13**  
Date

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

CARBON DISULPHIDE
### Basic Facility Information

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>Carbon Disulphide CAS#75-15-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
</tr>
<tr>
<td>Facility physical and mailing address</td>
<td>Mine Site, Highway 566 PO Box 187 Matachewan, ON P0K 1M0</td>
</tr>
<tr>
<td>Spatial Coordinates of Facility</td>
<td>UTM Zone 17 524250 E, 5310450 N</td>
</tr>
<tr>
<td>NPRI and O. Reg 127/01 Identification numbers</td>
<td>NPRI ID 26132</td>
</tr>
<tr>
<td>Number of Employees (end of 2012 - full time equivalent)</td>
<td>575</td>
</tr>
<tr>
<td>2 digit NAICS code</td>
<td>21 - Mining &amp; Oil and Gas Extraction</td>
</tr>
<tr>
<td>4 Digit NAICS code</td>
<td>2122 - Metal Ore Mining</td>
</tr>
<tr>
<td>6 Digit NAICS code</td>
<td>212220 - Gold &amp; Silver Ore Mining</td>
</tr>
<tr>
<td>Facility public contact</td>
<td>Nancy Duquet-Harvey Environmental Coordinator AuRico Gold Young-Davidson Mine Address as per above 705.565.9800 ext 2223</td>
</tr>
<tr>
<td>Parent Company Information</td>
<td>AuRico Gold Inc. Suite 1601 - 110 Yonge Street Toronto, ON M5C 1T4 647.260.8880</td>
</tr>
</tbody>
</table>

### 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
- Phosphorus
- Selenium
- Silver
- Zinc
- Antimony
Statement of Intent

A statement of the Facility’s intent to reduce use of the Toxic Substance is not required as the toxic substance is never used within the Facility’s process.

It is the Facility’s opinion that it has previously optimized the creation of the Toxic Substance using best available technology and practices that are economically achievable at this time. In addition the Facility currently complies with all environmental regulations that control the release of the Toxic Substance and possesses an Air and Noise Environmental Compliance Approval.

Objectives of the 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 the Plan
- 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 Each Process That Uses the Toxic Substance

In the Gold Extraction Stage of the process, ore that is finely ground and in slurry form enters the flotation circuit a process required for separating gold from the ore. Carbon Disulphide is created as a result of breakdown of Xanthate which is used as a reagent in the flotation process at the Facility. Xanthate acts as a collector which selectively adheres to the surface of a desired mineral and is subsequently floated to the surface of the flotation cell through agitation and aeration before being skimmed from the surface of the flotation cell along with the desirable mineral which constitute the flotation concentrate product.

Rationale for not implementing Toxic Reduction Options

Facility personnel have carefully examined each of the seven categories for toxic substance reduction options, and in light of the information provided in the Statement of Intent section, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories at this time. Since no toxic substance reduction options have been identified, no implementation of options will occur.
Statement that the Plan Summary Accurately Reflects the Current Version of the Plan

This Plan Summary accurately reflects the current version of the Plan.

Planner License Number

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

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Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date: December 23, 2013

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

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Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson  

[Signature]

[Signature]

Luc Guimond  
Date  

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

TOTAL REDUCED SULFUR
Basic Facility Information

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>Total Reduced Sulfur (no single CAS numbers apply to this substance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
</tr>
</tbody>
</table>
| Facility physical and mailing address | Mine Site, Highway 566  
PO Box 187  
Matachewan, ON P0K 1M0 |
| Spatial Coordinates of Facility | UTM Zone 17  
524250 E, 5310450 N |
| NPRI and O. Reg 127/01 Identification numbers | NPRI ID 26132 |
| Number of Employees (end of 2012 - full time equivalent) | 575 |
| 2 digit NAICS code          | 21 - Mining & Oil and Gas Extraction |
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| Facility public contact     | Nancy Duquet-Harvey  
Environmental Coordinator  
AuRico Gold Young-Davidson Mine  
Address as per above  
705.565.9800 ext 2223 |
| Parent Company Information  | AuRico Gold Inc.  
Suite 1601 - 110 Yonge Street  
Toronto, ON M5C 1T4  
647.260.8880 |

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Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date

December 23, 2013

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

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- Manganese (December 23, 2013)
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[Signature]

Luc Guimond
General Manager
AuRico Gold, Young-Davidson

Dec 23/13
Date
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

NITRATE ION
Basic Facility Information

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>Nitrate Ion (no single CAS number applies to this substance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Mine Site, Highway 566</td>
</tr>
<tr>
<td>Facility physical and mailing address</td>
<td>PO Box 187</td>
</tr>
<tr>
<td></td>
<td>Matachewan, ON P0K 1M0</td>
</tr>
<tr>
<td>Spatial Coordinates of Facility</td>
<td>UTM Zone 17</td>
</tr>
<tr>
<td></td>
<td>524250 E, 5310450 N</td>
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<td>NPRI and O. Reg 127/01 Identification numbers</td>
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<td>Number of Employees (end of 2012 - full time equivalent)</td>
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<td>2 digit NAICS code</td>
<td>21 - Mining &amp; Oil and Gas Extraction</td>
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<td>2122 - Metal Ore Mining</td>
</tr>
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<td>6 Digit NAICS code</td>
<td>212220 - Gold &amp; Silver Ore Mining</td>
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<td>Facility public contact</td>
<td>Nancy Duquet-Harvey</td>
</tr>
<tr>
<td></td>
<td>Environmental Coordinator</td>
</tr>
<tr>
<td></td>
<td>AuRico Gold Young-Davidson Mine</td>
</tr>
<tr>
<td></td>
<td>Address as per above</td>
</tr>
<tr>
<td></td>
<td>705.565.9800 ext 2223</td>
</tr>
<tr>
<td>Technical contact and person responsible for coordinating plan</td>
<td>Nancy Duquet-Harvey</td>
</tr>
<tr>
<td>Person who prepared the plan</td>
<td>same as Technical contact</td>
</tr>
<tr>
<td>Highest Ranking Employee</td>
<td>Luc Guimond - General Manager</td>
</tr>
<tr>
<td>Parent Company Information</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td></td>
<td>Suite 1601 - 110 Yonge Street</td>
</tr>
<tr>
<td></td>
<td>Toronto, ON M5C 1T4</td>
</tr>
<tr>
<td></td>
<td>647.260.8880</td>
</tr>
</tbody>
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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
Nutrient Ion
• Phosphorus
• Selenium
• Silver
• Zinc
• Antimony
• Vanadium
• Cyanides (Ionic)
• Hydrochloric Acid
• Carbon Disulphide
• Total Reduced Sulfur
• Nitrate ion
• Ammonia (total)
• Carbon Monoxide
• Nitrogen Oxides
• PM – Particulate Matter
• PM10 – Particulate Matter <= 10 micrometers
• PM2.5 – Particulate Matter <= 2.5 micrometers

Statement of Intent
A statement of the Facility’s intent to reduce use of the Toxic Substance is not required as the toxic substance is never used within the Facility’s process.

It is the Facility’s opinion that it has previously optimized the creation of the Toxic Substance using best available technology and practices that are economically achievable at this time. In addition the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance and possesses an Industrial Sewage Works Environmental Compliance Approval.

Objectives of the 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 the Plan

• 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 Each Process That Uses the Toxic Substance
The Toxic Substance is created at the Mining Stage from blasting activities underground and open pit required to mine the ore. This substance is “created” as a dissolved residue remaining from explosives detonation. All underground water containing this substance eventually end up in the Tailings Impoundment Area or the Mine Water Pond where quantities can be released as effluent.

The Toxic Substance is never used at the Facility.
Rationale for not implementing Toxic Reduction Options

Facility personnel have carefully examined each of the seven categories for toxic substance reduction options, and in light of the information provided in the Statement of Intent section, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories at this time. Since no toxic substance reduction options have been identified, no implementation of options will occur.

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

This Plan Summary accurately reflects the current version of the Plan.

Planner License Number

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

Certifications

Copies of the Certification statements are provided in the following pages.
LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTIONS PLANS FOR AURICO GOLD INC YOUNG-DAVIDSON MINE

The following Planner Certification Statement which is made under section 19.1 (4) of the Ontario Regulation 455/09 (as amended 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 below:

As of December 23, 2013, I, Nancy Duquet-Harvey certify that I am familiar with the processes at the AuRico Gold Inc, Young-Davidson 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, 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.

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Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date

December 23, 2013

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

The following Certification Statement is being made under section 19 (2) of Ontario Regulation (O.Reg) 455/09 (as amended O.Reg 214/11) and satisfies the requirements of the Toxics Reduction Act for the Toxic Substance Reduction 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 [insert date] **DEC 23/13**, I, Luc Guimond 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 the Ontario Regulation 455/09 (General) made under the Act.

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*Signed*

Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson

**Date**

**Dec 23/13**
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

AMMONIA
## Basic Facility Information

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>Ammonia (no single CAS number applies to this substance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
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| Facility physical and mailing address | Mine Site, Highway 566  
PO Box 187  
Matachewan, ON P0K 1M0 |
| Spatial Coordinates of Facility | UTM Zone 17  
524250 E, 5310450 N |
| NPRI and O. Reg Identification numbers | NPRI ID 26132 |
| Number of Employees (end of 2012 - full time equivalent) | 575 |
| 2 digit NAICS code | 21 - Mining & Oil and Gas Extraction |
| 4 Digit NAICS code | 2122 - Metal Ore Mining |
| 6 Digit NAICS code | 212220 - Gold & Silver Ore Mining |
| Facility public contact | Nancy Duquet-Harvey  
Environmental Coordinator  
AuRico Gold Young-Davidson Mine  
Address as per above  
705.565.9800 ext 2223 |
| Parent Company Information | AuRico Gold Inc.  
Suite 1601 - 110 Yonge Street  
Toronto, ON M5C 1T4  
647.260.8880 |

## 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
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- Selenium
- Silver
- Zinc
- Antimony
- Vanadium
Statement of Intent

A statement of the Facility’s intent to reduce use of the Toxic Substance is not required as the toxic substance is never used within the Facility’s process.

It is the Facility’s opinion that it has previously optimized the creation of the Toxic Substance using best available technology and practices that are economically achievable at this time. In addition the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance and possesses an Industrial Sewage Works Environmental Compliance Approval.

Objectives of the 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 the Plan
- 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 Each Process That Uses the Toxic Substance

The Toxic Substance is created at the Mining Stage from blasting activities underground and open pit required to mine the ore. This substance is “created” as a dissolved residue remaining from explosives detonation. All underground water containing this substance eventually end up in the Tailings Impoundment Area or the Mine Water Pond where quantities can be released as effluent.

The Toxic Substance is never used at the Facility.

Rationale for not implementing Toxic Reduction Options

Facility personnel have carefully examined each of the seven categories for toxic substance reduction options, and in light of the information provided in the Statement of Intent section, the Facility feels that no toxic substance reduction
options can be identified in any of the seven toxic substance reduction categories at this time. Since no toxic substance reduction options have been identified, no implementation of options will occur.

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

This Plan Summary accurately reflects the current version of the Plan.

Planner License Number

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

Certifications

Copies of the Certification statements are provided in the following pages.
LICENCED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTIONS PLANS FOR AURICO GOLD INC YOUNG-DAVIDSON MINE

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As of December 23, 2013, I, Nancy Duquet-Harvey certify that I am familiar with the processes at the AuRico Gold Inc, Young-Davidson 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, 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.

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Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

December 23, 2013

Mine Site – Hwy 566, Matachewan, ON P0K 1M0 T. 705.565.9800 F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

The following Certification Statement is being made under section 19 (2) of Ontario Regulation (O.Reg) 455/09 (as amended O.Reg 214/11) and satisfies the requirements of the Toxics Reduction Act for the Toxic Substance Reduction 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:

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---

Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson

---

Date  
Dec 23/13
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY
CARBON MONOXIDE
### AuRico Gold – Young-Davidson

**Carbon Monoxide**

<table>
<thead>
<tr>
<th>Basic Facility Information</th>
<th>Carbon Monoxide CAS# 630-08-0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company Name</strong></td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td><strong>Facility Name</strong></td>
<td>Young-Davidson Mine</td>
</tr>
<tr>
<td><strong>Facility physical and mailing address</strong></td>
<td>Mine Site, Highway 566 PO Box 187 Matachewan, ON P0K 1M0</td>
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<tr>
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<td>UTM Zone 17 524250 E, 5310450 N</td>
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### List of All Substances for which Toxic Substance Reduction Plans have been Prepared at the Facility

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- Phosphorus
- Selenium
- Silver
- Zinc
- Antimony
- Vanadium
- Antimony
- Cyanides (Ionic)
AuRico Gold – Young-Davidson  
Carbon Monoxide

- Hydrochloric Acid
- Carbon Disulphide
- Total Reduced Sulfur
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**Statement of Intent**
A statement of the Facility’s intent to reduce use of the Toxic Substance is not required as the toxic substance is never used within the Facility’s process.

It is the Facility’s opinion that it has previously optimized the creation of the Toxic Substance using best available technology and practices that are economically achievable at this time. In addition the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance and possesses an Air and Noise Environmental Compliance Approval.

**Objectives of the 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 the Plan
- 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 Each Process That Uses the Toxic Substance**
The Toxic Substance is created at areas of the facility from the product of combustion from stationary combustion activities such as propane heaters to heat the ventilation air destined underground and backup power generation from the combustion of diesel. From the Mining Stage, blasting activities underground and open pit required to mine the ore along with the combustion of diesel from the underground mobile equipment fleet creates the Toxic Substance.

The Toxic Substance is never used at the Facility.

**Rationale for not implementing Toxic Reduction Options**
Facility personnel have carefully examined each of the seven categories for toxic substance reduction options, and in light of the information provided in the Statement of Intent section, the Facility feels that no toxic substance reduction
options can be identified in any of the seven toxic substance reduction categories at this time. Since no toxic substance reduction options have been identified, no implementation of options will occur.

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

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**Planner License Number**

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey  
Environmental Coordinator  
AuRico Gold Young-Davidson Mine  
Toxic Substance Reduction Planner License Number TSRP0264

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Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date

December 23, 2013
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

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Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson

**Dec 23/13**  
Date
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY
CARBON MONOXIDE
Basic Facility Information

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<tr>
<td>6 Digit NAICS code</td>
<td>212220 - Gold &amp; Silver Ore Mining</td>
</tr>
<tr>
<td>Facility public contact</td>
<td>Nancy Duquet-Harvey Environmental Coordinator AuRico Gold Young-Davidson Mine Address as per above 705.565.9800 ext 2223</td>
</tr>
<tr>
<td>Parent Company Information</td>
<td>AuRico Gold Inc. Suite 1601 - 110 Yonge Street Toronto, ON M5C 1T4 647.260.8880</td>
</tr>
</tbody>
</table>

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
- Phosphorus
- Selenium
- Silver
- Zinc
- Antimony
- Vanadium
- Antimony
- Cyanides (Ionic)
Statement of Intent
A statement of the Facility’s intent to reduce use of the Toxic Substance is not required as the toxic substance is never used within the Facility’s process.

It is the Facility’s opinion that it has previously optimized the creation of the Toxic Substance using best available technology and practices that are economically achievable at this time. In addition the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance and possesses an Air and Noise Environmental Compliance Approval.

Objectives of the 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 the Plan;
- 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 Each Process That Uses the Toxic Substance
The Toxic Substance is created at areas of the facility from the product of combustion from stationary combustion activities such as propane heaters to heat the ventilation air destined underground and backup power generation from the combustion of diesel. From the Mining Stage, blasting activities underground and open pit required to mine the ore along with the combustion of diesel from the underground mobile equipment fleet creates the Toxic Substance.

The Toxic Substance is never used at the Facility.

Rationale for not implementing Toxic Reduction Options
Facility personnel have carefully examined each of the seven categories for toxic substance reduction options, and in light of the information provided in the Statement of Intent section, the Facility feels that no toxic substance reduction options are feasible.
options can be identified in any of the seven toxic substance reduction categories at this time. Since no toxic substance reduction options have been identified, no implementation of options will occur.

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

This Plan Summary accurately reflects the current version of the Plan.

**Planner License Number**

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey  
Environmental Coordinator  
AuRico Gold Young-Davidson Mine  
Toxic Substance Reduction Planner License Number TSRP0264

**Certifications**

Copies of the Certification statements are provided in the following pages.
LICENCED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR TOXIC SUBSTANCE REDUCTIONS PLANS FOR AURICO GOLD INC YOUNG-DAVIDSON MINE

The following Planner Certification Statement which is made under section 19.1 (4) of the Ontario Regulation 455/09 (as amended 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 below:

As of December 23, 2013, I, Nancy Duquet-Harvey certify that I am familiar with the processes at the AuRico Gold Inc, Young-Davidson 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, 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.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Date</th>
<th>Substance</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>December 23, 2013</td>
<td>Antimony</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Cadmium</td>
<td>December 23, 2013</td>
<td>Vanadium</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Cobalt</td>
<td>December 23, 2013</td>
<td>Hydrochloric Acid</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Copper</td>
<td>December 23, 2013</td>
<td>Carbon Disulphide</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Lead</td>
<td>December 23, 2013</td>
<td>Total Reduced Sulfur</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Manganese</td>
<td>December 23, 2013</td>
<td>Nitrate ion</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Mercury</td>
<td>December 23, 2013</td>
<td>Ammonia (total)</td>
<td>December 23, 2013</td>
</tr>
<tr>
<td>Zinc</td>
<td>December 23, 2013</td>
<td>PM2.5 – Particulate Matter &lt;= 2.5 micrometers</td>
<td>December 23, 2013</td>
</tr>
</tbody>
</table>

Nancy Duquet-Harvey  
Environmental Coordinator  
AuRico Gold, Young-Davidson  
TRA Planner License #: TSRP0264  

Date: December 23, 2013  

Mine Site – Hwy 566, Matachewan, ON P0K 1M0  T. 705.565.9800  F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

The following Certification Statement is being made under section 19 (2) of Ontario Regulation (O.Reg) 455/09 (as amended O.Reg 214/11) and satisfies the requirements of the Toxics Reduction Act for the Toxic Substance Reduction 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 [insert date] **Dec 23/13**, I, Luc Guimond 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 the Ontario Regulation 455/09 (General) made under the Act.

- Arsenic (December 23, 2013)
- Cadmium (December 23, 2013)
- Chromium (December 23, 2013)
- Cobalt (December 23, 2013)
- Copper (December 23, 2013)
- Lead (December 23, 2013)
- Manganese (December 23, 2013)
- Mercury (December 23, 2013)
- Nickel (December 23, 2013)
- Phosphorus (December 23, 2013)
- Selenium (December 23, 2013)
- Silver (December 23, 2013)
- Zinc (December 23, 2013)
- Antimony (December 23, 2013)
- Vanadium (December 23, 2013)
- Cyanides (Ionic) (December 23, 2013)
- Hydrochloric Acid (December 23, 2013)
- Carbon Disulphide (December 23, 2013)
- Total Reduced Sulfur (December 23, 2013)
- Nitrate ion (December 23, 2013)
- Ammonia (total) (December 23, 2013)
- Carbon Monoxide (December 23, 2013)
- Nitrogen Oxides (December 23, 2013)
- PM – Particulate Matter (December 23, 2013)
- PM10 – Particulate Matter <= 10 micrometers (December 23, 2013)
- PM2.5 – Particulate Matter <= 2.5 micrometers (December 23, 2013)

**Signature**

Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson

**Date**

Dec 23/13
TOXIC SUBSTANCE REDUCTION PLAN
SUMMARY

SUPPORTING VARIOUS
TOXIC SUBSTANCE REDUCTION PLANS
(PARTICULATE MATTER)
**Basic Facility Information**

<table>
<thead>
<tr>
<th>Name &amp; CAS # of Substance</th>
<th>This is a master Document which provides supporting information for Toxic Substance Reduction Plans for the following Metal Substances: PM - Particulate Matter, PM10 - Particulate Matter &lt;= 10 micrometers, PM2.5 – particulate Matter &lt;= 2.5 micrometers (no single CAS numbers apply to these substances)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>AuRico Gold Inc.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>Young-Davidson Mine</td>
</tr>
</tbody>
</table>
| Facility physical and mailing address | Mine Site, Highway 566  
PO Box 187  
Matachewan, ON P0K 1M0 |
| Spatial Coordinates of Facility | UTM Zone 17  
524250 E, 5310450 N |
| NPRI and O. Reg 127/01 Identification numbers | NPRI ID 26132 |
| Number of Employees (end of 2012 - full time equivalent) | 575 |
| 2 digit NAICS code        | 21 - Mining & Oil and Gas Extraction                                                                                             |
| 4 Digit NAICS code        | 2122 - Metal Ore Mining                                                                                                          |
| 6 Digit NAICS code        | 212220 - Gold & Silver Ore Mining                                                                                               |
| Facility public contact   | Nancy Duquet-Harvey  
Environmental Coordinator  
AuRico Gold Young-Davidson Mine  
Address as per above  
705.565.9800 ext 2223 |
| Parent Company Information | AuRico Gold Inc.  
Suite 1601 - 110 Yonge Street  
Toronto, ON M5C 1T4  
647.260.8880 |

**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
- Phosphorus
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• Nitrate ion
• Ammonia (total)
• Carbon Monoxide
• Nitrogen Oxides
• PM – Particulate Matter
• PM10 – Particulate Matter <= 10 micrometers
• PM2.5 – Particulate Matter <= 2.5 micrometers

Statement of Intent

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 used within the Facility’s process and therefore no statement with respect to intent to reduce the use of the Toxic Substance is required.

It is the Facility’s opinion that it has continuously minimises the creation of the Toxic Substance using an implemented Best Management Practices (BMP) for Fugitive Dust. The BMP was developed to meet the Ontario Regulation 419/05 and to support the application of an Environmental Compliance Approval for Air and Noise. The BMP is based on industry best practices outlined in the “Guide to the Preparation of a Best Management Practices Plan for the Control of Fugitive Dust” developed by the Centre of Excellence in Mining Innovation (CEMI). In addition the Facility currently complies with all environmental regulations that control the release of the Toxic Substance and possesses an Air and Noise Environmental Compliance Approval

As part of the TRA requirements, the Facility has prepared three Toxic Substance Reduction Plans and Plan Summaries for particulate matter which are prescribed toxic substances and whose “creation” is minimized based on the factors presented above.

Objectives of the 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 the Plan

• 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 Each Process That Uses the Toxic Substance

The Toxic Substance is created at the Supporting Stage areas of the facility from the product of combustion from stationary combustion activities such as propane heaters to heat the ventilation air destined underground and backup power generation from the combustion of diesel. From the Mining Stage, blasting activities underground and open pit required to mine the ore and the handling of the waste and ore from either the open pit or underground to stockpile or process plant creates the Toxic Substance. Onsite traffic on unpaved roads also create the Toxic Substance. In the Crushing, Milling and Refining stage, the Toxic Substance is created through handling and crushing of the ore material required for the production of gold.

Rationale for not implementing Toxic Reduction Options

A plan must contain an explanation of why no toxic substance options will be implemented.

The Facility have considered each of the seven categories and along with the information provided in the Statement of Intent no toxic substance reduction options were identified. 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

This Plan Summary accurately reflects the current version of the Plan.

Planner License Number

The licensed Toxic Substance Reduction Planner responsible for providing planner recommendations on and certification of this plan is as follows:

Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold Young-Davidson Mine
Toxic Substance Reduction Planner License Number TSRP0264

Certifications

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Nancy Duquet-Harvey
Environmental Coordinator
AuRico Gold, Young-Davidson
TRA Planner License #: TSRP0264

Date

Mine Site – Hwy 566, Matachewan, ON P0K 1M0 T. 705.565.9800 F. 705.565.2387
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

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Luc Guimond  
General Manager  
AuRico Gold, Young-Davidson  

Dec 23/13  
Date