

# **ICMI Cyanide Code Gold Mining Recertification Audit**

## **Corrective Action Plan**

**Agnico Eagle Mines Limited,  
Detour Lake Mine**

**Ontario, Canada**

**Submitted to:  
The International Cyanide Management Institute  
1400 I Street, NW – Suite 550  
Washington, DC 20005  
USA**

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15929 Avenida Venusto, Apt. 225,  
San Diego,  
CA, 92128, USA  
[www.smartaccess.us](http://www.smartaccess.us)

# **CORRECTIVE ACTION PLAN FOR DETOUR LAKE MINE**

## **1. Introduction**

One of the components of the International Cyanide Management Institute (ICMI) is the development of a Corrective Action Plan (CAP) for those parts of the audit findings that have been found to be in substantial compliance and require focused responses to take the site to full compliance.

ICMI requirements indicate that full implementation of the Corrective Action Plan and adequate notification to the ICMI must be completed within one year of the posting on the Cyanide Code website of the Summary Audit Report of an operation found in Substantial Compliance.

The sections below detail the corrective actions, agreed by Detour Lake Mine and the Lead Auditor, necessary to bring Detour into full compliance, as indicated in the Detailed Audit Findings Report (DAFR) and the Summary Audit Report (SAR).

## **2. Corrective Action Plan**

**Standard of Practice 4.4:** Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

This Standard of Practice was found to be substantially compliant for Detour Lake Mine.

- **4.4(2) Can the operation demonstrate that the cyanide concentration in open water in Tailings Storage Facilities, leach facilities and ponds does not exceed 50 mg/l WAD cyanide?**

### **Deficiency**

Detour has adjusted the WAD (Weak Acid Dissociable) cyanide target in final tails during the summer months. Procedure PPO-SOP-11.3.5 "Managing of High CN WAD in Detox Discharge" allows for WAD cyanide levels between 42 mg/l up to 100 mg/l in the tails exiting the detox system, but always meeting the maximum WAD cyanide concentration of 50 mg/l at the decant ponds. Detour does not take samples at the spigots and in the water flowing across the beach area prior to entering the decant pond to demonstrate that WAD cyanide concentrations entering the Tailings Management Area (TMA) are maintained below 50 mg/l.

### **Corrective Action**

Detour needs to conduct sampling at the discharge point to the tailings storage facility (e.g., at the spigots) to demonstrate that WAD cyanide values during the summer months are maintained below 50 mg/l; and, depending on the analytical results, implement alternative compliance measures as needed. Evidence needs to be provided by October 2023.

**Standard of Practice 4.8:** Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

This Standard of Practice was found to be substantially compliant for Detour Lake Mine.

- **4.8(1) Were quality assurance and quality control programs implemented during construction and substantial modification of all cyanide facilities?**

### **Deficiency**

A new Tailings Management Area (TMA) pipeline corridor going to Cell 2 was constructed during the recertification period; however, there were no QA/QC records available for review by the auditors in relation to earthworks, liner installation and fusion of the pipelines for this new cyanide facility. During preparation of the DAFR, Detour presented field records of pipeline fusion and a document including technical specifications and QA/QC activities to be conducted for the TMA, but no QA/QC records/report was provided to show that the facility was constructed according to specifications.

### **Corrective Action**

Detour needs to provide complete QA/QC records for this facility or retain an appropriately qualified person to inspect this new section of the pipeline corridor and issue a report concluding that the continued operation within established parameters will protect against cyanide exposures and releases. Evidence needs to be provided by July 2023.

**Standard of Practice 6.2:** Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

This Standard of Practice was found to be substantially compliant for Detour Lake Mine.

- **6.2(2) Has the operation identified areas and activities where workers may be exposed to hydrogen cyanide gas or cyanide dust in excess of 10 parts per million (ppm) (11 mg/m<sup>3</sup>) on an instantaneous basis and 4.7 ppm (5 mg/m<sup>3</sup>) continuously over an 8-hour period, as cyanide, and require use of appropriate personal protective equipment in these areas when performing these activities?**

### **Deficiency**

During a review of personnel HCN records during the recertification period, it is noted that a significant number of HCN personnel badge readings during periods in 2020 and 2021 exceeded instantaneous readings of greater than 10 ppm during normal work activities and greater than 25 ppm, the evacuation plant limit indicated in PPO-SOP-1.6.4, which did not trigger plant evacuation. During the preparation of the DAFR, Detour provided findings from an investigation of their historical HCN records. It was determined that the historical readings had both instances of real and false alarms from the personnel badges.

### **Corrective Action**

After the audit, Detour instigated a program to more frequently replace personnel badge sensors and to email shift supervisors instances of personnel badge readings greater than 4.7 ppm, once the badge historian is downloaded at the end of the shift. The intent of these programs is to remove instances of false alarms so that real alarms can be better investigated. Instances of badge readings greater than 10 ppm will be accompanied by a report submitted to Inet.

Detour must provide a Standard Operating Procedure (SOP) for the HCN sensor changeout process for review and then provide 30 days of HCN personnel badge historian data after the changeout process was initiated. All instances of greater than 10 ppm must be combined with an investigation report indicating the work that was being performed and the actions taken. For instances that are determined to be real, Detour must provide recommended operational controls to be installed or list the additional safety controls to be taken to ensure that employees are not exposed to situations greater than 10 ppm.

Detour must provide all SOPs which are modified to reflect the above changes, and then provide evidence that all Process Plant and Emergency Response Team (ERT) members have been trained to the most current versions of the modified SOPs.

All evidence needs to be provided by July 2023.