

International Cyanide Management Code Mining Operation Recertification Audit

Corrective Action Completion Report

Report Prepared for

Western Mesquite Mines, Inc

6502 E. U.S. Highway 78
Brawley, California 92227



Report Prepared by



SRK Consulting (U.S.), Inc.
SRK Project 343600.020

June 23, 2022

Operation Name: Mesquite Mine

Operation Operator: Western Mesquite Mines Inc

Operation Owner: Equinox Gold Corp.

Responsible Manager: Mr. Bill Martinich

Location Address: Mesquite Mine
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Audit Criteria: International Cyanide Management Code


Audit Scope: Mesquite Mining and processing operations and support functions

Corrective Action Completion Report Prepared By: John Barber – ICMI Lead & Mining Technical Auditor
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Signature of Lead Auditor

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Introduction

The Western Mesquite Mine underwent a recertification audit conducted between November 16-19, 2020. At the conclusion of the Audit several Standards of Practice were found to be in substantial compliance with the International Cyanide Management Code (ICMC). As described in the Detailed and Summary Audit Reports for this ICMC recertification audit, the auditors determined a finding of substantial compliance for five (5) ICMC Standards of Practice. In response to the deficiencies identified, SRK Consulting, U.S., Inc. ("SRK") and Western Mesquite Mines developed a Corrective Action Plan, which detailed the actions necessary to bring the operation into full compliance with the Code.

Acceptance of the Corrective Action Plan and Conditional certification was granted by the International Cyanide Management Institute (ICMI) on June 25th, 2021.

Below is a summary of the deficiencies, evidence required, evidence submitted, and conclusions.

1.0 WMMI-ICMC-CAR-01: Standard of Practices 4.1

ICMC Protocol Questions: 4.1.1, 4.1.2, 4.1.3, 4.1.6, 4.1.7b, 4.1.7d, 4.1.8, & 4.1.9

Non-Conforming Situation


Previous ICMC audits determined the Gold Plant was a non-ICMC facility and based on operational modifications; processing carbon from the Castle Mountain Project that is above the ICMI threshold for cyanide facilities, the Gold Plant is a cyanide facility.

Written management and operating plans, to comply with the ICMC, for the safe and environmentally sound operation of the facility, including preventative maintenance and inspections were not available for review. In addition, inspections of pipes, pumps, secondary containment for deterioration, etc., were not available for review.

Evidence Required for Verification of Corrective Action Completion

SP 4.1.1	Copies of modified or new written management plans, operating plans and/or procedures to comply with the ICMC including preventive maintenance and inspections. Supporting preventative maintenance records, as applicable, and inspection forms. In addition, training records associated with all new written procedures must be provided.
SP 4.1.2	Plans and procedures developed for SP 4.1.1.
SP 4.1.3	Information required in 4.1.1 and completed inspection and maintenance records for a period of not less than 3-months post implementation.
SP 4.1.6	Information provided in 4.1.1 and 4.1.3.
SP 4.1.7b	Information provided in 4.1.1 and 4.1.3.
SP 4.1.7d	Information provided in 4.1.1 and 4.1.3.
SP 4.1.8	Information provided in 4.1.1, 4.1.3, and records for corrective actions documented during inspections.
SP 4.1.9	Copies of modified or new preventative maintenance programs/activities for the Gold Plant. Provide preventative maintenance records of activities.

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Evidence Submitted

Standard of Practice Provision 4.1.1

WMMI developed new and/or modified the following operating plans and procedure documents related to the operation of the Gold Plant cyanide facility:

- Gold Plant Acid/Caustic Wash SOP (July 15, 2021)
- Gold Plant Carbon Stripping Standard Operating Procedures (July 9, 2021)
- Gold Plant Adsorption Circuit SOP (February 15, 2022)
- CMV-WMMI Sampling Carbon Procedure (February 14, 2022)
- Gold Plant Filter Press SOP (July 15, 2021)
- Horizontal Kiln Standard Operating Procedure (July 15, 2021)
- Personal Honeywell BW HCN Gas Detection Monitoring Device Standard Operating Procedure (July 15, 2021)
- Sodium Hydroxide (Caustic) Unloading, Standard Operating Procedure (July 15, 2021)
- Gold Plant Propane Line Blank, Block and Bleed Valve Testing Procedures (July 8, 2021)
- Liquid Propane Unloading Standard Operating Procedures (July 15, 2021)
- R.O. Water Unit SOP (July 15, 2021)
- Working Alone Policy and Procedure (no date)
- Gold Plant Monthly Containment Inspection Forms (Blank)
- Gold Plant Daily Operations Inspection Forms (Blank)

Employee training records for the above listed Gold Plant SOPs were reviewed by the Auditor.

Completed maintenance and inspection records are discussed in SP4.1.3 and SP4.1.9.

Standard of Practice Provision 4.1.2


The plans and procedures developed in response to SP 4.1.1 include the necessary assumptions and parameters to prevent or control potential cyanide releases and exposures.

Standard of Practice Provision 4.1.3

The procedures, plans and documents developed under this Corrective Action Plan and included in ICMC Protocol Question 4.1.1 and 4.1.8, address those aspects of the operation that are necessary for protection of workers, communities, and the environment.

Additionally, WMMI implements routine inspection and maintenance programs for the Gold Plant, which address proper management of process solutions to maintain the design storage capacities. WMMI provided not less than three-months of completed daily and monthly inspections and corrective action maintenance records that were available. The inspections and corrective actions were reviewed and included the following aspects:

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- “Process Plant Area Daily Inspection” – conducted each shift; includes emergency systems (e.g., shower/eyewash stations, fire extinguishers, SDS), PPE, housekeeping, piping, valves, pumps, boiler, desorb cells, acid wash, Kiln fans, screens, electrical, and cyanide salt residue on containment floors, pumps, and pipes; and
- “Gold Plant Containment Area Monthly Inspection” – conducted monthly; includes concrete integrity within the secondary containment areas at the Gold Plant, including all areas of the plant facilities (e.g., acid wash, main area, acid storage, carbon storage, carbon unloading, caustic area, and strip tank containments).
- Corrective Action Maintenance Records – available maintenance records for deficiencies identified from inspections were provided and included; deficiency identified, corrective action, person completing the corrective action, actions implemented and date corrected.

Standard of Practice Provision 4.1.6

WMMI has established acceptable inspection and preventive maintenance frequencies for other ICMI compliant areas of the cyanide facility, these frequencies were incorporate into the Gold Plant inspections and preventative maintenance programs.

Standard of Practice Provision 4.1.7b

See response to SP 4.1.1 and 4.1.3

Standard of Practice Provision 4.1.7d

See response to SP 4.1.1 and 4.1.3

Standard of Practice Provision 4.1.8

WMMI provided Gold Plant Daily and Monthly inspections, that included the inspection date, shift, name of the inspector and as appropriate deficiencies and corrective actions.

Standard of Practice Provision 4.1.9

WMMI has incorporated the Gold Plant into its preventive maintenance program. Available preventive maintenance records were reviewed by the Auditor.


2.0 WMMI-ICMC-CAR-02: Standard of Practice 4.7

ICMC Protocol Questions: 4.7.1, 4.7.2, 4.7.3, & 4.7.5

Description of the Deficiency

The Gold Plant has a concrete floor with curbing and sumps to capture solution and return it to the process. However, documentation was not available at the time of the field verification audit to determine if the floor provided secondary containment for the largest tank and pipelines draining back. Procedures for handling solutions within the Gold Plant concrete floor (secondary containment) were not available

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at the time of the field verification. Spill prevention or containment measures for all cyanide process solution pipelines to collect leaks and prevent releases to the environment were unable to be verified at the time of the field verification.

Evidence Required for Verification of Corrective Action Completion

SP 4.7.1	Evidence requirements from SP 4.7.1 and SP 4.8.5 to include containment calculations for the Gold Plant and containment competency.
SP 4.7.2	Evidence requirements for SP 4.7.1 and SP 4.8.5
SP 4.7.3	See evidence requirements for 4.7.1 and 4.8.5
SP 4.7.5	Evidence requirements for SP 4.7.1 and SP 4.8.5 to include the Gold Plant to NCIC area review for containment and containment integrity.

Evidence Submitted

Standard of Practice Provision 4.7.1

WMMI retained Robison Engineering Company, Inc. (Robison) to complete an inspection of the Gold Plant containment and verify primary and secondary containment requirements. On June 3-4, 2021, Robison was on-site to obtain detail structural and elevation measurements and otherwise document the facility to determine conformance to the ICMC. Their containment calculations, findings and recommendations were presented in the document entitled, “Western Mesquite Mines, Inc – Mesquite Gold Mine International Cyanide Management Code As-Built and Corrective Action Plan” dated August 25, 2021.

Robison identified several areas that required Corrective Actions to bring the Gold Plant into compliance with the ICMC. WMMI completed the corrective actions, which were confirmed by Robison in the document entitled, “Western Mesquite Mines, Inc. – Mesquite Gold Mine International Cyanide Management Code, Corrective Action Plan Completion and Certification,” dated May 16, 2022.

Robison Engineering Company, Inc. is a third-party engineering firm licensed in the state of California, their statement of qualifications were provided in the document entitled, “Robison Engineering General Statement of Qualifications,” dated March 2021.

The Auditor reviewed the above referenced reports and conducted a site inspection of the Gold Plant construction on April 13, 2022.


Standard of Practice Provision 4.7.2

See Response to SP 4.7.1 and 4.8.5

Standard of Practice Provision 4.7.3

See Response to SP 4.7.1 and 4.8.5

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Standard of Practice Provision 4.7.5

WMMI completed a review of the integrity of the Gold Plant to the NCIC. This included a review of the HDPE pipeline and synthetic lined ditch for containment integrity. WMMI identified deficiencies, developed, and implemented corrective actions. During the April 13, 2022, site inspection, this work was substantially complete and the Auditor was able to review the progress of the work. WMMI summarized the deficiencies, corrective actions, and final completion of work in a memo entitled, "EQX Memo – Mesquite Conveyance Ditch" dated, June 6, 2022. In addition, photographs were provided for the work completed after the site inspection.

3.0 WMMI-ICMC-CAR-03: Standard of Practice 4.8

ICMC Protocol Questions: 4.8.5

Non-Conforming Situation

The Gold Plant was constructed in approximately 1987 - available design, construction and QA/QC documentation was not available during the verification audit and may no longer exist.

Evidence Required for Verification of Corrective Action Completion

SP 4.8.5

Site must provide all correspondence from the qualified person conducting the Gold Plant inspection including at a minimum; inspectors name, affiliation, and qualifications. In addition, the site must submit the inspection protocol, inspection summary, inspection findings, inspection conclusion, and corrective actions, as appropriate.

Evidence Submitted

Standard of Practice Provision 4.8.5

See Response to SP 4.7.1 and 4.7.5

4.0 WMMI-ICMC-CAR-04; Standard of Practice 6.1


ICMC Protocol Questions: 6.1.2

Non-Conforming Situation

Previous ICMC audits determined the Gold Plant was a non-ICMC facility and based on operational modifications; processing carbon from the Castle Mountain Project that is above the ICMI threshold for cyanide facilities, the Gold Plant is a cyanide facility.

Written management and operating plans, to comply with the ICMC, for the safe and environmentally sound operation of the facility, including preventative maintenance and inspections were not available for review. In addition, inspections of pipes, pumps, secondary containment for deterioration, etc., were not available for review. As such the auditor was not able to determine if they include the use of personal protective equipment and addressed pre-work inspections.

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Evidence Required for Verification of Corrective Action Completion

SP 6.1.2	Copies of modified or new written management plans, operating plans and/or procedures including preventative maintenance plans and inspections.
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Evidence Submitted

Standard of Practice Provision 6.1.2

The operating plans, procedures and documents summarized in the Response to SP 4.1.1, provide written plans and standard operating procedures for the safe and environmentally sound operation of the facilities. These plans and procedures include required PPE, preventive maintenance and inspections of pipes, sumps, secondary containment, etc.

The auditor reviewed three months of inspections and available preventative maintenance work orders and confirmed that these plans and procedures are being implemented.

5.0 WMMI-ICMC-CAR-04; Standard of Practice 6.2

ICMC Protocol Questions: 6.2.2, 6.2.3, 6.2.5, & 6.2.7

Non-Conforming Situation

The Gold Plant is an “open air” facility is well ventilated however, the potential for HCN generation does exist. The site has installed a fixed HCN meter in the acid wash area but has not conducted a risk analysis to determine where or if HCN could be generated (>4.7 ppm/8-hours or 10 ppm/instantaneous) and if additional HCN meters are warranted.

The facility has general signage adequate for a non-cyanide facility, however the cyanide signage is limited and does not meet the ICMC requirements.

Evidence Required for Verification of Corrective Action Completion

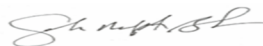
SP 6.2.2	Copies of all reports, sampling/analytical data, surveys, and conclusions from the HCN surveys.
SP 6.2.3	Incorporate the HCN criteria under for SP 6.2.3 into the reports for SP 6.2.2.
SP 6.2.5	Photographs of the signage and site verification.
SP 6.2.7	Field verification of the Gold Plant fire extinguishers and locations.

Evidence Submitted

Standard of Practice Provision 6.2.2

Site conducted a review of the facility and identified areas that have a potential to generate HCN gas. Based on this an HCN survey protocol was developed and two surveys were completed: April 27th and April 11, 2022. The first survey was conducted while processing Western Mesquite carbon, the second survey was completed during processing of the Castle Mountain carbon.

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The protocol, sampling dates, sampling equipment identification, sampling results and conclusions were summarized in the report entitled, "HCN Gas Detection Analysis," dated April 11, 2022.

Standard of Practice Provision 6.2.3

Based on the results of the HCN surveys referenced in SP 6.2.2, no modifications to the Gold Plant plans and procedures were proposed.

Standard of Practice Provision 6.2.5

Photographic evidence was provided depicting additional signage for the Gold Plant. The Auditor conducted a site inspection of the Gold Plant construction on April 13, 2022 and verified that adequate signage was now in place.

Standard of Practice Provision 6.2.7

The Auditor conducted a site inspection of the Gold Plant construction on April 13, 2022 and verified that appropriate fire extinguishers were provided at key locations.

Conclusion


The Lead Auditor after reviewing the Corrective Action Plan, the evidence submitted by Western Mesquite Mines Inc. and conducting a follow-up site verification review concludes that the actions have been implemented and are effective in addressing the requirements of Standard of Practice 4.1, 4.7, 4.8, 6.1, and 6.2.

Accordingly, the Lead Auditor considers that the initial finding of substantial compliance with these Standard of Practices following the November 16-19, 2020 ICMI recertification audit to be now in **full compliance**. The Lead Auditor recommends that Western Mesquite Mines Inc., be considered by the International Cyanide Management Institute to be in full compliance the International Cyanide Management Code for Mining Operations.



John R. Barber
ICMI Lead & Mining Technical Auditor

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