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<b>Morenci Safe Production Standard</b>	<b>Standard # 5.1.3</b>	
<b>Lead Safety Program</b>	OHSAS 18001:2007	4.4.6
	Revision #	02
	Revision Date	06/28/2013
	Effective Date	4/1/2010
	Document Owner	Industrial Hygiene
<b>Review:</b>	<b>Approval</b>	
<i>Manager/Health and Safety: 9/2012</i>	<i>GM/Administration: 9/2012</i>	

## 1.0 PURPOSE:

1.1 This Program has been established to ensure that all lead-containing materials are evaluated and that safe use and handling information is provided to all individuals that may be potentially exposed to lead. This program is aligned with the Corporate Safety and Health Policy Statement and the Occupational Safety and Health Administration (OSHA) and Mine Safety Health Administration (MSHA) regulations as applicable.

## 2.0 SCOPE:

2.1 This program applies to all Freeport-McMoRan Morenci Operations areas, employees, contractors, and visitors that may be exposed to lead under normal operating conditions or in a foreseeable emergency.

## 3.0 TERMS, DEFINITIONS AND ABBREVIATIONS

**Lead** means metallic lead, all inorganic lead compounds, and organic lead soaps.

## 4.0 RESPONSIBILITIES:

The senior management of FMI Morenci Operations has ultimate responsibility for the Lead Program; however all employees are responsible and accountable for the protection of their personal health and safety as related to lead handling and management.

### 4.1 Supervisors and Managers

- Identify lead or sources of lead in their work areas;
- Ensure individuals receive initial training in the methods and procedures to protect themselves from adverse exposure prior to handling lead and annually thereafter;
- Hold individuals accountable for their actions with the objective of preventing work-related exposure;
- Notify Health and Safety or the Program Administrator of intended modifications to the work conditions or process which may increase the exposure potential;
- Receive approval prior to the purchase of new products or materials that contain lead;

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- Ensure that vendors/visitors understand the requirements for approval of lead containing products or materials prior to bringing *any amount* on to FMI Morenci Operations property;
- Ensure adequate PPE is available in the work areas and is used by lead exposed individuals;
- Identify and request corrective actions for conditions which may result in exposures due to lacking or untimely maintenance.
- Conduct timely investigations of all incidents or illness relating to possible exposure to lead and follow-up as appropriate to prevent re-occurrence in accordance with established procedures such as HFACS Root Cause Analysis.

#### 4.2 Industrial Hygiene

- Administer the Program on behalf of FMI Morenci Operations senior management and provide technical support as needed to managers, supervisors, and individuals to guide the proper management of lead;
- Review the as needed for content, compliance with regulatory requirements, and applicability

#### 4.3 Employees

- Use, and maintain PPE in accordance with the training provided;
- Follow hygiene practices which will prevent the entry of lead into the body by ingestion, absorption, or injection;
- Follow procedures which are necessary in order to be protected from adverse exposures to lead;
- Take reasonable and practical steps to prevent adverse contact with lead;
- Notify their supervisor of any known or suspected exposures or the occurrence of signs and symptoms of exposure relating to lead, anywhere work practice or process changes that could result in exposure

### 5.0 STANDARDS OF PERFORMANCE

#### 5.1 Lead

Lead can be present in any operation or operating area. Lead may be a product of a process (mining), consumed by the process (electrowinning), or secondary to the process such as an ingredient of paints used for coatings. Lead may be present in small quantities, or in very large quantities. The hazard may be an inherent property of the substance (such as mined and processed ore) or may become hazardous during use (such as fumes generated by cutting or welding.) Examples of locations or processes where lead may be found include, but are not limited to:

- Painted surfaces
- Laboratories or test facilities
- Maintenance shops
- Crushers
- Concentrators
- Electrical shops
- Fabrication shops
- Refueling areas

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- Tank houses

Lead may be present in but not limited to:

- Paints
- Solders
- Greases/lubricants
- Ores
- Blanks or templates used in tank house processes
- Batteries

## 5.2 Exposure Assessment

Exposure assessments for lead will be included in periodic monitoring schedules to evaluate exposure potential. These will be included in the strategic plan for each year. Monitoring will be done by the Industrial Hygiene Team. Where monitoring results reach or exceed Occupational Exposure Limits, corrective actions shall be recommended.

Additional or ongoing exposure assessments will be conducted either as necessary to monitor the exposure potential; to confirm the effectiveness of corrective actions; in accordance with applicable regulatory requirements; or to assess increased exposure potential resulting from process changes, operational changes, equipment changes, or other similar changes. The frequency of monitoring will in accordance with the regulatory requirements of the OSHA Lead Standard (29CFR 1910.1025) in those instances where exposure of individuals reach regulatory thresholds

## 5.3 Medical Surveillance

Lead exposed individuals will receive medical evaluation based upon known or suspected exposure potential to lead in accordance with the requirements of OSHA Lead Standard and the Occupational Health Program. Medical management of individuals exposed to lead will be in accordance with the OSHA Lead Standard and Occupational Health Program. The surveillance is to be completed by Gila Health Resources.

## 5.4 Hierarchy of Controls

For the purposes of this Program, the hierarchy shall include:

- Elimination or exclusion of lead whenever and where ever possible
- Engineering controls focused on enclosure of processes or ventilation controls which remove lead, thereby preventing exposing the individual to harmful levels

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- Administrative controls
  - Standard Operating Procedures--Written procedures are to be developed, reviewed and updated to ensure that each task associated with lead safety is done in a way that will keep all potential exposures to lead as low as reasonable achievable.
  - Procedures shall be event/project specific. The written procedures necessary to accomplish this include:
  - Tank house Lead - industrial & personal hygiene principles and practices to be followed when working with/around lead in the tank houses. Physical control methods for lead in lunch/break rooms including floor mats and contractor maintenance.
  - Cleaning schedule for work vehicles.
  
- Personal Protective Equipment (PPE)

### 5.5 Non-Routine and Emergency Procedures

Non-routine or emergency events may occur at any time. A spill or release of lead or a lead containing material presents an opportunity for exposure that can be significant. The most probable exposure events would involve lead dust or fume; however, lead may be present in liquids as well. Non-routine events often involve higher levels of exposure due to the activities (such as maintenance); the need to disengage normal controls; or the uncontrolled nature of the event.

Based on the substance itself, its physical properties, and exposure potential, non-routine or emergency management of lead exposure may require:

- The number of potentially exposed personnel be kept to a minimum.
- The use of PPE which is impervious to lead or the substance it is contained in (such as a solvent-based paint)
- The use of methods or protocols specifically intended to control the release of lead to the atmosphere.
- That all efforts shall be taken to minimize any unprotected contact with the substance, including inhalation and ingestion.
- That a decontamination process will be followed at the conclusion of the event which specifically addresses:
- Proper cleaning and decontamination of surfaces that have been contacted by lead

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- Measures to prevent the transfer or movement of lead from the immediate vicinity of the event
- Proper disposal of any items used in the management of the event that cannot be effectively decontaminated and returned to service.

### 5.6 Program Auditing

The Industrial Hygiene department has ultimate responsibility for auditing the program and lead monitoring throughout the property. The audit process is intended to identify areas in which improvements can be made to the program.

Identified deficiencies from the audit will be written and submitted to the appropriate area management. Area management will then have the responsibility to implement improvements to the program.

## 6.0 REFERENCE DOCUMENTS

6.1 29 CFR 1910.1025 OSHA Occupational Lead Exposure Regulation

6.2 Freeport McMoRan Copper & Gold Health & Safety Policy Statement

## 7.0 RECORDS

Name of the Document	Responsible for Control	Records Retention
Approved Copy of this Standard	Health and Safety	Permanent
Lead Surveys and Sampling Results	Industrial Hygiene	Permanent
Lead Medical Surveillance Records	Gila Health Resources	Permanent

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Program Audits	Industrial Hygiene	Permanent
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## 8.0 APPENDICES

## 9.0 REVIEW AND CHANGE

All changes, modifications and/or revisions must be documented on the table below:

<i>Description of Changes to this Document</i>
Reviewed and Reformatted-no policy changes-on 9-7-12 Garth Graham
06/28/13 – Updated records table – S. Elias Rev. 02