Incident Response Manual
(IRM)

HENDERSON MINE

February 2014

Prepared by:

Aquionix

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FACILITY INFORMATION

MINE FACILITY	
Facility Name	Henderson Mine
Facility Owner	Climax Molybdenum Company
Facility Type	Underground molybdenum mining and associated operations
Physical Address	1746 County Road 202, Empire, Colorado 80438
Mailing Address	1746 County Road 202, Empire, Colorado 80438
Phone Number	303-569-3221/720-942-3394
Fax Number	303-569-2829
Facility Contact	Miguel Hamarat, Chief Env. Engineer 720-942-3255

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UPDATES AND REVISION HISTORY

It is important that this document be updated in a timely manner to reflect changes in operations, as well as responsible people at the site. Such revisions will be made in accordance with related compliance calendars, document control and other applicable procedures specified in Henderson's Environmental Management System (EMS). Revisions to this document are summarized in the Revision History log below.

Revision Date	Completed By:	Summary of Revisions or Record of Review
April 2011	Geoff Clothier	Added reference to SPCC Bulk Chemical Inventory list to Appendix E with select MSDSs, edited contacts, edited and updated flowchart (Appendix A)
May 2011	Aquionix, Inc.	IRM Update: Separated Hazardous Waste LQG Requirements into a distinct document; Added reference to the Henderson Operations Spill Management Procedure.
May 2013	Geoff Clothier, Whitney Koester	Annual Review and Update
November 2013	Lori Elliott	Updated Phone Numbers due to new Phone System
February 2014	Whitney Koester	Annual Review and Update

1.0 GENERAL INFORMATION

1.1 Introduction (Purpose and Scope)

This manual is an Environmental Management System (EMS) tool to be used in the event of an environmental incident involving the spill or release of products at the Henderson Mine site. This plan has been written to meet the emergency response requirements associated with the following plans and regulations.

- Spill Prevention Control and Countermeasures (SPCC) – Requirement to update emergency contacts and reporting procedures.
- Colorado Pollutant Discharge Elimination System (CPDES) permit – Requirement to update the reporting system that will be used to notify, at a minimum, responsible facility management, the Colorado Department of Public Health and Environment (Water Quality Control Division), the Environmental Protection Agency, water users within 5 miles downstream of the facility, and local health officials.
- Henderson Spill Management Procedure.
- Henderson Stormwater Management Plan.
- Henderson Waste Management Plan.
- Environmental Protection Plan.

1.2 What is an Environmental Incident?

An environmental incident includes the following:

1. Petroleum product or other chemical (hazardous or non-hazardous) that could contact surface water;
2. Petroleum product or other chemical and non-petroleum product in quantities as outlined in Section 1.1 that spills on the ground or other surface area;
3. Hazardous waste that spills on the ground or other surface area;
4. Water treatment upsets (potable, domestic or industrial);
5. A release of waters outside of the treatment system;
6. Imminent or actual failure of any surface impoundment or other environmental protection facility (EPF); and
7. Air monitoring equipment or control upset or failure.

If you are unsure whether a situation is an environmental incident, treat it as such until you are informed otherwise by the Environmental staff.

2.0 OVERVIEW OF FACILITY OPERATIONS

2.1 Operations

The scope of the Henderson operation can best be understood by separately discussing its four major components: (1) Henderson Mine; (2) URAD Minesite; (3) Henderson Mill; and (4) the Overland Conveyor System.

2.1.1 Henderson Mine

The Henderson Mine is located on the North side of Red Mountain near the confluence of Butler Gulch and the West Fork of Clear Creek. It is nine miles west of Empire, CO in Clear Creek County on the Eastern Slope of the Continental Divide. The elevation at the mine site is 10,400 feet. Access to the mine is gained by a 28 foot diameter vertical shaft which is 3,100 feet deep. Four other shafts service the ventilation requirements for intake and discharge air. Horizontal drifts (tunnels) at the bottom of the shafts provide access to the ore body. A highly mechanized panel-cave system of mining is being employed with a nominal capacity of 40,000 tons per day

2.1.2 URAD Minesite

The URAD Mine Site is a reclaimed mine located southeast of the Henderson Mine in Woods Creek Valley. This site consists of two reclaimed tailing impoundments, two plugged portals, water treatment collection ponds, and a water treatment plant.

2.1.3 Overland Conveyor System

A conveyor belt system is used to haul the mined ore from the Henderson Mine to the Henderson Mill. The conveyor system begins as a tunnel below the ore body at an elevation of 7000 feet. The tunnel runs west for 9.6 miles, surfacing at an elevation of 9,000 feet. After surfacing, the Overland Conveyor System continues west and north for another 4.8 miles to the Henderson Mill Site.

2.1.4 Henderson Mill

The Henderson Mill is approximately 22 miles south of Parshall, CO, just off of Grand County Road No. 3. The ore processing facilities (mill and concentrator) are located off the western slope of the ridge between the Williams Fork River and the East Branch of Ute Creek, Grand County, CO.

2.2 Hazardous Waste Activities

Much of the waste generated at Henderson is from mineral processing and is thus excluded from hazardous waste regulation under the mineral processing exclusion found in 6 CCR 1007-3 261.4(b)(7). However, periodically some potentially regulated hazardous waste is generated at Henderson, such as unusable products and various other maintenance related wastes. As such,

the Henderson Mine may become an episodic Large Quantity Generator (LQG) of hazardous waste.

A LQG of hazardous waste is required to document very specific emergency preparedness and response information, which is not included within the scope of this IRM. As such, during a month where the site surpasses the LQG threshold, the *Henderson Mine Hazardous Waste Contingency Plan* will be used in conjunction with this IRM to ensure that required solid and hazard waste protocols are addressed and implemented (see Appendix D).

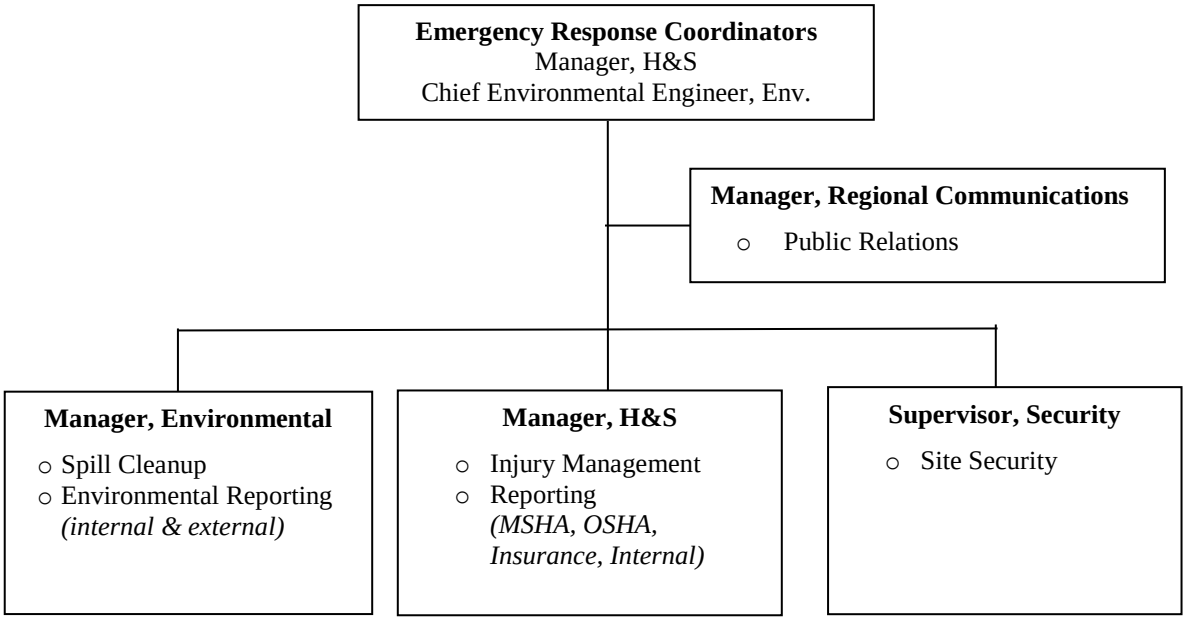
2.3 Petroleum and Other Chemicals

Henderson also manages petroleum products, petroleum containing equipment, chemicals, and waste oils/lubricants. Storage and other technical features of these items are discussed in the facility's SPCC Plan. Refer to Appendix B for the locations of SPCC bulk storage chemicals at Henderson Mine.

3.0 ORGANIZATION RESPONSIBILITY AND DUTIES

3.1 Organizational Structure

The following flowchart summarizes the emergency response organizational structure for Henderson. The names and contact information for all listed positions are provided on the *Incident Response Flowcharts* found in Appendix A. The responsibilities of each function are further discussed below the flowchart.



3.2 Emergency Response Coordinators

The Emergency Response Coordinator (ERC) shall:

- Be familiar with all aspects of this Emergency Response and Contingency Plan, all operations and activities at the Henderson Mine, the location and characteristics of hazardous wastes handled on-site, the location of records within the facility, and the facility layout;
- Be responsible for managing all emergency response incidents. This individual has the authority to commit resources needed to carry out this Contingency plan;
- Take all reasonable measures to ensure that fires, explosions, and releases do not occur, reoccur, or spread to other areas of the facility. These measures must include, as appropriate, stopping processes and operations, collecting and containing releases, and removing and isolating leaking systems and containers;
- Be on the facility premises or on call with the responsibility for coordinating emergency response measures (at least one coordinator); and
- Be responsible for Emergency Response Coordinator Procedures identified in section 5.2.

3.3 Public Relations Coordinator

The Public Relations Coordinator is responsible for all communications with external parties (excluding government agencies) that are not immediately involved with an emergency response.

3.4 Environmental Manager

Upon being notified of an incident, the Environmental Manager (or his representative) shall be responsible for the following:

a. Providing technical expertise and resources during response and cleanup efforts;
b. If releases are likely to impact "waters of the United States," coordinate the development of dams and berms such that they are in compliance with the Nationwide Section 404 Permit 20 – Oil Spill Cleanup. Under this permit, such dams and berms are only allowed for the containment and cleanup of oil and hazardous substances which are:
    - Subject to the National Contingency Plan (NCP), and
    - Performed in accordance with a Spill Control and Countermeasures Plan (SPCC), and are in concurrence with the NCP "Regional Response Team."
c. Notifying the appropriate Divisional Manager relative to where the incident occurred;
d. Notifying the General Manager and briefing him on applicable regulatory requirements and recommended actions;
e. Notifying the Corporate Director of Environment, Land and Water; and
f. As appropriate to the incident, notification of governmental agencies.

3.5 Health and Safety Department

The Health and Safety Department shall be responsible for providing technical health and safety expertise during an emergency response. Upon being notified of an emergency incident, the Health and Safety Department shall also be responsible for the following:

a. Providing technical expertise and resources regarding the safety of cleanup operations;
b. Notifying Corporate Director of Occupational Health and Safety; and
c. Notifying Mine Safety and Health Administration and other health and safety agencies (if necessary).

3.6 Hoistman and Dispatch

Upon being notified of an emergency incident, the Hoistman shall be responsible for:

a. Contacting the Command Center

Upon being notified of an emergency incident, the dispatchers shall be responsible for:

a. Contacting the Emergency Response Team, if there is an injury or fire;

b. Ensuring that the Facility Emergency Response Coordinator or one of the alternates has been notified; and

c. Notifying the on call safety and environmental representative.

3.7 Area Supervisors and Superintendents

Area Supervisors and Superintendents (or their designees) shall be responsible for assisting the Emergency Coordinator in understanding the systems involved and, as is appropriate and safe to do so, coordinating the shut-down of impacted processes and monitoring of operating systems for leaks, pressure build-ups, gas generation, etc. The Area Supervisor or Superintendent shall also be responsible for notifying their immediate supervisor of the occurrence of any incidents.

3.8 Employees and Contractors

Employees and contractors are to report hazardous waste spills, releases, fires or explosions to their supervisors and to the Hoistman via the emergency telephone numbers or radio procedures. Employees and contractors may also participate in emergency response activities as directed by the emergency coordinator and as appropriate to their level of training.

4.0 EMERGENCY PREPAREDNESS

4.1 Emergency Response Equipment

Emergency equipment is located throughout the facility and in close proximity to areas that have an increased risk for potentially harmful releases and incidents.

4.2 Emergency Response and Communication Equipment Maintenance and Testing

Emergency response and preparedness equipment is inspected by the personnel staffing the area in which it is located, with the exception of annual fire extinguisher inspections which are contracted to a private company for the mine site. Preventive maintenance of other critical equipment is managed through Henderson's Preventive Maintenance System (SAP).

4.3 Emergency Response Training

Henderson employees receive emergency incident training during initial MSHA training and annually thereafter through their MSHA refresher course. Personnel receive training on the proper management of hazardous wastes and materials during an annual environmental training class (this class is commonly held in conjunction with the annual MSHA refresher training).

Records of annual environmental training are maintained, on site, by the Henderson Environmental Department.

Contractors and visitors must receive site-specific MSHA training prior to being allowed outside of the office complex. This training covers incident reporting and evacuation requirements.

Henderson's emergency responders receive extensive training on responding to emergency incidents. Standard training for personnel who are authorized to respond to and direct work at an emergency includes 24-hour or 40-hour of initial emergency response training combined with an 8-hour refresher course.

4.4 Emergency Response Drills

Periodic environmental incident drills are conducted for training purposes and to verify the effectiveness of Henderson's environmental incident response systems. These drills serve the primary purposes of ensuring that:

- Site personnel are thoroughly familiar with the applicable incident response procedures;
- Henderson incident response procedures are followed in the event of an environmental incident;
- Henderson incident response procedures are effective; and
- Necessary revisions to Henderson's incident response procedures are identified and implemented.

These drills are not subject to any set schedule, but are conducted at least once every two years.

4.5 Coordination with Local Emergency Response Agencies

Henderson works with local emergency response organizations and teams to:

- Familiarize their personnel with our facility;
- Verify they are capable of providing the resources that may be required in the event of an emergency; and
- Verify that response procedures are compatible and able to be effectively implemented during an emergency.

5.0 RESPONSE AND REPORTING PROCEDURES

The emergency response and reporting procedures to be followed in the event of an environmental incident OR any other spill, injury, fire or explosion are located on the Mine Incident Response Flowchart found in Appendix A of this Plan. This flowchart is also posted throughout the Henderson Mine Site. The sections below expand on the procedures and requirements listed on this flowchart.

5.1 Initial Notification and Evacuation

Immediately upon observing an incident, employees, contractors and visitors are to evacuate the immediate vicinity and call the Hoistman, if they have a radio, dial any channel **1 through 8** and follow reporting procedures appropriate for the incident area. Immediately upon hearing the procedural call, all employees, visitors, and contractors are required to stop what they are doing and listen for further instructions, observing radio silence in the meantime.

It is highly unlikely that an evacuation of all Henderson facilities would be required. However, individual evacuation routes and assembly areas have been developed and posted for each area of the Henderson Mine Site. These assembly areas will be added to the Incident Response Flowcharts as they are posted in areas of the facility.

If instructed to evacuate, personnel must immediately evacuate the area and immediately proceed to a designated assembly area via the safest route possible.

5.2 Emergency Response Coordinator (ERC) Response Procedures

EMERGENCY RESPONSE COORDINATOR (ERC) PROCEDURES
1. Whenever there is an imminent or actual emergency situation, the ERC (or his/her designee when on-call) must immediately: (a) Activate internal alarms or communications systems if they have not already been activated to notify all facility personnel; (b) Notify appropriate state or local agencies with designated response roles if their help is needed.
2. Whenever there is a release, fire, or explosion, the ERC shall immediately identify the following related to the released materials: • Its character; • The exact source; • The amount or volume of the release; and • The aerial extent. This can be accomplished by observation or review of facility records or manifests and, if necessary, by chemical analysis.
3. The ERC shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire or explosion.
4. If the ERC determines that the facility has had a release, fire or explosion that could threaten human health or the environment outside of the Henderson Mine site, he/she must immediately notify government authorities as required within this IRM.
5. During an emergency, the ERC shall take all reasonable measures necessary to ensure that fires,

explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility.
6. The ERC shall determine objectives and priorities in response to the incident including: • Determine mitigation actions; • Identify resources required for response; • Mobilize those resources; • Stopping processes and operations; • Collecting and containing released waste; and • Removing or isolating containers.
7. If Henderson stops operations in response to a fire, explosion or release, the ERC shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment, wherever this is appropriate.
8. Immediately after an emergency, the ERC shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release fire or explosion at the Mine.
9. The ERC shall ensure that, in the affected area(s) of the facility: • No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and • All emergency equipment listed herein is cleaned and fit for its intended use before operations are resumed.

5.3 Emergency Assistance from Outside Organizations

In the event of an emergency incident that is outside the response capabilities of Henderson personnel, assistance from the appropriate resources identified on the Incident Response Flowchart will be requested. Phone numbers for each of these organizations are provided on the Flowchart, which is located in Appendix A of this IRM.

Personnel from the emergency service providers (i.e., hospital, local ambulance services, etc.) will be advised of materials involved and their likely hazards. Safety Data Sheets and other technical references pertaining to hazardous materials will be provided for use by hospital and emergency service providers' personnel as necessary or requested.

5.4 Internal Facility Reporting

The Incident Response Flowchart found in Appendix A lays out the steps for *immediate* internal notification procedures in the case of an environmental spill, injury, fire or explosion. It is **critical** that the incident is reported to the Environmental Department to ensure that:

- Any release is properly cleaned up;
- Any resulting waste is properly characterized, managed and disposed of; and
- Any applicable reporting of the incident is made to company officials and government agencies.

As indicated on the flowchart, the area supervisor for which a spill or release has occurred shall fill out the *Release Report Form* (located on Sharepoint within the Henderson Mine SPCC/MCP) and submit it to the Environmental Department as soon as possible. The form is then completed

by the Environmental Department and sent to Legal Counsel, where it will be evaluated further and ultimately returned to the facility. Details of the Henderson Operations Spill Management Procedures can be found in Appendix C.

5.5 Internal Corporate Reporting

Required reporting to the Freeport-McMoRan corporate environmental group is managed through the Corporate Incident Management System (IMS) database. The Environmental Department is responsible for adding all relevant information to this database related to any environmental incident occurring at Henderson.

Verbal reports of environmental incidents are also required to be made to appropriate corporate environmental/legal contacts. As with the preceding electronic reporting, the Environmental Department is responsible for making these verbal reports. The Incident Response Flowchart in Appendix A contains the required contact information.

5.6 External Reporting

Depending on the situation, it may be necessary to report the environmental incident to government or other non-Henderson contacts. The decision to make such a report will be made by the Environmental Department. The Incident Response Flowchart located in Appendix A contains information for potential external contacts to whom an incident may need to be reported. **Unless otherwise instructed, communication with these contacts will only be made by the Environmental Department.**

5.7 Government Agency Reporting

Certain environmental incidents are required to be reported to specified government agencies. These requirements are time sensitive and typically based on:

- Time and duration of the release/spill;
- Type of material released/spilled;
- Quantity of material released/spilled;
- Rate of release/spill of material; and
- Location of release/spill and affected media (i.e. soil, water, air, etc.).

The determination of whether a release/spill is subject to government reporting requirements is often based on complex factors that require special environmental and legal analyses. Additionally, noncompliance with these reporting requirements can result in significant corporate, as well as personal liability. As such, reporting to government agencies will always be coordinated by the Environmental Department.

5.8 Reporting to Downstream Water Users

Downstream water users must also be notified if a spill might affect them. Because of retention times and control points in ponds and settlers, it is very unlikely that such a notification will be necessary. The Water User Advisory Procedure can be found in Appendix E. In the event a spill

is in jeopardy of reaching Clear Creek this procedure needs to be followed. As with the other external contacts, the Environmental Department will make these notifications if necessary.

5.9 Other Reporting (SPCC, SWMP, EPP)

Henderson is required under certain regulatory requirements to maintain environmental plans that contain additional emergency response and reporting requirements. Refer to the Incident Response Flowchart in Appendix A for guidance as to which document should be used in an incident situation.

5.10 Follow-up

Following an initial emergency response, the Emergency Response Coordinator must work with the appropriate Henderson personnel and departments to ensure that cleanup and other recovery activities are completed expediently.

If Henderson personnel cannot safely cleanup a release, a qualified private cleanup company will be hired. To reduce liability, wastes must be disposed of in strict accordance with Federal and State Regulations. As such, it is essential that environmental personnel be involved in cleanup and disposal activities.

Following the emergency incident, all employees involved in the response should participate in a critique which will evaluate:

1. Response;
2. Equipment problems;
3. Training requirements;
4. Root cause, including who, what, when and why; and/or
5. Applicable SOPs, infrastructure, and surveillance.

6.0 RECORDKEEPING

Records are maintained per the appropriate plan and procedure and in accordance with the Company's Records Retention Program.

Appendix A
Incident Response Flowchart

[Insert Flow Chart]

See IRM section of Sharepoint.

Appendix B
SPCC Bulk Chemical Inventory List and Locations

APPENDIX B

SPCC Bulk Chemical Inventory List

The most current SPCC Bulk Chemical Inventory list and locations may be found on the Henderson Environmental Department's Sharepoint Site in the SPCC folder under the Water Quality Tab.

Appendix C
Henderson Operations Spill Management and Reporting Procedure

APPENDIX C
Henderson Operations Spill Management Procedure

[Insert Procedure here]

Appendix D
Hazardous Waste Contingency Plan

The Henderson Mine has the potential to become an episodic Large Quantity Generator (LQG) of hazardous waste. In such events, Henderson will implement this *Henderson Mine Hazardous Waste Contingency Plan*.

Appendix E
Water User Advisory Procedure

APPENDIX E
Water User Advisory Procedure

[Insert Procedure here]