



Cyprus Amax Minerals Company
Environmental Services and Sustainable Development
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September 20, 2023

Kevin O'Hara
Site Coordinator
Division of Environmental Response and Revitalization
Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138

**RE: Amendment No. 10 to the Interim Action Workplan
Former Satralloy Site**

Dear Kevin,

Cyprus Amax Minerals Company (Cyprus) would like to amend the Interim Action Workplan (IAWP) in accordance with the Consent Order for Preliminary Injunction (COPI) Section VII (Additional Work) and Section XII (Review of Submittals): "All work plans, reports, or other items required to be submitted to Ohio EPA under this COPI, including any approved additional Work, shall, upon approval by Ohio EPA, be deemed to be incorporated in and made an enforceable part of this COPI." COPI, Section XII, paragraph 32.

1. Overview

Cyprus has agreed with the Ohio Environmental Protection Agency (OEPA) to proceed with additional interim actions at the Former Satralloy Site (the Site). The Site is located at 4243 County Road 74, Mingo Junction, Ohio (see attached Drawing 010). The purpose of this IAWP amendment is to define the scope of these interim actions and allow OEPA the opportunity to review and approve the design of this work.

The overall scope of the interim actions under this IAWP amendment is to consolidate slag from former chromium processing operations within the Site into a single stockpile, in a manner protective of public safety, human health and the environment. The consolidated stockpile is designed to have a stable configuration, erosion resistance, surface water controls, and a vegetated clean soil cover. The details of the work are defined and described in the plans and specifications included in this IAWP amendment.

2. Removal Basis

The slag is generally visually distinct from soil (there are areas where slag and soil have been mixed in varying proportions and the slag is not visually distinct). Visually distinct slag will be removed initially. After removal based on visual observation, surface soil samples will be obtained based on removal grids. Removal grids are shown in Figure 1. Five (5) surface samples will be obtained from each removal grid and composited. The composite samples will be analyzed for hexavalent chromium. Removal and verification sampling will continue until the hexavalent chromium in the final composite sample for each removal grid is below 63 mg/kg.

Buried slag will be removed to the extent practicable. It is possible that some buried slag will not be found or will not be practicable to remove.

3. Interim Action Construction

List of Interim Actions

The following interim actions will be performed under this IAWP amendment:

- Upgrade or install and maintain temporary erosion and sediment control facilities in accordance with the Construction Storm Water Pollution Prevention Plan (SWP3) for the Site.
- Clearing and grubbing.
- Upgrade and maintain Site roads as needed for the specified interim actions.
- Comply with the roadway air permit for the Site.
- Clear the area for the consolidated stockpile.
- Develop borrow areas.
- Remove slag, impacted native soil, material from the “actively managed piles”, and other non-hazardous waste encountered during slag removal. Slag and soil removal will be performed per the Removal Basis. (Asbestos-containing material (ACM) and hazardous waste has been disposed off-site. In the unanticipated event any additional material is encountered it will be disposed off-site.)
- Place slag and other non-hazardous waste removed materials in a consolidated stockpile in the Former Mine Area.
- Cover the stockpile with a 2-foot soil cap and revegetate the surface.
- Cover identified buried slag that was impracticable to move to the stockpile (i.e., left in place) with at least 2 feet of clean soil and revegetate.
- Install fencing around the consolidated stockpile.
- Construct permanent surface water drainage facilities to prevent erosion of the consolidated stockpile.
- Restore slag removal and soil borrow areas to provide positive drainage, minimize future erosion, and accommodate potential future Site uses. This includes stabilization per the General Permit for Discharges of Storm Water Associated with Construction Activity (OHC000005) (Construction Stormwater Permit) and the construction SWP3 for the Site.
- Construct wetlands in the former North Lowland Slag Area.

Plans and Specifications

The details of the interim action (IA) work are defined and described in the attached plans and specifications, which are incorporated into this IAWP amendment.

Construction Quality Assurance (CQA)

A CQA Plan has been prepared for slag removal and consolidation activities and is included as part of the attached design documents. The CQA Plan establishes:

- Responsibilities of and lines of authority between the various parties involved in the IA
- Various types of project meetings
- Inspection activities to be performed during the IA

- Hold points requiring approval before proceeding
- Documentation requirements, including submittal review, daily field reports, requests for information, design changes, and non-conforming situations.

Design Changes During Construction

Design changes during construction will be handled by a formal design change process as described in the CQA Plan. The changes, justification, and approval will be documented on Design Change Notice forms, attached to the CQA Plan.

Stormwater Management

Stormwater management will be performed in compliance with the Construction Stormwater Permit as described in the construction SWP3 for the Site.

Air Monitoring

Air monitoring will be conducted per the air permit for "Plant Roadways & Parking Areas." The existing perimeter air monitoring system will no longer be used. Personal air monitoring for health and safety purposes will be conducted per the Site Health and Safety Plan.

Construction Schedule

Cyprus proposes to begin bidding to select a contractor soon after OEPA approval of this IAWP amendment. It could be necessary to extend the schedule based on ongoing negotiations with a previous landowner who potentially holds entitlement to other property resources. Cyprus would hope to mobilize for some fieldwork in late 2023, with slag removal beginning in 2024, although this depends on the timing of OEPA approval and how long it takes to select the contractor. The fieldwork is expected to take between 4 and 6 years.

4. Slag Consolidation Stockpile Design

Geotechnical

The sides of the consolidated stockpile will be sloped at a maximum grade of 3H:1V (horizontal:vertical; 18.43°) for slope stability and to reduce the potential for erosion. Drainage benches will be incorporated into the side slopes of the consolidated stockpile at maximum vertical intervals of no more than 50 feet to limit slope lengths and thereby further reduce the potential for erosion. Slag geotechnical testing and analysis were performed to support the design, as summarized in the attached memorandum.

Surface Water Drainage Facilities

The drainage benches will drain into downchutes on each side of the consolidated stockpile that will discharge into existing drainages in the natural ground surface. Hydrology and hydraulics calculations and modeling were performed to support the design of the drainage bench ditches, the downchutes, and the riprap aprons at the downchute discharges to the existing drainages. The calculations and modeling results are summarized in the attached memorandum.

5. Operation, Maintenance, and Monitoring

A draft Operations, Maintenance, and Monitoring Plan (OMMP) will be prepared after approval of this amendment to the IAWP and the associated final design and submitted for OEPA review. The draft plan will be revised as appropriate based on OEPA comments and submitted for approval.

6. Health and Safety

Health and safety will be managed and performed in accordance with the Site Health and Safety Plan.

7. Meetings

Prior to commencing IA construction under this workplan, a Preconstruction Inspection will be conducted with OEPA. This inspection will be documented by WSP (who purchased Golder Associates) in a memorandum. It is anticipated that OEPA personnel will periodically visit the Site and informal progress review meetings will be held during these visits. OEPA will be notified of preliminary completion of construction via email. As soon as practical thereafter, a Preliminary Construction Completion Inspection will be conducted by OEPA. Cyprus will have a "punch list" of items it believes remain to be completed to be reviewed during this OEPA inspection. This punch list will be revised as necessary during this inspection based on OEPA comments. Upon completion of construction (including punch list items), OEPA will conduct a Completion Inspection.

8. Reporting

Monthly

During construction, IA activities will be included in the monthly report that is currently provided to OEPA by the 10th of each month. This report will include required notifications to OEPA during construction.

Construction Completion Report

Upon completion of IA construction, a report will be submitted to OEPA documenting the IA construction. This will include as-built drawings of the slag consolidation area.

9. Closing

Cyprus respectfully requests approval of this IAWP amendment. If you have any questions regarding this IAWP amendment or the work outlined herein, please do not hesitate to contact me directly.

Sincerely,



Barbara K. Nielsen
Manager, Remediation Projects

Attachments:

- Figure 1
- Drawings
- Specifications
- Construction Quality Assurance Plan
- Slag Testing Results Memorandum
- Hydrology and Hydraulics Design Memorandum