

Freeport-McMoRan Chino Mines Company
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Certified Mail #70173040000031902388
Return Receipt Requested

Mr. Bruce Yurdin, Director
New Mexico Environment Department
Water Protection Division
P.O. Box 5469
Santa Fe, New Mexico 87502

Dear Mr. Yurdin:

Re: Freeport-McMoRan Chino Mines Company
AOC Quarterly Report, Second Quarter 2018

This Administrative Order on Consent (AOC) Quarterly Report documents activities performed during the reporting period from April 1 through June 30, 2018. The report is submitted and organized as outlined in Article IX, Section E of the AOC between the New Mexico Environment Department (NMED) and Freeport-McMoRan Chino Mines Company (Chino). Chino also submits a copy of this report to the New Mexico Energy, Mineral and Natural Resources Department, Mining and Minerals Division (MMD), per its request.

AOC Activities

During the second quarter of 2018, the following major activities occurred:

- NMED provided the finalized *Ecological Risk Assessment* for the Lampbright Investigation Unit (LIU) for Chino and public review.
- Chino submitted the *Interim Removal Action (IRA) Workplan* for Hanover/Whitewater Creek Investigation Unit (HWC IU).
- NMED reviewed and approved the *HWC IU IRA Workplan*.
- Chino submitted a Request for Proposal (RFP) to potential contractors for the HWC IU IRA, and provided updates on the resourcing process to NMED and EPA.
- Chino sampled the last two residential sites requiring test screening for copper criteria under the Hurley Soils IU (HSIU).
- Chino performed quarterly post-remediation monitoring of the Razorback Ridge Interim Remedial Action site under the Smelter/Tailing Soils Investigation Unit (STS IU).
- Chino performed quarterly post-reclamation and remedial monitoring of the Groundhog Mine Site and the Historic Small Stockpile sites under the HWC IU.
- Chino performed quarterly post-remediation monitoring of the Hurley Railroad Site under the STS IU.
- The Community Work Group (CWG) met on May 8, 2018.
- The AOC Technical Group participated in meetings and/or conference calls on April 30th, May 8th, and June 21st to review the AOC progress.

Hanover/Whitewater Creeks Investigation Unit

Following NMED's 2009 approval of the *Groundhog Mine Site Interim Remedial Action (IRA) Completion Report*, Chino submitted an addendum to the completion report for the remediation of the old pipeline corridor in 2011 as well as the *Star Rock Stockpile IRA Completion Report* as part of the Historic Small Stockpiles. These stockpiles were comprised of the historical

Osceolla, CB Bell, and Tenderfoot mine sites per the IRA completion report approved by NMED in 2009. Following NMED approvals, Chino performed quarterly post-reclamation erosion and vegetation monitoring of the sites during the series of required growing seasons defined to meet successful revegetation establishment, as well as bi-annual water quality monitoring. In 2015, Chino performed a quantitative survey which evaluated the success of the revegetation of the sites after a minimum of five growing seasons as per the IRA completion reports. Chino submitted the *Vegetation Monitoring Report* in 2016, which provides the quantitative survey evaluation for the IRA sites. Following receipt of a response letter from Chino to their comments on the report, NMED then approved the *Vegetation Monitoring Report* in a letter dated August 31, 2017. Chino continues to perform quarterly erosion monitoring of the sites and bi-annual water quality monitoring of the Groundhog site. The monitoring data are included in the Groundhog Mine Site annual monitoring reports. Chino submitted the *Groundhog Mine Site Annual Monitoring Report* on October 31, 2017. NMED approved the annual report on March 21, 2018.

Mining and Minerals Division (MMD) has approved extension requests by Chino under Permit GR009RE for the completion of reclamation activities at the Lucky Bill Groundhog Mine No. 5 site. Chino has requested to amend the Chino Mines Closure Closeout Plan Revision application submitted to MMD and the NMED on February 16, 2018, to address the reclamation schedule of Groundhog No.5 Stockpile. Modification 14-1 to MMD Permit GR009RE, requires completion of the Groundhog No. 5 Stockpile reclamation by June 30, 2018. In an email dated June 11, 2018, Chino has requested to change the Groundhog No. 5 reclamation completion date from June 30, 2018 to Dec 31, 2024. This extension period is necessary for Chino to sequence the MMD reclamation process with the AOC. Additionally, in 2014 Chino submitted the *Groundhog No. 5 Stockpile Work Plan for Additional Characterization and Controls for the HWC IU* to address inadequate seepage capture for sampling at the toe of the stockpile. In June 2014, NMED approved the work plan, and Chino installed the new seepage collection system which has been performing well. Chino continues to collect samples from the engineered system. Chino's draft interim report on the geochemical evaluation received preliminary informal comments in 2016 and on the revised report in 2017 from NMED. Chino submitted the *Revised Technical Memorandum for the Groundhog No. 5 Stockpile Geochemical Evaluation* on March 5, 2018 to NMED who anticipates providing comments during the third quarter of 2018.

The NMED submitted the revised *Ecological Risk Assessment (ERA)* report to the administrative record in October 2015. In June 2017, NMED and Chino agreed to defer the draft human health risk addendum to the 2008 Human Health Risk Assessment (HHRA) and focus on optimizing resources into performing an interim removal action (IRA) instead of utilizing effort into identifying any additional data gaps. A HHRA would then be performed following the IRA to then evaluate remaining risk. NMED gave approval for Chino to develop a workplan for an IRA for their review and comment in a letter dated June 30, 2017. As part of that effort, Chino and NMED participated in a field mapping exercise in Whitewater Creek during August 2017. Following an informal discussion and review period with NMED and EPA in early 2018 of a draft workplan proposal, Chino revised and submitted the IRA Workplan on May 24, 2018. NMED approved the workplan in a letter dated June 11, 2018. Chino anticipates implementing the interim removal action under the approved workplan in early October 2018. Chino submitted a Request for Proposal (RFP) to potential contractors for the HWC IU IRA, and continues to provide updates on the resourcing process to NMED and EPA with the start-up target date as the initial first step for this removal action.

Hurley Soils Investigation Unit

Through an outreach program to the remaining six Hurley homeowners to perform soil sampling and yard remediation, Chino completed soil screen testing for 5 properties in the last nine months; the sixth property having already been documented as requiring cleanup for copper in 2008.

- Chino reached agreement with three homeowners to participate in soil sampling which was completed at all three Hurley properties in October 2017. Two of those properties all had copper concentrations below cleanup criteria.
- In June 2018, Chino procured access to the remaining two residential sites under one homeowner requiring soil sample screening.
- Chino anticipates remediating one of the remaining four residential sites that requires cleanup based on sampling results, during the third quarter of 2018. The other three property owners will not participate in the remediation program.
- Data results from the samples will be provided in a technical memorandum to NMED once the outreach program has been completed.

Lampbright Investigation Unit

The NMED provided the revised *LBIU Ecological Risk Assessment* on May 3, 2018 to Chino and the public for review.

Smelter Tailings Soil Investigation Unit

Prior to completing the *Vegetation Monitoring Report for the Golf Course Interim Remedial Action, STS IU* in 2014, Chino submitted a supplemental completion report following a second phase of the Golf Course IRA which addressed an additional 30 acres of impacted soils in the vicinity of the Hurley railroad area in 2013. As documented in the supplemental report, Chino is conducting quarterly post-remediation erosion and vegetation monitoring. The quantitative vegetation survey for the additional 30 acres was performed in October 2017, with survey results provided to NMED in a cumulative survey report after five years of monitoring for informal review on March 8, 2018. Chino anticipates submitting the final report during the third quarter of 2018.

Between 2013 and 2014, Chino excavated 94 acres of copper impacted soils from Razorback Ridge and from the hillside slope to the east of Razorback Ridge as part of the Lake One Closure Project. Reseeding of these acres was completed by May 2015. Chino submitted the finalized *Razorback Ridge Area IRA STS IU Supplemental Completion Report* in July 2016 to NMED. As documented in this report, Chino is conducting quarterly post-remediation erosion and vegetation monitoring.

Historical tailings material located in the Apache Tejo drainage was incorporated into the STS IU by NMED in 2009. NMED requested that Chino submit an IRA work plan for Apache Tejo drainage system. Chino plans to submit a survey report and work plan after addressing site access issues. Chino and NMED inspected the "Big Berm" site in 2017.

The STS IU Pre-Feasibility Study Remedial Action Criteria (RAC) were established by NMED in letters dated September 16, 2010, and March 2, 2011. The following summarizes the activities that occurred in response to this letter:

- The 2011 feasibility study (FS) work plan initiated the following activities and processes:
 - Chino completed survey and soil sampling requirements per the FS Appendix A and B field sampling plan in late 2011.
 - Following the evaluation of the data resulting from the 2011 sampling programs, Chino developed a *Phytotoxicity and Vegetation Community Study Work Plan* to conduct seed collection and soil sampling/collection field events.
 - Following the study component completed in 2015 and initial review, the *Phytotoxicity and Vegetation Community Study* report was finalized for appending to the draft FS report, and provided informally to NMED for their review in August 2017.
 - Chino anticipates submitting the draft FS report in 2019, following incorporation of phytotoxicity study and its results, as well as the pending five year monitoring

reports for the amendment study and the white rain monitoring study.

- As part of the process to address RAC for surface water, Chino submitted two work plans in 2011: 1) *Application of the Hydrology Protocol to STS IU Drainages*; and 2) *Use Attainability for Stock Tanks*.
 - Chino performed field work for both of the plans in 2011 and submitted the sampling results in the *Expedited Use Attainability Analysis (UAA): Application of NMED Hydrology Protocol to STS IU Drainages* in 2012 to NMED Surface Water Quality Bureau (SWQB).
 - NMED commented on the *Use Attainability Analysis for Stock Tanks Work Plan* in a Notice of Disapproval letter dated June 30, 2011. Chino plans to respond to the comments when presenting the sampling results to the NMED in 2019 based on the work as described in the following bullets.
 - Chino revised the UAA and resubmitted the HP report in 2013 and again in 2014 based on comments received by SWQB from the public notice and later from the EPA.
 - SWQB petitioned the NM Water Quality Control Commission (WQCC) to accept the proposed UAA, in advance of the Triennial Review hearing that occurred in October 2015.
- Additionally, in support of the process to address RAC for surface water, Chino submitted for review to the NMED SWQB the *Development of Site-Specific Copper Criteria Work Plan for the STS IU* in 2011.
 - Chino performed the two phases of surface water sampling during 2011 under the approved copper criteria adjustment work plan.
 - Chino submitted a finalized interim report on the *Development of Site-Specific Aquatic Life Criteria for Copper in STSIU Drainages* study and the *Revised Site-Specific Copper Toxicity Model Report* to the SWQB to SWQB in 2013.
 - Following the filing of the Petition to Amend the Surface Water Quality Standards (20.6.4 NMAC) and Request For Hearing with the WQCC, Chino filed testimonies supporting the Site-Specific Copper criteria petition with the WQCC in December 2014, in advance of the Triennial Review hearing that occurred in October 2015.
- On January 7, 2017 the WQCC Statement of Reason and Final Order was signed for proposed amendment to standards for interstate and intrastate waters 20.6.4 NMAC which includes Chino's site specific standard and UAA for drainages in the STS IU. These revised Water Quality Standards became effective on March 2, 2017, pursuant to the laws of the State of New Mexico.
 - In a letter dated June 8, 2017 to the WQCC and at their request, the EPA provided a review on the revisions to New Mexico's Standards for interstate and intrastate surface waters under 20.6.4 NMAC, as required under federal regulations. The EPA has determined that it cannot take action on the STS IU amended designated uses or criteria at this time as additional information is needed.
 - Chino is coordinating with NMED to address EPA questions.

Chino completed the five year phase of bi-annual sampling and monitoring of the pilot amendment study area in October 2013. The annual monitoring data were included with the five year quantitative vegetation survey and the five year data analysis report titled *Year 5 Monitoring Report for STS IU Amendment Study Plots*. The current activities associated with the study include:

- Chino submitted the *Year 5 Monitoring Report for STS IU Amendment Study Plots* on December 6, 2017.

- NMED anticipates commenting on the report during the third quarter of 2018.

As part of the amendment study process, Chino monitored the effects to soil pH following its *White Rain Technical Memorandum* report that documented changes in the pH of the soils plots caused by a natural event that occurred in January 2008. Chino completed the five year phase of annual sampling of soil sites in 2014. The current activities associated with the study are as follows:

- Chino submitted a revised *Year 5 Report on pH Monitoring to Evaluate the Effect of the White Rain on the STS IU* to NMED in April 2017.
- NMED provided comments on the revised white rain report in a letter dated September 18, 2017. Chino responded to those comments in October 2017.
- NMED requested another revised report based on comments provided in a letter dated November 16, 2017.
- Chino submitted a response letter to NMED on January 19, 2018.
- NMED approved Chino's request to address the remaining uncertainty for the study under the pending FS which may require more data, in a letter dated March 19, 2018.

Community Relations

The Community Work Group (CWG) met May 8, 2018 for the second quarter and has elected to meet again on September 11, 2018. The three local Chino AOC document repositories continue to be maintained and updated with current documentation. The online electronic document repository (<http://www.fcx.com/chino/>) is also up to date.

Next Quarter's Scheduled Activities

The following work and activities are projected for the third quarter of 2018:

- Continue staging and preparations for the interim removal action under HWC IU.
- Submit the vegetation five year monitoring report for the Hurley Railroad IRA under the STS IU.
- Quarterly inspections of interim remediation sites with the HWC IU and STS IU.
- The CWG will next meet on September 11, 2018.
- The AOC Technical Group will meet monthly.

Personnel Changes

There were no personnel changes during the quarter.

Problems and Solutions

There were no problems that adversely affected the AOC this quarter.

Please contact Ms. Alicia Voss at (602) 366-8049 with any questions or comments concerning this report.

Sincerely,



Sherry Burt-Kested
Manager, Environmental Services

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C (via email):

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