



Freeport-McMoRan Chino Mines Company  
P.O.Box10  
Bayard, NM 88023

October 30, 2014

**Certified Mail #70132250000167308629**  
**Return Receipt Requested**

Trais Kliphuis, Acting Director  
New Mexico Environment Department  
Resource Protection Division  
P.O. Box 5469  
Santa Fe, New Mexico 87502

Dear Ms. Kliphuis:

**Re: Chino AOC Quarterly Report, Third Quarter 2014**

This Administrative Order on Consent (AOC) Quarterly Report documents activities performed during the reporting period from July 1 through September 30, 2014. 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 third quarter of 2014, the following major activities occurred:

- The AOC Community Work Group met in Bayard on September 16, 2014.
- Chino collected seed samples and performed vegetation surveys for the Smelter Tailing Soil Investigative Unit (STS IU) Phytotoxicity Study.
- Chino collected water samples for analysis from the Groundhog No. 5 Stockpile seepage collection system.
- Chino performed quarterly and annual post-reclamation and remedial monitoring of the Groundhog Mine Site and the Historic Small Stockpiles under the Hanover/Whitewater Creeks Investigation Unit (HWC IU).
- Chino performed quarterly post-remediation monitoring of the Hurley Golf Course Site under the STS IU.
- The AOC Technical Group met and/or participated in conference calls on July 22<sup>nd</sup>, August 13<sup>th</sup>, and September 15<sup>th</sup> to review the AOC monthly progress.

**Hanover/Whitewater Creeks Investigation Unit**

Following approval by NMED of the completion report for the Interim Remedial Action (IRA) at the Groundhog Mine Site, Chino has performed quarterly post-reclamation water quality, erosion, and vegetation monitoring of the site since 2009. Chino submitted an addendum to the 2009 *Groundhog IRA Completion Report* for the remediation of the old pipeline corridor in 2011. Chino performed the annual vegetation survey on September 30, 2014 and will submit the Groundhog Mine Site annual monitoring report on October 31, 2014.

Chino continues to perform quarterly post-reclamation water quality, erosion, and vegetation monitoring of the historical Osceolla, CB Bell, and Tenderfoot mine sites following approval by NMED of the IRA completion report. These survey results are included in the Groundhog Mine Site annual monitoring reports. Following Chino's submittal of the Star Rock Stockpile IRA Completion Report as part of the Historic Small Stockpiles earlier in 2011, the site is now also included in the quarterly monitoring program.

MMD has approved extension requests by Chino under Permit GR009RE for the Lucky Bill Groundhog Mine No. 5 site for completion of reclamation activities. Chino submitted an additional extension request to MMD on May 21, 2014 proposing to move the date for completion of closeout plan activities to June 2018. The MMD provided an approval permit of Modification 14-1 to Revision 01-1, Permit GR009RE in a letter dated September 18, 2014. This extension period is necessary for Chino to sequence the MMD reclamation process with the AOC. Furthermore, Chino has attempted to collect stockpile seepage since 2011 in response to NMED's request that Chino demonstrate that the seepage meet applicable groundwater quality standards. However due to multiple years of less than average precipitation and an inadequate seepage collection system design, Chino proposed an improved plan to monitor seepage. Following a February 26, 2014 site visit by the Technical Group and MMD, Chino submitted the *Groundhog No. 5 Stockpile Draft Work Plan for Additional Characterization and Controls for the HWC IU* on June 3, 2014. NMED approved the workplan in a letter dated June 25, 2014. Chino completed the new seepage collection system as described in the workplan by the end of June. Chino and NMED collected water samples from the collection system on September 30, 2014 following a series of high precipitation systems. Chino anticipates submitting a report on the results during the fourth quarter of 2014.

The NMED completed and provided the revised *Draft Ecological Risk Assessment (ERA)* report to Chino and the public for review in the third quarter of 2012. Chino submitted comments on the revised draft ERA report in September 2012. The NMED responded to these comments in a letter dated April 19, 2013. Chino submitted a response document dated May 10, 2013. NMED presented the draft ERA at the January 21, 2014 Community Work Group (CWG) meeting, and anticipates providing the revised ERA report during the fourth quarter of 2014.

#### Hurley Soils Investigation Unit

During 2013 and 2014, Chino and NMED in partnership with EPA continued the community outreach program to the eleven home owners in Hurley to determine renewed interest in participating in the yard remediation action. These eleven residences refused to participate in either the soil sampling or soil remediation program during the interim remedial action conducted in 2006 and 2007. Chino performed remediation at five of these residences during the second quarter of 2014 due to renewed interest from home owners. Chino also submitted the annual health advisory to these 11 home owners and the adjacent properties owners in April 2014. Chino anticipates formally submitting the completion report for the 5 residences by mid-November 2014 to the NMED. Chino presented the 2014 yard remediation project to the CWG at their September 16, 2014 meeting.

#### Lampbright Investigation Unit

The NMED provided the *Draft LIU Ecological Risk Assessment* to Chino for informal review and comment in early 2013. NMED provided a revised Draft ERA to Chino in February 2014, who provided comments via email on April 11, 2014. NMED anticipates responding to these comments and providing the final report to Chino and the public for review during the fourth quarter of 2014.

#### Smelter Tailings Soil Investigation Unit

Following submittal of the final completion report on the Golf Course IRA to NMED in 2009, Chino performed a vegetation survey in October 2013, to meet the five year monitoring requirement to determine if the site meets success criteria defined in the completion report. Chino formally submitted to

NMED in a cumulative report of the five years of monitoring on May 15, 2014. NMED approved the *Vegetation Monitoring Report for the Golf Course Interim Remedial Action, STS IU* in a letter dated July 15, 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 in June 2013. NMED approved the report in a letter dated July 18, 2013. As documented in this completion report, Chino is conducting quarterly post-remediation erosion and vegetation monitoring. These survey results will be formally submitted to NMED in a cumulative vegetation survey report after five years of monitoring.

During 2013, Chino removed approximately 85 acres of copper impacted soils from Razorback Ridge and in March 2014 removed approximately 20 additional acres from the hillside slope to the east of Razorback Ridge as part of the Lake One Closure Project. Reseeding of these areas was partially completed during the second quarter of 2014. Reseeding of the remaining acres on Razorback Ridge will occur in the spring of 2015. The excavated soils were used as fill material for the Lake One Closure Project. Chino anticipates submitting a completion report in the fourth quarter of 2014.

Historical tailing 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.

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:

- Following submittal of a feasibility study (FS) in late 2010, Chino finalized the FS work plan (proposal) in third quarter 2011. The following activities for the FS process occurred:
  - 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 submitted a *Draft Phytotoxicity and Vegetation Community Study Work Plan* to the NMED in September 2013 for review. NMED provided conditional approval of the work plan that allowed Chino to conduct seed collection and soil sampling/collection field events during October 2013.
  - Chino submitted a revised draft work plan to NMED on February 3, 2014. NMED provided comments on the draft work plan in a letter dated February 20, 2014.
  - Chino submitted a finalized *Phytotoxicity and Vegetation Community Study Work Plan* to NMED on March 6, 2014 and received conditional approval from NMED in a letter dated March 10, 2014.
  - Chino conducted additional seed collection and vegetation survey field events during September 2014. The generation of lab data under this study is ongoing and the study report is expected to be completed by second quarter of 2015.
  - Chino anticipates submitting the draft FS in 2015, following incorporation of phytotoxicity study results and completion of the Razorback Ridge soils removal project.
- 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 during the summer of 2011 and submitted the sampling results in the *Expedited Use Attainability Analysis (UAA): Application of NMED Hydrology Protocol to STS IU Drainages* in early 2012 and a revised UAA later in 2012 in response to SWQB comments.

- The NMED SWQB issued a public notice with a comment period for the Use Attainability Analysis (UAA) based on the revised HP report in first quarter of 2013.
  - Chino revised the UAA based on comments received by SWQB and resubmitted the HP report in May 2013.
  - The NMED SWQB submitted, pursuant to Subsection C, 20.6.4.15 NMAC, a request to the EPA for technical approval of the UAA in a letter dated June 26, 2013.
  - EPA responded to SWQB in a letter dated June 26, 2014, providing comments on the HP Report. EPA requested additional information to be added to the HP Report to better understand the site. SWQB plans to respond to these comments and have Chino submit a revised HP Report as well.
  - 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.
- 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 August 2011.
    - Chino performed the two phases of surface water sampling during the late summer of 2011 under the NMED reviewed copper criteria adjustment work plan.
    - Chino submitted a revised interim report on the *Development of Site-Specific Aquatic Life Criteria for Copper in STSIU Drainages* study in April 2013 in response to comments on the draft received from SWQB in December.
    - Chino also submitted a revised *Site-Specific Copper Toxicity Model Report* (as defined in the interim report to the NMED in October 2013) in response to the SWQB comment letter received in July 2013. SWQB comments addressed the draft toxicity model report that was submitted in April 2013.
    - In an email communication dated October 31, 2013, NMED SWQB agreed with the revisions to the model report and that site specific criteria could be supported by this work.
    - Chino presented the *Site-Specific Copper Toxicity Model Report* to the CWG on September 16, 2014.
    - Chino filed their Petition to Amend the Surface Water Quality Standards (20.6.4 NMAC) and Request For Hearing with the NM Water Quality Control Commission on September 30, 2014.

Chino completed the five year phase of bi-annual sampling and monitoring of the pilot amendment study area in October 2013. The current activities associated with the study include:

- Chino conducted the fifth year of monitoring and bi-annual soil sampling in 2013, as well as the five year vegetation survey.
- The annual monitoring data was combined under the five year data analysis report titled *Year 5 Monitoring Report for STS IU Amendment Study Plots*, which was submitted to NMED in October 2014 for informal review. Chino anticipates formal submittal of the report in December 2014.

As part of the amendment study process, Chino developed a work plan to monitor 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. NMED approved the "*White Rain*" *Soil pH Monitoring Plan* in July 2010. The current activities associated with the study are as follows:

- Following the fall sampling in 2013, Chino submitted the Year 4 Report on May 28, 2014.
- The NMED responded with an approval letter for the fourth year annual report on June 24, 2014.
- The fifth year soil sampling of this five year study will occur in November 2014.
- Chino anticipates submitting the annual monitoring data to be combined under the five year

review report in second quarter of 2015.

#### Community Relations

The AOC Community Work Group (CWG) met September 16, 2014. The CWG opted to meet again on January 20, 2015.

#### Next Quarter's Scheduled Activities

The following work is projected for the fourth quarter of 2014:

- Perform the annual pH soil sampling for the STS IU "white rain" study.
- Submit an addendum to the 2008 Hurley Soils IU IRA Completion Report documenting the 2014 soil remediation of five residential sites.
- Submit the *Year 5 Monitoring Report for STS IU Amendment Study Plots*, which combines the October 2013 vegetation survey completing the five year review requirement and the annual soil sampling results.
- Submit a supplemental STS IU IRA completion report to document the remediation of the Razorback Ridge area.
- Submit the revised *Draft Ecological Risk Assessment* for the HWC IU for Chino and public review.
- Perform quarterly post-remediation monitoring of the Hurley Railroad Site under the STS IU.
- Perform quarterly post-reclamation and remedial monitoring of the Groundhog Mine Site and the Historic Small Stockpile sites for the HWC IU.
- The AOC Technical Group will meet monthly.

#### Personnel Changes

There were no personnel changes during this quarter.

#### Problems and Solutions

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

Please contact Ned Hall at (520) 393-2292 with any questions or comments concerning this report.

Sincerely,



for  
Sherry Burt-Kested, Manager  
Environmental Services

SBK:pp  
20141028-004

c Matthew Schultz, NMED (via email)  
Joseph Fox, NMED (via email)  
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