



Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

September 14, 2022

Transmitted Electronically

Barbara Nielsen
Cyprus Amax Minerals Company
333 N. Central Avenue
Phoenix, AZ 85004

**Re: Satra Concentrates, Steubenville
Remediation Response
Correspondence
Remedial Response
Jefferson County
441001068**

Division of Environmental Response and Revitalization

**Subject: Ohio EPA Review of Manganese Technical Memorandum
Former Satralloy Site, Jefferson County**

Dear Ms. Nielsen:

On July 18, 2022, the Ohio EPA Division of Environmental Response and Revitalization (DERR) received the technical memorandum titled *Evaluation of Manganese in Groundwater within the Valley Fill Aquifer*, for the former Satralloy facility in Jefferson County, Ohio. The memorandum was submitted by Golder on behalf of Cypress Amax Minerals Company, specifically to address one of Ohio EPA's comments on the Remedial Investigation (RI) Report.

The memorandum evaluated elevated manganese concentrations, significantly exceeding the secondary maximum contaminant limit (MCL) of 50 ug/L, within the Valley Fill Aquifer (VFA), and reviewed analytical data from both groundwater and solid materials on site to identify potential sources of the manganese. Conclusions of the evaluation included a finding that coal mine drainage (CMD) is likely the predominant source of elevated manganese for some VFA wells, while in other VFA wells the elevated levels are related to a release of natural manganese from soils.

Based on Ohio EPA's review of the memorandum, we found Golder's conclusions plausible. However, we also note the significantly elevated concentrations of manganese found in operations-related materials such as building dust and plant area soils. Ohio EPA believes that those materials, which are/were fairly ubiquitous in the lowlands area, are also a plausible source of manganese within the underlying VFA.

Notwithstanding these observations, Ohio EPA believes that the technical memorandum has addressed the original RI comment, and no further evaluation is needed. As part of a final remedy for the Site, potable use restrictions for the VFA will likely be needed to address exceedances of the secondary MCL for manganese.

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If you have any questions, please contact me at (740) 380-5244 or kevin.ohara@epa.ohio.gov.

Sincerely,

Kevin O'Hara
Geologist
Division of Environmental Response and Revitalization

KO/kp

cc: Kristy Hunt, DERR-SEDO
Melisa Witherspoon, DERR-CO
Lisa Shook, DERR-CO
Sam Staschiak, DERR-CO