

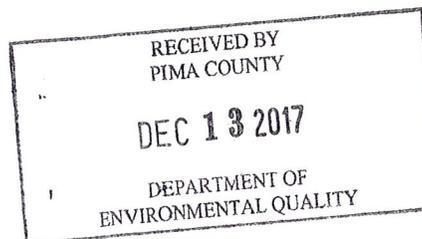
Freeport-McMoRan Sierrita Inc.
6200 W. Duval Mine Rd.
PO Box 527
Green Valley, Arizona 85622-0527

December 7, 2017

Via e-mail: air.permits@pima.gov and
Certified Mail: 7017 0530 0000 7752 5449

Return Receipt Requested

Mr. Dustin Fitzpatrick
Air Compliance Manager
Pima County Department of Environmental Quality
33 N Stone Ave, Suite 700
Tucson, Arizona 85701



Re: Notice of Violation # PC 1710-013
Freeport-McMoRan Sierrita Inc., Title V Air Quality Permit # 6067

Dear Mr. Fitzpatrick:

Freeport-McMoRan Sierrita Inc. (FMSI) is in receipt of the Pima County Department of Environmental Quality (PDEQ) Notice of Violation, dated November 6, 2017, relating to a fugitive dust event at FMSI's tailings dam on October 2, 2017. As directed by that notice, FMSI is providing requested compliance documentation, including a thorough explanation of actions leading up to the event; and corrective measures taken to prevent future violations of this type, including revision of the FMSI Sierrita Operations Tailings Dam Dust Control Management Plan to adequately reflect current operational practices.

Actions leading up to the fugitive dust event on October 2, 2017.

FMSI employs several measures to control fugitive dust from the tailings dam as identified in Attachment "B" Condition XIX.B.1.b (viii) and (ix). These methods are largely designed to stabilize the surface area, with wetting and the use of chemical dust suppressants being the principal means of control. Although these measures have largely proven effective, given the size of the tailings dam, weather conditions, and the nature of high-wind events that can overwhelm currently available control measures, the control of windblown dust presents unique challenges.

Dependent on changing weather events, FMSI tailings dam personnel operate on average between one to three All-Track vehicles utilized to apply Magnesium Chloride ($MgCl_2$) as a dust control agent. FMSI tailings dam personnel are required to perform daily inspections and weekly activities reports on the tailings dam.

During the week of September 18th, daily inspections noted high winds which triggered FMSI to implement all efforts towards dust control that week. Average mile per hour (mph) wind speeds measured at FMSI weather stations during the week ranged from the high teens to the low 30s. During that time, FMSI deployed at least two All-Track vehicles and two water trucks operating daily on the tailings dam, that applied a total of 32,500 gallons of $MgCl_2$ and 410,000 gallons of water. According to the daily inspection forms from the week of September 25th, FMSI staff observed portions of the tailings top surface that were crusted with light surface sands. Average mph wind speeds for this week ranged from single digits to the low teens. When FMSI operators inspect and observe areas that are crusted with light surface sands, they are required to monitor and re-inspect the area within one week with no action required. Nevertheless, FMSI deployed at least one All-Track vehicle and one water truck on the tailings dam during the week of September 25th, applying a total of 15,750 gallons of

MgCl₂ and 310,000 gallons of water. As a result, a total of 48,250 gallons of MgCl₂ and 720,000 gallons of water were applied in the previous two weeks leading up to the dust event.

On the day of the event, the tailings dam Supervisor observed very high winds on the tailings dam, and made a decision to halt all berm construction activities and shift all tailings dam staff to dust control activities, by deploying two All-Track vehicles applying MgCl₂ to the tailings dam and two water trucks. However, due to high sustained winds in excess of 25 mph, at times reaching up to 42 mph, dust control measures were overwhelmed and resulted in the opacity exceedance.

Corrective actions and preventive measures

To ensure compliance and to minimize the potential for a similar dust event, FMSI has identified the following actions that have or will be taken to improve dust control practices at the tailings dam:

Review and update FMSI's Tailing Dam Dust Control Management Plan

FMSI is in the process of updating its "Tailings Dam Dust Control Management Plan," which will incorporate the items listed below as well as updating the entire plan to ensure it reflects current Best Management Practices (BMPs) being used. As PDEQ recognized during its inspection on October 3, 2017, FMSI no longer utilizes the addition of algae and cyanobacteria to the tailings slurry. Although FMSI previously removed this dust control measure from the Tailings Dam Dust Control Management Plan, it was still referenced on the daily inspection form. In addition, PDEQ also noted that FMSI no longer utilizes spigot lines that extend 200 feet inward from the berm to apply wet tails to the dry interior areas of the tailings impoundment undergoing berm building. Although this method appeared favorable, FMSI determined it was ineffective because it prevented tailings staff from reaching areas due to wet deposition, and it would not cover enough area to be effective. Current practice utilizes a water truck inside the area of berm construction for dust control. The 200-foot spigot line method will be removed from the Tailings Dam Dust Control Management Plan. FMSI also revised the daily inspection forms by deleting reference to algae crust and by adding columns for All-Track vehicle availability.

As part of FMSI's commitment to dust control at the tailings dam, FMSI is investigating new technologies and innovative control methods. For example, FMSI's tailings group is currently working with our parent corporation's newly developed "Manager Source & Migration Control Environmental Technology/Life Cycle Analysis" team, which is studying the effectiveness of various types of manufactured dust suppressants at several Freeport-McMoRan Inc. sites. In addition, FMSI is always looking for possible ways to improve current control measures by evaluating our practices and procedures. FMSI is in the process of evaluating other BMPs including, but not limited to, placing GPS units on All-Tracks to assist and track dust suppression applications. FMSI is also evaluating evolving technologies such as unmanned aerial vehicles that may assist in dam assessments. FMSI is trying to utilize the best available work practices and dust control technology to manage the tailings impoundment. FMSI is currently in the process of speaking with Tailings Dam management to ensure the upcoming revision will remove all measures that are no longer in use and to include any new practices that are being implemented. FMSI will submit a revised plan to PDEQ by January 31, 2018.

Improved Project Planning Coordination

Certain project specific activities on the tailings have the potential to generate dust. For example, on occasion FMSI conducts surveys (i.e., drilling projects) on various areas of the dam in support of geotechnical stability studies. In preparation for these drilling projects, the area must be dry and stable enough to mobilize the drilling equipment. In order to minimize the time these areas may be susceptible to high wind events, the Tailings Dam Supervisor will coordinate with operation and environmental departments (Environmental Tailings Liaison) on project planning and implementation. As part of any such project affecting the tailings dam, contingency plans will be put in place to address high wind events predicted by weather forecasts.

Personnel Scheduling

FMSI will continue to schedule necessary tailings personnel according to weather forecasts and surface conditions on the tailings dam. FMSI has approved overtime pay for employees at the tailings dam to work late on windy days and to work longer days on weekends as necessary to assist in dust control efforts. The availability of these employees will help ensure commensurate measures (applying $MgCl_2$ or water, moving deposition, etc.) are taken to address high wind events.

Improved Communication between FMSI Tailings and Environmental Departments

To improve control measures and help minimize response times, FMSI will improve communication between the Tailings and Environmental Departments. FMSI Environmental Department personnel will be required to attend and participate Tailings Department "line-out" meetings. The objective of these meetings is to discuss safety concerns, environmental issues, and to review the day's proposed activities. Participation in these meetings by Environmental Department personnel will help clarify dust control procedures and practices, facilitate the identification of possible improvements, and ensure that obligations are being met (e.g., confirmation of surface inspections and any follow-up action). The Tailings Department will also designate a weekend "on call" supervisor, which will be included on the "Site Weekend Duty Personnel" list.

Minimize Delays Due to Equipment Failures

To maximize the availability of dust control equipment (e.g., tracks and water trucks), FMSI will coordinate with a third party equipment maintenance contractor to be on call during high-wind days to ensure quick repairs of critical dust control equipment will be performed if necessary. FMSI is also in the process of stocking frequently used parts for dust control equipment, along with parts that require extended leadtime, so that critical parts will be on hand for immediate repair of the All-Track vehicles. Tailings will track and report on the weekly "Tailings Dam Environmental Activities Report" the total amount and number of loads of dust suppressant applied to the dam. This report will specify performance by individual All-Track vehicles. In addition, the report will include the operating status of each All-Track vehicle.

Relocation of Tailings_1 Weather Station

FMSI believes the current location of its weather station "Tailing_1" underestimates wind speed on the tailings top surface, and plans to move the Tailings_1 weather station to the top of the tailings dam thereby improving accuracy of wind speed and other meteorological data. The weather station will be placed just northeast of the North/South tailings dam divider and will be properly calibrated by a third party contractor to ensure the weather station will be providing accurate data.

FMSI is committed to continuous improvement of its dust control measures at the tailings dam. If there are additional concerns or questions regarding these responses, please contact Bryce Cooke, Senior Environmental Scientist, at (520) 393-2419.

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

David Rhoades, President and General Manager



(Signature)



(date)