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## Central Valley Regional Water Quality Control Board

**TO:** Gayleen Perreira, Senior  
Sacramento Valley NPDES Unit, Central Valley Water Board

**FROM:** Elizabeth Thayer, WRCE  
Sacramento Valley NPDES Unit, Central Valley Water Board

**DATE:** 19 December 2014

**SUBJECT:** 18 DECEMBER 2014 MEETING WITH MICHAEL MILLER, PRESIDENT,  
ORIGINAL SIXTEEN TO ONE MINE, INC., SIXTEEN TO ONE MINE, SIERRA  
COUNTY

**ATTENDANCE LIST:**

Nichole Morgan, Supervisor NPDES Section  
David Coupe, Attorney for the Regional Water Board (by telephone)  
Gayleen Perreira  
Elizabeth Thayer  
David Kirn, WRCE Sacramento Valley NPDES Unit  
Michael M. Miller

On 18 December 2014, Central Valley Water Board staff met with Mr. Michael M. Miller, President, Original Sixteen to One Mine, Inc. to discuss Sixteen to One Mine, Alleghany, Sierra County. Board staff requested the meeting with Mr. Miller in order to discuss the status of an Infeasibility Analysis and request for Time Schedule Order. Following is a summary of my notes from the meeting.

Mr. Miller stated that he has reviewed approximately 20 Infeasibility Analyses (IAs). He also stated that the IA completed for Empire Mine is not applicable to Sixteen to One Mine. Mr. Miller stated that he would like to produce a good IA for Sixteen to One Mine.

Board staff explained what should be included in an IA to show diligence toward compliance with arsenic and EC effluent limits and to produce a plan and schedule for compliance with the other metals found in the Sixteen to One Mine discharge.

Mr. Miller feels that past actions under previous permits, such as shutting down the mill, which discharged wastewater into the Mine was a step toward improving the quality of the discharge from the Mine. Mr. Miller stated that the iron filings that he had placed within the flow of the Mine's discharge would also qualify as attempted remediation for arsenic and EC. Mr. Miller also stated that the iron filings are responsible for the iron concentrations in the discharge that exceed water quality criteria.

Mr. Miller stated that he was confident that a cost/benefit analysis would indicate that the benefit to the people of the State of the working mine would outweigh the benefits of treating the discharge.

Mr. Coupe explained that the previous Cease and Desist Order provided protection from MMPs for As and EC. However, the compliance dates in the CDO have passed. In order to avoid MMPs under the proposed Permit, Board staff must be able to make a finding from information submitted by Mr. Miller, that diligent progress has been made and additional time is necessary. Board staff needs this information before the Board meeting in February 2015.

Mr. Miller stated that he can't control and is not responsible for the discharge from the Mine. Mr. Miller conceded that the discharge has higher concentrations than is recommended for drinking water but he contends that the water in Kanaka Creek meets drinking water standards by the time it leaves Sixteen to One Mine property.

Mr. Miller stated that he was considering three options to mitigate the contamination in Kanaka Creek for the IA. 1) Dilution of the discharge with clean drinking water, 2) Installation of a sump and pump before discharge to the Creek and irrigation of the hillsides with the extracted water from the Mine, and 3) Conducting new monitoring to show that Kanaka Creek concentrations of As and EC are "OK" once the Creek leaves the property.

Because the natural terrain is so steep, Board staff asked if Mr. Miller had considered using space inside the mine itself for setting up a treatment process. Mr. Miller stated that as miners, they want the water out of the mine as quickly as possible.

Mr. Miller stated that there have been no deleterious effects on water quality from the Mine discharge. Nothing is added to the water, nothing is taken out, and they are not providing a water supply to anyone. Mr. Miller stated that in order for laboratory analytical methods to detect As in the water, acid must be added, and this does not happen in the Creek.

Mr. Miller stated that the water in the mine flows through a mineral rich zone and picks up As and other metals, but this is not the responsibility of the Mine. The volume of the discharge is also up to nature.

Board staff stated that remediation methods may be a combination of the proposed methods. Submittal of quarterly progress reports would be required in a Time Schedule Order. A 90-day startup period must be requested in writing by Mr. Miller to add 90 days to the compliance schedule. The Time Schedule Order would include compliance dates for completion of pumping and piping design, bids, obtaining funding, start of construction, and completion of construction, with an additional 90 days to tweak the remediation system.

Once Mr. Miller completes an IA, Board staff has to write a Time Schedule Order, which must go out for public notice. He thinks he can put together an IA quickly but it depends on the level of detail. Board staff stated that the IA must propose concepts and milestones; what has been done in the past, what is proposed for the future, and why more time is needed. We agreed that Mr. Miller would submit an IA by 31 January 2015, before the Board meeting on 5 February 2015. Any submittals would be forwarded for review by Regional Board "mine" staff; Marty Hartzell, Jeff Huggins, and/or Phil Woodward.