



Working with Communities to Protect Their Land Air and Water

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February 28, 2014

Rob Kuczynski, P.E.
Division of Environmental Protection
Bureau of Mining Regulation and Reclamation
901 South Stewart Street, Room 4001
Carson City, Nevada 90701-5249

Re: Lone Tree Mine WPCP, NEV0090058-2014 Renewal

Dear Mr. Kuczynski,

In the past 5 years, since the last renewal of this permit there has been groundwater degradation in two areas according to the monitoring data. From the fourth quarter of 2009 through 2012 wells S23MW3 and S23MW4 and most significantly with S23MW3 highly elevated levels of Total Dissolved Solids (TDS) reaching 4440 mg/L and sulfate reaching 2710 mg/L were observed. In addition elevated levels of iron, manganese and magnesium also existed. The other area of degradation involves well WW27, which was used for dewatering and then for water supply primarily for the line slaking operation.

It appears from the most recent monitoring data that the constituent levels from well S23MW3 and S23MW4 have returned to acceptable and background levels. According to the S23MW3 investigation report,

"Newmont continues to believe the changing groundwater chemistry in S23MW-3 is likely due to oxidation that occurred in the immediate vicinity of the wellbore as it was dewatered. The Havallah formation immediately surrounding the monitoring well was exposed to oxygen during dewatering causing pyrite oxidation products to form. As the groundwater level has recharged, oxidation products are flushed back into the well during sampling."¹

Great Basin Resource Watch (GBRW) strongly recommends follow up work **included in the schedule of compliance** regarding the general process of underground pyrite oxidation due to dewatering. The work should address the question of whether the situation surrounding well S23MW3 is an isolated occurrence, or is the process more widespread. GBRW is concerned that the dewatering cycle is producing pockets of oxidation in the region and thus causing groundwater degradation.

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The situation at MW27 on the other hand appears to be a disregard of state law regarding groundwater degradation. Elevated levels of TDS, sulfate, arsenic, aluminum, iron, and fluoride to name a few has been observed since 2011.² Groundwater contamination from the pit lake by way of MW27 was also recognized in 2010, "In WW-27, S04, As, Fe, Mn, and Sb increased sharply from January 2006 to August 2009. The pumping well, WW-27, is currently capturing pit lake efflux, but the gradient is expected to reverse once an alternative water source is developed to facilitate ongoing lime slaking."³ Thus, Newmont Mining Inc. was well aware that pumping on MW27 would draw degraded water into the groundwater, thus degrading the groundwater in violation of state law. According to the S23MW3 investigation report¹ pumping from well MW27 was discontinued at the end of January 2012. Thus, Newmont had been pumping and knowingly degrading groundwater for at least two years.

Throughout 2012 the water quality sampled from WW27 improved significantly as expected although still elevated in some constituents.⁴ However, water quality began to decline in 2013 with significant level of groundwater contamination by the end of 2013 with TDS, sulfate, iron, arsenic, and antimony reaching 2040, 1360, 40.4, 2.43, and 0.243 mg/L respectively. In a phone communication with NDEP staff GBRW learned that Newmont had indeed been pumping on WW27 again.

GBRW is very concerned about Newmont's blatant disregard for Nevada's water quality and NDEP's allowance to degrade groundwater, a violation of state law. According to the fact sheet (pg. 6) issued by NDEP⁵ Newmont was allowed to use WW 27 until March 1, 2011. Also according to the fact sheet, "In the event of a system upset or equipment failure, the Permittee is authorized to use WW-27 as a backup water supply on a short-term basis" (pg. 7). It is unclear what is considered a short-term basis, and Newmont appeared to be pumping on well WW27 for the majority of 2013. In our view NDEP should not have allowed Newmont to use WW27 and degrade groundwater. The permit should clearly state that Newmont must not again pump on WW27 or any of the other wells, which could result in groundwater contamination.

Given the observed conductivity of water from the pit lake to WW27, GBRW further recommends that NDEP **require in the schedule of compliance** additional groundwater monitoring directly west of the pit lake. Although not optimal at the very least some of the other existing dewatering wells such as WW23 could be used for this purpose.

The latest pit lake analysis by Geomega, 2010, although quite approximate in nature still suggests that very poor water quality will persist in the pit lake for at least 100 years, which was the limit of the time estimate in the report. To assure protection of groundwater there needs to be a tight series of monitoring wells screened in the alluvium, the Permian Havallah, and Ordovician Valmy formations surrounding the pit lake. As mentioned above some of the former dewatering wells could be used for this purpose, but it is likely that additional wells need to be created. At the very least GBRW urges NDEP to **include in the schedule of compliance** an analysis of the monitoring system needed to unequivocally capture any degraded water infiltrating into the groundwater system.

GBRW also sees the quality of the water in the pit lake as so poor that there is a "potential to harm avian wildlife" and Newmont must work to arrest this situation as well.

GBRW is open to further discussions on the concerns we have raised here.

Sincerely,

A handwritten signature in dark ink, reading "John Hadder". The signature is fluid and cursive, with the first name "John" and last name "Hadder" clearly distinguishable.

John Hadder
Director

¹ Newmont, Technical Memorandum, "Lone Tree Groundwater Model Predictions of Water-Level Recovery in Havallah Formation near Lone Tree Tailings Facility," Itasca Denver, Inc., 143 Union Blvd., Suite 525, Lakewood Colorado, March 9, 2012.

² Newmont, "Water Pollution Control Permit NEV90058 2012 Second Quarter Monitoring Report Newmont - Lone Tree Mine," Attachment E, July 24, 2012.

³ Geomega Inc., "Newmont Lone Tree Pit Lake Modeling and Management Plan Update," Pg. ES-3, June 28, 2010.

⁴ Newmont, "Water Pollution Control Permit NEV90058 2012 Fourth Quarter and Annual Monitoring Report Newmont - Lone Tree Mine," January 23, 2013.

⁵ Nevada Department of Environmental Protection, bureau of Mining Regulation and Reclamation, "201401RK Fact Sheet (RENEWAL 2014, FS Rev. 00)," February, 2014.