



# STATE OF NEVADA

Department of Conservation & Natural Resources

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

DIVISION OF ENVIRONMENTAL PROTECTION

Colleen Cripps, Ph.D., Administrator

## NOTICE OF DECISION - Bureau of Mining Regulation and Reclamation

Web Posting: 10/28/2013

Deadline for Appeal: 11/7/2013

**Comstock Mining LLC**  
**WPC Permit No. NEV2000109**  
**Lucerne Project (formerly Billie the Kid)**

The Administrator of the State of Nevada Division of Environmental Protection (the Division) has decided to approve a major modification of Water Pollution Control Permit NEV2000109 to Comstock Mining LLC. This Permit authorizes the construction, operation, and closure of approved mining facilities in Storey County, Nevada. The Division has been provided with sufficient information, in accordance with Nevada Administrative Code (NAC) 445A.350 through 445A.447, to assure that the waters of the State will not be degraded by this operation, and that public safety and health will be protected.

The Permit will become effective 12 November 2013. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to Nevada Revised Statute (NRS) 445A.605 and NAC 445A.407. All requests for appeals must be filed by 5:00 PM, 7 November 2013, on Form 3, with the State Environmental Commission, 901 South Stewart Street, Suite 4001, Carson City, Nevada 89701-5249. For more information, contact Paul Eckert at (775) 687-9401 or visit the Bureau of Mining Regulation and Reclamation website at [www.ndep.nv.gov/bmrr/bmrr01.htm](http://www.ndep.nv.gov/bmrr/bmrr01.htm).

Comments, both written and oral, were received during the public comment period and during the public hearing of 14 October 2013. The commenting party, text of all comments (in some cases excerpted), and the Division responses are included below as part of this Notice of Decision.

### List of Commenters:

John Hadder, Great Basin Resource Watch  
Gayle Sherman  
Judith Olson  
Chad Olson  
Joe McCarthy  
Canyon Cassidy

## **John Hadder, Written Comment 1:**

Given that the project is within the CRMS boundaries special attention needs to be focused on the possible migration of the Contaminants of Concern (COC - mercury, lead, and arsenic). The mobilization of the COC's is most likely (outside of actual physical land disturbance from activities such as exploration and mining) to occur during major precipitation events on disturbed and undisturbed areas. GBRW strongly urges NDEP to sample the AR1-3 surface locations during these events, so as to ascertain the maximum movement of COC's as a result of precipitation, and what portion is being carried in the aqueous phase versus the particulate solid phase.

Two additional surface sampling locations are also recommended; one at the outpouring of the diversion into the American drainage, and the other upstream and north of the project. This would allow analysis of the potential for the diversion to concentrate COC's, since it acts as a catchment from runoff of high hazard areas identified in the CRMS. Channelizing the runoff could create hot spots in the drainage, which would need to be known and removed. The other upstream surface sampling location west and north of the final leach pad footprint would also track COC's that might be coming from the high risk site slightly west and mostly north of the heap leach pad. There is a question of whether additional sampling of the site could be established on land not owned by Comstock Mining Inc.

In general, this permit is a good opportunity to increase the surface monitoring within the American ravine, and GBRW also recommends additional surface monitoring downstream from AR-1.

## **Division Response 1:**

The existing Water Pollution Control Permit (WPCP) includes the following surface water sampling locations:

- AR-1 - American Creek downgradient (south) of the permitted facility
- AR-2 - American Ravine west of the permitted facility
- AR-3 - Drainage feeding American Creek northwest of the permitted facility

In addition, the following surface water monitoring point has been added to Part I.D.5 of the WPCP:

- SC-1 - Stormwater diversion channel at outlet of sedimentation basin

These four locations will allow the Division to evaluate the quality of surface water downgradient of the facility to determine if waters of the State are being degraded.

Results of analyses from samples taken from AR-1 to date have shown only one exceedance (arsenic 0.059 mg/L in the second quarter of 2009). All other results have been below the Profile I reference values or non-detect. The Division will review analytical results for these

locations and take appropriate action if the results indicate degradation of waters of the State. However, additional monitoring points downgradient of AR-1 would be of limited value.

**John Hadder, Written Comment 2:**

In general the groundwater wells appear to be in effective locations and screened adequately; however, GBRW recommends the addition of a monitoring well just west of the center of the heap leach pad. This would allow better protection of the American Ravine watershed, so as to identify any contaminants and leaks in the heap leach system as early as possible. It might be possible to use WS4 for this purpose if it is screened properly.

**Division Response 2:**

Contour maps of the local groundwater gradient show that the flow is roughly from northwest to southeast. Adding a monitoring well to the west of the heap leach pad would only provide monitoring of upgradient groundwater which is already being provided by GMMW-1.

**John Hadder, Written Comment 3:**

The outlet of the north side diversion channel should be designed to fan out water to the greatest extent as possible to avoid localized erosion. In addition to general erosion considerations there is the potential for a focused water stream coming out of the diversion and mobilizing COC's in the CRMS. The entire American drainage is considered moderate to high risk for COC's, and care must be taken at every opportunity to remove COC's and avoid further exposure.

**Division Response 3:**

The outlet of the stormwater diversion channel is designed as a settling basin to drop out as much of the suspended solid material as possible before the water is released to the drainage. The width of the settling basin at the outlet is approximately 20 feet in order to induce low flow velocities and dispersed flow rather than a concentrated stream. Item I.G.12 has been added to the WPCP requiring the Permittee to maintain wattles or weed-free hay bales at the outlet to further restrict conveyance of suspended solids and reduce flow velocity from the basin. The design has been accepted by the Division.

**John Hadder, Written Comment 4:**

The area that will be disturbed as part of the heap leach expansion is indicated as a moderate risk zone for COC's within the CRMS. A sampling and analysis regiment such as described in the Sampling and Analysis Plan for the CRMS needs to be adhered to assure that contaminated soil and earth is managed properly and risks to workers is minimized.

**Division Response 4:**

The area at the foot of the historic tails, where fencing and stormwater diversion structures have been constructed as part of the major modification, was sampled and analyzed for mercury, lead, and arsenic in 2011 as part of the Sampling and Analysis Plan (SAP). The results showed that areas where construction disturbance are proposed to occur were below the Division screening/action levels for all three constituents. The data do not suggest a potential for the disturbance to degrade waters of the State. This material will be stockpiled and used for growth media cover on the heap leach pad during closure.

**Gayle Sherman, Written/Oral Comment 5:**

(Note: Ms. Sherman provided written comments which were read by her at the public hearing of October 14, 2013. As the documentation provided was extensive, it is summarized below for brevity.)

Letter Dated October 14, 2013:

The facility is located within the Carson River Mercury Superfund Site, near my own residence, and subject of the Comstock Mining SAP. The results of the SAP showed high concentrations of mercury, arsenic, and lead in the historic dump just north of the proposed expansion of the heap leach pad. These concentrations of the constituents of concern (COCs) required mitigation under the terms of the superfund oversight and Comstock agreed not to disturb this area which was accepted by the Division Bureau of Corrective Actions (BCA). The proposed expansion includes a new stormwater diversion channel directly south of the historic dump which will direct runoff from the dump into American Creek. Since stormwater that has been in contact with the historic dumps drains into American Creek (in both the current Permit and the proposed modification), the soil in the drainage channel and the soil in the creek bed should be sampled as part of the SAP. This runoff potentially harms downstream wildlife and humans and I believe it constitutes a disturbance of the superfund site and requires mitigation. Approval of this modification is not protective of Nevada waters and I request that it be denied until the drainage issues can be resolved.

McGinley & Associates Letter of February 27, 2012 (supporting documentation):

This letter summarized the results of the SAP sampling and testing program in the area of the historic dump. Several areas within the dump tested above the Division screening/Action Levels for mercury, lead, and arsenic. Tables and maps describe the areas tested and specific results for each location.

7Q10 Letter of October 13, 2013 (supporting documentation):

7Q10 conducted a review of American Creek and its tributary areas to determine if they might be designated as Waters of the United States (WOUS). 7Q10 concluded, based on the fact that the Carson River crosses a State border, and that American

Creek is a tributary of the Carson River, and that any pollutants discharged into American Creek could make their way to the Carson River, that American Creek is a WOUS, but with the qualifying statement that only the US Army Corps of Engineers (USACE) can make an official designation.

Based on this conclusion, 7Q10 contends that the area should be evaluated using soil studies to investigate the vadose zone in the American Creek drainage to determine if degradation has taken place. In addition, based on the opinion that the American Creek tributary system is WOUS, any discharge thereto should be permitted under a National Pollution Discharge Elimination System permit to minimize further exacerbation of Carson River Superfund efforts. As a final note, 7Q10 recommends that the USACE be contacted to make a determination regarding American Creek.

Several Google Earth images and another copy of the McGinley letter were attached for reference.

#### **Division Response 5:**

The WPCP prohibits degradation of waters of the State and requires monitoring of the facility to verify that no degradation is taking place as a result of mining or beneficiation activity. Presently, the WPCP requires monitoring of surface water in the American Creek drainage in the following locations:

- AR-1 - American Creek south of the permitted facility
- AR-2 - American Ravine west of the permitted facility
- AR-3 - Drainage feeding American Creek northwest of the permitted facility

In addition, the following surface water monitoring point has been added to Part I.D.5 of the WPCP:

- SC-1 - Stormwater diversion channel at outlet of sedimentation basin

Results of analyses from samples taken at AR-1 to date have shown only one exceedance (arsenic 0.059 mg/L in the second quarter of 2009). All other results have been below the Profile I reference values or non-detect. The Division has reviewed the technical details of the proposed modification and concluded that the proposed stormwater diversion channel configuration meets the regulatory requirements for systems of this type.

The proposed modification will not encroach on the historic dump itself but be limited to areas which tested below the Division screening/action levels for arsenic, lead, and mercury. Sampling of the soil in the drainage area according to the Carson River Superfund program, or soil sampling for constituents that have been carried by stormwater that has not been in contact with a process component, do not fall under the purview of the WPCP. Continued monitoring of surface waters under the WPCP will be required as a means of insuring that waters of the State are not degraded.

With regard to the designation of the American Creek tributary system as WOUS, stormwater management at the site is regulated by the stormwater general permit NVR300000, an NPDES permit, administered by the Division Bureau of Water Pollution Control.

**Chad and Judi Olsen, Written/Oral Comment 6:**

(Note that these comments are from the e-mail follow-up to oral comments given at the public hearing of 14 October 2013.)

We are one of the four well owners just east of the Silver City town limits on Hwy 341. The well is our only available source of drinking water at our residence. The elevation of the water level in our well and our neighbors are all approximately 4900 feet. The applicants processing facility is approximately 5400 feet and pit are at 5200 feet and are both upstream of Silver City.

We are greatly concerned about potential contamination to the ground water by activities in our watershed by surface mining and processing. Not only is the applicant using cyanide to process minerals extracted from the ground, but there are documented historical deposits of lead, mercury and arsenic in the areas in and around the processing facility and Lucerne pit.

**Division Response 6:**

The WPCP and NAC 445A require that the processing facility function as a zero discharge system - i.e. no process fluids may be released from the system either into surface water or groundwater. To date, samples of downgradient groundwater and surface water have shown no degradation and the Permittee will be required to maintain that condition. Disturbance of historic areas containing COCs are not included in the proposed modification.

**Chad and Judi Olsen, Written/Oral Comment 7:**

The removal of topsoil around processing facility area as well as the pit inhibits the natural ability of the ground to filter the contaminants of concern (COC) out of the surface water and allows them to flow freely through the fractured rock that contains our ground water. We request a closer examination of the risks associated with these activities in the watershed which may infringe upon our right to clean drinking water.

**Division Response 7:**

Removal of topsoil in the area at the foot of the historic tails, for construction of fencing and stormwater diversion structures, is not expected to impact local surface or groundwater due to low concentrations of mercury, lead, and arsenic detected in 2011 as part of the Sampling and Analysis Plan (SAP). This material will be stockpiled and used for growth media cover on the heap leach pad during closure.

Materials removed from the pits, both ore and waste rock, are tested quarterly to determine if any Profile I constituents are likely to be released. To date, there have been no indications from these analytical results of a potential to degrade waters of the State.

**Chad and Judi Olsen, Written/Oral Comment 8:**

At a minimum we feel the applicant should be responsible for monitoring the quality and levels of the wells downstream on a quarterly basis.

**Division Response 8:**

Monitoring of domestic water wells is not within the purview of the WPCP.

**Chad and Judi Olsen, Written/Oral Comment 9:**

What is also concerning is the lack of mention of any protection of the processing facility against flash flooding in the application. Flash flooding is a not an uncommon event in our region due to slow moving thunderstorms or fast melting snows running down steep terrain. It is reasonable to assume that the location of this facility places it at risk for a breach of containment due to such foreseeable events.

**Division Response 9:**

The design of the heap leach pad expansion includes stormwater diversion channels along the north, west, and east sides to prevent run-on of stormwater during rain and snowmelt events. The design of the stormwater diversion channels is based on the flow resulting from the 100-year, 24-hour storm event, maintaining a minimum of one foot of freeboard at maximum capacity. This design criterion meets regulatory requirements.

**Joe McCarthy, Written Comment 10:**

Is permitting this "major expansion" really needed at this time? I have read Comstock Mining's application and have had difficulty finding sufficient evidence to demonstrate that this "major expansion" is even necessary. Why take the risk of permitting it at this time. I suggest you use your regulatory powers to be prudent and cautious and pursue a wise course of action that would demonstrate NDEP's acknowledgement of good public policy.

I ask that you keep abreast of CMI's proposed mining expansion plans for Silver City. It may prove problematic for the company to expand operations beyond its so-called "starter mine" in Storey County. There is a real possibility that a zoning change its requesting to allow for mining in a residential zone will be rejected. Such a setback may limit CMI's future mining operations to the extent that a "major expansion" may not be needed.

**Division Response 10:**

The Division is constrained to consider only the requirements in the applicable regulations, NAC 445A.350 to 445A.447, when making decisions regarding approval of permit applications. Determinations of economic feasibility or appropriateness of the activity in the area designated are beyond the scope of the Division review.

### **Canyon Cassidy, Written Comment 11:**

In reviewing the Comstock Mining Inc. heap leach expansion plan I have concerns about the vicinity of the historic tailings where COC's were detected and elements of the heap leach expansion plan. Those tailings being of considerable age, makes possible the relocation of contaminants-over time to unknown locations down slope from that point. The new heap leach expansion plan will put a storm runoff channel right through the area where COC's are likely to have eroded and spread out over a period of more than 100 years. This concerns myself and many of the residents in Silver City because the water from the dry creek adjacent to the Lucerne Project spills directly into American Creek and in annual periods of wetter weather that runoff travels through the south end of Silver City and then into Dayton and the Carson River. This is one of the ways in which contaminants like mercury have made their way into the Carson River in our historic past making cause for the EPA to map this area as a Superfund site. Disturbance of the landscape so near to these tailings and particularly down slope from them creates a profound risk of releasing harmful concentrations of COC's into the Watershed. As stated by Joe Sawyer during the October 14, 2013 public hearing, one of the main functions of NDEP is to allow "No Degradation" of Nevada's Water. Approving this Water Pollution Control Permit will allow Comstock Mining to cause degradation of Nevada's water. Specifically in the areas ranging from the Lucerne Project Mill site to the Carson River and then to Lahonton. Please deny this application as doing so will ensure the safety of the residents of Silver City and Dayton Valley communities both present and future.

### **Division Response 11:**

The proposed modification will not disturb the historic tailings piles which will be fenced off just to the south. The soil in the areas at the southern foot of the historic tailings that will be disturbed were tested as part of the SAP in 2011. The results showed that these soils were below the Division screening/action levels for arsenic, lead, and mercury. Furthermore, this soil will be stockpiled to the northwest of the heap leach pad and used ultimately for cover during closure. The Division has concluded, based on the review of the design, that this proposal meets all regulatory requirements for preventing degradation of waters of the State.

As additional confirmation, the Permit will continue to require sampling of the surface waters in the tributary drainages west of the heap leach pad, and the downgradient location in American Creek. In addition, another surface water monitoring point at the outlet of the stormwater diversion channel to the north of the heap leach pad, directly south of the historic tailings piles, has been added to Part I.D.5 of the WPCP. Results of downgradient monitoring to date have shown no degradation of surface water.

**Canyon Cassidy, Written Comment 12:**

I for one welcome any further studies into historic COC dispersal within the greater area surrounding the Lucerne project and most of all downstream to the Carson River.

**Division Response 12:**

Comment noted.