



Homestake Mining Company of California

Jesse R. Toepfer
Closure Manager

11 August 2015

ATTN Mr. David L. Mayerson
Mining Environmental Compliance Section
Ground Water Quality Bureau
New Mexico Environment Department
P.O. Box 5469
Santa Fe, New Mexico 87502-5469

RE: Homestake's Responses to NMED's Comments Received 2 March 2015 Pertaining to Homestake's "Post-closure groundwater monitoring plan IAW Condition 58 of DP-200 and proposed location for final deposition of sediments and debris from groundwater treatment activities IAW Condition 22 of DP-200" (January 16, 2015)

Mr. Mayerson:

Homestake Mining Company of California (HMC) received from the New Mexico Environment Department (NMED) comments in a letter dated 2 March 2015, entitled *Homestake Mining Company of California/Discharge Permit DP-200—New Mexico Environment Department comments on "Post-closure groundwater monitoring plan IAW Condition 58 of DP-200 and proposed location for final deposition of sediments and debris from groundwater treatment activities IAW 22 of DP-200" (January 16, 2015)*.

Enclosed with this letter you will find HMC's responses to NMED's comments in the aforementioned letter. An updated Post-Closure Monitoring Plan is also attached to this letter. The post-closure monitoring has been adjusted to use the corrective action monitoring wells for post-closure monitoring after an active restoration area has been completed.

On behalf of Homestake, I hope this information is helpful to your department and will be of value to you during the review process. Please feel free to contact me directly at 505.290.3067 if you have any questions or comments pertaining to this material.

Respectfully,

Jesse R. Toepfer
Closure Manager
HOMESTAKE MINING COMPANY OF CALIFORNIA

Copy To:

Mr. Jack Parrott, US Nuclear Regulatory Commission – Rockville, Maryland
Mr. Sai Appaji, US Environmental Protection Agency, Region 6 – Dallas, Texas
Mr. Wayne Canon, New Mexico Office of the State Engineer – Albuquerque, New Mexico
Ms. Deborah Barr, US Department of Energy, Office of Legacy Management – Grand Junction, Colorado
Mr. Russell Edge, US Department of Energy, Office of Legacy Management – Westminster, Colorado
Mr. Bill Ferdinand, Barrick Gold – Salt Lake City, Utah
Mr. Patrick Malone, Barrick Gold – Salt Lake City, Utah
Mr. George Hoffman, Hydro Engineering – Casper, Wyoming

Handwritten initials: MMSOB

Comment Number	Quoted Text	Comment on DP-200 Condition 22	Response
1	N/A	<p>NMED is aware of the text quoted from HMC's "Decommissioning and reclamation plan update 2013," as well as the current review status by the Nuclear Regulatory Commission of the Corrective Action Plan, under which ongoing Site abatement activities are currently regulated. Please describe how HMC will demonstrate that "...disposal [at either of the proposed repository locations] will be protective of ground water quality following closure" (DP-200, Condition 22).</p>	<p>The disposal sites include Evaporation Pond #1 (EP1) and Evaporation Pond #2 (EP2). HMC's disposal site will be capped with a cover that is designed to minimize infiltration according to the same design criteria as that of the cover designs for the LTP and STP. The very small infiltration through this cover was modeled and presented to NMED in the DP-200 1995 renewal. The consolidation of sediment in the disposal site will be evaluated to demonstrate sufficient consolidation prior to the placement of the cover material. The general steps associated with these closure activities are as follows:</p> <ul style="list-style-type: none"> • All sediments and contaminated debris will be moved and disposed of in EP1 and/or EP2, with a preference for EP1. • EP1 will then be capped. (EP2 will be capped as well, if it is used as a disposal cell.) • Either a set of existing wells will be identified downstream of the disposal cells, or new wells will be installed downstream of the disposal cells to ensure zero leakage from the cells. <p>A detailed explanation of these activities is provided in Chapter 9 of the Decommissioning and Reclamation Plan (DRP), which was submitted to the Nuclear Regulatory Commission (NRC) on 4 April 2013.</p>

Comment Number	Quoted Text	Comment on DP-200 Condition 58	Response
1	N/A	DP-200/Condition 1 states that “HMC shall continue operation of [all existing and future permitted abatement systems] until HMC achieves compliance with applicable Site ground water standards.” DP-200/Condition 2 states that “Following the completion of activities associated with ground water abatement, HMC shall demonstrate compliance with applicable Site ground water standards through submittal to NMED of post-closure ground water monitoring results documentation from a period of at least eight consecutive quarters (<i>i.e.</i> , two years).” Satisfaction to NMED of these conditions will be a necessary prerequisite for eventual termination of this discharge permit.	HMC will collect at least eight consecutive quarters of data for each constituent that exceeds the Site Standard prior to restoration for each restoration area. The results from these post-closure ground water monitoring will be presented to the NMED to justify the stability of the restoration area.

Comment Number	Quoted Text	Comment on DP-200 Condition 58	Response
2	N/A	<p>HMC's post closure monitoring plan must include a compliance demonstration in all areas of Site-impacted ground water within all aquifers that historically exceeded applicable Site-specific standards, which has been restored by HMC's remedial activities. HMC's plan, as submitted, appears only to address post-closure monitoring for impacted ground water that is covered by HMC, 2014 (October 8, 2014; "Status report: remediation strategy"). Please submit a revised plan that encompasses the entire historical scope of HMC's ground water restoration activities. The plan should include monitoring of, and analytical data from, a sufficient number and areal distribution of wells in each impacted aquifer that will clearly demonstrate compliance with applicable ground water quality standards for eight consecutive quarters. Additionally HMC's proposal of the location and number of monitoring wells should incorporate principles of accepted regulatory guidance, such as "<i>Guidance on systematic planning using the Data Quality Objectives process</i>" (EPA, February 2006) and "<i>Methods for evaluating the attainment of cleanup standards; volume 2: Ground water</i>" (EPA, July 1992), both of which are available through the Environmental Protection Agency's website. In the resubmitted plan, please include figures that are sized at least 11" x 17" to facilitate NMED's evaluation.</p>	<p>The historical extent of the area where constituent concentrations have exceeded any of the Site Standards is presented for the alluvial and Chinle aquifers in Figures 2-1 through 2-4 in the updated post-closure monitoring plan. This updated post-closure monitoring plan includes a process for selecting monitoring wells and providing a notification and report to NMED detailing the specific wells, historical data, and required post-closure monitoring for a selected area and aquifer where restoration is complete. The notification to NMED will include a request to begin the post-closure monitoring in the area. The selection process for the monitoring wells uses the two EPA referenced documents. As an example of the first area of anticipated post-closure monitoring, HMC proposes seven wells, 541, 551, 647, 649, 654, 899 and 996, for monitoring in the western portion of the North Off-Site area. When submitted, the notification and request to proceed will include the record of water quality data for the monitoring wells and a listing of those constituents to be monitored. Figures 1-1 and 2-1 of the revised plan are formatted to print on 11x17 paper.</p>

Comment Number	Quoted Text	Comment on DP-200 Condition 58	Response
3	N/A	HMC's proposed phased implementation of post-closure monitoring within the Alluvial aquifer must include adequate monitoring of water quality within adjacent upgradient areas of active restoration in order to demonstrate that downgradient areas in which HMC has completed post-closure compliance monitoring do not become recontaminated.	The adjacent upgradient restoration area will be monitored for restoration progress prior to initiating the post-closure monitoring in an area to insure that adequate restoration has occurred in the surrounding or adjacent areas. Some restoration is needed in the western patterns of the eastern area of the North Off-Site area prior to the initiation of the closure monitoring in the western portion of the North Off-Site area. The two years of stability monitoring should adequately demonstrate that continuing restoration efforts in adjacent areas are not affecting the area where post-closure monitoring is underway.
4	N/A	Please clarify how HMC proposes to implement post-closure ground water compliance monitoring within the Site-impacted Chinle aquifers with respect to its proposed phased remediation and compliance demonstration with the Alluvial aquifer, with consideration of the areas of hydraulic connections between the Alluvial and Chinle aquifers.	The alluvial and Chinle aquifers will be restored simultaneously in the subcrop areas. The post-closure monitoring of the Chinle aquifer down gradient of the subcrop area will not be done until restoration is complete in the corresponding subcrop area.