



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 20, 2018

Thomas Wohlford, Closure Manager  
Grants Reclamation Project  
Homestake Mining Company of California  
P.O. Box 98/Highway 605  
Grants, NM 87020

SUBJECT: PILOT PROGRAM FOR THE INSTALLATION OF HORIZONTAL WELLS  
NEAR THE LARGE TAILINGS PILE

Dear Mr. Wohlford:

By letter dated November 30, 2017,<sup>1</sup> the Homestake Mining Company of California (HMC) submitted a proposed pilot program to install and operate horizontal wells at the Grants Reclamation Project (Grants) site in Grants, NM. Specifically, HMC proposes the installation of horizontal wells within the alluvial aquifer beneath the Large Tailings Pile (LTP) and within the tailings of the LTP. These wells would be designed to perform the same functions as the existing vertical wells. In its letter, HMC discussed several advantages provided by the horizontal wells over vertical wells, including:

- Location of the well heads and well access outside of the LTP footprint, thereby limiting interference with other activities on the surface of the LTP;
- Installation of well screens in areas of the alluvium that are otherwise inaccessible; and
- Increased well yields due to longer screen lengths within saturated regions.

As shown in Figure 1 of its letter, HMC is proposing to install one continuous alluvial aquifer horizontal well, one blind alluvial aquifer horizontal well, and one blind tailings dewatering horizontal well. The stated purpose of the horizontal well pilot program is to determine if the horizontal wells can be used as both a supplement and a potential replacement for a portion of the vertical wells presently in the LTP area.

In its letter, HMC discussed that wells will be installed in accordance with the provided Standard Operating Procedure for drilling and well installation (SOP 22). As discussed in SOP 22, HMC shall ensure that groundwater well installation and development be performed in accordance with applicable New Mexico State regulations, including the procurement of all necessary permits. Additionally, HMC shall ensure that the outlined Health and Safety and Disposal and Decontamination (SOP-25) procedures be followed, including the development of any necessary Radiation Safety Work Permits. The documentation associated with the installation

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession No. ML17340A408.

of these wells will be reviewed during NRC and State of New Mexico Environmental Department (NMED) staff inspection following completion.

Due to differences in horizontal well drilling compared to vertical wells, HMC discussed in its letter that no filter pack is proposed for the horizontal wells due to difficulty in conveying the filter pack down the annulus. Therefore, prior to drilling the proposed horizontal wells, HMC shall provide, for New Mexico, Office of the State Engineer review and approval, "Project-Specific Planning Documents" stating well design (casing size and material) and installation procedures which may have deviated from procedures stated in SOP 22. Please also provide copies of the "Project-Specific Planning Documents" to the NRC and NMED. Additionally, as part of HMC's evaluation of the results from the pilot study, information should be gathered regarding the potential for plugging of the wells due to the lack of a filter pack.

As previously discussed, the NRC staff notes that conducting this horizontal well pilot program is allowed in accordance with the HMC NRC license. Consistent with the requirements in License Number SUA-1471, License Conditions 16 and 43, prior to starting the pilot program, HMC shall prepare and record an environmental evaluation of such an activity and administer a cultural resource inventory. The actions required by these license conditions should be followed if any of the specific conditions are met. Specifically, if the evaluation indicated the activity may result in a significant adverse environmental impact, HMC shall request a license amendment to perform the activity. Additionally, all disturbances associated with the proposed development will be completed in compliance with the National Historic Preservation Act (as amended) and the Archaeological Resources Protection Act (as amended). The environmental evaluation and cultural resource inventory will be evaluated during the NRC inspection following the completion of the evaluations.

In Figure 1 of its letter dated November 30, 2017, HMC shows additional alluvial and tailings well locations representing a potential expansion of the pilot program depending on the Phase 1 results. HMC further states that if the Phase 1 is cost effective and suitable for groundwater restoration and/or dewatering, additional wells may be installed.

The NRC notes that any expansion of the horizontal well pilot program would be considered a change to the groundwater compliance monitoring program as described in License Condition 35, and would therefore require a license amendment request to be submitted. The license amendment request would have to be reviewed and approved prior to the construction and use of an additional horizontal wells. The license amendment request should include results from the first phase of this pilot study including the potential for the horizontal wells to plug, which could impact the groundwater restoration schedule.

The NRC staff understands how the proposed horizontal wells could provide several advantages over vertical wells and is interested in reviewing results from this first phase.

The NRC staff appreciates being given the opportunity to review this notification of a pilot program that does not involve an amendment to the HMC NRC license. The staff coordinated

its review with NMED. The staff and NMED have completed the review and do not have any questions concerning the proposed scope of work at this time.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions regarding this letter, please contact me at (301) 415-4090 or by e-mail to [Jeffrey.White@nrc.gov](mailto:Jeffrey.White@nrc.gov).

Sincerely,

**/RA/**

Jeffrey A. Whited, Project Manager  
Materials Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Materials Safety  
and Safeguards

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T. Wohlford

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