



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
1600 EAST LAMAR BOULEVARD  
ARLINGTON, TEXAS 76011-4511

September 20, 2022

EA-22-032

Mr. Brad Bingham  
Closure Manager  
Homestake Mining Company of California  
P.O. Box 98, Hwy 605  
Grants, NM 87020

SUBJECT: HOMESTAKE MINING COMPANY OF CALIFORNIA – NRC INSPECTION  
REPORT 040-08903/2021-001, DISPUTED CITED VIOLATION REVISED AND  
CLARIFICATION OF REQUIREMENTS

Dear Mr. Brad Bingham:

On April 20, 2021, the U.S. Nuclear Regulatory Commission (NRC) issued Inspection Report 040-08903/2021-001 and a Severity Level IV Notice of Violation (Notice) to Homestake Mining Company of California (HMC), Agencywide Documents Access and Management System (ADAMS) Accession No. ML21096A200. The inspection report and Notice documented the discharge of liquid effluents containing byproduct material to the ground in violation of NRC requirements.

On May 20, 2021, you provided a response to this violation (ML21144A296) in which you stated that while HMC was not contesting the Notice, it does not appear that 11e.(2) byproduct material in the form of purge water was consistently regulated as an unauthorized release. Your letter noted that other NRC licensees are permitted to discharge purge water to ground surfaces when it is permitted by approved procedures. Nevertheless, you reported completing actions to correct the inconsistency in Standard Operating Procedure SOP 17, Groundwater Monitoring, Revision 5, and you conducted training on the changes.

In response to separate discussions involving the U.S. Department of Energy (DOE), the NRC notified you by letter dated October 28, 2021 (ML21278B110), that we had concluded that DOE's purge water discharge practices (to discharge purge water onto the ground surface) on DOE property located close to your facility were found to be acceptable.

By letter dated November 19, 2021 (ML21326A265), you asserted apparent inconsistencies in the NRC's oversight of disposal of purge water from monitoring wells used to sample groundwater containing 11e.(2) byproduct material. Specifically, you indicated that HMC received a violation for discharging purge water on the ground while another facility was approved to do so. In your letter, you requested that the violation in the subject inspection report be withdrawn and requested clarification on the apparent inconsistencies of the NRC's oversight of the disposal of purge water. On December 15, 2021 (ML21349A521), the NRC acknowledged receipt of your letter.

The NRC conducted a detailed review of your November 19, 2021, letter and examined the circumstances and applicable regulatory requirements in accordance with Part I, Section 2.8 of the NRC Enforcement Manual. This review included staff who were not involved in the original inspection effort. The details of the NRC's evaluation are contained in the enclosure.

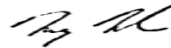
After consideration of the bases for your request that the subject report violation be withdrawn, the NRC concluded that a violation of License Condition 23 of Materials License SUA-1471 is appropriate, but it will be revised. The NRC will reissue Inspection Report 040-08903/2021-001 to revise the Notice and clarify any incomplete or misleading wording.

In a review of the enforcement of requirements concerning the disposition of purge water, the NRC determined that the disparity noted between licensee practices in the handling of purge water is the result of separate and different procedures established by the licensees to meet NRC requirements. Accordingly, the NRC concluded it is consistent in its enforcement of the requirements concerning the disposition of purge water.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response if you choose to provide one will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's ADAMS accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the public without redaction.

Should you have any questions concerning this letter, please contact Dr. Robert Evans at 817 200-1234, or Mr. Gregory Warnick, Branch Chief, at 817-200-1249.

Sincerely,



Signed by Muessle, Mary  
on 09/20/22

Mary C. Muessle, Director  
Division of Radiological Safety and Security

Docket No. 040-08903  
License No. SUA-1471

Enclosure:  
NRC Evaluation of Licensee Response  
to a Notice of Violation

cc with enclosure:

A. Maurer, New Mexico Environment Department  
S. Rodriguez, New Mexico Environment Department  
D. Crosby, New Mexico Office of the State Engineer  
M. Purcell, Environmental Protection Agency

HOMESTAKE MINING COMPANY OF CALIFORNIA – NRC INSPECTION REPORT  
 040-08903/2021-001, DISPUTED CITED VIOLATION REVISED AND CLARIFICATION OF  
 REQUIREMENTS – DATED SEPTEMBER 20, 2022

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ADAMS ACCESSION NUMBER: **ML22263A292**

| <input checked="" type="checkbox"/> SUNSI Review<br>By: RJE | ADAMS<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> Non-Sensitive<br><input type="checkbox"/> Sensitive | <input checked="" type="checkbox"/> Publicly Available<br><input type="checkbox"/> Non-Publicly Available | Keyword:<br>NRC-002 |
|---|--|---|---|---------------------|
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| NAME  | RJEvans  | GGWarnick RJE for   | NO'Keefe  | DCylkowski          |
| SIGNATURE   | /RA/ E   | /RA/ E  | /RA/ E  | /RA/ E              |
| DATE  | 07/08/22   | 07/08/22  | 08/25/2022  | 07/20/22            |
| OFFICE  | RIV:ACES   | NMSS  | OE  | D:DRSS              |
| NAME  | JGroom   | JMarshall   | JPeralta  | MMuessle            |
| SIGNATURE   | /RA/ E   | /RA/ E  | /RA/ E  | /RA/ E              |
| DATE  | 07/20/22   | 09/18/22  | 09/15/22  | 09/20/22            |

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## **NRC Evaluation of Licensee Response to a Notice of Violation**

### **Restatement of the Original Violation:**

On April 20, 2021, the U.S. Nuclear Regulatory Commission (NRC) issued Inspection Report 040-08903/2021-001 and Notice of Violation (Notice) to Homestake Mining Company of California (HMC or licensee), Agencywide Documents Access and Management System (ADAMS) Accession No. ML21096A200. The original violation is restated below:

Title 10 CFR 40.41(c) requires, in part, that each person licensed by the Commission pursuant to the regulations in this part shall confine his possession and use of source or byproduct material to the locations and purposes authorized in the license.

Materials License SUA-1471, Amendment 56, License Condition 23, states, in part, that standard procedures shall be established for all activities involving radioactive materials that are handled, processed, or stored, that procedures shall enumerate pertinent radiation safety practices to be followed, and written procedures shall be established for environmental monitoring.

The licensee's Standard Operating Procedure 17, "Groundwater Monitoring," Revision 5, establishes the procedure for well sampling, while Step 9 of the procedure enumerates pertinent radiation safety practices to be followed. Step 9 of the procedure states, in part, that all well purging water generated during groundwater sampling must be contained and disposed of onsite in a lined holding pond or evaporation pond.

Contrary to the above, from 2018 to 2020, the licensee failed to ensure all well purging water generated during groundwater sampling was contained and disposed of onsite in a lined holding pond or evaporation pond. Specifically, the licensee released 11.e(2) byproduct material in the form of purge water from impacted wells directly to the ground surface, including outside the licensed site boundary, effectively resulting in a disposal of licensed material not authorized by the license or NRC regulations.

### **Summary of the Licensee's Response:**

The licensee replied to the Notice by letter dated May 20, 2021 (ML21144A296). The licensee provided corrective actions that included updating the procedure, providing online training, and providing field training. All corrective actions were completed by the date of the letter. The licensee also stated that while it was not contesting the Notice, it does not appear that 11e.(2) byproduct material in the form of purge water is consistently regulated as an unauthorized release per NRC regulations across the UMTRCA [Uranium Mill Tailings Radiation Control Act of 1978] portfolio. Section 11e.(2) of the Atomic Energy Act defines 11e.(2) byproduct material as the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

In a letter dated November 19, 2021 (ML21326A265), the licensee documented its review of the regulations, license conditions, and circumstances surrounding the purge water violation and comparison of the Notice rationale with NRC's subsequent acceptance of U.S. Department of Energy's (DOE) purge water handling procedures. The licensee asserted that the NRC was being inconsistent and requested that the Notice issued on April 20, 2021, be withdrawn. Based on this apparent inconsistency, the licensee suspended its agreement to allow DOE to sample groundwater using the licensee's monitoring well 951. The licensee indicated it will review the

Enclosure

NRC staff's clarification prior to making a decision to reinstate or not its agreement to allow DOE to resume routine sampling of well 951 on its property.

### **NRC Evaluation of the Licensee Response:**

The violation and surrounding circumstances were reviewed by a senior uranium recovery inspector independent of the original inspection.

### NRC Evaluation of the Violation Withdrawal Request

During the NRC inspection, documented in the April 20, 2021, Inspection Report 040-08903/2021-001, inspectors observed that well purge water was poured on the ground during groundwater sampling. The original Notice in Inspection Report 040-08903/2021-001 references License SUA-1471, Condition 23 which requires the licensee to establish procedures for all activities involving radioactive materials that are handled, processed, or stored.

The independent inspector reviewed different revisions of HMC's Standard Operating Procedure (SOP) 17, "Groundwater Monitoring (HP-15)".

- Revision 5 of SOP 17 (issued December 3, 2018) provided conflicting guidance on purge water management. Step B.9. states, in part, that all well purging water must be contained and disposed of on-site in a lined holding pond or evaporation pond, while Step B.14 states, in part, that sampling purge water be discharged to the ground.
- Revision 6 (issued on August 27, 2020) removed all references to the management of purge water from the procedure.
- At the time of the February 2021 inspection, the licensee was in the process of revising SOP 17 to clarify that purged well water is to be disposed of in a lined holding pond or evaporation pond. Revision 7 was subsequently issued on April 22, 2021, after the inspection. SOP 17, Step 2.h, "Management of 11.e.(2) Waste," states, in part, that purge water from impacted wells will be collected in an appropriate container while sampling and disposed of in the West Collection Pond.

In summary, Revision 5 of the SOP 17 provided conflicting instructions for management of purge water, while Revision 6 provided no instructions. However, the licensee provided sufficient instructions for purge water management in Revision 7 of SOP 17.

After consideration of the bases for your request that the subject report violation be withdrawn, the NRC concluded that a violation of License Condition 23 of Materials License SUA-1471 is appropriate, but it will be revised as described below.

### Revised Notice

The revised violation wording provided below will be documented in a reissued NRC Inspection Report 040-08903/2021-001:

Title 10 CFR 40.41(c) requires, in part, that each person licensed by the Commission pursuant to the regulations in this part shall confine his possession and use of source or byproduct material to the locations and purposes authorized in the license.

Materials License SUA-1471, Amendments 52-56, License Condition 23, states, in part, that standard procedures shall be established for all activities involving radioactive materials that are handled, processed, or stored, that procedures shall enumerate pertinent radiation safety practices to be followed, and written procedures shall be established for environmental monitoring. The licensee established Standard Operating Procedure (SOP) 17, "Groundwater Monitoring (HP-15)" for environmental monitoring of groundwater.

Contrary to the above, from December 3, 2018, to April 22, 2021, the licensee failed to establish standard procedures for all activities involving radioactive materials that are handled, processed, or stored that enumerate pertinent radiation safety practices to be followed. Specifically, procedure SOP 17, Revisions 5 and 6, provided inconsistent or incomplete instructions enumerating the pertinent radiation safety practices for handling of 11.e(2) byproduct material in the form of groundwater monitoring well purge water.

### **NRC Evaluation of the Handling Requirements for Purge Water Containing 11.e(2) Byproduct Material**

The NRC issued a letter to HMC dated October 28, 2021 (ML21278B110). The letter provided NRC comments on the DOE's sampling procedures for the HMC well 951 adjacent to the Bluewater Disposal Site. The NRC notified HMC that DOE's purge water discharge practices were acceptable.

To verify the consistency in the enforcement of requirements, the NRC reviewed the regulatory classification of well purge water. Based on common industry practices, the pore volume of a well must be purged before a groundwater sample is collected to ensure the sample is a representative sample. The NRC determined that this purge water is best described as effluent. The regulatory limits for effluents that may impact the public are provided in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20, Appendix B, Table 2, Column 2.

The NRC noted that HMC may be able to disposition/discharge purge water on its property within the NRC-licensed boundary, since this area eventually will have to be radiologically surveyed prior to release. Note that 10 CFR 20.1101(b) requires that a licensee shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).

HMC restored compliance with the requirements of LC 23 when SOP 17, Revision 7 was issued on April 22, 2021. This revision to HMC's sampling procedure prohibits release of purge water on the ground within the licensed boundary. However, since HMC has been granted a performance-based license, HMC has the option of revising the sampling procedure to allow onsite releases on its licensed property, provided that HMC first completes the applicable technical and environmental reviews of the proposed action.

In summary, the disparity in the handling of purge water is the result of separate and different procedures established by the licensees to meet NRC requirements.

**NRC Conclusions:**

The violation issued in NRC Inspection Report 040-08903/2021-001 of License Condition 23 of Materials License SUA-1471 is appropriate, but will be revised to better characterize the non-compliance. Additionally, the NRC concluded it is consistent in its enforcement of the requirements concerning the disposition of purge water.