

# Quivira Mining Co.

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Thomas Essig  
Branch Chief  
U.S. Nuclear Regulatory Commission  
Uranium Recovery Branch  
Division of Waste Management  
Mail Stop 7 J8  
Rockville MD 20850

**Subject: License Amendment Request  
Extension to Milestone Dates in License Condition 40(B)  
License No.: SUA-1473 Docket No.: 40-8905  
Ambrosia Lake Facility**

Dear Mr. Essig:

On December 28, 1999, Quivira Mining Co. informed the facility NRC Project Manager, Ms. Jill Caverly, that the rock work on Pond 1 and Pond was essentially complete, but that a few areas remained that required additional, but minor work to complete all of the work that is required to meet the milestone dates in License Condition 40(B). Therefore, due to the late date with respect to the milestones in the license condition, Quivira notified Ms. Caverly that it would be submitting a license amendment request to extend the milestone period to allow all of the work to be completed in a timely manner.

Pursuant to License Condition 40.C and 40.D of the above referenced license, Quivira Mining Company respectfully requests an extension to the completion date specified within Condition 40.B.(1) for completion of the placement of the erosion protection. Quivira is requesting to extend the milestone date from December 31, 1999 to December 31, 2001. Quivira does not believe this change will result in any additional risk to the public health and safety and the environment.

The proposed change to Condition 40.B(1) is provided below along with Quivira's justification for the proposed change.

- (1) *Placement of erosion protection as part of reclamation to comply with Criterion 6 of Appendix A of 10 CFR Part 40 -*

*For impoundment No. 1 - ~~December 31, 1999~~ December 31, 2001.*

*For impoundment No. 2, excluding portions used for approved byproduct material disposal - ~~December 31, 1999~~ December 31, 2001.*

*NMSSOIPublic*

A change to the completion dates is conditionally allowed through a license amendment request by License Condition 40(D). According to the condition, Quivira must address the added risk to the public health and safety and to the environment, and the licensee is allowed due consideration to economic costs involved and other factors justifying the request such as delays caused by inclement weather, regulatory delays, litigation and other factors beyond the company's control. Quivira will address the risk issues as well as the justification later in this amendment request.

Quivira has completed placement of all erosion protection on impoundment #1 and #2 in accordance with the milestone date with the exception of the following minor items:

1. Completion of verifying rock layer thickness and correcting 'tire grooves' on slopes;
2. Elimination of access road onto pond 1;
3. Installation of riprap filled toe trench on west side of pond 2;
4. Installation of riprap filled toe trench along intersection of pond 1 and pond 3.

Discussions of each of these items are provided below.

#### Completion of verifying rock thickness

Quivira has completed testing the placed thickness of the final erosion protection for both impoundments. During this process, some small areas on the top of impoundment #1 were found to be slightly outside of the specifications stipulated within License Condition 37.K. Approximately 1 acre (0.3% of overall disposal area) was associated with these thin spots. These areas have received additional rock to meet the required specifications with verification of actually meeting required specification remaining to be completed.

Another portion of the disposal area where Quivira identified during its thickness verification work where some additional rock was needed was on the slope of impoundment #1. The area where the thickness did not appear to meet specifications was estimated to be approximately 24 acres (6.7% of overall disposal area). The rock to perform this work (approximately 350-400 yards) has been placed along the toe of pond 1 below those areas needing additional rock; so the rock simply has to be transported up the slope and placed and spread on the areas needing the rock.

#### Tire grooves

During the placement and spreading of the rock cover on pond 1, the heavy equipment used to perform the work left some tire grooves in the rock that will need to be smoothed out to better distribute the rock. This work is planned to be done by using various pieces of heavy equipment and simply back-dragging the blade of the machine along the rock in order to minimize the grooves while maintaining the required rock thickness specifications.

#### Closure of access road onto pond 1

An access road onto pond 1 was maintained to facilitate completion of the rock thickness verification work on pond 1. A total of approximately 2.5 acres of the top of the impoundment

(0.7% of overall disposal area) is associated with the access road. The rock to complete this work is presently situated along the access road in the form of windrows or berms on each side of the road. A motor grader will be used to spread out the rock evenly onto the 8-foot wide road. After the rock is spread, it will be verified for thickness.

#### Apron on Pond 2

License condition 37.M requires a trench be installed on pond 2. This trench has not been constructed yet, because NRC must approve the trench design and associated rock apron. The trench design required by the license condition will be submitted for NRC review and approval within the 1<sup>st</sup> quarter of 2000. Upon approval of the design by NRC, the construction of the trench and rock placement can be completed within the requested extension time.

#### Apron on east toe of Pond 1

A rock apron was installed along the toe of impoundment #1 with the exception of the eastern toe between pond 1 and pond 3. This portion of the apron was not constructed as a result of the additional material that was being placed on pond 3 from the windblown tailings retrieval. The windblown retrieval and placement on the pile has a scheduled completion date of December 31, 1999. Until NRC approves the windblown cleanup work, pond 3 must remain open for the disposal of contaminated soils from this cleanup.

Until all of the material that will be placed in pond 3 is determined, the final height of pond 3 will not be known and the apron cannot be installed. On December 27, 1999, QMC submitted notification to the NRC that the windblown tailings retrieval was completed and a completion report will be submitted within the 1<sup>st</sup> quarter 2000. Upon NRC approval of the windblown tailings retrieval report, the apron between pond 1 and pond 3 will be constructed. It is expected that installation of the apron can be completed within the extension time provided that the windblown clean-up work is closed .

#### Added Risk to the Public Health and Safety and to the Environment

Quivira does not believe that an extension to the milestone date will result in any risk to public health and safety or the environment. Quivira bases this position on the following items:

1. Ponds 1 and 2 (other than those areas used for byproduct material) have been covered with a radon attenuation cover and a final cover of clean soil to final grade. Therefore, the potential for additional risk from windblown tailings and radon emissions is minimal.
2. The placement of the erosion protection with the exception of a few minor areas has been completed. This includes the construction of the diversion channel and the placement of the majority of the rock onto the tops and sides of the impoundments. The remaining minor areas required for completion do not pose a risk to the stability of the tailings, and serve as finishing work to complete the rock placement for long-term stability.
3. The remaining tasks required for completion of the rock work will be performed within the requested extension time, and do not pose a risk to long-term stability of the cover system for the tailings impoundment.

### **Justification for Extension Approval**

Pursuant to License Condition 40(D), in addition to addressing any additional risk to the public health and safety and to the environment, Quivira must also provide justification as to the need for the extension. Quivira's extension request will allow it to complete the necessary work for fulfill the milestones in License Condition 40(B). Quivira believes that it can complete the work within the proposed extension period. There are three issues that provides the basis for this extension:

1. 1999 was a rather wet year with New Mexico experiencing an extended summer monsoon season, which prevented the use of heavy equipment on the impoundments to transport rock to areas requiring additional material. Quivira believed that more damage to the cover would have occurred during unfavorable conditions as the travel path taken by the equipment would have been damaged due to weight of equipment, thereby greatly increasing the area requiring additional work and risking damage to the actual cover. It is expected that during the proposed extension period for the milestone that weather conditions will allow this work to be performed under better conditions than were experienced in 1999.
2. Quivira is performing the tailings reclamation work while maintaining the mill in a standby mode due to the depressed economics of the uranium recovery industry. Because of these economics, Quivira is required to prioritize the work performed by the small reclamation team. As stated in issue 1, inclement weather affected the overall ability for reclamation work to be performed as a whole, including the scheduling for retrieval of the windblown tailings as required by license condition 40(A)1 in addition to the scheduled rock work for 1999. Quivira believed that the greater risk to the public health and the environment, albeit minimal, was manifested in the windblown tailings since the original plume extended into areas outside of the restricted area. To ensure timely completion of the windblown tailings retrieval, Quivira increased the priority of that work over the completion of the rock. The improved verification survey utilized for the windblown clean-up work extended the amount of area and quantity of windblown cleanup, which prolonged the scheduled completion of the work. The delays due to weather, and the extended windblown cleanup; coupled with the limited manpower due to unfavorable economic conditions, the ability to complete the scheduled rock work was negatively impacted. Quivira believes that this work will be completed within the proposed extension time to the milestone because the two main issues(windblown cleanup and weather) that impacted the scheduled work are not expected to detract from completing the remaining minor activities on the erosion protection layer.
3. The reason for the two-year extension period is because two of the major issues are subject to the necessary NRC review and approval process. As stated earlier, License Condition 37(M) requires that NRC review and approve the trench design and rock placement along the western edge of pond 2. Secondly, the apron along the toe between ponds 1 and 3 is dependent upon the final height on pond 3, and that height will not be determined until the windblown retrieval program is closed. That determination will not be made until NRC reviews and approves the completion report for the windblown tailings retrieval work. Quivira anticipates that these issues will be resolved well within the proposed extension period for the milestone dates,

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but believes that 2 years provides sufficient cushion in case the review process is extended in time due to factors outside of Quivira's control.

Quivira believes that the proposed extension to the milestone dates will allow the few remaining issues necessary to meet the requirements of License Condition 40(B) will be completed in a timely basis. The company believes that as stated in the justification for the delay, that the remaining work on the rock cover could have been completed before the milestone date except for factors such as weather and the need to prioritize the limited resources at the site that were out of its control. Also, Quivira believes that the relatively short extension time proposed for the milestone dates does not present any additional risk to human health and safety and to the environment since the remaining work is relatively minor and does not jeopardize the long-term stability of the impoundments. Third, Quivira maintains sufficient bonding for the reclamation of both impoundments to cover the costs of completing the remaining work within the proposed extended milestone period.

If you have any questions, please call me at (405) 858-4807.

Sincerely,



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CC: U.S. Nuclear Regulatory Commission, Region IV  
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