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October 23, 2002

40-8502

Mr. John Vaselin
COGEMA Mining, Inc.
P. O. Box 730
Mills, WY 82644

RE: NonSignificant Revision Application, TFN 3 3/389, Permit No. 478

Dear Mr. Vaselin:

On September 18, 2002, you submitted responses to comments on a NonSignificant Revision (NSR) package which had proposed several changes to the Permit 478 document.

Attached is a memo containing comments from staff reviews of your proposed changes and additional responses.

Please feel free to call if you have any questions

Sincerely,

Glenn Mo
Senior G

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MEMORANDUM

TO: File, COGEMA's Mining Inc.'s Irigaray - Christensen Ranch ISL Operation, NonSignificant Revision Application, TFN 3 3/389

FROM: Glenn Mooney, Senior Geologist GM

DATE: October 23, 2002

SUBJECT: Second Combined Review

Introduction

A NonSignificant Revision (NSR) Application was received from COGEMA Mining Inc. (COGEMA) on June 22, 2001, under cover of John Vaselin's letter of June 19, 2001. Several replacement pages were received on June 29, 2001, under cover of Mr. Vaselin's letter dated June 27, 2001. Review comments were then sent to Mr. Vaselin under cover of my letter of August 14, 2001. Additional comments were included in my letter of May 16, 2002, following a May 10, 2002, meeting with COGEMA staff.

Mr. Vaselin responded with a response package submitted under cover of his letter of September 18, 2002.

Reviews of this proposal were carried out by Stacy Page, Mark Taylor and Glenn Mooney. Their initials are attached to each of their comments.

Index of Changes

An Index of Changes was provided which correctly lists all of the changes proposed and the replacement pages provided.

Continuity

No continuity problems were found.

Review

1. Section 3.3.2.2, Well Integrity Testing Procedures, Page 3-18, Paragraph 1

   Please provide a figure which clearly illustrates repairs discussed in this proposed text. (MT)

2. Section 3.3.2.2, Well Integrity Testing Procedures, Pages 3-18 and 3-18a

Two changes are proposed for this section. One is that wells which have failed the Mechanical Integrity Testing (MIT) procedure may be used for recovery wells if the water level in the well can be maintained at least 10 feet below the casing failure area. A different method of repairing failed wells is also described. The second change is a clear declaration that wells that are not either used as recovery wells described in the first change or are not repaired will be abandoned as described elsewhere in the permit document.

COGEMA's proposed language is as follows: "Incompetent wells can be used for recovery purposes if the water level in the well can be maintained at least 10 feet below the casing failure to prevent leakage. During recovery use of a failed well, the water level will be measured and recorded weekly to insure this requirement is met."

I researched the relevant regulations to see which might apply. I found Water Quality (WQD) Division Rules and Regulations, Chapter IX , Section 6.a.(14) under application requirements (for in situ mining) that "The applicant will affirmatively demonstrate or document mechanical integrity of the well or system;" and Section 6.b.(9) of the same Chapter states "The applicant will affirmatively demonstrate or document mechanical integrity of the well or system; and the groundwater pollution which may result from a special process discharge (Isl mining) can be eliminated or reduced to an appropriate level." (Underlines added.)

I believe that "system" also includes the piping running to and from the injection wells and includes the recovery wells also.

Finally, WQD Rules and Regulations, Chapter XI, Section 2(i) defined a Class III well as "...a well used for in situ mining which injects for extraction of minerals, or products , **or recovers** recovery fluids, minerals, or products..." (emphasis added). This section makes it clear that there is no difference between injection wells and recovery wells and it follows, they both are subject to the same standards, including mechanical integrity testing.

Finally, a practical objection to this proposal is that separating the casing fault from the maximum water level by 10 feet is inadequate. Fluctuation of the water levels in an operating well may be greater than 10 feet and weekly monitoring may not catch this. Also, if the pump shuts down quickly, a rebound in the well water level could exceed 10 feet. And the water in the piping during shutdown such as during a power failure could run back down the well and raise the water level by more than 10 feet. If the check valve

in the pump fails or is slow to operate, 100's to 1000's of gallons could reverse flow and flow down hole. With a casing diameter of 5 to 7 inches, as little as 10 gallons of water could raise the water level in the well to above the break.

The sentence stating wells that have failed mechanical integrity tests may be used for recovery wells must be removed. (GM)

3. Section 3.3.2.2, Well Integrity Testing Procedures, Page 3-18, Paragraph 2

Please explain and provide illustrations, if necessary, describing how you would assure the water level in any well could be maintained at a level at least 10 feet below a casing failure. How would this water level be maintained during power outages or mechanical problems with the pump? What provisions would be made to prevent back flow or siphoning? (MT)

4. Section 3.4.1.1, General Arrangement (Irigaray Plant) and Section 3.4.2.1, General Arrangement (Christensen Plant)

COGEMA has submitted new Figures 3.9 and 3.11 depicting the new arrangements of equipment in the Irigaray and Christensen plants.

This is acceptable; no response is necessary. (GM)

5. Section 5.1, Corporate Organization and Administrative Procedures

A portion of the NSR is a simple permit "housekeeping" operation which seeks to update the diagrams which show the arrangement of equipment in both the Irigaray and Christensen Ranch plants. Another replacement chart shows the revised COGEMA staff organization.

This is acceptable; no response is necessary. (GM)

6. Section 6.1.2.2, Reverse Osmosis/Permeate Injection Phase, Page 6-8

The first sentence of the fourth paragraph on this page is not acceptable. It states "(T)he goal of the restoration process is to return the affected groundwater to the pre-mining class of use." As stated in the Environmental Quality Act, W.S. § 35-11-103(f)(iii), the goal of groundwater restoration is to return the affected groundwater "to a quality of use equal to or better than, and consistent with he uses for which the water was suitable prior to the operation by employing the best practicable technology." Land Quality Division

NonCoal Rules and Regulations, Chapter 11, Section 3(d)(i)(A) states the same thing. Returning the groundwater quality to Class of Use is a secondary goal, a goal to be used only if returning the quality to baseline or better is found not to be possible.

Please eliminate this sentence or rewrite to reflect the above statute. (GM)

7. Section 6.1.2.2, Reverse Osmosis/Permeate Injection Phase, Metal Reduction, Page 6-8

The proposed text states "The goal of the restoration process is to return the affected groundwater to the pre-mining class of use." Please consider revising this text to read " The goal of the restoration process is to return all groundwater affected by the injection of recovery fluids to a quality of use equal to or better than, and consistent with the uses for which the water was suitable prior to the operation by employing the best practicable technology." (MT)

8. Section 6.1.2.2, Reverse Osmosis/Permeate Injection Phase, Pages 6-8 and 6-9

Another part of the NSR proposes the addition of a number of chemical reductants for use in the groundwater restoration process. Currently, only hydrogen sulfide gas and a limited use of Thio-Red II are proposed for use. The NSR would add sodium sulfide, sodium bisulfite, sodium metabisulfite, and sodium sulfite to the list of chemical reductants proposed for use and expand the use of Thio-Red II. The control of pH by the reduction of dissolved carbon dioxide is also added.

This is acceptable; no response is necessary. (GM)

9. Section 6.1.2.2, Reverse Osmosis/Permeate Injection Phase, Metal Reduction, Pages 6-8 and 6-9

The additional chemicals agents proposed to be used for metals reduction have been widely used as safe and effective agents to precipitate metals from water. (MT)

This is acceptable; no response is necessary.

10. Section 6.2.1.1, Removal and Disposal Alternatives, Page 6-28

A proposed change to this section would allow on-site disposal of concrete rubble by burial to a minimum depth of four feet, exclusive of the replaced topsoil thickness. Only

concrete which has been decontaminated or otherwise verified to be free of radioactive contamination would be buried on-site.

This is acceptable; no response is necessary. (GM)

11. Section 6.2.3.1, Well Plugging and Abandonment, Page 6-32, Paragraph 3

In line 3 please insert the word "feet" immediately after "75". Please provide figures which illustrate the three abandonment methods described in the text. (MT)

12. Section 6.2.3.1, Well Plugging and Abandonment, Page 6-32

COGEMA proposes to change their well abandonment procedures by adding the method of using intervals of bentonite chips opposite the open hole sections separated by intervals of gravel and eliminating the use of bentonite abandonment fluid.

This is acceptable; no response is necessary. (GM)

13. Section 6.3.3.3, Seed Mixtures, Pages 6-41 to 6-44

COGEMA has revised their reclamation seed mixtures to provide on mix which is compatible with both the Irigaray and Christensen sites. In her October 10, 2002, memo, Stacy Page of District III stated that she had reviewed the proposed seed mixture and found that it agreed with an earlier recommendation of hers.

This is acceptable; no response is necessary. (SP)(GM)

Conclusions

Review of this application found that most of the proposed NSR is acceptable with two exceptions. The proposal to use wells that have failed MIT as recovery wells is not acceptable as it conflicts with Water Quality Division Rules and Regulations and must be removed from the text. A statement that the goal of restoration is to return the groundwater to Class of Use is also not acceptable and must be eliminated or rewritten. Some additional information is requested for several other areas.

\gm

cc: Cheyenne File