



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
URANIUM RECOVERY FIELD OFFICE
BOX 25325
DENVER, COLORADO 80225

DEC 29 1989

URFO:GRK
Docket No. 40-8905
SUA-1473, Amendment No. 13
04008905360E

Quivira Mining Company
ATTN: Marvin Freeman
P.O. Box 25861
Oklahoma City, Oklahoma 73125

Gentlemen:

Our office is in receipt of your September 25, 1989, corrective action program submittal. This submittal as well as the documents referenced within it represent a considerable amount of data on the ground-water conditions that exist at the site.

It is our understanding that your corrective action program as proposed, consists of tailings dewatering and seepage collection utilizing the general mine dewatering wells and the Pond 1 interceptor trench. These actions appear to be collecting many of the hazardous constituents that are entering the ground water. However, as we discussed during our December 7, 1989, meeting, our office is concerned that these actions have no effect on the ground water and associated hazardous constituents that have moved beyond the influence of these corrective actions. This situation certainly has application in the alluvial materials. Similarly, we are concerned about the hazardous constituents that are moving with the ground water in the Dakota formation. Your current efforts are utilizing a collection system consisting of mine dewatering wells. This system allows massive dilution to take place along the flow path. Due to this, future plans for corrective action program improvements should consider seepage collection in the Section 36 wells adjacent to the source of seepage.

The majority of our discussion and concern over the ground-water resources has centered on the alluvial materials and the Dakota. Accordingly, we will require that you continue to monitor the Tres Hermanos A and B formations, but will not at this time, require any corrective actions specific to these units.

You will also note that we have incorporated the background values for the alluvial materials into Subsection B. These values are either the measured background numbers given in Appendix E or the Table 5C values, whichever is higher.

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Therefore, pursuant to Title 10, Code of Federal Regulations, Part 40, and in consideration of your September 25, 1989, submittal, Source Material License SUA-1473 is hereby amended by revising License Condition No. 34 to read as follows:

34. The licensee shall implement a ground-water compliance monitoring program containing the following:

A. Sample Dakota Wells 17-01, 30-02, 30-48, 32-45 and 36-06; Alluvial Wells 5-03, 31-61, 32-59 and MW-24; Tres Hermanos A Wells 33-01 and 31-01; and Tres Hermanos B Wells VH19-2, 31-66, 31-67, 36-01 and 36-02 on a semiannual frequency for arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, combined radium-226 and 228, natural uranium, thorium-230, lead-210, chloride, sulfate, nitrate, pH and electrical conductivity.

B. Comply with the following ground-water protection standards, in mg/l (unless otherwise noted):

At Dakota point of compliance Wells 30-02, 30-48, 32-45 and 36-06 with the background concentration being recognized in Well 17-01: arsenic = 0.1, barium = 1.0, cadmium = 0.01, chromium = 0.05, cyanide = 0.04, lead = 0.14, mercury = 0.002, molybdenum = 0.06, nickel = 0.03, selenium = 0.04, silver = 0.05, beryllium = 0.01, antimony = 0.05, thallium = 0.01, gross alpha = 56 pCi/l, combined radium-226 and 228 = 5.0 pCi/l, natural uranium = 0.02, thorium-230 = 2.3 pCi/l and lead-210 = 1.9 pCi/l.

At alluvial point of compliance Wells 31-61, 32-59, MW-24 with the background concentration being recognized in Well 5-03: arsenic = 0.05, barium = 1.0, cadmium = 0.01, chromium = 0.05, cyanide = 0.21, lead = 0.05, mercury = 0.002, molybdenum = 0.06, nickel = 0.06, selenium = 0.05, silver = 0.05, beryllium = 0.01, antimony = 0.045, thallium = 0.01, gross alpha = 57.0 pCi/l, combined radium-226 and 228 = 5.0 pCi/l, thorium-230 = 3.1 pCi/l, natural uranium = 0.06, and lead-210 = 4.9 pCi/l.

At Tres Hermanos A Point of compliance Well 31-01 with the background concentration being recognized in Well 33-01: arsenic = 0.05, barium = 1.0, cadmium = 0.01, chromium = 0.09, cyanide = 0.01, lead = 0.05, mercury = 0.002, molybdenum = 0.03, nickel = 0.05, selenium = 0.03, silver = 0.05, beryllium = 0.01, antimony = 0.05, thallium = 0.01, gross alpha = 18.0 pCi/l, combined radium-226 and 228 = 5.0 pCi/l, natural uranium = 0.01, thorium-230 = 4.3 pCi/l and lead-210 = 4.14 pCi/l.

At Tres Hermanos B point of compliance Wells 31-66, 31-67, 36-01 and 36-02 with the background concentration being recognized in

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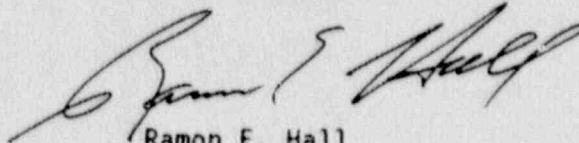
Well VH19-2: arsenic = 0.05, barium = 1.0, cadmium = 0.01, chromium = 0.08, cyanide = 0.01, lead = 0.05, mercury = 0.002, molybdenum = 0.08, nickel = 0.06, selenium = 0.04, silver = 0.05, beryllium = 0.03, antimony = 0.05, thallium = 0.05, gross alpha = 21.0 pCi/l, combined radium-226 and 228 = 7.4 pCi/l, natural uranium = 0.02, thorium-230 = 2.2 pCi/l and lead-210 = 0.9 pCi/l.

- C. Implement a corrective action program as described in the September 25, 1989, submittal with the objective of returning the concentrations of hazardous constituents to the concentration limits specified in Subsection (B). The program shall, at a minimum, consist of mine dewatering and maintenance and operation of the interceptor trench.
- D. Submit, by August 1 of each year, a review of the corrective action program and its effect on the aquifers. Additionally, the licensee shall by April 1, 1990, submit a proposed plan to withdraw hazardous constituent laden water from the Dakota, utilizing Section 36 wells, and recover seepage from the alluvial materials downgradient of the currently approved corrective action.

All other conditions of this license shall remain the same. The license is being reissued to incorporate the modification discussed above. You will note that we have taken this opportunity to change the acronym in your license from USNRC to NRC in accordance with agency policies. The effect of this amendment is to incorporate a corrective action program into your license.

This amendment was discussed between your Mr. Ferdinand and Mr. Konwinski of my staff on December 7, 1989.

Sincerely,



Ramon E. Hall
Director

Enclosure:
Source Material License SUA-1473

Case Closed: 04008905360E