



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064

May 17, 2001

John Vaselein, Radiation Safety Officer  
and Manager  
Environmental and Regulatory Services  
COGEMA Mining, Inc.  
935 Pendell Boulevard  
P. O. Box 730  
Mills, Wyoming 82644-0730

SUBJECT: NRC INSPECTION REPORT 40-8502/01-01

Dear Mr. Vaselein:

This refers to the inspection conducted on April 17-19, 2001, at the Irigaray and Christensen Ranch facilities. The inspection consisted of a routine review of site operations, with an emphasis on your radiation protection, groundwater operations, and environmental monitoring programs. A final exit briefing was held with you and members of your staff at the conclusion of the inspection on April 19, 2001. The enclosed report presents the results of that inspection. Overall, the inspection determined that you have continued to operate the uranium production facility in a safe and effective manner.

Based on the results of this inspection, no violations or deviations were identified; therefore, no response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available **electronically** for public inspection in the NRC Public Document Room **or** from the *Publicly Available Records (PARS) component of NRC's document system (ADAMS)*. *ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html>* (the Public Electronic Reading Room)."

Should you have any questions concerning this inspection, please contact Mr. Louis C. Carson II at (817) 860-8221 or the undersigned at (817) 860-8191.

Sincerely,

*/RA/*

D. Blair Spitzberg, Ph.D., Chief  
Fuel Cycle and Decommissioning Branch

Docket No.: 40-8502  
License No.: SUA-1341

Enclosure:  
NRC Inspection Report  
040-08502/01-01

NMED No. 990700  
NMED No. 990801  
NMED No. 010084

COGEMA Mining Corporation

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cc w/enclosure:

Mr. David Finley

Wyoming Department of Environmental Quality

Solid and Hazardous Waste Division

122 West 25th Street

Cheyenne, Wyoming 82002

Bob Giurgevich, District III Supervisor

Wyoming Department of Environmental Quality

Land Quality Division

1043 Coffeen Ave., Suite D

Sheridan, Wyoming 82801

Mr. Pat Mackin, Assistant Director

Systems Engineering & Integration

Center for Nuclear Waste Regulatory Analyses

6220 Culebra Road

San Antonio, Texas 78238-5166

Wyoming Radiation Control Program Director

bcc w/enclosure (via ADAMS distrib):

- EWMerschoff
- DM Gillen, NMSS/FCSS/FCLB
- EBrummett, NMSS/FCSS/FCLB
- MLayton, NMSS/FCSS/FCLB
- DDChamberlain
- LLHowell
- DBSpitzberg
- CLCain
- JWWalker
- LCCarson II
- FCDB
- MIS System
- RIV Nuclear Materials File - 5th Floor

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No. 40-8502

License No. SUA-1341

Report No. 40-8502/01-01

Licensee: COGEMA Mining Corporation

Facilities: Irigaray/Christensen Ranch In-Situ Leach Facilities

Location: Johnson and Campbell Counties, Wyoming

Dates: April 17-19, 2001

Inspector: Louis C. Carson II, Health Physicist  
Fuel Cycle and Decommissioning Branch

Accompanied By: Michael C. Layton, P.G., Hydrologeologist  
Uranium Recovery Section  
Division of Fuel Cycle Safety and Safeguards

Approved By: D. Blair Spitzberg, Ph.D., Chief  
Fuel Cycle and Decommissioning Branch

Attachment: Supplementary Information

## **EXECUTIVE SUMMARY**

### Irigaray and Christensen Ranch In-Situ Leach Facilities NRC Inspection Report 40-8502/01-01

This inspection included a review of site status, management organization and controls, in-situ operations, radioactive waste management, radiation protection, environmental protection, and followup of event reports on excursions and spills. Overall, the licensee was operating the facility in a safe and effective manner.

#### Management Organization and Controls

- The licensee had established an organizational structure that agreed with the requirements of the license (Section 2).
- The licensee had correctly implemented the performance-based conditions of the license (Section 2).
- All procedures had been appropriately updated and reviewed (Section 2).

#### In-Situ Operations and Radioactive Waste Management

- Site activities appeared to have been conducted in accordance with applicable license conditions and regulatory requirements. No significant health or safety concern was identified during the tours of the Irigaray and Christensen Ranch sites (Section 3).

#### Radiation Protection

- The licensee had implemented a radiation program that met the requirements established in 10 CFR Part 20 and the conditions of the license. The licensee's control of contamination appeared effective. The licensee's recordkeeping program was noted to be thorough (Section 4).

### Environmental Protection

- The licensee's groundwater monitoring program was determined to be in compliance with license requirements. Both the Irigaray and Christensen Ranch evaporation ponds were in good condition during the inspection (Section 5).
- The licensee appeared to have made significant progress toward completing restoration activities at the Irigaray wellfields. The water treatment units and surface impoundment capacity appeared adequate to handle continuing restoration activities (Section 5)
- Treated effluents from groundwater restoration activities were being discharged within areas controlled by the licensee. Some lower level contamination of the soil was occurring at the Christensen Ranch outfall as a result of liquid effluents. This appeared to be restricted to a limited area downstream of the outfall and within the licensee's controlled property. The licensee had noted the effluent exceedances in its semiannual effluent report and was continuing to investigate the matter (Section 5).

## Report Details

### **1 Site Status**

The Irigaray project started commercial in-situ leach (ISL) extraction operations during November 1978. The central processing facility is located at the Irigaray site, while the Christensen Ranch site is a satellite facility for the Irigaray plant. The licensee had submitted a decommissioning plan for NRC approval in May 2000. ISL production operations had ceased at the Christensen facility in June 2000, and all ISL extraction operations had ceased at the Irigaray site.

### **2 Management Organization and Controls (88005)**

#### 2.1 Inspection Scope

The organizational structure was reviewed to ensure that the licensee had established an effective organization with defined responsibilities and functions. Also, the utilization and implementation of the licensee's performance-based license was reviewed.

#### 2.2 Findings and Observations

##### a. Management Organization

Staffing requirements are provided in License Condition 9.3. This license condition refers to the license renewal application which included an organization chart dated October 30, 1995. At the time of this inspection, the licensee had an onsite staff of 25 employees. The licensee's onsite radiation protection and environmental monitoring staff positions remained filled with qualified individuals, and the onsite organizational structure agreed with the conditions of the license.

##### b. Performance-Based License Review

License Condition 9.4 states that the licensee may, under certain conditions and without prior NRC approval, make changes in the facility or processes, make changes to procedures, or conduct tests and experiments not presented in the license application. The licensee's determinations under License Condition 9.4 were made by the safety and environmental review panel (SERP). Since the previous inspection, the licensee had held nine SERP meetings. The SERP reviews included organization structure changes and operational parameter changes. The licensee's implementation of the performance-based license had correctly ensured that changes made under the performance-based license did not negatively impact the licensing basis of the site.

c. Site Procedures

In accordance with License Condition 9.6, standard operating procedures (SOPs) are required to be established and followed for all operational process activities involving radioactive materials that are handled, processed, or stored. Additionally, all written procedures will be approved in writing and reviewed annually by the radiation safety officer (RSO).

The inspector verified that all procedures had been reviewed and revised to incorporate the provisions of the performance-based licensee. All activities observed were in compliance with established procedures. The RSO had conducted the annual review of SOPs for the year 2000 and was near completion of the year 2001 review.

2.3 Conclusions

The licensee had established an organizational structure that agreed with the requirements of the license. Also, the licensee had correctly implemented the performance-based conditions of the license. All procedures had been appropriately updated and reviewed.

**3 Operations Review (88020); In-Situ Leach Facilities (89001); Radioactive Waste Management (88035)**

3.1 Inspection Scope

A site tour was conducted to verify that site activities were being conducted in accordance with applicable regulations, conditions of the license, and to ensure that operational controls were adequate to protect the health and safety of the workers and members of the general public.

3.2 Findings and Observations

a. Site Tour

During the plant tour, site buildings, equipment, fences, and gates were observed. Site perimeter postings required by License Condition 9.11, were noted to be in place at all entrances to the site. No significant health or safety concern was identified during the tour.

b. Process Plant Operations

Licensee Condition 10.1 restricts the licensee from injecting lixiviant into production wells for producing yellowcake. License Condition 10.5 authorizes the licensee to produce 30,000 pounds of yellowcake per year. During year 2000, licensee production of yellowcake was below the limit specified in the license. No yellowcake drying and lixiviant injections operations had occurred since May 2000. No drying operations have been scheduled for year 2001. However, the licensee still had 20,000 pounds of wet

yellowcake in storage in the thickener tank and 20 barrels of dried yellowcake were in storage.

### 3.3 Conclusions

Site activities appeared to have been conducted in accordance with applicable license conditions and regulatory requirements. No significant health or safety concern was identified during tours of the Irigaray and Christensen Ranch sites.

## 4 **Radiation Protection (83822)**

### 4.1 Inspection Scope

The purpose of this portion of the inspection effort was to determine if the licensee's radiation protection program was in compliance with requirements established in the license and 10 CFR Part 20 regulations.

### 4.2 Findings and Observations

#### a. Audit Program Review and Personnel Exposures

In accordance with License Condition 12.6, an annual as low as is reasonably achievable (ALARA) audit of the radiation safety program is required to be performed in accordance with Regulatory Guide 8.31. The most current audit dated April 10, 2001, was found to be thorough and comprehensive.

The inspector reviewed personnel exposure data for year 2000 to determine the licensee's compliance with License Condition 11.7, which requires them to assess personnel exposures in accordance with 10 CFR 20.1502 and Section 5.7 of the license application. Eleven workers that wore dosimeters during year 2000, had measured dose. The highest total effective dose equivalent was 133 millirem as compared to 183 during 1999. The highest individual committed effective dose equivalent for year 2000 was 59 millirem, which included exposure to radon daughters and uranium particulates.

Additionally, the inspector reviewed years 2000 and 2001 airborne particulate and radon progeny air sampling data that was analyzed as required by License Condition 10.10. The licensee had collected and analyzed the air samples on a monthly basis as required by the license.

Overall, the inspector determined that personnel exposures for year 2000 were a small percentage of the allowable limit of 5,000 millirem per year that is in 10 CFR Part 20.

b. Decommissioning Recordkeeping

In accordance with 10 CFR Part 40.36(f)(1), records are required to be permanently maintained, including a description of the restricted area, spills, and any unusual events. The licensee was noted to be maintaining these records in onsite files.

The inspector reviewed spill records from year 2000 and a record of the evaporation pond partial decommissioning from October 2000.

The licensee was noted to be maintaining the recordkeeping requirements of 10 CFR Part 40.36.

c. Personal and Equipment Contamination Monitoring

License Condition 10.11 states, in part, that employees shall monitor themselves with an alpha survey instrument prior to exiting the site restricted areas. The inspector observed that workers routinely conducted personnel contamination surveys before leaving the process areas. The inspector observed workers functionally checking the contamination survey instruments prior to each use.

License Condition 9.8 stipulates that the release of equipment or packages from the restricted area shall be in accordance with the attachment to the license entitled, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct or Source Materials." The licensee's equipment release records were reviewed for year 2000 through March 2001. The licensee maintained extensive records of equipment that had been released from the site. No item was identified that had been inappropriately released from the site.

d. Bioassay Program Review

The bioassay program requirements are listed in License Condition 10.12 which states that the licensee shall implement the bioassay program discussed in Regulatory Guide 8.22, Bioassay at Uranium Mills, and in Section 5.7.5, "Bioassay Program," of the approved license application. The licensee's program consisted of urine sampling for uranium content via baseline sampling of all site workers and monthly sampling of process workers assigned to areas where the possibility of yellowcake inhalation existed. In addition, urine samples were obtained as stipulated by the conditions listed in radiation work permits. The licensee also obtained blank and spiked samples for quality control purposes. The samples were analyzed by an offsite, third-party laboratory.

The licensee's year 2000 records indicated that one individual exceeded the first action level of 15 micrograms of uranium per liter of urine ( $\mu\text{g/l}$ ). The individual's bioassay measured 22  $\mu\text{g/l}$ , which the licensee investigated and determined that the elevated reading was an anomaly. The inspector concluded from the bioassay results that the licensee's respiratory protection and contamination control methods were effective in the prevention of worker intake of uranium.

f. Radiation Surveys

Licensee procedures require that all radiation survey instruments shall be operationally checked before each use. The radiation protection equipment in service at the plant sites were inspected for operability. All radiation detection equipment used for personnel scanning and frisking were found to be properly calibrated and appeared to be fully functional. Each instrument responded accordingly when tested with a check source. Radiation survey records and instrument calibration records reviewed were found to be acceptable.

Routine ambient gamma exposure rate surveys are required by License Condition 10.1. Specifically, Section 5.7.2.1 of the Christensen Ranch license application specifies that the gamma surveys be performed semiannually or more frequently if an action level was exceeded. All site gamma exposure rates measured by the licensee were less than 5 millirem/hour at Christensen Ranch and at Irigaray. The inspector conducted radiation surveys using an NRC sodium iodide microRoentgen meter (Serial Number 15544, calibration due date November 29, 2001). NRC surveys confirmed that the licensee did not have any radiation areas at either the Irigaray or Christensen Ranch sites.

g. Radiation Work Permits

License Condition 10.9 requires the licensee to use radiation work permits (RWP) for all non-routine work where the potential for significant exposure to radioactive material exist and no applicable SOP exists. The inspector reviewed RWPs that were written in years 2000 (31 RWPs) and 2001 (4 RWPs). The inspector determined that the licensee had implemented the RWP program adequately.

4.3 Conclusions

The licensee had implemented a radiation program that met the requirements established in 10 CFR Part 20 and the conditions of the license. The licensee's control of contamination appeared effective. The licensee's recordkeeping program was noted to be thorough.

**5 Environmental Protection (88045)**

5.1 Inspection Scope

License Condition 11.3 requires the licensee to implement the effluent and environmental monitoring program specified in Section 5.8 of the license application. At the time of the inspection, the licensee's environmental monitoring program consisted of airborne particulate, radon, stack, surface water, soil, sediment, vegetation, ambient gamma exposure, and groundwater sampling. Portions of the environmental monitoring program were reviewed to assess the effectiveness of the licensee's program and to evaluate the effects, if any, of site activities on the local environment.

## 5.2 Observations and Findings

### a. Groundwater Monitoring Program

License Condition 11.2 states, in part, that all perimeter and upper aquifer monitoring wells shall be sampled and tested no more than 14 days apart. Confirmed exceedances of the upper control limits in monitoring well samples shall be reported to the NRC by telephone within 24 hours and by letter within 7 days. A review of selected licensee monitoring well data since the previous inspection did not identify any wells in excursion status that had not been previously reported to the NRC. Therefore, the licensee's groundwater monitoring program was determined to be in compliance with the license requirements.

### b. Evaporation Impoundment Tour

The physical condition of all lined impoundments at both the Irigaray and Christensen Ranch sites was evaluated. Evaporation Ponds 1, 2A, and 2B at the Irigaray site were being used for evaporation of process waste water from the Irigaray site process facilities. License Condition 10.6 provides upper limits for evaporation pond freeboard. All pond freeboard levels were noted to be within license condition limits, and no pond liners were leaking. Ponds 1, 2, 3, and 4 at the Christensen Ranch site were in good condition, with no visible tears or holes in the liner material.

### c. Environmental Monitoring Program Review

License Condition 11.3 states, in part, that the licensee shall implement the effluent and environmental monitoring program specified in Section 5.8 of the license application. The semiannual effluent reports for the year 2000 were reviewed. The reports were submitted to the NRC on August 18, 2000, and February 23, 2001. The year 2000 sample results were compared to those from year 1999, and no adverse trends existed. During year 2000, the licensee had collected and evaluated all environmental monitoring samples as required by the license.

### d. Groundwater Restoration Program

The groundwater restoration program was reviewed to assess the status of wellfield restoration activities at the Irigaray and Christensen Ranch facilities, now that the licensee has initiated restoration in all of its wellfields.

Licensee representatives provided a description of the groundwater restoration status at both facilities. Currently, Irigaray wellfields Production Unit (PU)6, and PU7 are undergoing active restoration by using reverse osmosis, filtration, and permeate re-injection. Active restoration was completed in PU8 and PU9 in mid-year 2000, and are now in the stability monitoring phase. Restoration activities in PU1, PU2, PU3, PU4, and PU5 were completed in past years.

Restoration activities are also underway at the Christensen Ranch facility. Wellfield Mine Unit (MU)2 was currently undergoing reverse osmosis, filtration, and permeate

reinjection. Reverse osmosis was completed in MU3, which is currently in standby, awaiting start of the recirculation phase. Groundwater sweep pumping was completed in MU4, which is on standby, awaiting reverse osmosis to begin. Groundwater sweep was nearing completion in MU5 and was just beginning in MU6. MU7 was constructed, but was never operational, consequently, no groundwater restoration was planned for this wellfield.

The licensee provided a guided tour of the satellite facility at Christensen Ranch and the processing facility at Irigaray. The inspector noted several reverse osmosis water treatment units in operation. The inspector examined several time series maps showing the progress of restoration activities in the Irigaray and Christensen Ranch wellfields.

The licensee was planning to submit a restoration approval request for Irigaray wellfields PU1, PU2, PU3, PU4, and PU5 by early summer 2001.

e. Effluent Releases to Surface Waters

The Willow Creek surface water discharge outfalls at the Irigaray and Christensen Ranch facilities were examined to evaluate if the licensee was in compliance with 10 CFR Part 20. Willow Creek intermittently flows through parts of the licensee's site. The licensee found that lead-210 concentrations from the effluent discharges at Irigaray and Christensen measured  $1.09 \times 10^{-8}$  microcuries/milliliter ( $\mu\text{Ci/ml}$ ) and  $4.89 \times 10^{-8}$   $\mu\text{Ci/ml}$ , respectively. The 10 CFR Part 20, Appendix B, Table 2, annual Effluent Concentration Limit (ECL) for lead-210 is  $1.0 \times 10^{-8}$   $\mu\text{Ci/ml}$ . The lead-210 ECL had been exceeded during sampling periods in October 2000 and January 2001 at Irigaray. The lead-210 ECL had been exceeded during sampling periods in July and October 2000 and January 2001 at Christensen Ranch. The licensee had reported the lead-210 exceedances in the semiannual effluent report for the second half of year 2000 as required by 10 CFR 40.65 and was continuing to investigate and monitor this matter.

The inspector noted that the ECL exceedances did not represent a safety or regulatory compliance concern. The nearest public residence to the effluent discharge points at the Irigaray and Christensen Ranch facilities was in excess of 5 miles, and Willow Creek was not a source of drinking water. In addition, as specified in 10 CFR 20.1302(b)(1), the liquid effluents did not exceed the applicable concentrations specified in Table 2 of Appendix B to 10 CFR Part 20 when averaged over a year.

The licensee used two discharge outfalls to release treated restoration water effluent to surface water along the Willow Creek drainage. The outfall at Christensen Ranch was a 4-inch plastic pipe running along the land surface from the satellite facility to Willow Creek. The pipe, outfall, and the reach of Willow Creek, lie within the license area of the facility. The RSO indicated that periodic soil samples within Willow Creek showed some evidence of contaminated soil extending for approximately 100 meters downstream of the outfall.

The outfall at Irigaray was a 2-inch pipe running along the land surface from the processing plant to Willow Creek. Most of the length of the pipe was within the license area, but the outfall and approximately 200 meters of Willow Creek are outside the license area. Willow Creek re-enters the license area beyond about 200 meters from the outfall. The RSO indicated that the land containing and surrounding the Irigaray outfall was leased by COGEMA and under its control.

The inspector also discussed the March 7, 2001, letter issued by NRC Headquarters, which provided guidance on demonstrating compliance with 10 CFR Part 20, effluent release requirements. This letter responded to a request from the licensee to provide clarification of the Commission's decision that all wastewater from ISL facilities, including wellfield wastewater, is 11e.(2) byproduct material. The letter also requested that the licensee submit its analysis of the Part 20 compliance by July 2001. The inspector also informed the licensee that the contaminated soil cleanup requirements of 10 CFR 40, Appendix A, Criterion 6(6), would apply to the stream outfalls and stream beds upon decommissioning of the facility.

### 5.3. Conclusions

The licensee's groundwater monitoring program was determined to be in compliance with license requirements. Both the Irigaray and Christensen Ranch evaporation ponds were in good condition during the inspection.

The licensee appeared to have made significant progress toward completing restoration activities at the Irigaray wellfields. The water treatment units and surface impoundment capacity appeared adequate to handle continuing restoration activities.

Treated effluents from groundwater restoration activities are being discharged within areas controlled by the licensee. Some lower level contamination of the soil was occurring at the Christensen Ranch outfall as a result of liquid effluents. This appeared to be restricted to a limited area downstream of the outfall and within the licensee's controlled property. The licensee had noted the effluent exceedances in its semiannual effluent report and was continuing to investigate the matter.

## 6 **Follow up (92701)**

### 6.1 (Closed) Event Notification No. 36272: Excursion status reporting of Monitor Well (MW) MW89, NMED No. 990700

This event involved the licensee's discovery of a monitoring well (Well No. MW89) in an excursion status. A routine water sample collected from this well on October 5, 1999, revealed the excursion parameters chloride and alkalinity had exceeded the upper control limits. The well sampling frequency was increased to weekly. The licensee's decision to leave the well in the excursion status was the correct decision. This matter is closed due to the licensee's issuance of the Excursion Removal and Quarterly Report on Monitor Wells on Excursion Status for MW89.

6.2 (Closed) Event Notification No. 36365: Excursion status reporting of monitor well 6MW21, NMED No. 990801:

This event involved the licensee's discovery of a monitoring well (Well No. 6MW21) in an excursion status. A routine water sample collected from this well on October 26, 1999, revealed the excursion parameters chloride, conductivity and alkalinity had exceeded the upper control limits. The well sampling frequency was increased to weekly.

During the site tours, this wellfield was observed and the well was located outside of Mine Unit 6 wellfield boundary. The licensee's decision to not remove the well from the excursion status, was the correct decision. This matter is closed due to the licensee's issuance of the Excursion Removal and Quarterly Report on Monitor Wells on Excursion Status for 6MW21.

6.3 (Closed) Event Notification No 37725: Irigaray Production Unit monitoring well M2 (Irigaray) was placed on excursion status on February 5, 2001, for exceeding the upper control limits for chloride and conductivity. This well is a perimeter monitoring well for a wellfield where groundwater restoration activities have been completed. The licensee initiated corrective action pumping of the monitoring well and weekly sampling. The well was deemed no longer on excursion on April 10, 2001. This was documented by in a letter to the NRC dated April 12, 2001.

6.4 (Closed) Event Notification No. 37859: Monitoring well 5MW43 (Christensen Ranch) was placed on excursion status on March 29, 2001, for exceeding conductivity and alkalinity upper control limits. The licensee felt this was not a true excursion because restoration activities (groundwater sweep) in this wellfield caused the water levels in this monitoring well to drop below the pump setting. Samples were collected by hand bailing samples from the well, thus not allowing a representative sample. The well was sampled on a weekly schedule. The well was also deemed no longer on excursion on April 9, 2001, as documented in an April 10, 2001, letter to the NRC.

6.5 (Closed) Event Notification No. 37686, NMED No. 010084 : The licensee reported a spill of barren lixiviant to the NRC Operations Center on January 25, 2001, in accordance with License Condition 12.4. The spill was discovered on January 24, 2001, and estimated to be approximately 13,392 gallons. The spill was caused by human error when the pump in restoration well LP-63 (Irigaray) was inadvertently energized and allowed to pump groundwater onto the surface. The licensee's investigation and follow-up did not identify any environmental damage. No additional corrective actions are warranted.

6.6 (Closed) Excursion Wells: The following wells have been reported on excursion and remain on excursion:

- Irigaray well SSM3, shallow monitoring well in PU2 exceeds chloride and conductivity upper control limits. Excursion reported August 28, 1996.

- Irigaray well SSM18, shallow monitoring well in PU8 exceeds chloride, conductivity, and alkalinity upper control limits. Excursion reported September 11, 1996.
- Irigaray well SSM40, shallow monitoring well in PU8 exceeds chloride, conductivity, and alkalinity upper control limits. Excursion reported April 6, 1994.
- Irigaray well SSM41, shallow monitoring well in PU4 exceeds chloride and alkalinity upper control limits. Excursion reported November 17, 1998.
- Irigaray well SSM42, shallow monitoring well in PU3 exceeds chloride and specific conductivity upper control limits. Excursion reported October 10, 1990.
- Irigaray well SSM43, shallow monitoring well in PU1 exceeds chloride and specific conductivity upper control limits. Excursion reported October 11, 1989.
- Irigaray well DM10, deep monitoring well in PU6 exceeds chloride, conductivity, and alkalinity upper control limits. Excursion reported February 2, 1994.

The licensee reported that all of these excursions were likely the result of improperly abandoned exploration boreholes or unidentified hydraulic connections between the ore zone and the upper and lower aquifers. The inspector reviewed the current levels of the exceeded upper control limits and verified that the current exceedance levels are only marginally over the upper control limits. The licensee indicated that no additional corrective actions have been performed on these wells and that they plan to submit a demonstration for NRC review and approval that no environmental or health impact will result from the current exceedance levels and request that the wells be removed from excursion status.

## **7 Exit Meeting Summary**

The inspector presented the preliminary inspection results to the representatives of the licensee at the conclusion of the inspection on April 19, 2001. Licensee representatives acknowledged the findings as presented. The licensee did not identify any information reviewed by the inspector as propriety information.

## ATTACHMENT

### **PARTIAL LIST OF PERSONS CONTACTED**

#### Licensee

W. Heili, Manager, Operations  
J. Vaselein, Radiation Safety Officer  
D. Wichers, General Manager, ISL & Reclamation Operations

### **INSPECTION PROCEDURES USED**

83822	Radiation Protection
88005	Management Organization and Controls
88020	Operations Review
88035	Radioactive Waste Management
88045	Environmental Monitoring
89001	In-Situ Leach Facilities
92701	Followup

### **ITEMS OPENED, CLOSED AND DISCUSSED**

#### Opened

None

#### Closed

Event Notification No. 36272 (NMED No. 990700)  
Event Notification No. 36365 (NMED No. 990801)  
Event Notification No. 37686 (NMED No. 010084)  
Event Notification No. 37725  
Event Notification No. 37859

#### Discussed

None

### **LIST OF ACRONYMS USED**

ALARA	annual as low as is reasonably achievable
CFR	Code of Federal Regulations
ECL	Effluent Concentration Limit
µCi/ml	microcuries/milliliter
µg/l	micrograms per liter
MU	mine unit
PU	production unit
PDR	Public Document Room
RO	reverse osmosis
RSO	Radiation Safety Officer
RWP	radiation work permit
SERP	Safety and Environmental Review Panel
SOP	Standard Operating Procedure

