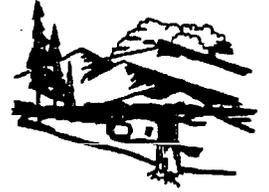




# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

April 29 2009

Mr. Thomas Hardgrove  
COGEMA Mining, Inc.  
P. O. Box 730  
Mills, WY 82644

**RE: Irigaray-Christensen Operations Annual Inspection Report, Permit No. 478**

Dear Mr. Hardgrove:

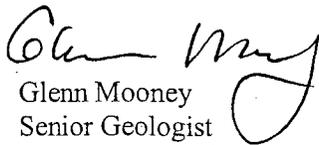
Enclosed is a copy of the report on the 2008 Annual Inspection of the Irigaray-Christensen ISL Operations. This inspection was conducted December 12, 2008, in the presence of Larry Arbogast of COGEMA.

A copy of this report will be placed in the permanent inspection file for the Irigaray-Christensen ISL Operations, as will any written comments you may have.

The cooperation and assistance of Mr. Arbogast is greatly appreciated.

Please feel free to call if you have any questions.

Sincerely,

  
Glenn Mooney  
Senior Geologist

\gm

Attachment

cc: Cheyenne file w/attach.  
NRC-MD w/attach.

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NHSS01

MJR  
4/29/09

1866 SOUTH SHERIDAN AVENUE • SHERIDAN, WY 82801

AIR, LAND AND WATER DIVISIONS  
(307) 673-9337 • FAX (307) 672-2213



## ANNUAL INSPECTION REPORT

**Subject:** Cogema Mining Inc.'s Irigaray and Christensen In Situ Uranium Operations

**Permit No.:** 478

**Inspectors:** Glenn Mooney, Land Quality Division *GM*

**Person Contacted:** Larry Arbogast, Cogema Mining, Inc.

**Date of Inspection:** December 12, 2008

### Introduction

Mining has been completed at both the Irigaray and Christensen operations. With an increase in uranium prices, the staff at Cogema is planning for a restart of mining. The property is for sale and Mr. Arbogast said there are five prospective buyers. The name of the successful buyer should be known by the end of the first quarter of 2009.

Mr. Arbogast said that with the view of restarting operations, the regional radiological stations have been reestablished. Also, quarterly monitoring of the regional monitor wells and Willow Creek has also resumed.

### Irigaray Operations

At Irigaray restoration of Wellfield Units 1 through 9 has been completed and acceptance of the groundwater restoration effect was granted on November 1, 2005.

In Units 12 through 6 all wells have been sealed and abandoned and the wellheads removed. The surface piping was removed a number of years ago.

In Units 7, 8 and 9, the well field buildings, buried trunklines and manholes leading to the buried trunklines have been removed. A few wellheads remain to mark the locations of the buried piping which still remains in the ground (Photo No. 1).

Most of the plant building has been gutted with the exception of the equipment needed to strip the resin and precipitate the yellowcake which still remains. The dryer and dry-pack units also still remain and are intact. The work at Irigaray in the past year has concentrated on replacing the plant floors which had been damaged by chemicals over the past 30 years. Mr. Arbogast pointed out where the floor sumps had been repaired and sealed using fiberglass.

He said the drainage outside the plant building has been reworked to direct surface water away from the building.

*WTR  
12/1*

## **COGEMA Mining's Irigaray-Christensen Ranch Operations**

**Permit No. 478**

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Most of the liners of the evaporation ponds at Irigaray have been removed. Only Restoration Pond RB and Plant Pond B remain with liners, each containing a small amount of water. The sludge and liners have been removed from Ponds A, C, D, E and RA. When the mine is restarted, the evaporation ponds would be fitted with new liners.

The site of the 517 evaporation ponds and 517 well field were reviewed. The sites have been reclaimed and reseeded and little evidence of them remains.

### **Christensen Operations**

Mining was completed at Christensen in June 2000. The dismally low price for uranium at that time led COGEMA to suspend construction of Mining Units 7 and 8 several years ago, as well as all other future mining.

All groundwater restoration and stabilization has been completed, according to the 2006-2007 Annual Report.

The badly cracked floor in the plant building has been repaired and sealed. The plant equipment has been refurbished in anticipation of restart. The control room has been remodeled.

Five reverse osmosis R/O units remain in the plant building.

All four of the lined evaporation ponds remain and all contain some water. Mr. Arbogast said no leaks had occurred in the ponds this past year. Some of the water in the lined ponds was generated from backwashing the sand filters. The unlined permeate pond was dry.

A well field data package for Unit 7 was received in June 2007 and is currently under review. Mr. Arbogast noted that the additional sampling of Unit 7 wells requested by DEQ had been carried out.

Unit 7 remains unchanged as it has for the past several years. Some of the wells were completed in preparation for mining of the unit, but work was abruptly halted in mid-construction and no mining was ever begun there. Stacks of PVC well casing and the large black polyethylene trunkline remain on-site.

### **Deep Disposal Wells**

Neither of the deep disposal wells was in use. The injection pressure for DDW was at 0 psi. and the annulus pressure was noted at 220 psi. For DDW 18-3, the injection pressure was at zero and the annulus pressure at 200 psi.

## **COGEMA Mining's Irigaray-Christensen Ranch Operations**

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### **Coal Bed Methane Activity**

Mr. Arbogast said Anadarko had the gas leases for much of the Christensen Ranch area. He said they had been good to work with. They had constructed an access road through Wellfield Unit 5 running off to the south. Anadarko has drilled a gas well just to the southwest of deep disposal well DDW 18-3 (Photo No. 2).

### **Mechanical Integrity Testing**

Mr. Arbogast said the mine was done with mechanical integrity testing (MIT) for now.

### **Vegetation**

The grass cover in Christensen Ranch Units 2, 3, 4, 5, 6 and 7 was generally good. The isolated and undeveloped Unit 8 was not inspected.

Considerable numbers of large thistle, possibly musk thistle, were noted around the property, especially in Christensen Units 4, 5 and 6. I asked Mr. Arbogast to have them sprayed. He noted that Cogema and Anadarko should agree to cooperate on weed control since Anadarko was creating so much newly disturbed land in the area.

### **Archeological Site**

The archeological site in Unit 6 was reviewed. It appeared undisturbed. The fence was in good repair.

### **Signs**

Permit identification signs carrying the required information were in place along the access roads to both the Irigaray and Christensen Ranch plant areas. Mr. Arbogast noted that calves had eaten some of the north Irigaray entrance identification sign and that it would be repaired.

Topsoil identification signs were in place on all topsoil stockpiles seen.

### **Bond**

The bond for Permit No. 478 is Letter of Credit No. SB22.737 written in the amount of \$10,369,238.00 by Credit Industriel et Commercial. The necessary bond amount will be reviewed during review of the 2006-2007 and 2007-2008 Annual Reports to begin soon.

**COGEMA Mining's Irigaray-Christensen Ranch Operations**  
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**Conclusions**

The inspection found that all items reviewed were in compliance.

Attachments: photo page

cc: Cheyenne file w/attach.

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**Photo No. 1** Looking northwest to north across former Wellfields 6-9 where nearly all surface equipment and wellheads have been removed. The arrow points to the Irigaray plant building. Topsoil in this area was removed and stockpiled decades ago so all vegetation here has been growing in subsoil.



**Photo No. 2**

Looking west at coal bed methane well (No. 1) drilled near Deep Disposal Well No. DDW 18-3 (No. 2).

Photos taken December 12, 2008, by Glenn Mooney