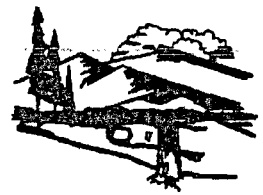


# Department of Environmental Quality



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

CERTIFIED MAIL – RETURN RECEIPT REQUESTED No. 7009 1410 0000 9032 8954

March 18, 2010

Mr. Larry Arbogast  
Uranium One  
Suite 260  
907 N. Poplar Street  
Casper, WY 82601

**RE: Irigaray-Christensen Ranch In Situ Operations, Permit No. 478**

Dear Mr. Arbogast:

I have reviewed the history surrounding the on-going excursion in the Unit 5 monitor well at the Christensen Ranch Mine, Monitor Well 5MW66.

As you may recall, this monitor well originally went on excursion status in July, 2004. As of this review, the well's excursion parameters have remained above the Upper Control Limits (UCLs) since.

The well remained on excursion status in December 2004 when Tom Nicholson, COGEMA's Environmental Specialist/ RSO, wrote a December 9, 2004, letter to Mark Taylor of Land Quality Division District III. In his letter, Mr. Nicholson related various corrective actions COGEMA had carried out, including additional sampling, mechanical integrity testing and potentiometric surface mapping. Mr. Nicholson said the data showed that the most recent sampling of 5MW66 had elevated levels of many parameters over baseline levels, not just the UCL parameters. Mr. Nicholson went on to compare the levels against the Round 3 stabilization monitoring averages of the adjacent Unit 5 Module 5-5, showing that 5MW66 had higher levels of several parameters than the adjacent restored well field unit.

Mr. Nicholson then proposed to remove 5MW66 from official excursion status based on the fact that levels in the wellfield were lower than the levels in 5MW66. He contended that levels in the well field were not causing the problem.

Mr. Nicholson also proposed to continue monitoring of 5MW66 on a quarterly basis until the MU restoration package is submitted to and approved by the WDEQ. He stated that updates of the well would be submitted to WDEQ and the NRC quarterly. Mark Taylor of the District III Office accepted Mr. Nicholson's proposal in his letter dated March 2, 2005.

However, WDEQ has not been receiving updates on 5MW66 quarterly. The last data on 5MW66 available to WDEQ was contained in the 2009 Annual Effluent and Monitoring Report and SemiAnnual Monitoring Report, February 2010, received by the District III Office on February 26, 2010. The latest sampling this report contained was on October 21, 2009. Outside of the routine sample results for

1866 SOUTH SHERIDAN AVENUE • SHERIDAN, WY 82801

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



MJR  
3/18/10

# Irigaray - Christensen Ranch Project

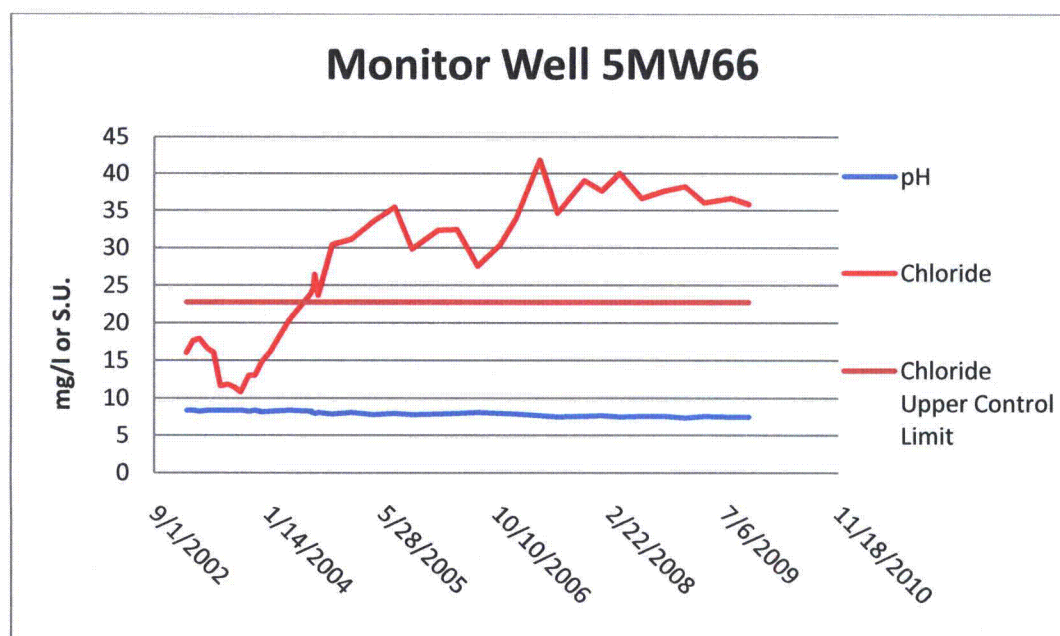
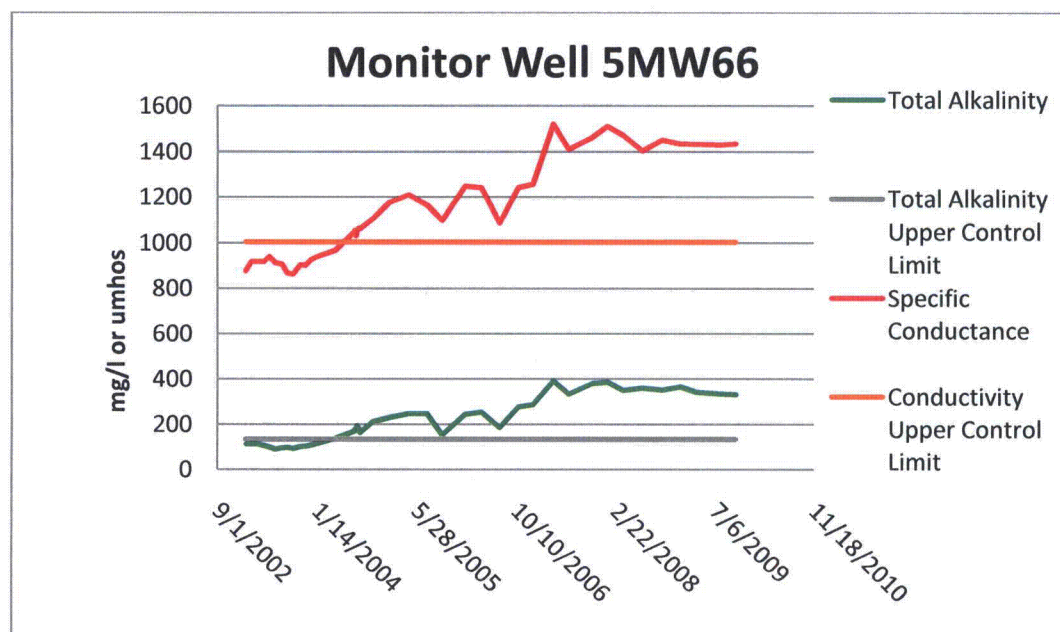
Permit No. 478

March 18, 2010

Page 2

monitor wells provided in the Annual and SemiAnnual Reports, the last report on 5MW66 was the monthly update of wells on excursion status dated July 6, 2009.

Review of the excursion parameter levels over the past seven years using data from the Annual and SemiAnnual Reports has found that the levels have leveled off, but show no hint that they may drop below the UCLs for many years. The following graphs show these levels.



**Irigaray - Christensen Ranch Project**

**Permit No. 478**

**March 18, 2010**

**Page 3**

In addition, it appears that uranium concentrations have dramatically increased over baseline. While no uranium or other analyses beyond the UCLs have been provided directly to WDEQ, an analysis of a sample taken September 17, 2009, was contained in COGEMA's December 30, 2009, response to Ron Linton of the NRC. This analysis showed a uranium level of 2.18 mg/l, a great increase over the 0.234 baseline mean reported back in 1995 for 5MW66 and equally great over the 0.334 mg/l reported for 5MW66 in Tom Nicholson's letter of December 9, 2009.

This increase in uranium levels, a level over seventy (70) times above the Maximum Contaminate Limit (MCL) for uranium, in a well that is located at the edge of the aquifer exemption boundary, is a major concern to WDEQ.

The location or even existence of the aquifer exemption area is also a concern to WDEQ. The August 26, 1988, letter from Max Dodson of the EPA which granted the aquifer exemption for the Christensen Ranch Project clearly set the aquifer exemption for only Phase One of the project. Phase One incorporated what later became Wellfield Units 2, 3, 4, and part of 5.

When the Christensen Ranch amendment was approved on September 12, 1988, the mine plan included four phases. These phases were eliminated when the Irigaray Christensen Ranch permit was last updated as Change No. 28 on January 21, 1999. The Christensen Ranch mine plan phases now survive in the permit documents only as several maps in Appendix D-5, Geology, and Appendix D-6, Hydrology.

The August 26, 1988, EPA letter stated that the EPA would like participate in the review of the specific data on Phases 2-4 when it becomes available. The Land Quality Division has no record of any interaction with EPA regarding aquifer exemptions for these later well fields. Indeed, the attached letter was obtained from Tom Hardgrove of COGEMA some time ago after it was discovered the Land Quality Division did not have a copy in our files.

It has come to our attention that the NRC has similar concerns about the aquifer exemptions. Comment 2.3 contained in Ron Linton's letter of February 19, 2009, concerning the Units 2-6 Restoration Report, also raised questions about the EPA aquifer exemption and requested additional information. In his December 30, 2009, response, Mr. Hardgrove stated that EPA had not addressed the issue (of aquifer exemptions) at a later date, the aquifer exemptions have been "explicitly established at their respective monitoring well rings." Mr. Hargrove brought up the fact that the designation of the monitor well rings as the aquifer exemption boundaries was not clear or consistent with the Land Quality NonCoal Rules and Regulations which state the exemption boundary is to be set one-fourth mile past the monitor well ring. Mr. Hardgrove was correct in that it is not clear. His assertion about setting the boundaries according to Land Quality Division Rules and Regulation is irrelevant since these Regulations went into effect in 2006, long after the well fields in question were mined, and because the EPA and only the EPA determines the locations of the aquifer exemption boundaries.

Accordingly, Uranium One is directed to do the following:

1. return Monitor Well 5MW66 to the list of wells on excursion status,
2. begin monitoring 5MW66 on a biweekly basis,
3. sample 5MW66 for uranium and other chemical parameters listed in Land Quality Non Coal Rules and Regulations, Chapter 11, Section 12(d)(i) in addition to the excursion parameters,
4. present a plan and compliance schedule for controlling the excursion as outlined in Land Quality Rules and Regulations, Chapter 11, Section 12(d)(iii),
5. report the status of 5MW66 as required by Land Quality Rules and Regulations, Chapter 11, Section 12(e)(i),(ii) and (iii).

**Irigaray - Christensen Ranch Project**

**Permit No. 478**

**March 18, 2010**

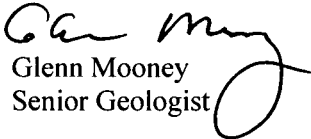
**Page 4**

6. Provide documentation from the EPA as to the locations of the aquifer exemption areas.

Uranium One is directed to commence the above actions within thirty (30) days of the receipt of this letter.

If you have any questions, please feel free to call or write. I can also be reached at my email address of [gmoone@wyo.gov](mailto:gmoone@wyo.gov).

Sincerely,

  
Glenn Mooney  
Senior Geologist

\gm

Attachment

Cc: Jon Winters, Uranium One w/attach.  
Ron Linton, NRC – MD w/attach.  
Cheyenne file w/attach.

478excursion5MW66.10gm

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**From:** Mooney, Glenn [gmoone@wyo.gov]  
**Sent:** Tuesday, March 23, 2010 4:12 PM  
**To:** Linton, Ron  
**Subject:** RE: March 18, 2010 letter to U1

Ron:

I believe it was the 1988 aquifer exemption letter. It wasn't attached to any of our file copies or to the one sent to Jon Winters.

(This is the most elusive letter I have ever seen. We have made multiple copies of it, put it in several files and yet it evaporates! Fortunately, we have a scanned copy on the server that we can go back to.)

Sorry about the omission.

- Glenn

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**From:** Linton, Ron [mailto:Ron.Linton@nrc.gov]  
**Sent:** Tuesday, March 23, 2010 1:31 PM  
**To:** Mooney, Glenn  
**Subject:** March 18, 2010 letter to U1

Glenn:

I did not get the attachment in my cc copy. Was the attachment the August 26, 1988 letter from EPA? If so, I already have the letter. I'm just confirming. Thx.

Ron

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E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

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