

**Garrett, Betty**

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**From:** Mooney, Glenn [gmoone@wyo.gov]  
**Sent:** Thursday, June 03, 2010 5:49 PM  
**To:** Striz, Elise  
**Subject:** Christensen Ranch Excursion Letter  
**Attachments:** 478MW66let4-20-10.pdf

Elise:

In Denver you expressed an interest in getting a copy of the letter from Jon Winter of Uranium One regarding the excursion in Monitor Well 5MW66 at Christensen Ranch. A pdf copy is attached.

- Glenn

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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.

Received: from mail1.nrc.gov (148.184.176.41) by TWMS01.nrc.gov  
(148.184.200.145) with Microsoft SMTP Server id 8.1.393.1; Thu, 3 Jun 2010  
17:49:07 -0400

X-Ironport-ID: mail1

X-SBRS: 5.3

X-MID: 15198299

X-fn: 478MW66let4-20-10.pdf

X-IronPort-AV: E=Sophos;i="4.53,357,1272859200";  
d="pdf?scan'208,217";a="15198299"

Received: from smail1.state.wy.us ([159.238.6.102]) by mail1.nrc.gov with  
ESMTP; 03 Jun 2010 17:49:02 -0400

Received: from 006ex-ech1.wyo.gov (mithril@localhost) by smail1.state.wy.us  
with ESMTP id o53Ln0K04730 for <Elise.Striz@nrc.gov>; Thu, 3 Jun 2010  
15:49:00 -0600 (MDT) (envelope-from gmoone@wyo.gov)

Received: from 006EX-ECH1.wyo.gov (006ex-ech1.wyo.gov [159.238.152.50]) by  
smail1.state.wy.us ([159.238.6.100]); 03 Jun 2010 15:49:00 -0600 (MDT)

Received: from 006EX-MB2.wyo.gov ([127.0.0.1]) by 006EX-ECH1.wyo.gov  
([159.238.152.50]) with mapi; Thu, 3 Jun 2010 15:48:58 -0600

acceptlanguage: en-US

X-MS-TNEF-Correlator:

X-MS-Has-Attach: yes

Accept-Language: en-US

Thread-Index: AcsDZoxT5MTc/zxsSDKLYgqiXeNjAw==

Thread-Topic: Christensen Ranch Excursion Letter

From: "Mooney, Glenn" <gmoone@wyo.gov>

To: "Striz, Elise" <Elise.Striz@nrc.gov>

Date: Thu, 3 Jun 2010 15:48:48 -0600

Message-ID: <6157BA624F49EA4D8A54D71EF4C56EBC0102D9F29F8A@006EX-  
MB2.wyo.gov>

Subject: Christensen Ranch Excursion Letter

MIME-Version: 1.0

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Return-Path: gmoone@wyo.gov

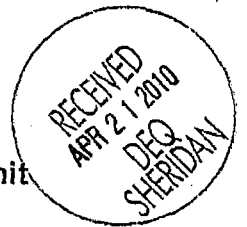


April 20, 2010

Mr. Glenn Mooney  
Department of Environmental Quality  
Land Quality Division  
1844 Sheridan Ave.  
Sheridan, WY 82801

<del>MR</del>	LB	DE	SP
KK	MT	JS	JM
PS	<u>GM</u>	DC	DS
KT	MB		

Re: Mine Unit 5 Response, Irigaray-Christensen Ranch In-Situ Operations, Permit No. 478



Dear Mr. Mooney:

Uranium One Americas (Uranium One) has prepared a response to the WDEQ correspondence dated March 18, 2010, regarding the excursion status of well 5MW66 at the Irigaray-Christensen Ranch Project. This response includes a description of site conditions in the vicinity of 5MW66 to better characterize the excursion, and a proposed corrective action plan. The proposed corrective action plan will be implemented in phases. The initial phase includes additional monitoring and investigation into the cause and extent of the excursion. The investigation phase will be followed by design and implementation of a corrective action to recover the excursion, to be approved by the WDEQ.

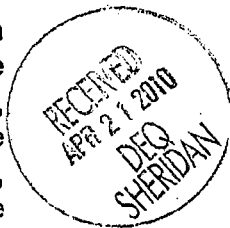
### Site Conditions

Monitor well 5MW66 is located downgradient of Module 5-5 in the northeastern portion of Mine Unit 5 (MU5). The production zone aquifer within MU5 is the K Sandstone. Production in Module 5-5 was within the "K2" and "K3" subunits of the K Sandstone. The nearest production to 5MW66 was in the "K2" Sand approximately 200 feet to the southeast and in the "K3" Sand approximately 300 feet to the northeast.

The top of the "K2" Sand is approximately 260 feet below ground surface (ft bgs) in 5MW66. The base of that unit is at 348 ft bgs giving a total thickness of 88 feet for the "K2" sand. The top of the "K3" Sand is approximately 365 feet below ground surface (ft bgs) and the base of the "K3" Sand is at 460 ft bgs for a total thickness of 95 feet. Monitor well 5MW66 is completed across both the "K2" and "K3" sands.

Potentiometric surface data collected in November 2004 indicated that the hydraulic gradient in the vicinity of 5MW66 was 0.0065 ft/ft to the northwest. The direction of groundwater flow implied from this hydraulic gradient is to the northwest. This would indicate that the wellfield to the southeast (that produced from the "K2" Sand) is the most likely source of elevated chloride and possibly uranium that has been observed in well 5MW66.

Water quality data were reviewed from the nearest restoration wells to 5MW66 in an attempt to identify the source and extent of the elevated chloride and uranium. The nearest designated restoration wells are 5BS120-1, 600 feet to northeast and 5BN94-1, 800 feet to the south (see attached Figure 4-6 from the Restoration Report). The chloride levels in those wells were around 7 to 10 mg/l during stability monitoring, nothing close the values currently observed at 5MW66 (35 to 40 mg/l). Similarly, the uranium levels at those two designated restoration wells were around 0.3 mg/l during stability monitoring, an order of magnitude lower than what is currently at 5MW66. Water quality data were also reviewed from adjacent monitor ring wells 5MW64 (to the south) and 5MW2 (to the north) to determine the lateral, cross-gradient extent of the excursion. Chloride, conductivity and alkalinity levels in both of those wells are below the UCLs in data through January 2010 indicating that the excursion appears limited to the area around 5MW66.



### Corrective Action Plan

Based on the available data regarding production history, potentiometric surface and water quality, the most likely source area for the excursion is along the northern most edge of the "K2" wellfield located a few hundred feet southeast of 5MW66. Uranium One is currently attempting to locate existing production or injection wells within that area that can be sampled for water quality to verify that this area is the source of the excursion. Uranium One will collect samples for analysis of excursion parameters as well as uranium and water levels to identify the extent of the area with elevated constituents that may be contributing to the excursion. Those samples will be collected within 30 days of approval of this plan. Once the samples have been analyzed and the data interpreted, Uranium One will design a final corrective action plan, that may include pumping of the affected aquifer, and submit that design to WDEQ for approval. The final corrective action plan will be submitted within 90 days of the approval of this initial phase of the plan.

In the March 18, 2010 correspondence, WDEQ/LQD has directed Uranium One to perform several tasks. Uranium One is incorporating those tasks as part of its corrective action plan as follows:

***1) Return monitor well 5MW66 to the list of wells on excursion status.***

Monitor Well 5MW66 has been placed on excursion status. It will remain on excursion status until it can be demonstrated through water quality and/or groundwater gradient that recovery fluids in the vicinity of 5MW66 are declining.

***2) Begin monitoring 5MW66 on a weekly basis.***

Monitor well 5MW66 will be sampled on a weekly basis for excursion parameters (chloride, specific conductance, total alkalinity) plus pH and uranium, until the well is taken off excursion status.

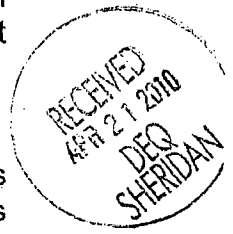
***3) Sample 5MW66 for uranium and other chemical parameters listed in Land Quality Non Coal Rules and Regulations, Chapter 11, Section 12(d)(i) in addition to the excursion parameters.***

Uranium One will collect a groundwater sample from well 5MW66 and analyze and report in accordance with Chapter 11, Section 12(d)(i), which is reproduced below and details the specific constituents to be analyzed. The results of this analysis will be submitted as part of the monthly excursion report to be submitted to WDEQ/LQD.

Chapter 11; Section 12(d)(i) states:

*(d) An excursion is controlled when it can be demonstrated through water quality and groundwater gradient or if applicable, pressure measurements, that recovery fluid in authorized areas is declining.*

*(i) If an excursion is not controlled within 30 days following confirmation of the excursion, a sample must be collected from each of the affected monitoring wells and analyzed for the following parameters: ammonia; antimony; arsenic; barium; beryllium; bicarbonate; boron; cadmium; calcium; carbonate; chloride; chromium; conductivity; copper; fluoride; gross alpha; gross beta; iron; lead; magnesium; manganese; mercury; molybdenum; nitrate; nitrate + nitrite; pH; potassium; selenium; sodium; sulfate; radium-226 and 228; thallium; total dissolved solids; uranium; vanadium; and zinc, unless the Administrator determines a specific parameter is not likely to occur as a result of the in situ operation.*



**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).***

Uranium One will submit a plan and compliance schedule in accordance with Chapter 11, Section 12(d)(iii) as part of the first monthly excursion report to be submitted to WDEQ/LQD in accordance with Chapter 11, Section 12(e).

Chapter 11, Section 12(d)(iii) states:

(iii) If an excursion is controlled, but the fluid which moved out of the production zone during the excursion has not been recovered within 60 days following confirmation of the excursion (i.e., the monitor well is still "on excursion"), the operator will submit, within 90 days following confirmation of the excursion, a plan and compliance schedule, acceptable to the department, for bringing the well (or wells) off excursion. The plan and compliance schedule can be submitted as part of the monthly excursion report required in Section 12(e) of this Chapter. The compliance schedule shall meet the requirements of Section 13(b) of this Chapter.

**5) *Report the status of 5MW66 as required by Land Quality Rules and Regulations, Chapter 11, Section 12(e)(i), (ii) and (iii).***

Uranium One will submit a monthly status report on the excursion at well 5MW66, in accordance with Chapter 11, Section 12(e).

Chapter 11, Section 12(e)(i) to 12(e)(iii) states:

(e) In addition to the excursion notifications and control plan required above, a monthly report on the status of an excursion shall be submitted to the Administrator beginning the first month the excursion is confirmed and continuing until that excursion is over. The monthly report shall be a requirement of the compliance schedule and shall include, at a minimum:

(i) Concentrations of UCL parameters and groundwater elevations in all monitoring wells on excursion and, as necessary, surrounding wells;

(ii) Such information deemed necessary by the Administrator to show that the excursion is being controlled and that the bond amount for groundwater restoration remains sufficient;

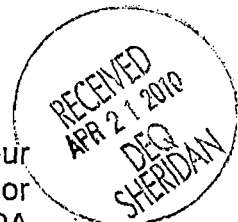


*(iii) Information on steps taken to control the excursion.*

Results of on-going work related to the 5MW66 excursion will be documented in the monthly excursion reports.

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

Before discussing the pertinent documentation, Uranium One would like to clarify our role in the aquifer exemption process. We have never (nor did our predecessor Cogema Mining, Inc.) had any direct discussions or direct correspondence with EPA about Class III aquifer exemptions nor have we applied directly to EPA for a Class III exemption. The exemption process for UIC Class III wells is well defined in the WDEQ primacy negotiations as referenced by the attached correspondence between Wyoming's Governor and the EPA dated May 21, 1982; June 7, 1982; and June 25, 1982. This correspondence outlines a procedure between WDEQ-LQD, WDEQ-WQD and EPA. The exemption process does not involve the industry applicant and is confined to the regulatory agencies. WDEQ-WQD is the lead division for the exemptions, so pertinent correspondence and documentation of the Permit 478 aquifer exemption should reside in WQD files.



What we have found in our files are documents related to the Wyoming Groundwater Classification System and EPA Region 8 Aquifer Exemption criteria. Of particular interest is the attached public notice of July 14 through August 4, 1988, identifying the legal boundaries of the entire Christensen Ranch Amendment Area as the groundwater to be affected and subsequently classified as Class (V)m. Also related is the statement in the July 28, 2003 letter from EPA Region 8 to Gary Beach WDEQ-WQD (top of page 2 of the letter's attachment) that "during primacy review and negotiation, it was determined that the WDEQ system of Ground Water Classification was equivalent to EPA's exemption criteria found at 40 CFR 146.4". This demonstrates that the entire Christensen Ranch Permit Area is classified as Class (V)m groundwater, consistent with EPA's aquifer exemption. The EPA letter referenced by Mr. Mooney dated August 26, 1988 is addressed to William Garland, Administrator of WDEQ-WQD. We are not aware of how WQD responded to this letter. However, because WDEQ-WQD and WDEQ-LQD continued to approve mining at Christensen Ranch within Mine Units 5 and 6, we presume that WDEQ-WQD revisited and resolved the issue with EPA regarding operations past Mine Unit 4. Regardless, because the entire permit area is classified as Class V(m) groundwater, this should never have been an issue.



If you have any additional questions please do not hesitate to contact me at 307-234-8235, ext 331 or [jon.winter@uranium1.com](mailto:jon.winter@uranium1.com)

Sincerely,

A handwritten signature in black ink, appearing to read 'Jon Winter', is written over a horizontal line.

Jon Winter  
Manager: Wyoming Environmental and Regulatory Affairs  
Uranium One Americas



Cc: Donna Wichers  
Larry Arbogast

Encl: WDEQ and EPA correspondence on Aquifer Exemptions and Groundwater Classification



## PUBLIC NOTICE

The Malapai Resources Company of Casper, Wyoming has applied for a mining permit amendment from the Land Quality Division of the Environmental Quality Department of the State of Wyoming.

The mining permit amendment area will be located in: Sec. 3 W1/2W1/2, Sec. 4 All, Sec. 5 E1/2, Sec. 8 E1/2, Sec. 9 All, Sec. 10 W1/2W1/2, Sec. 16 All, Sec. 17 E1/2, Sec. 20 E1/2, Sec. 21 All of T.44N., R.76W., Campbell County, WY; Sec. 33 S1/2S1/2, of T.45N., R.76W., Campbell County, WY; Sec. 5 W1/2, Sec. 6 All, Sec. 7 All, Sec. 8 W1/2, Sec. 17 W1/2, Sec. 18 All, Sec. 19 All, Sec. 20 W1/2 of T.44N., R.76W., Johnson County, WY; Sec. 1 All, Sec. 2 All, Sec. 3 All, Sec. 10 N1/2, Sec. 11 N1/2, Sec. 12 N1/2 of T.44N., R.77W., Johnson County, WY; Sec. 19 S1/2S1/2, Sec. 30 All, Sec. 31 All, Sec. 32 S1/2 of T.45N., R.76W., Johnson County, WY; Sec. 24 S1/2S1/2, Sec. 25 N1/2, SE1/4, N1/2SW1/4, Sec. 34 S1/2, S1/2N1/2, Sec. 35 S1/2, S1/2N1/2 of T.45N., R.77W., Johnson County, WY.

The proposed operation is scheduled to begin December, 1988 and is estimated to continue until year 2018. The land, after mining, will be returned to a livestock/wildlife use.

The affected groundwater will be classified Class V (m) for this amendment, as required by Water Quality Division Regulations, Chapter VIII.

Please note the applicant has been notified that the permit application will be denied unless: (1) surface owner consent is obtained for all area within the permit boundary, or (2) applicant requests modification of application to delete areas where surface owner consent is lacking, or (3) applicant obtains from the Environmental Quality Council an order in lieu of surface owner consent in accordance with W.S. 35-11-406(k).

Information regarding the proposed mining operation and reclamation procedures may be reviewed in the Office of the Land Quality Division of the Environmental Quality Department in Cheyenne and Sheridan, Wyoming, the office of Malapai Resources Company in Casper, Wyoming, or the Johnson and Campbell County Clerk's Office in Buffalo and Gillette, Wyoming, respectfully.

Objections or comments on the proposed mining operation and groundwater classification may be submitted to the Administrator, Land Quality Division of the Environmental Quality Department, Herschler Building, 122 West 25th Street, Cheyenne, WY 82002, before September 3, 1988.

All parties as given in W.S. 35-11-406(j) will be mailed a copy of this notice by certified mail.

PUBLISH: July 14, 21, 28; August 4, 1988

entire CR  
permit area





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

JUL 28 2003

Ref: 8P-W-GW.

Gary Beach  
Water Quality Division  
Department of Environmental Quality  
Herschler Building  
122 West 25<sup>th</sup> Street  
Cheyenne, Wyoming 82002



Re: Request Regarding Potential for Extending the Existing Exemptions/Wyoming Ground Water Classifications at Class III Uranium Operations in Wyoming.

Dear Mr. Beach:

I am responding to your request that EPA Region 8 consider modifying certain existing aquifer exemptions to enlarge them for a justifiable distance outside the outer monitoring well perimeter at existing in-situ uranium facilities in Wyoming, by expanding the existing area of Class V(M) State ground water classification and subsequently seeking EPA approval of that area as an exempted aquifer. It is EPA's understanding that this increase is being sought by Class III injection well operators to create a so-called "buffer" zone around the Class V (M)/exempted area, and is connected to the Wyoming Department of Environmental Quality (WDEQ) efforts to modify existing restoration requirements required under the Land Quality Division (LQD) Rules relating to in-situ uranium mining and Chapter VIII of the Water Quality Division (WQD) Regulations. As a result of your request, we have re-examined various issues, regulations and policies relating to the identification of underground sources of drinking water (USDWs) and exemption of aquifers subsequent to program approval, and specifically rules pertaining to ground water classifications/aquifer exemptions made as part of Wyoming issuing a Class III injection well uranium mining Permit.

After considering your proposal we have concluded that any increase to the size of an existing area of Class V(M) State ground water classification, and EPA's approval of that area as an exempted aquifer through a revision of the delegated Underground Injection Control (UIC) Program, must be accomplished by applying the same regulations and criteria that governed the original ground water classification and aquifer exemption approval. EPA's past approvals of Wyoming's classifications/exemptions have been based on a demonstration that the area defined as Class V(M) ground water was considered to be commercially mineable and otherwise qualified for exemption. Although the area between the actual mining panels and the outer ring



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of monitoring wells, or exemption boundary, was not slated to be mined under that mining plan demonstration, because the levels of some constituents such as uranium or radium were generally elevated due to the presence of some mineralization and otherwise met criteria for an aquifer exemption, this area was included to provide a reasonable area suitable for excursion monitoring.

Please refer to the attached *Background and Detailed Considerations* for additional information. If you have any questions, please contact Paul Osborne at 303-312-6125, or me at extension 303-312-6260. Our Associate Regional Counsel, Mr. Steven Moores also is available to answer legal questions at 303-312-6857 or by e-mail at [moores.steven@epa.gov](mailto:moores.steven@epa.gov).

Sincerely,

*Judith Wong*

Judith Wong  
Director  
Water Program



Attachment: Background and Detailed Considerations

cc: Richard A. Chancellor, Administrator LQD  
John Corra, Director WDEQ  
Stephen S. Tuber, Assistant Regional Administrator EPA Region 8  
Bruce Kobelski, OGWDW

## BACKGROUND AND DETAILED CONSIDERATIONS

### **A. WYOMING'S GROUND WATER CLASSIFICATION SYSTEM AND EPA'S AQUIFER EXEMPTION CRITERIA**

Wyoming DEQ Ground Water Classification System: The WDEQ does not regulate injection wells using EPA's well classification system or directly use its definition of a USDW and associated aquifer exemption system. Instead, WDEQ classifies ground water by its existing use or by potential use based on appropriate standards listed in Chapter VIII of the Water Quality Rules and Regulations. These WDEQ ground water classes are as follows:

- Class I suitable for domestic use.
- Class II suitable for agricultural use where soil conditions are adequate.
- Class III suitable for livestock.
- Class Special A - suitable for fish and aquatic life.
- Class IV - suitable for industrial use.
- Class V (H) - ground water associated with hydrocarbons.
- Class V (G) - geothermal ground water.
- Class V (M) - ground water associated with commercial mineral deposits.
- Class VI - ground water unsuitable for use.



During discussions on delegation of Primary enforcement authority for Class I, III, IV and V wells in Wyoming to the Department of Environmental Quality, the WDEQ argued that Wyoming's system provided equivalent procedures, even though the State system does not explicitly define the resource to be protected as an underground source of drinking water (USDW) or provide for an exemption process similar to that in EPA's rules<sup>1</sup>. Some key points from the program description that relate to Wyoming's classification system areas are as follows:

1. Wyoming Class I, II, III, Special A, IV, and V ground waters will receive no waste injection;
2. all EPA Class III types of injection activities must be permitted as either a commercial operation or as a research and development project;
3. commercial EPA Class III projects must be permitted with public notice and opportunity for hearing;
4. all EPA Class III wells must occur in aquifers which are classified as Class V (M) ground waters of the State; and
5. ground water can be designated as a Class V ground water only if the aquifer contains potentially producible minerals and it is not currently being used for another use.

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<sup>1</sup> Pages 2 -,through 6 of the WDEQ UIC Program Description, submitted as part of the State's primacy application, outlined how the classification system operates, how it provides for an equivalent procedure to EPA's exemption process, and what types of injection practices are permitted in various classes of ground waters.

During primacy review and negotiation, it was determined that the WDEQ system of Ground Water Classification was equivalent to EPA's exemption criteria found at 40 CFR 146.4.

Federal Aquifer Exemption Criteria: Federal UIC regulations set minimum requirements for the protection of all USDWs as defined by 40 CFR 146.3. These regulations prohibit the unauthorized injection of fluids at 40 CFR 144.11. Regulations at 40 CFR 144.12(a) and (b) also prohibit authorization of an injection by permit or rule which would cause a movement of fluid containing any contaminant into a USDW, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142. Federal criteria for exempting an aquifer, found at 40 CFR 146.4, are as follows:

- (a) it does not currently serve as a source of drinking water; and
- (b) it cannot now and does not in the future serve as a source of drinking water because:
  - (1) it is mineral hydrocarbon or geothermal energy producing, or can be demonstrated by a permit application for a Class II or III operation to contain minerals or hydrocarbon that considering their quantity and location are expected to be commercially producible;
  - (2) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;
  - (3) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or
  - (4) It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or
- (c) The Total Dissolved Solids content of the ground water is more than 3,000 and less than 10,000 mg/liter and it is not reasonably expected to supply a public water system.



Under 40 CFR 144.7, subsequent to Underground Injection Control (UIC) Program approval or promulgation the Director may designate an additional aquifer exemption, or in the case of Wyoming the classification of a portion of an aquifer as Class V(M) ground water, and such a designation is considered a revision of the delegated Program. Under UIC regulations at 40 CFR 145.32, such additional aquifer exemptions may be considered to be non-substantial Program revisions that can become effective upon receipt of a letter from EPA by the Governor or his designated agent, and where the aquifer contains more than 3,000 mg/liter the revision becomes final if the State submits the request for exemption approval in writing and the Administrator has not disapproved the designation within 45 days. [see 40 CFR 144.7(b)(3)]

### B. CONSIDERATIONS & RECOMMENDATIONS

#### Defining the Area of the Exempted Aquifer:

In order for an operator of a Class III well to inject into an aquifer that meets the definition of an USDW, the aquifer must be exempted from protection as a USDW. After delegation of authority for the UIC program to a State, a request for EPA approval of an

exemption (or in the case of Wyoming definition of a portion of an aquifer as Class V(M) ground water) is a revision of the delegated UIC Program that is not final until approved by EPA under 40 CFR 145.32<sup>2</sup>.

In this case, EPA is concerned that defining an a "buffer" zone that does not meet EPA criteria for an exempted aquifer does not support the goals of the Safe Drinking Water Act (SDWA) to protect USDWs to the maximum extent practicable under the State's requirement that aquifers be restored to "prior use" conditions after mining has ceased. It should be noted that the Region's policy always has been to circumscribe the size of an exemption in order to protect as much of the ground water resource as possible, in compliance with the intent of the SDWA. For example, the Region has denied other requests seeking exemption of a large areal extent not intended for injection solely for the purpose of providing relief from certain regulatory monitoring requirements. The Region believes that exempting an aquifer for this purpose is not within the intent of the SDWA and related preambles, the criteria defined by regulations, or EPA Guidance. As discussed at our meeting of June 4, 2003, it is the Region's policy to only exempt the area out to the outer ring of monitor wells under 40 CFR 146.4(b)(1) which is equivalent to a Class V(M) Ground Water classification.

Alternatively, an operator might be able to demonstrate that the zone should be defined as a Class VI ground water because it is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical, or it is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption. EPA would carefully review such a proposal.

#### Post-Mining Restoration:

As discussed in our letter of March 31, 2003, EPA is concerned that post-mining restoration of Class V(M) classified aquifers to the standards of original use classification may not be adequate to reduce certain contaminants sufficiently to assure that ground water migrating into adjacent areas that containing Class I, II, or III ground waters will not endanger these adjacent USDW or result in violations of primary drinking water regulations. Specifically, we are concerned because some of EPA's current Maximum Contaminant Levels (MCLs) such as those for arsenic, uranium and radium are set lower than similar levels in Wyoming's Chapter VIII. In our letter, we suggested that WDEQ include language to Chapter VIII of the WQD regulations similar to that found at 40 CFR 146.10(a)(4) and 40 CFR 144.12 that would require an operator to demonstrate that the level of ground water restoration will prevent the migration of contaminants into adjacent USDWs that could result in endangerment (exceedance of MCLs). This demonstration could be made by ground water modeling based on site data and/or site monitoring after closure.

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<sup>2</sup> \*Note: If an aquifer exemption is considered to be a major program revision (see EPA Headquarters UIC Program Guidance No. 34), 40 CFR 145.32(b)(2) requires that EPA issue a notice of the change in the Federal Register and give the public a 30 day comment period. Notice of the final action must also be made in the Federal Register.

*Consolidation*

MAY 21 1982

RE: SRC

Honorable Ed Herschler  
Governor of Wyoming  
Cheyenne, Wyoming 82002

Dear Governor Herschler:

In furtherance of our discussions in your office on May 10, 1982, I am pleased to provide you the attached summary of our agreement regarding the underground injection control aquifer exemption issue. My staff met the following Wednesday with representatives of your Department of Environmental Quality to flesh out the understanding we had reached. I believe this document clarifies our respective responsibilities and resolves the concerns you mentioned with respect to potential delays in your permitting process.

We are now near the completion of the EPA review process on your applications for primacy in the underground injection control program. I wish to express my appreciation of the cooperative, responsible working relationship between your staff and mine throughout this process.

If you have any questions regarding the attached document, please call upon me and we will continue to work with you toward resolution.

Sincerely yours,

*/s/*

Steven J. Durham  
Regional Administrator

Attachment

bcc: William Garland, WQD  
Gary Beach, LQD  
Paul Baultay, ODW  
Roger Trenette, SWM-DW

*SRC  
Spicer  
5/21/82*

*RKW  
5/21/82*



Attachment

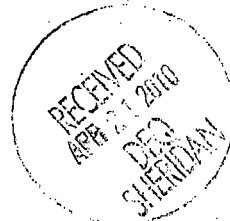
Ground Water Classification/Aquifer Exemption Procedures

A. When it becomes necessary to classify ground water as Class V (Mineral), the DEQ and EPA shall proceed upon the following schedule:

1. Upon determination by LQD that a complete application has been received, LQD will submit the information shown in Appendix A to EPA for review.
2. Concurrent with No. 1, above, WQD will provide to EPA its findings regarding:
  - a. Current use of the affected aquifer as a drinking water source, and
  - b. That the aquifer contains commercially producible minerals.
3. EPA will review the information and findings submitted for consistency with the criteria established in 40 CFR 146.04 and 40 CFR 122.35, including the current use of the aquifer, existence of commercially producible minerals, and opportunity for public participation in the classification process.
4. Within 45 days from EPA receipt of the information and findings referred to in Nos. 1 and 2, above, EPA will respond to WQD/LQD in writing. This response will be an interim response pending receipt and review by EPA of the results of the public participation process conducted by LQD/WQD. EPA will then provide its final response if no public hearing is requested or initiated by LQD/WQD.

B. With regard to other ground water classification actions concerning injection wells, the DEQ and EPA shall proceed upon the following schedule:

1. Upon determination by WQD that an application to inject is complete, WQD will submit a copy of that complete application to EPA.
2. Concurrent with No. 1, above, WQD will provide its findings regarding:
  - a. Current use of the affected aquifer as a drinking water source, and
  - b. The criteria for the classification proposed to be made.
  - c. When available, affidavits of notice to the public and summary of comments received.





3. EPA will review the information and findings submitted for consistency with the criteria established in 40 CFR 146.04 and 40 CFR 122.35, including the current use of the aquifer, criteria for the proposed classification, and opportunity for public participation in the classification process.
4. Within 45 days from EPA receipt of the information and findings referred to in Nos. 1 and 2, above, EPA will respond to WQD in writing. This response will be an interim response pending receipt and review by EPA of the results of the public participation process conducted by WQD. EPA will then provide its final response if no public hearing is requested of or initiated by WQD.



## Appendix A

### A. Information requirements for EPA Class III wells.

1. Definition of permit area with map.
2. Application Appendix D-5 (Description of regional and site specific geology including the mineralized zone).
3. Application Appendix D-6 (Description of the ground water within the permit area including map and description of ground water uses).
4. Mine Plan
  - a. Description of mineralized zone including extraction techniques.
  - b. Process description including:
    - i. Well field
    - ii. Monitoring plan
    - iii. Excursion detection system and procedure
    - iv. Measures to prevent migration of fluids into adjacent USDW

### B. As soon as available, affidavits of notice to the public and summary of comments received.



Appendix B

Other actions required regarding the aquifer exemption/ground water classification process:

1. LQD/WQD will modify its notification forms to request comment on the proposed ground water classification action.
2. Revise the MOA to incorporate the procedures outlined in Appendix A.
3. Revise MOA or Program Description to indicate that necessary ground water classifications are made by WQD as part of the permitting process for injection wells and are, therefore, subject to notice and opportunity for public hearing.





WYOMING  
EXECUTIVE DEPARTMENT  
CHEYENNE

June 7, 1980  
CORRESPONDENCE CONTROL

ED HERSCHLER  
GOVERNOR

Mr. Steven J. Durham  
Regional Administrator  
Environmental Protection Agency  
Region VIII  
1860 Lincoln Street  
Denver, CO 80295-0699

Re: Underground Injection Control (UIC) Program -  
Aquifer exemption issue

Dear Mr. Durham:

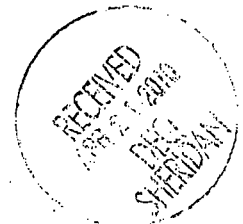
Thank you for providing me with a summary of the agreement reached between EPA and DEQ on the UIC aquifer exemption issue. Although I ordinarily defer interagency procedures for coordination and information exchange to the particular agencies involved, certain items within the summary caught my attention. As you are well aware, I am interested in reducing or eliminating areas where delay, duplication, or second-guessing of state agency decisions might arise. In line with this objective, I would very much appreciate any consideration your agency and DEQ could give to the following suggestions:

Attachment, A.4 and B.4. In order to ensure that permit decisions are not delayed, I would suggest that the last line be deleted and substituted with:

"The interim response will become final if not modified within 20 days following the close of the public comment period if no hearing is held. If a hearing is held, EPA's interim response will become final unless modified during or immediately after the public hearing."

Attachment, B.2 c. Rather than requiring WQD to summarize all comments, this provision should require WQD to submit copies of all comments received which relate to the groundwater classification action.

Appendix A, A.4 b. While this information must be reviewed by the permitting entity (LOD) before approving



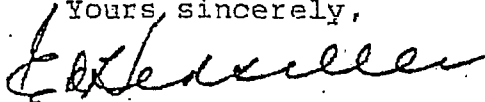
Mr. Steven J. Durham  
June 7, 1982  
Page 2

the injection proposal, it has no relevance to EPA's determination on the aquifer exemption issue under 40 CFR 122.35 and 146.04. I would recommend that this be deleted and replaced with, "a general timetable for planned development of the mining zone."

Appendix A., B. See the comment under "Attachment,  
B.2 c.

Thank you for considering these suggestions.  
Please feel free to contact my office with any questions or concerns.

Yours sincerely,



EH/nft

JUN 25 1982

SMM-DW

Honorable Ed Herschler  
Governor of Wyoming  
Cheyenne, Wyoming 82002

RE: Underground Injection Control (UIC)  
Program - Aquifer Exemption Issues

Dear Governor Herschler:

Thank you for your letter of June 7, 1982, making suggestions for eliminating potential areas of delay in the approval of aquifer exemptions. My staff has reviewed your comments and discussed them with staff of the Land Quality Division and with EPA Headquarters staff. These discussions have resulted in the development of language covering the areas of finalization of EPA's interim response and submittal of mine plan information for EPA review. The agreed upon language should assure a speedy finalization of any exemptions. Attached is a modified copy of the proposed procedures with the appropriate changes. We have adopted completely your suggestion regarding submittal of copies of comments rather than summaries.

Your letter expressed concern that the data requested in Attachment A, A.4b, would be used to second-guess the state agency in matters pertaining to permitting decisions. I can assure you that this was not intended. The purpose for requesting the data was to give our staff sufficient information to make a judgment on whether the size of the area to be classified is appropriate. The staff has reviewed the list of data requested and has discussed the reasons for the data request with Land Quality staff. EPA Regional and Headquarters staff feel that the minimum information that will be needed to make a decision on the size of the area to be classified (exempted) is the process description including data on the well field layout and the monitoring plan.

Regarding the finalization of our interim response, we have agreed that if no comments are received by LQD/WQD this response automatically becomes final. If there are comments, we have agreed to a strict time period within which we could modify the interim response.

Honorable Ed Herschler  
Governor of Wyoming  
Page 2

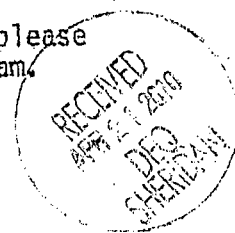
I feel that these changes to the proposed agreement should result in avoiding any unnecessary delay or second-guessing in the ground water classification approval process.

If you have any questions regarding the changes in the procedures, please call upon me. I appreciate your personal interest in this complex program.

Sincerely yours,

Steven J. Durham  
Regional Administrator

Enclosure



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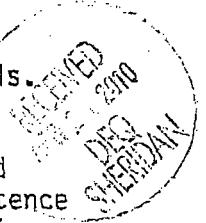
## Ground Water Classification /Aquifer Exemption Procedures

A. When it becomes necessary to classify ground water as Class V (Mineral), the DEQ and EPA shall proceed upon the following schedule:

1. Upon determination by LQD that a complete application has been received, LQD will submit the information shown in Appendix A to EPA for review.
2. Concurrent with No. 1., above, WQD will provide to EPA its findings regarding:
  - a. Current use of the affected aquifer as a drinking water source, and
  - b. That the aquifer contains commercially producible minerals.
3. EPA will review the information and findings submitted for consistency with the criteria established in 40 CFR 146.04 and 40 CFR 122.35, including the current use of the aquifer, existence of commercially producible minerals, and opportunity for public participation in the classification process.
4. Within 45 days from EPA receipt of the information and findings referred to in Nos. 1. and 2., above, EPA will respond to WQD/LQD in writing. This response will be an interim response pending receipt and review by EPA of the results of the public participation process conducted by LQD/WQD. This interim response will become final if there are no comments related to the classification of the ground water during either the comment period or the public hearing, if held. If comments are received during the comment period or the public hearing the interim response will become final if not modified within 20 days of the receipt of all the comments by Region VIII.

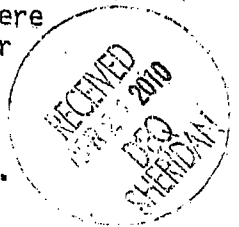
B. With regard to other ground water classification actions concerning injection wells, the DEQ and EPA shall proceed upon the following schedule:

1. Upon determination by WQD that an application to inject is complete, WQD will submit a copy of that complete application to EPA.
2. Concurrent with No. 1., above, WQD will provide its findings regarding:
  - a. Current use of the affected aquifer as a drinking water source, and
  - b. The criteria for the classification proposed to be made.
  - c. When available, affidavits of notice to the public and copies of comments related to the ground water classification.





3. EPA will review the information and findings submitted for consistency with the criteria established in 40 CFR 146.04 and 40 CFR 122.35, including the current use of the aquifer, criteria for the proposed classification, and opportunity for public participation in the classification process.
4. Within 45 days from EPA receipt of the information and findings referred to in Nos. 1. and 2., above, EPA will respond to WQD in writing. This response will be an interim response pending receipt and review by EPA of the results of the public participation process conducted by WQD. This interim response will become final if there are no comments related to the classification of the ground water during either the comment period or the public hearing, if held. If comments are received during the comment period or the public hearing, the interim response will become final if not modified within 20 days of the receipt of all the comments by Region VIII.

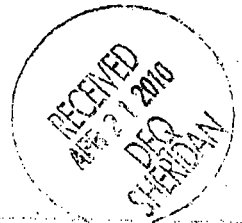


## Appendix A

### A. Information requirements for EPA Class III wells:

1. Definition of permit area with map.
2. Application Appendix D-5 (Description of regional and site specific geology including the mineralized zone).
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4. Mine Plan
  - a. Description of mineralized zone including extraction techniques.
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    - i. Well Field
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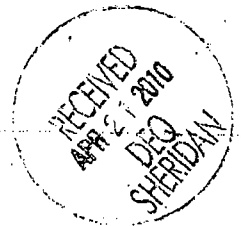
### B. As soon as available, affidavits of notice to the public and copies of comments related to the ground water classification.



Appendix B

Other actions required regarding the aquifer exemption/ground water classification process:

1. LQD/WQD will notify its notification forms to request comment on the proposed ground water classification action.
2. Revise the MOA to incorporate the procedures outlined in Appendix A.
3. Revise MOA or Program Description to indicate that necessary ground water classifications are made by WQD as part of the permitting process for injection wells and are, therefore, subject to notice and opportunity for public hearing.



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