



State of Utah

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Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF RADIATION CONTROL
Rusty Lundberg
Director

July 7, 2011

CERTIFIED MAIL
(Return Receipt Requested)

David C. Frydenlund, Vice President, Regulatory Affairs and Counsel
Denison Mines (USA) Corp.
1050 17th Street, Suite 950
Denver, CO 80265

Subject: Nitrate Investigation Phase 2 Detailed Work Plan and Schedule dated June 30, 2011:
DRC Review Comments

Dear Mr. Frydenlund:

DRC review comments regarding the June 30, 2011 Denison Mines (USA) Corporation "Nitrate Investigation Phase 2 Detailed Work Plan and Schedule" are enclosed (via URS Memorandum). Please ensure that all comments are addressed and resolved in the revised work plan.

If you have questions or concerns regarding the comments, or would like to arrange a meeting or teleconference to discuss the comments, please contact me at (801) 536-0080. Thank you.

Sincerely,

Thomas Rushing, P.G.
Geotechnical Services Section

Enclosure: URS Memorandum (4 pp)

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MEMORANDUM

To: Tom Rushing (DRC), Loren Morton (DRC), Phil Goble (DRC)
From: Paul Bitter (URS), Jeremy Cox (URS)
cc: Robert Baird (URS)
Date: 7 July 2011
Re: Comments on the Nitrate Investigation Phase 2 Detailed Work Plan and Schedule for White Mesa Mill Site dated July 1, 2011

This memorandum contains the URS and DRC comments on the Phase 2 Detailed Work Plan and Schedule for the White Mesa Mill Site (Phase 2 Work Plan) dated July 1, 2011, which was prepared by Denison Mines USA (DUSA). This review has been performed as a deliverable for Contract No. 116259 issued through the Utah Department of Environmental Quality, Division of Radiation Control (DRC). This review also is in accordance with the amended Memorandum of Understanding (MOU) between the DRC and DUSA dated May 19, 2011. For purposes of expediency, the URS and DRC comments are edited for conciseness and combined into one memo. Note that format, grammar, and punctuation in the Work Plan were not reviewed for accuracy and consistency.

The comments regarding the Phase 2 Work Plan are presented below. Please note that, per the June 30, 2011 Revised Tolling Agreement (Rev. 2), all comments must be addressed and resolved, and the revised Phase 2 Work Plan must be submitted, on or before July 13, 2011.

1. General Comment: The Phase 2 Work Plan is well-organized and adequately explains the rationale for the proposed Phase 2 sampling locations and analyses.
2. General Comment: Please provide a reference section listing all sources cited in this document.
3. Section 3.1: Cryptosporidium is not specific to cattle and livestock as stated in Section 3.1. Please amend the language. DRC agrees that the presence of cryptosporidium in the groundwater will likely indicate an agricultural influence in the groundwater, however, this is not definitive.
4. Section 3.1: DRC agrees that background determinations for RDX and HMX are unnecessary.
5. Section 3.2: DRC agrees that nitrate and chloride need not be analyzed during the Phase 2 investigation because they are regularly monitored in the groundwater at the site.
6. Section 3.2: DRC agrees with the locations and number of samples for cryptosporidium, RDX, and HMX. DRC also agrees with the number and locations of additional wells to be sampled for these analytes if further study is warranted based on data results from the initial

set of wells. DRC also agrees with the number and locations of monitoring wells to be sampled and analyzed for perchlorate.

7. Section 3.2, paragraph prior to Background Determination sub-section: This paragraph is not consistent with the remainder of the text in the Phase 2 Work Plan. The paragraph currently reads:

“As previously stated, if positive detections are reported in the initial screening, a background determination for perchlorate would be completed. The background study would be completed as described below.”

Please replace the paragraph with the following sentence:

“The requirement for a site-specific perchlorate background study, and the methods for that study, are described below.”

8. Section 3.2, Background Determination: DRC agrees with the proposal to sample background wells only if cryptosporidium, RDX, or HMX are detected in any of the initial set of monitoring wells planned for sampling by DUSA, or if perchlorate is detected above 1.0 µg/L in any of the 12 monitoring wells selected by DUSA for the initial round of perchlorate sampling. DRC agrees with the number and locations of the background monitoring wells.
9. Section 3.2, Background Determination: DRC requests that the phrase “basis for perchlorate background determination” be revised to “basis for site-specific perchlorate background determination”. DRC agrees with the 1.0 µg/L typical background screening level for perchlorate provided by the literature cited by DUSA for nationwide groundwater sampling. DRC agrees that exceedances of the 1.0 µg/L value during the initial sampling event should act as a trigger for sampling additional monitoring wells to determine a site-specific background concentration for perchlorate in groundwater at the White Mesa mill site.
10. Attachment 1: Please include the schedule relative to the analysis of cryptosporidium samples.
11. Attachment 1: If the samples will be collected starting July 18 but not shipped until July 25, how does DUSA propose to maintain the correct temperatures of the samples listed in Attachment 2? This subject is not addressed in Attachment 2. Please revise the text accordingly. In addition, the currently planned schedule would result in a violation of the requested 7-day maximum holding time for groundwater samples being analyzed for HMX and RDX by Method 8330 (refer to comment #19 below) and is not acceptable. Please revise the schedule to allow for shipment of all groundwater samples from wells being analyzed for HMX and RDX so that the samples are shipped no later than the day of sample collection or the day after sample collection. This will allow sufficient time for the analytical laboratory to perform the extraction for Method 8330 within the maximum holding time.
12. Attachment 2: Please correct the spelling of “attachment” on the cover page.
13. Attachment 2: DRC appreciates the highlighting of the text derived directly from the QAP for the ease of review.
14. Attachment 2, Section 2.4.2, second paragraph: No reason is provided for the lack of a selection of a laboratory that will perform the cryptosporidium analysis. If the monitoring wells are scheduled to be sampled by July 18, the laboratory should have already been

selected and placed under contract. Since the laboratory contracted for cryptosporidium analysis will not have NELAC or State Laboratory certification, this laboratory needs to be identified as part of the Phase 2 Work Plan Attachment 2. Please ensure that every effort is made to contract an environmental laboratory listed in the most recent revision of the Environmental Protection Agency publication, "Laboratories Approved for the Analysis of Cryptosporidium under the Safe Drinking Water Act." If the contracted laboratory is not included on the EPA approved list, then please provide justification in Attachment 2 as to why the Laboratory QA/QC procedures relative to the cryptosporidium test methods are sufficient to meet the goals of the study objectives.

15. Attachment 2, Section 4.3.5: DRC requests that deionized water from a third-party commercial source (not from the Mill) be used for the field blanks for the Phase 2 investigation.
16. Attachment 2, Section 6.2.10, second paragraph: Please delete the second sentence regarding nitrate/ammonia analysis. This sentence does not appear to be relevant to the Phase 2 investigation.
17. Attachment 2, Section 7.3: Refer to comment on Attachment 2, Section 2.4.2, second paragraph.
18. Attachment 2, Sections 9.1 through 9.4: If the analytical laboratory reports detections of HMX, RDX, cryptosporidium, or perchlorate during Campaign 1 or Campaign 2, DRC will require third-party validation of the analytical data. The presence of cryptosporidium, RDX, or HMX, or the presence of perchlorate above the background screening level, may indicate a contributor other than mill activities and may significantly affect the conclusions of the nitrate investigation. Therefore, verifying the validity of the analytical results for the Phase 2 sampling is necessary. A third-party data validator is a company, unaffiliated with DUSA, DRC, or their contractors, that employs personnel who specialize in reviewing data from analytical laboratories for the purposes of verifying the validity of the results. A data validator reviews all of the available data, including results from field duplicates, field blanks, and all laboratory quality control samples to assess the validity of the reported results. The data validation is performed according to pre-determined guidelines. Because the data validator reviews a broader range of quality control data than the analytical laboratory, trace detections reported by an analytical laboratory can, in some cases, be flagged as uncertain or changed to a non-detect value by the data validator. The guidelines for the data validation would be determined after a decision is made whether data validation is necessary.

The Co-Executive Secretary reserves the right to collect split samples from any of the monitoring wells that DUSA samples during Campaign 1, Campaign 2, or background sampling. DUSA must provide notice to DRC seven calendar days prior to each sampling event to allow DRC personnel to be present for the collection of split samples.

19. Attachment 2, Revised Table 1: DRC requests that perchlorate be analyzed by a Utah-certified environmental laboratory using USEPA Method 6850 or 6860, depending on the laboratory's preference. Refer to the USEPA Test Methods for Evaluating Solid Waste for details regarding these analyses. Use of EPA Method 331 is not acceptable, in that it is

designed for drinking water and may be adversely affected by interferences (false positives) caused by anions in the groundwater from this site. Furthermore, the reporting limit provided for Method 331 is too high to meet the objectives of the Phase 2 investigation. DRC also requests a 7-day maximum holding time until extraction for Method 8330; that holding time is more appropriate for aqueous samples.

20. Attachment 2, Table 2: For Campaign 1, TWN-2 is listed twice. Please delete the additional entry. For both Campaign 1 and 2, TWN-1 and TWN-24 are listed in the table, but Section 3.2 lists TW4-1 and TW4-24. Likewise, Figure 2 displays TW4-1 and TW4-24 as Phase 2 sampling locations. Please update the entries for "TWN-1" and "TWN-24" in Table 1 to "TW4-1" and "TW4-24". Attachment 2, Section 4.3.5 states that the DIFB sample will be labeled with a sample ID such as MW-60. Please update the sample ID accordingly for the DIFB samples in Table 2. Attachment 2, Section 8.1.2 states that the analytical laboratory will perform matrix spikes and matrix spike duplicates. If the laboratory will require additional sample volume to perform those tests, please indicate in Table 2 the wells from which the additional sample volumes will be collected.

[End of comments]