



STATE OF
COLORADO

Simmons - DNR, Leigh <leigh.simmons@state.co.us>

C1981019, Colowyo Mine, TR-148

Simmons - DNR, Leigh <leigh.simmons@state.co.us>
To: "Trujillo - DNR, Zach" <zach.trujillo@state.co.us>
Cc: Jason Musick - DNR <jason.musick@state.co.us>

Tue, Jun 1, 2021 at 9:54 AM

Zach,

I have re-phrased my memo so that you can more easily use it in an adequacy letter.

Leigh Simmons
Environmental Protection Specialist



COLORADO
Division of Reclamation,
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On Fri, May 28, 2021 at 4:00 PM Simmons - DNR, Leigh <leigh.simmons@state.co.us> wrote:

Zach,

I'll rephrase my memo so you can copy and paste it into an adequacy letter.

I'll send it next week and you can review when you get back.

Leigh

On Fri, May 28, 2021, 3:28 PM Trujillo - DNR, Zach <zach.trujillo@state.co.us> wrote:

Hey Leigh,

I appreciate the thorough and well prepared memo. I think I will include your comments from the second to last paragraph in your memo in an adequacy letter to Colowyo as I think it is important to define a method of evaluation with an agreed set of parameters in the PAP. Since it is directly related to this Revision and the process is ongoing, it seems appropriate to have it addressed. With that said, I may reach out to you with a draft adequacy letter for your review to ensure I have accurately reflected your comments. I will be out of the office all next week and won't have the time to complete this today but I will try and get this to you when I return. Thanks again.

On Fri, May 28, 2021 at 1:44 PM Trujillo - DNR, Zach <zach.trujillo@state.co.us> wrote:

Thanks Leigh. Appreciate your help with this.

On Fri, May 28, 2021, 2:39 PM Simmons - DNR, Leigh <leigh.simmons@state.co.us> wrote:

Zach,

I have reviewed the TR-148 application. A copy of my memo is attached.

Please pass on to Tony my appreciation of his inclusion of a change summary sheet with the application materials - it makes the review process much easier.

Leigh Simmons
Environmental Protection Specialist

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C1981019_TR148_LDSMemo_2.pdf
148K



Interoffice Memorandum

June 1, 2021

From: Leigh Simmons
To: Zach Trujillo

**Subject: Colowyo Mine (Permit No. C-1981-019)
TR-148**

I have re-phrased my May 28 memo so that it can be more easily used in an adequacy letter.

Rule 4.05.13(1)(b)

TR-148 proposes two new alluvial groundwater points of compliance (POCs); one on Goodspring Creek (LGSW-1) and the other down-gradient of the confluence of Wilson and Taylor Creeks (LWCW-1). Their locations are shown on proposed Map 10B, Hydrologic Features and Monitoring Locations. Both of the POCs are located a short distance outside of the current permit boundary, but are on land owned by Colowyo Coal Company.

The AECOM report titled “Point of Compliance Well Investigation Report, Colowyo Mine”, dated April 29, 2021, is proposed to be added to the PAP as Exhibit 7, Item 19. The report documents the history of the discussion of POCs at the Colowyo Mine before presenting the methods, results, analysis and conclusions of the 2019-21 investigation. It provides thorough supporting information for the establishment of the POCs at the proposed locations.

The AECOM report goes on to recommend how The Basic Standards for Groundwater (Reg. 41) should be applied at the POCs. The Division generally concurs with the approach recommended by AECOM, namely that:

- The applicable standard is the Interim Narrative Standard
- The standard is met if either of the following conditions are met:
 - the concentration of a particular water quality parameter is less than the most stringent value in Tables 1 through 4 of “The Basic Standards for Groundwater”, or
 - the concentration of that parameter is less than it was at existing ambient quality as of January 31, 1994
- Many parameters are likely to satisfy the first of these conditions, in which case it is straightforward to find that they are in compliance; but some parameters (Manganese, Sulfate and Total Dissolved Solids) may exceed the table value standard and need to be evaluated against the second condition. AECOM call this a “hybrid approach”



- Establishing “existing ambient quality as of January 31, 1994” is more complicated than referring to a table value, and it is recognized in The Basic Standards for Groundwater (41.5.C.6.b.iii) that implementing authorities “will exercise their best professional judgment as to what constitutes adequate information to determine or estimate existing ambient quality, taking into account the location, sampling date, and quality of all available data.”

In section 3.1 of their report AECOM describe a method they used to establish site-specific background concentrations of all parameters using (i) monitoring data collected between 1984 and 2017 from the A-6 and A-8 wells, which are up-gradient monitoring wells in the Goodspring creek alluvium, and (ii) monitoring data collected before January 31, 1994, from the Gossard and NGSW wells, which are down-gradient monitoring wells in the alluvium of Wilson Creek and Goodspring Creek respectively (but up-gradient of the new POCs). For each pair of wells the monitoring data was pooled into a single dataset and analyzed using ProUCL statistical software from the EPA to generate an Upper Tolerance Limit (UTL).

In section 3.4 AECOM propose using these derived UTL values as the future compliance standard at the POCs for several parameters. The list of parameters with proposed standards is given in Table 16 of the report.

Please note that the material submitted with the TR-148 application does not formally propose the adoption of these values as standards – they are currently no more than the recommendation of a qualified consultant. Please address the following items in order to establish agreed parameter values for the Interim Narrative Standard at the proposed POCs.

- 1. Please submit a copy of the historical monitoring data used to derive the UTLs for Manganese, Sulfate and Total Dissolved Solids that are proposed as estimates of existing ambient quality to be used as alternatives to the Reg. 41 table values. Please include a description of any other assumptions that were made during their analysis. This data should be included as an appendix to Exhibit 7, Item 19.**
- 2. Please propose revised text,**
 - a. making explicit that the applicable standard at the POCs is the Interim Narrative Standard**
 - b. describing how the standard has been interpreted**
 - c. stating what the agreed parameter values are****(This could be by reference to the Exhibit)**