



STATE OF
COLORADO

Carter - DNR, Jocelyn <jocelyn.carter@state.co.us>

Fwd: 2024 Holcim Portland Quarry Annual Monitoring Report

Peters, Christopher <Chris.Peters@arcadis.com>

Fri, Aug 9, 2024 at 2:46 PM

To: "Carter - DNR, Jocelyn" <jocelyn.carter@state.co.us>

Cc: "amy.eschberger@state.co.us" <amy.eschberger@state.co.us>, Michael TOELLE <mike.toelle@holcim.com>, Shad SHAPIRO <shad.shapiro@holcim.com>, "Hohman, Treck" <Treck.Hohman@arcadis.com>

Hi Jocelyn,

Please attached the response to your Adequacy Review from June 27. Please contact me with any questions. Thanks.

Chris

Christopher S. Peters | Vice President | chris.peters@arcadis.com

Arcadis | Arcadis of Michigan, LLC

120 N. Washington Square, Suite 300 | Lansing, MI | [48933](#) | [USA](#)

T. +1 517 324 5052 | M. + 1 517 927 3611

Professional Geologist / PG-WI, 1054 – 013

AIPG Certified Professional Geologist / CPG - 06913

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From: Carter - DNR, Jocelyn <jocelyn.carter@state.co.us>
Sent: Thursday, June 27, 2024 5:11 PM
To: Shad SHAPIRO <shad.shapiro@holcim.com>; Peters, Christopher <Chris.Peters@arcadis.com>
Cc: amy.eschberger@state.co.us; Michael TOELLE <mike.toelle@holcim.com>
Subject: Re: 2024 Holcim Portland Quarry Annual Monitoring Report

You don't often get email from jocelyn.carter@state.co.us. [Learn why this is important](#)

Arcadis Warning: Exercise caution with email messages from external sources such as this message. Always verify the sender and avoid clicking on links or scanning QR codes unless certain of their authenticity.

Good afternoon Shad and Chris,

Please see the attached adequacy review of the Final 2024 Groundwater Monitoring Report submitted to the Division on June 3, 2024.

If you have any questions, please let me know.

Thanks,

Jocelyn

On Mon, Jun 3, 2024 at 8:27 AM Shad SHAPIRO <shad.shapiro@holcim.com> wrote:

2024 Holcim GWMR Cover Letter_05222024 (1).pdf**Error! Filename not specified.**

Hello, Ms. Carter- Please see this submission to Tim Cazier sent on 5-23-2024. My apologies for not having sent to your department as well.

2024 Holcim GWMR Final_05222024_Complete (1).pdf**Error! Filename not specified.**

On Thu, May 23, 2024 at 11:29 AM Peters, Christopher <Chris.Peters@arcadis.com> wrote:

Tim,

On behalf of Holcim, Please find attached the cover letter and complete 2024 annual report for the Holcim Portland Quarry groundwater monitoring at the Holcim – Portland cement plant in Florence, Colorado.

Please contact me with any questions. Thanks .

Chris

Christopher S. Peters | Vice President | chris.peters@arcadis.com

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--

Jocelyn Carter

Environmental Protection Specialist

Division of Reclamation, Mining, and Safety

[1313 Sherman St Suite 215](#)

[Denver, CO 80203](#)

cell: (720) 666-1065

8/14/24, 9:23 AM

State.co.us Executive Branch Mail - Fwd: 2024 Holcim Portland Quarry Annual Monitoring Report

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20240809_Response to Adequacy Review Comments_Final.pdf
608K

Jocelyn Carter
Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

Arcadis U.S., Inc.
630 Plaza Drive
Suite 200
Highlands Ranch
Colorado 80129
Phone: 720 344 3500
Fax: 720 344 3535
www.arcadis.com

Date: August 9, 2024

Our Ref: 30218770

Subject: Response to Adequacy Review of Holcim (US) Inc., Portland
Limestone Quarries, Permit No. M-1977-344, 2024 Groundwater Monitoring
Report

Dear Ms. Carter,

Arcadis has prepared this letter on behalf of Holcim (US) Inc., (Holcim) to respond to the Division of Reclamation, Mining and Safety (DRMS) Adequacy Review of the Holcim (US) Inc., Portland Limestone Quarries, Permit No. M-1977-344, 2024 Groundwater Monitoring Report, dated May 2024 and received by DRMS on June 3, 2024. The DRMS responded to the above report in a letter to Chris Peters of Arcadis dated June 27, 2024, requesting review of and response to issues outlined in the letter.

Presented below are DRMS' comments from the June 27, 2024 letter followed by Arcadis' response.

1. *The concentration of sulfate for MW-13 was measured at 2330 mg/L, exceeding the numeric protection level (NPL) of 2200 mg/L by 130 mg/L. Table E-4 in Appendix E – Historical Groundwater Monitoring Data shows that MW-13 had a concentration of 2470 mg/L of sulfate, exceeding the NPL by 270 mg/L, in May of 2023 and in March of 2022 the sulfate concentration was 2420 mg/L, exceeding the NPL by 220 mg/L. Please provide an explanation for the increasing trend of sulfate concentrations in MW-13 along with a graph showing all of the historical data for sulfate concentration in MW-13.*

Response: Sulfate concentrations have exceeded the NPL at MW-13 for the last 3 years, but are similar to the sulfate concentrations found in the upgradient background well MW-12. The historical sulfate concentration trend at MW-13 is also very similar to the trend seen at MW-12. Sulfate concentrations seem to be naturally occurring at MW-13 as similar concentration trends have been observed at upgradient well MW-12. A graph of historical sulfate data is found in the report (and attached to this letter) as Figure 5. Note that concentrations of other analytes do not suggest an impact from the CKD landfill. The most diagnostic indicator of CKD impact is the potassium to sodium ratio. As noted in Section 1.3.5 of the report, sodium was removed as a groundwater quality parameter in October 2014 and replaced with the potassium to sodium ratio of 0.5 as the NPL. Potassium to sodium ratios in all of the monitoring wells have historically been well below 0.5, indicating that the landfill has no measurable impacts on water quality.

2. *Annual groundwater reports have had several exceedances of set NPLs for several analytes in MW-7 and MW-13. In the future, please provide the Division with an explanation of the exceedances observed*

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during sampling along with graphs that incorporate historical data for those analytes and wells that experience exceedances.

Response: Historic graphs of water quality are included in the annual reports dating back to 1998. In general, the observed exceedances of NPLs are within normal water quality fluctuations. However, we will continue to discuss the exceedances.

3. *The Division has updated groundwater monitoring standards; attached to this letter is the DRMS September 2023 Groundwater Monitoring: Sampling and Analysis Plan Guidance Construction Materials and Hard Rock Sites document for your records. The Division is not requiring a revision to the groundwater monitoring plan for this permit at this time. It is noted that according to DRMS letters dated February 24, 2009, and November 27, 2012, the currently approved groundwater monitoring plan requires an increase of sampling frequency in the case that two parameters exceed 10% of their designated NPL standards. However, if there is a continuing exceedance beyond the NPL for sulfate concentrations in MW-13 in the 2025 report, the Division may increase the required sampling frequency.*

Response: Arcadis acknowledges DRMS comments with respect to potential future groundwater monitoring plan modifications. It should be noted, however, that monitoring well MW-12, which is upgradient of the landfill, has historically exhibited sulfate concentrations similar to those in monitoring well MW-13, thus the concentrations observed could be naturally occurring.

We trust that these responses satisfy the DRMS questions. If you have further questions, please contact Chris Peters. Thank you.

Sincerely,
Arcadis U.S., Inc.



Christopher S. Peters, P.G.
Vice President

Email: Chris.Peters@arcadis.com
Direct Line: 517.324.5052
Mobile: 517.927.3611

CC. Shad Shapiro, Holcim (US) Inc.
Michael Toelle, Holcim (US) Inc.
Amy Eschberger, DRMS
Treck Hohman – Arcadis U.S., Inc.

Enclosures:

Figure 5 Sulfate Time Series Graph

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Figure 5
Sulfate Time Series Graph
Holcim (US) Inc.
Florence, CO

