May 14, 2026

BRETT IMSLAND
CONTINENTAL CEMENT COMPANY LLC
301 E FRONT ST
BUFFALO IA 52728

RE: Continental Cement Davenport Plant CKD Landfill (301 E Front St, Buffalo, IA 52728)
Permit #82-SDP-16-97P
2025 Annual Reports

Dear Mr. Imsland:

Following our March 5, 2026 virtual meeting, the Iowa Department of Natural Resources (DNR) completed our review of Continental's 2025 annual reports: Leachate Control System Performance Evaluation Report (LCSPER), Annual Water Quality Report (AWQR), and the Groundwater Remedial Action and Mitigation Plan Update (RAMP Update) (Documents 116023, 115970, and 116024, respectively), which included results from Continental's ongoing cement kiln dust (CKD) water quality investigation. Our comments are as follows.

AWQR and RAMP Update
First, the DNR acknowledges Continental's CKD water quality investigation, which exceeds the permit requirements and associated rules. Given the resulting complexities and the overlap between these two documents (hereafter referred to as "the report"), independently reviewing them was not feasible. Therefore, we have combined our comments below.

HMSP Changes
Five new monitoring wells (MW-22 through MW-26) were installed in early 2025 to better evaluate the groundwater flow patterns.

Data Review
The data continues to show groundwater impact at the site, which was documented by consistent and multiple exceedances of both health-based standards as well as statistical analysis across the site, the most pronounced of which is lithium.

Groundwater Flow Patterns
The report stated that analysis of the new well data determined groundwater flows from east to west across the site. However, the report also discussed flow direction variability caused by several factors, including groundwater pumping on both the Continental and adjacent Linwood properties as well as Mississippi River levels.

Additionally, the report presented a new understanding of the groundwater bearing zones: upper, middle, confining, and lower. Where the middle groundwater bearding zone, believed to be the primary water source, has the most wells, and the majority of groundwater impacts. It is also believed that the mine stope intercepts this zone.

Considering the above, the DNR concurs that the new data shows groundwater flows from east to west across the site; however, the data also shows that groundwater flow direction is highly variable, making a single or even primary flow direction unlikely.

Further, although the presented information supports the middle groundwater-bearing zone as the primary water source, the report implies that the historical elevation(s) of the stope and associated geologic layers along with some of the historical water levels in the stope and surrounding wells may not have been adequately documented.

Therefore, the DNR does not believe that there is definitive proof that groundwater flows only from east to west. Additionally, because the groundwater-bearing zones are a critical component, the DNR suggests that future efforts, such as the proposed groundwater modeling, include references to supporting documentation for historical elevations and levels, including requisite assumptions, for wells, water levels, geologic formations, the stope, etc.

Source Determination

As previously stated, considerable effort has gone into evaluating the groundwater impact at the site, and it should be noted that these efforts have been ongoing for years prior to the recent expanded efforts. Of particular interest are the new arguments presented in the report for the potential alternative source(s) of groundwater impact.

General.

As presented at the March 5, 2026 meeting, the “CKD Body” consists of the Phase I (closed) and Phase II (active) areas of the landfill and the larger CKD disposal area (i.e. Original CKD Disposal Area), which underlies both areas of the landfill. Further, the report states that there are two potential sources of contamination, the stope and the Original CKD Disposal Area.

Thermal mobilization of metals.

The data presented in the report shows that there is thermal impact on the groundwater at the site, which is reasonably associated with Linwood’s use of the mine stope for their kiln exhaust. Further, the report states that the stope is the likely source of Antimony, Lead, Manganese, and Nickel, but the landfill wells in general do not exhibit the same elevated levels, which could be associated with the temperature and resulting chemical changes. However, additional information will be needed to make a definitive determination of this potential alternative source.

Lithium from the Mississippi River.

We reviewed the river data from the referenced (Clinton) location in the report. The average of the 395 water sample results is 5.64 ug/l. However, the HAL for lithium is 40 ug/l, which is frequently exceeded in the groundwater at the site. Therefore, the DNR believes it is improbable that the low levels of Lithium in the Mississippi River would result in over a 7-fold increase at the site.

Background levels.
The DNR acknowledges that many of the metals that are impacting the site's groundwater are naturally occurring. However, the report does not include substantial supportive data to develop a site–specific groundwater protection standard for these constituents. Therefore, additional information will be needed to make a definitive determination of this potential alternative source.

Summary
Although it appears that alternative sources and complicated groundwater flow patterns likely play a role in the groundwater impact at the site, the DNR's position that the facility is impacting the groundwater at the site remains unchanged. This is documented in numerous DNR communications over the life of the facility that provide a clear distinction between the chemical signatures of CKD versus lime kiln dust (LKD) and is further supported by the data in the report.

Therefore, the DNR concurs with the proposed actions in Section 11 of the RAMP and to continue groundwater monitoring and reporting in accordance with the permit and the rules.

LCSPER
The Leachate Control System Performance Evaluation Report documents ongoing operational and maintenance issues with portions of the leachate collection system, which can have a direct impact on the groundwater quality at the site.

One point of concern that was not addressed in the LCSPER was the statement that levels "in the upper leachate collection zone rise precipitously after local rainfall events and fall precipitously after jetting is performed to clean out the drainage pipes." In the DNR's experience, there is a high likelihood that there is direct hydraulic connection between the surface (i.e. stormwater) and the leachate collection system. For example, this may be an area as small as a baseball where the leachate drainage layer is exposed. The situation is further exacerbated by the clogging issues where the leachate can build up hydraulic head thereby increasing the leakage rate through the liner.

Another point of concern was the overtopping of the lift station due to power failure. Please provide a summary of procedures and/or systems that are in place (or proposed to be in place) to prevent overtopping from happening in the future.

In consideration of the above, we are requiring an action plan to be submitted to the DNR **on or before July 15, 2026** that includes action items and a schedule to address the above concerns as well as the same for the proposed actions to the system in Section 11 of the RAMP.

In addition, quarterly status reports shall be submitted to the DNR starting **on July 1, 2026**. The action reports shall include the status of the action items from the action plan, leachate levels, maintenance performed, quantity of leachate removed and disposed of, and other applicable information since the last report. In the case of the initial report, please include items since the 2025 LCSPER reporting period.

Closing
If you have any questions, please contact me at (515)537-4051 or brian.rath@dnr.iowa.gov. If you prefer to meet with me, you can see my availability at the following link. Although you can schedule an appointment with me at the link, feel free to schedule utilizing your own meeting platform. As an alternative, you can reserve a meeting time with me through the link, send a meeting invite using your own meeting platform, and I will delete the original request.

Sincerely,

Digitally signed by
Brian L. Rath
Date: 2026.05.14
10:26:14 -05'00'

Brian L. Rath, P.E.
Environmental Engineer Senior
Land Quality Bureau

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