



December 1, 2022

JOHNATHAN WILMSHURST PRESIDENT
LINWOOD MINING AND MINERALS CORP
401 E FRONT ST
DAVENPORT IA 52804

**Re: Linwood Mining and Minerals Corp. (401 E Front St, Davenport, IA 52804)
Notice of Violations, Groundwater Contamination, and Request for Meeting**

Dear Mr. Wilmshurst:

The Iowa Department of Natural Resources (DNR) accompanied U.S. Environmental Protection Agency (EPA) Region 7 staff on a Compliance Evaluation Inspection ([Doc #104546](#)) of the Linwood Mining and Minerals Corp.'s (Linwood) site located at 401 East Front Street, Davenport, Iowa on February 23, 2022. This inspection was conducted by EPA pursuant to its authority under Section 3007 of the Resource Conservation and Recovery Act (RCRA).

As a result of this inspection, EPA found violations of federal law related to the handling of Universal Wastes and Used Oil. In addition to these RCRA violations, DNR staff identified violations of the Iowa Code and the Iowa Administrative Code (IAC) as enumerated below.

Pile 18 (Located at north terminus of 115th Avenue, adjacent to SE Corner of closed Scott County Landfill)

Pursuant to Iowa Code section [455B.307](#) and Iowa Administrative Code [567 IAC 100.4\(455B\)](#),

“[a] private agency or public agency shall not dump or deposit or permit the dumping or depositing of any solid waste at any place other than a sanitary disposal project approved by the director unless the agency has been granted a permit by the department which allows the dumping or depositing of solid waste on land owned or leased by the agency.”

During the February 23, 2022 EPA Region 7 RCRA Inspection, EPA identified Pile 18 as containing “...trees and construction debris not consistent with limestone.” DNR staff observed other solid waste deposited at Pile 18 including waste tires, metal cable, rubber conveyor belts, and general rubbish from on-site operations. Additionally, DNR staff have observed in recent years that the off-spec limestone at Pile 18 continues to grow in size without any indication that it is being managed as an item of value to be beneficially reused, as would be required pursuant to the state’s beneficial use regulations.

As such, the DNR has determined that the deposited material comprising Pile 18 is regulated solid waste that has been disposed of in violation of Iowa Code section [455B.307](#) and [567 IAC 100.4\(455B\)](#).

Pile 19 (Located ~1,000 ft. due east of the northern extent of Pile 18)

The DNR is aware that Linwood began accepting loads of spent foundry sand from Sivyer Steel in 2017. The foundry sand was to be used either in one of Linwood’s limestone mixes or provided to Continental Cement Company, L.L.C. (Continental) for use in concrete. DNR staff have observed spent foundry sand being stockpiled at the Pile 19 location for several years without any indication of active management.

Similar to the DNR's determination as to Pile 18, the DNR has determined that deposited foundry sand comprising Pile 19 is regulated solid waste that has been disposed of in violation of Iowa Code section [455B.307](#) and [567 IAC 100.4\(455B\)](#).

Exhaust, Exhaust-Related Material, and Lime Kiln Dust (LKD) Deposition in Mine Stope

In the February 23, 2022 EPA Region 7 RCRA Inspection Report, EPA noted that the Linwood lime production operation does not generate a hazardous waste. The report documented that Linwood has Toxicity Characteristic Leaching Procedure (TCLP) results for the LKD and Terra-Loc byproducts showing that each is non-hazardous for RCRA metals. However, the report also documents that the lighter particles of LKD from the lime production operation continue on with the rotary kiln exhaust, depositing in the closed off section of the mine.

DNR Air Quality Construction Permit No. 73-A-219-S8 ([Doc #39292](#)) permits the use of the mine as an air quality control device for the four (4) Rotary Lime Kilns. However, the long-term deposition of the exhaust, exhaust-related material, and LKD in the mine is a matter that DNR has now identified to be addressed by the DNR Solid Waste Program.

As such, the DNR has determined that deposited exhaust, exhaust-related material, and LKD in the mine is regulated solid waste that has been disposed of in violation of Iowa Code section [455B.307](#) and [567 IAC 100.4\(455B\)](#).

Groundwater Contamination in Mine Stope

Continental monitors groundwater related to its Cement Kiln Dust (CKD) Monofill. Monitoring Well MW-2C/MW-2CR has been sampled six (6) times since 1995. MW-2C/MW-2CR contains highly-mineralized water that exceeds regulatory standards for arsenic, boron, chloride, fluoride, lead, lithium, molybdenum, nickel, nitrate, nitrite, silver, sodium, sulfate, and vanadium; sometimes by multiple orders of magnitude. MW-2C/MW-2CR also contains tetrachlorodibenzofuran, which is a man-made compound that is in the class of dioxin and dioxin-based compounds.

High nitrate detections and dibenzofuran detections have not been observed downgradient from the Continental CKD Monofill (and are not typically contained in CKD wastes), indicating the source of these contaminants is an upgradient source. The area immediately upgradient of MW-2C/MW-2CR includes the portion of the mine that receives exhaust from Linwood's Rotary Lime Kilns. The expected source of these two (2) contaminants would be from deposition in this portion of the mine and not CKD or LKD.

Because of their chemical similarity, groundwater contaminants from CKD and LKD are difficult to differentiate from one another with the monitoring that has been completed to date. Potential sources for some of the contaminants listed above (e.g. arsenic, boron, chloride, fluoride, lead, lithium, molybdenum, nickel, silver, sodium, sulfate, and vanadium) could be from either CKD or LKD. However, due to the groundwater elevations and flow in this area the groundwater contamination in MW-2C/MW-2CR would be expected to come from the portion of the mine that receives the lighter particles of LKD from Linwood and not from the Continental CKD Monofill.

As such, the DNR has determined that the groundwater contamination in the mine stope requires action by Linwood pursuant to [567 IAC 133\(455B,455E\)](#).

Summary

The DNR anticipates and appreciates your cooperation in resolving these matters. To that end, the DNR requests a meeting to review these violations and discuss solutions for resolution.

Please contact me at [\(515\) 360-1671](tel:515-360-1671) or michael.sullivan@dnr.iowa.gov if you have any questions or comments.

Sincerely,

Michael Sullivan
Solid Waste and Contaminated Sites Supervisor
Land Quality Bureau

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