



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

June 29, 2015

Mr. Kent Brandon
Wilkes County Department of Solid Waste
P.O. Box 389
Roaring River, NC 28669

Re: Barium Alternate Source Demonstration
Wilkes County – Roaring River Landfill, Permit# 97-04

Dear Mr. Brandon:

During the October 2014 and subsequent November 2014 re-sampling event at the Roaring River Landfill, barium was reported at a concentration exceeding the standards established in 15A NCAC 02L .0202 (2L Standards) in the sample collected from MW-6. In response, an alternate source demonstration was submitted to prove that the landfill is not causing the elevated contaminant concentrations.

The Solid Waste Section (Section) has reviewed the *Alternate Source Demonstration-Barium* prepared by Joyce Engineering, Inc. (JEI) in which various lines of evidence were presented to conclude that the landfill is not causing elevated contaminant concentrations. JEI collected another sample from MW-6 in December 2014 and analyzed the sample for total and lab filtered dissolved barium. JEI personnel also collected a background and two soil samples in the vicinity of MW-6. The three soil samples were collected at depths ranging from 2 to 8 feet below ground surface.

The analytical results from the December 2014 MW-6 sample indicated that the dissolved barium concentration was 31% lower than the total barium concentration which could indicate that high turbidity may have contributed to elevated barium concentrations. Reported barium concentrations from the soil samples ranged from 44,000 parts per billion (ppb) to 113,000 ppb. JEI also indicated increasing pH levels in MW-6 which could negatively impact barium dissolution in groundwater.

The Solid Waste Section accepts the alternate source demonstration as an adequate explanation that the facility is not causing elevated barium concentrations. Wilkes County is instructed to continue implementing detection monitoring at the Roaring River Landfill. If you have any questions or concerns, please feel free to contact me at (919) 707-8288 or by e-mail at ervin.lane@ncdenr.gov. Thank you in advance for your anticipated cooperation in this matter.

Sincerely,

Ervin Lane
Compliance Hydrogeologist
Solid Waste Section

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cc: Van Burbach, P.G., Joyce Engineering
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Solid Waste Central Files