



Teresa Davis <brunnete.80@gmail.com>

Town of Rock Elm, Rock Elm Disturbance and Groundwater Question

Teresa Davis <brunnete.80@gmail.com>

Wed, Dec 4, 2024 at 9:34 PM

To: william.s.cordua@uwrf.edu

Dear Dr. Cordua,

Thank you so much for coming to speak at the Rock Elm Old Settler's meeting last month! Your presentation was fantastic and I appreciate all of the knowledge and passion you have for the area. Thank you specifically for all of the amazing work you have done on the Rock Elm Disturbance throughout the decades! Without your efforts, we wouldn't know what we have in our township!

I have lived inside the Rock Elm disturbance for 13 years, just west of Rock Elm, and I grew up just outside the western rim of the crater in El Paso township. My house foundation (replaced this year) was made from the sandstone you discussed during your presentation.

I am a member of the Rock Elm Operations Ordinance committee, and we meet monthly to study how to protect our township from the effects of manure application and large farms. In the Rock Elm Settler's meeting, an attendee asked you about groundwater susceptibility within the crater and how liquid and solid manure application could impact surface water and groundwater. You mentioned that manure application in the crater is not a good idea due to all of the bedrock fractures caused by the meteor impact.

Would you mind confirming this information, and if possible, would you be willing to provide more detail, please? We would be incredibly appreciative, as groundwater protection is one of our largest concerns.

Thank you so much for your time, expertise and passion. We are forever grateful for your efforts!

Have a wonderful rest of your week. Take care!

Warmly,

Teresa Davis
Rock Elm
(715) 639-2118
brunnete.80@gmail.com

W2083 570th Ave
Elmwood

Town of Rock Elm, Rock Elm Disturbance and Groundwater Question

William Cordua <william.s.cordua@uwrf.edu>

Mon, Dec 9, 2024 at 9:43 AM

To: Teresa Davis <brunnete.80@gmail.com>

Dear Teresa,

Thanks for your note. I must point out that I am not an expert in groundwater flow, but I do think I have insight from my mapping and inspection of drill cores taken in the area. Outside the area the bedrock is relatively predictable - Prairie du Chien Group rocks dominated by dolostone - a magnesium rich rock related to limestone. This is underlain by Jordan sandstone. Both of these rocks are local aquifers. These rocks are complex enough, with fractures and cave development affecting ground water flow in ways difficult to predict. The roadcuts leading to spillway at the Eau Galle Reservoir in Spring Valley is an excellent place to view these rocks. However under the Rock Elm feature the nature of the subsurface drainage is even more complex. The shale of the basin fill acts as an aquitard, slowing ground water drainage into the subsurface. Below that is a chaotic mix of fractured rocks of many compositions - a rock called breccia - that in my interpretation is a mix of broken-up material uplifted into, falling back into and slumping into the crater. The nature of the breccia varies from inch to inch. In my opinion ground water flow modeling in such a chaotic environment is virtually unpredictable, even with extensive coring and testings. I attach photos of some of the core taken. The one marked "Ex-Min" was taken under John Reinke's farm. The "Mad Road" one was taken just south edge of the Central Uplift on what was called Madison Road, which I think is now 490th Avenue just west of Plum Creek. The Wisconsin State Geological and Natural History Survey has many of the cores taken, if one wants to examine them. I would be glad to share this information with your group, including making a presentation.

Best wishes,

Bill

Dr. William S. Cordua
Emeritus Professor of Geology
University of Wisconsin River Falls
410 South 3rd Street
River Falls WI 54022
715-425-9544

From: Teresa Davis <brunnete.80@gmail.com>**Sent:** Wednesday, December 4, 2024 9:34 PM**To:** William Cordua <william.s.cordua@uwrf.edu>**Subject:** Town of Rock Elm, Rock Elm Disturbance and Groundwater Question

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2 attachments



Ex-MinCore3 copy.jpeg
189K



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