

This email thread among BCRET team members regards an Electrical Resistivity Imaging (ERI) investigation around the C&H waste holding ponds, indicating concern over a possible subsurface fracture and leakage. The ERI study was conducted in March 2015 by Dr Todd Halihan and his associate Jon Fields, from Oklahoma State University.

BRWA acquired these emails subject to a Freedom Of Information Act request to USGS in August, 2015. USGS responded in January, 2016. Bold emphasis added.

From: Kresse, Timothy [mailto:tkresse@usgs.gov]
Sent: Friday, October 16, 2015 9:38 AM
To: Andrew Sharpley
Cc: Mike Daniels; Karl VanDevender; Phillip Hays
Subject: Re: FW: 2015_Fields-Halihan_MTJ Presentation for 60thMGWC_Bentonville, AR

I saw the presentation. There were no difficulties at all and it was a good presentation. I did chat with Todd and Jon some about the pond results, and Phil joined in on the second half of that conversation. We can chat about that sometime. In short, **it would be nice to put a well on the west side in the vicinity of where Todd believed he saw a major fracture and movement of waste. This could be critical to resolving the interpretation of the resistivity data. Todd would be willing to assist on getting the drilling done for free.** I just don't know the amount of grief or worry this would cause, in lieu of all the activity at the farm, but again I believe it is a critical component. **Todd is fairly confident of his interpretation.**

Thoughts?

On Fri, Oct 16, 2015 at 9:41 AM,
Karl VanDevender <kvandevender@uaex.edu> wrote: Would the new potable water well serve? I understand that is located west of ponds between barns.

From: Kresse, Timothy [<mailto:tkresse@usgs.gov>]
Sent: Friday, October 16, 2015 9:44 AM
To: Karl VanDevender
Cc: Andrew Sharpley; Mike Daniels; Phillip Hays
Subject: Re: FW: 2015_Fields-Halihan_MTJ Presentation for 60thMGWC_Bentonville, AR

RE: FW: 2015_Fields-Halihan_MTJ Presentation for 60thMGWC_Bent...
Not really. I would imagine (or hope) that the zone we are concerned with would be cased off from the potable water. Cuttings would have helped some. When was the well installed?

From: Karl VanDevender [<mailto:kvandevender@uaex.edu>]
Sent: Friday, October 16, 2015 10:37 AM
To: Kresse, Timothy <tkresse@usgs.gov>
Cc: Andrew N. Sharpley <sharples@uark.edu>; Mike Daniels <mdaniels@uaex.edu>; Phillip Hays <pdhays@usgs.gov>
Subject: RE: FW: 2015_Fields-Halihan_MTJ Presenta on for 60thMGWC_Bentonville, AR

Not sure.

Where and how deep does the well need to be?

All do we need to schedule a phone/web conference to discuss?

From: Andrew N. Sharpley [<mailto:sharples@uark.edu>] Sent: Friday, October 16, 2015 10:50 AM
To: Karl VanDevender; Kresse, Timothy
Cc: Mike Daniels; Phillip Hays
Subject: RE: FW: 2015_Fields-Halihan_MTJ Presentation for 60thMGWC_Bentonville, AR

Sure, we can have a conference call next week. What me works for most of you? Tuesday and Friday are not good for me. Monday morning at 9:00 am? Relatedly, though, I know Jason is close to the limit of accommodating new requests for several reasons. And I certainly empathize with him.
Andrew

From: Kresse, Timothy [<mailto:tkresse@usgs.gov>]
Sent: Friday, October 16, 2015 11:02 AM
To: Andrew N. Sharpley <sharpley@uark.edu>
Cc: Karl VanDevender <kvandevender@uaex.edu>; Mike Daniels <mdaniels@uaex.edu>; Phillip Hays <pdhays@usgs.gov>
Subject: Re: FW: 2015_Fields-Halihan_MTJ Presentation for 60thMGWC_Bentonville, AR

Thursday is fine for me. Phil and I did relate to Todd that Jason might be near the end of his tether on continued work near and around the pond. We can discuss all the reasons this would be of increased importance to the group (and Jason for that matter).

Subject: RE: Monitoring trench flow below the holding ponds
From: "Andrew N. Sharpley" <sharpley@uark.edu>
Date: 5/20/2015 10:40 AM
To: Brian Edward Haggard <haggard@uark.edu>, "Procyk, David" <dprocyk@o_hydromet.com>, Mike Daniels <mdaniels@uaex.edu>, "Kresse, Timothy" <tkresse@usgs.gov>, Phillip Hays <pdhays@usgs.gov>, "Timothy Joseph Andrew Glover" <tjglover@uark.edu>, Tarra Leigh Simmons <tarra@uark.edu>, Lawrence Gordon Berry IV <lgb001@uark.edu>

We are hoping to sample the trench water flow as it exits the pipe (French drain outlet) and before external factors can influence the concentrations (i.e., wildlife). The goal is to get some reliable information beyond weekly grab samples, that might alert us to the possibility that the holding ponds might be leaking.

So we do need to make sure that pH and DO are accurately measured and reflect what is being intercepted by the trenches.

I hope that helps this discussion. Andrew

From: Brian Edward Haggard
Sent: Wednesday, May 20, 2015 2:16 PM
To: Andrew N. Sharpley; Lawrence Gordon Berry IV
Cc: Mike Daniels; David Procyk; Timothy Kresse; Phillip Hays; Timothy Joseph Andrew Glover; Tarra Leigh Simmons
Subject: RE: Monitoring trench flow below the holding ponds

Larry is right on with his suggestions – I would also try to eliminate the hydraulic drop at the beginning of the structure and much as possible. Andrew, conductivity is probably your best tracer of potential leaks... not sure the others are worth measuring – maybe nitrate