From: Ellinger, Scott
To: Geery, Emily, NMENV
Subject: RE: Modeling Update
Date: Wednesday, March 06, 2013 2:40:24 PM

Yellow is the color of the well screen; where water enters the well. Red is the non-screened section above.

From: Geery, Emily, NMENV [mailto:Emily.Geery@state.nm.us]
Sent: Wednesday, March 06, 2013 2:25 PM
To: Ellinger, Scott
Subject: RE: Modeling Update

I have a quick question. What is represented by the red and yellow in the picture.

BTW, the underground picture is a really interesting perspective. I like it.

From: Ellinger, Scott [mailto:Ellinger.Scott@epa.gov]
Sent: Wednesday, March 06, 2013 12:58 PM
To: Geery, Emily, NMENV
Cc: McQuillan, Dennis, NMENV; Smith, Melissa; King, Laurie
Subject: RE: Modeling Update

I've met with the USGS, Laura Bexfield and Doug McAda (Doug retired a few months ago), so they know what I'm doing and I know what they are doing. At the same time, I met with NMED senior management, the water utility authority (ABCWUA), City of Albuquerque, and health department to go over my work. I have not met with KAFB but have spoken with one person there, and have also spoken with the VA Hospital Engineering Services Dept about their well. Jim Davis (also now retired) asked that an official relationship be developed between EPA and the USGS on modeling in Albuquerque but that has not happened so far.

The main practical differences in my model (EPA model) and the USGS model are the project area sizes and the modeling goals.

- My goal is to understand EDB (1,2-dibromoethane) movement and how drinking water production wells will be affected.
- The USGS goal is to update their existing basin-wide flow model which covers a much larger area than mine.
- The USGS model is only for groundwater flow, whereas my model is flow and EDB mass transport.
- My model domain size is specific to the area of concern for EDB, but not basin-wide.

The model input isn't something I can answer very good in an email, but it consists of these main subjects:

- Pumping well locations and rates, and well screen top and bottom elevations
    - Model has 19 pumping wells (including the VA well)

- The hydraulic conductivity data distribution based on pumping tests and slug tests
- Flow and EDB transport boundary conditions
- EDB transport processes (just advection and dispersion at this time)
- A mass transport simulation time of 75 years at present
- Hydraulic head calibration data from 111 monitoring wells, to make sure flow directions are accurate

I believe you are working on the VA well. Attached is a picture of the simulated EDB plume before a model run (e.g., the current extent), and the VA well just to give you an idea about how the model relates to the VA well. This is only preliminary for now.

Feel free to let me know if you have other questions.

Scott

From: Geery, Emily, NMENV [mailto:Emily.Geery@state.nm.us]
Sent: Wednesday, March 06, 2013 12:22 PM
To: Ellinger, Scott
Cc: McQuillan, Dennis, NMENV
Subject: RE: Modeling Update

Hi Scott,

I am preparing for our meeting with Kirtland Air Force Base tomorrow. Thanks for the status report.

I am not planning on discussing any models tomorrow. Tomorrow is our kick off meeting and we'll be discussing more general project information.

When the model is complete and you are able to share it, we'll be very interested in looking at it. It could play a large role in the strategies we consider in the Source Water Protection Plan.

I understand that USGS is also developing (or has already developed a model). I haven't looked at it myself.

I don't expect you to have an answer, but just thought I'd ask; do you know how the EPA model is different from the USGS model?

From our phone conversation, I know that the EPA model shows EDB. Could you tell me what hydrologic assumptions went into the model? What parameters were used? For example, what was assumed from gradient, porosity, conductivity, or others?

Thanks for your help. I really appreciate it.

Sincerely,

Emily

From: Ellinger, Scott [mailto:Ellinger.Scott@epa.gov]
Sent: Monday, February 25, 2013 9:55 AM
To: Geery, Emily, NMENV
Cc: Bechdol, Michael
Subject: FW: Modeling Update

Here is a brief status report on the groundwater modeling I sent to NMED about a week ago.

-Scott

From: Ellinger, Scott
Sent: Friday, February 15, 2013 1:21 PM
To: Kieling, John, NMENV; Moats, William, NMENV; Brandwein, Sid, NMENV; McDonald, William, NMENV
Cc: Spalding, Susan; Torcoletti, Paul; Hubner, Tara; Hurlbut, Bill; King, Laurie; Smith, Melissa
Subject: Modeling Update