

WM-61

From: "Rich Bush" <Richard.Bush@lm.doe.gov>
To: "Paul Michalak" <PXM2@nrc.gov>, "Joe Desormeau" <Joe.Desormeau@lm.doe.gov>
Date: 02/06/2008 1:08:50 PM
Subject: RE: Gunnison - three items

Paul,
Responding to 1) Regarding the coverage of plume movement as it happens over the next many years, the existing network would show the expected decline in concentrations over time as the plume moves through. It may be prudent to wait until we see that decrease begin to then place other wells in downgradient locations in order to capture the movement of the 'heart' of the plume rather than possible missing the flow direction and then incorrectly interpreting that as a decrease in plume concentration. Your point is well taken, and perhaps we should include a note about that future well placement in the GCAP along with the statements we discussed about a 5 year review or some such re-evaluation schedule. As far as over the next 15-20 years I think we can say that our current coverage is quite adequate, and remember that we added a couple of wells between the industrial area and the south fork as you requested over a year ago during the first review of the draft GCAP.

Responding to 2) I think it was agreed that we could add or perhaps as you imply move, the surface sampling location from the confluence over to the south fork where it is expected that groundwater would potentially daylight at some time.

Joe or Sam, anything to add or change to this response? Does this adequately answer the concerns raised, Paul?

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-----Original Message-----

From: Paul Michalak [mailto:PXM2@nrc.gov]
Sent: Wednesday, February 06, 2008 9:28 AM
To: Joe Desormeau
Cc: Sam Campbell; Rich Bush
Subject: FYI: Gunnison - three items

Joe,
1) Last week, prior to our call, Sam sent me two sets of Gunnison predicted uranium plumes (5 to 100 years, layers 2 through 7). Maybe I'm just being dense, but based on these plots (attached), it is not clear to me how the current Gunnison ground water monitoring network monitors future natural attenuation trends. Question: Based on the predicted plume migration, will the presently positioned monitoring network provide relevant information for future decision makers (e.g., over the next 15-20 years)? If this can be answered in the affirmative, then I'm happy.

The link below contains some light reading, the recently published Monitored Natural Attenuation of Inorganic Contaminants in Ground Water, Volume 1 (EPA 600-R-07-139, October 2007, 94 pages).

<http://www.epa.gov/ada/pubs/reports/600R07139.html>

Just in case you're not an insomniac, I've extracted three pages from the document (attached) that discuss monitoring locations. My point is that if this is the current understanding on how to monitor trends in natural attenuation, then I believe the proposed ground water monitoring network should reflect (at least in a general sense) the suggestions presented in the attached document.

2) I do not understand DOE's reluctance to include a surface water sampling location at the South Fork of the Gunnison River, directly downgradient of the uranium plume. Sampling surface water bodies at locations where they intersect with ground water contaminant plumes is an accepted monitoring practice (i.e., you sample where there is a potential for impact). I do acknowledge that dilution effects may indeed lead to nondetect samples (DOE's argument for why South Fork water samples are not needed); however, that's an argument for terminating sampling after establishing the dilution effects. Just seems to me you're putting the cart before the horse.

3) Just a reminder that Sam(?) promised a short writeup concerning how ground water modeling results indicated that the ground water plume would not impact wells associated with recent housing development southeast of the plume.

Give me a call if you want to discuss.

Paul Michalak
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CC: "Sam Campbell" <Sam.Campbell@gjo.doe.gov>

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