

Bernhardt, Aaron

From: Bernhardt, Aaron
Sent: Thursday, July 24, 2008 9:49 AM
To: 'Hoskins.Bart@epamail.epa.gov'; Keckler.Kymerlee@epamail.epa.gov;
Kenneth_Munney@fws.gov; mark.lewis@po.state.ct.us; Conant, Richard CIV NAVFAC
MIDLANT; Pinkoski, Ronald CIV NAVFAC; rtfinlayson@GFNET.com; Jurka, Val CIV NAVFAC
Atlantic, Ev33
Cc: Rich, Corey
Subject: RE: Area A Wetland Toxicity Testing Memorandum

All,

2WSD56 is located in the wetland just downstream of the ditch leading from the Area A Weapons Center (see Figure 1 from the memo). That is the same area where historic sediment sample 2WCSD14 was located. 2WSD56 was targeted to be collected from the same location as 2WCSD14.

The total PAH concentrations in the samples from 2WCSD14 and 2WSD56 were 31 mg/kg and 16 mg/kg, respectively. The difference in concentrations could be due to a variety of factors such as weathering or deposition over time, the samples not being in the exact same locations, slightly different depth intervals, or a combination of the above.

My recommendation, as listed in the comment column of Table 1 from the memo, is to collect a sediment sample from the area by 2WCSD14 (although I probably could have referenced 2WSD56 instead), but to make sure the location is just downstream of the point where the ditch currently discharges into the wetland. I do not believe that 2WSD56 was collected in the wetland right where the ditch discharges into the wetland, but I think it was pretty close. I am not sure exactly where 2WCSD14 was collected. I think that probably gives us the best chance of obtaining a PAH result in the 10 to 30 mg/kg range.

Regarding Bart's suggestions, I spoke with a laboratory and they also suggested starting the test a few days early and then measuring the ammonia and other parameter before adding the organisms to ensure that everything is ok. They also suggested, which I have done at other sites, aerating the overlying water from the beginning of the test to ensure that the DO stays high, and the ammonia and sulfides stay low. They also said they could add a few renewals as well. Do you have any objections to this? What I will do is put it in the scope of work and have the lab submit SOPs on how they plan to address this issue. You can then review the SOPs to see whether you agree with their suggested approach.

One of the issues that could cause a slight problem is the 2 week hold time. Even if we get a five day turn-around from the analytical lab, collection of the sediment samples will be spread out over several days. Therefore, the lab may not get the last sediment sample until three or four days (with shipping) after the first sample one is collected. If you add in the five day TAT on top of that, we are almost at 2 weeks from when the first samples were collected.

I know that the 2 week hold time is a general rule, but Section 10.2.2 of the ASTM E 1706 - 00e2 - Standard Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates states that: "Sediments that contain comparatively stable compounds (e.g., high molecular weight compounds such as PCBs) or which exhibit a moderate-to-high level of toxicity, typically do not vary appreciably in toxicity in relation to storage duration (Moore et al. (133), DeFoe and Ankley (136)). For these sediments, long-term storage (e.g., >8 weeks) can be undertaken."

Do you have a problem with a three or possibly four week hold time for the samples to ensure that we get the results back and have time to evaluate the data? The contaminants are metals, PAHs, PCBs, and pesticides which are not going anywhere.

Thanks,

Aaron

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

From: Hoskins.Bart@epamail.epa.gov [mailto:Hoskins.Bart@epamail.epa.gov]

Sent: Thursday, July 24, 2008 12:26 AM

To: Keckler.Kymerlee@epamail.epa.gov

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Subject: RE: Area A Wetland Toxicity Testing Memorandum

Hi all,

I'm sorry too not to have replied sooner - it's no longer the same day I intended to look at this, but hopefully soon enough. I can't seem to locate my data that includes the PAH concentration at 2WSD56, but I would include it if the PAH concentration in that sample was higher than about 4 ppm PAH and there are no lead or cadmium exceedences of PEC's - that's about the only missing niche I see. Otherwise this looks good. I would suggest asking the tox test lab how they handle samples of "sediment" that don't happen to be under water at the time of collection. It may be prudent for the lab to hold off introducing test organisms until Day 0 routine chemistry is completed (usually after the overlying water has been added and allowed to sit overnight) just to get a handle on whether any of the sediments may have a particularly high sediment oxygen demand. The lab can adjust the frequency of water renewals accordingly. This is not anything probably described in the SOPs or manual - just a suggestion based on a hunch that they should proceed with caution with those potentially fairly anoxic sediments.

Bart

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07/23/2008 06:03
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Subject

RE: Area A Wetland Toxicity
Testing Memorandum(Document link:
Bart Hoskins)

I apologize for not getting back to you sooner. I think this tracks well with what we discussed on June 27, 2008. The only difference (aside from the additions, thanks) that I found was that we included 2WSD56 on June 27, but I don't see it on Table 1. It seems to be at least 150 feet from 2WSD57 which is included.

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