

From: Schmidt, James W - DNR
Sent: Monday, November 23, 2015 8:31 AM
To: Beggs, Tauren R - DNR
Subject: RE: Evaluation of data for Potential Contamination to Surface Water at the Former Lesperance and White Properties in Two Rivers (1 of 2)

Sorry I didn't get back to you on Friday, something else came up but I knew I'd get to this right away on Monday, so here I am.

What I do in situations like this is look at well sites that are closest to the river, since this would be the best way to estimate the worst-case concentrations potentially entering the river (without having actual river data). From the maps and data, for the 2015 sample those sites appear to be APZ-4, AMW-4, and AMW-5 (but please correct me if you disagree). What I then did is to look at detected results for any of the substances in your table and compare them to any surface water quality criteria I have from NR 105 and/or other toxicity data.

The substances which match both of those (detected and having toxicity criteria or data) include benzene, xylene, toluene, trimethylbenzene, anthracene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene. If you want, I can give you all the surface water numbers I used for comparison, but for now suffice it to say that with one exception, all of the concentrations reported at those three sites are less than an order of magnitude (less than 1/10) of any toxicity values I have. The exception is anthracene, which was detected at 0.025 ug/L only at AMW-4, and the toxicity data I have show potential long-term or chronic concerns to fish and aquatic life at 0.019 ug/L.

Although the AMW-4 concentration is slightly above the river number, that doesn't mean we have a concern here, however. First of all, there may be some additional removal going on in the soil between the well site and the river. However, the main factor that does away with any concern I have is that the 0.019 ug/L standard applies AFTER mixing with the river flow. The relevant streamflow I'd use in a case like this is the 7-day, 10-year low flow which is 10 cfs (or about 4500 gallons per minute) just northwest of Two Rivers. I have no idea what the rate of groundwater release into the river is at this site, but I'm guessing it is far less than 10 cfs just because this isn't a huge property area we're dealing with here. Since the well concentration and stream standard aren't that far apart, which that means is that it won't take a lot of instream mixing for the standard to be met. For that reason, my opinion is that there is no surface water quality concern associated with the 2015 well concentrations at this site.

I hope this is helpful, but please let me know if you have any more questions. - Jim

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James W. Schmidt

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From: Beggs, Tauren R - DNR
Sent: Friday, November 20, 2015 8:59 AM
To: Schmidt, James W - DNR
Subject: Evaluation of data for Potential Contamination to Surface Water at the Former Lesperance and White Properties in Two Rivers (1 of 2)

Good morning Jim,

I was wondering if you could take a look at some soil and groundwater data to determine if this site would need to do surface water sampling for potential contamination. Due to size of the files, I will have to send the soil data in a separate email. The former Lesperance and White Properties are located in Two Rivers and were formerly used as bulk oil plant storage facilities. An EPA removal was completed on the White Property which removed PCB and oil sludge from the tanks along with contaminated soil on the west end of the property (by the West Twin River). The primary problem with both these sites is elevated PAHs from historic soil fill that was brought in to the sites. There is limited residual PCB contamination in the soil along with metals contamination, petroleum contamination, and limited chlorinated solvent contamination. In the groundwater, the most recent sampling in April 2015 detected very little metals and PAHs. Benzene was above a NR 140 PAL in a couple samples, benzene above the ES in one sample, and PCE above a PAL in one sample. Please note that the Two Rivers WPS Manufactured Gas Plant site is an adjoining property to the north of the Lesperance property and a full sediment and surface water investigation/remediation still needs to be completed there. Please see map below for a visual:



If you need anything else, please let me know.

Thanks,

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Tauren R. Beggs

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