

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Concerning: Minutes of the meeting of 19 November 21, 2001
Date: December 3, 2001

PRESENT

N. Bartilucci
S. Jones
J. Milazzo
K. Roberts
W. Spitz
W. Prospect
S. Robbins

ABSENT

L. Koppelman
M. Nofi
D. Paquette
P. Ramirez
B. Nemickas
G. Proios

1. The minutes from the last meeting will be revised to correct the discussion on arsenic (enclosed). Naturally occurring arsenic is mobilized under reducing (low oxygen) conditions not by oxygenated water. Pumping oxygenated water into deeper aquifers was considered as a control measure for iron but it may not remove arsenic.

Apparently, there can be some release of arsenic from carbon filters. There is some experience with the problem in Nassau County. The SCWA is now doing a side-by-side test comparison of carbon sources since “offshore” (imported) carbon is cheaper than domestic carbon. Carbon from SE Asia, especially, may have high arsenic contents, however. It appears that arsenic attacks DNA and can cause cancer (even though it is also used in some chemotherapy).

2. Sy discussed the latest pesticide results (attachment). These analyses are on “raw” water (before any treatments) and include all years’ results. It should be noted that the number of compounds tested have increased and the detection limits have come down since the program began. The technical report has not yet been released but is expected soon.

For almost all of these compounds the “generic” 50 ppb standard applies. While no individual compound exceeded the 50 ppb standard in aggregate, the values can approach this level. There is not information on possible synergistic effects. Perhaps a literature review of synergistic effects of multiple compounds would be helpful.

These results have not had much impact in the public consciousness. The county legislature may hold hearings on this issue in March (?). If the public is at risk using water from private wells, “solutions” to be considered include:

- a). a more vigorous testing program. The county testing program has not been overwhelmed with requests. Testing of private wells by the Health Department costs \$65.
- b). a recommendation for using bottled water in the affected areas. They may be using bottled water now, perhaps that’s why there has been so little public concern raised to date.
- c). establishing a “filter district”. This had been proposed by Steve Jones and would involve a tax to provide individual treatment systems, testing and maintenance to areas at risk. The idea of filter districts has been around for 20 years but none have been established. There are some issues involved with going onto private property. Most banks require a water quality analysis for mortgages but, if there is a problem, this is usually handled at closing by an adjustment for a filter system.
- d). providing public water (perhaps piped from the Pine Barrens) especially to hamlets. The concern that this would foster development would have to be handled by Town zoning regulations.

It would be hoped that the State would participate in the solution as they participated in the Pine Barrens preservation.

3. Our lawn nitrate project is continuing. Sampling of the lysimeters is being done at the two sites monthly. There is a new student involved. Peter Schuchman has a draft report that is now being reviewed by his committee. We are considering expanding this work to look at soil adsorption and desorption, isotopic signature, etc.
4. The LI precipitation data, that Joy Dike talked about at the last meeting, is ready to be posted on the WEB. I’m to meet with our “Webmaster” this afternoon. We would still like to include the entire record from Islip; we have only a few years at present.
5. We will offer a short course on MODFLOW at the University, 17 to 19 January 2002. This is a commercial course run by Waterloo Hydrogeologic. The enrollment is limited to 10 and cost \$900.00 per participant. Contact me for more information.
6. The Applied GW Modeling Course will be offered this spring (Tuesday 7 to 9:30 PM) by Paul Misut (USGS). Anyone can register as a “Graduate Special Student” through the School of Professional Development. An announcement will be sent around next week.
7. We’re making progress with CDM to get the DYNFLOW Code in a format that can be used in Brent Linquist’s graduate Modeling Course.
8. The draft of the “Arsenic” newsletter was not yet ready for this meeting but will be sent to the committee in a few days for comments, revisions, suggestions etc.

9. The December meeting (17th) will be at Dr. Koppelman's Institute on the SUNY Campus. We will review the last year's activities. Potential research topics were discussed and include:
 - a. Studies of pesticide degradation products
 - b. A literature review of available research on synergistic effects.
 - c. Perchlorate
 - d. The behavior of naturally occurring arsenic (leaching) in Long Island aquifer materials
 - e. Radon
 - f. Viruses. We will look into possible ties with the SUNY Medical community, perhaps in toxicology, or epidemiology.
 - g. Ether and other solvent additive that are similar to MTBE and do not adhere to carbon well so that these compounds are difficult to strip.
 - h. The flushing of contaminants that may be bound in the soil into and through the groundwater system. We had done a study along two transects on the north fork to date groundwater for the purposes of following the migration and degradation of aldicarb. There is interest in revisiting these sites.
 - i. Soil residues and flushing rates. It would be helpful to investigate the reservoir of contaminants bound in the soil to determine the lifetime of contaminant sources. When farmland is converted to subdivision soil cores are usually taken to look at residue so there may be some existing data available. The county farm, for example, has residues of arsenic and cadmium. Such residues may be due to the use of biocides but could also be added if sewage sludge would be used or even compost. Soil bound contaminants can find their way into crops. Consumer Reports did a study of systemic contamination in meat, vegetables, and fruit (especially strawberries).
10. For future research the AWWA Research Foundation may be a source of support. In making an application, it may help to collaborate with an AWWA contributor like Dvirka and Bartilucci or The SCWA.
11. The next meeting will be Monday, 17 December, 9:30 – 11:00 AM at Dr. Koppelman's offices at SUNY, Stony Brook (Room N-705 in Ward Melville Social and Behavioral Sciences Building).