

2011 DRAFTING REQUEST

Assembly Amendment (AA-AB23)

Received: **05/04/2011**

Received By: **btradewe**

Wanted: **Soon**

Companion to LRB:

For: **Cory Mason (608) 266-0634**

By/Representing: **Vicky Selkove**

May Contact:

Drafter: **btradewe**

Subject: **Environment - water quality**

Addl. Drafters:

Extra Copies:

Submit via email: **YES**

Requester's email: **Rep.Mason@legis.wisconsin.gov**

Carbon copy (CC:) to:

Pre Topic:

No specific pre topic given

Topic:

Notice to water customers

Instructions:

Require water utility that does not provide continuous disinfection to provide notice on all water utility bills, including the list of water borne diseases that she will send

Drafting History:

<u>Vers.</u>	<u>Drafted</u>	<u>Reviewed</u>	<u>Typed</u>	<u>Proofed</u>	<u>Submitted</u>	<u>Jacketed</u>	<u>Required</u>
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/1	btradewe 05/04/2011	csicilia 05/05/2011	jfrantze 05/05/2011	_____	sbasford 05/05/2011	sbasford 05/05/2011	

FE Sent For:

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Handwritten notes: 1 g, 5/5, 5/5

FE Sent For:

<END>

Tradewell, Becky

From: Selkove, Vicky
Sent: Wednesday, May 04, 2011 2:13 PM
To: Tradewell, Becky
Subject: Groundwater-borne Viruses & illnesses

Attachments: Borchardt presentation on dirty drinking water 4.11.pdf

Hi Becky,

Attached is the brief presentation from Dr. Borchardt.

The groundwater-borne viruses & illnesses we'd like enumerated in each of that first series of amendments we discussed are found in the first slide in the third row on page 1 of the attached presentation: hand, foot & mouth disease; conjunctivitis; meningitis; myocarditis; poliomyelitis; diabetes; chronic fatigue syndrome; other enteroviruses; rotavirus; hepatitis A virus; gastroenteritis; hepatitis; noroviruses; adenoviruses; acute respiratory illness; pneumonia; neurological diseases.

Thanks,



Borchardt
presentation on dirt..

Vicky

Vicky Selkove
Office of State Representative Cory Mason
62nd Assembly District
State Capitol, Room 6 North
PO Box 8953, Madison, WI 53708
Phone: (608) 266-0634
Toll-free: (888) 534-0062

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Groundwater-Borne Viruses and Illness Risk in Wisconsin

Mark Borchardt, Ph.D.
USDA-Agricultural Research Service

National Caucus of Environmental Legislators' 9th Annual
Midwest/Great Lakes Forum
December 4, 2010

Wisconsin's Groundwater

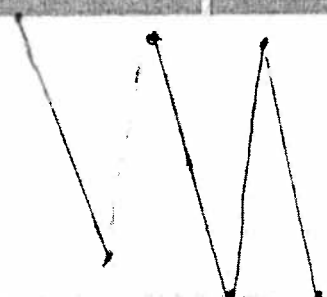
- Groundwater supports the water needs of 2/3s of WI residents and 1/3 of WI businesses and industries.
- From 1985 to 2000 WI groundwater demand increased to 804 from 570 million gallons per day.
- Water table drawdown over the past century: Dane County = 60 ft; Green Bay region = 300 ft; Waukesha County = 450 ft.
- As groundwater becomes less available groundwater quality takes on added importance

Data updated from 2008 WI DNR Web Site

Waterborne Disease Outbreaks in the USA

- From 1971 to 2006 there were nearly 750 outbreaks associated with an infectious agent in drinking water; 60% of the outbreaks were attributable to groundwater
- Pathogen in about 50% of outbreaks is unknown and assumed viral

Information from CDC reports, e.g. MWRN 2746, 2855, 2931, 48



Human viruses are present in...

Incidence of Enteric Virus in Groundwater from Household Wells in Wisconsin

Mark A. Borchardt, Ph.D., Paul A. Banta, Bruce H. Symons, and David A. Sengoff
USDA-Agricultural Research Service, National Center for Environmental Health, and University of Wisconsin, Stevens Point, Wisconsin, USA
Borchardt et al. 2009, Environmental Health Perspectives

Private domestic wells

Vulnerability of Drinking-Water Wells in La Crosse, Wisconsin, to Enteric-Virus Contamination from Surface Water Contaminants

Mark A. Borchardt, Michael S. Rose, and David A. Sengoff
USDA-Agricultural Research Service, National Center for Environmental Health, and University of Wisconsin, Stevens Point, Wisconsin, USA
Borchardt et al. 2009, Environmental Health Perspectives

Municipal wells in an alluvial aquifer

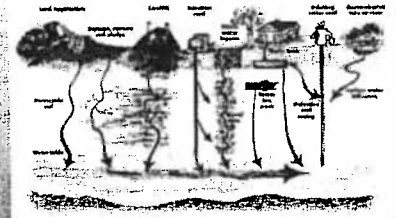
Journal of Great Lakes Research 36 (2010) 107–112
Norovirus Enteric Virus in Groundwater from a Confined Bedrock Aquifer
Mark A. Borchardt, Michael S. Rose, David A. Sengoff, and Bruce H. Symons
USDA-Agricultural Research Service, National Center for Environmental Health, and University of Wisconsin, Stevens Point, Wisconsin, USA
Borchardt et al. 2010, Journal of Great Lakes Research

Even in a confined aquifer

Virus Subsurface Transport Potential

- Small size (~ 50 nm) and negative charge favor movement through soil
- Survivability favored by low temp, moisture, and absence of UV light
- Documented transport: penetration as deep as 72 m, horizontal migration up to 1600 m

Virus Sources and Infiltration Routes into Groundwater



Modified from Kenwick and Dierke, 1980

Enteric Viruses – Clinical Significance

- Enteroviruses: fever, "summer cold", diarrhea, hand, foot, mouth disease, conjunctivitis, meningitis, myocarditis, poliomyelitis, diabetes? chronic fatigue syndrome?
- Rotavirus: severe diarrhea and vomiting, 50,000 hospitalizations/year in US
- Hepatitis A virus: gastroenteritis, Hepatitis, fatality rate of 2.7% in people > 49 years of age
- Noroviruses: gastroenteritis, "the flu"
- Adenoviruses: diarrhea, acute respiratory illness, pneumonia, conjunctivitis, neurological diseases, obesity?

Health Risk or Non-Issue?

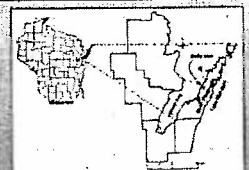
- So viruses are present in public water supply and domestic wells ...
- Does it matter?
- Is there any effect on public health?

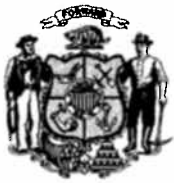
groundwater

Case Study

Norovirus Outbreak Caused by a New Septic System in a Dolomite Aquifer

by Mark A. Borchardt, Kenneth B. Bellamy, L. Dahn Alexander, J. J. Bessie, J. Kellum, Scott C. Alexander, John B. Anderson, Laura A. Brown, Brian M. Fencil, Jeffrey A. Green, and Susan E. Spencer

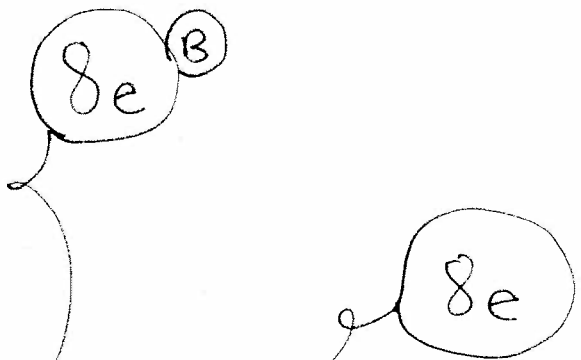




THU 5/5

ASSEMBLY AMENDMENT,
TO 2011 ASSEMBLY BILL 23

full check



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At the locations indicated, amend the bill as follows:

1. Page 2, line 3: after that line insert:

SECTION 2e. 281.17 (2e) of the statutes is created to read:

281.17 (2e) A municipal water system that does not provide continuous disinfection of the water that it provides shall include a notice on each water bill that informs the customer that the municipal water system does not provide continuous disinfection of water and that water that is not disinfected may contain the following: viruses that may cause hand, foot, and mouth disease, conjunctivitis, meningitis, myocarditis, poliomyelitis, diabetes, and chronic fatigue syndrome, as well as other enteroviruses; rotaviruses; hepatitis A virus, which may cause gastroenteritis and hepatitis; norovirus; and adenoviruses, which may cause acute respiratory illness, pneumonia, and neurological diseases."

which may cause gastroenteritis

one word

(END)