

DRINKING WATER — UPDATE —

New Brighton Town Hall / Community Open House
Saturday May 2, 2015



AGENDA

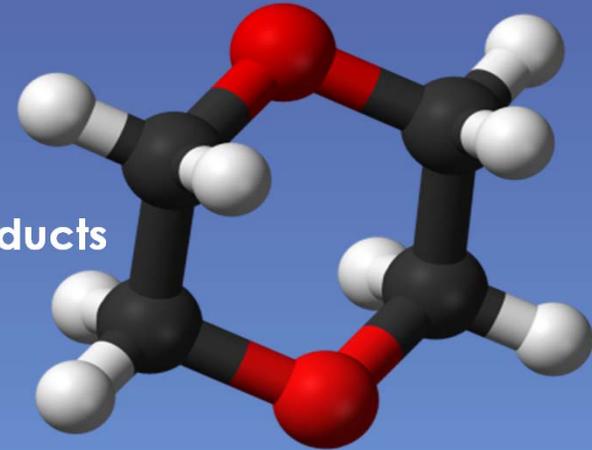
What you need to know about New Brighton's water.

- What is 1,4-Dioxane (DX) and what do I need to know?
 - The water is safe.
 - Health risks from contaminant levels recently detected are very low.
- Why are we hearing about DX now?
- What is the City doing about it?
 - An interim response has been implemented.
 - A long term response is being developed.



WHAT IS 1,4-DIOXANE?

- Used to stabilize chlorinated solvents
 - Likely attributable to TCAAP
- Also found in small amounts in personal care products
 - Laundry detergents
 - Shampoos
- Likely to stay in water once it gets there
- Not currently regulated by Federal or State law



1,4-dioxane molecule

Legend:

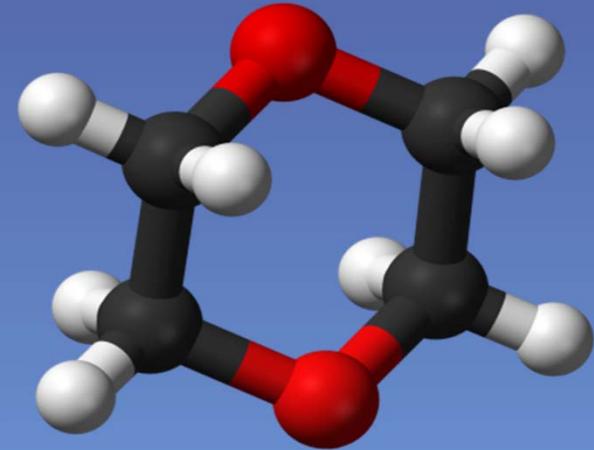
 = Oxygen

 = Carbon

 = Hydrogen

WHAT IS 1,4-DIOXANE?

- Found in various amounts all over the country
- Federal and State agencies are monitoring it
- MN Department of Health
 - Conservative approach
 - Guidance value of 1 part per billion (ppb)
- DX has been detected in New Brighton's water at levels ranging from 2.9 ppb to 5.5 ppb
- Different organizations have different DX standards
 - Michigan 85 ppb
 - South Carolina 70 ppb
 - World Health Organization 50 ppb
 - Colorado 3.2 ppb
 - California 1 ppb



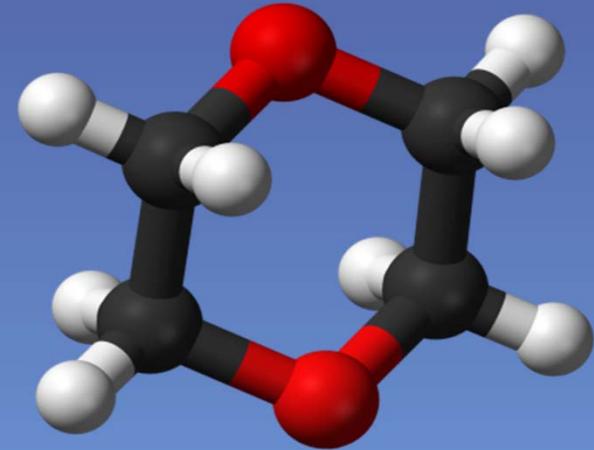
1,4-dioxane molecule

Legend:

- = Oxygen
- = Carbon
- = Hydrogen

WHAT IS 1,4-DIOXANE?

- In animal studies, exposure to high levels of DX has been linked to an elevated risk of cancer in animals
- No cases of human cancer have been linked to DX
- Based on animal studies EPA classifies DX as probable human carcinogen
- MDH has established health risk levels of 1 ppb
 - Based on a lifetime of consumption
 - 1 additional case of cancer in 100,000 lifetime consumers
- Pathways into the body
 - Inhalation (factories etc.)
 - Ingestion



1,4-dioxane molecule

Legend:

 = Oxygen

 = Carbon

 = Hydrogen

WATER / DX TIMELINE

Why are we hearing about DX now?

1981

- Volatile Organic Compounds (VOCs) identified by MN Dept. of Health (MDH) sampling of City water supply

1988

- LitSAG signed

2002

- MDH published DX Health Based Value (HBV) of 30 ppb

2004

- Army sampling identified DX in on-TCAAP wells below HBV

WATER / DX TIMELINE

Why are we hearing about DX now?

2008

- A new method for analyzing DX at very low concentrations is approved by the United States Environmental Protection Agency (USEPA)

2009

- USEPA adds DX to Contaminant Candidate List 3

2010

- USEPA revises toxicity data for DX

2011

- USEPA risk assessment approach suggests DX level of 3.5 ppb would be protective to a 1 in 100,000 increased risk

WATER / DX TIMELINE

Why are we hearing about DX now?

2012

- USEPA releases Unregulated Contaminant Monitoring Rule 3 (UCMR3) list that includes DX

2013

- MDH promulgates cancer Health Risk Level (HRL) for DX of 1 ppb

2014

- MDH samples New Brighton water system for DX in January and July

2015

- February 3rd: MDH meets with City staff regarding 2014 UCMR3 monitoring results and raises health risk issues

WATER / DX TIMELINE

How did New Brighton respond?



Feb.
17

Follow-up meeting with MDH; agree to confirmatory monitoring

March
5

City meets with US Army

March
19

City conducts confirmatory split sampling with MDH

March
19

City meets with MPCA and EPA to build support for potential responses

March
30

Results of City / MDH split sampling available for comparison

April 7

City meets with MDH, MPCA & EPA; support for interim response.

WATER / DX TIMELINE

How did New Brighton respond?



April
14

City meets with US Army

April
14

City Council agrees and supports staff's Interim Response

April
15

Interim Response activated

April
16

City mails letters to residents and businesses

April
17

City and MDH issue press releases

May 2

Town Hall / Community Open House presentation and beyond

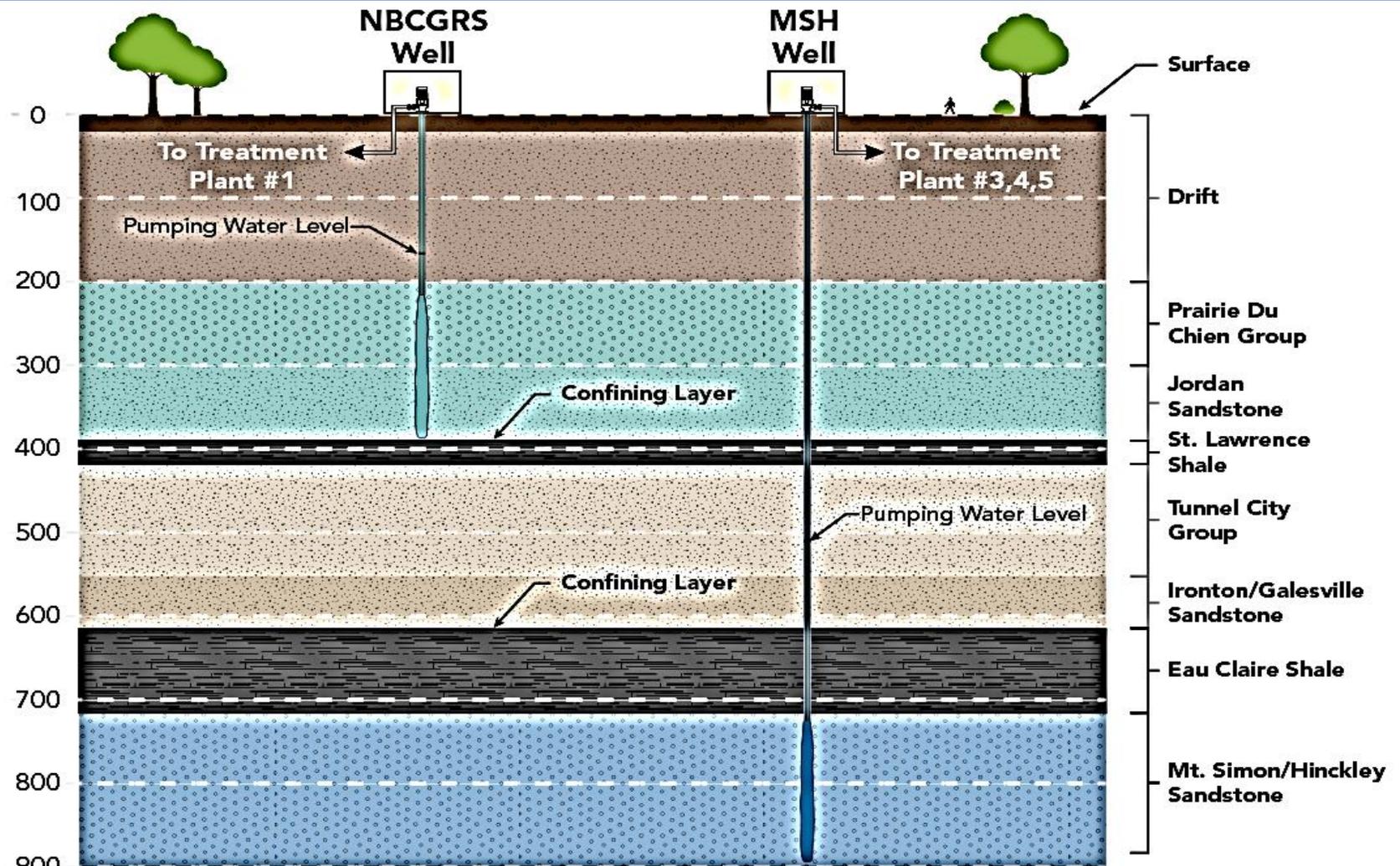
INTERIM RESPONSE

- Switched to clean Mount Simon-Hinckley (MSH) aquifer wells for primary water supply
- Turned off the NBCGRS
- Turned off the Fridley Interconnection



INTERIM RESPONSE

The NBCGRS and MSH wells are in different aquifers that are hydraulically separated.



INTERIM RESPONSE

- MSH wells will provide clean water needed for nearly all days of the year
- NBCGRS will be used only for summer peaking
- Will maintain DX levels below MDH thresholds
- Duration of peak period is climate dependent
 - Generally mid-July through mid-August
 - Frequent testing to verify conformance with MDH standards



LONG-TERM RESPONSE

Possible timeframes for each step include:

3 mos.

- Technology Screening (research, site reviews, data reviews)

9 mos.

- Treatability studies (work plan, bench scale, pilot scale)

3 mos.

- Feasibility studies (concept development, costs)

LONG-TERM RESPONSE

Possible timeframes for each step include:

9 mos.

- Design development (analyses, plans, specifications)

3 mos.

- Procurement

18 mos.

- Construction

45 mos.

- Total potential duration to start-up

CLOSING THOUGHTS

- The water is safe.
- There is a very low health risk from the levels of DX that were found.
- Presently and in the future, the water will meet MDH standards.
- As the City learns more, the information will be shared.



WATER CONSERVATION

- Limit or eliminate lawn watering
- Inspect plumbing and repair leaks promptly
- Take showers instead of baths
- Use a broom, not a hose to clean patios and driveways
- Install water saving showers and low flow faucet aerators
- Explore more water saving ideas
 - <http://wateruseitwisely.com>
 - <http://www.americanwater.com/49ways.php>
 - <http://water.epa.gov/polwaste/nps/chap3.cfm>



Questions?

