

Wednesday, February 27, 2019



JULY 4TH FIREWORKS AS AN UNCONVENTIONAL SOURCE OF GROUNDWATER CONTAMINATION

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The city of Ewart, Michigan (pop. 1,903) first detected perchlorate in one of its two municipal wellfields in 2015. The source of perchlorate was determined to be the annual Fourth of July fireworks displays at the County Fairgrounds, located directly adjacent to and hydraulically upgradient from the wellfield. The annual 30-minute shows were found to have deposited approximately 5 to 10 kg of unreacted perchlorate downwind of the launch site each year, in an area directly above the unconfined sand and gravel glacial outwash aquifer used for municipal supply. Being highly soluble in water, most perchlorate was efficiently transported to the aquifer during the first significant summer storm after each holiday event. Soil and groundwater investigations mapped the rapidly-developed and fast-moving groundwater plume as it was drawn toward the nearest municipal well in about 11 months. To minimize public exposure to perchlorate, the City actively managed the wellfield and constructed an additional supply well. However, residual perchlorate in the unsaturated soils persists as a long-term contaminant source. Perchlorate is not yet regulated by the Environmental Protection Agency or the State of Michigan under the Safe Drinking Water Act and is therefore not typically analyzed during routine water quality monitoring. Future regulation of perchlorate as a drinking water contaminant is likely to result in its unexpected detection in other small towns.

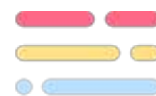
Wednesday, February 27, 2019

5:30 p.m. – 9:00 p.m.

Johnson Center @ Cleary University

3725 Cleary Dr., Howell, MI 48843

Sponsored by:



SampleServe

Schedule of Events:

5:30 p.m. – 6:15 p.m. – Registration and Cocktail Reception

CASH BAR ONLY - So, bring some cash for your beverages.

6:15 p.m. – 7:15 p.m. – Dinner

7:15 p.m. – 9:00 p.m. – Presentation Followed by Questions

Registration Form

February 27, 2019

Please fill out and return to: MAEP
P.O. Box 695, Pinckney, MI 48169 • Phone: 734.498.2838 • Fax: 734.498.8415



Registration Form:

Name _____

Company _____

Title _____

Address _____

Phone _____ Email _____

Food Allergy Restrictions: _____

Early Registration:

- \$55.00 – MAEP Members
- \$40.00 – MAEP Student Members
- \$80.00 – Non-MAEP Members

Late Registration - (Received after February 20, 2019)

- \$70.00 – MAEP Members
- \$55.00 – MAEP Student Members
- \$95.00 – Non-MAEP Members

Donate to the MAEP Student PDM Scholarship Fund:

- \$10.00
- \$20.00
- \$30.00
- \$40.00
- \$ _____

Deadline for cancellation is February 20, 2019

Make check payable to MAEP and mail to:

Cheryl Anne Farmer, MAEP
P.O. Box 695
Pinckney, MI 48169
Telephone: 734.498.2838 • Fax: 734.498.8415
Email: admin@maep.org

(Join MAEP and apply \$25 toward membership dues.)

Become a Member:

- \$10.00 – Student
- \$75.00 – General
- \$275.00 – Institutional (This membership allows one member to hold voting privileges. Additionally, three persons from the Institution may attend each MAEP meeting at the membership rate.)

Register Online at www.maep.org

To pay by credit card complete the following: Visa MC Discover Charge Amount \$ _____

Cardholder Name _____

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Register Online at www.maep.org/events