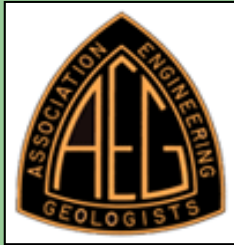


HAGS/AEG – Meeting Announcement

Thursday, April 12, 2018 6:30 p.m.



Nitrates in Rural Groundwater Supply Wells Not From Farming: An Unexpected Finding Based on Forensic Hydrogeology

Presented by: Mark Eisner, P.G., President – Advanced Land and Water, Inc.

Abstract: Sharptown, MD, is located in an agriculturally-dominated area of the Delmarva Peninsula. Supplied by four wells, groundwater quality compliance samples have reflected elevated nitrate concentrations for years. Non-point agricultural sources were the suspected source, but a detailed study as a component of an updated Source Water Protection Plan assessment revealed a surprising interpretation.

Meeting Location:

AEG Offices
441 Friendship Road
Harrisburg, PA
(not far from Bass Pro Shops)

Dinner at 4:45 – 6:15
Fiesta Mexico
3957 Paxton Street
(between Ruby Tuesday
and Nissan dealership)

Please support
your organizations
by joining today!

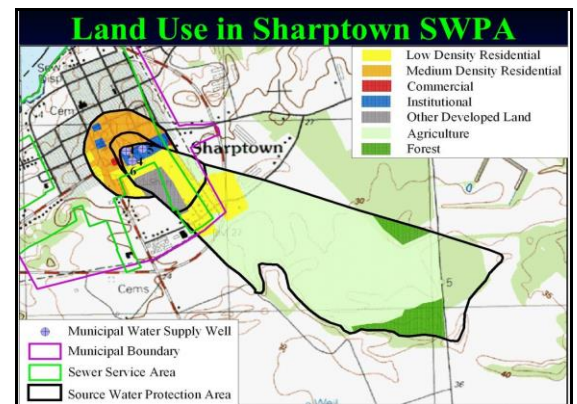
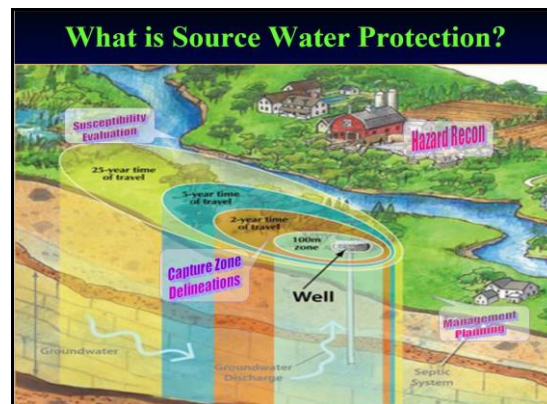
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End-Member Mixing Analysis (EMMA) – a common surface water investigative technique – was applied to groundwater quality data from the supply wells. Chloride and nitrate tracers, combined with knowledge of local land uses and consideration of the probable condition of aging infrastructure, to support a hypothesis that sewer system leaks rather than agriculture explained the observed nitrate distribution. Geochemical tracers such as methylene blue active surfactants (MBAS), which are classical indicators of domestic sewerage, were sampled for to confirm the sewage leak hypothesis.

Speaker Bio: Mr. Eisner is President of Advanced Land and Water, Inc., and has nearly 30 years of experience in environmental and hydrogeological consulting. He earned his B.S. in Geology from the University of Maryland and his M.S. in Geology from the University of Delaware. Possessing more than 30 years' professional experience, Mr. Eisner directs environmental and hydrogeologic investigations for both private and public sector clients across the Mid-Atlantic region, including projects entailing groundwater supply exploration, development, testing, permitting, protection and discharge.



RSVP for dinner & meeting by no later than noon Tuesday, April 10, 2018.

RSVP Amy Randolph at secretaryhags@gmail.com or 717.395.3181.

HAGS Facebook <https://www.facebook.com/pages/Harrisburg-Area-Geological-Society/271671046059>