

WISCONSIN AIPG SECTION UPDATE

Fall 2021



Wisconsin

President's Message

Last month I mentioned that we seemed to be slowly moving toward post-COVID times. I now see, and I think we all realize, that the move is indeed slow, full of fits and stops and starts. My sense of things is that work has picked up and projects are back on the board. Some of you may be busier than ever as senior personnel have decided to take the opportunity to retire, or others in the company have become part of the Great Resignation.

Thank you to our members who continue to donate their time and energy to this organization, including those who have agreed to run for office in 2022. Information on each of the candidates is included with this newsletter.

The Wisconsin Section has continued to work with the WGNHS and UW-Milwaukee to develop a job description, identify candidates from under-represented groups, and provide funding for a summer 2022 internship at the Survey. More details are provided in the Section report presented during the National AIPG Executive Board meeting (see page 8).

The Wisconsin and Minnesota AIPG sections have begun preliminary planning for a joint field trip in fall 2022 along the Mississippi River at French Island near LaCrosse, Wisconsin and LaCrescent, Minnesota. Think PFAS issues, power plant site remediation, learning about the natural habitat of French Island, and a cruise through Lock & Dam No.7.

We hope to see you there.

Regards,
Paula Leier-Engelhardt

2021 Wisconsin Section Officers

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Paula Leier-Engelhardt, P.G.,
C.P.G.

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Currently Vacant

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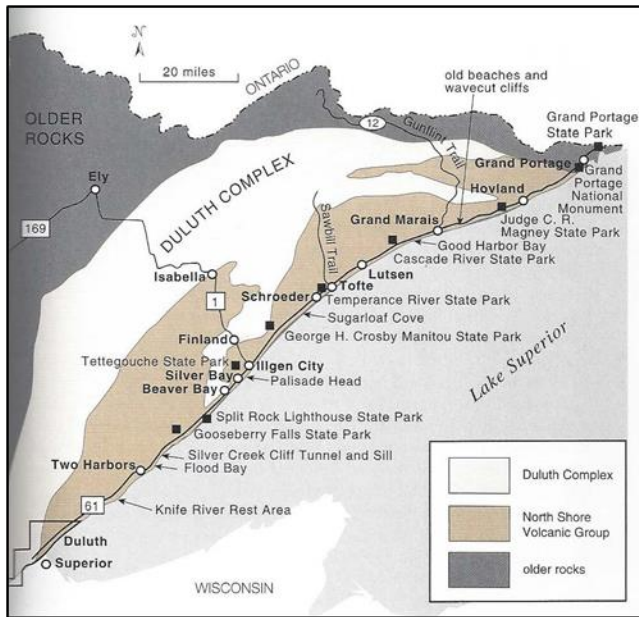
Christine Lilek, P.G., C.P.G.

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Far from Boring, and Another Time I had to Get Away from Home – Part II

By Paula Leier-Engelhardt, P.G., C.P.G.

The COVID-19 pandemic reminds me of another time I longed to get away, so join me for Part II of our trip to the North Shore of Minnesota, from Tofte to near the Canadian border.



Bedrock geology of NE Minnesota and the North Shore of Lake Superior. From *Roadside Geology of Minnesota*

Tofte is where the youngest lava flows of the North Shore Volcanic Group (NSVG) are found. Drive to the northeast or the southwest and you start to descend into the pile. We also found that as you headed north of Tofte the crowds became smaller, and there was less pressure on parks and campgrounds. You have a chance to take in the history of this area where Native Americans, French voyageurs, and immigrant fishermen crossed paths.

On Minnesota 61 north of Cascade River State Park is a spectacular roadcut of red sandstone and siltstone over 100 feet thick beneath a lava flow. Thinly bedded, occasional mud cracks – what’s the story here? It is interpreted as interflow sediment deposited by streams during a lull in volcanism. There are over 100 interflow units like this throughout the NSVG, but most are much thinner and nowhere near as easy to access. Ancient streams likely flowed within the rift zone, depositing sediments originating from the

volcanic rocks there. The thickness of sediments here suggests deposition in and along a lake.



Basalt overlies interflow sediments in a roadcut near Good Harbor Bay. Photo: Steve Engelhardt

Do take some time for a visit to the town of Grand Marais, nicknamed “America’s Coolest Small Town”. If San Francisco and Ely, Minnesota had a love child, it would be Grand Marais. There are swanky art galleries next to outfitters that will get you ready for a Boundary Waters canoe trip. . . or take a class at the North House Folk School on birch bark basketry. . . or head out to Artists’ Point and try your hand at watercolors. But whatever you do, do not leave without eating at the [Angry Trout Café](#). It is small restaurant cobbled together out of an old commercial fishing shanty that clings to the edge of Grand Marais Harbor serving local produce, fresh fish, wild rice -- all so good we seriously considered just staying there and fattening up for the winter like a local black bear. Truth. . .

Driving north one starts to move out of the rift valley that was, and toward the older formations of the Animikie Basin (1.85 billion), rocks formed in the same environment as my familiar Tyler Formation near Hurley, Wisconsin, and the Michigamme Formation near Iron Mountain, Michigan. Near Grand Portage National Monument, I spy outcrops of the Rove Formation, graywackes and shales deposited as turbidite sequences. The Monument commemorates and tells the story of the 18th century fur trade and even older Native American history. The Grand Portage is an 8.5-mile portage between Lake Superior and the Pigeon River that allowed travelers to bypass 21 miles of unnavigable rapids and waterfalls on the Pigeon River. It is easy to understand how a major trading post thrived here on Grand Portage Bay, one of

the most protected harbors on the North Shore. In the quiet of sunset, it is not hard to imagine those times.

I would be remiss if I did not talk about hunting for agates, which is practically an Olympic sport on the North Shore. There are so many here because amygdulites have weathered out of the basalts and are washed, rolled, and polished along the beaches. All kinds of books are out there to guide you to the best beaches and what you will find.

We eventually found one sort-of-OK agate, but we really weren't looking all that hard (there were a lot of distractions). By far our favorite beach was at the Sugarloaf Point State Natural Area.



Sugarloaf Cove and the tombolo. Photo: Minnesota DNR

The configuration of the cove and the tombolo formed by a lava flow allows for an interesting variety of pebbles on this beach,



from basalts to rhyolites to granites.

A least sandpiper kept me company as I looked for agates and he looked for lunch.



Least sandpiper at Sugarloaf Cove
Photo: Steve Engelhardt

But by far the best part of Sugarloaf Cove was the visit to the nature center, where we got to help trap and band a hummingbird. Once a bird is removed from the netting, it is placed in a sock to protect it while it is measured and weighed.

Measuring a hummingbird (carefully!).
Photo: Steve Engelhardt



When she was done, the naturalist said, "Would you like to release her?" Well, ya!

She took her out of the sock and placed her in my open palm. "Now, just push your hand up. That will be the signal for her to fly."



Female ruby throated hummingbird being released after banding. Photos: Steve Engelhardt

And like that, she was gone. And that was also our signal to follow her south, to Wisconsin and home. . .

Wisconsin AIPG's Facebook Page

Did you know that WI AIPG has a Facebook Page as well as a webpage?

We do!

You can post your geoscience events, photos, and announcements on our page at any time.

The address is:

<https://www.facebook.com/Wisconsin-Section-of-American-Institute-of-Professional-Geologists-106237227857450>

2021 AIPG 58th Annual National Conference By Christine Lilek

Dozens of AIPG and Partner Geoscientists gathered for the 2021 AIPG 58th Annual National Conference in Sacramento, California between October 23-26, 2021.

The conference attendees participated in technical presentations and open discussions on industry resiliency, sustainability, and opportunities in a changing environment.



Photo Credit: Wendy Davidson
Open discussion amongst conference participants exploring building resilience across America.

Technical sessions challenged participants to explore new ways of addressing:

- rising sea levels
- clean energy development
- mining critical minerals sustainably, and
- remediating emerging contaminants

Professional development sessions offered participants ways creating a more diverse and inclusive industry and scoping projects more sustainably. Copies of the presentation slides will be made available to participants soon.

The conference provided many opportunities for networking during the entire conference, such as the Section delegates meeting to discuss why geology was important to them and how their work is making the world a better place.



Photo Credit: Christine Lilek
Sections delegates meet to discuss why they became geologists and how their work is making a better world.

There were also many opportunities for fun and exploration. Four field trips provided a wide sampling of California geology features and sampling of California wines!

Fortunately for our Wisconsin and Mid-West Section members, the AIPG 2022 National Conference - *Geology: The Cornerstone of our Future* will be held on August 6-9, 2022, in Marquette, Michigan.

We will be in driving distance of being educated, challenged, and entertained next year. Investing in these conferences gives you a lifetime of networks and resources for growing in your geoscience careers. Please join us next year!



Photo credit: Christine Lilek
Larry and Mary Austin (MI AIPG) enjoying wine sampling at Old Faithful Geyser of California.

New Professional Geologist Appointed to Wisconsin Examining Board of Professional Geologists, Hydrologists, and Soil Scientists.



Trevor at the summit of Mount Massive (14,429 feet) in Colorado. Photo Credit: Unknown Hiker

Exciting news! Our current WI AIPG Secretary, Trevor Nobile, has been appointed by Governor Tony Evers to serve as one of the Professional Geologist members on the Examining Board of Professional Geologists, Hydrologists, and Soil Scientists.

Trevor's appointment was confirmed unanimously by the Wisconsin Legislature, and he will serve a 4-year term on the Board, expiring in 2024. Trevor has served as WI AIPG Secretary since 2015 and is currently the Field Operations Director for the Remediation and Redevelopment Program at the Wisconsin DNR. His professional experience encompasses over 15 years of combined private and government service, including nearly nine years as an environmental consultant.

Trevor received a bachelor's degree from UW - Stevens Point and a master's degree from Florida Atlantic University in Boca Raton, FL. He is currently a licensed Professional Geologist in both Wisconsin and Florida, as well as a Certified Professional Geologist with AIPG (CPG-11666).

Congratulations and good-luck Trevor!

2022 Wisconsin Section Ballot for Executive Board Members

National AIPG will be emailing a link to the 2022 Wisconsin Section voting ballot for next year's Executive Board Members. Here's some more information on the 2022 candidates:

2022 President Candidate

Paula Leier-Engelhardt – P.G., C.P.G.
paula@hydrogeosolutionswi.com



Paula enjoys the opportunity to provide educational geoscience presentations (hey, she'll talk to any and all about geology!)
Photo Credit: Karen Klenke

Paula is a Principal Geologist and owner of HydroGeo Solutions LLC, with over 30 years of experience as a consulting geologist. Experience includes soil and groundwater contamination assessment; siting and permitting municipal and industrial landfills; and statistical analyses and interpretation of agency-required groundwater monitoring data. Previous positions: STS, AECOM.

2022 Vice President Candidate

Thomas Kettinger – P. G., C.P.G.:
thomas.kettinger@clarios.com

Senior Manager of Global Remediation of Clarios (formerly Johnson Controls Power Solutions). Thomas's experience includes brownfield development, industrial site remediation, and enforcement. He has a lead role in implementing many transformation initiatives, including manage

a global portfolio of current and former facilities and third-party legacy sites undergoing environmental site remediation.



Thomas Kettinger has assisted with judging undergraduate and graduate student research presentations for WI AIPG at River Edge Nature Center for many years. Photo credit: River Edge Nature Center

Thomas is a subject matter expert for Clarios working across the company to ensure activities are following all regulations and standards.

2022 Treasurer Candidate

Andrew (Andy) Graham P.G, P.E., C.P.G.
andrewgraham@gmail.com



Photo Credit: Andrew Graham

Andy is a Project Manager at TRC. Engineering project manager with over 22 years of experience specializing in electrical utility T & D and design-build renewable energy projects. Previous

positions: Realtime Utility Engineers, Inc., IEA, Vierbicher Associates

2022 Secretary Candidate

Trevor Nobile - CPG
wade81@aol.com

Trevor Nobile is the Field Operations Director for the Remediation & Redevelopment Program at DNR. He works directly with the Program Director as a leader and strategist in developing and implementing a comprehensive statewide remediation and redevelopment program.



Trevor at the summit of Mount Dana in Yosemite, (13,000 feet). Photo Credit: Trevor Nobile

He previously served as a DNR Hydrogeologist/Regional Spill Coordinator, DNR Regional Supervisor, and worked in environmental consulting before joining DNR.

Trevor received a bachelor's degree from UW-Stevens Point and a master's degree from Florida Atlantic University in Boca Raton, FL.

He is currently a licensed Professional Geologist in both Wisconsin and Florida and is a Certified Professional Geologist with the American Institute of Professional Geologists.

2022 Regulations & Legislation Candidate

Heather Hallett, P.G., C.P.G.
Heather.Hallett@foth.com

Heather is a Hydrogeologist at Foth Infrastructure & Environment in Green Bay. She leads the hydrology/geology discipline at Foth and provides

support to a range of projects from landfill and mine project permitting/compliance to environmental remediation.



Photo Credit: Heather Hallett

Heather previously served as president of WGWA after moving to Appleton from Albany, NY where she worked for CDM Smith.

2022 Screening Board Chairman Candidate

Andrew Mott - CPG

andrew.mott@aecom.com



Andrew enjoying the 2019 AIPG PFAS Workshop with Cliff Shierk – ITRC and John Cuthbertson – AECOM

Andrew is a Project Hydrogeologist with AECOM in the firm's Environmental Practice. Areas of specialization include the following: Site development, environmental site assessments, soil and groundwater investigation, compliance issues, and remediation. Specialize in Brownfield grant writing and Brownfield redevelopment. Previous positions with STS Consultants.

2022 Education Committee Candidate

Karina Casey – Early Career Professional, GIT

karina.casey@woodplc.com



Photo Credit: Rebecca Butcher, Wood PLC

Karina is a Technical Professional for Wood PLC in Madison. She provides support on a variety of multi-faceted projects across North America including, sediment investigations, environmental remediation, site investigations, industrial hygiene, and conceptual site modeling. Prior to joining Wood, she worked as a Logging Geologist on exploratory oil and gas wells specializing in unconventional carbonate reservoirs. She received a bachelor's degree from UW-Stevens Point with a Geoscience Major.

2022 Newsletter Editor Candidate

Christine Lilek, P.G., C.P.G.

clilek5959@gmail.com



Christine is a Wisconsin Master Naturalist and teaches Great Lakes water sampling and many other natural resource programs at Kohler Andrea State Park. August 2019 Photo Credit: James Buchholz

Christine is an Environmental Training Coordinator for the WI Department of Health Services and Chairperson for the Lake Sinissippi Improvement District. Her previous positions include Senior Hydrogeologist for DNR, MSA Professional Services, WE Power Company, and Board Director for Village of Cottage Grove Sewer and Water Utility.

Wisconsin Section's 2021 Summary Presented to National AIPG

By Paula Leier-Engelhardt

The summary of our section 2021 activities was presented during the National AIPG Executive Board virtual meeting on October 25, 2021. Both myself and Christine Lilek were present to represent the section.



Photo credit: Christine Lilek

In-person and on-line attendance at the 2021 AIPG National Executive Board meeting on October 25, 2021.

The Wisconsin Section was able to have *PFAS: Deciphering A Laboratory Report Webinar* on March 4, 2021. Over 50 participants from several AIPG Sections, local municipal and state representatives and consultants attended the webinar and provided positive feedback after the event.

The Wisconsin Section is also working with the Wisconsin Geologic and Natural History Survey (WGNHS) to help fund an AIPG- sponsored summer internship at WGNHS. One of the goals of this internship is to promote geology as a career and recruit from under-represented groups.

We will be working with WGNHS and personnel from UWM where there are two programs, they have to increase interest and recruit from under-represented groups. One program is Go FORWARD, a summer educational experience in the geosciences and newly funded by an NSF grant. The second program is called Let's Geo, and helps undergrads explore careers in the geosciences and develop necessary skills.

Descriptions of three potential internships have been developed. For a summer 2022 internship, the job description and notice will need to be out no later than mid-January, with applications due by late February. A 6 to 8-week commitment would be required. WGNHS and UWM are currently working on the job description/advertisement.

We are also hoping to begin a reimbursement program for students taking the ASBOG exam based on the program developed by the Minnesota Section. Thank you to the Minnesota Section for sharing your experience.

Discussions have just started with the Minnesota Section regarding the possibility of a joint meeting/field trip along the Mississippi River.

Trevor Nobile, member of the Wisconsin AIPG Executive Board, has been appointed by Governor Tony Evers to the Professional Geologist seat on the Wisconsin Examining Board of Professional Geologists, Hydrologists, and Soil Scientists.

We would also like to recognize and congratulate Christine Lilek on Presidential Recognition Award at this year's National AIPG Conference.

Regulatory Updates

By Heather Hallett, P.G., C.P.G.

PFAS

Federal PFAS Regulation

The EPA announced a [broad plan](#), called the PFAS Strategic Roadmap, to address perfluoroalkyl and polyfluoroalkyl substances. The EPA's plan would set federal drinking water standards in the next two years for two of the most widely studied PFAS chemicals: PFOA and PFOS. The strategy also seeks to prevent PFAS releases into the environment and speed along clean up and disposal of the chemicals at military and industrial sites.

Wisconsin PFAS Regulation

Permanent Rule WA-07-20 to create Chapter 159 to regulate fire fighting foam that contain certain contaminants.

Act 101, created s. 299.48, Wis. Stats., which prohibits the use of Class B and dual action Class A and B firefighting foams that contain intentionally added PFAS as of September 1, 2020, except in the following two situations:

- When used as part of an emergency firefighting or fire prevention operation; or
- When used for testing purposes at a testing facility that has implemented appropriate containment, treatment and disposal or storage measures to prevent discharges of the foam to the environment, and does not flush, drain or otherwise discharge the foam into a storm or sanitary sewer.

Section 299.48(3m), Wis. Stats., requires notification to the department when PFAS-containing foams are discharged to the environment in the following two situations:

- When PFAS-containing firefighting foam is used as part of an emergency firefighting or fire prevention operation, notify DNR immediately or as soon as practicable without hindering firefighting or fire prevention operations.

- When PFAS-containing firefighting foam is used for testing purposes, notify DNR immediately of any discharge of the foam to the environment

Draft rule WA-07-20 creates ch. NR 159 to implement the legislature's directive to the department to promulgate rules to implement and administer s. 299.48, Wis. Stats. The proposed permanent rule fulfills the statutory obligation to determine appropriate containment, treatment, and disposal or storage measures for testing facilities. A public hearing is scheduled for November 4th.

WI PFAS Drinking Water Standards

To establish PFAS drinking water MCLs, the DNR plans to revise NR 809 Safe Drinking Water, Wis. Adm. Code to promulgate the new MCL drinking water standards in rule and clarify rule language.

DG-31-20 New drinking water maximum contaminant levels for 12 additional Per- and Polyfluoroalkyl Substances (PFAS) and combined standards for 4 PFAS under NR 809. NRB met in June for approval of Statement of Scope.

DG-24-19 PFAS Drinking Water Standards

Solicitation of information for economic impact analysis was open July 1-31. A public hearing is scheduled for December 1st and the rule is expected to effective in summer of 2022. [NR 809 safe drinking water standards update | Wisconsin DNR](#)

Draft rule [DG-24-19 Draft Rule Language \(wisconsin.gov\)](#)

WI PFAS Groundwater Standards

DG-25-20 Setting numerical standards to minimize the concentration of polluting substances in groundwater under NR 140. NRB met in June for approval of Statement of Scope. The rule is expected to effective in summer of 2022.

DNR is proposing establishing ESs and PALs for 22 substances including individual standards for 6

pesticides, individual standards for 12 per- and polyfluoroalkyl substances (PFAS), and combined standards for 4 PFAS based on DHS recommendations. DHS did not recommend standards for 18 PFAS because of limited health information.

WI PFAS Surface Water Standards

As part of the effort to protect surface water and public health across Wisconsin, the DNR is working with key public and industry stakeholders, state agencies, the state Legislature, the governor and the general public to update several chapters in Wisconsin's Administrative Code, including NR 102, NR 105, NR 106, and NR 219. The rule is expected to become effective in summer of 2022. [PFAS Surface Water Criteria | Wisconsin DNR](#)

Other Wisconsin Regulatory Updates

Groundwater standards revisions
DG-15-19 Numerical standards to minimize the concentration of polluting substances in groundwater under NR 140. These proposed amendments to ch. NR 140, Wis. Adm. Code, would add new state groundwater quality standards for 17 substances and revise existing standards for another 8 substances. New public health related groundwater quality standards are proposed for: hexavalent chromium, strontium, thiamethoxam, imidacloprid, clothianidin, isoxaflutole, isoxaflutole DKN degradate, isoxaflutole BA degradate, thien carbazonemethyl, dacthal TPA and MTP degradates, glyphosate, glyphosate aminomethylphosphonic acid (AMPA) degradate, sulfentrazone, Escherichia coli (E. coli) bacteria, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). Revised public health related groundwater quality standards are proposed for: trichloroethylene (TCE), tetrachloroethylene (PCE), 1,2,3-trichloropropane (1,2,3-TCP), 1,4-dioxane, aluminum, boron, molybdenum and cobalt. Notably, ES and PALs are proposed to be substantially lowered for 1,4-dioxane, 1,2,3-trichloropropane, trichloroethylene

and the ES and PAL for tetrachloroethylene are proposed to be raised.

NR 700 Changes

The changes to chs. NR 700-799, Wis. Adm. Code are effective as of Oct. 1, 2021, and consist of new chs. [NR 756](#) and [NR 758, Wis. Adm. Code \[exit DNR\]](#), which govern financial assurance requirements that apply at certain types of sites with contaminated sediment. Please note that the Contaminated Sediments External Advisory Group is in the process of meeting to discuss implementation of financial assurance provisions under ch. NR 756, Wis. Adm. Code, relating to financial responsibility for contaminated sediment engineering controls. Details on meetings are available on the [Contaminated Sediments External Advisory Group web page](#).

NR 700-799 Rule Changes | Wisconsin DNR

Revisions to NR 102 and 217

The second public hearing on permanent rule CR 19-094 (Board Order WY-23-13) to revise chs. NR 102 and 217 relating to processes for waterbody assessments and impaired waters listing, biological thresholds for water quality standards, and biological confirmation of phosphorus impairments was held on October 25, 2021.

Public Hearing

Notice: <https://dnr.wisconsin.gov/sites/default/files/topic/Rules/WY2313PublicHearing.pdf>

Proposed Permanent Administrative Rules: <https://dnr.wisconsin.gov/news/input/ProposedPermanent.html>

Revisions to NR 500 to 520 relating to coal combustion residual landfills

Coal combustion residual (CCR) landfills are regulated in Wisconsin under ch. 289, Wis. Stats., chs. NR 500 to 520, Wis. Adm. Code, and federal rules. Proposed rule WA-17-18 would incorporate federal requirements from 40 CFR 257, Subpart D for Wisconsin to seek approval from the U.S. Environmental Protection Agency (EPA) for a state CCR permit program for CCR landfills. On

April 17, 2015, the EPA published a final rule to regulate the disposal of CCR as solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA), 40 CFR Parts 257 and 261.

A public hearing was held on October 28.

Proposed Permanent Administrative

Rules: <https://dnr.wisconsin.gov/news/input/ProposedPermanent.html>

Air emissions regulations revisions

Permanent rule AM-31-19 is proposed to revise chs. NR 400, 438 and 484 relating to clarifying and updating air contaminant emissions inventory reporting requirements. A public hearing was held on October 29.

Proposed Permanent Administrative

Rules: <https://dnr.wisconsin.gov/news/input/ProposedPermanent.html>

AM-05-21 Nitrogen compound emissions regulations NR 428. The DNR is proposing to make changes to ensure clear and consistent implementation of this rule. The proposed changes include clarifying exemption applicability, emission limits for units using more than one type of fuel, and emissions averaging requirements. The proposed rule also revises and clarifies the existing compliance and monitoring requirements

Non-metallic mining

The Non-Metallic Mine Advisory Committee will hold their 2021 annual meeting on November 11 to discuss the reclamation activities under NR 135. Contact Roberta

Walls, Roberta.Walls@Wisconsin.gov or 608-797-8510 for Zoom link.

Geology Calendar of Events

Welcome to Environment 2021! FET – Federation of Environmental Technologists is pleased to announce our in-person conference in December 2021.



Our 2021 Conference will be held Tuesday, December 7th through Thursday, December 9th at The Ingleside Hotel in Pewaukee.

Tuesday, December 7th will feature three full-day Professional Development courses to select from: Air Quality and Permitting Updates, PFAS Updates & Strategies and the popular EHS Primer, along with two half day sessions to pick from: DOT HazMat Training and Sustainability.

More information available at:

<http://fetinc.org/website/conference-schedule-2/>