

ON THE ROCKS

A Newsletter of the Michigan Basin Geological Society



2021-2022 Edition 4

www.mbgs.org

January 2022



MBGS JANUARY MEETING

MBGS Membership Meeting, January 12th, 2022, 7:00PM: John Yellich, Director of the Michigan Geologic Survey, will present “Lake Michigan Shorelines, Catastrophic Failure or Stable, That is the Question”.

Join Zoom Meeting

<https://us06web.zoom.us/j/82682557674?pwd=VGtYXVRRHpgSG4xdzlwL2dlQkVmdz09>

Meeting ID: 826 8255 7674

Passcode: YQ4ZtD

Call In:

+13017158592, 82682557674# *528414# US (Washington DC)

+13126266799, 82682557674# *528414# US (Chicago)

CORE DISPLAY EDUCATIONAL TOOL AVAILABLE TO MEMBERS

MBGS has a core display available for use that visually demonstrates permeability/porosity. There are educational posters available for use with the core display. Contact any of the officers to reserve this great educational tool.



MBGS ANNOUNCES THE 2022 EZ MANOS SCHOLARSHIP RECIPIENTS

MBGS is pleased to announce the 2022 EZ MANOS scholarship recipients. Madeleine Tan an Undergrad Student from the University of Michigan, who is working on “Seismic Receiver function analysis of the Michigan Basin” and Mathew Bell a Graduate Student from Western Michigan University who is working on “Dam Failure – Hydrogeologic Consequences and Effects on the Tittabawassee and Tobacco Rivers and the groundwater systems in Southern Gladwin County, Michigan”. Abstracts from the winners are included in the newsletter. We look forward to hearing updates from the students on the projects at a future MBGS meeting.

MBGS MEMBERSHIP DUES – Deadline Extended to January 31, 2021

MBGS continues to strive to provide a platform for geologist and environmental professionals to connect and offer learning and field trip opportunities. For 2021-2022, our annual dues are \$35. *Student Membership is free*. Email any one of our officers if you are a student and would like to be a member. We now offer the option to renew your professional membership via PayPal. Please refer to the renewal notices that are included in the newsletter.

Student Membership is free, see website for registration details.



January 2022 MBGS Virtual Membership Meeting

Presentation: Lake Michigan shorelines, catastrophic failure or stable, that is the question

Presenter: John A. Yellich, CPG, Director, Michigan Geological Survey

When: January 12th, 7:00 PM, 2022

Join Zoom Meeting:

<https://us06web.zoom.us/j/82682557674?pwd=VGliYXVRRHpqSG4xdzIWL2dlQkVmdz09>

Meeting ID: 826 8255 7674

Passcode: YQ4ZtD

Abstract: Michigan is blessed with over 3,288 miles of lake shoreline, this is "more than any other state except Alaska. Much of the shorelines are reflecting natural changes with time, however, over the last 50 plus years, shorelines have been changing and societal actions and in appropriate action has been the culprit in many cases. Climate change is noted and is material to recent changes, but short and long term anthropogenic actions along the shorelines have resulted in minimal to catastrophic impacts. Shorelines represent some of the highest value per lineal frontage foot in Michigan as well as other Great Lake states. Western Michigan University, Geology Department, was contracted by the Army Corps of Engineers in 1996 until 2008 to assess a bluff area, Miami Park-North of South Haven, and many of those research results indicated the causes for failure and proposed remedies during high and low water levels. Recent historical high lake levels have resulted in major impacts, however, anthropogenic actions have been a major contributor to the catastrophic impacts. Many of the bluff and shore impacts are the result of past and present poor engineering and stormwater practices, bottom and top of bluff, resulting in anthropogenic affects, which will be summarized in this presentation. Michigan Geological Survey (MGS) began in 2017 to re-assess the bluff areas, prior to the major lake level changes. This has been incrementally supported by USGS research funding, WMU Remote Sensing Lab Students and is now being documented with UAV surveys of three Lake Michigan areas, St. Joseph, MI, Miami Park – South Haven and Pentwater/Ludington with time sequential photos.

Biography: John A. Yellich was appointed the Director of the Michigan Geological Survey (MGS) effective October 2, 2013. Mr. John A. Yellich obtained his Bachelors and Masters degrees in geology from Western Michigan University and for over 30 years, has been a Certified Professional Geologist (American Institute Professional Geologists) and member of the Society of Mining, Metallurgy & Exploration (SME) for 25 + years. Mr. Yellich brings more than 50 years of geologic experience in mineral exploration, mineral development, environmental consulting and groundwater cleanups, business operations, stormwater, land development and OSHA safety compliance to MGS. He has worked in more than 30 States and has also conducted mineral assessments in Canada, Australia and China.

Mr. Yellich is currently coordinating and conducting geologic research and surficial geologic mapping in priority areas of Michigan utilizing available Federal matching funds as the primary resource. MGS is developing geologic programs and research to support the identification and protection of Michigan's natural resources, including water resources to justify annual funding for the MGS. These multiple programs utilize basic and new data and techniques to expedite and present unbiased validated geologic data collected by MGS and presented in useable formats for all to use.

MBGS ANNOUNCES 2021-22 EZ MANOS SCHOLARSHIP WINNERS

Madeleine Tan, Undergrad Student, University of Michigan, Advisor: Jeroen Ritsema

Title: Seismic Receiver function analysis of the Michigan Basin

The Michigan basin is an intracratonic basin approximately 400 km wide (Howell and Van der Pluijm, 1999). It is nearly circular, reaching the largest depth to the cratonic basin sequence in present day Saginaw Bay region. Previous receiver function analysis indicates Moho depth beneath the Michigan basin reaches 53 km, thinning out beneath its flanks (Moidaki et al., 2013; Shen et al., 2013). Stein et al., 2015 posit the Moho depth is on average 45 km beneath the Michigan basin, owing to the combined result of crustal thinning, post-rift volcanism, sediment loading, and basin inversion (Watts et al., 2018).

My project focuses on new seismological constraints of the crustal structure beneath Michigan and the broader Great Lakes region using P-to-s receiver functions calculated from the recordings of distant (> 4,000 km) earthquakes at seismometers in Michigan. We will use USGS seismometers in the central US and U-M seismometers near Lake Erie (courtesy of Professor Yihe Huang) to measure variations of the thickness of the crust and sediments within and outside the Michigan Basin. New seismic analyses of the structure of the crust beneath Michigan and surrounding states will help place the Michigan Basin in a broader tectonic context and to constrain dynamic scenarios of its origin.

Mathew Bell, Graduate Student, Western Michigan University, Advisor: Dr. Peter Voice

Title: Dam Failure – Hydrogeologic Consequences and Effects on the Tittabawassee and Tobacco Rivers and the groundwater systems in Southern Gladwin County, Michigan

In May 2020, a reservoir dam at the intersection of the Tittabawassee and the Tobacco Rivers collapsed resulting in a cascade of hydrogeologic and hydrologic changes in southern Gladwin County, Michigan. Along the two rivers, replacement water wells drilled since the event have shown that the water table has dropped up to 6 meters. Recent LiDAR imagery shows the water surface along the two rivers and the reservoir lake also exhibit a 6-meter drop compared to records prior to the event. A combination of water well records (Wellogic Database and more recent drillers reports) and integrating validated oil and gas well records were used to construct sections and maps of the bedrock and glacial surface and water table elevations (prior to- and post-event), for bedrock, and glacial geologic units. In order to better define the county bedrock surface, Horizontal-to-Vertical Spectral Ratio (HVSr) passive seismic data was collected across the county study area to develop a regional contact. Well records and HVSr data better defines the bedrock surface in this region and will allow a better understanding of hydrogeologic connections between the glacial sediment cover and the underlying Paleozoic bedrock. Using calibrated passive seismic measurements, the bedrock surface is analyzed to determine the complexity of the bedrock surface and interaction with the glacial drift, which can determine if there are separate glacial and bedrock aquifer systems. The bedrock surface mapping and cross sections can provide a context for how the groundwater from the glacial material interacts with the bedrock material below.

EVENTS

Many organizations have switched to virtual platforms or have cancelled events. We are providing links for your reference. Please visit these sites to learn more about specific events and happenings. If you have an event to share, let us know!



American Institute of Professional Geologist – Michigan Section – <http://mi.aipg.org/newsletters.htm>

Central Michigan Lapidary and Mineral Society - <http://www.michrocks.org/>

Eastern Section AAPG - <https://www.esaapg.org/>

EGLE Calendar of Events - https://www.michigan.gov/egle/0,9429,7-135-3308_3333---,00.html

Flint Rock and Gem - <https://flintrockandgem.org/events>

Michigan Association of Environmental Professionals - <https://www.maep.org/>

Michigan Basin Geological Society – www.mbgs.org

Michigan Clean Water Corps - <https://micorps.net/about/>

Michigan Mineralogical Society - <https://www.michmin.org/>

Mid-Michigan Rock Club - <http://www.midmichrockclub.com/?Page=1>

Midwest Mineralogical and Lapidary Society - <http://www.mmls.us/>

Society of Petroleum Engineers - <https://www.spe.org/events/calendar/>

On the Calendar

January 12th, 2022: MBGS Monthly Meeting, John Yellich, Lake Michigan Shorelines, Catastrophic Failure or Stable, That is the Question

February 9th, 2022: MBGS Monthly Meeting, Mark Wollensak, MBGS Grand Canyon Field Excursion

March 9th, 2022: MBGS Monthly Meeting, John Esch, LiDAR

April 13th, 2022: MBGS Monthly Meeting

June 14-15th, 2022: Environmental Risk Management Workshop at the Ralph A. MacMullan Conference Center, Roscommon, Michigan

August 6-9th, 2022: 58th Annual AIPG Meeting to be held in Marquette, Michigan

www.mbgs.org

ONLINE RESOURCES

- **Central Michigan University, Clarke Historical Library, Michigan Geology:**
https://www.cmich.edu/library/clarke/ResearchResources/Michigan_Material_Statewide/Michigan_Oil_and_Gas_Industry/History_of_Michigan_Oil_and_Gas/Pages/Michigan-Geology.aspx
- **Digital Geology Library Overview:** https://www.michigan.gov/documents/deg/GIMDL-Catalog-2010-01-20_307979_7.pdf
- **Digital Geology Library Mining Overview:** https://www.michigan.gov/documents/deg/GIMDL-Catalog-2013_06_22_mining_425595_7.pdf
- **GeoWebFace:** https://www.michigan.gov/deg/0,4561,7-135-3311_60700---,00.html
- **Michigan Department of Natural Resource Calendar:** Michigan.gov/DNRCalendar
- **Michigan Geological Survey:** <https://wmich.edu/geologysurvey>
- **Michigan Geology Maps Available:** <https://www.michigan.gov/deg/0,4561,7-135-3304-116670---,00.html>
- **USGS Michigan Geological Map Data:** <https://mrdata.usgs.gov/geology/state/state.php?state=MI>
- **USGS Publications:** [U.S. Geological Survey Publications Warehouse \(usgs.gov\)](http://U.S.GeologicalSurveyPublicationsWarehouse(usgs.gov))



MICHIGAN BASIN GEOLOGICAL SOCIETY OFFICERS

2021-2022

PRESIDENT: CHRIS CHRISTENSEN, Geologist

Michigan Department of Environment, Great Lakes and Energy Remediation and
Redevelopment Division
350 Ottawa NW, Grand Rapids, MI 49503
(616) 446-7582 christensenc@michigan.gov

VICE PRESIDENT: ADEDOYIN, ADEYILOLA, Ph.D Student

Geophysics and Geomechanics Lab, Dept. of Earth and Atmospheric Sciences,
Central Michigan University, Mount Pleasant, MI 48858
Phone: +1 (701) 739-8214, Email: Adeyila@cmich.edu

SECRETARY: JOHN A. YELlich, Director

Michigan Geological Survey, Western Michigan University
1903 West Michigan Ave, Kalamazoo, MI 49008-5241
W (269) 387-8649 C (303) 901-2886; john.a.yellich@wmich.edu

TREASURER: PETE ROSE, Geologist

Minerals Management, Michigan Department of Natural Resources
W (517) 284-5901, RoseP1@michigan.gov

BUSINESS MANAGER: PETER ROSE, Geologist

Minerals Management, Michigan Department of Natural Resources
W (517) 284-5901, RoseP1@michigan.gov

PAST – PRESIDENT: JENNIFER TROUT, Staff Geologist

Michigan Geological Repository for Research and Education
1903 W. Michigan Ave., Kalamazoo, MI 49008-5241
W (269) 387-8633 C (269) 290-4048, jennifer.l.trout@wmich.edu

NEWSLETTER EDITOR: ARLENE ANDERSON-VINCENT, Natural Resource Manager

BlueTriton Brands
19275 Eight Mile Road, Stanwood MI 49346
W (231) 823-8451 arlene.anderson-vincent@waters.nestle.com

PUBLICATIONS: JOHN SHOOK, johnshook@rocketmail.com

ELECTRONIC PUBLICATIONS: MARK WOLLENSAK, CPG, wollensak@att.net

WEBMASTER: JOHN ESCH, eschj@michigan.gov

MBGS PUBLICATIONS

<http://www.mbgs.org/publications.html>

Historical publications now available on USB Flash Drives". Each USB Flash Drive is 8GB

Prices include postage, handling and any applicable sales tax.
Orders for publications should be prepaid in U.S. Funds and addressed to:

MBGS — Publications
P.O. Box 14044
Lansing, MI 48901-4044

Historical CD #1: Nine out-of-print publications from 1949 through 1965 and 1998, 2000, \$15

- The Stratigraphy of Manitoulin Island, Ontario, Canada, June 19-20, 1954
- The Devonian and Silurian Rocks of Parts of Ontario, Canada and Western New York, June 22-23, 1951
- The Traverse Group of the Northern Part of the Southern Peninsula of Michigan, June 16-17, 1949
- The Devonian Strata of the London-Sarnia Area, Southwestern Ontario, Compiled by Erwin C. Stumm, Lewis B. Kellum and Jean Davies Wright, June 9-10, 1956
- The Ordovician Rocks of the Escanaba-Stonington Area, Led by R. C. Hussey, June 2-3, 1950
- The Niagara Escarpment of Peninsular Ontario, Canada, June 18-19, 1955
- Lower Paleozoic and Pleistocene Stratigraphy Across Central Wisconsin, Compiled by C. E. Prouty, Led by L. M. Cline, J. L. Hough and R. F. Black, 1960
- Classic Silurian Reefs of the Chicago Area, by Donald G. Mikulic and Joanne Kluessendorf, June 27, 1998
- Geology of Central Ontario, Canada, 1965

Historical CD #2: Four out-of-print publications from 1947, 1959, 1983 and 1991, 2001, \$15

- Copper Country Field Trip, Michigan, June 20-22, 1947
- Geology of Mackinac Island and Lower and Middle Devonian, South of the Straits of Mackinac, June 12-14, 1959
- Tectonics, Structure and Karst in Northern Lower Michigan, August 1983
- Geology of the Pictured Rocks, Upper Peninsula, Michigan, July 11-13, 1991

Historical CD #3: Six out-of-print publications from 1948, 1952, 1990 - 1995, 2001, \$15

- Pleistocene and Early Paleozoic of the Eastern Part of the Northern Peninsula of Michigan, June 18-21, 1948
- Stratigraphy and Structure of the Devonian Rocks in Southeastern MI and Northwestern OH, June 20-21, 1952
- Lower Ordovician and Upper Cambrian of Wisconsin, May 10-12, 1990
- Guidebook to the Precambrian Geology and Metallogeny of the Central Upper Peninsula of Michigan September 12-13, 1991

Historical CD #4: Six out-of-print publications from 1957, 1958, 1961, 1967, 1968 and 1970, 2004, \$15

- Silurian Rocks of the Northern Peninsula of Michigan, 1957
- Cambrian Geology of Parts of Dickinson and Iron Counties, Michigan, June 1958
- Geologic Features of Parts of Houghton, Keweenaw, Baraga and Ontonagon Counties, Michigan, May 19-21, 1961
- Correlation Problems of the Cambrian and Ordovician Outcrops Areas, Northern Peninsula of Michigan 1967
- The Geology of Manitoulin Island, June 1968
- Devonian Strata of Alpena and Presque Isle Counties, Michigan 1970

Historical CD #5: Five out-of-print publications from 1971, 1989, 2001, and Oil & Gas Fields Vol. 1 & 2, 1969 & 1992, 2006, \$50

- Oil & Gas Fields Symposium, Volume 1, April 1969, 200 pp., maps, illus., second printing with updates
- Oil & Gas Fields Manual of the Michigan Basin, Volume 2, 1992, 520 pp., maps, illus.
- Glacial Geology of Southwestern Michigan, 1989, 53 pp. by A. Kehew, L. J. Schmaltz, and W. T. Straw
- Geology of the Lake Erie Islands and Adjacent Shores, 1971, 65pp., maps, illus. by Jane L. Forsyth
- Glacial Geology of Southwestern Michigan, Landforms of the Lake Michigan Lobe, Southwestern Michigan, 2001, AAPG Eastern Section Meeting Field Trip, 32 pp., maps, illus. by A. Kehew and A. Kozlowski

Historical CD #6: Six out-of-print publications from 1946, 1953, 1963, 1966, 1978 & 1987 plus the Richfield Challenge, 1952 & Tom Knapp's MS Thesis, 2007 \$15.

- Guidebook for Ordovician Stratigraphy of the Cincinnati, Ohio and Richmond, Indiana Areas, June 12, 13, 1953 by W. H. Shideler and B. T. Sandefur
- Guidebook for Ontario Geological Excursion to Kettle Point – Owen Sound- Waubesa, June 21, 22, 23 1946 by W. A. Roliff, C.S. Evans and J.F. Caley
- Guidebook for the Stratigraphy of the Silurian Rocks in Western Ohio, May 31- June 2, 1963 by C. H. Summerson, Jane L. Forsyth, Karl V. Hoover and J. R. Ulteig
- Guidebook for Cambrian Stratigraphy in Western Wisconsin, May 21, 22, 1966 by Merideth E. Ostrom
- Geology of the Manitoulin Area, Special Papers #3, September 29, 30 and October 1, 1978 by J. T. Sanford
- and R. E. Mosher
- Middle Devonian Cratonic Carbonates and Shales in Southwestern Ontario, November 14, 1987 by Bruce Wilkinson
- The Richfield Challenge, A Review of the Richfield Developments in Michigan, 1952 by Gordon H. Hautan
- A Theory of Rogers City and Dundee Relationships in Central Michigan, Masters Thesis, 1947 by Tom Knapp

Historical CD #7: Field Guidebooks from 1962, 1969, 1977, 1980, 1985 & 1988, \$15

- Silurian Rocks of the Southern Lake Michigan Area, 1962, James H. Fisher, Chairman, MBGS Annual Field Conference
- Studies of the Precambrian of the Michigan Basin, by Harold B. Stonehouse, 1969
- The Geology of the Marquette District: a Field Guide By F. W. Cambray, 1977
- Ordovician and Silurian Geology of the N. Peninsula of Michigan, 1980, R.B. Votaw, 40 pp., illus., maps
- Special Paper #4: Ordovician and Silurian Rocks of the Michigan Basin and its Margins, 1985 K.R. Cercione and J.M. Budai (eds.), 96 pp., illus.
- Upper Keweenaw Rift-Fill Sequence, Mid-Continent Rift System, Michigan, 1988, P.A. Daniels and R.D. Elmore, M.S. Wollensak, ed., 150 pp., illus., maps

OTHER SPECIAL OFFERS

- **Historical CD Set - # 1 – 7 (detailed above) for a special purchase price of \$95**
- **NE Lower Peninsula Geological Field Conf., 2004, T. Black, M. Wollensak, On CD \$10**
- **Stratigraphic Lexicon for Michigan, 2001, prepared by MBGS and published by DEQ, \$4**
- **Robert E. Mosher Geological Studies** A lifetime of geological research on Silurian Rocks with John T. Sanford. The disks are organized chronologically and include field work in North America and Europe. 2007, 2 CDs \$35.

AIPG 2022 National Annual Conference, Marquette, Michigan

Call for Abstracts and Student Poster Contest, Submit by May 9, 2022

AIPG is currently accepting abstracts for oral presentations and poster presentations for the 59th American Institute of Professional Geologists' National Conference that will be held in Marquette, Michigan, on the beautiful shores of the world's largest freshwater lake.



**Geology:
The Cornerstone
of our Future**
August 6-9 | Marquette, MI

This year's meeting theme is "Geology: The Cornerstone of our Future". Geology plays a significant role in today's society and will become ever more important in the years to come. Our reliance on basic resources and building materials such as sand and gravel for roads, limestone for concrete, iron for structural purposes, and other base metals for electronics and other applications will not diminish; rather, it will become a greater concern as existing deposits are depleted or rendered inaccessible.

The ever-increasing number of applications of rare earth elements has created a greater demand on extraction and several of these elements will be needed in ever greater quantities to assist in the transition to a reduced carbon emission future. Geologists will be needed to identify, quantify, and yes, help with extraction of these mineral deposits.

A reliable source of clean freshwater is a basic necessity for life, and the onset of climate change is impacting these resources. Changing climate patterns mean that widespread areas may become stricken with drought. This will mean that significant depletion of groundwater aquifers and surface water reservoirs will occur in these areas as withdrawals exceed natural replenishment. This is already affecting agricultural practices and driving migration of human populations to areas where this precious resource may be found, resulting in conflict and/or political unrest. In addition, anthropogenic activities have contaminated some water resources and have made these resources locally unusable or require expensive treatment.

The national conference provides opportunities to present and learn from experts in various geology and geoscience fields, with networking opportunities throughout the conference. Earn CEUs too!

To have your abstract considered for an oral presentation or poster presentation, please complete the Abstract Submittal Form by the deadline of May 9, 2022. Abstracts must be in Word format, single-spaced, 12 point Times New Roman or Arial, and should not exceed one page. No tables or pictures will be accepted. You will be notified by May 23, 2022, if your abstract has been accepted. Technical presentations will be scheduled for Monday, August 8th. Posters will also be presented on Monday, August 8th. Authors who wish to publish a paper in AIPG's *The Professional Geologist* (TPG) can contact AIPG for additional information at aipg@aipg.org.

AIPG will review, edit, and publish a digital pdf of the conference abstracts on their website and in the conference app. A printed program will also contain all accepted abstracts.

An author who submits an abstract must have the intention of attending, registering, and presenting at the conference once the submission is accepted for either an oral presentation or poster presentation. Repeated or consecutive last-minute cancellations by presenters may result in future submissions being denied.

AIPG Student Poster Contest

Students can submit an abstract for a poster presentation and enter the poster contest to win cash prizes! The two categories for the student poster contest are:

Undergraduate Cash Prize - 1st Place: \$500, 2nd Place: \$200, 3rd Place: \$100

Graduate Cash Prize - 1st Place: \$600, 2nd Place: \$250, 3rd Place: \$100

- To be entered into the student poster competition you must be a student member of AIPG. Go to www.aipg.org to join for free.
- Poster contest categories (undergraduate and graduate) will be based on the student's enrollment at the time the abstract is submitted.

OTHER NEWS

The National Academies of Sciences, Engineering, and Medicine have released the proceedings of the workshop *America's Geoheritage II: Identifying, Developing, and Preserving America's Natural Legacy*. The publication, released on September 22, is now freely available on the National Academies Press website (<https://nap.edu/26316>).

Additionally, it is linked on the workshop webpage, <https://www.nationalacademies.org/our-work/americas-geoheritage-ii-a-workshop>.

Valuable resources from American Meteorological Society

The American Meteorological Society continues offering more programs and resources for K-12 teachers than almost any other science professional organization. Central to their offerings are the three on-line courses: one on meteorology, one on oceanography, and one on climate science. Each course is annually reviewed to make improvements and include the latest science. Some of the maps and data sets are in fact only days old. And the courses continue to get very high reviews from participating teachers. All kinds of teachers k-12 have participated successfully. A web site with more details can be found at <https://www.ametsoc.org/ams/index.cfm/education-careers/education-program/k-12-teachers/>. Look under "DataStreme Program" for the course descriptions. At this site you can also see links to their educational materials and to a new teacher certification program.

Participants get three graduate credits free (though there is a modest course fee which can also be waived for some educators). Since they are offered only in the fall and spring - and the number of teachers who can be involved is limited, early registration is recommended. Fall registration begins in April or May and registration for spring begins in November.

JOB OPENINGS

[Environmental Scientist/Geologist, Parsons Corporation](#) Breckenridge, Michigan

Job Description

Parsons is seeking candidates with a background in Environmental Geology and Science. In this role you will be investigating, mapping and mitigating environmental concerns such as contaminated soil; abandoned oil wells, abandoned oilfield pipeline systems, abandoned underground storage tanks (USTs), asbestos flowline, underground injection wells; coordinating wetland and floodplain management requirements and general environmental restoration program activities. You will be involved in reviewing the data and contributing to the preparation of various environmental reports that are submitted to the client and regulatory agencies. You will be actively engaged in supporting the construction teams in minimizing impact of soil contamination or construction activities (dust control, construction water disposal, etc.). The key to your success will be your ability to help our client execute mitigation strategies in a fiscally responsible manner to assure compliance with local, state and federal regulations, schedule performance, and community safety.

Geologist/Hydrogeologist III, AECOM Grand Rapids, Michigan

Preferred Qualifications

- Ability to travel up to 50% to various job sites within the US (Primary area of travel is Michigan and nearby states).
- Ability to demonstrate a primary technical role in multiple site characterization, subsurface investigation and remediation projects at various client sites;
- Collect and evaluate environmental data in field and office settings;
- Ability to lead site conceptual modelling work under supervision of Project Manager;
- Possess technical report writing skills; prepare and/or lead preparation of investigation reports;
- Independent field work and leadership of field teams;
- Conduct and/or supervise field work, including:
- Driving to project sites;
- Subcontractor oversight;
- Utility clearance;
- Soil and bedrock drilling, characterization, and sampling;
- Monitoring well (groundwater and soil vapor) installation and test pit excavation;
- Soil, sediment, soil vapor, sanitary system, surface water, and groundwater sampling;
- Surface and borehole geophysical techniques;
- Aquifer testing, including slug tests, packer testing; step-drawdown and tracer tests; and
- Remedial systems performance monitoring.
- Prepare and/or task manage plans, permits, and reports for hazardous waste, air quality, storm water, and wastewater programs;
- Perform and/or task manage Phase I and II environmental site assessments;
- Provide general environmental compliance support to clients, including on-site assistance, as needed;
- Support Project Managers on multiple projects within scope/budget/schedule expectations and confirm quality standards on project deliverables;
- Ability to clearly communicate with subcontractors, regulatory agents, and clients during field activities;
- Support Project Managers to effectively manage projects;
- 30 hour OSHA Construction Supervisory certificate;
- First Aid/CPR certificate;
- Participate and develop a keen understanding of hazard recognition; and
- Participate in project activity planning, and health and safety planning and oversight

Environmental Geologist, AECOM ENVIRONMENT Grand Rapids, MI , 4 positions available

Assistant Environmental Project Manager, Haley & Aldrich Ann Arbor, Michigan

Skills/Experience

- B.S. degree in civil/environmental engineering, geology/hydrogeology, environmental science or related field (8 years' experience)
- M.S. degree is a plus . (5 years' experience)
- 5-7 years of professional services consulting experience that includes execution of contaminated site characterization , evaluation of environmental data, and presentation of technical solutions in a variety of written and oral formats
- Familiarity with RCRA Correction Action and Michigan EGLE regulations a plus
- Basic skills in quality control, planning, cost estimating, and scheduling
- Professional registration (or ability to obtain PG, PE, etc.) strongly preferred
- Excellent written and verbal communication skills
- Must be proficient at writing technical reports to meet scope and quality objectives and client expectations
- Strong computer skills including proficiency in industry standard software
- Strong organization skills and exceptional attention to detail is expected
- Positive attitude, strong work ethic, flexibility, and willingness to see projects through to completion are a must

Environmental Quality Analyst 12 - District Enforcement Coordinator, State of Michigan Kalamazoo, Michigan

Job Description

At the Department of Environment, Great Lakes, and Energy, we are passionate about protecting human health and Michigan's land, water, and energy resources. We are equally passionate about creating a positive, professional, and supportive work environment where we value our differences and are committed to being open and respectful of all our employees and the public we serve. Our unique backgrounds and experiences make us better equipped to equitably deliver impactful environmental outcomes in the interest of all of Michigan's residents.

This position serves as the recognized resource and district enforcement coordinator for the Kalamazoo District Office. The position provides a broad range of support and assistance to the district's implementation of the Remediation and Redevelopment Division's (RRDs) compliance and enforcement activities. Functions of this position include: application of the Department of Environment, Great Lakes, and Energy (EGLE) and RRD compliance and enforcement policies and procedures; assisting in the interpretation of statutes and rules; preparation and review of a broad range of technical and legal documents and correspondence; identification and evaluation of potentially liable parties; coordinating and supporting the development and pursuit of a broad range of administrative, civil, and criminal compliance and enforcement responses; representing the RRD in negotiations with parties subject to compliance and enforcement actions; and providing support to the RRD Compliance and Enforcement Section. As these responsibilities allow, this position may also independently manage and oversee investigation and remediation activities as assigned for Part 213 or Part 201 sites. Case assignments and position responsibilities will be established through the District Supervisor and Assistant District Supervisor.

Environmental Remediation Project Manager, Antea Group USA Detroit, Michigan

Essential functions include but are not limited to:

- Manage environmental projects, site characterization, remedial designs, and preparation of reports and other related documentation,
- Perform, coordinate, and oversee project work involving site investigation, risk assessment and remediation of soil, groundwater, and sediments with moderate to complex technical/regulatory issues with oil & gas clients.
- Evaluate remedial alternatives and assist clients to develop and negotiate cost-effective closure strategies with regulatory agencies.
- Prepare or peer review a variety of work plans and reports; and develop scopes of work, schedules, costs and health and safety plans for projects under RCRA, CERCLA and other state programs.
- Actively drive projects forward based on clear understanding of project objectives and regulatory requirements
- Build strong collaborative relationships with internal and external stakeholders (i.e., project team, clients, regulatory agencies, and subcontractors)
- Support direct report experience including all facets of team building, HR management, performance evaluations, and junior staff mentoring/training
- Sub-contractor coordination including bid spec development, contracting and insurance/safety review, project award and field supervision

Environmental Project Manager, Wood Traverse City, Michigan

Key Responsibilities

- Manage environmental projects, site characterization, remedial designs, and preparation of reports and other related documentation,
- Network with clients to effectively position for and develop work opportunities,
- Prepare contract proposals and cost estimates,
- Manage project contracts, staff, budgets and schedules,
- Manage clients and associated project work with the support of key staff in accordance with state and Federal regulations and protocols,
- Perform, analyze and report on specific environmental project tasks,
- Research and recommend solutions to technical problems in accordance with accepted scientific/engineering practices and principles, and
- Participation and collaboration with other Wood offices and staff on larger, multidisciplinary assignments

Environmental Project Manager, Intertek Farmington Hills, Michigan

What it takes to be successful in this role:

- BS/MS Degree in Environmental Science, Geology, Biology, Chemistry or some Physical Science required
- 5 or more years' previous experience preferred in Environmental Due Diligence and/or Industrial Hygiene related services
- Project Supervision with ability to manage budgets, field staff, and clients
- Knowledge of environmental concepts, principles, practices, and regulations
- Professional Geologist (PG) License preferred
- Excellent oral and written communication skills
- Valid Driver's License and reliable driving record (required)
- Ability to travel up to 25% of the time

Project Geologist – Environmental, Lakeshore Environmental, Inc. Grand Haven, Michigan

Responsibilities

- Conduct field work including soil, sediment, groundwater, and surface water sampling, aquifer testing, drilling oversight and soil logging, soil boring and monitoring well installation, well development, purging and sampling, and construction oversight.
- Operate direct push drilling rig (Geoprobe®)
- Coordinate and direct drilling, surveying, and laboratory services.
- Provide oversight on environmental remediation projects, and operations and maintenance of environmental remediation systems.
- Assist in data interpretation and preparation of site work plans, spreadsheets, figures, and technical reports.
- Assist in groundwater and remedial system performance monitoring, maintenance, and optimization.
- Field work opportunities for this position will be year-round with some overnight travel.
- Focus on team project delivery, taking direction primarily from Project Managers.
- Assist in ensuring compliance with all federal, state and local regulations.
- Communicate with Project Managers, subcontractors, regulatory agents, tenants, and clients during field activities.

Senior Environmental Consultant, GEI Consultants, Inc. Traverse City, Michigan

Essential Responsibilities & Duties

- Manage the technical, financial and client relationship aspects of a variety of projects throughout the country, with a geographic emphasis in the Midwest.
- Support business development and marketing activities, including preparation of cost proposals and presentations to existing and prospective clients; identify key clients / business areas, growth strategy, and capture strategy.
- Maintain high visibility in the marketplace through regular client contact, participation in client-based professional organizations, and attendance and presentations at industry events.
- Manage projects located primarily in Michigan, existing and future staff, including technical leadership and oversight, risk management, safety and mentoring.
- Lead Phase I and Phase II environmental assessment and risk-based corrective action on soil, groundwater, vapor and sediment.
- Knowledge of Michigan Environmental Regulations, particulate focus on Part 213, Part 201 and Part 31.
- Assist in preparation of NPDES permit applications.
- Support environmental plan developments (SPCCs, PIPPs, SWPPPs).
- Travel to client/prospect/teaming partner/remote offices/headquarters required, including overnight travel.

Field Geologist, Atlas Grand Rapids, Michigan

Responsibilities Include But Are Not Limited To

- Conduct soil and groundwater drilling and sampling activities
- Groundwater Monitoring & Sampling (various)
- Technical report production for the Petroleum / Remediation service line
- Conduct construction materials testing (soil, concrete, asphalt)
- Support Phase I and Phase II Environmental Site assessments for the Due Diligence Group.
- Conduct Asbestos/Lead inspections and sampling
- Abide by Atlas's Health and Safety policies and procedures

Geologist, Arcadis Novi, Michigan

Role Description

Arcadis is seeking a Scientist or Geologist to join our Arcadis FieldTech Solutions (AFS) Team. This position will be based out of our Novi, MI office. This entry level, full-time position requires attention to detail, strong work ethic, strict adherence to health and safety procedures, and excellent communication skills. Responsibilities will include a combination of field and office related tasks and may include travel.

Mid-Level Geologist/Hydrogeologist, Wood Traverse City, Michigan

Key Responsibilities

- Manages the development of work scope, schedule, and budget definition for proposals
- Directs the execution of work, including subcontractor procurement
- Assists the Project Manager and team in ensuring effective client and regulatory agency communication and relations
- Prepare reports, work plans, health and safety plans, and quality control plans under the supervision of senior staff
- Performs data quality assurance review of field and laboratory work product to determine whether data quality objectives have been met
- Direct multi-media sampling, including soil, groundwater, vapor, indoor air, asbestos, and other regulated materials
- Assists the Project Manager on technical assignments and management of specific elements of the project in the field as well as in the office (i.e., task management)
- Evaluates compliance of subcontractor work against technical specifications and scopes of work
- Demonstrates competency in a combination of areas including field supervision, technical knowledge and task management

- Conducts moderately complex scientific assessment and analysis
- Prepares or assists in preparing remedial investigation reports, remedial/corrective action plans, remedial designs, due diligence reports, and related documents; Includes work summaries, data summaries, data synthesis (e.g., conceptual site models), engineering calculations, summary tables, figures, engineering drawings and specifications, and report text
- Assists Project Manager with cost and schedule control
- Reviews payment applications, requests for information, change order requests and other subcontractor submittals
- Demonstrates and maintains competency in a diverse set of local, state, and federal environmental regulations
- Motivates, trains, and mentors subordinate staff assigned to his/her tasks or projects
- The position may entail approximately 90% office work and 10% field work on a variety of projects, primarily for industrial and commercial clients

Senior Hydrogeologist, Fishbeck Grand Rapids, Michigan

Primary Functions

- Interpret hydrogeologic systems, both qualitatively and quantitatively.
- Develop conceptual site models (CSMs)
- Design, perform, and analyze aquifer tests
- Design remediation and production wells
- Conduct or provide oversight for analytical and numerical groundwater flow and contaminant fate and transport modeling
- Conceptualize, design, implement, and evaluate remediation systems
- Design, oversee, analyze, and interpret subsurface characterization activities (i.e., installation of soil borings/monitoring wells/remediation wells/production wells, logging soil/rock cores, vertical aquifer profile, direct imaging borings, etc.)
- Prepare technical reports, budgets, letters, memoranda, plans, specifications, and proposals.

Environmental Remediation Specialist (Mid-Level), Antea Group USA Detroit, Michigan

Please include a technical writing sample along with your application submission.

- Minimum of a bachelor's degree in Geology, Environmental Science, Environmental Engineering, Occupational Health and Safety or relevant field;
- 3 to 7 years of related environmental experience; Remediation System Operation and Maintenance a plus.
- Ability to drive project closure strategies and lead day to day activities for multiple project teams;
- Responsible for executing scope and maintaining schedule and budget goals;
- Ability to work independently with minimal supervision simultaneously for multiple project teams;
- Demonstrated organizational and communication skills, particularly proficiency in technical writing;
- Strong data collection, evaluation, and technical writing skills;
- Experience in one or more areas; drilling, environmental media sample collection, evaluation and implementation of remedial technologies, groundwater modeling, risk/impact assessments, environmental compliance programs, environmental permitting, and due diligence, air modeling, industrial hygiene;
- Must be willing and able to lift up to 50 pounds, work in wooded or rugged terrain, and handle seasonally high temperatures based upon project needs;
- Knowledge of industry regulations (EGLE technical guidance/requirements);
- Professional certification in a related field (PE, PG, etc.) a plus;
- Valid driver's license and safe driving record;
- Authorization to work in the United States without sponsorship, now or in the future.
- Compliance with any client requirements, including but not limited to COVID-19 vaccine mandates.
- Ability to successfully pass a company paid physical examination and drug screen.

Vice-President, Exploration and Corporate Development, Lincoln Strategic International - Global Mining Recruitment United States Remote

Responsibilities

- Identifying strategic mineral properties and opportunities of potential interest aimed at growing our client and increasing value for its shareholders
- Leading due diligence reviews and evaluation efforts of potential new projects and opportunities under consideration for acquisition or development
- Implementing and overseeing the exploration activities and resource definition programs for our client's current and future projects
- Identifying, prioritizing, and developing drilling and exploration programs including their economic justification thus guaranteeing a correct, efficient, and cost-effective execution of such programs
- Interpreting and analyzing the results of a drilling program and other geological and geotechnical information in order to develop geologic models and mineralization theories, delineate current and future exploration targets and define mining reserves/resources in areas under exploration
- Preparing and managing the exploration budget and procurement process at all levels, including managing contractors and suppliers, ensuring a cost-effective allocation of our client's resources, and the achievement of the exploration goals within budget and time allocated
- Assisting the CEO with the handling of investor presentations, and attendance at conferences and road show meetings
- Assisting the CEO and the CFO with the preparation and management of financial reporting including budgeting, cost structuring, and cost controls related to the execution of the exploration program
- Preparing business reviews, budgets, and internal reports regarding the status and progress of the exploration activities related to the existing projects, as well as for potential new projects and opportunities
- Ensuring that NI43-101 compliant sampling, QA/QC protocol, geologic and geotechnical data collection and management programs are in place thus ensuring that our client's exploration plans deliver valid information for future use in NI43-101 compliant resource statements, Preliminary Economic Assessments and Feasibility Studies
- Leading the preparation and updating of NI43-101 Resources Technical Reports, working alongside technical independent service providers
- Maintaining positive relationships with applicable government agencies and local communities
- Acting as the Qualified Person for the Company's Technical Reports, News Releases, and Presentations

Soil Conservationist (District Conservationist), USDA Stephenson, Michigan

Qualifications

Applicants must meet all qualifications and eligibility requirements by the closing date of the announcement including time-in-grade restrictions, specialized experience and/or education, as defined below.

Time in grade: Applicants must have one year of specialized experience at the next lower grade to be considered for the next higher grade (e.g. one year at the GS-09 grade level for consideration for the GS-11 grade level).

Staff Environmental Scientist, T&M Associates Detroit, MI Hybrid

T&M Associates has an exciting opportunity for a mid-level environmental scientist in our Detroit, MI office for our Health and Safety Group. This individual will support hazardous materials, dangerous goods, and environmental compliance in an industrial and distribution environment, so clear communication skills are vital. Responsibilities include Hazardous Materials/Dangerous Goods shipping compliance, Environmental permitting and compliance focus towards federal, state and local programs, including DOT, RCRA, Title V and Minor Source Air Permitting, Rule 5/Rule 6 storm water permitting, SPCC Oil Storage, NPDES discharge sampling, Hazardous Materials shipping and EPCRA reporting.

Hydrogeologist, ASTI Environmental Brighton, Michigan

- Project management
- Client development and communication
- Groundwater and soils investigations
- Problem solving and solution recommendation
- Site closure
- Field sampling
- Data preparation, validation and evaluation
- Report preparation

Adjunct Earth Science Instructor - MI16883128, Monroe County Community College Monroe, Michigan

Immediate part-time Instructors needed for Winter 2022 semester. One position is available on M/W afternoons and one position is available T/Th afternoons on campus. Qualifications include, Master's degree in Earth Science or Geology with graduate coursework in one of the following subfields: geophysics, geochemistry, hydrogeology mineralogy, petrology, volcanology, glaciology, or sedimentology OR Master's degree with 18 graduate credits in Earth Science or Geology and graduate coursework in any of the above subfields. If interested, please apply online at <https://www.schooljobs.com/careers/monroeccc/> . EOE

Hydrometeorology (Tenure-Track, Assistant Professor), Central Michigan University Mount Pleasant, Michigan

Position Title Hydrometeorology (Tenure-Track, Assistant Professor) College/Unit College of Science and Engineering
Home Department Earth and Atmospheric Sciences Employee Group Tenure-Track Faculty - Academic Year Employment
Status Full-Time Position Type 9 month (Academic Year) Position Classification Tenure Track Faculty Position Begin Date 08/22/2022 Position End Date Position Summary

The Department of Earth and Atmospheric Sciences at Central Michigan University invites applications for a tenure-track position at the Assistant Professor level in the broadly defined area of hydrometeorology beginning in August 2022. We seek a colleague who can work at the interface of the hydrosphere and atmosphere using a combination of field, laboratory, and/or quantitative methods.

- land-water-atmosphere interactions,
- storage and exchange of energy, water, and natural or anthropogenic compounds,
- the influence of hydrologic and atmospheric processes on ecological systems and climate,
- surface hydrologic processes in unique environments such as urban areas, food producing areas, coastal areas, deserts, or mountains,
- precipitation processes resulting in extreme hydrologic impacts, or other interrelated phenomena.

Mine Safety and Health Inspector, U.S. Department of Labor Lansing, Michigan

Duties :Conducts a variety of onsite safety and health inspections and investigations of mining operations, mills, preparation plants and related facilities. Prepares written reports of inspections and investigations, issuing citations and orders for violations found during examinations. Serves as the MSHA spokesperson and authority on mine safety and health. Gives advice and assistance relating to those mines, systems, and processes for which safety and health issues and solutions are undetermined, or where common practices have not been effective at pinpointing and resolving problems. Provides technical advice and guidance to mine operators to help them solve problems and comply with mine safety and health requirements. Assists mine operators in the planning of modifications to improve and/or correct deficiencies in the operation such as selecting and installing new equipment, and changing materials or methods. Promotes safety and health among mine operators and workers by directing and participating in safety and health training programs, meetings, demonstrations, mine rescue competitions, and related activities. Counsels and instructs mine operators and workers on appropriate safety and health procedures, practices, and techniques. Testifies at judicial hearings regarding notices of violations and orders of withdrawal.

INVOICE

ACTIVE MEMBER ANNUAL DUES FEE:

INVOICE NUMBER	MBGS 2021-2022 Dues
INVOICE DATE	October 2021
OUR ORDER NO.	
YOUR ORDER NO.	
TERMS	30 Days
SALES REP	
SHIPPED VIA	USPS or EMAIL

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	ACTIVE MEMBER MBGS 2021-2022 Annual Dues	\$ 35.00	\$ 35.00
<p>We now have an option to pay electronically using PayPal. If you prefer to submit your annual membership dues payment electronically, please visit the MBGS website at www.mbgs.org</p>		SUBTOTAL	\$ 35.00
		TAX	
		FREIGHT	
<p>DIRECT ALL INQUIRIES TO: Peter Rose</p>			<p>MAKE ALL CHECKS PAYABLE TO: Michigan Basin Geological Society</p>
			<p>\$ 35.00</p> <p>PAY THIS AMOUNT</p>

Return this copy
with payment

THANK YOU FOR YOUR CONTINUED SUPPORT!

INVOICE

STUDENT ANNUAL DUES FEE:

INVOICE NUMBER	MBGS 2021-2022 Dues
INVOICE DATE	October 2021
OUR ORDER NO.	
YOUR ORDER NO.	
TERMS	30 Days
SALES REP	
SHIPPED VIA	USPS or EMAIL

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	STUDENT MBGS 2021-2022 Annual Dues	\$ 10.00	\$ 10.00
We now have an option to pay electronically using PayPal. If you prefer to submit your annual membership dues payment electronically, please visit the MBGS website at www.mbgs.org		SUBTOTAL	\$ 10.00
		TAX	
		FREIGHT	
DIRECT ALL INQUIRIES TO: Peter Rose			MAKE ALL CHECKS PAYABLE TO: Michigan Basin Geological Society
			\$ 10.00 PAY THIS AMOUNT

DIRECT ALL INQUIRIES TO:
Peter Rose
RoseP1@michigan.gov

MAKE ALL CHECKS PAYABLE TO:
Michigan Basin Geological Society
Attn: Treasurer - 2021-2022 Annual Dues
P.O. Box 14044
Lansing, Michigan 48901

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