



Eastern PA Coalition for Abandoned Mine Reclamation

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May 2021 Progress Report

Highlights:

- EPCAMR staff scanned 32, georeferenced 3, mosaicked & digitized mine maps for the **PA DEP MSI MMG** program. Troubleshoot and repaired scanner. QA/QC checked work.
- EPCAMR staff participated in a weekly **PA AML Campaign** call, a virtual exhibit from **Philly. Lib. Co. of Philly.**, a call with **University of Akron** prof., a call with **OSMRE & DEP MSI Prog.**, hosted a virtual **EPCAMR board** meeting, & a tree planting in **Luzerne Co.**
- Sampled AMD Treatment System on **Nanticoke Cr.** for **EC**, & 3 on **Loyalsock Cr.** for **LCWA**. Dashed Snapshot sampled 7 AMD sites in **Lackawanna, Luzerne, Schuylkill, and Carbon Counties** for **SRI**
- Updated www.treatminewater.com and www.epcamr.org; administered the EPCAMR Facebook and G Suite for Nonprofit accounts; maintained GobbaDaPile in-house domain server and workstation.

Education, Outreach and Admin.:

- Participated in a Spatial Analysis with ArcGIS Pro Training hosted by the Office of Surface Mining Reclamation and Enforcement (OSMRE) Technical Innovation and Professional Services (TIPS).
- Attended a virtual "Seeing Coal: Time, Material and Scale-Exhibition Opening" curated by Andrea Krupp and Erika Piola, Director of the Library Company of Philadelphia's Visual Culture Program, as they highlight some exhibit favorites and demonstrate the immersive exhibition website.
- Ed Wytovich, EPCAMR Past President, reports the apple tree buds are opening at Centralia as observed during a drive by inspection.
- EPCAMR management staff participated in weekly PA AML Campaign calls.
- Participated in a Zoom Call with Hazel Barton a Professor of Integrated Bioscience at the University of Akron. She is dealing with microbial processed calcium carbonates in caves. Like EnvironOxide, it is an environmentally friendlier process to produce the product than traditional extraction. One of the biggest uses of the material they produce is to whiten (ex. paper and paints). Introduced her to Bob Hedin to see if he can lend her any knowledge on economies of scale and marketing it as a green product.
- EPCAMR staff participated in a tree planting near a wetland/farm downstream of the Penn State Lehman Campus with Luzerne Conservation District (LCD) and a volunteers from a water treatment firm.
- Went into office to help Denise with QuickBooks as she was working on the treasurer's report. Wrote up minutes and draft agenda for the board meeting as well.
- Finished up treasurer's report with Denise by adjusting numbers QuickBooks and adding newly acquired grants/contracts as sales orders. Sent to Cristy Sweeney, EPCAMR Board Treasurer, for her review.

- Hosted EPCAMR virtual board meeting over Zoom and took notes. Once the business portion of the meeting was over, I hopped over to a meeting hosted by Office of Surface Mining Reclamation and Enforcement (OSMRE) Pittsburgh Field Office regarding 3D models of underground coal mines. During the Spatial Analysis with ArcGIS Pro Training, Kam Pendleton showed us a model of the Centralia Mine workings that Tom Mastrorocco created for the 60th anniversary of the start of the mine fire (next year). This is of particular interest to the PA DEP Mine Subsidence Insurance (MSI) program as they see 3D models of the underground mines as the next step after digitizing for the Mine Mapping Grant (MMG). Several grantees were in attendance of the virtual presentation.
- Went to the office to meet with Denise who filled an iron oxide order, get time sheets for a MSI MMG reimbursement, and synchronize files between my travel drive and the X Drive. Mailed the Iron Oxide order.
- Explored along the river opposite the levee from the Kingston Recreational Center and Kingston Municipal Building for an AMD discharge as a potential site to sample for the Luzerne County Action Plan (CAP). There is a Wyoming Valley Sanitary Authority (WVSA) pump station with iron staining on the overflow channel and an outlet pipe near the river downstream of the railroad bridge. There is also an old metal pipe running into the river above the railroad bridge, which is rumored to be a "healing" spring. No mine drainage was visibly flowing via a discharge channel into the river, however. These may only discharge in highest flows?
- Waiting on staff time sheets from January 2021 to continue with the MSI MMG reimbursement as some December 2020 dates are also on it.

Technical Assistance:

- Dealt with issues with accessing the ESRI Spatial Analysis training related to having an EPCAMR ArcGIS account and an OSMRE ArcGIS account. The accounts were linked, but apparently not for training. ESRI support tried to clear it up, but ended up confusing them and removing me from the training roster for the current class. The training accounts are not meant to be linked. So, I had them reverse the changes.
- Coordinating YIS Pro Quattro meter delivery from Fondrist Environmental as we wanted to use both YSI meters to compare results. Unfortunately, the new meter does not seem to be calibrated properly and we will need to order calibration solutions sooner than later.
- Sampled Loyalsock Upstream, Downstream and in/out of 3 treatment systems (Connell B Vein, Connell C Vein and Gutten Drift). Recorded data in a database for reporting to the Sullivan Conservation District (SCD) and Loyalsock Creek Watershed Association. [LCWA]
- Verified and sent the DIY Mayfly parts list to Cheryl Nolan from the Lackawanna County Conservation District (LCCD) so she could order the parts for another unit.
- Reviewed and approved the Iron Oxide Processor budget proposal so Kings College Engineering students could begin making the machine from their designs.
- Provided water quality testing data of limestone treatment systems to Tom Clark of the Susquehanna River Basin Commission (SRBC).
- Discussed field sampling methods with YSI meters and photometer with Cliff Denholm at Stream Restoration Inc. (SRI). He said that HACH has a similar field grade photometer that uses ampules of liquid reagent. Photometer results are typically more accurate than what can be measured by a probe, which ended up mirroring what Brent Means said to me in the field at Askam later in the month.
- EPCAMR staff conducted a Datashed Snapshot sampling of 3 AMD treatment systems in Schuylkill and Carbon Counties: Lausanne Tunnel, Buck Mountain #2 Tunnel and Oneida #3 Tunnel systems.
- EPCAMR staff conducted a Datashed Snapshot sampling of 4 AMD treatment systems in Luzerne and Lackawanna Counties: Aylesworth Creek, Plainsville Boreholes, Askam Boreholes, Espy Run Seeps systems. Sent all 7 sets of samples to Fairway Labs in DuBois, PA.
- Gathered flow at 3 Nanticoke Creek monitoring sites as a follow up to yesterday's chemistry sampling. Finished up Datashed treatment system inspection reports to send them to SRI and cooperating organizations.

- Researched acid impaired tributary streams to Loyalsock headwaters. Notes say there is also aluminum present in Lopez Creek which is not a typical metal present in Acid Deposition (the source noted for the impairment). As coal fired power plants close in Western PA and Ohio, we have seen increases in pH on other local streams, colleagues have noted. Could this continued acidity and metals be from geology instead? Researched additional coal mines west of Ringdale from Corey Richmond's Meaningful Watershed Education PowerPoint and compare Pennsylvania bedrock geology maps. The Mauch Chunk formation is found in the Lopez Creek watershed and on the south side of Loyalsock Watershed. Could there be undiscovered bootleg coal operations there or similar geological conditions but no actual coal formed? This is a condition discovered in the headwaters of Mehoopany and Bowmans Creeks (Mountain Springs Reservoir).
- Created several maps for Earth Conservancy (EC) of the mine pools that contribute flow to the South Wilkes-Barre and Askam Boreholes for a meeting next week with OSMRE and PA DEP Bureau of Abandoned Mine Reclamation (BAMR). Went to office to help EC with transducer data and discovered that the transducers stopped collecting data a month after they were installed in the field. Called tech support to find out that a firmware update needed because this will fix that exact issue in the new 5 series probes, but we need to purchase an additional dock to connect to a desktop computer because the app reader cannot do firmware upgrades.
- Met with EC staff, Brent Means from OSMRE, Todd Wood and John Green from BAMR, and Borton and Lawson (B&L) to talk about rehabilitation of the Askam Treatment System. Learned about sampling results that are the most important for this type of treatment system. Asked about potential sources of nutrients and conflicting results we are measuring. Higher readings of Total Phosphates leaving the system than coming in can be a result of the retention pond flushing sediments rather than retaining them as designed. Brent said that we should start to measure dissolved Phosphates, like we do dissolved Iron, to determine the dissolved levels leaving the system. This should better represent the treatment of Phosphates binding to Iron Oxide. Followed up with some studies, older sampling results and charts EPCAMR created.
- Followed up with a question about records not matching based on what was sent on the drive and what was recorded in the Pennsylvania Historic Underground Mine Map Information System (PHUMMIS) from Patrick Jaquay at PA DEP California DMO regarding the MSI MMG. Only 98 National Mine Map Repository (NMMR) records on PHUMMIS but 431 AUX files on the drive for 2021. Some NMMR Maps are multiple scenes, but also determined missing NMMRs on PHUMMIS because of ones used in mosaics. Some of these missing files traced back to November 2019. Re-georeferenced 22 NMMRs that were corrupt. [MSI]
- Completed 7 mandatory ½ hour to hour long DEP staff/contractor trainings to maintain access to PHUMMIS (a very restricted section of the state's VPN). [MSI]
- Reconciled NMMR files that were georeferenced, used for mosaics, sent to DEP, and asked Denise to catalog them on PHUMMIS. Created a spreadsheet to facilitate the process going forward. Found some that were never sent, but could not determine a date due to several factors from the ransomware virus to zip files sent over email changing the creation date. Added these files to a folder called "unknown date". Worked with staff to get missing time sheets for the MSI Reimbursement. [MSI]
- Looked up information about Solinst vs Hobo Transducers which are promoted by PA DEP BAMR Wilkes-Barre Office staff. Onsite, the makers of Hobo, are based in the USA (MA) while Solinst is based in Toronto, Canada. While neither of them says for sure, the equipment is likely made overseas and rebranded. We deal with Fondriest Environmental in Ohio for Solinst equipment. Hobo probes are thicker making the field install (i.e. stilling wells) needed bigger in diameter (more costly). Almost all comparable Hobo products are more expensive as compared to Solinst. There is a charge for Hobo software where Solinst provides it for free. Solinst transducers store more data points (75,000 vs 21,700 max by Hobo units) and have no comparable App Interface product that reads live results in the field via Bluetooth hookup to a smartphone. Purchased \$60 converter part so our equipment can read EC's new Solinst L5 Series Transducers.
- Sampled Askam Boreholes, Treatment System, upstream and downstream on Nanticoke Creek and 2 flow sites in the Nanticoke Creek Watershed. Recorded data into sampling spreadsheet

and delivered to Earth Conservancy. Discovered a new seep coming into the settling pond that could be connected to an adjacent mine pool (Loomis) with different chemistry. [EC]

- Took flow on Espy Run on the way back from a doctor's appointment to finish up the Nanticoke Creek flow monitoring sites before the rain. Recorded Askam sampling results into the water quality database along with 2015 and 2018 Datashed Snapshot lab samples and sent it to EC. Sent along some screenshots of the barrier pillar and potential sources for the new seep.

[] - Denotes funding source where applicable.