



Eastern PA Coalition for Abandoned Mine Reclamation

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August 2022 Progress Report

Highlights:

- EPCAMR staff scanned, georeferenced, mosaicked & digitized mine maps for the **PA DEP MSI MMG** program. QA/QC checked work.
- EPCAMR staff participated in a weekly **PA AML Campaign** call, hosted an EPCAMR quarterly board meeting & evaluated 2 wetlands in the **Solomon Creek Watershed** for **NFWF**
- Sampled AMD Treatment System on **Nanticoke Cr.** & designed a weir repair for **EC**; sampled 3 AMD TS on **Loyalsock Cr.** & drafted a '21-'22 sampling report for **LCWA & Sullivan CD.**
- Site Visit to evaluate solar potential and AML issues near Humboldt for **BWC Stony Creek, LLC**
- Updated www.treatminewater.com and www.epcamr.org; administered G Suite for Nonprofits and social media sites; maintained GobbaDaPile in-house domain server

Education, Outreach and Admin.:

- Worked with the Office of Surface Mining Reclamation and Enforcement (OSMRE) staff from the Technical Innovation and Professional Services (TIPS) program to get a new license of Carlson software. Also updated Quickbooks on the office computers (it was giving Denise some trouble). Cancelled Zoom Event subscription before another month was charged.
- Provided edits to Lycoming College Clean Water Institute (CWI) interns poster for the West Branch Symposium. These students sampled the Loyalsock Creek and associated AMD treatment systems with us over the spring/summer and their results were in the poster. Also started a discussion with their mentor, emeritus professor Mel Zimmerman, about high acidity in the headwaters of Loyalsock Creek (Pigeon Creek and above) requires further investigation.
- Worked from home for a week due to the sidewalk project in front of the office. Drove to office to get EPCAMR main line phone.
- EPCAMR Management staff participated in weekly PA AML Campaign conference calls to stay up to date on important legislation that is being considered in Congress.
- eSigned April to May reimbursement for the Bear Creek Project and sent to PA DEP 319 program.
- Responded to an individual that emailed about the Lausanne Tunnel AMD Treatment System to the Lehigh River. He took photos of the damaged shut off valve / low flow conditions and inquired if it was functioning. I replied with info from the last Datashed Snapshot visit in 2021 and that it was reported to the PA DEP BAMR, Wildlands and SRI. The site needs some TLC.
- Worked on the Loyalsock 2021-2022 sampling report draft. Copied sampling results into a table format for the report, incorporated site photos taken, a discussion and recommendations as a result of discussions based on Hedin Environmental's 2021 report and SRBC recommendations knowing that new funding may soon be available to upgrade AMD treatment systems and alternative mitigation. This contract isn't complete until October 2022. Noted where we need some low flow photos taken this fall.

- Discussion with EC about the spotted lanternflies in the Trees of Heaven on the property. The leaves appeared to be wet, but according to the information from the PSU Extension Office website, that is a waste product of the lanternfly. The trees are infested and I suggested reaching out to PSU Extension for more information.
- Completed Treasurer's report, minutes, and agenda for upcoming board meeting. Updated board meeting website on www.epcamr.org. Wrote May and June Program Manager progress reports and uploaded to www.epcamr.org. Started the July report.
- Discussion with Tom Clark at the Susquehanna River Basin Commission about Loyalsock AMD treatment systems. He expressed that Aluminum concentration is less of a concern than Acidity and Heat pollution for the trout fishery. When considering a revamp of the Connell B or C Tunnel treatment systems we should take into consideration their potential thermal pollution. For example, the Connell B treatment system is buried limestone bed. The water does not come in contact very long with the air keeping the cold AMD water cold, but conversely water in the Connell C Vertical Flow Wetland has a lot of contact time with the air and on a hot day that temperature could rise 10-15 degrees. Instream water samples show a low buffering capacity for acid as well. [LCWA]
- Finished July Program Manager progress report. Prepared the conference room for the Hybrid Board Meeting the next day.
- EPCAMR staff hosted the EPCAMR Annual (3rd Quarter) Board meeting. Tested a water sample for Aluminum with our YSI photometer for Gary Leander. He was looking to compare methods and results with the equipment the Friends of the Nescopeck (FON) use. Our results seem consistent with what PA DEP Bureau of Abandoned Mine Reclamation (BAMR) gets from lab sampling results. The FON equipment has a different reading.
- Call with Robert Young, DEP regarding a Solar on AML summit and regional roundtable discussion they would potentially like to host next year. Robert Young was a speaker at the PA AMR Conference and was particularly impressed with the way the conference was run.
- EPCAMR staff discussed strategy on the remaining Black Duck and Brook Trout sites to monitor in the Southern Wyoming Valley for the National Fish and Wildlife Foundation (NFWF) grant. Marked visited and inaccessible sites on GIS map to help us determine which sites were left. Added stream monitoring points to GIS map from sites that Dr. Ken Klemow visited during the Impact of Mining on Newport and Nanticoke Creek Watershed report in the early 2000s. These sites had water chemistry and macroinvertebrate indices evaluated so we chose several of these sites to revisit now 20 years later to compare and contrast results. [NFWF]
- Edited the Loyalsock Creek 2021-2022 DRAFT sampling report with some discussion Robert, Tom Clark and I were having last week over email and text. Tom thinks that acid and thermal pollution are more of a threat to the Loyalsock Creek fishery than metals. We recommended looking at upstream areas for thermal and acid problem areas and potentially remediate those with field liming and shade tree riparian buffers or dam removal. Also recommended to look at the construction of the treatment systems and suggest revamps that would reduce thermal pollution especially in the VFPs. [LCWA]
- EPCAMR staff hiked around an undeveloped site in Humboldt Industrial Park to look for AML features for BWC Stony Creek LLC. Printed RAMLIS investigation, maps and mine maps in advance to aide in finding features. Took photos and water chemistry of the receiving stream (off property). Discovered that Stony Creek had lots of fish and potentially a trout despite its 303d listing. [BlueWave]
- Visited the Loomis site with Terry from EC to take a photo and GPS coordinates of a mystery pipe sticking up out of the ground. The pipe was blocked with bricks and other debris. If this was a borehole to the Loomis mine this would be worth saving as the current borehole in the Loomis mine pool is difficult and dangerous to sample being on the off ramp from Rte 29 to the San Souci Parkway. Plugged the coordinates into ArcGIS and compared to mine map mosaics to find out that the pipe vented the Truesdale Mine by tapping a pipe almost 600 feet down to the Mills vein. So, it is not as important since there are several mine pool monitoring points in the Truesdale Colliery. [NANCR]
- Combined field notes, site photos and a mine map analysis into a site visit report for BWC Stony Creek, LLC potential solar site in Humboldt industrial park. Received a report on the Solar

Suitability Model from Steve, obtained surface soil types from USDA website, and added a RAMLIS/Mine Map investigation to create a Site Visit document. Created a cover page for the report and sent it off to staff for comment then delivered to BWC Stony Creek LLC [BlueWave]

- Answered emails from Tom Clark, SRBC, about Bear Creek potential treatment systems and potential weir and mitigation at Packer Air Shaft based on flow and chemistry from site visits in October and December 2021.

Technical Assistance:

- Uploaded Erie and Greenwood Colliery TIFF maps to Patrick's One Drive so he can convert them into SID files to be used for the Carbondale Mine Map Mosaics.
- Sampled Loyalsock Upstream, Downstream, & 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) & Loyalsock Creek Watershed Association. [LCWA]
- Looking for Rausch Creek GIS files where Rausch Creek Lands maps were organized for the Bear Creek Project. Updated firmware on M Drive. Sent borehole locations and Western Middle Anthracite Coal Field mine pool maps to Shamokin Creek Restoration Association (SCRA).
- Worked on the Bear Creek 3D model. Heads up digitized Lykens Valley #5 vein (LV5) elevations on EarthVision 4DVX cross section file, exported to shapefile and brought into ArcGIS Pro to compare with elevation points digitized by Harrisburg University for the MSI Program. Discovered that the mine maps in the mosaics were georeferenced off by 225 ft and need to be regeoreferenced. This also means that the digitized points and polygons need to be moved and reshaped. [BEAR]
- Compared Aluminum and Nitrate sampling results with Lycoming College Clean Water Institute (CWI) and Pace lab results. Seems our results are factors higher or lower. Our Aluminum results were 1-3x higher than CWI results. Our dilution factor method may play into the error as we can read Aluminum up to 5 mg/L only when diluted 10x. NO₃-N results were initially 4-10x lower than CWI, but if CWI results are true NO₃ then we can multiply ours by 4.4x to get only 1-2x lower results. Other results (ex. Iron) were the same or within normal tolerance.
- Georeferenced BMSA_4482-001, IUPSG_01958, IUPSG_01196, and IUPSG_04221 based on IUPSG_01022 surface for Bear Creek 3D mine pool project. [BEAR]
- Worked on Bear Creek Mine Pool Model in Earth Vision. Adjusted Williamstown cross sections 90-81 to property boundaries digitized from IUPSG_01022 surface and converted to traverse curtains. Processed 79-70 into 4DVX files. Photomerged ones that were multiple scenes in Photoshop and saved to JPEG images. Cropped, brightened, straightened and gathered statistics from images in IrfanView. Added elevation points to the Lykens Valley 5 vein cloud points file especially where gangways were marked on the cross section and exported to a shapefile to check line up with gangways on UMMs in ArcGIS Pro. Measured distance off and adjusted the lines of section dataset then re-drew 4DVX files and adjusted digitized elevation points. [BEAR]
- Continued work on Bear Creek Mine Pool Model in Earth Vision. Processed Williamstown XS 64 and digitized elevation points. Manually adjusted LV5 Mined out areas and started to adjust elevation points between XSs 90-69 originally digitized off mosaics by Harrisburg University. [BEAR]
- Frank was almost finished digitizing Nanticoke Quadrangle Mosaics and was soon ready to start digitizing mosaics of Wilkes-Barre West Quadrangle. Started looking at Red Ash Veins (Lo, Mid and Up) for the first time in a while. They were submitted to ad approved by DEP in 2019 and 2021. Compared already completed digitizing, some areas were missing and most elevation points were slightly off. Upper Red Ash mosaic was missing a map that was previously used for digitizing. Removed BMSA_3614-001 and extended BLUE_TRU-12-11 and BLUE_TRU-16-11 into that area. Clipped the original digitizing geodatabase from 5/18/20 to Wilkes-Barre West quad and sent to Frank along with the 3 Red Ash veins. [MSI]
- Searched for Raymond, Jermyn, DeAngelis, and Pennsylvania Anthracite Collieries in the National Mine Map Repository (NMMR) TIFF images to have our DEP project manager, Patrick

Jaquay, convert the files into SID format for Shawnese to use in the Carbondale Quad vein mosaics. Found the first 2, but the others were more difficult. For DeAngelis, the folios showed boundaries for Archbald Coal and Edgerton collieries. Found Archbald Coal and added it to the drive, but not Edgerton. For Pennsylvania Anthracite, the folios showed boundaries for Ontario, Sturges, Blue Ridge, Webster, and Riverside collieries. Apparently, Pennsylvania Anthracite was a conglomerate of the 5 smaller collieries. [MSI]

- Patrick quickly converted the TIFF images and uploaded them to his OneDrive. Downloaded SIDs for several Collieries in the Carbondale Quad. [MSI]
- Discussion with Jason at Earth Conservancy about making a “Weir Sandwich” to repair the weir that was installed 22 years ago at Nanticoke Headwaters monitoring site. The flow has been low at this site and this method would allow us to refresh the weir with new parts and a profile that we can automatically calculate a flow without having to completely remove it. Also suggested downloading the data when we sample Askam and Nanticoke the next time. We should wipe the transducers and start new logs in September because we will have a fully hydrologic year of data. [NANCR]
- Researched a “blue map” issue reported by Shawnese in ArcGIS Pro. The SID image was missing Band_3 which is needed to display RGB color maps, but since the NMMR maps are grayscale you can view the map with a black to white stretch on Band_1. Asked our DEP project manager, Patrick, if this was an issue for mosaics, as I remember something about stretched maps causing problems in the mosaics. He had a workaround using the table to allow certain maps to be stretched in the mosaics. Sent info to Shawnese and Steve to correct the display of the maps in the mosaic. [MSI]
- Touched base with Frank on digitizing as he was almost done with Nanticoke Quadrangle. He came in the office for George vein maps and needs to digitize a few areas on No. 3 & No. 4 vein maps. [MSI]
- Removed BMSA_1019 and replaced with BLUE_HBU-32-14 in the Wilkes-Barre West No. 3 Vein Mosaic. Remove BLUE_LOO-10-17-02 then geo and add BLUE_LOO-07-17-02 to Wilkes-Barre West No. 5 Mosaic. Remove BLUE_LOO-07-19 from Wilkes-Barre West No. 6 Mosaic because this is a copy of BLUE_LOO-07-16-01 in the No. 3 Mosaic. Found 1:100 scale No. 5 and 6 vein maps in Inman NMMR TIFF images. Uploaded the folder and asked Patrick to SID them. [MSI]
- Sampled Askam Boreholes, Treatment System, upstream and downstream on Nanticoke Creek, and 2 flow sites for August. Recorded data into sampling spreadsheet and delivered to Earth Conservancy. Took photos and measurements to aide in calculations for replacement of the weir at the Nanticoke Headwaters site. Drew up plans on graph paper to figure out size of plywood, hex bolts and potentially steel wings. [EC]
- Received Frank’s digitizing work from the Nanticoke Quad Mosaics and started to QA/QC. [MSI]
- Evaluated 2 wetland sites in Solomon Creek Watershed near St. Mary’s Cemetery. [NFWF]

[] - Denotes funding source where applicable.