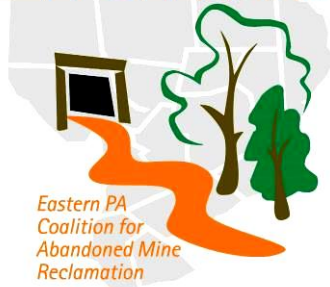


EPCAMR



Eastern PA Coalition for Abandoned Mine Reclamation

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December 2014 Progress Report

Highlights:

- Continued processing 146 TIFF, georeferenced 225 SID files and digitized features from 54 maps for the MSI Mine Map Processing Grant in October. Dropped off and picked up maps at the **Pottsville DMO**.
- EPCAMR staff participated in an AMR Conference Committee Call, an AML Trust Fund Meeting, and hosted 4 AMD tours for Greater Nanticoke Area School District.
- EPCAMR staff conducted flow and chemistry sampling at **Askam Boreholes**
- Edited a shapefile and printed a set of maps for 2 EPCAMR partners
- Filled 2 iron oxide orders and sent a RAMLIS CD to a college professor from my alma mater
- Updated www.epcamr.org, created <http://2015.treatminewater.com> and administered the EPCAMR Facebook and Google Apps for Nonprofits accounts.

Education and Outreach:

- EPCAMR staff hosted 4 tours to the Newport Lake, Honey Pot, Askam Boreholes and Solomons Boreholes discharges and wrapped up with a demonstration on how we process Iron Oxide Pigment for 4th & 5th Grades at Nanticoke School District. The tours are a part of the DEP Environmental Education Grant to eventually make pottery with the kids and incorporate our iron oxide pigment into the glaze.
- Applied for my GIS Professional certification through the GIS Certification Institute at www.gisci.org. The process is similar to certification for a Professional Engineer or Professional Geologist in that it requires a background education and accomplishments review by a board. There is no test currently, but I have heard that one is being developed.
- Created EPCAMR Program Manager monthly report for the previous months, gathered other staff reports, posted them to www.epcamr.org and sent to PA Department of Environmental Protection (DEP) 319 Nonpoint source (NPS) program staff for reimbursement.
- EPCAMR Program Manager and GIS Mine Map Program Coordinator traveled to Juniata College to participate in an AML Trust Fund Meeting hosted by Foundation for PA Watersheds. The meeting was to begin thinking about a strategy to continue reclamation and possibly obtain additional money to remediate mine water in PA (and nationwide) past 2021, when the reauthorized SMCRA Act sunsets. Secondly, the current fund is being compromised by many external economic factors and participants strategized on how to protect the fund known as the “AML Honeypot” around the DC beltway.
- Followed up with Branden Diehl, Foundation for PA Watersheds, to discuss how to “frame the P3 Issues” related to the AML Trust Fund. The PA DEP Bureau of Abandoned Mine Reclamation (BAMR) will continue to deal with Priority 1 & 2 AML issues, which equated to \$1.4 Billion in remaining work on the federal AMLIS inventory as of 2006. Priority 3 (usually AMD and less-physically hazardous AML) projects are not added to the federal AMLIS inventory, but

still exist in the PA AMLIS inventory with an estimated \$15 Billion left in early 1980s cost calculations. Based on www.usinflationcalculator.com: The cumulative rate of inflation from 1983 to 2014 is 138.4%. Therefore, if in 1983 I purchased an item for \$15,000,000,000.00 then in 2014, that same item would cost \$35,757,981,927.71. The idea is to have community groups take the charge in asking for this money in the upcoming campaign.

- Got a request for a RAMLIS CD through the www.epcamr.org/store from a former professor of mine at Lock Haven University, Dr. Shonah Hunter. I was flattered that she would want the GIS product, since she was the one who introduced me to GIS.
- EPCAMR staff filled 2 iron oxide orders, but one requested a tie dye shirt that we will have to make. We notified the buyer that it was a custom order and may take a while to create and was placed on backorder.
- Created a map for the Mill Creek Watershed for a Coldwater Heritage Partnership grant that EPCAMR staff submitted for the Laurel Run Watershed Assessment.
- EPCAMR staff participated in an AMR Conference Committee Conference Call to coordinate efforts with the committee as they continue to iron out details and get speakers/sponsors for the conference in 2015. Created a website for the 2015 Conference at 2015.treatminewater.com and began to add information that was solidified in previous conference calls.
- Printed a set of maps and cross sections of the mines under Centralia for Joe Sapienza, a documentarian interested in the Centralia Mine Fire.

Technical Assistance:

- Traveled to the PA DEP Pottsville District Mining Office (DMO) to drop off and pickup maps for the Mine Subsidence Insurance (MSI) Mine Map Processing Initiative. [MSI]
- Georeferenced several maps that were difficult to find the location for the MSI Mine Map Processing Program. Received correspondence from the PA DEP California DMO, coordinated file name and georeferenced control point corrections. Copied SID image files from the travel drive to the server. Reviewed and supervised MSI Program other staff work. Evaluated Samantha Shaffer to move her from a GIS Specialist to GIS Technician [MSI].
- Downloaded files from the PA Spatial Data Access (PASDA) server to create an update to the Reclaimed Abandoned Mine Lands Inventory System (RAMLIS) CD Tool for 2014. Also downloaded a database of AMD Treatment Systems from www.datashed.org and converted the XY data into a shapefile.
- Attempted to fix lines that were showing up in printouts from the Brother networked printer, by running a drum cleaning mode. There was no change in the lines. In the past we have emptied the waste toner cartridge and replaced the drum and belt units, but those units are around \$100 a piece to purchase. Looked into a new laser printer with comparable functionality and found a Cannon model that won the 2014 Buyers Lab Pick Award. Purchased this instead of trying to maintain the 6 year old Brother printer. The replacement Cannon imageCLASS MF8580Cdw laser printer was on sale for about \$300 (regular retail is about \$600). Setup of the new printer was easy and software was included which allows us to scan directly to several computers in the office through the network. This will be helpful as we switch over to the HelloFax electronic fax premium google app.
- Ordered our own Pantech UML295 Cellular Modem from E-bay for approximately \$50 to replace the faulty Novatel USB551L. Attempted to switch them out on the Pocket Port 2, but since the unit was newer, it required a new smaller SIM card. Worked with Verizon Wireless to order the new SIM card. Once it arrived, we switched out the Cellular Modems. The Pantech device auto-configured itself (as the Proxicast Support Staff predicted) and provided really fast speeds (Download 30 Mbps and Upload 10 Mbps) to the office network.
- Fixed errors in QuickBooks that were showing negative numbers in the last EPCAMR Board Meeting Treasurers Report. It is a common error due to choosing the general checking account as opposed to restricted or unrestricted subaccounts. All accounts started with "EPCAMR Business Checking" which is the general account, then followed by restricted or unrestricted for

the subaccounts. Only the first few words show up in most drop down menus, making it easy to choose the wrong one. Renamed the general account to “Checking” and the full sub account names should now show and will hopefully minimize future recording mistakes.

- Received word that the Askam Boreholes began running again and Earth conservancy turned on the maelstrom oxidizer, but visible iron was leaving the pond “untreated”. EPCAMR sampled the flow 2x this month as requested to determine why. The flow was approximately 3,000 gpm, but had not flowed that high since the treatment system was installed in July. The discharge had no flow since late September. In July, the flows were only about 1,000 gpm and the ponds were collection all the iron. A quick analysis of the facts could conclude that 3x flow through the system reduced water residency time in the ponds so the precipitated iron does not have enough time to settle in the ~1 acre pond. At first we thought that temperature could be having a slowing effect on the chemical reaction and precipitation time, but further chemical and physical parameters would need to be taken to troubleshoot the problem [EC].
- Sampled Askam Borehole Treatment System for flow and chemistry at several points 3x this month: before the discharge gets to the system, within the system, as treated water flows out of the system and downstream. The maelstrom oxidizers were running. The flows fluctuated between 2,500-4,500 gpm while the temperature and chemical loadings stayed constant. Visible suspended iron precipitate continued to exit the system. Researched papers on other treatment systems and found the Marchand Wetlands treatment system, designed by Hedin Environmental, to be a comparable system that is efficiently treating similar chemistry and flow, but has ~6 acres of ponds and several acres of polishing wetlands. Unfortunately, we think that the minimum residency time to settle precipitate iron has been exceeded and the only way to fix it would be to add more capacity to the settling area, maybe by a factor of 3-5x what is existing [EC].
- Attempted to fix an issue with one of the laptops used in the MSI Mine Map Processing Initiative. The screen would occasionally go black and the only way to get it back is to hard reboot the computer (turn it off and back on), which can be damaging to the memory and files on the computer. After some research online, users determined that it could be a conflict with another component. The wireless card had stopped functioning a few months before and was disabled, but I remove the chip to be on the safe side. This did not fix the problem, however. Other users reported that it was a BIOS issue that falsely signaled an overheat situation and shutdown the screen to protect it from damage. There was a piece of software that was available to fix the issue, we also put the computer on a cooling pad (like mine) to raise it above the desk and provide airflow to dissipate heat. These 2 actions solved the problem, for now, but the Dell Precision M6500 is getting old (~5 years old) and should be replaced soon. This was not one of the computers that was purchased in the beginning of the MSI grant [MSI].
- Continued to edit/redraw current mine pool boundaries based on current borehole/discharge elevation levels and the 3D Wyoming Valley Mine Pool Model for the Susquehanna River Basin Commission (SRBC). Funding has run out for the project, but this deliverable was something that we anticipated to be delivered initially and I have been working, when I have time, to complete the layer and create maps for the appendix. I am at Wilkes-Barre and working my way south.
- Constructed a particulate iron filter out of a siphon pump and funnel, then researched and ordered paper filters that would be less than 4 micron porosity (small enough to filter out particulate iron in a suspension). After talking with several colleagues about what to do with the Askam Boreholes Treatment System, the general consensus was to measure the amount of precipitated iron in proportion to the total iron (which is what we currently test). This percentage would show that the Maelstrom Oxidizer is functioning properly and precipitating all the dissolved iron. The homemade siphon was too strong for the paper filters when wet and pierced the paper, contaminating the sample. Ordered a Buchner funnel and Erlenmeyer flask with an attached vacuum pump. This setup was difficult to find, especially in a form that could

be taken into the field, but this sampling equipment should get us one step closer to making a better recommendation to EC on how to increase the efficiency of their treatment system [EC].

[] - Denotes funding source where applicable.