



Eastern PA Coalition for Abandoned Mine Reclamation

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December 2015 Progress Report

Highlights:

- EPCAMR staff continued to scan 196 mine maps into TIFF images, georeferenced 74 & digitize 19 maps for the MSI Mine Map Processing Grant. Began naming & sorting Blue Coal Collection
- Set-up, troubleshot computer issues & conducted in-house training of digitizing cross-sections EarthVision with all staff over 3 days
- Drafted a written testimony for HR 3843 and HR 3844 based on recommendation by the board
- EPCAMR staff participated in an EPCAMR staff meeting, an AMR Conference Call, meeting with **Wilkes University**, and a webinar related to Willow Stick technology.
- EPCAMR staff continued printing/PDF-ing maps for municipalities in the **Wyoming Valley**; prepared 1 set of statistics for an EPCAMR partner.
- EPCAMR staff took daily gauge readings and sampled flow/chemistry at **Askam Boreholes**; troubleshot and pulled probe at **Old Forge Borehole**
- Updated www.epcamr.org; administered the EPCAMR Facebook and Google Apps for Nonprofits accounts; maintained GobbaDaPile, EPCAMR's in-house data server.

Education, Outreach and Admin.:

- Drafted a written testimony for HR 3843 and HR 3844 based on recommendation by the board. They decided to support HR 3843 aka the Good Samaritan Act and not support HR 3844 aka the Minerals and Energy Foundation Act at this time. They wanted to the letter to show that we were honored for the opportunity to comment and would like to continue the dialogue as congress continues to iron out these issues.
- Staff spent a day sampling the Askam Treatment System and creating some promotional action shots with our new ATV for the Polaris grant. Sent sampling results to Earth Conservancy (EC).
- Suggested a format, reviewed and recommended edits for Polaris' EPCAMR ATV use brochure. The brochure will be printed on our poster sized paper (18" x 24") and folded similar to a USGS GIS mapping brochure we found in the office. A map of proposed ATV trails will be on the flip side.
- Preparing for an in-house EarthVision training of staff to help convert cross sectional maps into 3D underground mine data. The process requires placing and tracing the maps in a 3D environment. Issues arose with some of the computers being used for the training not processing the scripts. Conferred with my mentor, Mike Dunn, from the Office of Surface Mining Reclamation and Enforcement (OSMRE) in Pittsburgh. We troubleshot the problem and found that a necessary Perl script program was missing from the more recent versions of EarthVision install programs. He suggested that we download Strawberry Perl, which fixed the problem. We will request a training later directly from the Technical Innovation and Professional Services (TIPS) program for general use of the EarthVision software.

- EPCAMR staff participated in an AMR Conference Call to decide on Indiana University Kovalchik Center as a venue for the 2016 AMR Conference.
- EPCAMR president and management staff attended a meeting at Wilkes University to discuss potential projects that we could collaborate on in the near future.
- EPCAMR staff held a staff meeting to coordinate efforts for the month.
- Traveled to the Lackawanna River Conservation Association (LRCA) offices to meet with the EPCAMR president. On the way back I stopped by the Old Forge Borehole to collect flow data from the probe, but the probe was not responsive. Called InSitu technical support and they gave me some ideas to try to get the probe to respond. Returned the following day to troubleshoot, but nothing was helping, so I pulled the probe and returned it to the company for repairs.

Technical Assistance:

- Spoke with Mike Dunn, OSMRE Pittsburgh Office, about 3D printing and its compatibility with earthVision models. I found an article that shows that coViz, another Dynamic Graphics product, has the ability to translate to the 3D printer language, however OSM does not have a license for this software. Also, it seems that Dynamic Graphics isn't interested in keeping up with 3D printing and instead is continuing to focus their development in the Oil and Gas fields. Who can blame them? He also let us know that a new version of earthVision, 9.1, is coming out with improvements on heads up digitizing.
- Updated "Skips Scripts and Other TIPS" document in preparation to train staff internally on 3D mapping with earthVision. Also included recent information from Mike about borehole wrapping and 3D above ground structures from SketchUp in the update.
- Server went down again after an update. Windows Server 2012r2 is not like a regular Windows OS, I think I am going through a steep learning curve to keep it updated and functioning properly. The Windows update tool regularly errors out, which I have a command line script to fix it now, but when the update succeeds there is about a 50% chance that the server will crash either immediately or within a few days. It's usually due to a driver. I have begun a log to help. [MSI]
- Continue to have difficulty organizing and naming maps in the Blue Coal map collection. It's less about our own organizing effort, and more about understanding how it was originally organized then trying to put things back after a decade or two of neglect. The more we work with the collection the more we understand, but it's slowing down scanning performance. [MSI]
- Georeferenced difficult maps from the Forest City area. [MSI]
- Synced files on the T Drive to the M Drive as it was becoming slower to print OSM Folio Maps for the PennEast Pipeline Grant. I use the T Drive which is a small portable drive for GIS work. In the past it has sped up GIS mapping, but since the upgrade of our network, the server (M Drive) actually transfers files at a comparable speed unless you are working with really big files (i.e. the OSM Folios). Surrendered the T Drive to the map printing effort temporarily.
- Created a map of the Gardner Creek Watershed and an estimated percentage of lands open for public use for a Coldwater Heritage Planning Grant. Troubles with ArcGIS slowed down the process.
- EPCAMR staff and president participated in a webinar/conference call on a new technology to trace underground flow paths of water called Willowstick. The technology uses probes placed miles away from each other in at least 2 boreholes to send electrical currents through the water while a team on the surface systematically maps the electrical field.
- Another issue dealing with the 4DVX displaying on 2 of the 4 computers used in the EarthVision training. Both computers have an ATI M6100 graphics cards, I have learned in the past that certain graphics cards had limits as to the size of the image file being processed. Converting to 4DV (a binary format where the image is written into the file) did not work. This time it was approximately 24 Million pixels. If the files go above this limit they can be cropped, dpi reduced or split into 2 files (which would also require splitting the line of section).

- Georeferenced difficult maps in the Archbald area and aided in scanning. Upgraded one the computers to Windows 10. Checked December work for quality control and assurance. [MSI]
- Compared historical flow data on South Wilkes-Barre Boreholes from 1974-1975 and 2014-2015 to see if the recently drilled new boreholes are pushing more water toward Askam Boreholes as requested by the Earth Conservancy. On the contrary, in 1974-1975 the median flow was a little under 15,000 gpm while there was more rain recorded and in 2014-2015 the median flow was a little over 15,000 gpm while there was less rain recorded.
- Worked up a naming scheme for veins in the Wyoming Valley. As staff continue to digitize mine map cross sections they are running into different names of veins as they cross colliery boundaries. This is actually difficult and has been tried by many entities beginning with the Works Progress Administration of the 1930's up to present day with the PA DEP Mining Subsidence Insurance Program. There are too many inconsistencies in the way that veins were named from company to company and within companies most likely for proprietary reasons. Especially in the EarthVision 3D modeling software, it is really important to be able to trace the veins throughout the coverage area, therefore we had to make a custom set for this specific area.

[] - Denotes funding source where applicable.