Eastern PA Coalition for Abandoned Mine Reclamation

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December 2010 Progress Report

Highlights:

- EPCAMR staff attended NPS Liaison Committee Resource Extraction Sub-Committee conference call, and hosted a Huber Breaker tour.
- EPCAMR staff sampled 14 boreholes. Checked 1 dataset for consistency and revised 1 set of structure contours for the Mine Pool Mapping Pgm.
- Distributed 1 RAMLIS CD, revised 15 maps and tested hardware for EPCAMR partners.
- Updated www.orangewaternetwork.org, www.epcamr.org, www.huberbreaker.org and EPCAMR facebook page. Registered 1 domain for an EPCAMR member requesting webhosting service.

Education and Outreach:

- Created EPCAMR Program Manager Monthly report for the month of November, gathered other staff reports, posted them to www.epcamr.org and sent to PA Department of Environmental Protection (DEP) 319 Nonpoint source (NPS) program.
- Aided Wren as she updated the Huber Breaker Preservation Society (HBPS) brochure. The new tri-fold brochure not only has information about the society and links to the new website, but a membership renewal form and donation order form.
- Renamed and edited approximately 15 maps for the Catawissa Creek Rivers Conservation Plan, again as requested by the Pennsylvania Environmental Council (PEC) Northeast Office staff. The deadline to complete the plan was near and they needed a way to insert the maps into the final printed report. Work was provided as an in-kind match to the grant.
- Attended the Huber Breaker Preservation Society's (HBPS) monthly meeting to explain current revisions to their website, at www.huberbreaker.org and promotional materials that the EPCAMR VISTA prepared.
- Spoke with Alexandria Serio, Kings College, about featuring some of EPCAMR's work in her applied GIS online course. Allie previously aided the Lackawanna River Corridor Association with their GIS database and coordinated GIS day in Northeastern Pennsylvania. Sent a RAMILS 10 CD and visited a website that showcased the work of her students related to GIS Day 2010.
- Added a page about the "Abandoned Mine Drainage: an Epic Tale" video and booklet to www.epcamr.org to highlight the release and make the actual 15 minute video available on the page. Edited the booklet to lower the perceived reading difficulty to 12th grade level and provide a glossary to explain some difficult terms. Ascertained a few quotes from printers in the area and sent to the Clearfield County Conservation District watershed specialist.
- Changed the color scheme on www.epcamr.org to make articles easier to read by changing the main font color to white. The website has always had a "chalk board" look, but the main text was always yellow. Now only links are yellow and change to green when visited.
- Added an article to www.epcamr.org regarding an issue commonly known as the "Keeley Decision", an opinion of the 4th Circuit Court in West Virginia. A court decision that could have

devastating affects for mine drainage treatment by ”Good Samaritan” environmental groups if it is upheld as law.

- Added Eric Bella’s virtual tours of the Huber Breaker YouTube videos to the www.huberbreaker.org website. Uploaded some photos to Huber Breaker Facebook site.
- Started pulling together materials for the 2010 Annual Report. Compiled hand written and recorded notes into a watershed report for the 2nd quarter 2010.
- Participated in a Non Point Source Liaison Committee Resource Extraction Sub-Committee conference call to discuss reporting requirements associated with the end of this fiscal year for the state and federal 319 program. This year, the focus has shifted from recording of projects related to the goals and objectives to watershed implementation plans and their status. The committee still would like to see the recording of projects kept up to date by PA DEP 319 program staff.
- Spoke with Tom Pease, HDR Inc., and filled him in on plans to monitor the Old Forge Borehole. HDR was involved in this project initially when EcoTech LLC was involved. As an engineer that is familiar with the borehole, Tom was interested in looking at the monitoring equipment that would be used in the project.
- Received a request from the new Columbia County watershed specialist to update a map for the Catawissa Creek Restoration Association to help in updating their brochure.
- Interviewed by Jessica Wolff, Harvard graduate student, who was gathering information for her master’s thesis in Landscape Architecture. She was interested in discussing the future of abandoned mine lands in Pennsylvania rural communities.
- Guided a photographer from Philadelphia around the grounds of the Huber Breaker. He was interested in urban landscapes and was especially interested in “industrial age” leftovers.

Technical Assistance:

- Traveled around Scranton to complete monthly round of testing the water level in 14 boreholes in the Scranton Metropolitan Mine Pool with EPCAMR VISTA. The additional borehole “#51” was found in Taylor in a box culvert under a plate in the road. Copied these values to an excel spreadsheet setup to calculate the depth of water into water levels based off the surface elevation of the boreholes. Compared elevations in a graph to find that there are still 4 distinct mine pool water levels within the dataset. Updated the sampling route to include the extra stop.
- Renewed the orangewaternetwork.org domain with GoDaddy.com as it was about to expire and could be lost. This domain points to the epcamr.org website domain and continues to serve as a secondary way access EPCAMR’s website.
- Registered the www.schuylkillheadwaters.org domain for the Schuylkill Headwaters Association (SHA) and set up a sub-domain for them at www.sha.epcamr.org as requested. EPCAMR will host the new website with a small yearly administrative fee, saving our partners a costly commercial yearly web-hosting fee.
- Updated the “wish list” on the Donate your Time, Talent or Treasures page on www.epcamr.org. The list updates an older list where we have either received donations already or purchased the equipment and added new items that are needed.
- Finished digitizing contours of the Mammoth Vein from the Second Pennsylvania Geologic Survey in R2V and tried importing them directly into ArcMap but ran into a snag. The map images were originally georeferenced in ArcMap and then opened in R2V for semi-automatic digitizing of the contours. After several e-mails to R2V technical support, Office of Surface Mining (OSM) Technical Innovation and Professional Services (TIPS) staff and hours browsing ESRI discussion forums, a fix was devised. Apparently, special formatting that dealt with some “rubber-sheeting”, asymmetric stretching that had to be done in ArcMap to line the map up with on the ground control points, was not transferred to R2V. This caused the vector contours to be askew and could not be corrected by simply shifting the projection of the file. The original images had to be rectified, a process that saves the rubber-sheeting effects into a new map image as a GeoTIFF. The GeoTIFFs were then opened in R2V and the contours were

painstakingly re-fitted and exported back out as shapefiles. As a result, the contours along Mt. Pisgah, near Tamaqua only, are still a little askew and should be adjusted another 100 yards to the southwest. This could be done, but was not worth the effort at this time. Lesson learned for future reference.

- Aided TIPS program staff in testing to see if "older" HP plotters would print maps from Windows 7 computers. EPCAMR has an HP DesignJet 800 and it prints maps still without a hitch from ArcGIS 9.3 and Adobe. There was a concern that when their offices upgraded the operating systems that their plotters would become obsolete as per an article from Microsoft that had to do with compatibility with several HP plotters in Windows 7.
- EPCAMR staff set up an AMD iron oxide processing area and organized the storage items in boxes and on shelves to get a better handle on inventory and supplies for upcoming educational programs. Organized fishing poles on carrying racks for ease of transportation to events. Rediscovered several testing kits and supplies that had been "MIA" since EPCAMR staff moved to the EPCAMR office. Downloaded missing instructions for some equipment and calibrated a few of the pH test wands.
- Provided technical support to Wilkes Students preparing to post their newly created Friends of the Nescopeck website to EPCAMR's Web-space.
- Aided EPCAMR Executive Director in preparing a grant proposal to the Cold Water Heritage plan for Solomon Creek. Worked up some "in-kind" numbers and a sample map for a grant proposal.
- Formed a hypothesis as to why acidic aluminum discharges are more often found on the outskirts of the coal fields in the anthracite region. Sent this information to Tom Clark, Susquehanna River Basin Commission. The hypothesis clings to the idea that these types of discharges are geographically arranged near the limit of coal and may be coming from deeper geologic seems that were thrust upward to form basins and anticlinal features. Acidic aluminum discharges usually come from drainage off seams below the Mammoth and are bottom draining systems. Some examples of these discharges are the Grand Tunnel #1 Slope in the Northern Field and the Audenreid, Oneida #1 and #3 Discharges in the Eastern Middle Field.
- Reviewed 8 access databases which were snapshots of the mine drainage monitoring database as compiled by Ian Palmer for the Mine Pool Mapping Program. PA DEP District Mining Office (DMO) staff questioned the gaps in number sequencing and wondered if some data was missing. After review, the database given to the DMO was actually the best and most complete database. The gaps in the numbering sequence was a relic of some problems with the MS Access program. The total number of entries were consistent with Ian's reporting. It is much better to view the datasbase as a form in Access as the 2 datsets are combined and organized by sampling station and date in this view. DMO staff also mentioned that we may need to add a disclaimer to the data to explain the process by which it was extracted and to go back to the original referenced copies in the DMO to explain any inconsistencies.
- Provided technical grant writing assistance for Earth Conservancy staff as they are submitting a grant to a foundation and wanted our opinion as they were potentially purchasing mapping equipment through this source that they would share with EPCAMR.
- Continued to write Part 3 of the Mine Pool Mapping Report. Added some information regarding geologic structure to pools 1 – 6A. Wrote complete descriptions to pools 7 and 7a. Discovered another table within Bureau of Mines (BOM) Technical Paper 727 Table 5 that reports Abandoned stripping excavations that are holding water. It could be helpful to compare these to AMLIS inventory hazardous water bodies if they can be confirmed as the same feature, but mapping does not exist for this table. Suggested using a figure for Chapter 9 from BOM Report 508 Table 2 showing volumes of mine water utilized in preparation plants in Pennsylvania anthracite region and BOM 531 tables from Mine Pumping plants to show how water can be extracted and used for other purposes.
- Digitized faults and anticlines for the Western Middle anthracite field based on the U.S. Geologic Survey (USGS) C-series investigation maps, as was done for the southern coal field. These

anticlines and synclines, when added as a layer can help explain a geologic separation or boundary of a colliery or mine pool when a barrier pillar does not exist. This type of separation also needs to be confirmed against mine maps to be sure that there is no connection via rock tunnel, borehole or seepage through strata.

- Fixed drainage flow direction near the Maple Hill pool to show the Shenandoah City pool flowing in as suggested in BOM 521 maps. The Maple Hill pool is very large and may overflow in at least 2 places. Therefore it may be connected to the Packer #5 Multi-Colliery Hydroligic Unit (MCU) or the St. Nicholas MCU. Borehole water levels and geologic structure confirm that both are plausible, but the Packer #5 is the most likely the strongest connection. Mine maps and cross sections are missing for some of the most important areas where connections may exist.
- Adjusted upcoming EPCAMR pay sheets to set the new 2011 mileage rate to$0.51 as stated by the state general services administration.