Eastern PA Coalition for Abandoned Mine Reclamation

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October 2013 Progress Report

Highlights:

- EPCAMR staff presented at the **Northwest PA** GIS Conference and met/conference called with PA DEP staff 2x to discuss specifics on the MSI Mine Map Processing Initiative.
- Met with Senator Blake's Office staff in regard to a Grant Proposal in the **Lackawanna Valley**.
- Sampled 2 discharges and downloaded transducer data in the **Lackawanna Valley**.
- Continued purchasing equipment, troubleshooting, setting up office, transporting maps and quality control checking of maps scanned and georeferenced for the MSI Grant.
- Processed maps from the NMMR for the **Heckscherville Valley**, accepted/scanned maps of and updated GIS files related to mine pools in the **Wyoming Valley** for **SRBC**.
- Field investigation to locate 2 boreholes in **Carbondale** and **Pittston**.
- Updated www.epcamr.org and administered the EPCAMR facebook and Google Apps for Nonprofits accounts.

Education and Outreach:

- 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. EPCAMR Staff prepared monthly reimbursement paperwork for July and August to send along as well.
- EPCAMR staff participated in a conference call with the AMR Conference Committee as they plan the 2014 AMR Conference in June. Prepared a final budget for the 2013 conference to show what was left to be carried over to the 2014 conference.
- EPCAMR staff prepared for and presented information on the Mine Pool Mapping Initiative to attendees at the Susquehanna River Basin Commission (SRBC) Water Science Forum in Camp Hill, PA [SRBC].
- Met with Bernie McGurl, Lackawanna River Corridor Association (LRCA) and Senator Baker's Field Representative, Thomas Yonioski, Jr. to fill the senator in on the Lackawanna Valley Conservancy's Act 13 proposal to the Commonwealth Financing Authority (CFA) regarding the purchase of land in Duryea and a study to treat the Old Forge Borehole AMD Discharge [SRBC].
- Picked up tires from the Nockley's Tributary Cleanup Site with Executive Director on a Saturday Morning and took them to the Luzerne County Tire Recycling event at Hanover Area High School parking lot.
- Met up with Joe Solly, Lehigh University Grad Student, to take him to 2 sites in the Lackawanna Watershed. He was following up on a study that was completed by Jill Burrows about a year ago. This time he was to visit the Coalbrook Discharge and the Duryea Discharge the measure chemistry at the source, 100 meters from the source, 500 meters from the source and 1,000

meters from the source at each one of the discharges. The goal was to measure metals precipitation over these distances. The main focus was iron precipitation.

- EPCAMR staff traveled to Clarion University to present our Mine Pool Mapping Initiative information at the Northwest Pennsylvania GIS Conference at the request of our partners at Stream Restoration Inc. [SRBC].
- Updated EPCAMR Quarterly Meetings Page on www.epcamr.org to include information for the 4th Quarterly Board Meeting in November. Posted the Mining and Reclamation Advisory Board (MRAB) report on PA DEP BAMR activities to the page along with minutes from the last board meeting and staff reports.
- Completed the 2011 EPCAMR Year in Review and posted it to www.epcamr.org. This was always intended to be completed by spring 2012, but due to increased work load it was put on the back burner until real time could be spent, to do a good job, on this annual report. A draft of the 2012 report was started and will be completed over the winter before the 2013 report which is due in the spring.
- Sent a reminder e-mail, using MailChimp, to the EPCAMR board and associate members to remind them of the upcoming board meeting in November, prepared a draft agenda and deliver minutes from the last meeting.

Technical Assistance:

- Federal Government Shutdown only affected EPCAMR peripherally due to not being able to access Office of Surface Mining (OSM) Technical Innovation and Professional Services (TIPS) software license servers. Therefore no ArcGIS or earthVision software was available till the federal workers came back later in the month. Received word from Mike Dunn that there was a patch for earthVision 8.2 to be installed.
- Ordered a 56" Colortrac SmartLF Gx+ T56C Scanner from GEI Wideformat. The quoted price was heavily discounted (approximately $10,000 off the list price) due to the problems experienced with the 42" scanner. The scanner was not originally in the PA DEP Mine Subsidence Insurance (MSI) Mine Map Processing grant budget, but was able to be purchased through transferring money from the indirect line item to the equipment line item [MSI].
- Picked up maps from shelves 140-142 at the PA DEP Bureau of Abandoned Mine Reclamation (BAMR) Wilkes-Barre Office and taught newly hired GIS Technician, Kelsey Biondo, how to scan and catalog mine maps for the MSI Program. A few days later Bridgette Robinson came on board as a second GIS Technician and both began scanning maps 3 days a week for the month of October [MSI].
- Sent a hard drive with 21 scanned maps from shelf 143 at the PA DEP BAMR Wilkes-Barre Office to the PA DEP MSI staff in Harrisburg for quality check. Originally this batch of maps (time and resources spent) was to be charged to Invoice 1, but due to a rush put on the invoice time and travel was removed from this invoice. Time and travel related to the first 21 maps will be added to Invoice 2 [MSI].
- Realized that with an additional scanner coming and having 2 part time GIS Technicians working 4 days a week, the 3rd office will quickly shrink and they will need more space to spread out the maps. Moved the Scanners and GIS Technicians out to the Conference Area where they will have more room to work. The GIS Specialist can georeference and digitize in the 3rd Office since this work does not require as much space [MSI].
- Copied images of scanned mine map aperture cards and sent the hard drive back to the OSM Pittsburgh Field Office National Mine Map Repository (NMMR). The maps will be helpful in filling in gaps where OSM Folios for the Anthracite Region do not exist. EPCAMR intern also finished georeferencing Wyoming Valley mine map folios that had cross sections associated with them [SRBC].
- EPCAMR Intern started scanning maps for the MSI Mine Map Processing Program. Setup the X drive on the network to contain only Mine Maps and transferred GIS and other files to the Z

drive. Ordered a USB 3.0 External Drive Housing for the Z drive to speed up the transfer speeds over the network and other supplies for the program [MSI].

- Install CAPTCHA anti-spam plugin for WordPress on www.epcamr.org/store to stop hundreds of spam members that were showing up in the store. This happened once before to the old CPG Nuke version of the EPCAMR website and bogged down the speed of the site. It took many hours to clean the site of these intruders. This time preventative measures were taken to stop the onslaught.
- Met with GEI WideFormat technician to troubleshoot problems with connection of the newly purchased scanners to the network and operation between the hardware and software in general. When hooked up through the network, the scanners would only scan a few maps completely before causing an error and crashing the software. The software and scanner had to be rebooted to start scanning again. Technician concluded that the wiring on the network was unshielded, therefore causing slight noise over the network that was interfering with scans making it to the computers for post processing. Using the USB interface directly to the computer was the only viable option until the network could be looked at to reduce noise and possibly replace all wiring to make it shielded.
- Took care of some "housekeeping" that was building up such as time sheets, emptying garbage, vacuuming (now that mine maps are being transported and more staff) and recycling to Mascaro's.
- Returned maps from shelves 140-142 and picked up 2 more shelves at the PA DEP BAMR Wilkes-Barre Office and moved ~180 maps to the X drive [MSI].
- Scanned hardback maps that were given to EPCAMR by the OSM Wilkes-Barre Office before they closed. Mps showed Mine Fires, and most were in the Luzerne County. Two maps showed mine pools as well. Updated mine pool boundaries in Northern and Eastern Middle Fields based on these maps [SRBC].
- Stitched 7 TIFF files scanned from aperture cards at the National Mine Map Repository at with Photoshop into one map for the Glendower Colliery (all veins) and georeferenced it on the Dell Precision M65 "Dinosaur" computer running ArcGIS 9.3 Single User license owned by EPCAMR (since the government shutdown was still affecting our ability to a get a license of ArcGIS 10.1) [SRBC].
- Purchased Scanworks Pro software and catch basket for the 56" scanner through Print-O-Stat out of Allentown who was able to give use a better quoted price for these accessories, but not for the actual scanner. Purchased computer memory and a network cable tester to help troubleshoot problems with scanner glitches over the network [MSI].
- Visited Fern Street in Carbondale to look for another alleged borehole, but to no avail. Took photos and heard water pouring through several storm drains that looked connected, but there was not a borehole similar to others in the Scranton Area to sample. The cover that showed up on Google Maps Street View was actually a small round plate labeled sewer and did not attempt to open it. Downloaded Old Forge Borehole Transducer data and changed the desiccant on the way back [SRBC].
- Sorted through scanned maps for quality and inventory control purposes and scanned maps that were giving GIS Technicians problems. The maps were very long, over 15 feet, and 56 inches wide and were meeting the upper limits of what the scanners can process. The maps had to be scanned from one direction then flipped and scanned from another direction. The maps will have to be patched together therefore each piece was appended with A and B as directed by the PA DEP California DMO [MSI].
- Reviewed and scanned original maps donated by an older gentleman that used to work for the Glen Alden Coal Company. The map set accompanies Bureau of Mines Report 494 and shows the Buried Valley of the Susquehanna River. EPCAMR had the report but it only showed a few general cross sections and the basemap to the detailed cross sections, this set included the detailed cross sections as well. The study could really help in showing where the buried valley

exists and how it interacts with the mine pools in the Wyoming Valley. He also gave EPCAMR a pocket sized book of Anthracite Mining Laws from 1948 [SRBC].

- Created a basemap for all the OSM Folios with cross sections in the Wyoming Valley in preparation for digitizing the cross sections using the heads up digitizing method in earthVision and eventually a 3D mine pool model of the valley [SRBC].
- Submitted a proposal to sample the Espy Run Treatment System chemistry quarterly for a year from November 2013 to November 2014 to the Earth Conservancy (EC) and it was approved the same day. The goal is to see if improvements from connecting the forebay ponds will continue to help remove iron as predicted by the last round of sampling [EC].
- Agreed to be a "guinea pig" for getting access to the PA Historic Underground Mine Map Inventory System (PHUMMIS) database to add scanned, georeferenced and digitized maps to the database that exists on the DEP Intranet. The DEP intranet is very difficult to access through VPN due to its multiple layers of security. EPCAMR staff had to fill out paperwork to get login credentials and certificates, which will in essence make any 2 computers "state terminals" at will. The progress in accessing the VPN was slow, but staff were persistent.
- Installed earthVision 8.2.1 patch on the Dell Precision M65 "Dinosaur" Windows XP 32 bit computer and Dell Precision M6500 Windows 7 64 bit computer to test the patches and make sure they each worked well on the computers as a help to the OSM TIPS program and Dynamic Graphics Inc.
- EPCAMR Intern, Justyna, started georeferencing 20 maps that were scanned by EPCAMR GIS Technicians, sent to the PA DEP California DMO for quality control and to be changed into compressed SID files then sent back on a hard drive. One map was rejected because of a line on the scan that was a result of dirt on the lens and needed to be rescanned. This will also be the path of the georeferenced maps prior to digitizing. Hopefully once the DEP begins to see a good majority of correctly processed maps, the second trip on the hard drive can be skipped [MSI].
- Traveled to the LRCA office to meet with EPCAMR President.
- Upgraded EPCAMR Executive Director's computer from Windows Vista Home Premium to Windows 7 Professional. This was a multi-step process that required first installing an upgrade from Windows Vista Home to Vista Business then to Windows 7 Professional. The CDs were supplied from Dell as requested. All files (not programs) were transferred to an external hard drive, which proved to be a good precaution, since a simple transfer was not available. The complex process required a reformat of the hard drive and a new installation of Windows 7. EPCAMR learned not to "cheat to save money" by purchasing a Home Edition of Windows for use in a business environment, but a fresh install of Windows is often better than an upgrade for the performance of the computer and in the process only programs that were needed were reinstalled.
- Copied over 700 scanned maps to an external drive and sent it to the PA DEP California DMO for quality control and conversion to a compressed SID format. Experienced some technical problems with the transfer related to a very slow speed of file transfer when the external drive was directly connected to the network drive via USB 3.0. The idea was to skip the possibility of bogging down the servers with this massive file transfer, but found that rather than troubleshooting yet another problem that it is best to scrap this method of transfer and copy the files through the network using my hardwired computer as a transfer conduit over night when computers are not being used. Filled out spreadsheet to match inventory control numbers to scanned map TIFF image names and sample picked a portion of maps to check for an in-house quality control. Caught some duplicate files and skipped inventory control numbers in the sample [MSI].
- EPCAMR staff went on a field inspection to West Coal Street in Pittston at the request of Luzerne Conservation District Manager. He notified us that a resident had found a large pipe in her back yard sticking up out of the ground and thought it might be mining related. The water level meter did not read any water and only went down 30 feet. After some research of the

underground mine maps we came to the conclusion that the pipe was most likely left over from a flushing project in the area to prevent subsidence as marked on the maps. Resident wondered if it would harm anything to cut the pipe to a little below ground level, replace the cap and backfill over it. We felt it was safe and recommended she contact PA DEP BAMR Wilkes-Barre Office to clear the action with them.

- EPCAMR staff met with OSM staff member, Brent Means, and SRBC staff member, Tom Clark, to test water and discuss the possibility of AMD treatment of the Old Forge Borehole with Hydrogen Peroxide. The Lancashire 15 AMD Treatment Plant in Western PA recently switched to this caustic chemical and it has drastically reduced their costs and waste. It is literally like adding concentrated oxygen to the AMD to precipitate iron out of solution. The resulting settled iron byproduct would also be free from unused chemicals and probably be more marketable. The only drawback is that Hydrogen Peroxide can cause really bad chemical burns when exposed to skin. Heavy duty precautions need to be taken when handling and storing the chemical in stainless steel tanks surrounded by a protective concrete shelter would be prudent.
- Fixed ArcGIS MXD Map file for georeferencing to look for the files on the “T Drive”(travel drive which is backed up to the X and Z drives via a program called SyncBack). Proceeded to look for the Hallstead Shaft in Duryea at the request of colleague and renowned local geologist, Jim LaRegina. Also lined up OSM Folios near the South Wilkes-Barre Boreholes to be sure of the actual location of the barrier pillar between the South Wilkes-Barre Mine, the Buttonwood Mine and the Inman Mine. They all meet in that general vicinity as portrayed by the DEP Scarlift and Bureau of Mines “Ash” Reports.

[ ] - Denotes funding source where applicable.