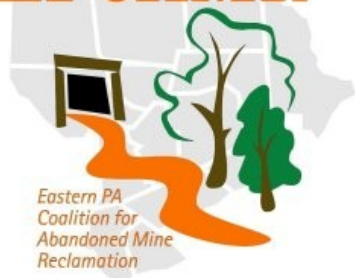


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Eastern PA Coalition for Abandoned Mine Reclamation- Mine Reclamation-Eastern PA Mine Pool Mapping Update Work Progress Report 6-PD060367 (January 1, 2010 thru September 30, 2010)-1st, 2nd, & 3rd Quarter 2010 (Robert)

January 2010

- Reviewed the letter of invitation prepared by the SRBC that has gone out to community groups in the EPCAMR Region within the Susquehanna River Basin to attend a discussion meeting on February 11 from 6-8PM at the PSU Hazleton Campus, about the development of an Anthracite Region AMD Remediation Strategy and assistance with the Mine Pool Mapping efforts of EPCAMR for the Northern and Eastern Middle Anthracite Coalfields
- Met with SRBC to show them the Mine Pool mapping that EPCAMR has been working on. SRBC's interest in this is water storage for consumptive use. They would like to obtain water, store it in the mines/mine pools and have the water to sell to industry. Also, they were interested in how the pools themselves could be manipulated in the sense of plugging up or creating a valve on the discharge, allowing the pools to fill up and regulate the amount that comes out. The natural gas industry wants to pump water from streams, and in low flow times this creates an issue because they can only take so much water without disturbing the stream's natural ecology. This is where the stored water from the mine pool comes into play. Either the gas companies can take water from the clean streams and then the stored water can be treated and released back into the stream to make up for what is taken out, or the gas companies would buy the stored AMD water from SRBC and treat it for frac water.
- They are looking for as close to neutral pH water as possible, with low iron/nutrient loading for use. However, to experiment the ability to manipulate water levels in the pools, ideally they would have only one or 2 boreholes or discharges that the water levels can be measured, and be located in an area with little to no population to avoid any harm or damage from possible subsidence. SRBC seems mostly interested in the Northern Coal fields where the gas well drilling is growing. They were very interested in knowing which mining companies had already approached EPCAMR for data regarding AMLs (Abandoned Mine Lands) and usage of mine water. Also, they seemed very willing to help seek funding to continue the mine pool mapping, especially into the northern and eastern middle coal fields. They seemed like they would help talk to legislators about funding and other ways area legislators can help our cause through the Federal Appropriations process within the Legislature.

- It was a goal of the SRBC in their Comprehensive Plan to further develop a working relationship with EPCAMR on such a collaborative watershed effort for the Anthracite Coalfields within the Susquehanna River Basin; Held a conference call with Tom Clark-SRBC about planning a regional meeting on the Anthracite AMD Remediation Strategy and Dashed AMD Water Quality Monitoring; Submitted comments to Tom Clark on the development of an Anthracite AMD Strategy Survey to be provided to participants who will be attending the March 11, 2010 Meeting at the Penn-State Hazleton Campus
- Provided an update to Stefanie Milewski-Conservation Alliance, Lackawanna County on EPCAMR Activities in the region and our search and need for mine maps to assist us with our future Mine Pool Mapping Project for the Northern Anthracite Fields
- Attended a Senior Staff level meeting in Harrisburg with Paul Schwartz, SRBC Executive Director and others along with Mike to present an update on our **Mine Pool Mapping Project** and to discuss a future partnership effort on the development of an Anthracite Region AMD Remediation Strategy; Worked with Tom Clark-SRBC Basin AMD Coordinator to develop a preliminary budget request that SRBC will be submitting to the Legislature to implement the *Anthracite Region AMD Remediation Strategy* and the **Mine Pool Mapping Project** begun by EPCAMR for the Northern Anthracite and Eastern Middle Coal Fields; **\$200,000** over 3 years to complete



Robert looking over Miscellaneous Geologic Investigation (I-Series) Maps from the 1960 to early 1970s reprinted at our Tech. Assistance Center

- Prepared several contracts amendments for Ian Palmer, Roger Hornberger, and the Dauphin CCD to extend the grants until June 30, 2010 for the **Mine Pool Mapping Project**

- Talked with Chris Murley, **Abandoned Mine Research** Director, about setting up a meeting where he might be able to show us some of his collection of underground mining shots of roofs, pillars, water-filled areas, for the Anthracite Region that we might be able to use in the report that we are writing; There are some great photos that could explain a lot of things that we are interpreting from the mine maps for these regions and their interconnectedness to multiple layers underneath the ground; EPCAMR will give full credit to the photographer
- Informed from the PA DEP that for any organization that has a State Grant, the reimbursable mileage rate has changed to *\$.50/mile* as of January 1, 2010

February 2010

- EPCAMR Intern typed Chapters 1 and 6 of Roger's Hornberger's written notes of the **Mine Pool Mapping Project** into Word Documents, so editing and finishing touches can be made by EPCAMR Staff; Searched for digital versions of the figures that Roger used in his report; Faxed Robert's changes to Chapters 1 and 6 to Roger and Dan. Also, requested certain references and/or figures from those chapters; Started typing Chapter 5 of the Mine **Pool Mapping Project** report so it is in our system and ready to be edited
- Forwarded information to Andy Wallace, Legislative Director for Senator Specter's Office in Washington DC on a FY2011 Priority Project of the Susquehanna River Basin Commission and the Eastern PA Coalition for Abandoned Mine Reclamation (EPCAMR); Also informed several other staffers and Legislative Aides in the EPCAMR Region of our project (Congressman Kanjorski, Congressman Carney, Congressman Holden, and Senator Casey); Paul Schwartz, Executive Director has been meeting in the last few weeks with various Congressmen and the two Senator's Offices during his legislative visits to inform them of the projects and to gain their support; EPCAMR has been making calls locally to the District Offices because of an inability to travel to Washington DC, given my staff's limited travel budget to educate the staffers on the Mine Pool Mapping and Anthracite AMD Remediation Strategy; Carney's Office suggested contacting some of the gas drilling companies (three were provided) to build a public-private partnership to move the project forward even further than it is
- Received January 2010 Invoice and Final Project Report Outline from Roger Hornberger for the Mine Pool Mapping Project; Requested electronic versions of draft chapters from Roger Hornberger for the Mine Pool Mapping Project to provide to Leigh Ann to begin the transcriptions from notepads to electronic format
- Provided a speaker bio to the PA Association of Environmental Professionals (PAEP) for a co-presentation in May 2010 on EPCAMR's Mine Pool Mapping Progress and the Anthracite AMD Remediation Strategy in partnership with the SRBC; Tom Clark and EPCAMR Executive Director to co-present
- Invited by Keith Brady-PA DEP to submit an abstract to present at the NAAML P Conference in September 2010 in the Scranton area on our Mine Pool Mapping Project in Eastern PA; Working with Mike Hewitt and Tom Clark to put together two presentations that will complement each other

March 2010

- EPCAMR Intern and Executive Director finished typing Chapter 5, and typed Chapters 10 and 14 of the ***Mine Pool Mapping*** report
- Prepared a summary report on EPCAMR's ***Mine Pool Mapping*** Initiative for the State of the Susquehanna River Report being produced by the SRBC; Co-sponsored a community meeting in Hazleton at the PSU Hazleton Campus with the SRBC to discuss with regional community partners, watershed groups, Districts, and other supporters the development of an Anthracite AMD Remediation Strategy, EPCAMR's Mine Pool Mapping Initiative, and Datashed; **22** people in attendance
- Provided the Schuylkill River Restoration Fund a Letter of Intent to pursue a **\$100,000** proposal in the ***Upper Schuylkill River Watershed*** related to the development of detailed underground mine pool maps and layers for the Southern Anthracite Coal Region utilizing Geographic Information System software (ArcGIS Info) and other related software bundles that allow us to portray the anticipated mine pools that will be created in 3-D format for easier viewing
- Asked Dan Koury, PA DEP Pottsville DMO if he had any additional ***Mine Pool Mapping Project*** Chapters in draft form that are in an electronic format that EPCAMR can give to Leigh Ann to start collating; EPCAMR has Chapter 1 and Chapter 6 written up already and are beginning to insert figures and tables and some photo references; These were Roger's manuscripts; EPCAMR has Chapter 3 and 5 that seem to have already been typed or written in an electronic format.; Image files for Chapter 3 are needed; EPCAMR is working on Chapter 7 currently; Mike and I are about 90% complete with Chapter 4. ***A Geospatial Approach to Mapping the Anthracite Coal Fields***. We are creating screen shot images to insert into the Chapter; The program (earthVision) is incapable at this time to deal with completely inverted coal beds that overturn on themselves or any seams that are over 45 degrees. They don't have that worked out yet, nor do they have a script to handle the situations that are occurring in the Southern Field; This area is going to be spotty; We may just have to state that in the report; It's not going to be as complete as the Western Middle Field;
- On Chapter 9. ***Resource Economics of Mine Water Resources***, Mike and I are working with John Dietz to see if he can get us some information to help out in this Chapter, plus I will be adding some other information related to the types of industries that might potentially want to consider using this mine water and generically speak about the associated costs and benefits; If you have a reference citation list or bibliography of those works that are being cited, we'd like to have it too; We painstakingly have to find each one of them because they are not including in Roger's manuscripts
- Worked with Ian Palmer on our ***Mine Pool Mapping Project*** to get a "data dump" of water quality monitoring data sets from the Surface Mine Permits files at the Pottsville DMO to provide to Tom Clark-SRBC to assist him with building the ***Anthracite AMD Remediation Strategy*** and Water Quality database
- Received terrible news that Roger Hornberger former PA DEP District Mining Engineer had died-EPCAMR Staff attended his viewing; Roger was very integral to the Mine Pool Mapping Project in Eastern PA that EPCAMR will now bear the load to finish before June 30, 2011; He will be sorely missed; He provided Mike and the EPCAMR Executive with years of mentoring and a wealth of institutional knowledge on understanding Anthracite Mining geology and hydrogeology to allow us to proceed forward

April 2010

- Submitted a Letter of Extension to Dan Koury- PA DEP District Mining Office for our **Mine Pool Mapping Project** due to the recent death of Roger Hornberger and our inability to obtain certain chapters and notes from Roger to this point to finalize several gaps in the reports that EPCAMR had been working with Roger on under contract; EPCAMR is asking for 1 year, but believes that we would be able to complete the work by the Fall 2010; Asked Dan if he'd like EPCAMR to store and display any of Roger's Reference Books and works on the Anthracite Region in our office since we have plenty of room; The USGS model and associated Open-File Report are nearly ready for review; All components of the report have been assembled; USGS wants to refine the volume estimates and do some other tweaking before transmitting the draft; Their volume estimates for the mine pools of the Western Middle Field are much larger than previously reported estimates, so they want to be sure they can justify and explain how these were determined
- Submitted EPCAMR's Mine Pool Mapping Presentation to the **NAAML P Conference** Presenter Committee for review and acceptance for this year's September 2010 Annual Conference in Scranton
- Registered with OSM TIPS Training Center for EPCAMR Staff to attend the EarthVision 8 2D & 3D Training in Pittsburgh in September; A limited number of participants were eligible from OSM and EPCAMR Staff are the only two non-profit representatives approved to attend due to our work with OSM and with EarthVision 8 already on our Mine Pool Mapping Project Initiative

May 2010

- Meeting with Dan Koury, Pottsville DMO to review and receive all of Roger's notes from the **Mine Pool Mapping Project** since his recent death; EPCAMR has applied for and should receive our extension for 1 year to complete the project by June 30, 2011; The pile of notes compiled by Roger is nearly 5" high and it now has to be transcribed and put into digital format and placed in the appropriate Chapters that Roger and Robert were working on preceding his death
- EPCAMR's Mine Pool Mapping Presentation to the **NAAML P Conference** Presenter Committee was accepted for this year's September 2010 Annual Conference in Scranton; Revised the Executive Summary to be 300 words or less and resubmitted for final approval in the program

June-July 2010 (**NO PROGRESS MADE AT THIS TIME-There was a break-in at our Office**)

August 2010

- Joy Tetlak-Adelstein-Northeastern PA Outreach Coordinator-Citizens for PA's Future (PennFuture) requested that the EPCAMR Executive Director speak for 10 minutes on the importance of Growing Greener to our organization and those that work in our Coalition; EPCAMR would also like to discuss the importance of understanding our underground hydrogeology of the Coal Region before we decide to drop wells all over the place; EPCAMR could share some thoughtful insight on our underground mine pool mapping initiative that we are undertaking currently to highlight the importance and potential re-use and resource recovery of abandoned mine drainage; EPCAMR is in support of the severance tax not only going to those groups mentioned below that you support, but we have a dedicated interest in where some of these funds should go under the Environmental Stewardship Fund in partnership with our Conservation Districts;
- EPCAMR received our formal extension from the PA DEP Growing Greener Grants Center for our project until June 30, 2011
- EPCAMR funding for our organization is also vital to continue the reclamation of abandoned mine lands, remediation of streams and rivers impacted by AMD, and to further the economic redevelopment

potential of the reuse of underground abandoned mine pools throughout PA; EPCAMR is in the process of working with the Susquehanna River Basin Commission on completing an Anthracite Region AMD Strategy that will be addressing mine discharges and the potential underground mine pool storage capacities for future low flow augmentation and industrial reuse by economic developers and industries that might be in need of water; EPCAMR has been working in AMD for 15 years and have been providing support to local community groups, Conservation Districts, municipalities, and other regional non-profits that need technical assistance on AMD issues, reclamation issues, environmental education, and watershed restoration and improvement projects

- Ian Palmer provided EPCAMR with an update on the research and water monitoring data gathering that he has completed for the Eastern branch of the Schuylkill River for the ***Mine Pool Mapping Project***
- Provided biographies for Mike Hewitt and the EPCAMR Executive Director to PA DEP BAMR for the upcoming NAAML P Conference at the request of Eric Cavazza; Trying to obtain information as to whether or not Mike and the Executive Director can just present at the Conference and not pay the steep registration fee for the day; Waiting to hear back from PA DEP BAMR; EPCAMR Staff were not able to attend the NAAML P Conference to make our presentation because we couldn't afford the Conference Registration fees, therefore, our presentation was still made available on the Conference Jump Drive provided to everyone and it will also be on the website and in the Conference Proceedings; EPCAMR was not able to obtain a waiver for the registration fees; EPCAMR, however, still provided in-kind services, time, equipment, and coordination to PA DEP BAMR on the Tuesday of the Conference when an AML & Anthracite History Tour was being coordinated in and around our office

September 2010

- EPCAMR is going to provide Ian C. Palmer, our Researcher with the additional \$40 that he has requested in his Final Invoice; What we would like to do is provide him with yet another revised and amended contract that has the newly granted extension deadline through June 30, 2011, which was just approved not too long ago, and add the \$40 into the Total Contract Amount approved, making it \$4040. This way we can have the most accurate reflection of the contract on record for the grant. EPCAMR will not be able to extend the contract with any additional funding beyond the \$40 that you have requested in this most recently submitted invoice. Ian and Bernie, our EPCAMR President can sign it and each get a copy and an original for the grant file.

The remaining funds, as EPCAMR had mentioned before need to be allocated to the EPCAMR Staff to complete our portion of the work through June 30, 2011 and there is a lot to be done, and nowhere near the funding available to cover all of our anticipated hours that we will be working on wrapping up the project. EPCAMR is hopeful that Dan or Bill can find additional funds for Ian to keep working on the data since he is at the very tail end of the project; One remaining item that needs to be completed as a part of the scope of work before EPCAMR can sign off on the last check is:

- i. *A Summary Report will be completed on all data collected and the process in which it was collected should be explained.*

As soon as Ian can provide that to EPCAMR, we will send the final check for \$170.00 along.

- EPCAMR Staff attended, completed, and partially taught a portion of the OSM TIPS earthVision8 Introductory Class in Pittsburgh, PA in partnership with Mike Dunn, OSM from Sept. 14-16th

Eastern PA Coalition for Abandoned Mine Reclamation-
Mine Reclamation-Eastern PA
Mine Pool Mapping Update Work Progress Report 6-PD060367
(*January 1, 2010 thru September 30, 2010*)-1st, 2nd & 3rd Quarter 2010 (Mike)

January

- Prepared for and made a presentation for executive staff at the Susquehanna River Basin Commission (SRBC) about the Mine Pool Mapping Initiative.
- Spoke with Roger Hornberger about the completion of certain draft chapters and what is needed to complete other chapters for the Mine Pool Mapping report.
- Met with Roger Hornberger to aide in writing the report for the Mine Pool Mapping Initiative. Printed all 16 USGS I-Series Investigation maps for Roger to aide in writing a chapter on geology for the southern anthracite field.
- EPCAMR staff worked on an update to the Mine Pool Mapping Initiative to find a way to best use the remaining funds as the project nears a completion in July.
- An internet search for mining geology maps resulted with a listing of maps and reports available from the MS Book and Mineral Company. This mentioned at least 2 more I-Series maps that are available for the Wyoming Basin in the northern anthracite field. These maps were housed at the BAMR office in Wilkes-Barre and will aide in mapping mine pools in the region.
- Answered questions about the Newmeister Drift Discharge and the associated mine pool. This mine pool sits on the division between the Delaware River and Susquehanna River Watersheds. The mine water discharges at ~500 gallon per minute (gpm) on the surface for about a mile and then disappears back underground into the mines under the Hecshersville Valley and eventually appearing back on the surface at the Pine Knot Tunnel discharge. Depending on where the majority of water is diverted from, there is a possibility to clean this water, divert it back to the Susquehanna River watershed via the Swatara Creek and claim it as new water. Created a RAMLIS investigation to explain details on these problem areas. There is also an additional mine pool about a mile to the south that has similar characteristics and has a bigger discharge that currently goes into a reservoir.

February

- EPCAMR staff spoke with Tom Clark, Susquehanna River Basin Commission (SRBC), about the upcoming Anthracite Strategy meeting and recent SRBC staff legislative visits. They have been big proponents of our mine pool mapping program and are helping us look for money to complete the study for the Northern and Eastern Middle Anthracite Regions in the Middle Susquehanna Subbasin.
- Posted Mine Pool Mapping 2009 quarterly reports to the EPCAMR website.
- Received handwritten Mine Pool Mapping Draft Report Chapter files via fax from Roger Hornberger and handed them off to Leigh Ann for transcription into a Word document.
- Received updated GIS layers from Jim Andrews, Pottsville District Mining Office, and incorporated these layers into the existing layers for the Mine Pool Mapping Project.
- Created 3 - 3.5'x10' maps and 1 - 3.5'x7' map at 1:20,000 scale that Showed the entire Southern and Western Middle Anthracite Coal fields and several GIS layers that were developed for the project. The

size of the maps really gives a scale to the enormity of the region covered by this project. After initial review of the maps, the print was too small for Roger Hornberger to read. Created another set of 10 maps for the Western Middle Field based on the coverage areas of the C-series maps at a scale of 1:10,000 (2x the size). These were much easier to read.

- Worked with Neil Wolf, Hedin Environmental, to ascertain whether mine workings existed under the Bear Creek Phase 2 treatment system proposed project boundaries. Either way it would be advantageous to know if the flow from the shaft can be combined with a seep downstream or if the ponds need to be lined to stop a potential leak into the mines experienced at the Bear Creek Phase 1 project site. Neil forwarded the AutoCAD DWG files and I overlaid them on a 2nd Geologic Survey map from the Mine Pool Mapping Project Collection. This overlay did not show mine tunnels under the Phase 2 project, but did show many that crossed under the Phase 1 project. Phase 1 Pond C was sealed last summer and is now holding water. No Office of Surface Mining (OSM) Mine Map Folios exist for this area; I recommended they contact PA DEP Deep Mine Safety in Pottsville to see if they had any maps that may show other conditions. Hedin Environmental is also working on re conditioning Phase 1 Pond B to spread the flow across more of the surface area and remove the limestone.
- Clipped, compiled and sent several GIS layers related to the Mine Pool Mapping Program to John Dietz as per his request with the caveat that the layers are draft and will not be final until the report is released and published.
- Noticed some inconsistencies in the mine pool, drainage tunnel and flow direction GIS layers after adjusting the barrier pillars to match the locations of the barrier pillars on the C-series maps in the Western Middle anthracite coal field. It is the consensus of the partners in the Mine Pool Mapping Project that the C-series maps are the most reliable when it comes to the location of underground features since the maps have references to Latitude / Longitude Coordinates displayed on the outside of the map. Re aligned the Ash Mine Pool map to better match the barrier pillars and started readjusting the aforementioned layers to match.
- Resolved a question about the division between West Bear Ridge and surrounding collieries. Barrier pillars surrounding the colliery act as a dam, but allow a connection to the surrounding collieries hydrologically when the water is at a higher level. West Bear Ridge however, is a high point in the Mahanoy Basin portion of the Western Middle Anthracite Region and may contain a perched pool. Water on the west end sheds west and water on the east end sheds east.
- Provided Bureau of Mines Report 538 to www.oldforgecoalmine.com, an online repository of local historical reports.

March

- EPCAMR staff co-hosted and presented an update on the Mine Pool Mapping Initiative at the Anthracite Strategy Meeting with Susquehanna River Basin Commission at the Penn State Campus in Hazleton. There were approximately 20 groups in attendance and providing feedback on the effort.
- EPCAMR staff presented our Mine Pool Mapping Initiative to over 40 students and teachers associated with the Community Connections to Our Watershed Luzerne County Program.
- As a result of formatting between ArcGIS and Excel spreadsheets, several different tables were created to “help” collect the bottom elevations of collieries and average mine pool borehole elevations. Somehow the tables began having different values. Had to double check Roger’s notes to see which dataset was correct. The ArcGIS versions of the datasets were most correct and changes were made to this dataset while the others were deleted.

- Met with Roger Hornberger, early in the month, to review documents that had been transcribed from his notes and continue to work on writing the Mine Pool Mapping Report. Began writing Part 3 which will spell out specific information on each mine pool based on current borehole water levels, information known about mines that have ceased pumping and things learned from the compiled GIS mapping, updating what was written by S. H. Ash in the early 1950s. It is difficult and tedious work, so far this has been written for all collieries and pools east of the Maple Hill Complex in the Western Middle Field.
- Attempted to create another 3D video of the mine pools and structural contours in the Western Middle Anthracite Coal Field. There was a comment made about the aspect ratio being a little bit off when it displayed in the PowerPoint program. In fact, there is a problem with a “feet to meters” conversion in ArcGlobe. The surface DEM is in meters, while the other layers are in feet this condenses the aspect ratio horizontally approximately 3:1 exaggerating the vertical extent. Also, ArcGlobe is not displaying polygon shapefiles elevation information (option is grayed out), rather it is using an offset from a constant elevation. Cannot convert the DEM to feet and it would take too long to convert the others to meters. Tried stretching the video horizontally, but this could not be made permanent in the PowerPoint presentation.
- Lined up several OSM Mine Map Folios W-10G 00A-10 (12 maps), W-10G 00A-12 (14 maps) to try to ascertain the integrity of a barrier pillar that was between 2 mines. The mine maps showed a few small connections through the barrier pillar, but also confirmed a very definite divide caused by a fault. The OSM Mine Map folios have proven to be a very good tool for determining mine pool connections, but it takes a long time to georeference each folio map properly (usually about 15 minutes to ½ hour per layer, now that I am better at it).
- Had a discussion with Executive Director whether or not to change the barrier pillars types attribute to solid, semi-permeable and submerged in attempt to be clearer in how the barrier were acting today at current borehole water levels. The previous types were breached, un-breached, partially breached and unknown based on S. H. Ash reports containing altitude of effectiveness values.
- Received word that Roger Hornberger passed away. Roger was a mentor and had closely been working on the Mine Pool Mapping Initiative with EPCAMR staff. He will be greatly missed by all, especially by those who were involved in the Mine Pool Mapping Initiative for the Western Middle and Southern Anthracite Coal Fields. He truly was a visionary for the project and provided so much guidance, mine map interpretation and report writing expertise. We plan to dedicate the report in his memory.

April

- Rescanned Technical Paper 727 from an original copy found in the Earth Conservancy Office. The original contained all the maps and figures that were missing in the scan from the Pottsville District Mining Office.
- Continued to write Part 3 of the Mine Pool Mapping Report, meticulously comparing the S. H. Ash reports of the Western Middle Field with current GIS and other information known about the status of mine pools in the region and reporting the changes. Used Cumulative Hydrologic Impact Assessments (CHIAs) from Jim Andrews, Pottsville District Mining Office to explain mine water flow situations in the Tunnel Ridge, Boston Run and St. Nicholas Collieries. Requested Deep Mine Safety maps 690 (Draper) and 1512 (Gilberton) to find connections in mine workings from north dip to south dip. Work is completed up to the Lawrence Colliery in the Mahanoy Basin.
- Adjusted the barrier pillar and mine pool layers in the region to match positions in maps and reports mentioned above based on a review of underground mine maps. Calculated mine pool areas with an ArcGIS plugin. Added these values to Part 3 of the Mine Pool Mapping Report.

- As a “plan B”, contacted Skip Pack, Dynamic Graphic Incorporated (DGI), to find a way to create a diaper/intrusion in earthVision in an attempt to correct overturned beds along the Sharp Mountain in the Southern Anthracite Field. This issue has proven to be a giant impediment to progress in mapping the lowest mineable vein contours, a step that is needed to produce updated mine pool extents in the region. No response from either Mike Dunn or Skip Pack on the issue.

May

- Presented RAMLIS and Mine Pool Mapping GIS presentations at the Pennsylvania Environmental Professionals (PAEP) Conference near Emmaus, PA.
- Prepared a DVD and CD containing the organized and georeferenced C-Series and I-Series maps related to the Anthracite Mine Pool Mapping Initiative and sent them to Chuck Crovatta, U. S. Geologic Survey (USGS). These maps were originally produced by USGS staff in the 1970s, but could not be found in their libraries.
- EPCAMR staff met with Dan Koury, PA DEP Pottsville District Mining Office (DMO), to transfer Roger Hornberger’s files and 2 DVDs full of mine maps from the Bureau of Deep Mine Safety (DMS) for the Mine Pool Mapping Initiative report. Also discussed extending the deadline due to the loss of an integral member of the team.

June

- Attended, helped setup computer equipment and presented at the Joint Mining Reclamation Conference at the Green Tree Radisson in Pittsburgh. EPCAMR staff presented the Reclaimed Abandoned Mine Land Inventory System (RAMLIS) Tool and Mine Pool Mapping Initiative.
- Worked with Shawn Jones, EPCAMR Intern, to teach him how to georeference the Office of Surface Mining (OSM) Mine Map Folios for the Mine Pool Mapping Initiative. Worked up a “cheat sheet” with some general rules and tips on what specific features represented and what to line up with aerial photos. The map symbology is not standard from coal field to coal field or even colliery to colliery, but there are general guidelines that can be followed when reading the maps and lining them up as explained by Roger Hornberger. Also created an excel spreadsheet to track progress and confidence in the georeferenced map (ex. The number of control points identified).
- Received 3 additional Cumulative Hydrologic Impact Assessment (CHIA) maps from the PA DEP Pottsville District Mining Office to review and incorporate into the Mine Pool Mapping Initiative Report.
- Received an update to EarthVision through the OSM Technical Innovative and Professional Services (TIPS) Program.
- EPCAMR Program Manager and Intern traveled to Ebervale, PA, with Peter Haentjens of the Eastern Middle Anthracite Region Recovery (EMARR) Inc., to look at a historic collection of underground mine maps owned by Pagnotti Enterprises Inc.. EMARR was interested in obtaining copies of the maps that pertained to the Jeddo Mine Complex. Many of these maps were already scanned and incorporated into the OSM Mine Map Folios. The maps ranged from mines in the eastern middle coal field to mines in the western middle and southern fields. Joseph Michel, former city engineer in Hazleton, also has a large collection of maps from the Diamond Coal Company and he is currently working with OSM in Pittsburgh to have his maps scanned into the Mine Map Folios.

July

- Added a maximum, minimum, average and count of mine pool elevations the southern anthracite field shafts layer as part of the Mine Pool Mapping Program.

- Aided Executive Director with a narrative report and associated expenses for the Mine Pool Mapping Initiative from January to June 2010. This initiative was funded by a Growing Greener Grant.
- Discovered that the PA Department of Transportation GIS files uploaded to PASDA have an incorrect projection and therefore do not line up properly with their Aerial Photos or Topographic Maps. The projection is a custom projection and should actually be defined as GCS_North_American_1983. Sent this information to PASDA.

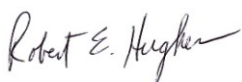
August

- Compiled a CD of GIS files related to the Mine Pool Mapping Initiative for Chuck Cravotta from the USGS office in New Cumberland, PA and a project partner. Chuck requested the mine pool data to use in at least 2 initiatives in the southern anthracite field. This data is still in draft format and will not be released to the public until a peer review has taken place.
- Worked on creating a diapir to aide in gridding the Sharp Mountain side of the Buck Mountain Vein contour in earthVision. The grid is created by tracing and manipulating data from the cross sections in the USGS I-Series investigations for the Southern Anthracite Coal field. The complex folding and over 90 degree pitches of the geology in the region are creating errors in earthVision gridding program. The diapir, however, also has a twist in the middle and enhances the error when used. EPCAMR staff will be going to an earthVision training in September and will hopefully get this question answered.
- Updated the “Cross Sections to 3D Contours in earthVision” instructions to omit relabeling attributes from “SectionID” to “ZoneID” and “ContourID” to “LineID”. These are special names in earthVision and actually tell the 3D Viewer to display them differently. This may also impede proper gridding of the data in the Work Flow Manager.
- Continued to digitize the Mammoth Vein Contours in the Panther Valley from 2nd Geologic Survey Maps MS1, MS2 & MS3 as a part of the Mine Pool Mapping Program.

September

- Attended the 4 day Introduction to earthVision 2D & 3D Modeling Training at the Office of Surface Mining’s (OSM) Appalachian Region Field Office Training Center in Pittsburgh as the only non-government organization in the Technical Innovation and Professional Services (TIPS) program. Learned some tips on how to get the modeler to properly display the gridded Buck Mountain vein along the Sharp Mountain in the southern anthracite coal field. It has more to do with the fact that the software improperly handles surfaces with more than a 45 degree dip, as remitted by Dynamic Graphics. In my experience, it may actually be able to handle anything less than 90 degree slope. Raw data along the Sharp Mountain should be edited to exclude dips over 90 degrees and modeled again.
- Prepared a narrative report and associated expenses for the Mine Pool Mapping Initiative from July to September 2010.

Respectfully submitted,



Robert E. Hughes
EPCAMR Executive Director