

Eastern PA Coalition for Abandoned Mine Reclamation-
Mine Reclamation-Eastern PA
Mine Pool Mapping Update Work Progress Report 4-PD060367
(April 1-June 30, 2009)

- On April 10, 2009 EPCAMR Staff were trying to coordinate a meeting with Pottsville DMO to review the mine pool data for the Southern Field prior to meeting with the USGS
- On April 14, 2009 reviewed Ian Palmer's Work Progress and Invoice
- Skip Pack from Dynamic Graphics helped EPCAMR write scripts and worked with us to find a practical format including the information that we need for the scripts; Their standard rate is \$1,500 a day (3 days) for an in-kind value of \$4500-- pretty standard for the oil industry, higher than most other areas. I have no problem with you using this information; there's no issue with the scripts being proprietary or revealing commercial secrets in this case as there is little or no intellectual content in them anyway.
- On April 27, 2009 EPCAMR Executive Director reviewed USGS's First Quarter 2009 Report; the USGS also will compute estimates of the mine pool volume for major collieries in the Western Middle Field using the average values for coal seam thickness, the thickness of the intervals between the coal seams, and the generalized structure contour for Buck Mountain seam. Dan Goode will use the preprocessor for the MODFLOW model to conduct this computation. Chuck anticipates that the potential errors from use of the generalized structure contours and the average thicknesses will cancel out over the regional area. Other potential sources of error include the variability in the percentage of coal removed, the degree of compaction of original voids, and the variability in the thickness of non-coal layers. If the computations give results that appear to be unrealistic, we may need to resort to using other data such as the thickness data you provided.

Also, as discussed at the meeting, others (EPCAMR) will use a tool such as Earth Vision to compute mine pool volumes in both the Western Middle and Southern Fields with more precise data for structure contours and for the thickness of coal and other strata. The estimated mine pool volumes, assumptions in the calculations, and relative potential errors in these estimates can be compared with estimates by USGS, Ash, and others.

- On April 27, 2009, EPCAMR Staff attended a Mine Pool Mapping meeting at the Pottsville District Mining office to update coal mine colliery boundaries and suggest alternate names to collieries; This was the first step in creating multi colliery hydrologic units for the Southern Anthracite coal field

- Mike has been adjusting colliery boundaries in prep for making the MCU layer and has a few more alternate names for Roger to consider; These are mostly from the 2nd Geologic Survey. Some are large portions of the original colliery; some are outliers, but still within or close to the boundaries. Please assume the word "Colliery" after each ; Mike has cut out the word so he don't have to type it so much. Roger mentioned that it is not hard to run a search of the database for extra names.

Existing colliery name and then the alternate colliery name(s) from Northeast to Southwest (Ab. = listed as abandoned on the map).

- Tamaqua – Levan's (Ab)
 - Ashton – Allen, Alaska (Ab)
 - Tamaqua Lands – Tuckers (Ab), Raub's, Newkirk, Buckville (Ab)
 - Newkirk – Randall's Slope (Ab)
 - Mary D – Kentucky (Ab), Potts-Hudson
 - Middleport Lands – Shanfaroque Coal, Docker & Bowman's, Milford, Coal Hill, Pinedale
 - Silver Creek – Windy Harbor
 - Palmer Vein – Alliance Coal Mining Co.
 - Eagle Hill – Peach Mtn. (Ab), Ravensdale, Feeder Dam
 - St. Clair – Eagle
 - Repplier – Ellsworth, Quin, Ebony, Spruce Forest (Ab)
 - Wadesville (Shaft) – Beechwood, Monitor, Revenue, Flowery Field, Mt. Hope, St. Clair Shaft
 - Pottsville – Big Diamond, Mammoth Vein
 - Salem Hill – Sharp Mtn (Ab)
 - York Farm – Beltheiser's, Date Vein (Ab), Salem & Fogarty (Ab)
- On May 4, 2009, EPCAMR Executive Director reviewed Roger Hornberger's March 2009 Invoice
 - On May 6, 2009, EPCAMR Executive Director talked with John Orr about sending a revised reimbursement dated April 14, 2009 due to a math error
 - On May 11, 2009, EPCAMR Executive Director reviewed Roger Hornberger's April 2009 Invoice
 - On May 15, 2009 asked Ian if he had a handle on what he might estimate his workload remaining to be for the Southern Fields over the course of the next 6 months to a year to be. We are anticipating an extension approval from the PA DEP for other work that is remaining. Roger, Dan, and EPCAMR Staff discussed what remains to be done on and we were looking to shift some funds around contractually, but not until we had a better handle on how much time you may need to complete his data compilation.
 - On May 18, 2009, EPCAMR Executive Director reviewed Roger Hornberger's April 2009 Invoice
 - On May 19, 2009 Ian counted and found 106 SMPs still left to do in the Southern Field: 103 in Schuylkill and 3 in Carbon (Hauto/Nesquehoning area). The time that it would take to complete this will depend on how big the files are. Some have almost nothing, while others are very big. The bottom line: about 400 hours of work time, doable in one year, for an estimated \$4000; The reason being that the average file of the last 32 that

he entered had 109 data sets, with the biggest containing 808 and the smallest just 3, but the median size was 59 data sets. He's averaging about 5 files a month right now, but could pick up the pace a bit depending on other commitments.

- On May 26, 2009 reviewed Ian Palmer's Work Progress and Invoice
- On June 11, 2009, EPCAMR Executive Director reviewed Roger's March, April, and May Reports
- On June 17, 2009 reviewed Ian Palmer's Work Progress and Invoice
- It looks as if we are not going to be able to get a economist under contract from PSU because those initially involved with the project have backed out due to other time commitments on other projects and they wanted to see the data up front, which was not going to be collected before they could do any framework analysis, therefore, we've decided that we may not be able to get another one under contract at this time and EPCAMR will focus on writing up a narrative report detailing the general economic redevelopment potential of the mine pool water with limited analyses
- On 6-30-09, EPCAMR Staff prepared a quarterly Progress Report and Program Reimbursement and submitted it to the PA DEP DMO; Communicated with Dan, Ian, John Orr-DCCD, Roger, and Chuck-USGS about the requested extension still not being approved and for each of us to slow down our workload if at all possible


2nd Qtr. 2009 Report of work done for Mine Pool Mapping Grant

Mine Pool Mapping Update Work Progress Report (April 1-June 30, 2009)-Mike Hewitt

- Attended a Mine Pool Mapping meeting at the Pottsville District Mining office to update coal mine colliery boundaries and suggest alternate names to collieries. This is the first step in creating multi collier hydrologic units for the southern anthracite coal field.
- Created snapshots of some of the 3D Mine Pool data that has been developed as a part of the Mine Pool Mapping Project and sent them to the Foundation for PA Watersheds as requested.
- Completed georeferencing all 27 2nd Geologic Survey maps for the Southern Anthracite Coal Field. These maps contain colliery names, extents of collieries as of 1890, anticlinal axis, locations of tunnels, streams, roads and other information of interest in the minepool mapping program. In the Panther Valley, there are even contours of the Mammoth Seam which may help in creating a similar model to what is being developed in the Western Middle Anthracite Field.
- Finished tracing the anticlinal axis from the georeferenced 2nd Geological Survey Maps into a shapefile. This shapefile will help answer questions about separation of collieries. For example, the Wadesville and Pottsville Mine Pools are shown as separate in the Ash study, one would think they are connected since one overlaps the other, but the basins are separated by at least 2 anticlinal axis. Finished modifying the colliery boundaries based on the meeting with Roger Hornberger and the PA DEP Pottsville District Mining Office staff.

- Continued to add altitude of effectiveness values to the Barrier Pillar layer from Southern Anthracite Field Barrier Pillars Bureau of Mines Report 526.
- Attended a second Mine Pool Mapping meeting at the Pottsville District Mining office to meet with USGS staff and find out the status of the groundwater model. Dan Goode and Chuck Cravotta reported that they were close, but were in need of more data to feed into the model: updated mine pools (beach lines) for the western middle field and fix overlapping contours of the Buck Mountain Vein layer. The group also discussed how to calculate mine pool volumes based on a formula that would take into account the area (wetted perimeter), and the thickness of each coal seam (with an estimated void space coefficient). This method is similar to the method used by S. H. Ash in the Bureau of Mines Reports, but our areas will be updated and we also plan to calculate a better coefficient to estimate void space based on the groundwater model for the Western Middle Field (Ash took an educated guess with 40%).
- EPCAMR staff met with Jim Andrews and Roger Hornberger of the Pottsville District Mining Office. Showed them how to capture coal vein horizons and fault lines from cross sections and plain view maps of the USGS "I-series" investigation maps.
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Respectfully Submitted,

A handwritten signature in black ink that reads "Robert E. Hughes". The signature is written in a cursive, flowing style with a long, sweeping underline.

Robert E. Hughes
EPCAMR Executive Director