

The Earth Conservancy Project files, 1960-2003, bulk 1988-2001

02.04.002.

16 document boxes

[16.672 linear feet]

Acquisition: One cubic foot box of the Earth Conservancy Project files were donated by Harold Cox to the Wilkes University Archives in January 2014. The second cubic foot box was donated by the President's Office, however, it is unknown when this box was donated. Joint Proposal, REES Quarterly Reports Jan 1994-June 1995, and Earth Conservancy Memos August 31, 1995-May 29, 1996 were donated by Brian Redmond in February 2022. Kenneth Klemow Assessments, Thomas Walski Reports were donated by Kenneth Klemow in summer 2022. Folders 4.25, 5.14, 7.7, and 9.3-9.7 were donated by Kenneth Klemow in summer 2023.

Access: A majority of the Earth Conservancy Project files will be restricted up to 80 years from the date of creation, such as the Board of Directors meeting minutes, other committee meeting minutes, and any financial reports that document the fiscal budgets and reports of the organization. Other records might be restricted due to the confidential or sensitive nature contained within the materials.

Condition Note: The Earth Conservancy Project Files are in excellent condition. No visible signs of wear on the documents.

Provenance: The Earth Conservancy Project files were initially donated by Harold Cox, Wilkes University Archivist and Historian in January 2014, and the President's Office at an unknown date. It is unknown whether the files maintained their original order.

Copyright: Wilkes University retains copyright of the Earth Conservancy Project files.

Processed by: Megan Novak, Fall 2021, Spring 2022, and Fall 2023. Supervised and edited by Suzanna Calev, Archivist, Summer 2021, Fall 2021, and Spring 2022.

Historical Sketch:

The Earth Conservancy Project is a non-profit 501 © (3) corporation that was established in January 1992 by Congressman Paul Kanjorski and a group of community leaders in Wilkes-Barre with the intention to acquire about 16,300 acres of land that used to be owned by the Blue Coal Company in Ashley, Pennsylvania; such land included parcels in Hanover Township, Plymouth Township, Newport Township, Conyngham Township, and sixteen other municipalities in Luzerne County. The organization was launched with the mission “to serve as the steward in the reclamation and utilization of degraded land in partnership with government, business and education; and to develop environmentally related technologies that improve the economic competitiveness and the quality of life of our community.”

After the Knox Mine Disaster in 1959, many coal companies filed for bankruptcy and/or closed, including the Blue Coal Company in December 1976. The Knox Mine Disaster served as a turning point for Pennsylvanians to switch from coal to oil and gasoline. Despite safety concerns and improper surveying, companies urged mineworkers to continue digging under the Susquehanna River, as close as 19 inches under the riverbed. On January 22, 1959, the River finally collapsed and sent a whirlpool of water into the mines below. Unfortunately, 12 miners died in the flood, and their bodies were never recovered. While the Knox Coal Company received the 1.5 million dollar bill to remove the water and seal the 150 foot wide hole, they never paid because they declared bankruptcy. Despite charges brought against the head of the Knox Coal Company and Pennsylvania Coal Company, such as mining and labor law violations, conspiracy, and manslaughter, most of the men were not charged. After this disaster, law was changed for mine maps to be accurately depicted in relation to bodies of water. Because many coal companies went bankrupt and/or closed, the employment rate plummeted. The water is still polluted from the Knox Mine, despite the hole being plugged, to this day (2022). The Knox Mine Disaster marked “the end of an era” of coal mining in Northeast Pennsylvania.

The Blue Coal land was officially bought in June 1994 for about \$14.6 million (almost \$27 million in today’s money), signed off by bankruptcy Judge John J. Thomas. Initially, in 1994, the local media and citizenry deemed the original project controversial due to concerns that political leaders would misuse taxpayer money, however as the years progressed, the organization gained better approval once projects were underway. The Earth Conservancy contained eleven members to form a Board of Directors; of the eleven, nine were volunteers and two were paid.

The Earth Conservancy envisioned the establishment of an Applied Research Center, in order to work with higher level education to develop new technologies and economic feasibility. The Conservancy grew with the help of higher education institutions like Wilkes University and King’s College who conceived the framework of the organization. Wilkes University’s 4th President Christopher N. Breiseth chaired the Earth Conservancy from 1992 to 2001; he became the organization’s first full-time president. An additional institution that joined the Earth Conservancy alongside Wilkes University and King's College is the University of Missouri at Rolla.

Earth Conservancy members worked on various projects, including Restoration of Environmentally Exploited Sites (REES), System for Environmental Survey and Land Use (SESLU), Recycling Operation with Waterjet (ROW), wetlands projects, and composting projects. Wilkes University professors that have

worked on the Earth Conservancy project include Dr. Umid Nejib, Dr. Perwez Kalim, Dr. Matthew Stein, Dr. Daniel Pindzola, Dr. Dale Bruns, Dr. Thomas Walski, Dr. Kenneth Klemow, and Rev. Wasowski.

In September 1994, Dr. Thomas Walski and Dr. Kenneth Klemow completed a grant funded by the Environmental Protection Agency (EPA) to conduct research on Demonstration Wetland to Treat Acid Mine Drainage in the Wyoming Valley at the Espy Run site. In October 1995, Dr. Umid Nejib, Dr. Perwez Kalim, Dr. Matthew Stein, and Dr. Daniel Pindzola created the Tire Recycling Operation with Waterjet (TROW) as part of the Research, Development, and Demonstration (RD&D). These research projects were instrumental in creating viable solutions to water pollution and land degradation in the Wyoming Valley.

Further projects continued in 1995 and 1996 on various parcels (specifically Nanticoke 1 and Newport 4). As of September 1996, a compendium of sites (specifically Hanover 16, Hanover 29, Hanover 34, Cleveland, Newport 6, Newport 26, and Conyngham West End #5) was published, and it contained a list of potential parcels that were later rejected by the Conservancy. However, in 1995, Newport 28 still was used to build a leaf and waste composting facility that is still active to this day. More information may be found on the Earth Conservancy's website.

As of 2021, about 2000 acres of mine-scarred lands have been reclaimed and have or have the potential to have constructive use. The organization continues to be a presence in the Wyoming Valley and a force for protecting the "economic and environmental revitalization of the Wyoming Valley" (Earth Conservancy Website).

References:

https://www.earthconservancy.org/wp-content/uploads/2014/06/V-VII_I-1_Sum-Fall-01.pdf

https://www.earthconservancy.org/wp-content/uploads/2014/06/V-II_I-4_April-96.pdf

<https://www.casemine.com/judgement/us/5914bdf8add7b049347a55f3>

<https://www.timesleader.com/archive/822802/blue-coal-trustee-put-on-the-clock-to-sell-land-a-federal-judge-orders-a-plan-that-requires-the-property-to-be-sold-during-a-four-year-schedule>

<https://nepis.epa.gov/Exe/ZyNET.exe/P100N1SB.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000016%5CP100N1SB.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

<https://www.earthconservancy.org/>

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<https://pabook.libraries.psu.edu/literary-cultural-heritage-map-pa/feature-articles/death-underground-knox-mine-disaster>

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Newspaper clipping: 5.16

Scope and Content:

The Earth Conservancy Project files, 1960-2003, bulk 1988-2001, contain materials documenting various aspects of the organization's activity. The core mission of the Earth Conservancy is to address the impact of historical coal mining practices in Northeastern Pennsylvania and to restore the land's economic, recreational, residential, and ecological value. Materials within the collection include papers outlining the origins of the organization, Board meeting minutes and executive committee meeting minutes, organizational policies, procedures, and bylaws, financial documentation via quarterly reports for various plans (SESLU, ARC, ROW, REES, ARPA), grant funding, budgeting, operating expenses, letters, environmental engineering projects from Wilkes professors and faculty, outreach projects, Earth Conservancy applications and accomplishments, newspaper clippings, handwritten notes, reclamation plans for acid mine damage and other proposed plants that were not completed, environmental assessments and soil assessments, maps, land evaluation due to mining, and mine beds in various folios throughout Luzerne County. This collection spans a wide range of years but the bulk of the material focuses on the organization in its early stages from 1988-2001.

The Earth Conservancy Project collection is arranged into ten series with some series arranged further into smaller subseries to reflect different components of the organization. The first series, The Earth Conservancy Organization files, 1992-1997, is arranged into two subseries and highlights the Earth Conservancy Board of trustees meeting minutes, executive committee meeting minutes, organizational policies and procedures, bylaws, and other institutional records. The second series, Committee Meetings, 1993-1997, contains member meetings minutes and bylaw committee meetings minutes. The third series, Financial, 1983-2001, is arranged into four subseries and contains quarterly reports, finances for various projects, other budgeting and expenses, grants and grant proposals, the lawsuit between the Earth Conservancy and American Asphalt in 1997, and prospective Blue Coal land sales. The fourth subseries, Earth Conservancy in Higher Education, 1988-1997, contains documents highlighting various environmental and recycling projects with some of Wilkes University's faculty, and information on the Ben Franklin Partnership Program. The fifth series, Correspondence, 1991-1997, contains letters, memorandums, program applications, Earth Conservancy accomplishments, newspaper clippings, the League of Women's Voters article on the Earth Conservancy, and other brochures. The sixth series, REES Plans, 1987-ca .1997, is arranged into four subseries and provides research and development on two

parcels of land, Nanticoke 1 and Newport 4, as established by the Restoration of Environmentally Exploited Sites (REES), as well as a compendium of unapproved projects on other various land parcels in Luzerne County; this series also contains a joint proposal with the National Institute for Environmental Renewal for using a mixture of composted sewage slush and fly ash as a soil substitute in the Cleveland parcel and one of the Lauren Run Parcels. There are also quarterly reports on REES activity and plans, as well as the final report of the entire initiative. The seventh series, Luzerne County Land Evaluation, 1963-1992, is arranged into four subseries and contains descriptions of mines and extraction in various panels and folios, rock formation, and soil assessments; this series also highlights flood assessments and subsidence potential. The eighth series, Earth Conservancy Memos, 1994-1996, contains various memorandums dealing with REES activities and projects, as well as several studies found through emails, letters, and surveys. The ninth series, Kenneth Klemow's Assessments, 2002-2003, provide insight on water quality investigation for wetlands and watersheds and their relationship to acid mine drainage. The tenth series, Thomas Walski Reports, 1960-1997, is arranged into six subseries and contains research, planning, and associated press and finances in regards to the AMD wetland creation.

Series Description: The Earth Conservancy Project files are arranged into ten series:

Series I: The Earth Conservancy Organization files, 1992-1997 [Restricted]

Series II: Committee Meetings, 1993-1997 [Restricted]

Series III: Financial, 1983 - 2001 [Restricted]

Series IV: Earth Conservancy in Higher Education, 1988-1997

Series V: Correspondence, 1991-1997

[Restricted correspondence:]

Series VI: REES Plans, 1987-ca. 1997

Series VII: Luzerne County Land Evaluation, 1963-1992

Series VIII: Earth Conservancy Memos, 1994-1996

Seres IX: Klemow's Assessments, 2002-2003

Series X: Thomas Walski Reports, 1960-1997

Series I: The Earth Conservancy Organization Files, 1992-1997

Series I: The Earth Conservancy Organization Files, 1992-1997 (1.1-1.30,2.1-2.10) is arranged into two subseries: Subseries I: Earth Conservancy Board of Directors Meetings, 1992-1997 and Subseries II: Earth Conservancy Institutional Records, 1993-1995. Each subseries is arranged chronologically by folder year and contains the Earth Conservancy board of trustees meeting minutes, executive committee meeting minutes, agendas, organizational policies and procedures, bylaws, and other institutional records for the non-profit organization. This series is restricted for 80 years from the date of creation.

Subseries I: Earth Conservancy Board of Directors Meetings, 1992-1997

Subseries I: Earth Conservancy Board of Directors Meetings, 1992-1997 (1.1-1.30) is arranged chronologically by folder year and contains Board of Directors executive committee meeting minutes and Board of Director Retreats documents. The Earth Conservancy Board of Directors was chaired by Dr. Christopher N. Breiseth from 1992 - 2001 and consisted of members such as Harold J. Rose, CEO, Michael A Dziak, CEO, Congressman Paul Kanjorski, Dr. Umid Nejib, Father Jim Lackenmier, King's College's President, A. Peter Kanjorski, Susan Shoval, Harold C. Snowdon Jr., Joseph Yudichak, James Manley, Mark Dingman, John Renfer, Executive Administrator, Thomas Chesnick, Engineering Projects

Manager, Elizabeth Ortega, Director of Public Affairs, Michael Korb, Mining Engineer, and Anna May Hirko, Administrative Assistant. The Board of Directors met every month to discuss the progress of financials within the organization and to report on land acquisition progress and projects. Some of these projects include the Blue Coal land project, the Laurel Run reclamation, the Ash return project, American Asphalt, DER mine reclamation project, timber projects, AMD (Acid Mine Drainage) treatment wetland project, ROW (Recycling Operation with Waterjet), REES (Restoration of Environmental exploited Sites), SESLU (System for Environmental Survey and Land Use), Composting/Wetlands, and Residential Development.

Subseries II: Earth Conservancy Institutional Records, 1993-1995

Subseries II: Earth Conservancy Institutional Records, 1993-1995 (2.1-2.10) is arranged chronologically by folder year and contains by-law documents, mission statements (which is to combine public and private sectors to solve local and national problems and reestablish environmental integrity), questionnaires (for projects, budgeting, community relationships, land use and disposition, public awareness, and activity management), goals and objectives, organizational policies and procedures (financial policies, personnel policies, procurement, code of conduct, and equal opportunity employment), bylaws, deeds, plan proposals, and job applications for the Earth Conservancy. These records document the origins of the organization and the initial projects involving collaboration from environmental group advocates who were “stewards of the land”: the North Hampton Coal lease, the Laurel Run lease, Federal Bureau of Surface Mining, and Department of Environmental Resources. Others include politicians such as Congressman Paul Kanjorski, who founded the organization in 1992, local institutional leaders such as Wilkes University and King’s College, and members of higher education including Wilkes’ fourth president, Christopher N. Breiseth, University of Michigan’s eleventh president, James J. Duderstadt, and King’s College seventh president, Father Jim Lackenmier, Stonehill College.

Series II: Committee Meetings, 1993-1997

Series II: Committee Meetings, 1993-1997, is arranged chronologically by year and contains Earth Conservancy member meetings, By-law committee meetings minutes, Land Use planning committee meeting minutes, and Land deposition committee meeting minutes. The minutes for these various committees represent a short time period during the Earth Conservancy Project when Christopher Breiseth was chair of the Board of Trustees.

Series III: Financial, 1993 - 2001

Series III: Financial, 1983-2001 (3.12-3.16, 4.1-4.25), is divided into four subseries, Quarterly Reports, 1993-1997, Financial Documents, 1993-2001, Land, 1994-1997, and Pennsylvanian Anthracite Sales Prospectus; Part 2, August 1983, respectively. This series documents Earth Conservancy finances for various projects, such as SESLU, ROW, and REES, through quarterly reports for these various projects and from the Earth Conservancy, (Subseries I: Quarterly Reports, 1993-1997), other financial and IRS statements, proposed budgeting, expenses, and 5 year operations plans (Subseries II: Financial Documents, 1993-2001), grants and other grant proposals, including a lawsuit between the Earth Conservancy and American Asphalt company in 1997 (Subseries III: Land, 1994-1997), and prospective land held by the Blue Coal Corporation (Subseries IV: Pennsylvanian Anthracite Sales Prospectus; Part 2,

August 1983). These documents also highlight explanations and proposed plans for Earth Conservancy projects, such as SESLU, ROW, and REES.

Subseries I: Quarterly Reports, 1993-1997

Subseries I: Quarterly Reports, 1993-1997 (3.1-3.12) is arranged chronologically by folder year and contains different quarterly reports from SESLU (System for Environmental Survey and Land Use), Earth Conservancy, ARC (Applied Research Center), ROW (Recycling Operation and Waterjet), Restoration of Environmentally Exploited Sites (REES), ARPA (Advanced Research Projects Agency), and DARPA (Defense Advanced Research Projects Agency). This subseries also contains financial status reports that document collaboration between the Earth Conservancy and the EPA (Environmental Protection Agency); such documents also provide estimations, operating expenses, cash requirements, grant status, and loans. These reports cover the organization's goals and objectives, the organization's plans, and finalized accomplishments, their highlights on quarterly endings, pollution prevention and other collected data (such as water assessments, trash assessments, etc.), and deficiencies and corrective actions. The SESLU quarterly reports overview the various projects that worked on for that quarter.

Earth Conservancy developed a computer model that provides a large scale environmental and geographic inventory. SESLU, a Geographic Information System (GIS), delineates information on geography, topography, demographics, population, municipal boundaries, utilities, roads, flood plains, mining hazards, and other environmental and geographic data. More information can be found in this subseries.

Subseries II: Financial Documents, 1993-2001

Subseries II: Financial Documents, 1993-2001 (3.13-3.16, 4.1-4.17) is arranged chronologically by folder year and contains a copy of checks, IRS documentation (Form 990, which is an exempt form from income tax), Financial Statements from 1993-1997 (which also includes notice of federal awards and confirmation from the IRS), 5 Year Operating Plans (which also includes 5 year parcel sales revenue, natural resources revenue, and for individual projects, such as ROW, compost facility, GIS, reclamation and development, and acid mine drainage system) for 1997-2001 and 1998-2002, Cash Requirements, Balance Sheets, Income Potential (from Land Use Plan, HUD, EPA, and ARPA), Project Sheets (which includes project name, number, as well as manager, site location, objective, and status for any particular project), Projected Budgets and Operating Expenses, Financial Status and Proposed Actions. This subseries is restricted for 80 years from the date of creation.

Subseries III: Land, 1994-1997

Subseries III: Land, 1994 - 1997 (4.18-4.24) is arranged chronologically by folder year and contains Earth Conservancy VS. American Asphalt Lawsuit documents, Grant Proposals, Economic Development Projects, and Land Use Planning Financial documents (as well as a description of the Land Use Committee), and other grant activities. The Earth Conservancy vs. American Asphalt lawsuit was filed in 1997 by the Earth Conservancy suing the American Asphalt company for a settlement proposal based on an agreement for sale of mineral rights and a settlement agreement and mutual release. Earth Conservancy stated that the major issue on the settlement was that they wanted to have a quitclaim deed while American Asphalt insisted that they would only settle for a special warranty deed; ultimately, a Settlement Agreement and Mutual Release was made. The grants and grant proposals in this series range from Earth Conservancy Advanced Summary of a Grant Proposal to Earth Conservancy Appalachian Regional Commission Land Use Planning Grant.

Subseries IV:Pennsylvanian Anthracite Sales Prospectus; Part 2, August 1983

Subseries IV: Pennsylvanian Anthracite Sales Prospectus; Part 2, August 1983 (4.25) contains one document of the same name. It contains descriptions of the land parcels held by the Blue Coal Corporation's Bankrupt Estate. Specifically, Part 2 of this report is for all surface parcels currently available for sale. It excludes specific areas which must be used for the described coal operations. The report includes summaries of the locations, land conditions, current conditions, uses, surrounding and zoned uses, future use capabilities, current market values, and estimates of rehabilitation or development costs. There are also maps which describe the location further. The report also provides descriptions of the Wyoming Valley area and primary uses. The Blue Coal lands include about 40 parcels and 166 land units. The property descriptions are divided by municipality, which include Ashley Boro, Conyngham Township, Hanover Township, Lauren Run Boro, Nanticoke City, Newport Township, Nuangola Boro, Plains Township, Plymouth Boro, Plymouth Township, Sugar Notch Boro, Warriar Run Boro, Wilkes-Barre City, and Wilkes-Barre Township.

Series IV: Earth Conservancy in Higher Education, 1988-1997

Series IV: Earth Conservancy in Higher Education, 1988-1997 (4.26-4.27, 5.1-5.14) is arranged chronologically by folder year and contains environmental engineering projects from Wilkes professors such as Dr. Umid Nejib, Dr. Perwez Kalim, Dr. Matthew Stein, Dr. Daniel Pindzola, Dr. Dale Bruns, Dr. Thomas Walski, Dr. Kenneth Klemow, and Rev. Wasowski, C.S.C. This series also contains numerous grants, partnership programs, recycling projects, and new projects within Earth Conservancy. Some highlights include the Tire Recycling Operation with Waterjet as part of the Research, Development, and Demonstration (RD&D), initiated by Dr. Umid Nejib, Dr. Perwez Kalim, Dr. Matthew Stein, and Dr. Daniel Pindzola, and Demonstration Wetland to Treat Acid Mine Drainage in the Wyoming Valley, specifically at the Espy Run site, to be funded by the EPA, initiated by Dr. Thomas Walski and Dr. Kenneth Klemow. Other programs include the Ben Franklin Partnership Consortium and Technology Center for the North East Tier Region of Pennsylvania, which is a nonprofit organization that wants to create jobs by promoting technology and business development. An advisory board consisted of seven geographical regions, one of them being the Wyoming Valley. Such members on the board from the Wyoming Valley Region include Christopher Breiseth, Howard Grossman, Robert Jones, Father James Lackenmier, Robert Lynch, Anthony Misiura, Thomas Moran, Herbert Nash Jr., Rev. J. Panuska, Angelo Rosati, Richard Ross Jr., Michael Scott, and the Honorable Thomas Tigue. There was a draft proposal for the establishment of the William Penn Institute for RD&D, submitted to Congressman Kanjorski by Dr. Umid Nejib and Dr. G. Mittra, which was to expand the services provided in the Ben Franklin Partnership Program. This subseries also includes new projects, such as Phase II of REES, SESLU, and ROW, as well as hydrogen farming. The Earth Conservancy applied for other grants, such as the Environmental Education Grant from the EPA and the Development of Environmental Projects of the Applied Research Center from the ARPA; there is also an application to the Ben Franklin Center for the yard and leaf composting operation, as planned for the REES. Other documents featured in this series include an Environmental White Paper, which is a guide for policy development for the next governor as prepared by the Commission of Independent Colleges and University, the American Heritage Rivers Program, created by President Bill Clinton to help restore local rivers from federal assistance, in which the Susquehanna

River was a candidate, and the 1993 Research Training Program offered by the National Museum of Natural History.

Series V: Correspondence, 1991-1997

Series V: Correspondence, 1991-1997 (5.15-5.27) is arranged chronologically by folder year and contains letters and memorandums, program applications, Earth Conservancy accomplishments (which include, but not limited to, SESLU, REES, ROW, TROW, Acid Mine Water Wetland Treatment, meetings with U.S. Army Munitions for waterjet technology, EPA application for wetland educational center and program, availability to local organizations, land planning processes, identification of major mine reclamation projects, and the yard and leaf waste composting project), and the League of Women Voters. The League of Women Voters is a nonprofit organization in the United States that was formed to help women take a larger role in public affairs after they won the right to vote. The League of Women's Voters had elected to study the Earth Conservancy and its impact on regional environmental resources, economic development and intergovernmental cooperation. Enclosed in this series is the article written by Wilkes student Jim Shepherd about the League's project. This series contains letters Dr. Breiseth addressed to Frank McDonnell from the years 1992 to 1993. Other documents contained in this series include the 1991 Awards Program Semifinalist Application by the Regional Equipment Center, newspaper clippings, other memorandums (such as about the Phase II wetland system, applications, mission statement, meeting minutes, other handwritten notes, update on Title IX grant, advancement on munition demilitarization), the Thomas R. Chesnick application, Michael C. Korb's application for Chief Executive Officer, and a Goodwin, Procter, and Hoar environmental law practice brochure.

Series VI: REES Plans, 1987- ca. 1997

Series VI: REES Plans, 1987-ca. 1997 (5.28-5.30, 6.1-6.9, 7.1-7.7), is arranged chronologically by folder year is divided into four subseries, EC-NIER Joint Proposal, 1994, REES Quarterly Reports, 1994-1995, Reclamation Plans and Compendium, 1995-1996, and Final Report: Restoration of Environmentally Exploited Sites (REES), ca. 1997, and contains plans for soil substitution in the Cleveland Parcel and one of the Lauren Run parcels, as well as quarterly reports on REES activity, the first two completed reclamation plans from September 1995 to June 1996 on parcels Nanticoke 1 and Newport 4, respectively, as well as a compendium (September 1996) of rejected parcels, including Hanover 16, Hanover 29, Hanover 34, Cleveland, Newport 6, Newport 28, and Conyngham West End #5. The final subseries highlights the final report of the entire project.

Subseries I: EC-NIER Joint Proposal, 1994

Subseries I: EC-NIER Joint Proposal, 1994 (5.28) contains a project that involves utilizing compost sewage sludge and fly ash as a soil substitute in order to reclaim Blue Coal strip mines. Such tests will be for the Cleveland parcel and one of the Laurel Run parcels. The tests involve compatibility and water quality on the chemicals used. The PI for this project was Wilkes University's Dr. Brain Redmond, with soil scientist Bryce Payne. The REES planned to work with the National Institute for Environmental

Renewal (NIER) on these plans. There was an included proposal on incorporating Dale Bruns' GIS in this evaluation. These documents contain only a proposal, and if their grant was accepted by the EPA, plans would begin in June 1995 and end in May 1997, as well as preliminary testing on various minerals and chemicals present. These documents also contain the origins of the Environmental Technology Initiative (ETI), initiated by President Bill Clinton as a subset of the EPA to grant money to agencies in order to promote positive public health and environmental quality; this would be done through the FY95 ETI Program. These documents contain more information about this, as well as all the requirements to be eligible for a portion of the \$80 million dollars granted to the ETI program from Congress.

Subseries II: REES Quarterly Reports, 1987-1995

Subseries II: REES Quarterly Reports, 1987-1995 (5.29-5.30, 6.1-6.5) is arranged chronologically by folder year and contains all quarterly reports from January 1994 to June 1995, and are divided as such. Dr. Umid Nejib is the Project Manager, and Dr. Brian Redmond is the Principal Investigator for all of these materials. Dr. Prahlad Murthy and Dr. Dan Pindzola of Wilkes University, and hired Dean Friedman for videotaping and geologic work, also contributed to these studies. These reports outline the requirements needed for parcels to be reclaimed, various budget surveys, hazardous materials surveys, anticipated costs, Department of Environmental Resources (DER) permits, regulations on acid mine drainage, pending legislation, Remining Operator Assistance Program (ROAP), land studies, federal regulations, analysis reports, fly ash and sewage sludge studies, reclamation grants, waste removal plans, lab test procedures and results, progression outlines, various appendixes, parcel updates, work schedules, greenhouse tests, yard and waste composting facility, field test plots, and various figures and maps. Each quarterly report contains a table of contents for convenience purposes. This subseries also contains an excerpt from the John Bromberg, from the alignment series, Water article from May 1-June 5 1994, and is grouped in with the June 1995 report as it was donated. There is also a study contained in these reports, Reclamation of the Palmerton Superfund Site by William E. Sopper of the Pennsylvania State University from December 1987.

Subseries III: Reclamation Plans and Compendium, 1995-1996

Subseries III: Reclamation Plans and Compendium, 1995-1996, (6.6-6.9, 7.1-7.6) contains the first two completed reclamation plans from September 1995 to June 1996 on parcels Nanticoke 1 and Newport 4, respectively, as well as a compendium (September 1996) of rejected parcels, including Hanover 16, Hanover 29, Hanover 34, Cleveland, Newport 6, Newport 28, and Conyngham West End #5. Each completed reclamation plan and compendium contains its own booklet, and each booklet contains an introduction to the Earth Conservancy and Restoration of Environmentally Exploited Sites, or REES, who is responsible for the reclamation plans for each parcel.

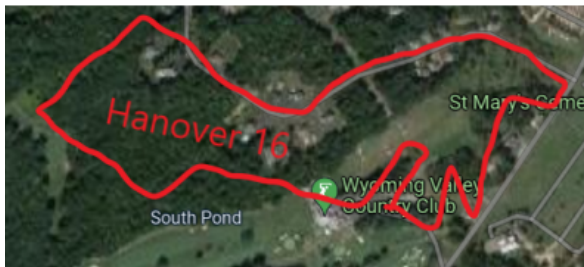
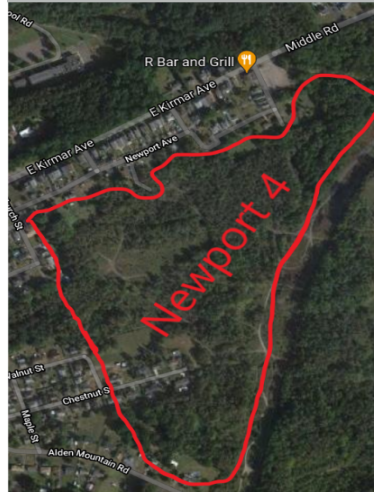
Nanticoke 1 (6.6-6.9), September 1995, is the first actual land reclamation effort to be carried out by the Earth Conservancy and Wilkes University. The booklet contains descriptions, a timber inventory report, topography, preliminary wetlands survey, NPDES permit application (which includes the historical resources determination notice, discovery of archaeological resources, erosion and sedimentation control plan, and photographic plates), articles of incorporation of the Earth Conservancy, 6 soil test pits, depth to bedrock, phase I environmental assessment, trash inventory and removal plan, seeding and mulching plan,

preliminary records, reclamation plan summary, cost bids, three general maps, and four maps for the four plans the REES determined.

Newport 4 (7.1-7.3), June 1996, is the second parcel that the Earth Conservancy and Wilkes University has completed a reclamation plan for. Newport 4 has three main plans, and the booklet includes parcel description from August 1983, a timber inventory report, an NPDES application (which includes the same materials as Nanticoke 1), preliminary records, geology report, subsurface mining maps, 6 soil test pits, trash inventory and removal plan, phase I environmental assessment, selling lots, drainage, reclamation plan summary for earth moving, abstract of construction bids, model bid form for reclamation work, seeding and mulching plan, adjacent plans, four general area maps (including residential names to all houses surrounding the parcel), six plan maps (as Plan 2 is split into 4 sub plans), and bids from 1993 for the Tubs reclamation project, which was meant to serve as guide to the Earth Conservancy for reasonable costs for various reclamation activities.

The Compendium of Information of Miscellaneous Sites (7.4-7.6), September 1996, includes Hanover 16, Hanover 29, Hanover 34, Cleveland, Newport 6, Newport 28, and Conyngham West End #5. Such sites never became actual reclamation or compost sites, as they were rejected by the Earth Conservancy. An introduction for other sites that were not given further detail but were also rejected is also provided. Hanover 16 includes a parcel description, archaeological and historical survey, timber survey, potential subsidence, which includes maps where subsidence potential was computationally calculated, geology, OSM review, trash inventory and removal plan, pit measurements, and Buttonwood bore hole records. Hanover 16 was the only parcel that was originally going to be completed with Nanticoke 1 and Newport 4, but it was later deselected. Hanover 29, which was a potential reclamation site, includes a parcel description, historical survey, OSM review, and seven base maps. Hanover 34, which was investigated for general reclamation, includes a parcel description. Cleveland includes an aerial photograph, reduced contour map, OSM review, and bore hole records. Newport 6, which was considered to be a potential reclamation site and field test plot site, includes a parcel description and a bore hole map. Newport 28, which was planned to be used as a leaf and yard waste composting site, includes a parcel description, yard and leaf composting, erosion and sedimentation plan, and base maps for compost operation and erosion and sedimentation. Conyngham West End #5, which was a possible site for a general composting facility and is also the largest and most isolated parcel, includes a parcel description and a preliminary general composting site review.

An aerial photograph of each of these parcels are provided below for reference. It is important to note that road names provided in the photographs may not have had the same names when these reports were written (or even existed).



Cleveland: a detailed area map was not provided in the booklet. This photograph contains the general area of where the parcel was located:





Subseries IV: Final Report: Restoration of Environmentally Exploited Sites (REES), ca. 1997

Subseries IV: Final Report: Restoration of Environmentally Exploited Sites (REES), ca. 1997 (7.7) contains one document of the same name. The report was submitted by Dr. Umid R. Nejib, Dr. Brian Redmond, and Dr. Bryce Payne. The report consists of four main topics (General Introduction, General Reclamation Subproject, Composting Subproject, and Soil Substitutes Research & Development Subproject), and eight appendices highlighting proposals, data collected, maps, photographs, and summaries highlighting the work completed on the original three parcels, Nanticoke 1, Newport 4, and Hanover 16, as well as other side projects that occurred on other parcels. The purpose of the project was to find by-products and waste stream materials as substitute topsoil to promote vegetative growth (pg. 7 of the report). The report explains the determination of parcels for this project (including why other parcels were rejected), the schedule of their project (which spans from August 1994 to June 1997), development of the yard & leaf waste composting site, procedures, outlines, soil substitute mixtures, parameters, experimentation, results, observations, conclusions, field trials, and considerations. The appendices include the 1993 proposal of the REES initiative; maps of Nanticoke 1, Hanover 16, Newport 4, Newport 28, and Conyngham; photographs of the Newport 28 Tubs Experiment; photographs of the Newport 6 Small Plots Field Trial; data on the Monoliths Experiment; design information and data summaries of the

Columns Experiment; design information and data summaries of the Newport 28 Tubs Experiment; and design information and data summaries for the Newport 6 Small Plots Trial. The table of contents in the report further describes the information in the report.

REES Personnel highlighted in this initiative include Dr. Umid Nejib, Jim O’Karma, Dr. Brian Redmond, Dr. Bryce Payne, Dr. William (Bill) Tarutis, Dr. Dale Bruns, Brian Oram, Rich Yench, Dean Friedman, Sue Graves, Bill Toothill, Greg Parrs, George Parrs, Beth Scully, Gerry Fisher, Tom Posluzny, Dawn Griffith, Eleanor Winsor, Jim Soltis, and Ellen Alaimo.

Series VII: Luzerne County Land Evaluation, 1963-1992

Series VII: Luzerne County Land Evaluation, 1963-1992 (8.1-8.6, 9.1-9.7), are a series of documents that describe the land in Luzerne County via descriptions of mines and extraction, rock formation, and soils. This series is divided into four subseries: Subseries I: Panels, 1963, Subseries II: Soil Survey, Luzerne County, 1973, Subseries III: Wyoming Valley Flood Analysis, 1980- June 1981, and Subseries IV: Overview of Subsidence Potential in Pennsylvania Coal Fields, June 1975. Subseries I: Panels, 1963, gives a description of the mines and the extent of mining in six different sectors, Nanticoke - Hanover, Plymouth - Hanover, Wilkes-Barre - Kingston, Forty-Fort - Plains, Wyoming - Port Blanchard, and Pittston - Duryea, with each sector receiving its own panel, respectively. Subseries II: Soil Survey, Luzerne County, 1973, gives descriptions on the soils in Luzerne County, as well as practical uses for a variety of different professions. Some of this land would later be reclaimed as part of the Earth Conservancy Project, such as in Nanticoke and Hanover. Both of these assessments would be found useful for the studies that occurred in Series VI. Subseries III: Wyoming Valley Flood Analysis, 1980-June 1981, provides two reports that explain a proposed levee system to prevent flooding damages, as well as the environmental and cultural effects the building process could have. Subseries IV: Overview of Subsidence Potential in Pennsylvania Coal Fields, June 1975-Nov. 1992, gives a description of the subsidence potential of coal fields in the Wyoming Valley area, which is meant to be used to assist with projects associated with mining activities.

Subseries I: Panels, 1963

This subseries contains six panels arranged numerically (8.1-8.6, 9.1). Each panel describes the “subsurface conditions resulting from the mining under the flood plains of the Susquehanna and Lackawanna Rivers, Wyoming Basin, Northern Field, Anthracite Region of Pennsylvania.” Each panel was prepared by the U.S. Department of Interior Bureau of Mines for the U.S. Army Engineer District, Baltimore Corps of Engineers and was written in 1963. Each panel gives an introduction that describes the following: pertinent surface features, particulars relating to the contour pattern of the top of the anthracite-bearing rock formation, overlying alluvial deposits, detailed data and comments on the degree of extraction and conditions created, evaluation of subsidence hazard potentials to the surface area within the floodplain of the Susquehanna, and relations to underground mine workings. Below, there is a table describing all of the mines located with the panel. At the end of each table, the same table is provided. Where a name of a bed does not appear in the tabulation or a mine, the bed is not present or had been mined within the confines of a specific folio. Each folio gives a description of its general location, mines, comments on the top of the rock, and additional comments. Each mining bed analyzed in each folio has the following information: bed name, acreage, depth below the surface, average thickness, feet of mining,

extent of mining, type of mining the river-levee area and flood plain area, factual observations, and additional comments. (Note: some of the information provided in this subseries is relevant to the effects of the Knox Mine Disaster in 1959.)

Panel 1 is the Nanticoke - Hanover Sector (8.1) and contains Folios A-E. Folio A has 16 beds. Folio B has 20 beds. Folio C has 10 beds. Folio D has 22 beds. Folio E has 14 beds.

Panel 2 is the Plymouth - Hanover Sector (8.2) and contains Folios A- M. Folio A has 3 beds. Folio B has 15 beds. Folio C has 19 beds. Folio D has 5 beds. Folio E has 14 beds. Folio F has 21 beds. Folio G has 2 beds. Folio H has 7 beds. Folio I has 17 beds. Folio J has 11 beds. Folio K has 22 beds. Folio L has 18 beds. Folio M has 28 beds.

Panel 3 is the Wilke-Barre - Kingston Sector (8.3) and contains Folios A-P. Folio A has 45 beds. Folio B has 26 beds. Folio C has 22 beds. Folio D has 23 beds. Folio E has 20 beds. Folio F has 25 beds. Folio G has 17 beds. Folio H has 30 beds. Folio I has 9 beds. Folio J has 14 beds. Folio K has 24 beds. Folio L has 16 beds. Folio M has 28 beds. Folio N has 31 beds. Folio O has 19 beds. Folio P has 25 beds.

Panel 4 is the Forty-Fort - Plains Sector (8.4-8.5) and contains Folios AA-N. Folio AA has 23 beds. Folio A has 50 beds. Folio B has 31 beds. Folio C has 30 beds. Folio D has 39 beds. Folio EE has 9 beds. Folio E has 16 beds. Folio F has 8 beds. Folio G has 15 beds. Folio H has 31 beds. Folio II has 15 beds. Folio I has 16 beds. Folio J has 19 beds. Folio K has 16 beds. Folio LL has 7 beds. Folio L has 7 beds. Folio M has 11 beds. Folio N has 14 beds.

Panel 5 is the Wyoming - Port Blanchard Sector (8.6) and contains Folios AA-N. Folio AA has 9 beds. Folio A has 11 beds, Folio B has 17 beds. Folio C has 15 beds. Folio D has 17 beds. Folio E has 12 beds. Folio F has 20 beds. Folio G has 17 beds. Folio H has 16 beds. Folio I has 19 beds. Folio J has 7 beds. Folio K has 14 beds. Folio L has 25 beds. Folio M has 15 beds. Folio N has 15 beds.

Panel 6 is the Pittston - Duryea Sector (9.1) and contains Folios A-J. Folio A has 15 beds. Folio B has 21 beds. Folio C has 16 beds. Folio D has 8 beds. Folio E has 17 beds. Folio F has 12 beds. Folio G has 23 beds. Folio H has 20 beds. Folio I has 12 beds. Folio J has 16 beds.

Panel 1:

General Name of Bed	No. 7	Loomis	Truesdale	Avondale-Grand Tunnel
No. 4		No. 4		
No. 5		No. 5		
No. 6		No. 6		
Top George	Top George			
George	Bottom George	George	George	
Abbott	Orchard	Abbott		
Mills	Mills	Mills	Mills	Mills
Hillman	Hillman	Hillman	Hillman	Hillman
Lance	Lance	Baltimore		
Cooper	Cooper			
Forge	Forge	Forge		
Top Twin	Top Twin			
Bottom Twin	Bottom Twin			
Top Split of Top Ross	Top Ross			
Top Ross	Middle Ross	Top Ross		Top Ross
Bottom Ross	Bottom Ross	Bottom Ross		Bottom Ross
Chauncey	Chauncey			Chauncey
Top Red Ash	Top Lee			
Red Ash	Lee	Red Ash		Red Ash
Bottom Lee	Bottom Lee			

Panel 2:

General Name of Bed	Avondale-Grand Tunnel	Loomis	Inman	Nottingham	Nottingham-Buttonwood	Lance	South Wilkes Barre	Gaylord
No. 2		No. 2						
No. 3		No. 3	No. 6					
No. 4		No. 4	No. 5					
No. 5 Overlap		No. 5 Overlap						
No. 5 Overlap		No. 5	No. 4					
No. 6		No. 6	No. 3					
George		George						
Abbott		Abbott	Abbott		Abbott	Abbott	Abbott	
Kidney	Mills	Mills	Kidney		Kidney	Kidney	Kidney	Kidney
Hillman	Hillman	Hillman	Hillman		Hillman	Hillman	Hillman	Hillman
Stanton	Cooper	Baltimore	Stanton		Stanton	Stanton		Stanton
Five Foot	Bennett	Forge	Five Foot		Five Foot	Five Foot	Five Foot	Lance
Top Baltimore			Top Baltimore	Top Baltimore	Top Baltimore	Top Baltimore	Top Baltimore	Cooper
Bottom Baltimore	Forge	Twin	Baltimore	Bottom Baltimore	Bottom Baltimore	Bottom Baltimore	Bottom Baltimore	Bennett
Top Ross	Top Ross	Top Ross		Top Ross				
Bottom Ross	Bottom Ross	Bottom Ross		Bottom Ross				Bottom Ross
Top Red Ash				Top Red Ash				
Red Ash	Red Ash	Red Ash		Red Ash				Red Ash

Panel 3:

General Name of Bed	Gaylord	Nottingham	Lance	South Wilkes-Barr	Loree	Woodward	Stanton	Hollenback	Baltimore	Kingston	Dorrance	East Boston
Snake Island					Snake Island	Snake Island					Snake Island	
Abbott	Abbott		Abbott	Abbott	Abbott	Abbott	Abbott	Abbott	Abbott		Abbott	
Kidney	Bowkley		Kidney	Kidney	Lance	Kidney	Kidney	Kidney	Kidney	Bowkley	Bowkley	
Hillman	Hillman		Hillman	Hillman	Hillman	Hillman	Hillman	Hillman	Hillman	Hillman	Hillman	Hillman
Top Stanton							Top Stanton					
Stanton	Bottom Five Foot		Stanton	Bottom Stanton	Stanton	Five Foot	Bottom Stanton	Bottom Stanton	Stanton	Orchard	Five Foot	Four Foot
Five Foot	Lance		Five Foot	Five Foot	Five Foot	Lance	Five Foot	Five Foot		Lance	Lance	Lance
Top Baltimore	Cooper		Top Baltimore	Top Baltimore	Cooper	Cooper				Cooper	Cooper	Cooper
Bottom Baltimore	Bennett		Bottom Baltimore	Bennett	Bennett	Bennett and Baltimore	Bottom Baltimore	Baltimore	Baltimore	Bennett	Bennett and Baltimore	Bennett
Checker										Checker	Checker	
Skidmore										Eleven Foot	Skidmore	Eleven Foot
Top Ross		Top Rpss	Top Ross	Top Ross	Top Ross		Top Ross		Top Ross			
Bottom Ross	Bottom Ross	Bottom Ross	Ross		Bottom Ross	Monkey		Bottom Ross	Ross	Ross Split	Top Ross	
Top Red Ash		Top Red Ash	Top Red Ash	Top Red Ash	Top Red Ash	Top Red Ash		Top Red Ash	Top Red Ash	Ross	Ross	Ross
Bottom Red Ash	Red Ash	Red Ash	Red Ash	Bottom Red Ash	Bottom Red Ash	Bottom Red Ash		Bottom Red Ash	Red Ash	Red Ash	Red Ash	Red Ash

Panel 4:

General Name of Bed	East Boston	Black Diamond	Dorrance	Pettebone	Henry-Prospect	Baltimore	Peach Orchard	Conlon	Delaware-Pine Ridge	Harry E-Forty Fort	Maltby Westmoreland	Number 14
Top Snake Island						"C"						
Snake Island					Snake Island	Snake Island			Snake Island			
Abbott			Abbott	Abbott	Abbott	Abbott	Abbott		Abbott			
Bowkley			Bowkley	Kidney	Bowkley	Kidney	Kidney		Kidney			
Hillman	Hillman		Hillman	Hillman	Hillman	Hillman	Hillman		Hillman		Hillman	Hillman
Top Five Foot				Top Five Foot	Top Five Foot	Top Stanton	Five Foot		Rock	Top Five Foot	Top Five Foot	Diamond
Bottom Five Foot	Four Foot	Four Foot	Five Foot	Bottom Five Foot	Bottom Five Foot	Stanton				Bottom Five Foot	Bottom Five Foot	Top Checker
Lance	Lance	Lance	Lance	Lance	Lance	Stanton						
Upper Baltimore	Cooper	Cooper	Cooper	Cooper	Upper Baltimore		Cooper	Cooper	Cooper	Four Foot	Four Foot	Bottom Checke
Lower Baltimore	Bennett	Bennett	Bennett and Baltimore	Bennett and Baltimore	Baltimore and Lower Baltimore	Baltimore	Bennett	Bennett	Bennett	Six Foot	Six Foot	Pittston
Bottom Pittston											Bottom Pittston	
Checker		Top Eleven Foot			Checker			Checker	Checker	Top Eleven Foot	Top Marcy	
Marcy	Eleven Foot	Eleven Foot	Skidmore	Skidmore	Marcy	Skidmore	Bottom Skidmore	Marcy	Ross	Bottom Eleven Foot	Marcy	Marcy
Nine Foot				Bottom Skidmore						Nine Foot	Nine Foot	
Top Ross		Top Ross				Ross				Top Ross	Top Ross	Clark
Ross	Ross	Ross	Ross	Ross	Ross	Top Red Ash	Ross			Bottom Ross	Ross	Bottom Clark
Top Red Ash												Babylon
Red Ash	Red Ash	Red Ash	Red Ash	Red Ash	Red Ash	Red Ash	Red Ash		Red Ash	Red Ash		Red Ash

Panel 5:

General Name of Bed	Malby-Westmoreland	No. 14	Mt. Lookout	No. 6	Schooley	Ewen	Exeter	Stevens	Clear Spring	No. 9
Hillman		Hillman		Hillman						
Diamond		Diamond		Diamond						
Top Checker		Top Checker		Top Checker	Top Checker	Top Checker	Top Checker			
Bottom Checker		Bottom Checker		Bottom Checker	Checker	Bottom Checker	Checker	Checker	Checker	
Pittston	Pittston	Pittston	Pittston	Pittston	Pittston	Pittston	Pittston	Pittston	Pittston	Pittston
Bottom Pittston	Bottom Pittston		Bottom Pittston						Bottom Pittston	
Top Marcy	Top Marcy		Top Marcy						Top Marcy	Top Marcy
Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy
Top Clark	Top Ross	Clark	Top Ross	Top Clark	Top Clark	Top Clark	Top Clark	Clark	Top Clark	
Bottom Clark	Bottom Ross	Bottom Clark	Bottom Ross	Bottom Clark	Bottom Clark	Bottom Clark	Babylon	Babylon-Bottom		
Top Red Ash		Babylon		Babylon				Babylon		
Middle Red Ash							Fifth	Fifth	Middle Red Ash	
Bottom Red Ash		Red Ash	Red Ash	Red Ash	Red Ash	Red Ash	Red Ash	Sixth	Bottom Red Ash	Bottom Red Ash
"A"							"A"	"A"		

Panel 6:

General Name of Bed	Stevens	Clear Spring	Seneca	No. 9	William "A"	Hallstead	Central	Old Forge
Checker	Checker	Checker	Checker	Checker				
Pittston	Pittston	Pittston	Pittston	Pittston				
Bottom Pittston		Bottom Pittston						
Top Marcy	Top Marcy	Top Marcy	Top Marcy	Top Marcy				
Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	Marcy	
Clark	Clark	Top Clark	Clark	Clark	Clark	Clark	Clark	
Bottom Clark	Bottom Clark	Bottom Clark						
Top Red Ash	Babylon		Top Red Ash		Top Red Ash	No. 1 Dunmore	Nigger	
							Mined with	
Middle Red Ash	Fifth	Middle Red Ash	Fifth	Middle Red Ash	Middle Red Ash	No. 2 Dunmore	Red Ash	Middle Red Ash
Bottom Red Ash	Sixth	Red Ash	Sixth	Red Ash	Bottom Red Ash	No. 3 Dunmore	Red Ash	Bottom Red Ash

Subseries II: Soil Survey, Luzerne County, 1973

Subseries II: Soil Survey, Luzerne County, 1973 (9.2) is a soil survey conducted by the United States Department of Agriculture, in cooperation with Pennsylvania State University, College of Agriculture, and the Pennsylvania Department of Environmental Resources, State Conservation Commission. While the data in this survey was approved in 1974, it applies to the data collected in 1973. This publication was meant to be applied to managing farms and woodlands, selecting sites for roads, ponds, buildings, judging suitability of tracts of land for farming, industry, and recreation. There are different categories based on interest to the reader; such categories include farmers, foresters, game managers, community planners, engineers and builders, and newcomers. There are various subcategories that are applicable to what that profession would want to know for the "use and management of the soils" in a particular series, such as crop and pasture, woodland, wildlife, town and country planning, recreational development and engineering. There is also a section for the formation and classification of the soils, which includes factors of soil formation, processes of soil formation, classification of soils. Lastly, there is a section for the general nature of the county, which includes farming, climate, drainage, physiography, geology, and water supply. The data in this publication was collected from R. Dennis Bush, William L. Braker, Joseph S. Hallowich, Gary W. Martin, Joseph J. Eckenrode, Robert G. Grubb, Donald B. Holzer, Clifford D. Kohler, Garland H. Lipscomb, and George D. Martin. There are various sheets made on aerial photographs to give boundaries on individual soils, and there are 29 pages of maps at the end of the publication which were derived from the aerial photographs. There are individual soil series made for Alluvial Land, Alvira, Arnot, Atherton variant, Basher, Bath, Braceville, Buchanan, Chenango, Chippewa, Dekalb, Holly, Kedron, Klinesville, Lackawanna, Leck Hill, Lindon, Lordstown, Mardin, Mechesville, Mine dump, Morris, Muck, Oquaga, Pocono, Pope, Rexford, Shelmadine, Strip mine, Urban land, Volusia, Wayland, Weikert, Wellsboro, Wurtsboro, and Wyoming. Each series is named for a town or other geographic feature near the place where a soil was first observed in that area. Further descriptions are also given for each series, such as a representative profile, sloping, type of fertility, location of soil, and suitability of crops. The back of this publication also provides a glossary of terminology.

Subseries III: Wyoming Valley Flood Analysis, 1980-June 1981

Subseries III: Wyoming Valley Flood Analysis, 1980-June 1981 (9.3-9.4), contains two reports: Cultural Resources Reconnaissance Wyoming Valley Local Flood Protection Study Luzerne County, Pennsylvania, 1980; and Main Report & Environmental Impact Statement, Wyoming Valley, Pennsylvania, June 1981. Both were completed in accordance with the United States Army Corps of Engineers in Baltimore,

Maryland. For the 1980 report, a shovel testpitting along existing and proposed levees of the Susquehanna River in Wilkes-Barre, PA. The report highlights an overview of prehistoric and historic cultural resources, physiographic and ecological resources, project area archaeology, study methodology, site analysis and evaluation, and conclusions. The report also includes maps of the Luzerne County study area, cultural history of the Wyoming Valley, town histories, geologic attributes and history, soil types, ecology, land modifications, relations to recurrent flooding in the area, chronology, river level movement, building erections, strategies, impact of human activities, disturbance, worth of preservation, and effects from levee construction. The 1981 report proposes a new levee system that is meant to reduce flood losses by eighty-one percent. The report highlights the following: problem identification, plan formulation and evaluation, public involvement, implementation responsibilities, conclusions, recommendations, and an environmental impact statement, along with seven appendices. The idea was proposed to build a better levee system after the effects of Hurricane Agnes in 1972. The report further explains existing and probable future conditions to stress the importance of designing a new levee system. The report also touches upon other data in regards to the Wyoming Valley, land use, resources etc. The report includes design plans, diagrams, maps, modifications, magnitude of induced flooding, various stages of the project, and other planning necessary to execute the levee project. Further, a separate segment titled the Environmental Impact Statement explains pushback and other environmental issues that could be associated with building the levee system, as well as mitigating those risks to promote ecological integrity. A final attachment highlights public views on the matter.

Subseries IV: Overview of Subsidence Potential in Pennsylvania Coal Fields, June 1975 - Nov 1992

Subseries IV: Overview of Subsidence Potential in Pennsylvania Coal Fields, June 1975 - Nov. 1992 (9.5-9.7) contains a report of the same name. It was prepared for the Appalachian Regional Commission. It contains an atlas with thirty-six subsidence potential classification 7.5 minute quadrangle maps, which are meant to help with associated projects relating to mining activities. There is also various supplemental tables to further explain the data presented in the maps. The report further gets into the Kingston, Nanticoke, Pittston, Shickshinny, and Wilkes-Barre areas to further clarify which maps belong to which areas. Some quadrangle maps are marked in blue and red ink to clarify the parcels for the Earth Conservancy projects. Lastly, there is a parcel index to clarify which pages in the report match the necessary data required for the various parcels. Supplemental reports include The Evolution of Abandoned Land Technologies: A Symposium and a memorandum highlighting research and maps of prospective Blue Coal land.

*Pages 16-44 are missing from the report.

Series VIII: Earth Conservancy Memos, 1994-1996

Series VIII: Earth Conservancy Memos, 1994-1996, (9.8-9.11, 10.1-10.3) is arranged chronologically by memorandum number (as they are not in chronological order; see index of the memos in Folder 9.4 for more details). Such memorandums in this series include emails between EC members, the Earth Conservancy-Ben Franklin Yard and Leaf Waste composting project (with schedules and updates seen via emails), updates on various REES projects as shown through emails, letters, and various surveys, NPDES

permit applications for several parcels (Newport 4, Hanover 16), letters, study sites of Newport 4 and Hanover 16, preliminary reports, maps of plans, studies, and mines, property owners in Nanticoke 1, proposed plans, proposal studies, budgets, costs, other applications, soil studies, REES-2 proposal, Hanover 16 geology report, consultant reports, wetland surveys, purchase requests, flash reports, erosion and sediment pollution control plan application, Hanover 16 trash removal plan, yard waste composting facility application form, copy of checks, project summaries, ARPA proposals, amendment grants, proof of purchase, diagrams and pictures, GIS proposals, updates on the flyash and sewage sludge (as well as rules and regulations and updates), greenhouse experiments, and other updates, plans, and permits to such projects.

Such people whose conversations are included in these memos include Brian Redmond, Bryce Payne, Dean Friedman, Umid Nejib, Mike Dziak, Congressman Paul Kanjorski, Jim O'Karma, Beth Scully, Thomas Chesnick, Bill Tarutis, John Renfer, Brian Oram, Gerald Fisher, Robert Yonker, Kurt Carr, Susan Graves, Joseph Yudichak, George Parrs, Gerry DuBoice, Liz Ortega, Margaret Webster, Kate Crowley, and Connie Armentrout. Such people are EC members, Wilkes Faculty, or outside consultants.

It is important to note that while the index states memos from 1992-1994, they are not present (except 2 documents, #358 and #359 that are in 1994). The bulk of the memorandums available begin on August 30, 1995, or # 320, and ends on May 26, 1996, or #419 (both 320 and 419 referring to the corresponding number as shown in the index). The memorandums are also not in complete chronological order by date (but for the most part, they are).

Series IX: Kenneth Klemow's Assessments, 2002-2003

Series IX: Kenneth Klemow's Assessments, 2002-2003, (10.4-10.6), are arranged chronologically by folder year and provide an investigation into the wetland assessments and the impact of mining on water in the Wyoming Valley. These reports were never published. The Phase I Wetland Assessment was in Espy Run, in Hanover Township. Kenneth Klemow investigated the effects of the wetland by examining the water quality between 2000 and 2002; the wetland was established in 1996. He also recommended places of improvement that the Earth Conservancy can investigate later on. The data provides information on flow rates, pH, dissolved oxygen, temperature, conductivity, sulfate present, alkalinity, acidity, and total and dissolved iron. He also examined diversity change in the area. Further results, tables, figures, maps, and conclusions may also be found. Also included is a report on the impact of mining on Newport and Nanticoke Creek Watersheds. This report includes an introduction, methods, results, conclusions, recommendations, figures, and tables. Specifically, effects of acid mine drainage were examined by studying water quality (which had similar studies to the wetland assessments), vegetation, and macroinvertebrate populations. He also investigated the effects on biodiversity and ecosystems in such areas. Phase II Wetland Assessment was along Dundee Road in Hanover Township between 2001 and 2002. This report follows the same format as the Phase I Wetland Assessment.

Series X: Thomas Walski Reports, 1960-1997

Series X: Thomas Walski Reports, 1960-1997 (10.7-10.8, 11.1-11.15, 12.1-12.36, 13.1-13.13, 14.1-14.8, 15.1-15.21, 16.1-16.9), contains documentation of the acid mine drainage and wetland projects. This series contains memorandums that cover project updates and other briefings, documents in associating with planning, researching, and designing the wetland systems at the sites, financial information with the projects, associated press information with the Hanover Township Board of Commissioners and other conferences/symposiums attended by the team, as well as outside research that was collected in order to study and build the most suitable wetland systems for the Wyoming Valley.

Subseries I: Memorandums, 1989-1997

Subseries I: Memorandums, 1989-1997 (10.7-10.8, 11.1-11.14), contains the technical information in regards to Acid Mine Drainage Phase I and II Wetland Treatment. Such information is presented through meetings, briefings, updates, presentations, many email exchanges, agendas, handwritten notes, and quarterly reports. This subseries contains information that discusses project outlines, planning, wetland location selection, transitioning between phases, and other associated information. Additionally, there is also time allocation monthly reports, memorandums associated with the Espy Run site, contact information for EC members, as well as their respective teams in the EC project.

Subseries II: AMD Phase I and II Research Documents, 1982-1995

Subseries II: Acid Mine Drainage (AMD) Phase I and II Research Documents, 1982-1995 (11.15, 12.1-12.20), contains all data and information collected about the lands that Dr. Walski and Dr. Klemow would later build wetlands on. Information found within this subseries includes environmental assessments, Dundee Road assessments, Espy Run assessments, photos at the sites, various wastewater tests (such as jar tests, oxygen transfer tests, pump analysis, etc.), other AMD calculations as conducted by William Tarutis and Thomas Walski, and weir calculations. Additionally within this subseries is all the field data and notes involved, as well as topographic surveys of the land. There are also various graphs and figures for data collected on the sites, such as testing for toxic metals, pH, etc. Dr. Walski, Dr. Klemow, and their associated teammates also examined Rausch Creek Plant for AMD as well; such documents discuss cost summaries, expenses, flow rates, contracts, etc. Lastly, this subseries also contains research papers from the Wetlands Research Program, as requested from the Dept. of the Army. Some documents are handwritten, but it is unknown who wrote them.

Subseries III: AMD Phase I and II Design and Planning, 1960-1996

Subseries III: Acid Mine Drainage (AMD) Phase I and II Design and Planning, 1960-1996 (12.21-12.36, 13.1-13.13, 14.1-14.5), contains information about Dr. Klemow and Dr. Walski's design and planning of the wetlands. This subseries contains various documentation such as directions, maps, diagrams, proposals, permits, equipment specifications, pamphlets regarding the companies and equipment for such drainage projects. There are maps associated with the Wyoming Valley, as well as for Loomis Park, Newport Township, and Hanover Township. There are also designed cross sections of the wetlands, proposals for the wetlands, and other process designs. Other proposals contained within this subseries include the AMD Section 319 Proposal, which was submitted to the Bureau of Land and Water Conservation of the Pennsylvania Department of Environmental Protection, to discuss nonpoint source pollution control for Nanticoke Creek. Included are permits required for the temporary road crossing established to get to the site, gate installation, other roadside fixings, and PennDOT highway occupancy permit. Enclosed in the AMD design documents is information on drilling to determine subsurface conditions, photographs at the digging of the site, elevation specifications, liner information, layouts, and other sizing requirements. Other planning documents include the erosion and sedimentation control plan. The erosion and sedimentation control plan was a system used in both Phase I and II to prevent any AMD discharge running into Espy Run and to Dundee Road (in Hanover Township); this was to ultimately

prevent sediments from the project to enter into Nanticoke Creek. This subseries contains emails, letters, and other information associated with In-finn-ity Geotech Service concerning boreholes at the project site at Dundee Road in Hanover Township (as part of the Espy Run site). There are also diagrams/maps of where the holes are located, and all the data associated with this control plan. There is also documentation and correspondence showing Earth Conservancy's relationships with Borton-Lawson Engineering in terms of helping with construction as well. Lastly, other companies that were looked into are, but not limited to, BonTerra America, American Excelsior Company, Kemmerer Masonry, Quick Grass, GS Aurora Pump, James Clem Corporation, Reef Industries, Nicolon Corporation, etc. This subseries contains information on equipment specifications, inventory, and other field equipment needs for the drainage projects.

Subseries IV: Associated Press, 1992-1996

Subseries IV: Associated Press, 1992-1996 (14.6-14.8, 15.1-15.10), contains information about associated outreach, such as newsletters, other newspaper clippings, conferences, workshops, symposiums, initiatives, and other governmental associations. The Hanover Township Board of Commissioners held great scrutiny against the Earth Conservancy, believing that such environmental land projects were unnecessary; however, it was needed to get the Board in agreement in order to get the necessary permits to complete the projects. This subseries contains newspaper clippings, agendas, and other memorandums associated with the Hanover Township Board and such meetings. This subseries also contains other ecological newsletters collected, information on the Appalachian Clean Stream Initiative, National Association of Conservation Districts, etc. There is also information on various conferences and symposiums, such as the West Virginia Surface Mine Drainage Task Force Symposium, Constructed Wetlands Workshop, ASSMR Conference, Coal Mine Drainage, and the AMD/AML Conference held at Wilkes University. The information mainly contains agendas and other speakers/papers presented. Lastly, there is documentation by governmental associations within this subseries, such as the HOR Report 102-902 and the Prevailing Wage Act. These documents pertain to legal matters in regards to private agencies and proper payment of construction projects.

Subseries V: AMD Finances, 1993-1996

Subseries V: Acid Mine Drainage (AMD) Finances, 1993-1996 (15.11-15.18), contains all financial information in regards to the AMD wetlands projects from 1993 through 1996. Such information includes budgeting information, costs, estimates, lab charges, check requests, purchase order requisitions, and other bidding documents.

Subseries VI: Outside Research, 1964-1996

Subseries VI: Outside Research, 1964-1996 (15.19-15.21, 16.1-16.9), are arranged based on the researcher and what the research covered. Walski collected research examining other AMD wetland treatment techniques that may be used for the AMD wetland treatment on Earth Conservancy land. Walski's annotations are left on some of the research documents. Such research is as follows (in no particular order). Researcher R. Kelman Wieder from the Dept. of Biology at Villanova University examined Fe(II) and Fe(III) retention. William (Bill) Tarutis from the Dept. of GeoEnvironmental Sciences and Engineering at Wilkes University, researched AMD wetlands, some of which was conducted with Richard F. Unz of Pennsylvania State University. Lloyd R. Stark with his colleagues from Pennsylvania State University studied wetlands, aquatic processes, storm effects, and mushroom substrate. Jeff Skousen of West Virginia University studied chemicals (limestone, hydrated lime, sodium carbonate, and ammonia) usage for treating wetlands. William J. Mitsch from Ohio State University examined ecosystem conservation, self-design, sustainability, and applied ecology. Samuel A. McClintock from Pennsylvania State University studied utilizing diversion wells for AMD treatment, as well as with

acid-damaged streams and acid rain. R.S. Hedin conducted research with R.W. Hammack, R.W. Nairn, and others examined AMD recovery, contaminant removal capabilities of wetlands, and they also include course notes for the PA DER workshop. Donald A. Hammer, from Tennessee, studied wetlands as wastewater treatment. Other literature authors include the following: R.H. Kadlec, C.L. Carlson and C.A. Carlson, M.T. Hiel and F.J. Kerins Jr., L.L. Stillings, J.J. Gryta, T.A. Ronning, P. Eger and K. Lapakko, J.C. Sencindiver and D.K. Bhumbra, D.E. Samuel, H.W. Rauch, J.C. Emerick, W.W. Huskie, D.J. Cooper, S.D. Machemer, J.S. Reynolds, L.S. Laudon, T.R. Wildeman, W. Davison, C.S. Reynolds, E. Tipping, R.D. Letterman, M. Hadad, C.T. Driscoll, W.J. Jewell (published in American Scientist), J.D. Waterman and D.S. Brown (in CWWT News), L.H. Michaud, R.F. Anderson, S.L. Schiff, R.H. Hosking Jr, T.D. Mayer, W.M. Jarrell, G.S. Shelpp, W. Chesworth, G. Spiers, A.J. Cameron, P.S. Liss, N.F. Gray, W. Wang, Z. Xu, J. Finch, D.R. Long, T.L. Theis, P.C. Singer, W. Sung, J.J. Morgan, E.J. Forbes, C.C. Hustwit, T.E. Ackman, P.E. Erickson, and J.R. Jones. Many of their papers were submitted at the 1988 Mine Drainage and Surface Mine Reclamation Conference. Other contributors include the Journal of the Pennsylvania Academy of Science and Lehigh University. Lastly, there is also research in association with wetland remediation for zinc contamination, which includes the Palmerton zinc superfund site (final report for phase I and II).

Folder List

Location

Inventory

Box 1

Series I: Earth Conservancy Organization Files, 1992-1997 [Restricted]

Subseries I: EC Board of Directors Meetings, 1992-1997

- 1.1. Earth Conservancy Executive Committee Meeting 1992
- 1.2. Earth Conservancy Executive Committee Meeting February 17, 1994
- 1.3. Earth Conservancy Executive Committee Meeting April 12, 1994
- 1.4. Earth Conservancy Executive Committee Meeting May 17, 1994
- 1.5. Earth Conservancy Board of Directors' Retreat April 16, 1994
- 1.6. Earth Conservancy Board of Directors' Retreat April 16, 1994
- 1.7. Earth Conservancy Board of Directors October 4, 1993
- 1.8. Earth Conservancy Board Meeting Balance Sheet December 6, 1993
- 1.9. Earth Conservancy Board of Directors Meeting December 6, 1993
- 1.10. Earth Conservancy Board of Directors Meeting December 21, 1993
- 1.11. Earth Conservancy Board of Directors 1994
- 1.12. Earth Conservancy Board Meetings 1994
- 1.13. Earth Conservancy Board of Directors Meeting March 10, 1994
- 1.14. Earth Conservancy Board Meeting Agenda May 31, 1994
- 1.15. Earth Conservancy Board of Directors Meeting July 15, 1994
- 1.16. Earth Conservancy Combined Meeting of Members and Board of Directors August 3, 1994
- 1.17. Earth Conservancy Board of Directors October 12, 1994
- 1.18. Earth Conservancy Board of Directors Meeting November 22, 1994
- 1.19. Earth Conservancy Board of Directors Meeting December 15, 1994
- 1.20. Earth Conservancy Board of Directors Meeting January 30, 1995
- 1.21. Earth Conservancy Board of Directors Meeting February 8, 1995
- 1.22. Earth Conservancy Board of Directors Meeting April 27, 1995

- 1.23. Earth Conservancy Board Meeting May 25, 1995
- 1.24. Earth Conservancy Board of Directors Meeting March 6, 1997
- 1.25. Earth Conservancy Board of Directors Meeting May 1, 1997
- 1.26. Earth Conservancy Board Committees May 2, 1997
- 1.27. Earth Conservancy Board of Directors August 7, 1997
- 1.28. Earth Conservancy Board of Directors September 4, 1997
- 1.29. Earth Conservancy Board of Directors Meeting October 10, 1997
- 1.30. Earth Conservancy Board of Directors 1997

Box 2

Subseries II: Earth Conservancy Institutional Records, 1993-1995

- 2.1. Earth Conservancy Mission Statement, ca. 1993
- 2.2. Earth Conservancy Organizational Policies and Procedures February 2 1994
- 2.3. Earth Conservancy Plan of Action
- 2.4. Earth Conservancy Bylaws
- 2.5. Earth Conservancy Bylaws Amendments 1993
- 2.6. Earth Conservancy Bylaws 1994
- 2.7. Earth Conservancy Private Non - Profit Corporation
- 2.8. Earth Conservancy Deed Contents 1995
- 2.9. Earth Conservancy Operational Issues and Requirement
- 2.10. Earth Conservancy Job Applications

Series II : Committee Meetings, 1993-1997

- 2.11. Earth Conservancy Members Meeting December 6, 1993
- 2.12. Earth Conservancy Members Meeting January 14, 1994
- 2.13. Earth Conservancy Members Meeting November 22, 1994
- 2.14. Earth Conservancy Members Meeting January 11, 1995
- 2.15. Earth Conservancy Members Meeting June 5, 1997
- 2.16. Earth Conservancy Member Meeting September 4, 1997
- 2.17. Earth Conservancy Meetings 1993 - 94 Part 1
- 2.18. Earth Conservancy Meetings 1993 - 94 Part 2
- 2.19. Earth Conservancy Meetings 1994
- 2.20. Earth Conservancy Meetings 1994 - 95
- 2.21. Earth Conservancy Meetings 1996 - 97
- 2.22. Earth Conservancy Meetings 1997
- 2.23. Earth Conservancy By - Laws Committee Meeting December 6, 1993
- 2.24. Earth Conservancy Land Use Planning Committee Meeting January 12, 1995
- 2.25. Earth Conservancy Land Disposition Committee Meeting

Box 3

Series III: Financial, 1983-2001

Subseries I: Quarterly Reports, 1993-1997

- 3.1. Quarterly Report October 1 - December 31, 1994 SESLU

- 3.2. Earth Conservancy First Report November 1, 1993 - June 30, 1994
- 3.3. Second Quarterly Report July 1, 1994 - September 30, 1994
- 3.4. Advanced Research Projects Agency Third Quarterly Report October 1, 1994-December 31, 1994
- 3.5. Earth Conservancy Quarterly Status Report April 1, 1994 - June 30, 1994
- 3.6. Earth Conservancy Quarterly Status Report July 1, 1994 - September 30, 1994
- 3.7. Earth Conservancy Financial Status Report as of October 31, 1994
- 3.8. Earth Conservancy Quarterly Status Report October 1, 1994 - December 31, 1994
- 3.9. Earth Conservancy Quarterly Status Report January 30, 1995
- 3.10. Earth Conservancy 1995 First Quarter Status
- 3.11. Earth Conservancy Quarterly Report December 31, 1996
- 3.12. Earth Conservancy Quarterly Report March 31, 1997

Subseries II: Financial Documents, 1993-2001

- 3.13. Dr. Breiseth Copy of Checks
- 3.14. Earth Conservancy Dynamic Project Sheets
- 3.15. Earth Conservancy 1993 Form 990
- 3.16. Earth Conservancy 1993 Form 990

Box 4

- 4.1. Earth Conservancy Projected Budget
- 4.2. Earth Conservancy Financial Status and Proposed Actions
- 4.3. Earth Conservancy IRS Documents April 14, 1993
- 4.4. Earth Conservancy Financial Statements December 31, 1993
- 4.5. Earth Conservancy Financial Statements December 31, 1993
- 4.6. Earth Conservancy Financial Statements 1993 Scan
- 4.7. Earth Conservancy Financial Statements 1993
- 4.8. Earth Conservancy Financial Statements 1994
- 4.9. Earth Conservancy Balance Sheet April 30, 1994
- 4.10. Earth Conservancy Income Potential 1994
- 4.11. Earth Conservancy Financial Status 1994 - 1995 Projections Expenses/Income
- 4.12. Earth Conservancy Financial System Presentation 1995
- 4.13. Earth Conservancy Financial Statements 1996
- 4.14. Earth Conservancy 5 Year Operating Plan 1997 - 2001
- 4.15. Earth Conservancy 5 Year Plan October 6, 1997
- 4.16. Earth Conservancy Draft of 5 Year Plan 1997 - 2001
- 4.17. 1998 Cash Requirement for Salary Plan

Subseries III: Land, 1994 - 1997

- 4.18. Earth Conservancy Land Use Planning Financing
- 4.19. Earth Conservancy Advanced Summary of a Grant Proposal
- 4.20. Earth Conservancy Appalachian Regional Commission Land Use Planning Grant
- 4.21. Earth Conservancy Economic Development Projects
- 4.22. Harry F. Goeringer and Sons Realtors May 21, 1997
- 4.23. Earth Conservancy VS. American Asphalt Paving Company 1997

4.24. American Asphalt VS. Earth Conservancy 1997

Subseries IV:Pennsylvanian Anthracite Sales Prospectus: Part 2, August 1983

4.25. Pennsylvanian Anthracite Sales Prospectus: Part 2, 1983 August

Series IV: Earth Conservancy in Higher Education, 1988-1997

4.26. Ben Franklin Partnership Program 1988 - 89

4.27. Draft Proposal for the Establishment of the William Penn Institute for Research, Development, and Demonstration, 1989 July 4th

Box 5

5.1. Tire Recycling Operation with Waterjet

5.2. Recycling Operation with Waterjet

5.3. SESLU Presentation

5.4. Demonstration Wetland to Treat Acid Mine Drainage in the Wyoming Valley

5.5. Stewards of the Land, 1994

5.6. Earth Conservancy New Projects 1994

5.7. Environmental White Paper 1994

5.8. REES Activities 1994

5.9. Earth Conservancy Environmental Education Grant 1994 [Restricted]

5.10. Earth Conservancy Grant Proposal November 11, 1994

5.11. Earth Conservancy EPA Grant 1995 [Restricted]

5.12. Earth Conservancy Application for Technology Development Funding with Wilkes University, 1995 January 5th [Restricted]

5.13. American Heritage Rivers Program 1997

5.14. 1993 Research Training Program

Series V: Correspondence, 1991-1997

5.15. Awards Programs semifinalist application, 1991

5.16. Correspondence: Dr. Breiseth to Frank McDonnell, 1992-1993

5.17. League of Women Voters 1993

5.18. Earth Conservancy Press Clipping September 3, 1994

5.19. Earth Conservancy 1994 Accomplishments

5.20. Earth Conservancy correspondence and memorandums, 1992-1997 [Restricted]

5.21. Earth Conservancy correspondence, 1994 [Restricted]

5.22. Earth Conservancy memorandums, 1994 [Restricted]

5.23. Earth Conservancy memorandums, 1995 [Restricted]

5.24. Broad Agency Announcement February 13, 1995

5.25. Thomas R. Chesnick Application for Project Manager for Earth Conservancy, 1995 [Restricted]

5.26. Michael C. Korb Application for Chief Executive Officer for Earth Conservancy, 1994 [Restricted]

5.27. Goodwin, Proctors, and Hoar Environmental Law Practice resumes and brochure [Restricted]

Series VI: REES Plans, 1987-1996

Subseries I: EC-NIER Joint Proposal, 1994

5.28. EC-NIER Joint Proposal, 1994

Subseries II: REES Quarterly Reports, 1987-1995

5.29. Reclamation of Palmerton, 1987

5.30. REES Quarterly Jan. 1994

Box 6

6.1. REES Quarterly July 1994

6.2. REES Quarterly Oct. 1994

6.3. REES Quarterly Jan. 1995

6.4. REES Quarterly April 1995

6.5. REES Quarterly June 1995

Subseries III: Reclamation Plans and Compendium, 1995-1996

6.6. Reclamation Plan for Nanticoke 1, Sections 1-6, September 1995

6.7. Reclamation Plan for Nanticoke 1, Sections 7-10, September 1995

6.8. Reclamation Plan for Nanticoke 1, Sections 11-15, September 1995

6.9. Reclamation Plan for Nanticoke 1, Maps, September 1995

Box 7

7.1. Reclamation Plan for Newport 4, Sections 1-9, June 1996

7.2. Reclamation Plan for Newport 4, Sections 10-15, June 1996

7.3. Reclamation Plan for Newport 4, Maps, June 1996

7.4. Compendium of Information of Miscellaneous Sites, Sections 1-2, September 1996

7.5. Compendium of Information of Miscellaneous Sites, Section 3 and Hanover 29 Base Map, September 1996

7.6. Compendium of Information of Miscellaneous Sites, Sections 4-8, September 1996

Subseries IV: Final Report: Restoration of Environmentally Exploited Sites (REES), ca. 1997

7.7. Final Report: Restoration of Environmentally Exploited Sites (REES), ca. 1997

Box 8

Series VII: Luzerne County Land Evaluation, 1963-1992

Subseries I: Panels, 1963

8.1. Panel 1, Nanticoke - Hanover Sector, 1963

8.2. Panel 2, Plymouth - Hanover Sector, 1963

8.3. Panel 3, Wilkes-Barre - Kingston Sector, 1963

8.4. Panel 4, Forty Fort - Plains Sector, Folio A-G 1963

8.5. Panel 4, Forty Fort - Plains Sector, Folio H-N, 1963

8.6. Panel 5, Wyoming - Fort Blanchard Sector, 1963

Box 9

9.1. Panel 6 Pittston - Duryea Sector, 1963

Subseries II: Soil Survey, Luzerne County, 1973

9.2. Soil Survey for Luzerne County, PA, 1973

Subseries III: Wyoming Valley Flood Analysis, 1980-June 1981

9.3. Cultural Resources Reconnaissance Wyoming Valley Local Flood Protection Study, Luzerne County, PA 1980

9.4. US Army Corps of Engineers: Wyoming Valley, Pennsylvania Local Flood Protection Main Report & Environmental Impact Statement, 1981 June

Subseries IV: Overview of Subsidence Potential in Pennsylvania Coal Fields, June 1975-Nov. 1992

9.5. Overview of Subsidence Potential in Pennsylvania Coal Fields, Report, 1975 June 30

9.6. The Evolution of Abandoned Mine Land Technologies: A Symposium June 1989

9.7. Blue Coal Land Memo, Nov. 1992

Series VIII: Earth Conservancy Memos, 1994-1996

9.8. Memo Index and Numbers 320-329, Aug. 1995-Sept. 1995

9.9. Memo Numbers 330-359, July 1994, Oct. 1994, Aug. 1995-Dec. 1995

9.10. Memo Numbers 360-369, Sept. 1995-Oct. 1995, Dec. 1995

9.11. Memo Numbers 370-389, Jan. 1995 and Jan. 1996

Box 10

10.1. Memo Numbers 390-409, Feb. 1996-March 1996

10.2. Memo Numbers 410-429, Dec. 1995, Jan. 1996-March 1996

10.3. Memo Numbers 430-449, Feb. 1996-May 1996

Series IX: Klemow's Assessments, 2002-2003

10.4. Water Quality Assessment, Phase I Wetland, 2002

10.5. Impact of Mining on Watersheds, 2002

10.6. Water Quality Assessment, Phase II Wetland, 2003

Series X: Thomas Walski Reports, 1964-1997

Subseries I: Memorandums, 1989-1997

10.7. May 1989-Dec. 1994

10.8. March 1995-April 1997

Box 11

11.1. AMD Espy Run Memorandums, Dec. 1993-Aug. 1995

11.2. Time Allocation Monthly Reports, Sept. 1993- Oct. 1996

11.3. Extension of AMD Treatment Wetlands Project 1995-1996

11.4. AMD Progress Meeting Jan. 1995

11.5. AMD Progress Meeting Feb. 1995

11.6. EC Meeting Aug. 1995

11.7. July 31, 1996 Brief

11.8. AMD Briefing Oct. 1996

11.9. Wetland Brief

11.10. Weekly Summary Wetlands Projects 1995

11.11. Quarterly Reports and Updates, June 1993-Sept. 1996

11.12. EC at a Glance

11.13. Contact Sheets

11.14. EC Members and Respective Teams

Subseries II: AMD Phase I and II Research Documents, 1982-1995

11.15. Earth Conservancy Project Fact Sheet

Box 12

- 12.1. Environmental Assessment 1994
- 12.2. Environmental Assessment Form April 1994
- 12.3. Wetlands Research Program, 1992-1993
- 12.4. Photos at Site
- 12.5. Water Table Elevations at Espy Run
- 12.6. Dundee Road Assessments
- 12.7. Rausch Creek Plant, 1994-1996
- 12.8. AMD Modeling and Calculations, Dec. 1995-July 1996
- 12.9. AMD Field Data and Notes, 1982-1995
- 12.10. Field Testing Protocol
- 12.11. Topographic Survey 1994
- 12.12. AMD Jar Tests, 1994
- 12.13. AMD Tests
- 12.14. Wastewater Discharge Data
- 12.15. AMD O₂ Transfer Test
- 12.16. AMD Phase 2 Pump Analysis, 1996
- 12.17. Pumping Requirements
- 12.18. Weir Calculations
- 12.19. Figure Data
- 12.20. Table Data and Calculations

Subseries III: AMD Phase I and II Design and Planning, 1960-1996

- 12.21. Directions to EC Site
- 12.22. 1960 Deed and Map, Loomis Park
- 12.23. Newport Township Map, Oct. 1994
- 12.24. Hanover Township Associated Permits and Maps, 1994-1995
- 12.25. Wetland Diagrams
- 12.26. Maps of Wyoming Valley
- 12.27. Cross Sections
- 12.28. Proposal of Wetlands
- 12.29. Wetland Project Planning
- 12.30. Espy Run Planning
- 12.31. Process Design 1993-1994
- 12.32. AMD Wetlands Proposal 1993
- 12.33. Temporary Road Crossing, 1994
- 12.34. West Virginia DEP Division of Abandoned Mine Lands and Reclamation
- 12.35. Road Site Fixing, 1994
- 12.36. Gate Installation, 1994

Box 13

- 13.1. AMD Design Documents, July 1994-Nov. 1995
- 13.2. Consultant Agreement 1995
- 13.3. AMD Section 319 Proposal, 1995-1996
- 13.4. ASSMR Proposal, 1996
- 13.5. Invitation for Bids, Aug. 1996
- 13.6. Erosion and Sediment Control Plan 1996

- 13.7. Spillway Design
- 13.8. AMD Phase 2 Design Papers
- 13.9. Jeff Gocek Wetlands Notes
- 13.10. Landscaping Surface
- 13.11. Limestone Sample Project
- 13.12. In-finn-ity Services & Espy Site, Borton Lawson Engineering, 1987-1996
- 13.13. Kemmerer Masonry

Box 14

- 14.1. Wetland Wall and Liner Designs and Companies
- 14.2. Equipment Pamphlets
- 14.3. Equipment Specifications
- 14.4. Inventory
- 14.5. Field Equipment Needs

Subseries IV: Associated Press, 1992-1996

- 14.6. Hanover Township Board of Commissioners; Memos and Associated Press
- 14.7. Newsletters 1993-1996
- 14.8. National Association of Conservation Districts, and Nonpoint Source News Notes, 1995

Box 15

- 15.1. HOR Report 102-902, 1992
- 15.2. Dept. of Labor and Industry, Prevailing Wage Act, Mar. 1995
- 15.3. Appalachian Clean Streams Initiative
- 15.4. DEP Partnering on Cleanup
- 15.5. Improving Environmental Education Skills
- 15.6. Constructed Wetlands Workshop
- 15.7. West Virginia Surface Mine Drainage Task Force Symposium, 1993
- 15.8. ASSMR Conference May 1996
- 15.9. Coal Mine Drainage Agenda
- 15.10. AMD/AML Conference April-June 1996

Subseries V: AMD Finances, 1993-1996

- 15.11. Wetland Budgeting 1994-1996
- 15.12. Wetland Research Project Lab Charges. Oct. 1993-July 1995, Jan-Aug. 1996
- 15.13. Application for Check Request 1994
- 15.14. Purchase Order Requisition 1994
- 15.15. Bidding Contract 1995
- 15.16. Borton-Lawson Engineering 1995
- 15.17. AMD Phase 2 Cost Estimates and Breakdowns 1996
- 15.18. Budget and Billing 1996

Subseries VI: Outside Research, 1964-1996

- 15.19. Wetlands for Zinc Contamination, 1988-1992
- 15.20. Flocculation Research
- 15.21. Hammer Wetland Research 1989
- 15.22. Hedin AMD and Wetland Research 1988-1996

Box 16

- 16.1. Journal of the Pennsylvania Academy of Science, Dec. 1993

- 16.2.** Lehigh University 1995-1996
- 16.3.** McClintock Diversion Well Research, 1993
- 16.4.** Mitsch AMD Research and Ecological Engineering, 1989-1993
- 16.5.** Skousen AMD Research, 1991-1993
- 16.6.** Stark et al. Research on AMD Wetlands, 1988-1996
- 16.7.** Tarutis AMD Wetland Research and Memorandums, with Unz. 1988-1996
- 16.8.** Wieder AMD Wetland Research, 1987-1994
- 16.9.** Miscellaneous AMD Literature, 1964-1996