

Archival Products

NEWS

Assessment and Plans to Preserve the CONSOL Energy Mining Map Collection

by Jean Ann Croft and Debora Rougeux

THE UNIVERSITY OF PITTSBURGH Preservation Department in partnership with the Archives Service Center (ASC) is currently conducting an inventory and item by item condition assessment of the “hardback” maps from the CONSOL Energy Mining Map Collection. This part of the collection consists of approximately 600 maps drawn on heavy paper, some adhered to linen. This project will help guide the creation of an ongoing preservation program to stabilize and prepare the maps for description and scanning as well as to improve housing to further protect the artifact for future use.

The hardback maps present the most challenging preservation issues within the Mining Map Collection because of their large dimensions; some maps are nearly 25 feet long. Since the maps were sometimes used and stored in the mines, the mining companies rolled the maps, some rather tightly. However, due to the use, size, age and brittleness of the paper and cloth of many of these hardbacks, unrolling them

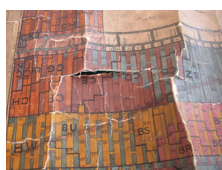


Representative of the damage typically seen with some of the hardbacks such as numerous edge breaks, tears, minor losses and soiled areas.

now causes them to split and break into pieces, limiting current use and jeopardizing future availability. There is also surface dirt and dust as well as evidence of mold damage compounded by the storage conditions.

Pennsylvania regulations require mine owners to maintain detailed maps of their own mines.

The dates of the maps range from 1854 to 2002, with the bulk of them dating from the 1880s through the 1940s.



Mining maps contain incredible detail and information. Each color represents a time period when coal was mined from that section.



It is important not to lose any mine map details such as multiple symbols, codes, and data, during any restoration/repair project.

Partnerships

Pennsylvania regulations require mine owners to maintain detailed maps of their own mines.¹ Throughout the twentieth century, many of the mines were abandoned due to the waning demand for coal.² The fear of losing significant amounts of information regarding underground excavations, especially in densely populated coal field regions, encouraged coal mining companies to initiate programs promoting preservation and cataloging of mine maps.³

CONSOL Energy Inc. first began placing mine map materials with the ASC at the University of Pittsburgh in 1991. Since then, the Archives collection has grown through additional deposits from CONSOL to include some 8000+ map sheets of closed and/or abandoned underground coal mines in southwestern and south central Pennsylvania. The dates of the maps range from 1854 to 2002, with the bulk of them dating from the 1880s through the 1940s. They primarily cover mines in the Pennsylvania counties of Allegheny, Westmoreland, Washington, Greene, Fayette and Somerset owned and/or operated by Consolidated Coal Company and its various constituent companies.

Engaged in cataloging and preservation efforts, the Pennsylvania Department of Environmental Protection California District Office Mine Map Repository has teamed up with the ASC to provide support for cataloging and scanning of the CONSOL Energy Mining Map Collection. The Repository is actively scanning abandoned and active mine maps in color. Recognizing the importance of preserving these maps, the Repository has facilitated meetings and discussions concerning preservation, scanning, and cataloging amongst academic institutions and state mining agencies in Pennsylvania, as well as federal entities to encourage cooperative ventures.⁴

The hardbacks are some of the most important maps in the collection. In many cases these hardbacks are the most complete, if not only existing, map of some of the older mine works. The different colors on the maps represent the time period in which coal was mined from that section while the symbols, dashed, and heavy black lines are indicative of coal seam outcrops, gas and oil wells. These maps are an important source of information for municipal, economic and transportation planners as they seek to develop new housing, commercial facilities and highways, as well as deal with such issues as subsidence and mine water runoff. They are also key in assisting those dealing with current mine-related emergencies. In recent years, these hardbacks have been consulted by a variety of people, including: personnel assisting with the rescue of trapped miners at Quecreek, Pa.; engineers planning the route of the Mon-Fayette Expressway, a key to future economic development in the Monongahela and Youghiogheny River valleys; and federal, state and municipal officials dealing with the mine water breakthrough incident in McDonald, Pa., in 2005.

Processing and Description

A project is currently underway in the ASC to process and describe the 8000+ CONSOL maps and related materials. Student assistants, supervised by an archivist, are examining each map sheet and entering information about it into a Microsoft Access database similar to that used by the California District Office to catalog their map collection. Data collected includes company name, mine name, geographic location(s), date, scale and any other identifying information that appears on the map such as names of property owners, etc. A consultant from the California District Office is assisting with the

identification of some maps containing less than complete information. However, due to their fragile nature, such information from many of the hardbacks cannot be gathered until some preservation work is done on them.

Preservation Survey Methodology

To ascertain the type and extent of problems inherent in the CONSOL Energy Mining Map Collection, the Preservation department conducted a survey of representative hardback maps from the collection in May 2006. CONSOL provided an inventory of the map collection upon transfer of the collection to ASC. The ASC added more bibliographic data to this inventory when assigning the hardbacks to a stack area for permanent storage. The Preservation Department hired two library school interns during the summer of 2006 to design and conduct an item-level inventory and condition assessment of the Mining Map Collection. The students met with the curator of the mining maps to discuss the inventory provided by CONSOL and to identify additional information that would benefit reference and cataloging services. The interns designed a template in Microsoft Access and began to assess each map to check it against the existing inventory and gather additional information about the condition of the maps.

Working together, the interns retrieved the map from the shelf and carefully unrolled the item. They checked the bibliographic data against the original inventory and added more information including Mining Company, Map Name, and information contained on the original identification tags provided by CONSOL. Further, they inputted these entries into the Microsoft Access database while they were evaluating the maps. They un-nested maps that had been rolled together, rolled extremely fragile maps into acid free paper, and attached new identification tags to

each map. By the end of the summer, the interns assessed 100 of the 600 maps. The Preservation Department plans to continue this project until all 600 maps are included in the database.

The purpose of this inventory and condition survey is to provide researchers, including colleagues within the coal mining industry, with complete and thorough details of the collection, thus showing the importance and rarity of the materials comprising the CONSOL Energy Mining Map Collection. In summary, the following conclusions were found in this representative sampling:

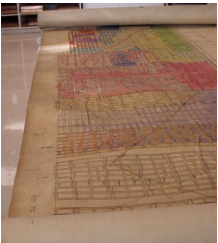
- 85% of the hardbacks surveyed were linen backed.
- 29% of the hardbacks surveyed were repaired with cellophane, duct, or masking tape.
- 41% of the hardbacks surveyed were assessed as being in “good” condition.
- 19% of the hardbacks surveyed were assessed as being in “fair” condition.
- 40% of the hardbacks surveyed were assessed as being in “poor” condition.
- 57% of the hardbacks surveyed were nested inside other maps.
- 10% of the hardbacks surveyed were too fragile to open.
- 53% of the hardbacks surveyed were not included in the original inventory, most likely because they were nested inside other maps.

The maps that were surveyed ranged in sizes from 46" x 26" to 285" x 59" and all of the maps were soiled with dirt and dust accumulated from their handling within the mines. The survey revealed that the ASC does not have a complete inventory because many maps were rolled together; sometimes as many as five or six maps were nested and stored together. Often, the outer most map was the only one of the group classified on the inventory, encouraging the interns to create an entry for

The survey also identifies maps that are too fragile to unroll alerting the curator that these maps cannot circulate or may require additional research to locate the information on another map or through another source.



Hardbacks can be a challenging preservation project. About 5'x25', they have been stored rolled up for years. Some newer maps are still in decent condition and will roll out nicely.



Many map challenges included size, color and detailed information.

each map that they encountered. The other realization was that this collection will require a lot of shifting to keep maps in an alphabetical order to facilitate retrieval and to ensure that maps from the same geographic areas are stored near each other. The survey also identifies maps that are too fragile to unroll alerting the curator that these maps cannot circulate or may require additional research to locate the information on another map or through another source.

Future Preservation Plans

This inventory project will assist in designing a strategy for the preservation and access of the CONSOL Energy Mining Map collection. The survey revealed that a high percentage of materials are acidic and already embrittled, influencing the decision to execute digitization in the future to facilitate information sharing. Because of the acidic properties, deteriorated state, and rarity of these maps, many require conservation intervention to stabilize the materials as well as improved storage conditions before any scanning work could be undertaken.

The Preservation Department and ASC are actively working to secure funding to hire a professional paper conservator to execute different levels of conservation work on the maps depending on what their need dictates. The proposed conservation treatment for the severely damaged maps might include, but would not necessarily be limited to, surface cleaning, separating the content from the linen liner, administering an aqueous treatment to reduce acidity, mending paper losses and tears with Japanese paper, humidifying and flattening, and adhering a new Japanese paper lining and linen for support. The maps that are in better condition may require surface cleaning to facilitate the capture of a good image when scanning. However, these conservation treatments are

contingent upon the close examination and discretion of a professional paper conservator and are necessary to prepare the maps for future scanning.

This assessment will help establish priorities in creating an ongoing preservation plan for the coal mine maps and will include upgrading the storage conditions, executing various conservation techniques to stabilize maps in preparation for scanning and creating cataloging records and finding aids to render maps accessible. The CONSOL Energy Mining Map Collection provides a wealth of information about the changing environment in western Pennsylvania during much of its mining history. This collection yields the potential to be more fully explored by diverse fields of study in both the physical and social sciences such as geology, engineering, environmental studies, history, sociology, and anthropology in addition to the mining industry. Therefore, it is imperative that partnerships between the mining industry and educational institutions are fostered and preservation and cataloging agendas are set to ensure that this vital information will be available to those who wish to study it today and for future generations to come.

1. Heidlage, Robert. The Bureau of Mine Map Repository: Services and Activities. Proceedings of the Fifteenth Meeting of the Geoscience Information Society, Nov 1980: 16.

2. Ibid., 16.

3. Ibid., 16.

4. Pennsylvania Department of Environmental Protection California District Office Mine Map Repository, "Summary of Map Preservation and Scanning as of 05/08/2006" (working paper, 2006).

Debora Rougeux is the Archivist/Cataloger at the Archive Service Center at the University of Pittsburgh. She can be contacted at 412-244-7069 or pern@pitt.edu.

Jean Ann Croft is the Preservation Librarian at the University of Pittsburgh. She can be contacted at 412-244-7522 or jeanann@pitt.edu.

Salisbury House: Diverse Preservation Needs of a Private Library

by Lindsay Shannon

I WAS PRIVILEGED ENOUGH TO SPEND this summer as the Library Preservation Intern at Salisbury House Foundation in Des Moines, Iowa. This historic 1920's mansion is distinguished by its possession of an extensive art collection and a fine private library containing over 3,000 volumes and manuscripts accumulated by the original owners.

Carl and Edith Weeks had the house and gardens built on the model of King's House in Salisbury, England. The Weekses' fascination with this Tudor mansion began with a trip in 1904, and during the mid-20s they returned to Salisbury many times to acquire authentic furnishings and fixtures for the construction of their own Tudor-style mansion. Tudor fireplaces, tapestries and sixteenth century oak paneling were shipped from England to adorn the interior of the house. Carl Weeks even bought the sixteenth century roof timbers from the old White Hart Inn at Salisbury, under which Shakespeare once reputedly performed.

By the time of its completion in 1928, Salisbury House cost \$3 million to build and furnish—exceeding the amount spent on construction of Yankee Stadium just five years earlier! Since 1993, the Salisbury House Foundation has been in charge of preserving the house and its collections, as well as providing public access to these treasures.

For the past year, Salisbury House has been undergoing renovations throughout its structure to update and restore the house. Renovation of the library at Salisbury House was undertaken in 2005, creating a more secure space in which to display Carl Weeks' beloved books. During the renovation, the entire library collection



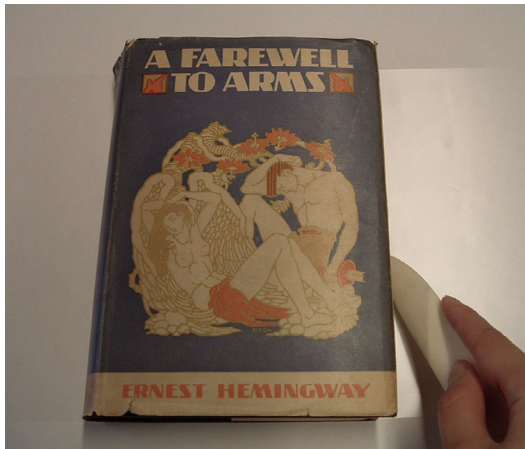
Lindsay Shannon at work on the manuscript folder for *Measure for Measure*, from Shakespeare's Second Folio, 1632.

was carefully documented with digital photographs and packed away in boxes for storage by 2005 intern, Andrea Knowlton.

After an analysis of the library was done to determine the extant surface coatings on the wood, a trained wood and furniture conservator began restoration on the sixteenth century English Oak paneling, floor and book shelves. The carved-wood medallions and architectural elements on the ceiling were also digitally photographed for future documentation. The recent photographic records of the library have comprised an important step in preserving the collection, as no previous photographic records of the library have ever been found. In order to insure the safety of the books, furnishings and artifacts in the library, an exterior panel was added to the original windows to filter harmful rays that could fade the furnishings as well as the books.

For the past year, Salisbury House has been undergoing renovations throughout its structure to update and restore the house.

While preserving the treasures of this collection has been an orderly process, wading through the murky history of the Salisbury House library has been a challenge.



Creating a polypropylene protector for a first edition of Hemingway's *A Farewell to Arms*.

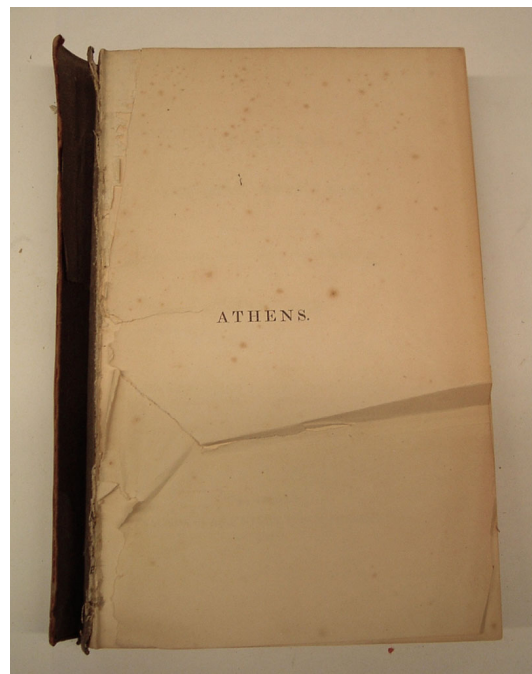
Throughout the house the electrical and HVAC systems were updated to increase safety and maintain a stable environment. In addition, the library was equipped with the first Sapphire™ fire suppression system in the state of Iowa, which is an inert gas stored as a liquid that vaporizes quickly on discharge, eliminating the extensive water damage usually caused by suppression systems in the event of a fire. Finally, an alarm system was installed in the library as well as interior security cameras to monitor access.

As my time at Salisbury House began, renovations in the library were nearly finished. Once the books were carefully put back in place, it was the perfect time to begin a systematic analysis and preservation regime for the collection. From March until June of this year, Gary Frost and the University of Iowa Conservation staff did an analysis of the library's environmental conditions with a Preservation Environment Monitor®. The assessment revealed that the room maintained a stable environment, with a 35% average relative humidity—ranging from 43% at the highest to 25% at the lowest—over the course of the three months.

After the library environment was assessed, the collection itself became the immediate focus of my time at Salisbury

House. My task this past summer was to begin basic preservation on the collection and to help implement a long-term preservation program. Major issues we encountered in the collection included maintaining the period display environment, increasing accessibility for scholars and presentations, establishing exhibition and loan procedures, as well as addressing general handling concerns.

Following the recommendations made by Gary Frost, a treatment menu was assembled to address the basic preservation issues of the collection. It was decided to target the first half of the collection in shelf order, as this would be conducive to easy documentation for staff and future interns. Due to infrequent use over the years, most of the volume damage was minimal and easily maintained under these stable conditions. However, the entire collection was in need of dry cleaning with lint-free cloths and synthetic cellular trap sponges to remove surface dust which had accumulated over the years. In addition, three constructed treatments were selected for the menu



A nineteenth century volume exhibits typical damage to spine and detached cover.



A completed section of shelves in the library at Salisbury House.

based on commonly occurring damage within the collection. Many of the eighteenth and nineteenth century volumes had damaged covers or detached boards, for which supports were constructed out of alkaline 20 pt. card stock.

The numerous pamphlet materials housed in the library required four-flap portfolios or manuscript folders made out of alkaline 10 pt. card stock. Some special projects surfaced along the way for these fragile items, such as creating a custom manuscript folder for a Second Folio edition of Shakespeare's *Measure for Measure*. Occasional minor repairs on volumes were conducted as necessary to ensure further longevity of the collection during handling.

Minor repairs on the treatment menu included reattaching loose spines with hinged kozo tissue, pasting down loose labels and sealing header gaps. Because the collection is so lightly used, the main treatment concern was to prevent further damage to items from tight shelving and occasional exhibition.

Along with boards, Archival Products generously donated 3 mil non-reflective polypropylene film for construction of polypropylene protectors. On Gary Frost's suggestion, this film was beta tested as an alternative to traditional Mylar jackets. Because of its non-glare property, the film was ideal for use in a period display collection like Salisbury House. The film is rendered nearly invisible against the spine of the book while protecting vulnerable items from future damage. I found that the soft and flexible quality of the film was also easier to work with than Mylar as it readily forms to the shape of individual volume spines without additional fluting. These protective covers served a variety of functions in the collection from preserving paper publisher's jackets and paper-covered volumes to isolating deteriorated leather and other damage-causing elements.

While preserving the treasures of this collection has been an orderly process, wading through the murky history of the Salisbury House library has been a challenge. Although the focus of my project dealt with the physical preservation of the collection, increasing accessibility was another priority. As part of the documentation process, I took the opportunity of updating the existing inventory database to create a searchable format. Volunteers entered the inventory in a Microsoft Access file in 1997-98 that included most of the basic information for the collection. Editing the database to create consistent numeric entries and completing fields that were missing information produced an inventory that can be searched efficiently to maximize information accessibility on each volume. This will provide the most accurate description of each volume record and allow quick access to its location. The found shelf order had been carefully preserved and documented during the 2005 renovation and continues to be the current standard. However, in the process of working through the collection inventory records indicated that many changes have occurred in both shelving order and collection organization over the years. This is not surprising considering the fact that the house has been occupied by the Weekses, Drake University, the Iowa State Education Association (which owned the building from 1954 until 1993), and finally the Salisbury House Foundation. In some cases, volumes have been moved since the 1997-98 inventory records were created. Since there is no documentation on the original arrangement, it may be useful in the future to assess the various collections within the library and make minor logical adjustments in shelf order to consolidate subjects and alleviate over-crowding on the shelves.

Over the course of my six-week internship, I was able to treat about half of the



A book shoe constructed to support a 1620 English translation of *Don Quixote*.



A four-flap portfolio protects a copy of the 1775 *Journal of the Proceedings of the Congress at Philadelphia*.

In particular, records covering rare or extremely fragile items should be consolidated and detailed descriptions taken in order to ensure quick access to documentation.

volumes in the library at Salisbury House. The most important issue facing the remaining shelves is the fact that this portion of the library comprises rare and fragile materials housed in locked cases, including a large number of incunabula and rare Bibles. These volumes will need to be assessed and shelving order considered for the safest possible arrangement. There are also first edition volumes by important 20th century authors housed here which have paper publisher's jackets in poor condition. These will need to be protected with non-reflective polypropylene covers in the near future. Since accessibility for both staff and interested parties outside the foundation was a concern raised in the initial appraisal of the collection, continued consideration of this factor would be a logical next step in the library's maintenance. Although I was able to access and edit the inventory database in order to make it searchable, there are still adjustments that will need to be made as work continues on the collection. In particular, records covering rare or extremely fragile items should be consolidated and detailed descriptions taken in order to ensure quick access to documentation.

Through the initiation of this internship program, records are being created and updated on a regular basis, which has helped to track the overall progress and condition of the collection. The combined effort of Gary Frost, staff and interns at the Salisbury House Foundation and support from Archival Products has vastly improved the security, stability and documentation of this wonderful collection. Continued work of this caliber will help to ensure that the contents of Salisbury House library are enjoyed and preserved well into the future.

Lindsay Shannon served as Library Preservation Intern at the Salisbury House Foundation during the 2006 summer. She has previously worked in the Conservation Studio at Parks Library, Iowa State University for three years and graduated in May 2006 with an M.A. in Art History from Richmond, The American International University in London. She can be contacted at lshannon@iastate.edu.



LBS/Archival Products
1801 Thompson Ave.
P.O. Box 1413
Des Moines, Iowa 50306-1413
1-800-526-5640
515-262-3191
Fax 888-220-2397
custserv@archival.com

archival.com