

Irreplaceable bible collection preserved after mold damage.

After an appraiser was asked to evaluate the American Bible Society's Rare Book Collection, he came to an alarming discovery — an active mold outbreak was attacking more than 1100 irreplaceable volumes. Located in New York City, the Library is the largest collection of Bibles in North America, with 4700 volumes, which includes rare bibles dating back to the 13th century. More than 300 languages are represented in the Rare Book Collection, including early printed Bibles and a small collection of manuscripts.

Prominent books include the first edition of the 1611 King James Bible, William Tyndale's Pentateuch of 1530, the Coverdale Bible of 1535 and Martin Luther's German translation of the Bible from 1522-1534. The collection also is rich in first translations of Scripture in Native American languages, including the first Bible printed in the New World (Eliot's Indian Bible of 1663) and the only Scripture ever published in the Delaware language, dating from 1818.

The problem

With the mold outbreak, the rare collection was in immediate jeopardy. John Colligan, director of building management services at the American Bible Society, recalled that stressful day in November 2005 when Dorothea Colligan, the Library's conservator, appeared at his office door, exclaiming, "We have a problem; we have mold!"

The mold, which mainly appeared on the surface of the Bibles, was the result of a defect in the 2nd floor HVAC system that raised humidity levels in the Rare Book Room. The moisture inside the room activated spores that are found in common dust particles.

"The Bibles require precise temperature and humidity control and a failure of the ambient control system caused air to be improperly distributed throughout the entire room," said John Colligan. "Thankfully, we caught the outbreak early enough so that mold growth was limited to the surface of the Bibles."



Munters oversaw the restoration of more than 1100 volumes, some dating to the 13th century. Restoration methods were skillfully used in combination with state-of-the-art technology to end mold growth and then clean away mold spores before re-shelving.



THE MUNTERS ADVANTAGE

Munters brings more than 20 years of document recovery experience to your project. Here are the Munters Advantages:

CODE BLUE SERVICE: With Munters written into the ABS's disaster plan, the Society received priority service. Munters was quick to respond, beginning work immediately after being called.

FULL SERVICES: Munters has handled many large book and document restoration projects. Munters has trained document conservators, a fleet of drying and air treatment equipment, and the ability to work on site or move documents to a Munters facility.

UNUSUALLY QUALIFIED: Munters has worked on thousands of document recovery and archival protection projects during its history. Diverse projects include: New Orleans Notarial Archives, Hurricane Katrina; Ontario Record Center, Toronto, Canada; Dade County Libraries, Florida, Hurricane Andrew; Boston Public Library; Katherine The Great, United States Traveling Exhibit, among thousands of others.

The solution

The Bible Society immediately activated its disaster recovery plan, which included calling Munters, North America's largest humidity control and document restoration company. The bible society also contacted, Paul Himmelstein, a conservator with a specialty in museum environmental control and collections management. To verify that conditions were safe for staff, an environmental firm was called in to test the air in the rare book room to determine if the mold situation was harmful to people.

"When we learned the air was safe, we immediately moved forward with the mold remediation plan," said Colligan.

Working together, Himmelstein and Munters devised a methodology to preserve the precious books. The program for cleaning the affected bibles included cleaning the mold spores with non-metal bound archival brushes, dehumidifiers, refrigeration equipment and variable speed HEPA vacuums, and the establishment of temporary remediation, transition and containment areas.

Utilizing its state-of-the-art technology and restoration expertise, Munters adapted its standard mold remediation processes to follow the protocol requested by the conservator. Experienced document restoration experts from Munters soon arrived to handle the complex project.

First, every book was tagged with a location number, and each shelf was marked with a numerical tag so that proper shelf locations could be maintained. A self-contained remediation area was constructed within the Rare Book Room. Inside the remediation area variable speed archival grade HEPA vacuums and traditional air scrubbers removed the mold spores from the air, and dehumidifiers and refrigerants maintained temperatures between 69 and 72 degrees and relative humidity between 35 and 40 percent. Tables were set up for remediation of the individual books. Munters personnel used non-metal bound brushes to brush the mold spores off the outside of the books toward a HEPA vacuum to prevent flaking.

"Some of our Bibles are quite worn and fragile, so the remediation process was time consuming and difficult," said Dorothea Colligan.



Once all surfaces of a book were cleaned, including the inside covers, it was carefully transferred into a transition chamber, a clean space that Munters constructed, and placed on a fiberglass cart. After a final remediation in the transition chamber, Munters personnel from outside the transition area placed the Bibles on another cart and wheeled it to a containment area constructed outside the Rare Book Room.

The containment area consisted of five rows of shelves encircled by six mil. polyethylene plastic, traditional air scrubbers to clean the air and a dehumidifier to control ambient conditions. Workers placed each Bible on a shelf corresponding to its original location in the Rare Book Room. To ensure continuity, Munters recreated the shelving in the containment area so that every Bible was put back in its original location.

"The mold remediation project, was a monumental and detailed task that lasted four weeks. Munters was certainly up to the challenge," said John Colligan. "Including them in our disaster recovery plan was a big benefit. This unfortunate event has allowed us to redesign the room and install an HVAC system that is more appropriate for rare books."

After the project work was completed, Munters equipment controlled ambient conditions inside the containment area while the old system was being replaced.

"Munters was very efficient and adaptive at applying its standard process to the instructions of a consultant conservator," said Dorothea Colligan. "They did a terrific job making sure all of the books were cleaned and safely returned in their original place."

Munters created temporary storage and processing facilities for the collection, allowing restored volumes to be segregated from those still contaminated. Once the collection was completely restored, Munters engineered and provided a rental HVAC system to protect the volumes. This preserved the restored books while a permanent climate control system could be specified and installed.

The benefits

When you call Munters for document restoration services, you have the nation's largest, most experienced recovery company at your disposal. Here's how Munters' efforts benefited the American Bible Society:

Decades of Experience

Munters has been saving documents and books for more than 20 years. When Munters joined the American Bible Society's Recovery Team, it knew the process needed and had the appropriate equipment on hand to address the project. Munters quickly related to the needs of the conservators and added to the strategic planning with recommendations based on years of experience.

Fast Action

Mold had attacked the outside of more than 1100 valuable bibles in the ABS collection. Through fast action and proper methodology, Munters stopped the development of more mold, cleaned the books, and protected the collection until a permanently safe storage area could be created.

Cleaning and Decontamination

Experienced book restorers from the Munters staff work with great care to protect the volumes, while decontaminating them. HEPA filtration and air scrubbers were used to remove mold spores and clear the air inside the library.

Organizational Services

Munters managed the process of restoration to carefully preserve archival organizational systems. Temporary facilities were created to both preserve the volumes, and retain the cataloging system. ABS staff members could locate affected books at any time throughout the process.



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