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**Hands-On to Hands-Off: A Study of a State Agency's Preservation
Efforts**

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Report

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Abstract

Hands-On to Hands-Off: A Study of a State Agency's Preservation Efforts

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Abstract: The General Land Office (GLO) is the oldest state agency in Texas. Within the agency is an archives department that acts as custodian to the records documenting the public lands of the state. Over the course of nearly two centuries, the GLO has pursued numerous preservation efforts and conservation techniques. This study reviews the preservation methods practiced by the GLO's Archives and Records (A&R) program chronologically while discussing similar historical conservation practices. Comparisons are made to a nearby state agency, the Texas State Archives and Library Commission (TSLAC) to further explore the context of the GLO's preservation practices.

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Chapter 1: Introduction

The General Land Office (GLO) is a Texas state agency whose mission states:

The Texas General Land Office serves the schoolchildren, veterans, and the environment of Texas. The agency does so by preserving our history, maximizing state revenue through innovative administration, and through the prudent stewardship of state lands and natural resources.¹

As part of this mission, the GLO has recorded the history of Texas's public lands with an archival collection of more than 35.5 million documents and 45,000 maps.² This collection dates back to 1561, and includes land grants, mineral records, as well as state maps and surveys.³ The Archives and Records (A&R) program of the GLO serves the state by providing access to the general public, most notably surveyors and genealogists.⁴ From the archives' establishment in 1837, the GLO has made continuous efforts to protect its archival holdings from degradation, theft, and mishandling so that the history within the archives would be accessible for as long as possible. In its early days, the GLO focused its preservation methods on security.⁵ Over a century later, when Commissioner James Earl Rudder began working at the GLO in 1955, he encouraged the agency to adopt in-house

¹ The Texas General Land Office. "The GLO, About: Overview." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/the-glo/about/overview/index.html>

² The Texas General Land Office. "History, GLO Archives: Overview." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/history/archives/overview/index.html>

³ The Texas General Land Office. "History, GLO Archives: Archive Collections." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/history/archives/collections/index.html#search>

⁴ The Texas General Land Office, "History, GLO Archives: Overview."

⁵ Texas State Preservation Board. "History of the Capitol Visitors Center." *Texas State Preservation Board*, 2020. Accessed 28 July 2020. <https://tspb.texas.gov/>.

lamination practices to conserve damaged documents and maps.⁶ The initiatives taken under Commissioner Rudder will later be described in detail in this essay.

Along with lamination, the GLO's A&R program has pursued other conservation practices, such as tissue mending, encapsulation. How did these conservation practices make their way to the General Land Office? By reviewing the GLO as an organization with a periodically changing administration, the evolution of preservation practices in the A&R program can be better understood.

The A&R program at the General Land Office works within an organization headed by the land commissioner, who is elected every four years.⁷ Each land commissioner has brought their own focus and mission to the General Land Office, including the current commissioner, George P. Bush, whose stated vision is to renovate the Alamo mission.⁸ Commissioner J. H. Walker's work during the Great Depression sought to keep families from being evicted by the School Land Board program.⁹ James Earl Rudder focused his attention on developing the archival program.¹⁰ As a result, preservation and conservation decisions have been made by an evolving team of program leaders and elected commissioners. To understand the decision-making process within the GLO archive

⁶ Rudder, James Earl. *Report of the Commissioner of the General Land Office: 1954-1956*. Texas General Land Office, Austin, Texas, 1956.

⁷ Johnson, John G. "General Land Office," *Handbook of Texas Online*. 2020, accessed July 2020. <http://www.tshaonline.org/handbook/online/articles/mcg01>.

⁸ The Texas General Land Office. "The GLO, About: The Commissioner." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/the-glo/about/commissioner/index.html>.

⁹ Mauro, Garry. *The Land Commissioners of Texas: 150 Years of the General Land Office*. Austin: Texas General Land Office, 1986.

¹⁰ Rudder, *Report*.

program more clearly, this essay will provide a chronology of what preservation methods the institution has focused on over the years.

It is important to frame the archives of the General Land Office within archival practice. Currently, the GLO is involved with the archival community through societies and events, such as the Archivists of Central Texas and their Austin Archives Bazaar.¹¹ This ability to connect with and learn from other institutions impacts how decisions are made. After the outbreak of COVID-19 in early 2020, the GLO created its emergency preservation plan by working together with other institutions in the area, including the Austin History Center.¹² However, outreach into the archival community has not always been pursued at the GLO due to a lack of professional archivists and a historical disconnection from other institutions. Despite the proximity of the General Land Office and the other state agencies around it, including the Texas State Library and Archives Commission (TSLAC), the historical preservation methods used by the GLO have been chosen within a silo of land commissioners and state employees. By comparing the Land Office's conservation chronology to TSLAC's, the historical conservation trends practiced by both state agencies can be compared to show how the General Land Office has approached these preservation trends in its own way.

¹¹ Austin Archives Bazaar. "Participating Archives." *The Archivists of Central Texas*. 2019. <https://www.austinarchivesbazaar.org/archives/>.

¹² Dorsey, Susan. Interview by Katherine Tuggey. Austin, telephone. July 2020.

Chapter 2: The Texas General Land Office (GLO)

Established in 1836, the Texas General Land Office is the oldest state agency in Texas.¹³ The Records Division has been a part of the original GLO organization from the beginning, and was later renamed the Archives and Records (A&R) Division in the 1980's.¹⁴ Today, the A&R Division is among 16 divisions under the GLO's institutional umbrella.¹⁵ Some divisions of the GLO are dedicated to administrative duties, such as Human Resources and Communications. Other divisions, like Surveying Services, the Veterans Land Board, and Coastal Resources are divisions dedicated to managing unique aspects of Texas public lands, and thus often work closely with the Archives and Records division.¹⁶ The Surveying Division references historic field notes when creating new maps or working with reference customers.¹⁷ The Veterans Land Board Division delves into A&R's military land grants given to soldiers for their service during the Republic.¹⁸ Coastal Resources uses the mineral files and offshore land records stored in the archives as they work on program management and with public inquiries.¹⁹

¹³ Johnson, "General Land Office."

¹⁴ Dorsey, Interview.

¹⁵ The 15 other divisions in the GLO are Communications, Enterprise Technology Solutions, Financial Management, Appraisal Services, Asset Management, Construction Services, Energy Resources, Leasing Operations, Surveying Services, General Counsel, Governmental Relations, Human Resources, Veterans Land Board, Coastal Resources, and Oil Spill.

¹⁶ The Texas General Land Office. "Contact, Agency Directory: Divisions." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/contact/agency-directory/index.html>.

¹⁷ The Texas General Land Office. "Land, Land Management: Surveying." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/land/land-management/surveying/index.html>.

¹⁸ Veterans Land Board. "Voices of Veterans." *The Texas General Land Office*, 2020. <https://vlb.texas.gov/voices-of-veterans/index.html>.

¹⁹ The Texas General Land Office. "Coast, Coastal Management: Coastal Leasing and Easements." *The Texas General Land Office*, 2020. <https://www.glo.texas.gov/coast/coastal-management/leasing-easements/index.html>.

The Old Land Office Building

The first physical office of the GLO was located in the Old Land Office Building.²⁰ Completed in 1858, the 2 ½-story building was made from stuccoed limestone for the exterior walls with brick and wood for the interior, leaving little insulation for the interior.²¹ In one room, the draftsmen of the Land Office worked with sketches, maps, and land grants to identify and document Texas public lands.²² Preservation during this era was more focused on security than environmental control. The room was poorly ventilated and not temperature controlled for protecting the growing archival collection. At first, the only preservation measure was the metal cabinets (see Figure 1) to which served to protect the documents.²³ In the following years, modifications were made to the building to further protect the GLO's collection. Iron shutters were placed on windows and vaults were added to the building to increase security.²⁴ In 1917, the GLO moved across the street to a new building once the archival collection grew to be too big for the Old Land Office Building.²⁵

²⁰ This building later became known as the Texas Capitol Visitor Center.

²¹ "Old Land Office Building." *The Handbook of Texas Online*. 2020.
<https://tshaonline.org/handbook/online/articles/cc001>.

²² The Texas General Land Office, "Land, Land Management: Surveying."

²³ One original metal cabinet remains in the current GLO building.

²⁴ "Old Land Office Building." *The Handbook of Texas*.

²⁵ The Texas General Land Office. "If Walls Could Talk: The Story of the Land Office Homes." *The Texas General Land Office*, 2008.

<https://web.archive.org/web/20080602221249/http://www.glo.state.tx.us/archives/virtmuseum/wallsouldtalk.html>



Figure 1: GLO draftsmen in the Old Land Office building. The maps and surveys are in a state of disarray. Archival documents are in an open filing system here, with a “HANDS OFF,” warning.²⁶

Harry S. Jander

Evidence of document repair performed in GLO archives first appears in the 1940's with the work of Harry S. Jander. Jander held no technical conservation background when he started his work.²⁷ In 1947, Jander was offered a job working with historic documents and maps at the General Land Office. Before that, he had taught interior design at St.

²⁶ *Draftsman Room, GLO, Austin Texas*. Photograph, 1887. C02599. Austin History Center, Austin Public Library. Austin, Texas.

²⁷ The Texas General Land Office. “Janderized: The Story of the Markings and Maimings of an Austin “Mister” in the GLO Archives. *Medium*. May 2019. <https://medium.com/save-texas-history/janderized-the-story-of-the-markings-and-maimings-of-an-austin-mister-in-the-glo-archives-baa833e5db98>.

Edwards University briefly in 1940.²⁸ In 1942, he worked at Austin's Bergstrom Air Field, helping with the application of aircraft dope, a substance used to stiffen fabric used on aircraft.²⁹ Aircraft dope is a varnish made of cellulose dissolved in either nitric acid, butyric acid, or a mixture of both.³⁰ Although the varnish created a smooth, strong coating on the aircraft's fabric, its flammability was an issue. Butyric acid, when mixed with cellulose, adhered to the fabric and decreased the possibility of flammability.³¹ Jander used his knowledge of aircraft dope to create a recipe he used to conserve the GLO archive's collection. It is likely that Jander chose his materials with the best intentions in mind. He had seen the results of aircraft dope on aircraft fabric and believed that the varnish would create the same smooth, sturdy coating on paper. With intentions to display maps to the public, it is understandable that Jander tried to make documents glossier and more durable. Little did he know, the documents that he tried to conserve would end up so badly damaged over time that the A&R program has created a nickname to describe the overall look of the paper: "Janderized."³²

²⁸ The Texas General Land Office. "Janderized."

²⁹ Alonzo, Daniel. "Janderized!: The Collateral Damage of a Fake Conservator." *Acid Free: Fictions*, Vol. 11 (2020). <https://www.laacollective.org/work/janderized-collateral-damage-of-a-fake-conservator>.

³⁰ Federal Aviation Administration. "Chapter 3: Aircraft Fabric Covering," *Aviation Maintenance Technician Handbook: Airframe*. Newcastle: Aviation Supplies & Academics, Inc., 2018.

³¹ Federal Aviation Administration, "Chapter 3."

³² The exact date of creation of this nickname is unknown, but it is attributed to A&R's current Director of Technical Services, Susan Dorsey. The nickname has been widely adopted in the program and is used by NEDCC in their treatment reports concerning Janderized records.



Figure 2: Harry Jander holding a Galveston county map from the GLO Map Collection.³³

Janderized documents are brittle, acidic, and discolored.³⁴ Most are trimmed along the edges with pinking shears, a tool that Jander likely brought with him from his work with textiles.³⁵

³³ [Harry S. Jander], image. "Austinite Preserves Historic Papers with Secret Formula." *The Austin American*. Page 38. 29 August 1948. Newspaper by Ancestry. Accessed 26 July 2019. <https://www.newspapers.com/image/385933998/>.

³⁴ Northeast Document Conservation Center (NEDCC). *Conservation Treatment Report*. Andover: 2008.

³⁵ "These Fabrics Could Speak Many Yarn About Great Folk, If They Could Talk." *The Austin-American Statesman*. 30 October 1941. *Newspapers by Ancestry*. Accessed August 2019. <https://www.newspapers.com/image/366705882/>.

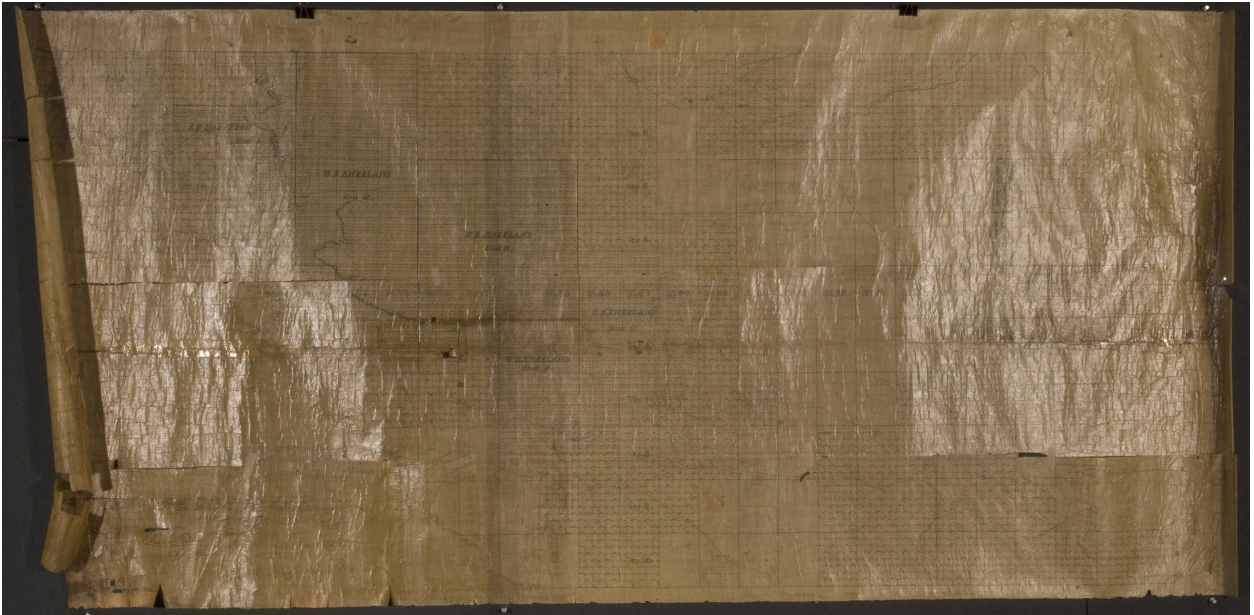


Figure 3: An example of a map treated by Harry Jander. The shine and discoloration of the map are apparent in the photograph.³⁶

During his time at the General Land Office, Jander was proud of his process and appeared in multiple newspapers promoting his work. In one article printed by the *Austin American*, the newspaper states: “He has created a formula for the preservation of paper which has withstood tests of the National Bureau of Standards.”³⁷ Though it is unresolved as to what exactly these tests were, Jander’s claims in the news media were at times exaggerated.

Jander described his conservation method as a three-part process: first, on one side of the document, a measured nylon gauze is placed. Second, a coating of his preservation formula is added. Lastly, another coating of the formula is applied to the other side of the

³⁶ *Texas & Pacific Ry Reserve west of the Pecos River*, 1880. Map #3047, Map Collection, Archives and Records Program, Texas General Land Office, Austin, TX.

³⁷ “Austinite Preserves Historic Papers with Secret Formula.” *The Austin American*. Page 38. 29 August 1948. Newspaper by Ancestry. Accessed 26 July 2019. <https://www.newspapers.com/image/385933998/>.

document to create a seal.³⁸ The varnish, according to Jander, was a secret mixture of aircraft dope, “and seven ingredients, among them ether, concentrate of castor oil, sugar, salt, and sodium bicarbonate.”³⁹ With this seal of nylon mesh and varnish, the treatment technique was purported to protect the paper from insects, tearing, and browning.⁴⁰

Over the next 50 years, the Janderized documents began to show signs of decay. In 2019, a team, led by Daniel Alonzo, Head Archivist of the General Land Office, began researching Harry Jander and his secret formula to understand his methods and ingredients so that the treatment of Janderized documents could be more informed. With help from the Texas State Library and Archives Commission and the Museum of Fine Arts Boston (MFA), samples of Harry Jander’s formula were analyzed for components. The true ingredients were discovered to be cellulose nitrate, phthalates, ricinoleic acid, and conifer resins.⁴¹

Ricinoleic acid can be derived by breaking down castor oil in water, which would explain Jander’s claim to have used castor oil in his formula.⁴² The conifer resin is presumed to be pine resin by the MFA.⁴³ Pine resin can be used “to improve durability and water resistance in tracing cloths for architectural drawings.”⁴⁴ There were two phthalates

³⁸ Adair, A.G. “Photographs, Papers, and Parchments Preserved for Lasting Permanency by Special Formula and Technique.” *Under Texas Skies* 4, no. 8 (1953).

³⁹ “Austinite Preserves...” *The Austin American*.

⁴⁰ *Ibid.*

⁴¹ Derrick, Michele and Richard Newman. “Scientific Research Lab: Texas document coating”. *Scientific Research Lab, Museum of Fine Arts, Boston*. 5 Feb 2020.

⁴² National Center for Biotechnology Information. “Compound Summary: Ricinoleic acid,” *PubChem*. 2020. <https://pubchem.ncbi.nlm.nih.gov/compound/Ricinoleic-acid>.

⁴³ Derrick, “Scientific Research Lab.”

⁴⁴ Norris, Sarah. *Shiny, Lined, and Brown: Building Conservation Context for Harry Jander’s Document Restorations*. Austin: May 2020.

found in Jander's samples: n-butyl phthalate and diethyl phthalate. Phthalates are often used to increase flexibility in plastics.⁴⁵ Diethyl phthalate is additionally used in cosmetics, food packaging, and insecticides.⁴⁶ The identified plasticizers were likely compounds within the cellulose nitrate, or airplane dope, mixture.⁴⁷ Jander mentioned sugar and salt in his "secret mixture," but these ingredients were not included in the MFA tests; any evidence of sugar or salt would not have significantly changed the outcome.⁴⁸

How did Jander introduce this process at the General Land Office? Jander credited Commissioner Bascom Giles for allowing him to use his formula, stating that Giles "recognized the importance of the work and accepted [Jander's] solutions at face value."⁴⁹ There is no evidence that Jander had professional correspondence with other paper conservators. It is likely that Jander, and vicariously the GLO, did not know that his paper repair technique was a comparable option to the silking method or the Emery process.⁵⁰

Silking is a historical conservation practice introduced in 1898 used to preserve manuscripts.⁵¹ The original silking process involved pasting the manuscript between two sheets of sheer, very fine crepe silk using a thin flour paste.⁵² Over time, the silking

⁴⁵ National Center for Biotechnology Information. "Compound Summary: Dibutyl phthalate," *PubChem*. 2020. <https://pubchem.ncbi.nlm.nih.gov/compound/Dibutyl-phthalate>.

⁴⁶ National Center for Biotechnology Information. "Compound Summary: Diethyl phthalate," *PubChem*. 2020. <https://pubchem.ncbi.nlm.nih.gov/compound/Diethyl-phthalate>.

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ Norris, *Shiny, Lined, and Brown*.

⁵¹ Smith, C. "Yours Respectfully, William Berwick: Paper Conservation in the United States and Western Europe, 1800-1935." Ann Arbor, MI: The Legacy Press, 2016.

⁵² Smith, "Yours Respectfully."

process has evolved; in one variant, the flour paste is replaced with a hot gelatin solution.⁵³ In Harry Jander's process, his use of nylon instead of silk was likely an economical choice, as his formula was more influenced by his own experiences with textiles rather than what conservators were using.

The Emery process, introduced around the same time as the silking method, is a treatment in which silk and a coating of paraffin wax are used to protect a document.⁵⁴ Adding paraffin wax produces a shininess similar to the appearance of the Janderized documents.⁵⁵ Again, it is unclear whether Harry Jander knew of this exact conservation process or was simply mimicking another process he had learned through his experience with textiles and aircrafts.

1955 marked the year that Commissioner Bascom Giles was charged for being an accomplice to theft following an embezzlement scheme within the Veterans Land Board.⁵⁶ Harry Jander left the same year, taking his conservation process with him.⁵⁷ His departure from the GLO was unlikely due to Commissioner Giles and the scandal. Instead, Jander

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ The Texas General Land Office. "Accountable: Ken Towery and the Veterans Land Board Scandal." *The Texas General Land Office*. 2016. <https://www.glo.texas.gov/towery/>. Introduced as an incentive plan to reward veterans with land, the scheme involved appraising cheap land at a higher value and then misleading veterans into contracts that would cause them to lose their land to the state. This scheme funneled money and land back into the Veterans Land Board's possession and tarnished the General Land Office's reputation.

⁵⁷ Ibid.

may have felt less supported under the new GLO commissioner, James Earl Rudder, who joined the institution in 1955.⁵⁸ Rudder brought with him new conservation ideas.



Figure 4: Commissioner James Earl Rudder.⁵⁹

James Earl Rudder

Rudder, possibly in an attempt to steer away from Giles' legacy, focused on a major reform of the preservation and conservation practices in the archives.⁶⁰ Rudder wanted to restore the fragile documents in the archive, especially the neglected Spanish Collection,

⁵⁸ Hatfield, Thomas M. *Rudder: From Leader to Legend*. College Station: Texas A&M University Press, 2011; Greaser, Galen D. *New Guide to Spanish and Mexican Land Grants*. Austin: Texas General Land Office, 2017.

⁵⁹ The Texas General Land Office. *Commissioner James Earl Rudder*, Photograph. Austin: The Texas General Land Office, 1955.

⁶⁰ *Ibid.*

which included contracts and correspondence dating back to the 1700's.⁶¹ He wrote in his first commissioner report,

There is nothing so exasperating and frustrating than to open a book of old letters...and discover, to your great dismay, that the letters and writing have been reduced to nothing more than a mass of crumbled confetti and dust.⁶²

Black and white copies of documents from the Land Grant Collection and Spanish Collection were shown in his report as proof of the state of deterioration in the archives.⁶³

The archival documents of the GLO were going to be saved, and Rudder intended to use the most popular conservation method at the time: the Barrow method.

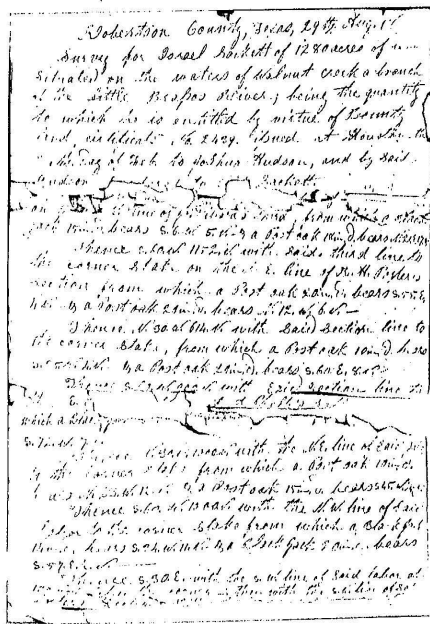


Figure 5: One of the black and white photocopies that Commissioner Rudder included his report. Due to the quality of the image, details of the document are lacking, but the holes and tears are apparent.⁶⁴

⁶¹ Hatfield, *Rudder*.

⁶² *Ibid.*

⁶³ *Ibid.*

⁶⁴ *Ibid.*

David Reeves, director of the Records Division, was introduced by Commissioner Rudder as the pilot of the new preservation initiatives in 1954.⁶⁵ Reeves, along with the Land Office's chief clerk, had travelled to Washington D.C. to investigate what other archives and libraries were doing to care for their collections. Rudder writes, "Their tour took them into experimental laboratories and the most modern libraries."⁶⁶ This tour led them to interview William S. Barrow, where they learned about Barrow's new conservation process and decided to bring the Barrow method back to the General Land Office.⁶⁷

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

Chapter 3: William Barrow and Lamination

William S. Barrow was an entrepreneur and creative inventor. He developed the Barrow method for preservation after many years of experimentation and self-advertising.⁶⁸ Barrow welcomed visitors to his lab in Washington, D.C., where he would show how the Barrow method worked. Barrow was “the great promoter” as described by historian Sally Roggia. As more archives and libraries began to use the Barrow method, his self-promotion only raised the stature of this process.⁶⁹

After much experimentation, the Barrow method eventually involved two processes: deacidification and lamination. An optional step in the process, deacidification involves bathing the document to be laminated in two aqueous solutions. First, the document is placed in a bath of calcium hydroxide to neutralize acids. Afterwards, the document is placed in a calcium bicarbonate solution, which provides a buffer against future acid buildup. Once the document is dried, it is ready to be laminated.⁷⁰

During lamination, the document is sandwiched between two sheets of cellulosic tissue and placed in a high-heat press, where the materials are sealed together.⁷¹ Barrow added the deacidification process to his method in response to the yellowing of the laminated paper and the rapid effects that acid and heat had on paper.⁷²

⁶⁸ Roggia, Sally. *William James Barrow: A Biographical Study of his Formative Years and His Role in the History of Library and Archives Conservation From 1931 to 1941*. New York: Columbia University, 1999.

⁶⁹ Roggia, Sally. “The Great Promoter: William J. Barrow and His Role in the History of Conservation.” *Book and Paper Group Annual* 20 (2001).

⁷⁰ W. J. Barrow Restoration Shop. “The Barrow Two-Bath Deacidification Method.” *The American Archivist* 39, no. 2 (1976): 161-64. Accessed August 7, 2020. www.jstor.org/stable/40291850.

⁷¹ Roggia, *William James Barrow*.

⁷² *Ibid.*

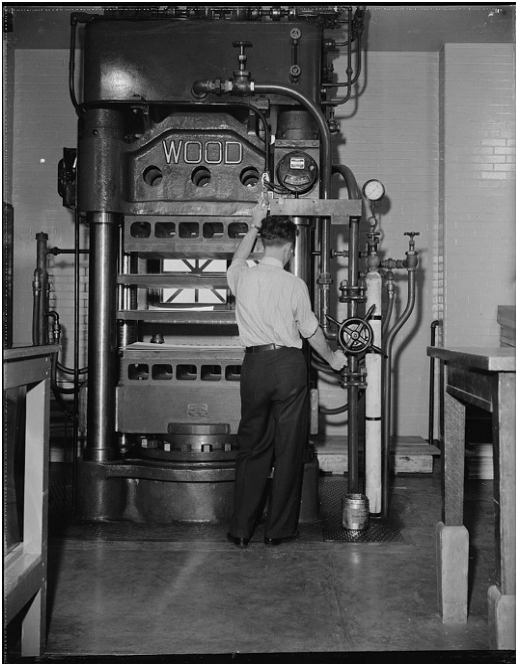


Figure 6: A large lamination press used at the National Archives.⁷³

Both the deacidification and lamination of the Barrow method required space, money, and trained employees. The GLO, under Commissioner Rudder's initiative, allocated enough of all three to implement an in-house Barrow method program.⁷⁴

The Barrow Method at Work at the GLO

The results of Commissioner Rudder's initiative appear in the 1956 report of the following commissioner, Bill Allcorn. In two years' time, the Records division had laminated 8 volumes of documents in addition to 3,063 individual records.⁷⁵ The volumes were created

⁷³ National Archives. Washington, D.C., Nov. 22 [1939]. *In the powerful press, the sheets of acetate, under heat and pressure 'melt' into the pores of the paper and adhere to each other as well....* Photograph, 1939. Harris & Ewing Collection, Library of Congress Prints & Photographs Division. Library of Congress.

⁷⁴ Ibid.

⁷⁵ Allcorn, Bill. *Report of the Commissioner of the General Land Office: 1956-1958*. Austin: Texas General Land Office, 1958.

during the conservation process, after lamination.⁷⁶ To create a volume, laminated documents were organized so that documents were in a correct order. Then, after sewing the book block together, it was rounded and backed, and placed within a hard case cover. This book-making process was an aesthetic choice made by the program and did not benefit the preservation of the documents.⁷⁷ The process of the hard cover binding added extra stress to the documents and included potentially harmful materials like glue and dyes.⁷⁸

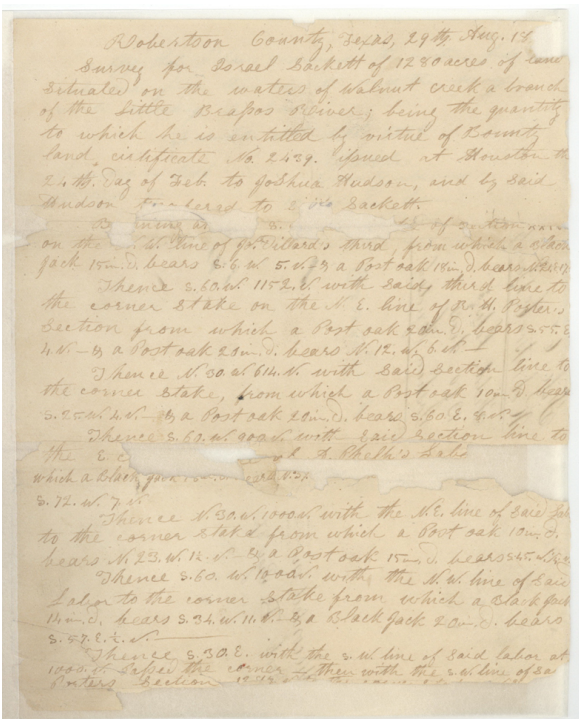


Figure 7: Image of the document referenced in figure 5 and in Commissioner Rudder's Report, now laminated. It has been disbound and the relevant pages have been placed together using linen hinging tape.⁷⁹

⁷⁶ These volumes held a varying number of documents. On average, the width of the volume's spine ranged from one to three inches.

⁷⁷ Ibid.

⁷⁸ Young, Laura S. *Bookbinding & Conservation by Hand: A Working Guide*. Newcastle: Oak Knoll Press, 1995.

⁷⁹ *Robertson Bounty for Joshua Hudson*, 14 August 1841. File #6, Land Grant Collection. Archives and Records Program. Texas General Land Office, Austin, Texas.

The General Land Office moved to the Stephen F. Austin building in 1974.⁸⁰ Deacidification, lamination, and binding were still standard practices employed in the new space.⁸¹ The General Land Office used the Barrow method as a preservation method well into the 1980's, when Commissioner Garry Mauro arrived.⁸²

Lamination as a conservation method had begun to lose popularity by the 1970's due to discoveries of lamination degradation.⁸³ Yet, the General Land Office remained committed to the method with intentions to laminate the entire archival collection. As an institution, it's likely that the A&R program was sticking to what it knew well and what training (equipment, materials, etc.) were compatible with the organization's budget and space.⁸⁴ When Commissioner Garry Mauro arrived in 1982, all GLO divisions were investigated to see if ongoing projects needed to be updated or changed. When Mauro was given 2020 as the projected deadline for the lamination of the entire land grant collection, he decided to take a new course of action.⁸⁵ This choice was likely a more political one than a one based in archival science; most commissioners find it important to implement a notable change during their time in the position.

⁸⁰ The Texas General Land Office, "If Walls."

⁸¹ Ibid.

⁸² Ibid.

⁸³ Woodward, Eddie. "The Epidemic in the Archives: A Layman's Guide to Cellulose Acetate Lamination." *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 18, no. 2 (2017).

⁸⁴ Ibid.

⁸⁵ Middlebrooks, June. *A Special Projects Evaluation Report, 15 August 1983, Records Division*. Austin: Texas General Land Office, 1983.

At this point, Commissioner Mauro created the Special Projects Team and hired a June Middlebrooks to lead an investigation into the archives program.⁸⁶ Middlebrooks had no archival or library experience, but her past work with Mauro's executive team landed her the job.⁸⁷ She developed a project titled "Laminations," in which she calculated the difference between laminating and encapsulating documents in terms of time and expense.⁸⁸ In her opinion, it was time for the archive to stop laminating and move onto a more budget friendly and less intrusive conservation practice. In her 1983 report, she estimated that the lamination of the land grant files would cost \$881,322.71 to complete, while encapsulation would cost \$182,486.⁸⁹ Although Middlebrooks had no experience in the preservation field, economic realities pointed towards a better preservation method. Additionally, the first archivist, Michael Hooks, was hired for the division.⁹⁰ Finally, on its own terms, the General Land Office had seemed to catch up with the major preservation trends of the archival field.

Why did the General Land Office use lamination as their major conservation practice for so long? Since the GLO operated within proximity to another archive, TSLAC, it could be assumed that there was a professional dialogue established between the two archives. However, there is no evidence that TSLAC's preservation practices influenced

⁸⁶ Mauro, Garry. *Report of the Commissioner of the General Land Office: 1984*. Texas General Land Office, Austin, Texas, 1984.

⁸⁷ Ibid.

⁸⁸ Middlebrooks, *A Special Projects Evaluation Report*.

⁸⁹ Ibid.

⁹⁰ Ibid.

the GLO's. The lack of communication between the closely situated archives makes the differences and similarities in their historical preservation efforts an interesting subject.

Chapter 4: The Texas State Library and Archives Commission (TSLAC)

Even as the General Land Office continued to laminate its collection, the Texas State Library and Archives Commission remained a close but separate neighbor with its own methods. A brief timeline of the TSLAC conservation methods shows that their choices, although made at separate times, followed a similar path as the GLO.

Around the time that Jander was varnishing documents, TSLAC was using silking as a method to stabilize documents. TSLAC introduced the Barrow method more than ten years later than the GLO, around 1970.⁹¹ TSLAC used the Barrow method as a conservation tool to repair damaged documents, whereas the GLO used the method as a preventative measure intended for its whole archival collection. The Barrow method's use in the TSLAC conservation labs was relatively brief. By the early 1980's, due to funding, Barrow lamination practices at TSLAC were used sparingly and only on fragmented objects in lieu of tissue mending.⁹² Deacidification was used past the 1980's, first as a bathing process and later as a "soft spray" using Wei T'o.⁹³

Wei T'o is a non-aqueous deacidification agent invented by Richard D. Smith in 1978.⁹⁴ The Wei T'o method involves placing a document into a vacuum dryer in which the Wei T'o solution is pumped to create a neutralizing combination of magnesium sulphate and carbonate. Once the solution is removed, the documents in the vacuum dryer

⁹¹ Anderson, John. Interview by Katherine Tuggey. Austin, video conference. June 2020.

⁹² Anderson, Interview.

⁹³ Ibid.

⁹⁴ UNESCO. "Study on Mass Conservation Techniques for Treatment of Library and Archives Material." *PGI: General Information Programme*, Volume 89. Michigan: University of Michigan, 1989.

are returned to normal ambient conditions and removed.⁹⁵ The Wei T'o soft spray includes the same solution, but is recommended for single sheets of paper due to the spray's inability to permeate large volumes of paper.⁹⁶ In-house Wei T'o deacidification treats small batches of books per process, and keeps the material within the institution's hands. However, institutions practicing the Wei T'o method in-house risk backlog and machinery issues.⁹⁷ Outsourced use of the Wei T'o method can treat larger batches of books with more staff and larger chamber systems, but the institution and its material is at the mercy of an outside contractor in the process.⁹⁸ Eventually, deacidification practices were phased out for encapsulation, similar to the change at the General Land Office three years later.⁹⁹

Encapsulation is the process of sealing a document within two sheets of polyester film. Unlike the Barrow method, encapsulation does not melt the plastic into the document. There are many options for sealing the polyester film. The practice began similarly in both agencies, first sealing manually using ¼" double sided tape. Later, both agencies acquired Polyweld sealers, which used heat to seal the polyester sheets.¹⁰⁰ Encapsulation became a popular preservation method at this point because of its reversibility, which remains to this day an ethical tenet in conservation.¹⁰¹ Reversibility gained popularity in response to the

⁹⁵ UNESCO, "Study on Mass Conservation."

⁹⁶ Ibid. The Wei T'o soft spray method does not use vacuum sealer.

⁹⁷ Calvi, Elise. "Postmortem," blog. *Indiana University Bloomington*. December 2015. Accessed August 2020. <https://blogs.libraries.indiana.edu/craiglab/category/library-preservation-methods/>.

⁹⁸ Ibid.

⁹⁹ Deacidification practices at TSLAC returned in 2010.

¹⁰⁰ Ibid.; Canadian Conservation Institute (CCI). "Encapsulation." *Government of Canada*. 1995, modified 2019. <https://www.canada.ca/en/conservationinstitute/services/conservation-preservation-publications/canadian-conservation-institute-notes/encapsulation.html>.

¹⁰¹ American Institute of Conservation. "Our Code of Ethics." *American Institute of Conservation*. 2020. Accessed August 2020, <https://www.culturalheritage.org/about-conservation/code-of-ethics>.

preservation and archival communities’ experiences with damaging, near-permanent treatments such as the Barrow method.¹⁰² Other reversible preservation techniques that encourage a more hands-off approach include the use of archival polyester sleeves and archival folders and boxes.¹⁰³

TSLAC and the GLO

Although both state agencies were situated closely together within the capitol complex, TSLAC and the GLO acted independently as they developed their own conservation methods. Though TSLAC and the GLO did not actively collaborate, both agencies made similar preservation choices over time.

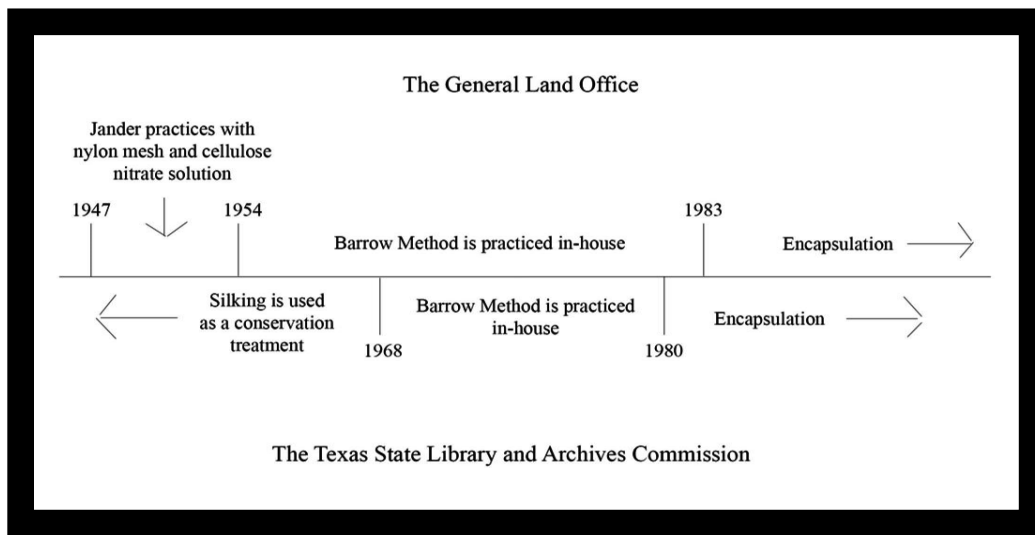


Figure 8: A visual timeline of the conservation and preservation efforts of the GLO and TSLAC.

¹⁰² Woodward, “The Epidemic in the Archives.”

¹⁰³ Cunha, Dorothy Grant and George Martin Cunha. *Conservation of Library Materials: A Manual and Bibliography on the Care, Repair and Restoration of Library Materials, Volumes 1 and 2*. Metuchen: The Scarecrow Press, Inc., 1971.

The trajectories of each of the agencies' conservation efforts mirror each other, from similar silking methods, to lamination and deacidification, to encapsulation. Nonetheless, there are a few disparities that stand out between the GLO and TSLAC timelines. The GLO implemented lamination efforts 14 years before TSLAC. TSLAC was using polyester encapsulation by 1980 when the GLO was still exploring the concept.¹⁰⁴

The preservation differences between the GLO and TSLAC could be a result of the GLO's historical indifference to the archival field. The GLO did not hire a professionally trained archivist until the 1980's, under Commissioner Mauro.¹⁰⁵ Before Mauro's term, the A&R Division was named the Records Division.¹⁰⁶ Compared to the A&R Division, the Records Division's mission was less attentive to archival theory and preservation management. As a result, activity within the community and access to other professionals through groups such as the Society of American Archivists were likely less significant to the General Land Office archives for much of the mid-20th-century.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

Chapter 5: Present Day Efforts at the GLO

The GLO's A&R Division is now staffed with a team of employees educated in archival science and trained technicians. As a result, involvement in the archival and conservation communities has greatly improved due to more experienced employees and a deeper connectivity to other institutions. Currently, the A&R program continues to focus its preservation efforts to protect the archival collection. Strategies include monitoring the temperature and humidity of the secure vault and using UV-filtered lighting.¹⁰⁷ A large project led by Dr. Jesús F. de la Teja, past GLO Spanish Translator, in the late 1980's, was established to disbind the Spanish Land Title documents that had been bound into volumes during the GLO's lamination era. Separating the documents from their bindings reduces damage likely to be caused by the bindings themselves. The documents were separated from the hard cover bindings and organized in acid-free folders and archival boxes¹⁰⁸ Dr. Teja helped preserve the Spanish Land Titles but did not attempt to reverse the lamination. The Barrow method itself is difficult and expensive to reverse.¹⁰⁹ As a result, the loose sheets of the Spanish Collection are housed in archival-quality boxes, but remain laminated, due to budgeting constraints.

The GLO now outsources all conservation treatments, largely due to a lack in appropriately trained staff, space, and lab equipment required for treatment. The Northeast

¹⁰⁷ Ibid.

¹⁰⁸ Teja, Dr. Jesús F. de la. "My Life at the Land Office." *Medium*. 2017. <https://medium.com/save-texas-history/my-life-at-the-land-office-7f2e3fb915a3>.

¹⁰⁹ McGath, Molly and Sonja Jordan-Mowery, Mark Pollei, Steven Heslip, John Baty. "Cellulose Acetate Lamination: A Literature Review and Survey of Paper-Based Collections in the United States," *Restaurator: International Journal for the Preservation of Library and Archival Material* 36, no. 4 (2015).

Document Conservation Center specializes in treating damaged documents and has worked on many from the General Land Office. In one treatment report, the treatment performed on a Janderized map (shown below) was described as follows:

The map was bathed in acetone to remove the varnish and silk. It was washed and old backings were removed. The map was relined with Japanese paper, flattened and spray deacidified.¹¹⁰



Figure 9: Before photo of a Janderized map of Tom Green County, treated by NEDCC.¹¹¹

¹¹⁰ Northeast Document Conservation Center (NEDCC), *Conservation Treatment Report*.

¹¹¹ Northeast Document Conservation Center (NEDCC). [GLO Map #16901, Before Treatment], photograph. Andover: 2008

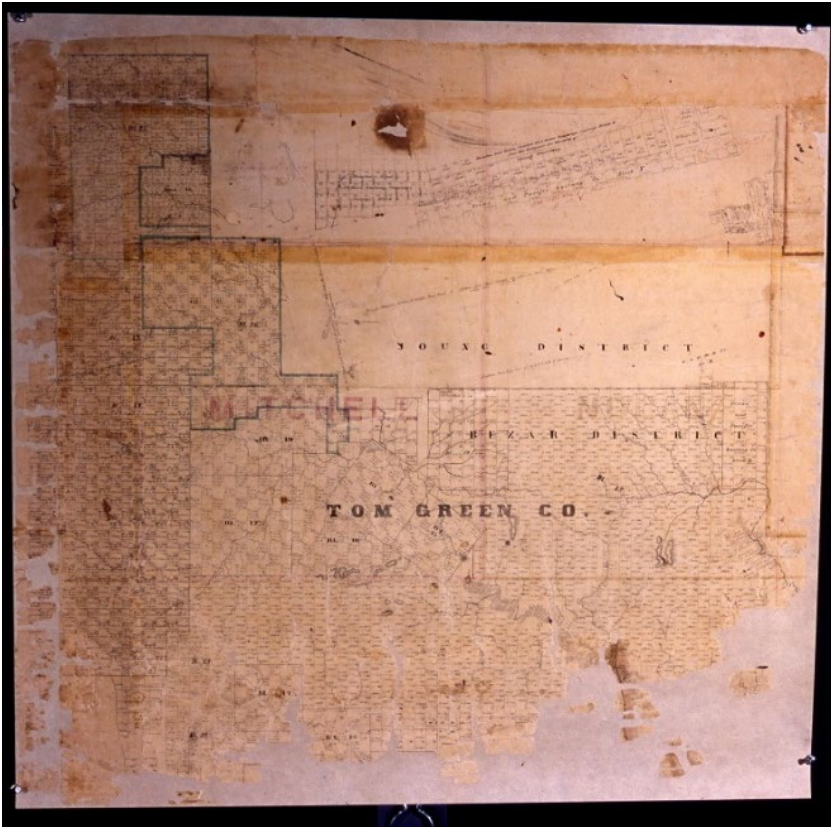


Figure 10: After photo of a Janderized map of Tom Green County, treated by NEDCC.¹¹²

The General Land Office is much less isolated than it used to be, and less of a stranger to the Texas State Library and Archives Commission. The General Land Office's nonprofit organization, Save Texas History (STH), was created to earn funds for conservation costs.¹¹³ The Texas State Library and Archives Commission is a large supporter of this organization and participates in STH's yearly symposium and education

¹¹² Northeast Document Conservation Center (NEDCC). [GLO Map #16901, After Treatment], photograph. Andover: 2008

¹¹³ Save Texas History. "Overview." *The Texas General Land Office*, 2020. <https://savetexashistory.org/about/overview/index.html>.

efforts.¹¹⁴ Still, as one state agency division among many others, the GLO archives program will need maintain connections with archival and library professionals and institutions as it continues to practice current preservation methods.

¹¹⁴ Save Texas History. “Overview.”

Chapter 6: Conclusion

As the oldest Texas state agency, the General Land Office has used many of the preservation and conservation methods commonly encountered among government archives institutions. From invasive document repair to preventative monitoring, the Archives and Records department gradually moved toward pursuing more cost-effective and ethical preservation practices.

Long-term planning is beneficial during the GLO's periodical transition into a new administration. With a new administration usually comes a change in executive leadership, employee turnover, and a shift in institutional focus. This transitional period can cause departments to experience a lack of assurance about future budgets and managerial goals. By focusing on how preservation methods can be compatible with the A&R program through multiple administrations, the division will avoid financial and organizational instability.

Looking toward the future, the GLO would benefit from keeping a focus on communication and education. New preservation trends will arise, and it is up to the GLO and A&R division to stay informed and curious. Employees of the A&R division should encourage a growth and maintenance of institutional knowledge. Without it, future employees will lack the knowledge of past mistakes, inventive techniques, and historical methods; all the perspective needed to keep history from repeating itself.

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