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Date: September 3, 2013

From: Katherine Kelly, Conservator, RXC

To: Mary Lynn Ritzenthaler, Chief of Document Conservation Laboratory, RXC  
Sue Murphy, Iraqi Jewish Archive Project Manager, RX

Subject: Treatment Report IJA #2035  
Zohar 'al ha-Torah Heleḳ Rishon Sefer Be-Reshit  
זהר על התורה חלק ראשון ספר בראשית  
Livorno, 1814 or 1815

*DESCRIPTION*

IJA #2035 has received full conservation treatment. The text block contains 114 pages of laid paper text, printed in black ink with a variety of handwritten annotations. The new full paper case has a laser-printed paper label on the front cover. The treated volume is housed in a new custom box together with the original sewing.

*TREATMENT SUMMARY*

Conservation of this volume was undertaken to address extensive mold and water damage and to prepare it for exhibition. The volume will be exhibited open to the title page and frontispiece during the exhibit "Discovery and Recovery: Preserving Iraqi Jewish Heritage".

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## *TREATMENT PROCEDURES AND DETAILS*

### **1) COLLATION**

The text block was collated. A few small fragments could not be placed and were retained with the volume in a polyethylene ziplock bag. An unsuccessful search was made for other parts of this volume and for missing parts of the frontispiece. The fragment bags for IJA trunks #9 and #20 (IJA#'s 2064-2066, 2554-2556) were inspected.

### **2) DISBOUND THE TEXT BLOCK**

The already broken text block was manually disbound using dry methods. The tipped on frontispiece was mechanically removed from the title page. The original sewing was removed. Evidence was found of gold and red end bands. Evidence was also found of a later re-sewing through the last two gatherings. All thread placement was diagrammed and the thread retained.

### **3) MOLD REMEDIATION AND SURFACE CLEANING**

The volume was mold remediated with a HEPA filter Nilfisk vacuum and soft brushes in a fume hood. When necessary, pages were then surface cleaned with soot sponges.

### **4) TESTED PAPER AND MEDIA**

Media throughout the text block was tested for solubility using deionized water, ethanol, and mixed alcohol and water. An annotation on the first leaf of the second gathering was found to be water-sensitive (also evidenced by the prominent bleed-through already present on neighboring pages). All other printing and annotations were found to be stable. The testing also suggested that the staining throughout the volume was water soluble.

### **5) FIXED SENSITIVE MEDIA**

The water-sensitive annotation on the first leaf of the second gathering was temporarily fixed with cyclododecane. Cyclododecane provides a waxy barrier that water cannot penetrate. It sublimates slowly and leaves no residue. The cyclododecane was melted and applied with a kistka egg decorator over the media on both sides of the paper. During washing, no changes were observed in the bleeding of the sensitive ink. Visual examination a week after application (and after washing) indicated that sublimation had occurred.

### **6) WASHED AND SIZED**

The text block was wet out with a 50-50 water-ethanol solution and then washed in a series of five alkaline  $[\text{Ca}(\text{OH})_2]$  baths, followed by dipping in a 0.5% methyl cellulose (A4C) solution to re-size the paper. The initial baths were extremely discolored and low pH, indicating successful removal of discoloring agents. During washing, the thick surface grime on the last page was

partially removed by agitating with a stiff brush. This revealed previously obscured text and allowed the paper to flex. The fragmented parts of the frontispiece were washed separately in Hollytex pouches, followed by brush application of the size.

The text block was allowed to air-dry separately almost to completion, then gathered into signatures and allowed to finish drying together under restraint.

The washing and sizing dramatically improved the physical stability of the paper. The paper was significantly brighter, stronger, and more flexible.

## **7) PAPER REPAIR**

Throughout the text block, tears were mended, gatherings were guarded, and losses were filled using acrylic-toned long fiber paper (Hiromi MMN-1 Tengucho and HP-04 Usu Mino Thin) and Aytex P wheat starch paste (or a 50-50 mixture of wheat starch paste and methyl cellulose as a remoistenable tissue preparation).

The frontispiece was lined and filled with acrylic-toned long fiber paper and Aytex P wheat starch paste (or a 50-50 mixture of wheat starch paste and methyl cellulose as a remoistenable tissue preparation). The page was guarded out past the binding edge and then folded around the first gathering. Its position was matched up, as well as possible, to the offset it left on the title page.

## **8) REBINDING**

The text block was re sewn on four linen cord supported sewing stations, largely following the 2-on sewing pattern of the original sewing structure, but with an all-along sewing of the first two and last two gatherings. 18/2 linen thread, toned with acrylic paint, and Clarkson linen cord were used.

The text block was shaped and then consolidated with wheat starch paste and lined with a long-fiber tissue barrier layer. This was followed by hinging on new end papers (BHN Book Weight Paper, University of Iowa Center for the Book) to the spine with PVAc (Jade R, Talas). The cords were fanned out onto the endpapers and adhered with PVAc. The spine was then lined with PVAc and a Permalife paper lining. A new case was created (Gary Frost Paper Case structure) using handmade paper (PC4B Blue Paper Case – lightweight, University of Iowa Center for the Book). The case was attached to the volume with PVAc.

The new cover and binding structure allow the text block to open flat to the gutter margin.

## 9) PHOTOGRAPHIC DOCUMENTATION

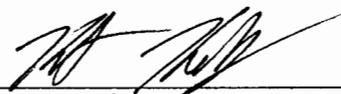
Before (January 2007 and June 2012) and after treatment (April 2013) digital photo-documentation was produced. During treatment processes were documented with a digital camera.

## 10) CUSTOM HOUSING

The volume is housed in an archival custom box together with the unidentified fragments and removed original sewing.

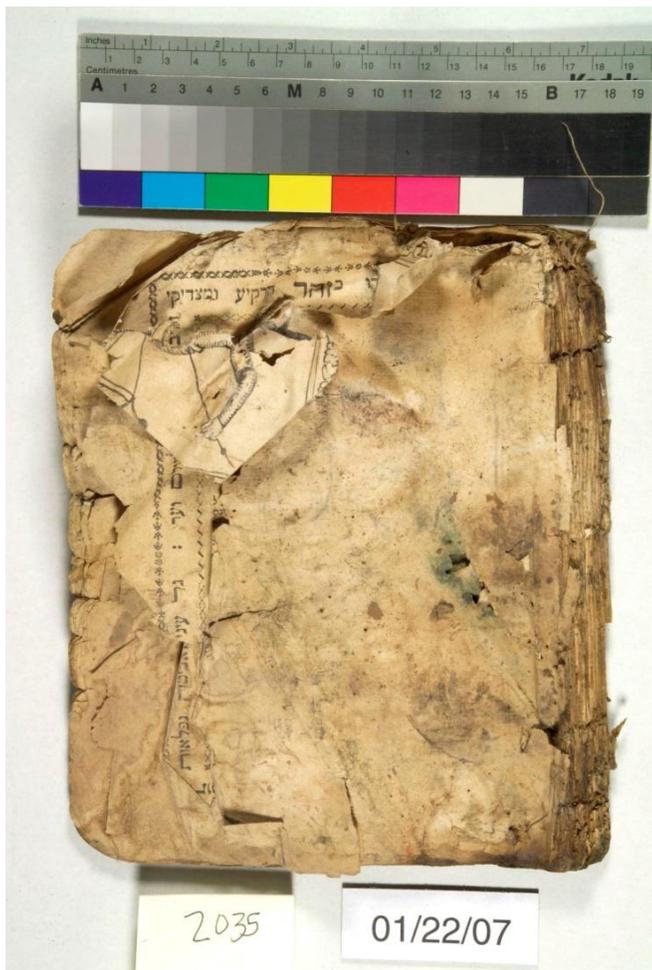
**After treatment measurements:** 24.8 cm H x 19.0 cm W x 1.2 cm D

**TREATMENT HOURS:** 106 hours

  
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Katherine Kelly, Conservator  
Iraqi Jewish Archive Project

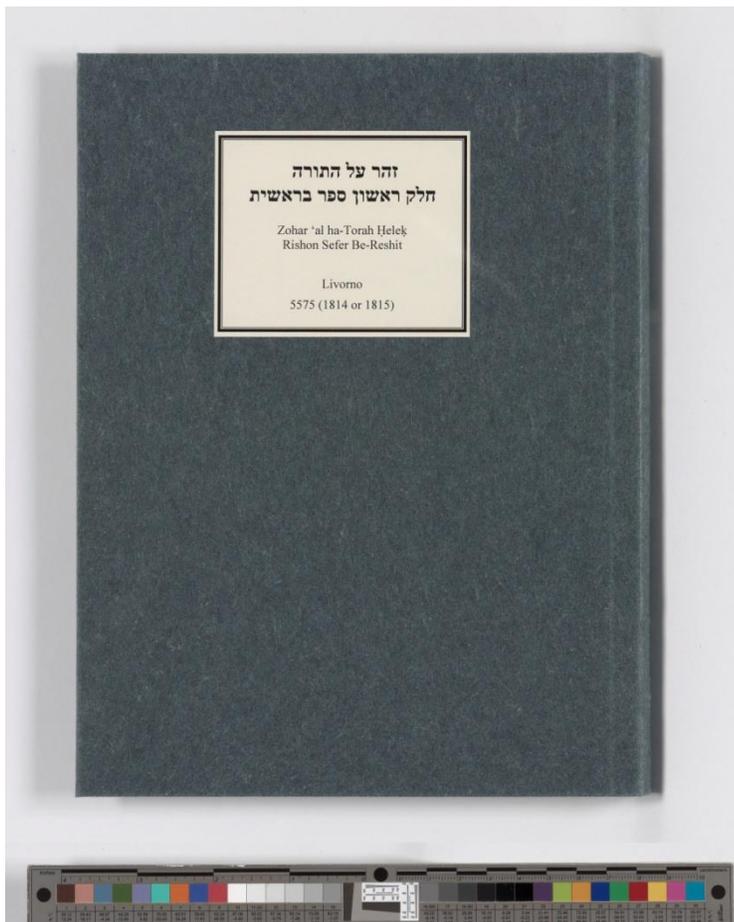
9/4/2013  
\_\_\_\_\_  
Date

**Before Treatment:**



Digital photograph. Conservation Lab. January 2007.

**After Treatment:**



Digital photograph. Digital Imaging Lab. April 2013.

**Before Treatment:**

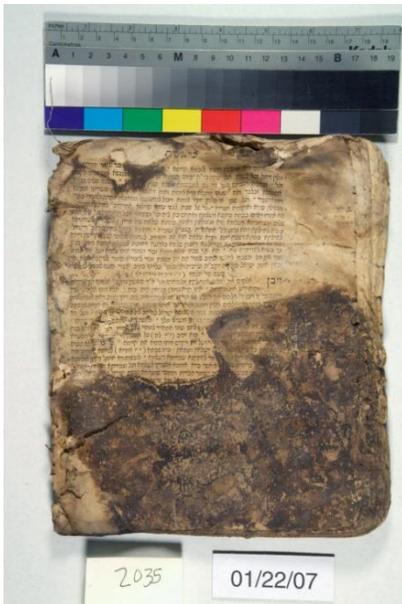


Digital photograph. Conservation Lab. June 2012.

**After Treatment:**



Digital photograph. Digital Imaging Lab. April 2013.



Digital photograph. Conservation Lab. January 2007.



Digital photograph. Digital Imaging Lab. April 2013.

## During Treatment:

All images taken digitally in Conservation Lab 2012-2013



The mold was removed in a fume hood with a HEPA-filter vacuum and soot sponges.



The bags of fragments associated with the shipment trunk were searched for the missing pieces – no matches were found.



The pieces of the frontispiece were carefully organized.



After thorough media testing, the pages were wet out with an ethanol and water solution and then washed in a series of alkaline baths.



The fragments were washed in a pouch so that the alignment would be retained.

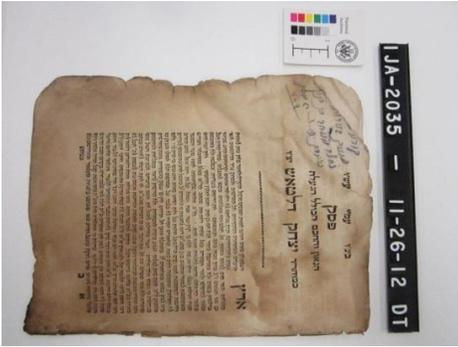


After washing, each piece was carefully inserted into its proper place.



The frontispiece was lined and losses were filled with toned tissue.

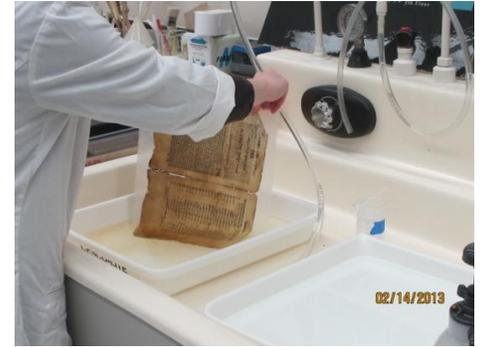
## During Treatment:



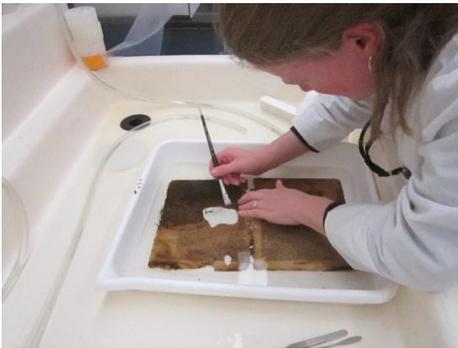
Some manuscript annotations were found to be water-sensitive.



The water-sensitive media was temporarily fixed with cyclododecane.



This fixing allowed the page to be washed.



The caked-on dirt on the last page was removed as much as possible by agitation with a soft brush.



Each page was then re-sized to strengthen the paper.



After mending, the volume was re-sewn and re-bound into a paper case.