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5. Written Documentation

In the broadest sense, conservation documentation consists of written and pictorial records of examination, sampling, scientific investigation and treatment of an object or collection. Such documentation is considered to be an integral part of a conservation professional's legal and ethical obligations as articulated in the AIC's Code of Ethics and Guidelines of Practice. The emphasis of this chapter is on those aspects of written documentation that form part of the practicing conservator's daily work, namely records of examination and treatment. Related topics such as photographic documentation and collection surveys are beyond the scope of this chapter and are mentioned only to convey the broad range of activities which fall under the larger subject of "conservation documentation."

Written documentation is defined here as a collection of facts and observations made about an object or collection at a given point in time. Written documentation may take a number of formats according to circumstances, the type of object, the intended use of the document, whether an individual object or a collection is being discussed and will reflect the individual preferences of the professional conservator. In all cases the conservator should bear in mind the inherent inadequacies of written documentation to completely describe an object and supplement when practical and possible with photographs and other pictorial forms of communication.

The proper use of the terms report and record was discussed during the process of revision of the Code of Ethics and Guidelines of Practice (hereafter COE & GOP). In the proposed COE & GOP, the manner in which the two terms are used reflects the general distinction made by most conservators; that is that *record* implies the broader, sometimes less formal form of the information whereas, *report* implies a condensed, editorialized, focused and sometimes but not necessarily more polished form of the record. In article 27 of the final revisions of the GOP the distinction may be made as follows. "During treatment, the conservation professional should maintain dated documentation that includes a record or description of techniques or procedures involved, materials used and their composition, the nature and extent of all alterations and any additional information revealed. A report prepared from these records should summarize this information and provide, as necessary, recommendations for subsequent care." It should be emphasized that the record and report are not mutually exclusive and in practice they are not always separate activities.

5.1. Purpose

- **5.1.1** To provide an accurate, complete and permanent written record of the condition of an object or collection at a given point in time.
- **5.1.2** To provide information helpful to the establishment of present and future preservation criteria and to add to the profession's body of knowledge.

¹ The AIC membership is to vote on the most recent revision of the COE and GOP in the summer of 1994. It was used as a guideline in preparation of this chapter but it should be kept in mind that it was not officially adopted at the time of publication of this chapter.

² Photographic documentation is treated thoroughly in other publications, specifically Dan Kushel, "Photodocumentation for Conservation: Procedural Guidelines and Photographic Concepts and Techniques," available through the AIC.

³ For a more in-depth discussion see the Ethics and Standards Committee Supplement Number 4, AIC News, March 1992.

- **5.1.3** To provide a record of technical analysis undertaken and interpretations of that analysis.
- **5.1.4** To record material and techniques used in treatment.
- **5.1.5** To substantiate changes which result from time, manner of storage, handling and treatment.
- **5.1.6** To increase appreciation of an object's aesthetic, conceptual and physical characteristics beyond the conservation profession.
- **5.1.7** To record information of historical significance.
- 5.1.8 To provide a record upon which a contract for services can be drawn and which can be used to avoid misunderstanding and/or unnecessary litigation.

5.2 Factors To Consider

5.2.1 Intended Use

Both the immediate and future intended uses of the document should be kept in mind when deciding on format, degree of detail and areas of emphasis. For example, if preparing a preacquisition examination report, one may focus on the extent of treatment and/or maintenance which may be required, anticipated special housing concerns, exhibition restrictions, evidence of the object's treatment history, etc. If an object is being examined to determine its suitability to travel, one may emphasize the types of conditions which would be most affected and any treatment which may be advised to mitigate the inherent risks involved with loans and travel. In many ways, the documentation should satisfy the test of reasonableness given the intended purpose that the exam or report is serving.

5.2.2 Intended Audience

Written documentation is prepared for both conservators and a broad range of non-conservators. If a report is prepared for a non-conservator, particular care should be taken to communicate the information clearly, accurately and with a minimum of jargon. In such cases, more attention may be given to explaining and defining terms used. Withholding and/or oversimplification of available information should not be the goal, but rather effective communication for the intended audience. Reports can be valuable educational tools and can provide an opportunity to increase appreciation of both cultural property and the conservation profession.

5.2.3 Resources

The amount of financial, time and personnel resources that are available may influence the degree and/or emphasis of written documentation. Resource restraints may make extensive documentation of a single item inappropriate, wasteful and not as ultimately useful as commenting on the collection as a whole.

5.2.4 Format

Written documentation may take a variety of forms ranging from handwritten treatment notes to lengthy narrative reports. In general, examination and treatment reports tend to fall within two broad categories, defined here as checklist and

narrative. In practice the distinction between the two is less defined and a combination of the two styles is very common.

A. Checklist Style

A checklist consists of a list of categories or descriptors against which an object or group of objects is evaluated. It is especially useful when efficiency, consistency and economy of space are of high priority. An examination and condition report, treatment proposal and treatment report can all be in checklist form. The checklist report, especially one documenting the condition or treatment of many objects may be accompanied by a summary page which provides an overall description of the nature of the collection, its curatorial priority, any abbreviations used on the form, philosophy of treatment approach, etc. A checklist form can be very useful for documenting the minor treatment of a collection of similar objects, or for batch treatment. Checklist forms are not necessarily cursory and can be designed to record any level of detail deemed appropriate to the circumstances. Many conservators find a checklist form useful for its prompting aspect. Some use a checklist form to compile the raw data from which a narrative style report can be easily and quickly generated.

The checklist standardizes the response. This allows for compilation of findings and collection assessment in terms of frequency of particular conditions or treatments. Because it is a categorical response, certain subtle qualities of an item may be more accurately described in a narrative report. (RF)

B.Narrative

Some conservators prefer to use a narrative format for written documentation as it generally allows for more directed and detailed discussion of object specific phenomena. A narrative report can be generated from a list of stock phrases which are word-processed for final presentation. It may be easier to explain and educate in this style of report. This form is most often used for documenting a single item or for objects of high intrinsic value.

5.2.5 Future Access 4

This section describes existing professional guidelines and principles regarding preservation of and access to written documentation. It also discusses the range of conservation professionals' practices for managing treatment records. In contrast to other sections of this chapter, information is presented in narrative as opposed to outline style because currently there is no standard practice for managing written documentation.

The AIC Code of Ethics and Guidelines for Practice states that examination and treatment documentation is an essential part of professional practice and recommends the permanent retention of such records. Underlying this recommendation is the assumption that treatment records have a long-term value beyond the immediate needs of examination and treatment. Reasons for long-term preservation are:

⁴ This section was prepared by Maria Holden and Nancy Schrock with editorial assistance provided by Karen Garlick

- to aid in the care of cultural property by providing information helpful to future treatment
- to add to the conservation profession's body of knowledge
- to provide a reference that can assist in the continued development of knowledge in conservation, art history, and historical studies
- to protect against litigation and misunderstanding between client and conservation professional

Conservation professionals have a responsibility to preserve their own original records, preferably as part of an organized and systematic records management program. Laboratories within institutions that have staff archivists or records managers should follow the guidelines established by their institutions.

Documentation of treatment done by conservators in private practice for institutions should also be incorporated into institutional archives for permanent retention.

Conservators in private practice or within institutions without a records program will need to establish their own procedures for the maintenance of inactive treatment records and, if the practice or laboratory closes, for the disposition of these records.

Preservation of records is not an end in itself. It has as its ultimate goal the provision of access to these records in the future. To insure continued access, the Code states that copies of examination and treatment must be given to the owner, custodian, or authorized agent, who should be advised of the importance of maintaining documentation along with the cultural property that has received treatment. Further, the Code states, "The conservation professional should strive to preserve these records and give other professionals appropriate access them, when access does not contravene agreements regarding confidentiality." This principle was confirmed and expanded by the AIC Archives Task Force in 1988 in their Statement on the Preservation of Conservation Treatment Records:

The American Institute for Conservation of Historic and Artistic Works advocates the preservation of and access to records of conservators in private practice and those working in institutions.

Significance: Conservation records document the physical condition and treatment history of cultural patrimony; they possess long term research value beyond the years spanned by the career of the individual conservator. These records should remain permanently accessible so that future treatments can be based on all available knowledge. Such information will improve the quality of treatment, contribute to research into conservation techniques and materials, and assist historical studies.

To facilitate access, the AIC appointed an Archives Placement Liaison who serves as a clearinghouse on archival issues and helps place records of retired conservators into established archival repositories where they can be preserved (see section 5.4.1, Conservation Records Archive).

The question of access is linked to the issue of legal ownership of the content of records. Does the conservator (like an architect) own his records and have the right to provide access to his/her files? Or does the client (like a medical patient) have a right to the content of his/her records and restrict access? For conservators working within

custodial institutions, the issue of ownership is not a problem, but for conservators in private practice or in regional centers that serve many clients, this issue could cause obstacles to releasing any information from their files to researchers treating similar objects in the future. Given the desire of the conservation profession to share information about treatment procedures and to conduct research on the long-term effectiveness of treatment, such restrictions would hinder the advancement of conservation. A compromise that protects the confidentiality of the client relationship while allowing the conservator ownership of the content of the records would be most desirable.

As part of their study, the AIC Archives Task Force requested that the AIC Legal Counsel investigate the issue of ownership of records from the point of view of access in an archives. His conclusions are relevant to conservation documentation in general. Doug Adler's *Memorandum to Archives Task Force (June 18, 1987)* concludes:

The authority supporting the conservator's ownership rights and the authority supporting the art-object owner's rights, while indicative of the respective proprietary ownership interests in the treatment reports, are inconclusive as to who actually owns the records: the conservator or the art/objects owners. It is impossible to predict with certainty the legal ramifications of a conservator's claim and donation to an archival conservator (i.e. archives repository). Courts could give ownership to either party, given the present state of the law. In light of these circumstances, then, our advice is to adopt a practical solution to the dilemma.

We recommend a written contractual release. The conservator could secure his rights in the records by a signed statement by the art-object owner that releases any and all rights to that might exist under the law. At the same time, the release would guarantee protection of the owner's name and other sensitive information related to the records, should the conservator decide to donate them to an archive.

This solution, moreover, adequately protects both interests involved. It gives the conservator ownership of his treatment records so that he may donate them to a repository. It also protects the art-object owner from public scrutiny of the sensitive matters of his possessions. Accordingly, obtaining a written release would be the most realistic legal method of protecting the ownership rights of all parties involved.

In practice, most conservation professional uphold the tenets of records preservation advanced by the *Code of Ethics and Guidelines for Practice*. Conservation professionals in various types of practice — in private practice or employed by custodial institutions or regional centers — create and retain records of examination and treatment. Conservation professional advise clients to retain copies of documentation with the cultural property that was treated, though their methods of communication vary; some counsel owners orally, others in writing. Records management policies and practices vary and can be informal.

In contrast to the consensus about creating and preserving documentation, legal ownership of treatment documentation is a concept that few conservation professional consider in their work, and written documentation is seldom regarded as property that is potentially proprietary. It follows that access to written documentation is inconsistently administered. When questioned, many conservation professionals

identify the owner of the cultural property as the owner of the associated documentation. Still others, particularly conservators in private practice, recognize the concept and seek legal ownership of their treatment documentation through contractual agreements with clients.

As the Archives Task Force's *Final Narrative Report* points out, the conservation profession would benefit if its members were to take a consistent approach toward the issue of ownership because of its implications for long-term access to treatment documentation by future conservators, scientists, and scholars. The AIC should continue to promote an awareness and understanding of this issue through open communication with the membership. Further, it should work toward developing practical guidelines to assist conservation professionals in securing their rights in their records, as well as in managing them effectively and responsibly.

5.2.6 Permanence of Written Record or Report

- A. Consideration should be given to the permanence of the written documentation conservators produce. To the extent practically possible documents should be produced on good-quality paper with permanent media and maintained in conditions consistent with the storage recommendations of paper-based collections.
- **B.** Consideration may be given to off-site storage of copies of written records as a disaster mitigation effort where the ability to read these formats can be maintained.
- C. Computer Storage of Documentation/archive should be considered for several reasons.
 - 1. Ease of duplication for storage at other site.
 - 2. Saving of paper and filing space.
 - 3. Improvement in records access.
 - 4. Greater ease of dissemination.
 - 5. There is concern for the safety and preservation of machine readable data. There should also be concern for the storage, safety and cost associated with storage and retrieval of paper records. They are subject to fire, flood and aging and because of the great cost of duplication/storage at another or several sites, loss can mean complete loss of information. With machine data, it is easy and relatively inexpensive to make duplicate copies for storage at multiple sites. Magnetic media is vulnerable and must be recopied routinely to maintain it. Newer optical methods are now available for archiving data and this offers greater security. In any case, it is interesting to note that more 200,000 pages of text can be stored on a single 3" x 4" x 1/2" DAT tape or more than 30,000 pages on a single CD. (RF)

5.3 Content of Report

This section contains the kinds of information a conservator may use to describe an object and, if applicable, its housing, in examination and treatment reports. Generally, the information is presented in the order in which it would actually appear. Most conservators begin with a list of identifying characteristics and continue with a description of the object or collection and its components, an assessment of condition, a treatment proposal or other recommendations, and a treatment report. The exact arrangement of information within this basic sequence will vary according to individual preferences and needs.

5.3.1 Examination Report

A. Identification

Enough of the following identifiers should be included to facilitate future identification of the object or collection

- 1. Owner or Custodian
- 2. Accession, Collection, Registration Number, or Other Identifiers as Appropriate
- 3. Artist, Maker or Institution/Agency of Origin
- 4. Title or Subject
- 5. Date or Period
- 6. Place of Manufacture
- 7. Dimensions generally measured from left and bottom edges: height given first, then width and finally thickness if applicable.
 - a. Image
 - b. Support
 - c. Secondary support
- 8. Inscriptions and Identifying Marks
- 9. Date of Record/Report
- 10. Author(s) of Record/Report
- 11. A record of any accompanying photo documentation or other visual/pictorial aids

B. Description

Materials, techniques, methods of fabrication. Items considered original should be distinguished from those that are not.

- 1. Object
 - a. Support
 - 1) Paper Type
 - 2) Present Color
 - 3) Present Surface Characteristics
 - 4) Method of Manufacture
 - a) Laid line intervals
 - b) Chain line frequency
 - c) Watermark
 - b. Medium/Media
 - c. Surface Coating
- 2. Attachments
 - a. Mount (local, overall)
 - b. Lining (paper, cloth, other)

- c. Fasteners
- d. Seals, Ribbons, etc.
- e. Other

3. Housing

- a. Mat/Backing Material
- b. Stretcher/Strainer
- c. Frame, Glazing Material, Hanging Hardware
- d. Inscriptions/Labels on Backing Material or Frame
- e. Box-type container

C. Extraneous Attachments/Evidence of Past Treatment

- 1. Lining
- 2. Mount
- 3. Hinges (Old and Present)
- 4. Previous Repairs/Inserts
- 5. Tapes
 - a. Pressure sensitive
 - b. Water-based adhesives
- 6. Residual Adhesives
- 7. Paper Remnants
- 8. Fixatives
- 9. Inpainting
- 10. Surface Coating

D. Condition

Description of the physical, and visual qualities of the primary support, media, attachments, auxiliary support and/or materials, housing and frame.

1. Condition Characteristics

Some conservators prefer to describe the condition of media and support in separate sections, noting discoloration and mechanical aspects of each component. Some prefer to describe condition in descending order of seriousness, pervasiveness or prominence. Some conservators begin an examination report with a brief summary of the object's condition, e.g. "excellent, good, fair, poor." Probable causes may be noted and linked to the descriptive portion of the report. It is important to distinguish between known and presumed causes. Discussions of inherent vice can also be included. The conservator should also remember to comment on the positive aspects of condition as well as the negative ones.

a. Discoloration

One should note whether the condition is overall or localized, superficial or embedded, and whether it applies to the media or the support.

1) Darkening or yellowing—slight, or pronounced

- Stains from contact with poor quality material/mats, tape and adhesives
- 3) Fading
- 4) Foxing
- 5) Mold growth and/or stains
- 6) Tidelines/water and liquid stains
- 7) Staining induced by media
- 8) Flyspecks
- 9) Accretions
- 10) Surface soiling
- 11) Fingerprints
- 12) Previous retouching
- 13) Discoloration of surface coatings or sizing agents
- 14) Blanching/Opacity

b. Structural Condition

- 1) Embrittlement or flexibility
- 2) Tears/breaks
- 3) Losses
- 4) Pin or tack holes
- 5) Abrasion/skinning
- 6) Thinning
- 7) Overall planar distortions, i.e. cockling/buckling, bulges, draws
- Creases
- 9) Folds
- 10) Wrinkles
- 11) Attachment to support/hinges, causing distortion
- 12) Flattened platemark, paper surface or design
- 13) Scratches
- 14) Trimmed edges
- 15) Media loss/abrasion
- 16) Cracking and flaking, cleavage, powdering or other structural insecurity of the media or surface coating
- 17) Softness due to loss of sizing

2. Location of Described Condition Characteristic

The location of the described phenomena should be clearly defined and may be accomplished in a variety of ways. Existing photographic documentation can also be referenced.

a. The object may be divided into quadrants or smaller grids and the condition located using the following designations: top left (T.L.); top

- center (T.C.); top right (T.R.); center left (C.L.); center (C); center right (C.R.); bottom left (B.L.); bottom center (B.C.); bottom right (B.R.).
- b. Conditions may be located on a representative sketch or a scale reproduction of the object. A key to the symbols used on the illustration should be included.
 - 1) Photograph
 - 2) Mylar overlays of photograph
 - 3) Photocopies of photograph or object if appropriate
 - 4) Free-hand illustration or tracings of object
- c. Conditions may be located in the text of the report using measurements taken from the bottom and left edges.

E. Testing and Analysis⁵

- 1. Objective of Testing or Analysis
 - a. To identify the support and media
 - 1) May provide supporting evidence of an object's history and manufacture.
 - 2) May identify inherent vice causes for conditions noted
 - 3) May provide support for recommendations to follow
 - b. To identify the sensitivity of the support and media to prospective treatment material
 - c. To identify the level of risk of alteration to the integrity of the object, and projected results of the recommendations to follow.
 - d. To identify adhesives used to adhere attachments
 - e. To identify causes of staining and discoloration
- 2. Type of Testing

The kind of testing, procedure and instrumentation employed should be clearly described. Whether the testing was destructive (involves removal of material) or nondestructive (surface pH measurements) should be noted. Testing procedures which may be considered routine such as the determination of media sensitivity to treatment reagents and surface pH may be described in detail and kept in the conservator's records for reference.

- 3. Location of Test
 - a. Sample size and location of area from which it was taken
 - b. Location and area of test site
- 4. Interpretation of Results
- F. Summary

⁵ Please see AIC/BPG/PCC 10. Spot Testing

Some conservators employ a separate section to summarize the information in the examination report. The summary may appear either at the end or the beginning of the condition description section. It is important to correlate condition and relative need (or lack of need) for treatment. This section can be used to describe the rationale for conservation intervention or treatment processes with reference to their relative risks and benefits. Lengthy discussions of the methodologies used may not be appropriate to include in every written document but can be extremely useful to posterity.

G. Treatment Proposal

- 1. Recommended Treatment / Treatment Options / No Treatment Indicated
- 2. Risks/Precautions/Benefits
- 3. Approval by Curator/Custodian
- 4. Time/Cost Estimate

H. Further Recommendations

Consideration may be given to prioritizing recommendations

- 1. Preventative Care
 - Environmental (includes light levels, temperature and relative humidity for both storage and exhibition).
 - b. Housing
 - c. Handling
- 2. Recommendations for periodic inspections to monitor identified conditions

5.3.2 Basic Headings: Treatment Report

A. Identification

The object or collection should be identified to facilitate future reference (see section 1.3.1.A Identification).

B. Treatment Procedures

1. Description of Methods and Material Employed

A stepwise description of the methods and materials employed in the treatment should include how the materials were used, for how long, and the concentration and proportion of reagents. In some cases, generic descriptions of materials such as blotters, scalpels and cotton swabs may be adequate. Information such as the manufacturer or brand and lot or serial number may be indicated for some materials and equipment, especially those whose formulation may change at the discretion of the manufacturer. Some individuals and institutions maintain detailed descriptions of procedures and specifications for each product used in their own records and cross reference the material or procedure cited in treatment reports. A printout of material specifications can be attached with each report. Maintaining a sample from each batch of material could also be considered.

2. Results of Treatment

a. Degree of Success relative to projected/expected results

b. Predicted Stability of Treated State

Define short term/long term, relate to external factors. Some conservators hesitate to include this as they feel it is something beyond their realm of control.

c. Any necessary variation from proposed treatment encountered during treatment along with an explanation for the change. To the extent possible, variations encountered during treatment should be discussed with the custodian prior to or immediately following the change, and under some circumstances written approval for the change may be required.

C. Further Recommendations

May repeat those outlined in the examination report. Some conservators prefer to give recommendations for preventative care and the like in the treatment report.

D. Record of Photodocumentation

5.4 Special Considerations

5.4.1 Conservation Records Archive

AIC recognizes the long-term value of conservation records to improve the quality of future treatment, contribute to the studies of conservation techniques and materials, and assist historical studies. In 1987-88, the AIC Archives Task Force studied the feasibility of establishing a single archive to preserve the records of retired conservators in private practice. The members concluded that it would be more effective to create a Conservation Archives Network of repositories representing different geographic regions and different conservation specialties. As a result of the study, AIC appointed an Archives Placement Liaison who serves as a clearinghouse for information about the location of conservation records.

The AIC Archives Placement Liaison also provides assistance to conservators or their heirs who wish to place papers in an archive. Based on her experience, the Liaison will suggest an appropriate repository and help the donor make the initial contact. The actual process of negotiation and transferral is the responsibility of the donor. Contact AIC Headquarters for the name of the current Liaison. It also appears in the front of the AIC Directory under "AIC Delegates and Liaisons."

AIC urges that institutions with conservation laboratories maintain and preserve treatment records as part of their permanent archives. Institutions that have work done by conservators in private practice should incorporate these treatment records into their archives for permanent retention. Access to these records should be given when it contributes to research or assists in the treatment of similar objects. (NCS)

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5.6 Glossary of Terms

This glossary is written for paper conservators, related professionals, and other persons who read written documentation created by paper conservators. The glossary's intent is to define specialized terminology used in condition and treatment reports which is not defined in general dictionaries, either adequately or at all. While a completely standardized vocabulary does not yet exist in the field, this glossary is an attempt to gather terms in general use and their meanings. Some terms are more widely used than others, and usage may vary according to individual conservators. Not included in the glossary are terms describing artist's techniques and media which have been well covered in a growing body of literature, such as William Ivins, How Prints Look, Felix Brunner, A Handbook of Graphic Reproduction Processes, Paul Goldman, Looking at Prints, Drawings and Watercolours, etc.



Abrasion - Damage caused by friction or rubbing action against the paper's surface by a hard, rough or tacky material. May occur accidentally, inadvertently or deliberately, including as a result of cleaning. Surface appearance of abrasion ranges from matte areas, to lifted fibers, to uneven and scratched areas.

Acid-free - State of being neutral or alkaline in pH, often used to describe paper goods used to house art or artifacts.

Acidic - Of or pertaining to a state in which pH is less than pH7. Pure cellulose is initially slightly acidic, but on exposure to light, oxygen, pollutant gasses, and acidic materials in its environment, its pH can drop lower and lower. As a result, the paper loses strength and flexibility, and sometimes changes in color.

Acidity - Chemical state characterized by a pH below pH 7, where pH is a reciprocal logarithmic measure of the concentration of hydrogen ions. Acids are chemical substances with a pH below 7, which react with alkalis and can neutralize them. Acids in the presence of moisture degrade paper by causing acid hydrolysis of the cellulose molecule, that is, breaking up of the long cellulose polymer into shorter segments, resulting in paper which is weak and brittle.

Accretion - Foreign material attached to the paper support. In general, it is superficial and rests on top of the substrate; rather than being imbedded. An accretion may cause staining or planar deformation in the support. Examples include mold growth, food, or fecal matter of insects or rodents.

Adhesive - A material which joins surfaces together by adhesive forces. Adhesives may consist of starch, gums, proteins, rubber, shellac or synthetics. Each type has different working properties and chemical characteristics.

Alkaline, alkalinity - Chemical state characterized by a pH above pH7, where pH is a reciprocal logarithmic measure of the concentration of hydrogen ions. Alkaline compounds such as calcium or magnesium salts can protect the cellulose in paper from acid degradation by neutralizing acidity. Alkaline solutions also swell cellulose which can aid in the release of stains and discoloration. Very strong alkalis can degrade the cellulose polymer chain by the peeling reaction. Some colorants are pH sensitive and change color or are decolorized by alkalinity. Physical qualities and long-term strength of papers also depend on the pH of the paper and the percent of alkaline reserve present.

Alkaline reserve - Alkaline earth salts of calcium or magnesium, such as calcium or magnesium carbonate, introduced into paper at its manufacture or in conservation treatment. Calcium and magnesium carbonate are consumed in the process of neutralizing acidity. Their presence assures paper longevity as long as there is an adequate unreacted reserve to neutralize acidity in the future.

Animal glue - An impure, brown protein-based adhesive made from the hooves and cartilage of animals.

Attachments - Integral items or materials (for example, labels, collage elements, etc.), which are adhered locally to the primary support rather than overall.

Auxiliary support - See Supports.



Backing - Material(s) adhered to the back of the primary support. Attachment may be partial or overall. Backings may or may not be original to the support.

Binder - The material which holds pigment particles or dye in a paint or other artist's medium and which helps adhere it to the support. Also called <u>medium</u>.

Blanching - An area of binder which has developed an unintended white or whitish appearance, possibly the result of exposure to moisture or fast-evaporating solvents which occasion local chilling and condensation. Also called <u>bloom</u>, especially in referring to varnish.

Bleeding - Physical movement of non-fast colorants. Usually occurs in the presence of moisture and results in a blurred or feathered appearance. Movement may occur laterally or penetrate to the reverse, which is also called <u>sinking</u>.

Blocking - Condition in which adjacent sheets of paper, e.g. book pages or a stack of sheets, become unintentionally adhered, often because adhesive is present on one or more sheets and has been subjected to pressure while the adhesive is tacky.

Bloom - Opaque or cloudy white appearance on a transparent film of varnish or lacquer which may be related to moisture absorbed in the film.

Break(s) - Scission of paper fibers due to physical weakness in the paper support; generally caused by simple handling and flexing or repeated folding of a very brittle support, in distinction to <u>tearing</u> or <u>cutting</u>.

Buckling - A random deformation in plane, usually concave and convex in appearance. See also cockling.

Buffer - A solution of ions and acids or bases which is capable of maintaining a nearly constant specific pH despite the addition of further acids or bases. In conservation, the term buffered is sometimes used erroneously to refer to the alkaline reserve. It is preferable to refer to the added substance a alkaline reserve and avoid the use of the word buffer in this context. Nonetheless, matboard and paper goods with an alkaline reserve have a history of beingcalled buffered paper or board. The term buffer is also used in describing the effect of certain materials to lessen the shock of sudden change. In discussing environmental conditions for artwork, packaging or housing can be designed and constructed to buffer sudden changes of temperature, relative humidity or shock.

Bulge - A planar distortion or protuberance characterized by a distinct convex formation.

Burnished - Surface area rubbed or polished yielding a shiny and/or smooth appearance. Burnishing may occur accidentally or deliberately.

Burn - Darkening, scorching, embrittlement or destruction caused by heat, fire or certain chemical reactions.



Calender - Manufacturing process of pressing paper or cloth between a set of polished metal rollers in order to give it a very smooth, polished surface.

Card - A medium weight, stiff paper support which generally has a smooth, polished surface due to a manufacturing process known as calendering.

Cellulose - A long-chain carbohydrate polymer found in the walls of plant cells. It is the primary constituent of paper.

Cleavage - Separation or splitting between layers of media, for example, cleavage of paint from a support. See also flaking.

Coating - 1. A material applied to the surface of paper during its manufacture which affects its surface characteristics and enhances its working properties. 2. Application of a material to paper support and/or media for various treatment purposes, such as consolidation, fixing, sizing or varnishing. 3. Application of a material to the paper support and/or media, at the time the object is produced or at a later date in order to manipulate the visual or working properties of the support or media. (JEK)

Cockling - Deformation of a planar support, generally paper, characterized by multiple alternate concave and convex distortions or ripples, often in parallel ridges.

Collector's mark - An identifying mark, generally a relatively small stamp - inked, embossed or perforated - or a marking applied by some other means, which denotes ownership or provenance.

Compensation - A restoration technique in which losses to the support and/or media are replaced partially or completely, to provide visual continuity and in some cases to enhance structural support.

Consolidation - Reattachment or securing of media which is flaking, cracking and/or friable, by introduction of adhesive or by application of heat, solvent, pressure, and/or adhesive.

Crack - Physical separation or break within one or more layers of a material, often the result of mechanical stress or contraction on drying.

Crease - A line, mark or ridge of paper caused by folding or crushing.

Cut - A sharp-edged break in the paper support, caused by a sharp instrument or object.



Darkening - A shift in color which is darker than the original appearance. May occur as a result of contact with poor quality materials and/or exposure to adverse environmental conditions. The appearance of darkening may be partial or overall.

Deacidification - A general term used to describe treatment steps taken to raise the pH of acidic paper to pH7 (neutral pH) and to pH higher than 7 (alkaline pH). Also called neutralization and alkalization. See also acidity and alkalinity.

Deacidification - can be accomplished by immersion in or by spraying with an aqueous or nonaqueous alkaline solution or suspension, or by deposition of an alkaline earth salt on materials in a vacuum chamber. If deacidification is accomplished by immersion in an alkaline solution, it may also be accompanied by removal of soluble acidity, degradation products, and discoloration.

Deckle edge - A thinner, uneven accumulation of paper fibers at the edge of a paper sheet. It occurs because relatively less paper fiber is deposited along the deckle of the papermaking mold during the manufacture of handmade paper. An imitation deckle edge may be artificially created on machine made paper.

Degradation

Biological degradation - Deterioration caused by biological factors such as mold, insects, rodents, etc.

Chemical degradation - Deterioration resulting from reaction between primary support and/or media and other chemical species such as atmospheric pollutants, residues from manufacture and poor quality materials.

Physical degradation - Deterioration caused by physical factors such as wear and tear, use, handling, movement, etc.

Deionized water - A type of purified water which has had ions of dissolved chemicals removed by being passed through one or more deionizing columns, filled with compounds which remove the ions into which soluble chemicals disassociate when they dissolve in water. Deionizing columns do not remove solid particles, so particulate filters are needed as well. Most ions removed are harmful to paper, such as iron and copper ions. Deionizing columns also remove calcium, a beneficial ion, which is sometimes added to deionized water for its beneficial effects. Deionized water is not sterile, in contrast to freshly distilled water. See Distilled water.

Delaminate - Lateral separation of a once continuous support or surface into constituent layers.

Dimensions - The size of an object, customarily recorded in the order of height, width, depth. Generally, maximum dimensions are given if portions are missing or support is irregular, identifying where measurements were made.

Desiccated - State characterized by near or total loss of moisture content.

Destructive analysis - A type of analysis in which a sample of material is consumed during testing.

Diffuse - Characterizes a stain which is without distinct edges or boundaries.

Dimpling - Slight indentations in a paper support. Dimpling often occurs when the primary support is partially affixed to a secondary support.

Discoloration - 1. A change or shift from the original color. 2. The chemical or degradation byproduct in the paper which causes the color change.

Discrete - Characterizes a stain which has a distinct edge or boundary.

Distilled water - Water which has been purified by distillation, a process in which water is heated to boiling, the resulting water vapors are carried through a distillation column where the vapors cool, condense and are collected. In distillation, dissolved ions and particulates are both left behind. Freshly distilled water is sterile.

Distortion - A deformation in the plane of the support and/or media.

Dog eared - Crease caused by a single or numerous folds in the corners of paper support.

Draw - Planar distortion usually located in the corners of support. Distortion is characterized by soft undulations resulting from tipped corners onto a secondary support. This manner of attachment prevents free expansion and contraction of the primary support in response to fluctuations in relative humidity.

Dry cleaning - Removal of unimbedded or superficial dirt and grime by eraser cleaning techniques, as opposed to aqueous or solvent treatments. Erasers which might be employed include vinyl (grated or solid), kneaded, rubber or gum. Dry cleaning may also be performed with a brush, cloth or blower. Also called *surface cleaning*.



Efflorescence - Dissolution, outward migration and precipitation of salts from within a material. These salts are visible on a surface as small crystals or white powdery or crusty deposits.

Embrittlement - Very low folding strength or tendency to break when folded, associated with adverse effects of acids, oxygen, light, heat and residual chemicals from the original manufacture of the paper or after manufacture. See also **desiccated**.

Encapsulate - To create an enclosure with sealed edges around a paper sheet using two pieces of an auxiliary support, which is generally transparent. The durable, flexible, and very permanent plastic film called polyethylene polyester terephthalate, better known in the U.S. by the brand name DuPont Mylar Type D, is currently the preferred auxiliary material for paper objects. The edges may be joined or sealed by heat, ultra sound, 3M 415 double-sided tape or by machine sewing.

Enzyme - A complex protein produced by living organisms that acts as a catalyst in specific chemical reactions, by inducing or speeding such reactions as breaking down and solubilizing starch (amylase), protein (protease), or fat (lipase), etc. Enzymes catalyze but are not consumed in reaction, so very small amounts are necessary. Enzymes generally require moisture to be active, and, in theory, residual enzyme can be reactivated if moisture is supplied. Therefore, after an enzyme treatment step, a thorough rinsing is advised whenever possible and a deactivation step may also be advised in which any remaining enzyme protein is denatured by solvent, heat, etc.



Fading - Shifts of color in pigments or dyes, generally resulting from exposure to light, but occasionally from changes in pH or exposure to chemicals or pollutants.

False margin - A margin which has been adhered to the edges of the primary support. The margin may consist of individual strips of paper or a single sheet of paper in which the center area has been removed thereby framing the primary support.

Feather, feathering - See Bleeding.

Fill - A technique employed to replace a loss. Fills range from an insert of a like and stable paper, a pulp fill or simply provided by lining. Fills may be considered stabilizing and/or restorative.

Fixative - A coating applied to protect a soluble or friable medium while undertaking other treatment procedures. The fixative coating prevents bleeding or transfer of the medium.

Flaking - Lifting and detaching of clusters of pigment and binder which occurs when a medium loses its binding properties or when it has undergone physical stress. Flaking often results in losses.

Fluorescence - The emission of radiation, generally as visible light, during exposure to a source of radiation of a different wavelength, such as an ultraviolet lamp. Also, the radiation so emitted. In conservation examination, the ultraviolet lamp, also called a black lamp, is used to look for the characteristic fluorescence of iron and iron gall ink (actually black absorption), oils, varnishes, protein glues and sizes, certain pigments or dyes, and mold and foxing growth.

Flyspeck - A dark brown or black accretion of fecal matter produced by insects. Flyspecks appear a small, round, convex droppings; they are often found in clusters. The material is quite acidic and damage caused by staining and deterioration of the support is often irreversible.

Fold - In which one part of the paper support is laid over onto itself. Creasing may or may not accompany a fold.

Footcandle - An English system measure of the intensity of light, based on the light of one candle at a distance of one foot. Used to express recommended light levels for light sensitive media and paper, often in the range of 5 to 10 footcandles. A metric measure of light uses a unit called the lux, which is very approximately 10 times greater than a footcandle, resulting in recommended ranges of 50 to 100 lux.

Foxing - Reddish-brown spots associated with mold growth or metallic specks. Foxing can vary in size and may be round, diffuse or discrete spots. Sometimes the centers of foxing are darker than surrounding areas. Under ultraviolet examination areas of mold growth fluoresce brightly, while iron-rich spots and specks absorb ultraviolet without fluorescence and appear black.

Frass - Chewed material dropped by feeding animals or insects.

Friable - Nature of a material characterized by a loosely bound powdery state. Some media are friable by nature including fabricated and natural chalks and charcoal. Friable states may result from deterioration or desiccation of binder. Also **powdering**.



Glazing - Protective transparent material used in framing, such as glass, polycarbonate and acrylic sheeting.

Gloss - Surface quality of being very smooth, shiny and reflecting light.

Gouge - Physical damage to support and/or media appearing as a discrete concave distortion, generally accompanied by a spot or linear disruption of the surface. Often the result of sudden impact on a surface, such as with a tool or broken glass.

Grease - A substance which is oily in composition and can penetrate, stain and/or visually disfigure the support and/or media on contact.

Grime - Dirt of a greasy nature. It may be imbedded or superficial.

Gum - A natural secretion from certain plants with adhesive properties. Gums are used as binders and adhesives.



Handling dents - Small creases, often arc-shaped, in a paper support usually resulting from careless handling practices.

Handmade paper - Paper made in the traditional technique, in which a vatman dips a papermaking mold into a vat of paper pulp, catching a fiber slurry which drains to create a mat of intertwined fibers. These fibers, on drying, form a sheet of handmade paper.

Heat-set tissue - A thin tissue paper coated with an adhesive layer which becomes tacky when heated, for example with a handheld tacking iron, and is adhered with light pressure. Developed as an alternative to traditional paper mending techniques. Its use was popularized at the Library of Congress. Their original formulation recommended Barcham Green lens tissue, with a coating of acrylic dispersions Rhoplex AC-73 and Plextol B-500. The paper and adhesives in the Library of Congress formulation are stable and generally easily reversible. Also called Library of Congress heat-set tissue.

Hinge - A folded piece of paper, Japanese paper, linen tape, etc., used to attach a paper artifact to a mount or mat, in such a way that a portion of the hinge is adhered to the back edge of the artifact, while the remaining portion of the hinge is adhered to the surface of a mount or mat. This attachment system can provide good structural support, yet allows safe, ready access to the attachment when it is desired to remove the artifact.

Hole - See Loss.

Humidify - Treatment procedure in which moisture is introduced either as a liquid mist or spray or as water vapor to expand the fiber matrix of the paper support and to allow the release and reforming of hydrogen bonds in the paper support, thus permitting realignment of fibers.



Imbedded - Physical state of a foreign material being irreversibly ground into the support. The material may be intended or unintended.

Incident light - Light falling onto a surface.

Inclusion - Foreign material included within a paper support or other support layer, generally added inadvertently in manufacture.

Infrared radiation - The portion of the electromagnetic spectrum which lies below or beneath visible red, which is invisible and which results in heating when it is absorbed by surfaces. Generally infrared radiation is not useful for visibility and its heating effects are not generally desirable. Infrared examination however can be part of a conservation examination in which carbon based underdrawing is suspected but concealed by heavy layers of paint. As a long wave radiation, infrared is better able to penetrate visually opaque paint layers. When it strikes underlying carbon based drawing, the infrared is absorbed, while it is reflected back by underlying white ground. This differential absorption/reflection can be seen on a vidicon screen and captured by camera, to reveal carbon underdrawings.

Inpainting - A restoration technique in which areas of loss in the media and in some cases in the support are compensated to provide visual continuity. Various artist's media may be employed.

Inscriptions - Information bearing marks or writing which are considered original to the object or which have been added over time.

Insert - A technique used to fill a loss in a paper support, in which a similar weight paper or paper laminate is physically shaped to the contours of a loss, often with a bevel or shelf margin that slightly overlaps the edges of the original thus permitting strong adhesive attachment to the original. Oc-

casionally, inserts are not adhered to the original, but instead attached to a mat backboard directly behind the loss.

Insect damage - Physical damage to support and/or media as a result of destructive contact with insects. Damage may appear as surface thinning, losses or as accretions, such as flyspecks.



Japanese (tissue) paper - A paper support made by traditional Japanese hand papermaking techniques (or by machine in some cases), using traditional Japanese papermaking fibers of kozo (paper mulberry), mitsumata, or gampi. Japanese paper is very strong (has a high tear strength) even in thin weights, because of the very long fibers used to make the paper stock. It generally retains its strength on aging. Japanese paper may be encountered as the primary support, in Eastern or Western art, or as a conservation material. Japanese paper is valued in conservation treatments because its thinness and translucency make it less obtrusive, while its strength and stability on aging lend long-term support to the original.



Lacuna - See Loss.

Laid paper - Paper which is characterized by a grid-like variation in thickness apparent in both raking and transmitted light. The grid consists of chain and laid lines. Chain lines are spaced further apart than laid lines. Laid lines are very close together and run perpendicular to the chain lines. True laid paper is hand made, though machine made paper can be given an impression resembling chain and laid lines through use of a dandyroll in manufacturing. The texture of Western papers is created by the closely spaced copper wires of the papermaking mold surface, while the chain lines result from the fine wire stitching that holds the surface flat. The distribution of paper fibers is thinnest where the laid and chain lines intersect.

Laminate - A layered structure of parallel sheets of various materials, fused or adhered together into one entity. In paper conservation, laminates may refer to layered paper as found in board construction or used to make paper inserts.

Lamination - A reinforcement technique used on paper artifacts, in which one or more layers of transparent material, generally a plastic, are applied overall to the recto and/or verso of the paper artifact. The lamination may be accomplished through the use of plastics and a proprietary adhesive or through thermoplastic materials, such as cellulose acetate, which fuse with heat. Cellulose acetate lamination was introduced in the 1930's by William Barrow. Most examples encountered in the U.S. are cellulose acetate lamination, though other plastics have been used elsewhere. Cellulose acetate laminations can degrade, showing contraction of the plastic film, generally accompanied by a pungent odor of vinegar.

Lamination alters the surface appearance of the paper artifact. Laminations are generally difficult to reverse, requiring strong solvents and/or heat, which may endanger the paper artifact. Newer techniques such as polyester encapsulation and Japanese linings accomplish some of the goals of lamination and are easy to reverse. For these reasons, lamination as defined above has fallen into disuse and disfavor. However under certain circumstances such as extreme fire damage, modern laminating techniques using a thermoplastic adhesive and tissue lamination may be considered an option. (JEK)

Letterpress - A printing method in which dies with individual raised letters are set in sequence in a chase. When paper is placed over the inked form and run through a press, ink transfers to the paper and a inked impression of the letters is made in the paper. Letterpress printing is characterized by recessed inked letters on the recto, and on the verso the impressions if still intact can be felt and seen easily.

Light damage - Reduction of stability of paper support and media caused by (long term or high intensity) exposure to light and ultraviolet radiation. Wavelengths in the ultraviolet region of the electromagnetic spectrum are considered most harmful to paper, however all wavelengths of light are damaging. Light damage is cumulative and its effects may continue in the dark, after intermittent exposure.

Lignin - Polymer which binds together the long cellulose molecules in woody plants. When the plant structure is disrupted in papermaking, lignin becomes unstable, especially on exposure to light or pollutants. Paper and paperboards containing lignin discolor and become increasingly acidic as they age.

Liquid stain - Describes a stain caused by water or moisture. A liquid stain is often characterized by a tideline. See also **Tideline**.

Loss - Area of the support and/or media which is physically detached or missing.

Lux - See Footcandle.



Mat - As recommended for conservation purposes, a type of protective rigid enclosure for a paper artifact, which is made from a relatively rigid paper board called matboard. While a number of mat structures are possible, the most common structure has two pieces, a front window mat, which has a "window" or opening cut to make the paper artifact visible, and a back board, a solid piece of matboard the same outer dimensions as the window mat. Generally the window mat is attached to the back matboard with a folded hinge of linen tape applied along the length of one entire side, so that the mat can be readily opened. A mat is always supposed to be larger in length and width than the paper artifact enclosed within it, so that it can protect all edges of the paper. Similarly, the thickness of the window mat is to be greater than the maximum thickness or most protruding part of the artifact, so that the surface of the artifact is also entirely protected from contact or damage. Matboard comes in varying thickness. Four-ply board is most commonly used to make mats, though two-ply is handy for mounts to insert in a window mat, and eight or more plies may be needed to create a window mat that is thicker than a thick or undulating support. Typically a paper artifact is attached to a mat by hinges, though folded corners of paper or polyester may be placed over the corners of the artifact and attached to the mat as well.

Mat burn - A brown line of staining on the support within the aperture of a mat window opening cut from mat board containing lignin. The staining results from the migration of acidic components in the mat board. Also called mat stain.

Matte - Surface appearance which has no shine, reflectiveness or gloss.

Medium/media - 1. Material(s) which comprise the image bearing components of the object. 2. The binder which holds together pigments in a material used to make images.

Mend - A technique used to provide physical stability to a tear or otherwise vulnerable site, generally consisting of a thin reinforcing repair paper and an adhesive to attach it securely to the paper artifact.

Mold - A surface growth of fungus which may have varying color, shape and configuration. It generally proliferates in damp conditions (60% relative humidity or greater) where there is little air circulation. Damage caused by mold includes staining and loss of strength.

Mottled, mottling - Uneven and diffuse discoloration which may appear on both support and media.

Mount - Auxiliary support to which the primary support is partially affixed for storage and exhibition purposes. A window mat may be attached to the mount. It is also the term used in England for mat. (JK)



Newsprint - A smooth, lightweight paper made from unpurified wood pulp fiber stock. Newsprint is acidic and high in lignin. These components contribute to its physical instability and predisposition to darkening with the simple passage of time, and especially when exposed to light and pollutants.

Nonaqueous - A liquid solvent-based system used in treatment in which water is not present.

Nondestructive analysis - A type of analysis during which a sample is not consumed during testing. Nondestructive analysis includes testing in which a sample is removed from the artifact but is not consumed (so that it can be returned to the artifact or used for other analysis), as well as analysis done in situ, without sampling, such as some types of x-ray fluorescence analysis.

Normal light - Light which strikes a surface perpendicularly, e.g. at a 90 degree angle to the surface.



Offset - A mirror image of a paper artifact created by transfer of media or binder to an adjacent sheet of paper, glass, board or plastic film, or by chemical migration of constituents in the paper or medium, such as oil in printer's ink or lignin derived staining.



Paper - A support, generally flexible, made from a liquid suspension of beaten plant fibers deposited on a surface. The primary constituent is cellulose. Paper characteristics vary depending on the quality and chemical stability of fibers and additives and procedures employed in the manufacture.

Papyrus - Support made from overlapped parallel strips of reed plant stalks.

Parchment/vellum - Support made from one of a variety of animal skins, which have been dehaired, soaked in lime, stretched, scraped, and allowed to dry under tension.

Paste - A type of adhesive prepared by cooking starch in water until it forms a thick translucent white suspension. When prepared from purified water and when free of additives, paste has excellent aging properties and can be easily reversed.

Pasteboard - Semi-rigid support consisting of several sheets of paper pasted or adhered together.

Pigment - A finely-divided colorant, which may be derived from a wide variety of substances, organic and inorganic, natural and artificial. Pigments are insoluble in the binder in which they are used, distinguishing them from dyes which are coloring matter that form solutions.

Pith - A smooth white paper-like support which is cut in a spiral from the soft, spongy tissue found in the center of certain plants. Found in Western collections as the support for souvenir depictions of Chinese life. Also called, erroneously, rice paper.

Platemark - The concave impression made in a paper support by a printing plate as it is run through a printing press. Usually printing plates have been copper or zinc plates, of square or rectangular shape with beveled edges to prevent abrupt edges cutting through the paper. No platemark will be created if the paper support is smaller than the plate.

Poultice - A malleable mass or material which absorbs water or other solvents and can be applied to an artifact surface, so as slowly to release solvent and/or to absorb solvent and matter dissolved in it. Poultices can be applied to hold water, solvents or solutions in intimate contact with a surface so as to soften accretions or adhesive. In addition, poultices can function as absorbers of matter dissolved in a solvent, drawing out soluble matter from a surface by virtue of capillarity.

Powdering - Physical state characterized by a loosely bound material. May be used in describing the inherent properties of a media (see Friable) or to describe the appearance of a condition or damage.

Prepared paper - The surface of a paper support which has been covered with an application of a pigmented chalk ground or coating, to prepare it to receive the intended medium.

Pressure-sensitive tape - See Tapes.

Primary support - See Supports.

Puncture - Structural damage to support and/or media. Punctures are generally caused by an impact to the surface and may penetrate, causing a hole.





Raking light - Light source positioned on one side of the support so that the light rakes across the surface. This position creates strong shadows which accentuate textures and deformation of plane. Raking light is distinguished from **normal light**.

Recto - The right hand side of a book opening. By extension, the front face of a sheet of paper. The front face is also called the obverse.

Relative humidity - The amount of water vapor held by a volume of air relative to the maximum amount which air at that temperature could hold. Expressed as a percentage of the actual water vapor held divided by the maximum water vapor which could be held at that temperature.

Repair - Various treatment techniques which restore structural stability and/or visual continuity to a damaged support or media.

Residue - Remaining portion of a substance after a process, a by-product of a process, not intended as part of the finished artifact. The residue is generally the remains of an attachment that has been removed.

Resizing - Treatment technique in which a sizing material is restored to the support by means of brushing, spraying, or immersion.

Retouch - See Inpainting.



Scratch - Physical surface damage which is narrow and sharp-edged. Scratches often involve a loss of support and/or media.

Scratchboard - A stiff drawing support which has a surface coating of white chalk-like ground, which is covered partially or completely with India ink. The ground enables one to scratch the inked surface, thereby revealing the contrasting color of the underlying layer.

Secondary support - See Supports.

Silking - A form of overall repair and support formerly applied to paper artifacts, which consisted of a layer of fine silk adhered with paste to the verso, and often the recto, of a paper artifact. Because silk is less stable than paper, silking deteriorates faster than the document it was intended to protect and it has been supplanted by other techniques.

Size, sizing - A water-resistant material which is added to paper. Sizing may be added to the pulp slurry during manufacture or as a coating after the sheet is formed. Sizing may also be added in a conservation treatment step as a coating on the surface of paper. Sizing inhibits the absorption of liquid into the fiber matrix, making the paper less susceptible to moisture or the feathering of ink and aqueous media. Sizing substances include gelatin, alum rosin, methyl cellulose, etc.

Skinning - A form of physical damage in which the surface of the paper in an area appears to have lifted up in a continuous thin surface flap.

Smudge - A streak or smear caused by movement of a friable medium or transfer of dirt or grime from another surface or object, i.e. finger smudges. Smudges are generally accidental in nature although they may be intentional.

Solubility - The tendency of aqueous or nonaqueous solvents to dissolve, soften, or swell a substance. Solubility may be complete, as when salt crystals totally disappear into water, or a matter of degree, in which less soluble materials are swelled or softened. Solubility may be desirable in a treatment when a stain, degradation product, or adhesive needs to be removed, but may be problematic when there is undesired vulnerability of media, coatings, collection marks, annotations, etc. which can also be affected by the solvents under consideration. For these reasons, solubility testing should be carried out and documented prior to any solvent treatment.

Split - Physical damage to the support caused by contraction of the support which is held under restraint or when the support sheet ruptures along a previously weakened area such as a fold. Splits usually have the soft-edged appearance of a tear.

Spot test - A small local test using water, solvents, or other materials being considered for use in treatment, which are applied in inconspicuous places on the artifact to determine the possible positive or negative effects on the paper, media, adhesives, etc. present in an artifact.

Stain - A discoloration which lies in the fiber matrix of the support.

Superficial - Resting on the surface of the support or media, not imbedded.

Supports - Conservators distinguish between the sheet or surface which bears the image directly (primary support), an additional sheet which may be adhered to that image bearing sheet (secon-

dary support), and extra materials which lend further rigidity to the former (auxiliary support). Every paper has a primary support but only some have secondary supports or auxiliary supports.

Primary support - The sheet or surface which bears the image directly, generally a sheet of paper for prints, drawings, and manuscripts. The primary support may be a simple sheet of paper or may be adhered to a secondary support, another sheet or surface, which gives additional rigidity and support.

Secondary support - An additional material, often paper or fabric, adhered to the primary support which gives additional rigidity and support, for example, a chine colle print in which a small, very thin paper is adhered onto a thicker, larger sheet, or a map or poster mounted onto linen.

Auxiliary support - Structural materials that lend rigidity and support to the primary support, the surface which bears an image. Examples of auxiliary supports include stretchers, strainers, mats, etc.

Surface cleaning - See Dry cleaning.



Tapa - A beaten sheet material resembling paper which is prepared from the inner bark of the paper mulberry tree, according to methods developed by Pacific islanders.

Tapes - A variety of adhesive-coated materials manufactured in strips and often found on paper art and artifacts as previously-applied mounting or repair materials. Typically, a tape structure consists of a carrier strip of paper, cloth, or plastic, which has an adhesive layer coated on it. Gummed tape has an adhesive which requires moistening to become tacky. Pressure-sensitive tape has a natural or synthetic rubber-like adhesive which is tacky at room temperature and requires only pressure to become adhered to a surface.

Adhesive Transfer Gun (ATG) tape - an adhesive film without a carrier layer, dispensed from a handheld "gun" which transfers tacky adhesive from silicone release paper onto a surface.

Archival tape - so-called "archival tape" varieties are formulated of adhesives which are more stable than typical commercial tapes. Because they can be misused, they are not generally recommended for application on paper art or artifacts.

Cellophane tape - an early form of pressure-sensitive tape, which had a carrier of cellophane, a glossy plastic made of regenerated cellulose, and an unstable adhesive layer very prone to causing oily discolored stains on paper and other surfaces.

Double-sided tape - a form of tape with a very thin carrier that is coated on both sides with pressure-sensitive adhesive. See **3M 415 double-sided tape**.

Glassine tape - an early form of gummed repair tape with a carrier of glassine paper, a glossy tan transparent paper.

Linen tape - a form of cloth tape, typically a gummed tape, though some pressure-sensitive varieties are now available.

Masking tape - a form of pressure-sensitive tape with a tan crepe paper carrier. Designed for temporary application, as in masking out areas prior to painting, so generally not stable. Magic (Mending) tape - a form of tape with a cellulose acetate plastic carrier that has a matter ather than a glossy surface, and an adhesive layer of acrylic adhesive, less prone to discoloring than cellophane tape. Also called frosty tape.

3M type 415 double-sided tape - a form of tape with a very thin carrier that is coated on both sides with a pressure-sensitive adhesive. This adhesive tape has been specified as the recommended adhesive for tape encapsulation. See encapsulate.

Tear - Physical damage which results in a linear or branched separation of the support into partially or completely separate pieces. The resulting edges along the separation have a soft fibrous "feathered" edge, in distinction to a sharp cut edge.

Tenting - Upward lifting in a tent-like curvature of layers which have cleaved, often as a result of shrinkage of the primary support.

Thinning, thin spot - A form of abrasion with marked loss of paper fibers, that makes the paper more translucent to light in the affected area. May be associated with *skinning*.

Tideline - A stain which occurs when a liquid dries, depositing dissolved material at its perimeter. A tideline is characterized by a discrete edge which is often darker than the remainder of the associated stain.

Transmitted light - Light source positioned beneath or behind the support so that the light shines through the fiber matrix and media. This lighting position allows one to see distribution and density of paper fibers and media, watermarks, chain and laid lines, etc.



Undulation - Planar deformation consisting of soft, gradual distortions which are convex and concave in appearance.

Ultraviolet, uv - A high energy portion of the electromagnetic spectrum, which lies above violet light in the visible spectrum. Ultraviolet radiation is invisible to humans, hence is not correctly called light. It is not necessary for vision and is capable of causing photochemical degradation of many organic materials including cellulose, as well as causing fading of dyes and pigments. For these reasons, ultraviolet radiation present in daylight or the light produced by common light sources such as fluorescent tubes or halogen fixtures should always be filtered to remove ultraviolet in order to prevent photochemical damage and fading of art and artifacts exposed to light. Often abbreviated as uv. See also fluorescence.



Verso - The left hand side of a book opening. By extension the back face of a sheet of paper. The back face is also called the reverse.



Washing - A treatment step in which the paper artifact is immersed in or saturated with water in an attempt to remove soluble degradation products or discoloration and to restore its flexibility.

Watermark - A design created in paper made in a papermaking mold with wire shapes sewn onto its surface. The design is visible in transmitted and/or raking light because paper fibers are more thinly deposited in this area. Machine-made paper can be given an impression resembling a watermark through use of a dandyroll in manufacturing. Chemical watermarks are made by impregnating the manufactured paper support with a transparentizing medium. Watermarks are useful in identifying the origin and age of paper.

Wove paper - Paper which is manufactured (either by hand or by machine) on a screen or with an even mesh. Paper fibers form an evenly distributed matrix of uniform thickness. The sheet may ex-

hibit a faint pattern similar to fabric which is due to the transfer of the texture from the screen or web. Wove paper was introduced in the West around 1750.

Wrinkle - Sharp deformation of paper, angular and irregular appearance, often with broken fibers. (JK)







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5/31/94

9th Edition

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APPENDIX*

*NOTE: THE FIRST THREE FORMS, TWO FROM THE LIBRARY OF CONGRESS AND ONE FROM THE WINTERTHUR MUSEUM, ARE ACTUALLY USED IN A FOLDER FORMAT

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Library of Congress Paper Conservation Section Date/Period: Artist/Maker: Title Catalog Number: Description of Object Division: Collection: Date Received: Date Due: Date Completed: Conservator: Point Estimate: Points Used: PHOTOGRAPHIC RECORD 35mm. 2x2 4x5 Normal Raking Before Treatment: B&W color During Treatment: B&W color After Treatment: B&W color P & P Photo File Number: ☐ LCUSZ62 or ☐ LCUSZC4 ☐ Microfilmed Other: Dimensions: (Height and width are indicated for the sides with the largest dimensions.) cm. X W. Thickness (mm. Outer Dimensions: H. cm. cm. X W. H. cm. Wet Dimensions: Unusual Aspects: Additional Accompanying Materials: Labels, Stamps and Inscriptions: (Note media, location and description) MATERIALS AND MEDIA ☐ One color ☐ Multi-color ☐ Printed Color ☐ Handcolored Printmaking Media Drawing and Painting Media ☐ Pencil ☐ InkWash ☐ Etching Silkscreen ☐ Woodcut ☐ Pastel ☐ Watercolor ☐ Engraving Charcoal ☐ Gouache ☐ Aquatint ☐ Wood engraving Oil crayon □ Tempera ☐ Mezzotint ☐ Linocut Pen & Ink Oil paint ☐ Drypoint ☐ Embossed Other: Other: ☐ Lithograph Characterization of Design Layer: (Note color and media, etc.) ☐ Bleeding ☐ Feathering CONDITION OF MEDIA ☐ Friability ☐ Flaking ☐ Cracking Others: ☐ Wove ☐ Watermark: ☐ Handmade ☐ Machine made ☐ Laid SUPPORT Characterization of Support: (Note weight, color and finish)

Master Control Number:

CONDITION AND TREATMENT RECORD

CONDITION OF SUPPORT	Give location a	ind size or desc	cribe on diag	ram below)						
Surface Dirt/Grime:	Overall	☐ Irregular								
Accretions:										
Losses: Extensive/a few losses on edges/corners/in center See below in Notes/Diagrams Description:										
Tears: □ Extensive/a few edge Description:	ge/center tears	☐ Irregular	Pinholes ir	corners/center	☐ See below in Notes/Diagrams					
Skinning:										
Abrasion:										
Insect Damage: ☐ Flyspecks ☐ Other accretions ☐ Losses on edges/overall										
Embrittlement:										
Staining and Discoloration: ☐ Overall discoloration or yellowing ☐ Darkening from exposure to light ☐ Fading or color change of paper/media from exposure to light ☐ Overall/local foxing ☐ Darkening from contact with poor quality materials ☐ Liquid staining ☐ Oil stains ☐ Nedia-induced staining ☐ Adhesive staining ☐ Mold staining ☐ See below in Notes/Diagrams										
Creases/Folds:										
Plate Impression										
Planar Distortion: ☐ Generalized/local cockling ☐ Secondary support causing distortion										
Former Treatment:										
CONDITION SUMMARY										

PROPOSED TREATMENT ☐ Photograph ☐ Examine ☐ Dry c ☐ Wash ☐ Deacidify ☐ Size ☐ L:			-	Consolidate
☐ Approval by Curator	Signature	Da	te	
ANALYTICAL TESTING p H Before Treatment pH:	During	Treatment pH:	After Treatment pH	
Media Solubility:				
Spot Testing:				
TREATMENT (Note order of to attached.)	reatment steps on the	e left. Additional wr	itten treatment informa	tion should be
[] Fixing/Consolidation □ Dilute gelatin/parchm □ B-72 (% solu □ Cellulose ether (□ Other:	Object humid nent size in 50:50 warm ution in toluene/ethano % solution in wate	water:ethanol solution l) Nu	ation removed after treatm n mber of applications: Number of applicati	
	ed surface grime with b Cake eraser ly/overall	rush only Staedtler-Mars wh Reversearound i	2	ther eraser/s :
[] Flyspecks/Other Accretio	n Removal	☐ Mechanical	☐ Using moisture	
	Peeled off linen/paper Corners only	lining Sanded o	0	thod of removal
☐ Goretex ☐☐ Steam Applicatio☐ Residual adhesive ren	Damp blotter on method: noved with cotton swal	red tap water (cool/wa Open-faced bs/japanese stippling l	Sandwich	(cool/warm/hot)
☐ Paper tapes ☐	Filmoplast Glassine Tapes om spatula/hair dryer, □ Local use of e	thanol .	☐ Cellopha ☐ Other Crepe eraser Ammonium hydroxide solu Additive: ☐ See sepan ☐ See stain	tion (pH)
Stain Reduction Suction Table/Disk Fuller's earth poultice	☐ Water ☐ Methyl cellul	Solvent/s Immersion ose poultice		am hydroxide (pH) rate solvent form
[] Facing □ Overall □ Heat set tissue □ Removed after treatm		ulose acetate	japanese paper/lens tissue BEVA Dother: sed:	e/fabric
	Local application Protease	Overall Mixed Enzyme Concentration: Rinsing time:	Other Time: Buffer:	

[■ Pretreatment ■ Filtered tap water (■ Water/ethanol (■ Immersion ■ L.C. Formula D us Total time of washing Drying Dried between	cool/warm/hot) /) □ Float ed with japanese stippling	☐ Ammonium hydroxide ☐ Blotter/felts brush/other: Number of baths: ☐ Face-up/face-down ☐ Blotters	/hot) recalcified with CaOH (pH)
[Bleaching Type of bleach: Rinsing time after bl	☐ Local application eaching:	☐ Overall : Concentration: Application met	Time: hod:
[0 0 1		OH) ₂ (pH)	Brush Brush Felts With weight
[] Sizing	, i	ntration: Face-up/face-down Blotters	Immersion time: Felts With weight
	Tear Repair Japanese tissue Untoned	☐ Heat set tissue (LC for ☐ Toned Media	rmula) 🔲 Wheat starch and Brand used:	paste Cellulose ether
[Inserts □ Japanese paper □ Wheat starch past	☐ Western paper e ☐ Cellulose ether	☐ Laminate ☐ Pulp☐ Untoned ☐ Tone	_
[] Leafcasting	m attached		
[☐ Wheat starch past Drying Dried under tension Dried between	☐ Air-dried	☐ Face-up/face-down ☐ Japanese drying scree ☐ Blotters	_
[] Humidification and F Drying Dried under tension Dried between	☐ Air-dried	m/cool water vapor Face-up/face-down Japanese drying scree Blotters	Humidification time: Other Attached at edges only Felts With weight
[Fills Retouched Brand:	□ Pastel □ Wat	ercolors Colored Pe	encils
[Storage Rag Board In Encapsulation Cover Sheet:	Mat Size: AA / A / B / C Encapsulation with hi Polyester film	/ D / E / Oversized nges Acid-free glassine	☐ Unimat ☐ Alkaline paper insert behinc ☐ Silicone release paper

Library of Congress Conservation Office Condition & Treatment Checklist

Project	MCN	
	Division	
Date	Date received	
Conservator_	Date completed	
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	() Other	
() Bound	() Bound Artifact () Mss Directly Bound in	
	() Mss in Binding () Hinged () Tipped () Solid Mounted	
	() Other	
	() Scrapbook () Hinged () Tipped () Solid Mounted	
	() Other	
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Insect Damage																					
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Staining/Discoloration																					
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Other																						

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WINTERTHUR MUSEUM AND GARDENS

PAPER LABORATORY -- EXAMINATION FORM

Object:	Object No.:
Artist: Title: Date: Publisher:	Location:
Size (inches and centimeters)) •
Overall Height 1) Plate Height 2) Image Height 3)	Width 1) 2) 3) Thickness:
Description of measurement along the left side, the	nts (Unless otherwise indicated, the height is taken width along the bottom).
Distinguishing Marks (signatu	ure, collector's marks, notations):
Condition Dhobanasha.	
Condition Photographs:	
General Housing, Matting, and	d Framing as Received:

Examiner: Date Examined:

SUPPORT

Paper Type: Watermark: Fiber Identification: Method of Fabrication: If Laid, chain line interval: laid line frequency: Present Color: Surface Character: Rate of Water Absorption: Effects of Chemicals: Former Treatment, Conservation and Restoration: Additional Supports (secondary, tertiary) DESIGN Medium: Techniques: Solubilities: Former Treatment, Conservation and Restoration: SURFACE COATING Type/Solubility:

OBSERVATIONS MADE FROM LABORATORY EXAMINATION:

SUPPORT 1. Strength or Weakness of Materials (flexibility, brittleness, etc.): 2. Attachments and Adhesives: 3. Accretions and Grime: 4. Bulge, Warp, Cockle, or Draw: 5. Wrinkle, Fold or Crease: 6. Abrasion: 7. Tears: 8. Missing Parts, Holes or Thinning: 9. Insect Damage: 10. Discoloration, Fading and Staining: DESIGN 11. Abrasion: 12. Color or Design Change: 13. Friable or Powdery: 14. Cleavage: 15. Flaking and Losses: 16. Crackle or Crazing:

moject:	Object No.:
Date	Treatment
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PAPER LABORATORY

	EXAMINATIO	N FORM	
			Object No.:
Object:			Location:
Size (inches and centimeters):	Plate Image	2) 3)	Width 1) 2) 3) hickness
Description of measurement along the left side, the w			ated, the height is taken
MATERIALS AND CONSTRUCTION			
SUPPORT Materials:			
Method of Fabrication: If Laid, Intervals of Intervals of			
Watermarks:			
Surface Character and Colo	r, if appropria	te:	
Former Treatment:			
DESIGN Media:			
Techniques:			
SURFACE COATING			
ADDITIONAL OBSERVATIONS:			
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Date: Examiner:

Attachments (Strainer)

Other

EXAMINATION WORKSHEET: FLAT PAPER MATERIALS TYPE CAL NO. SUBJECT CATALOG NO. TITLE OWNER/DIVISION MAKER EXAMINER DATE DATE REC'D EXAM: DUE: DESCRIPTION (Use raking, transmitted, spectral, ultraviolet, & infrared light, as well as microscopic & SEM analysis where necessary for this examination) STRUCTURE/TECHNICAL HISTORY DIMENSIONS H. W. D. Edges/Support Image/Platemark Housing (mat) Other After Treatment NOTATIONS **STAMPS** LABELS **SIGNATURES** SUPPORT Fiber (Rag, Bast, Groundwood, Mechanical wood, Mixed...) Fabrication (Hand made/Machine made, Laid & Chain/Wove mould/Dandy rolled) Grain/Machine Direction (---, I) Texture (Felt side/Wire side, Cold pressed/Hot pressed, calendared.) Identification (Watermark) **Other** Inks (Printers ink, Iron gall, Ball point, Felt-tip, Sepia, Bistre...) Colors (Watercolors, Gouache, Tempera, Oil paint...) Graphics (Pencil, Pastels, Chalk, Charcoal, Conte Crayon...) Ground/Glaze/Emulsion (Coating, Varnish...) Other AUXILIARY MATERIALS Surface Film/Glazing (Lamination, Glass) Backing/Mount Mat Frame/Case/Box

SUPPORT Brittleness/pH Cockling Folds/Creases/Wrinkles/Dents Abrasions Skinning Scratches Tears Losses Tack Holes/Punctures Adhesives Plastic Tapes Cloth Tapes Paper Tapes Discoloration Stains Waterstains Matburn Foxing/Mold Flyspecks Accretions/Surface Crime
Folds/Creases/Wrinkles/Dents Abrasions Skinning Scratches Tears Losses Tack Holes/Punctures Adhesives Plastic Tapes Cloth Tapes Cloth Tapes Discoloration Stains Waterstains Matburn Foxing/Mold Flyspecks
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Foxing/Mold Flyspecks
Foxing/Mold Flyspecks
Acretions/Surface Grime
Other
MEDIA
Cracking/Flaking
Abrasion
Fading
Bleeding/Feathering
Strike-Through
Other

AUXILIARY MATERIALS

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IDENTIFICATION/ANALYSIS MORPHOLOGY
                                              INSTRUMENTAL
                                 MICROSTAINING
Fiber
Size/Filler
Adhesives
Other
_______
SOLUBILITY TESTS: (Note Expansion/Absorption/Swelling; NS-not sol., VS, SS...)
                   WATER ALKALAI ETH. ACE. TOL. THE MEK DMF Other
Support
Media
Adhesives
Discolorations
Auxilary Materials
Other
OTHER TESTS
RECOMMENDED TREATMENT
Funigate
Disassemble/Dismount
CLEAN
Brush
Dryclean
Other
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REMOVE ACCRETIONS, ADHESIVES
Manually (Scalpel, etc.)
Water/Alkali
Solvents
Enzymes
Application (Poultice, Suction Table, Spray, Blotter, Immersion...)
REDUCE STAINS AND STABILIZE
Application (Poultice, Suction Table, Spray, Blotter, Immersion...)
Water/Alkali
Surfactants
Solvents
Enzymes
Bleach
-----
REINFORCE (Tip-together, Heat-set, Tissue and Wheat Starch, Pulp...)
Mend
F111
Line
FLATTEN
INPAINT
-----
HOUSE FOR STORAGE AND DISPLAY
```

PHOTOGRAPHS

See Attached:

Photolog Page for Photodocumentation Information Original or Copy of B&W Negatives, Contact Sheets, Photographs Original or Copy of B&W and/or Colored Slides

TREATMENT

By Date Hours Procedure

NATIONAL MUSEUM OF AMERICAN ART SMITHSONIAN INSTITUTION PAPER CONSERVATION CONDITION REPORT, PROPOSED TREATMENT & TREATMENT RECORD Artist: _____ Accession No.:____ Dimensions: Title: Date/Period: edium: Conservator: Date of Exam: Previous Treatment: Distinguishing Marks: Description: Attachments: Mount, overall Mount, local Tape(s), pressure-sensitive Tape(s), water-based Residual adhesive Paper remnants Mends/Repairs Other Condition of Support Discoloration: Surface grime Overall yellowing/darkening Mat burn Fading/Color change Adhesive staining Mold or insect damage Liquid staining Foxing Accretions Other Embrittlement Planar distortion_____ Tears/Breaks Folds/Creases/Dents Losses Abrasion/Thinning Holes/Punctures_____ Other___ Condition of Medium: Flaking/Loss____ Cracking Fading - Abrasion

Other

rroposed Treatment:	
Surface cleaning	
Tape/Adhesive removal	
(Moisture activated)	
Tape/Adhesive removal	
(Organia columnt activated)	
(Organic solvent activated) Media Consolidation	
Backing removal	
Stain removal	
washing	
Tear repair	
louing/inserting	
TITHIHE / HOURTINE	
Humidification/Flattening	
Inpainting	
Other	
Curator's Approval:	
Treatment Record:	
Surface cleaning	
Tape/Adhesive removal	
(Moisture activated)	
Tape/Adhesive removal	
(Organic solvent activated)	
Media consolidation	
Backing removal	
Stain removal	
Washing	
mara Daniela de la companya della companya della companya de la companya della co	
Toning/Inserting	
Humidification/Flattening	
Inpainting	
Other	
Photographic Record:	
inotographic kecora.	
	•
Hinging Record:	Framing Record:
minging Record.	
	Diagram:
Notes:	hragram.

CONSERVATION OF ART ON PAPER, INC.

2805 Mount Vernon Avenue Alexandria, Virginia 22301 Tel: 703-836-7757

EXAMINATION FORM

Owner(s)

Object

Size Unless otherwise noted, height is measured

along left side, width along bottom.

Image Height

Width

Plate Height

Width

Sheet Height

Width

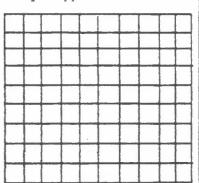
Mount Height

Width

Thickness Sheet

Mount

Shape (approximate)



CAPI#

Owner # Owner Tel:

Examiner

Examiner Date

Examiner Date

Examiner

Date

LEGEND R=right L=left B=bottom T=top C=corner or center f=front b=back s=side e=edge eg. BRC=bottom right corner

Inscriptions/ Stamps/ Labels

Matting

Window Mat

Back Mat

Mounting

Framing

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EXAMINATION FORM

Owner(s)

Object

CAPI#

Size Image Height

Width

Sheet Height

Width

Materials/Media

Matting/Mounting

Framing

Inscriptions/ Stamps/ Labels

LEGEND	R=right	L=left	B=bottom	T=top	C=corner or center
	f=front	b=back	s=side	e=edge	eg. BRC=bottom right corner

- 1 Weak Materials
- 2 Inherent Vice
- 3 Surface Dirt
- 4 Accretions
- 5 Stains/Discoloration
- 6 Insect/Rodent Damage
- 7 Mold/Foxing/Corrosion
- 8 Abrasions/Scratches/Burnishes
- 9 Edge Losses
- 10 Holes
- 11 Tears/Cuts
- 12 Flaking
- 13 Creases/Folds/Dents
- 14 Bulges/Cockles/Draws

MATERIALS AND CONSTRUCTION OF THE OBJECT

PAPER OR OTHER SUPPORT

Fabrication (wove, laid, antique laid) (machinemade, handmade)

Chain Lines Vertical/Horizontal

Interval Between

Laid Lines

#/Cm.

Interval Between

Grain Direction Vertical/Horizontal

Watermark

Trade Name/Generic Name

Surface Character

Color Now

Originally

Former Treatment(s)

Water Absorption

Solvent Effects

DESIGN MATERIALS

Media

Techniques

Impression Quality Former Treatment(s)

Solvent Effects

SURFACE COATING

Original/Added

Overall/Local

Glossy/Matte/Combination

Materials

Solvent Effects

Owner(s)
Object

CURRENT CONDITION OF THE OBJECT

- 1 <u>Weak Materials</u> (acidity, inflexibility, friability, etc)
- 2 <u>Construction Defects</u> (adhesives, mounting, etc)
- 3 Accretions/Adherends
- 4 Surface Dirt/Dust
- 5 Stains
- 6 <u>Discoloration</u> (darkening, blanching, fading, yellowing)
- 7 Insect/Rodent Damage
- 8 Mold/Foxing/Corrosion
- 9 Abrasions/Burnishes
- 10 Surface Losses/Scratches/Dents
- 11 Trimmed/Lost Edges
- 12 Holes/Punctures/Pinpricks
- 13 Tears/Cuts/Splits
- 14 Crazing/Flaking/Cleaving
- 15 Wrinkles/Creases/Folds
- 16 Cockles/Draws/Bulges/Warps

Owner(s) Object

ANALYSIS

pH	measured by: paper strip	electrode	where on obj:	date:
_	measured by: paper strip	electrode	where on obj:	date:
_	measured by: paper strip	electrode_	where on obj:	date:
	measured by: paper strip	electrode_	where on obj:	date:
	measured by: paper strip	electrode	where on obj:	date:
· ·	measured by: paper strip	electrode	where on obj:	date:
Light	UV, 365nm			
	UV, 254nm			
	IR			
	Transmitted Visible			
Fibers				

Microchemical Tests

NGA Paper Conservation Request for Conservation Services

Artist:	Acc#:	
Title:		_ Drawing:
	Book:	Photo:
Please examine this object for:		
☐ Acquisition		
Owner:		
Tel.#		
☐ Exhibition		
Title of Exhib.:		
☐ Loan		
To:		
☐ Examination		
☐ Possible Major Treatment		
Minor Treatment		NG V 292

National Gallery of Art
Paper Conservation Department

Artist

Title
Accession #

Collection Period/Date

Medium

Support(s) Size (h x w) (cm)

Distinguishing marks

Framing, etc.

Condition

Tests/technical notes

Treatment

Photographic records

Work time

Date

Conservator(s)

Collection Rpt PAPER5

WRPCL TREATMENT REPORT

Conservator Date Object Reg. No.

01. Photographed to record condition before and after treatment.

SURFACE CLEANING AND MEDIA CONSOLIDATION

Surface cleaned with 02. Grated vinvl eraser 03. Vinvl eraser 04. Grated/solid vinvl 05. Kneadable eraser Removed surface mold 06. Vacuum technique 07. Brush 08. Adhesive transfer tape 09. Groomstick 10. Removed accretions from paper surface with a scalpel. Removed soiled pilled fibers with a scalpel. 12. Stabilized soluble media with a brush application of Acryloid B-72. 13. Stabilized soluble media with a brush application of warm gelatin followed Note: This is a checksheet used for by application of formalin as a hardening agent. computer entry, not the final record. 14. Consolidated unstable media with a brush application of warm gelatin. Phrases in the final record may be more complete. Standard phrases are REMOVAL OF MATERIAL periodically added/removed to reflect current treatment practices. PRESSURE SENSITIVE TAPE Removed pressure sensitive tape carrier by mechanical action. ... Heat from an air gun or heated spatula was used to soften the adhesive. Solvent vapors were employed to loosen the tape carrier. The solvent used was ____ 17. 18. The solvents used were Solvent vapors were employed to soften the adhesive. The solvent used was ____ 19. 20. The solvents used were 21. Residual adhesive was reduced by rolling off adhesive with a natural rubber pick-up square. 22. Residual adhesive and accompanying stains were reduced by local application of organic solvent used in conjunction with the suction table. The solvent used was _ The solvents used were 24. Immersed in a bath of organic solvent to remove pressure sensitive tape and reduce associated discoloration from the adhesive residue. The solvent used was __ Residual adhesive and associated discoloration were reduced by immersing object in a bath of 26. ...Fuller's earth poultices were used to aid this process. 27. paper pulp poultices EXTRANEOUS MATERIAL 28. Humidified between Goretex and damp blotters to soften adhesive. Hinges/paper remnants were removed manually. The adhesive residue was absorbed with damp cotton. 29. Removed hinges/paper remnants with local application of moisture. The adhesive residue was absorbed with damp cotton. 30. Removed old repairs with local application of moisture. The adhesive residue was absorbed with damp cotton. 31. Reduced residual adhesive by swabbing with damp cotton or natural sponge. 32. ... Steam was used to aid this process. 33. Residual adhesive was reduced by applying moisture followed by application of cotton filter pulp. ...Removal of adhesive residue was aided by application of 36. amylase/protease 34. protease 35. amylase ...The enzyme was applied 37. locally 38. in a bath 39. on a paper tissue poultice MOUNT OR BACKING

- 40. The back of the cardboard mount was thinned manually with the aid of a spatula and/or scalpel.
- Humidified to soften adhesive. Backing was then removed manually.
- Removed from mount by immersing in a water bath. The water was changed several times to remove adhesive residue.
- 43. Controlled amounts of moisture were applied locally to aid removal of the backing material.
- ...Steam was used to aid this process.

Removal of adhesive residue was aided by application of

34. protease 35, amylase 36. armylase/protease

...The enzyme was applied

37. locally 38. in a bath 39. on a paper tissue poultice

REDUCTION OF DISCOLORATION

- 44. Bathed in water. The bath water was changed several times to achieve an efficient reduction of acidity and discoloration.
- Ammonium hydroxide was added to the water to raise pH and aid in reduction of acidity and discoloration
- 46. ...Old hinges and/or paper remnants were removed at this time.
- Humidified between Goretex and damp blotters.
- 48. Placed between two damp blotters to moisten and reduce acidity and discoloration.
- Ammonium hydroxide was applied locally to aid in the reduction of discoloration.
- 50. Bathed selectively with water on the vacuum suction table. The vacuum action pulled acidity and discoloration into a blotter below.

LIGHT BLEACHING

- 51. Immersed object in a dilute solution of magnesium bicarbonate and water and exposed to strong lights to further reduce discoloration and acidity.
- ...The object was covered with polyester film during this procedure.
- ...This was repeated several times on both sides of the object.
- ... A few drops of hydrogen peroxide were added to the bath to aid the reduction of discoloration.
- Moistened object locally with a dilute solution of magnesium bicarbonate and water and exposed to strong light to reduce discoloration.

CHEMICAL BLEACHING

- 56. Applied 5% hydrogen peroxide (diluted with magnesium bicarbonate) locally to stains to reduce discoloration.
- 57. Applied .1% sodium borohydride to stains to reduce discoloration.
- 58. Applied 3% oxalic acid to stains to reduce discoloration. The area was repeatedly flushed with water.
- 59. This treatment was not appreciably successful.

REPAIR

Reduced distortion and creasing through local manipulation with moisture and 61. tacking fron 62. combination 60. bone folder

- Repaired tear(s) with wheat starch paste.
 Repaired tear(s) with Japanese tissue and wheat starch paste. Repaired paper loss(es) with 65. a matching paper insert

66. the addition of paper pulp

67. laminates of Japanese paper

68. Attached fining of Japanese paper with wheat starch paste to support the damaged condition of the artifact.

COMPENSATION

Compensated for color loss in damaged areas with

69. watercolors 70. pastels 71. wc/pastel

72. wc/col. pencils

73. colored pencils

FLATTENING AND FINISHING

- 74. Humidified and pressed between blotters under weight to flatten.
- 75. Sprayed with water and pressed between blotters under weight to flatten.
- 76. Humidified and placed between polyester web and felts and weighted to flatten.
- 77. Humidified and placed between dampened Japanese paper, then pressed between blotters under weight to flatten.
- 78. Attached hinges of Japanese tissue with wheat starch paste.
- 79. Matted with all rag, acid-free archival quality matboard.
- 80. Reframed.
- 81. Wrapped for pick-up.
- 82. Wrapped for shipment.
- 83. For best preservation we recommend that the object be displayed in low light levels, avoiding sunlight and fluorescent lights. Avoid display in areas of high humidity, such as outside walls.
- 84. Encapsulated in 5 mil polyester mylar.

WRPCL CONDITION AND PROPOSED TREATMENT REPORT

Owner Artist Title/Subject Reg. No. Date Report by

Date

Media/paper

Image Size(cm) Hx Sheet Size (cm) Hx W

Inscriptions

Note: This is a checksheet used for computer entry, not the final record. Phrases in the final record may be more complete. Standard phrases are periodically added/removed to reflect current treatment practices.

CONDITION

Supports and Attachments

ALL PART

02. 03. Affixed to rag matboard.

04. Affixed to acidic discolored cardboard. 05.

06. 07. Affixed to paper support.

Affixed to a poor quality window mat with 08

09. Affixed to cloth lining material.

Affixed to cardboard support with drymount tissue. 10.

Overall attachment makes it impossible to determine the condition of the reverse. 11.

12.

Old hinges top edge, reverse.

13. Paper tape

14. Linen tape 15. Glassine 16. Pressure sensitive

17. Numerous old hinges on reverse edges.

18. Brown paper tape on reverse edges. 19, front edges

20. Old paper repairs and mends

Pressure sensitive tape 21.

22. Residual adhesive on reverse edges.

23. Residual adhesive and paper remnants on front edges.

Residual adhesive and paper remnants on reverse edges. 24.

25. Discoloration

- Generalized darkening. 26.
- Slight generalized darkening. 27.
- Pronounced generalized darkening. 28.
- 29. Mat burn evident as a narrow line of brown discoloration adjacent...
- Severe mat burn evident as a narrow line of brown discoloration... 30.
- Darkening from contact with poor quality matboard on front surface. 31.
- 32. Darkening from contact with poor quality material on reverse.
- Pronounced darkening from contact with poor quality material on reverse. 33.
- 34. Lines from corrugated cardboard are visible.
- Darkening of paper in area where object was exposed to light. 35.
- Pronounced darkening of paper in area where object was exposed to light.
- 37. Fading or color change of paper from long term exposure to light. 38. media
- Irregular foxing (small, often round dark spots associated with metallic deposits and/or mold growth).
- Generalized foxing (*). 40 41. Severe generalized foxing (").
- Mold growth and/or mold stains 42.
- 43. Brownish stains
- Tide lines/water stains 44.
- Paper stains induced by media. 45.
- 46. Adhesive stains from pressure sensitive tape.
- Flyspecks and associated staining. 47.
- 48. Accretions
- Localized surface soiling 49.
- Surface solling overall. 50.
- Slight surface soiling overall. 51.
- 52. Pronounced surface soiling overall.
- Previous retouching 53.
- This damage is most evident on the reverse.

55. Mechanical Condition

- 56. Embrittlement (weakness associated with adverse effects of acids, oxygen, light, heat and residual chemicals from the original manufacture of the paper).
- 57. Severe embrittlement ("). 58. Embrittlement.
- 59. Numerous small edge tears. 60. Small edge losses.
- 61. Complex tear(s):
- 62. Loss(es):
- 63. Pin or tack holes in corners or at edges.
- 64. Abrasion of paper fibers
- 65. Paper thinned from tape or hinge removal
- 66. Paper thinned from insect attack
- 67. Numerous creases overall.
- 68. Creased from folding.
- 69. Generalized cockling and buckling of paper. 70. Pronounced
- 71. Numerous handling dents.
- 72. Flattened plate mark.
- 73. Scratches and glass fragments due to broken glazing.
- 74. Edges have been unevenly trimmed.
- 75. Attachment to support is causing distortion.
- 76. Attachment of hinges is causing distortion.
- 77. Media loss and/or abrasion
- 78. Cracking and flaking of media

79. TREATMENT PROPOSAL

- Photograph to record before and after treatment condition.
- a01. No treatment is recommended at this time.
- a02. Reduce surface soll using eraser cleaning techniques.
- a03. Stabilize soluble media (with a binding agent such as gelatin or Acryloid B-72) to facilitate additional treatment.
- a04. Remove from support and reduce residual adhesive using mechanical and aqueous methods.
- a05. ...Enzymes may be employed if necessary.
- a06. ...This operation will be time consuming due to the solubility characteristics of the media and/or adhesive. a07. + large size
- a08. Bathe in water. Ammonium hydroxide may be added to raise the pH of the bath water in order to further reduce discoloration.
- a09. Remove hinges using mechanical and aqueous methods.
- a10. Remove pressure sensitive tape and reduce adhesive with natural rubber pick-up square and/or organic solvents.
- a11. Remove paper remnants and adhesive residue using mechanical and aqueous methods. a12. adhesive residue a13. old repairs
- a14. Reduce discoloration as safely practical.
- a15. ...Methods which might be employed include blotter washing, localized treatment with ammonium hydroxide, and use of moisture in conjunction with the suction table.
- a16. ...(") + hydrogen peroxide
- a17. Reduce discoloration by bleaching with light.
- a18. Reduce discoloration using organic solvents in conjunction with the suction table.
- a19. ... It is not possible to accurately predict the degree of reduction in advance of treatment. Some stains respond more readily to treatment than others.
- a20. The nature of the media imposes restrictions on treatment options. a21. paper
- a22. Repair tear(s) with Japanese tissue and wheat starch paste.
- a23. Repair loss(es) with matching paper or paper pulp.
- a24. Evidence of damage will persist after treatment.
- a25. Support paper with lining of Japanese paper and wheat starch paste.
- a26. Consolidate unstable media with application of appropriate binding medium (such as gelatin, methylcellulose or Acryloid B-72).
- a27. Reduce planar distortions locally.
- a28. Add color to compensate for loss in damaged areas of media and paper loss.
- a29. Humidify and press between blotters under appropriate weight to flatten.
- a30. ...Note that the condition of paper flatness is relative. Some papers have a slight cockle which is normal and expected.
- a31. Attach hinges of Japanese paper with wheat starch paste.
- a32. Mat in archival quality matboard (optional). a33. Reinstall in frame (optional).
- a34. We recommend that the owner take the object(s) to a frame specialist for matting and/or framing.

 a35. Encapsulate in mylar.

Treatment Cost:

Report Charge (If no treatment):

Hinging and Matting:

Reframing:

(NEDGG) PAPERSHOP ESTIMATE SHEET Instructions/observations for conservator:		
In paper work refer to asRECEIVED FROM		
	Job#	Frame
	Dimensions	Indicate type
	Medium	Mat
		Indicate type
	Support	Glazing
	* *	Indicate type
	Signature/Distinguish	
Object(s)		
Artist or Author		
Place/Date		
Title or Subject		
•		

CONDITION ON RECEIPT:

Examiner, include condition and appropriateness of framing materials.

RECOMMENOPT. REC.	DED TREATMENT:
	Provide a written record of treatment. Make colored slides of [each] object before and after treatment. Provide client with copies
	of these slides. Reduce surface soil using dry cleaning techniques.
	Separate [each] object from its/cloth backing/paper backing/cardboard backing/window mat/
	Thin support to its top layer to remove potentially harmful acidic inner layers of cardboard. Remove
	Consolidate friable, loose or flaking medium with an appropriate binding medium. Fix soluble or friable media with dilute application of synthetic resin so that object may be treated aqueously.
	After determining that the medium will permit washing, immerse object in a water bath to clean and reduce acidity of paper. Alkaline water will be used if necessary.
	Remove during washing.
	If medium or support does not permit aqueous immersion, float wash/wash locally/or/wash on suction table to clean and reduce acidity.
	If medium permits, Alkalize [i.e. deacidify] with an alkaline salt in aqueous solution/nonaqueous solution.

	Reduce staining by controlled exposure to artificial light and/or application of a mild bleaching agent. Any chemical bleaching will be followed by thorough water rinsing of the area treated.
	Reduce with organic solvents.
	Mend tears and breaks individually with Japanese paper and wheat starch paste.
	Fill losses to support individually with toned Japanese paper/toned paper similar to
	the original.
	Fill losses to support by leafcasting with paper pulp.
	Back object with Japanese/western paper to reinforce sheet/mend tears/and fill losses
	to support.
	Compensate for loss of color in areas of media or paper loss/along tears/breaks.
	Flatten and dry between felts or blotters under pressure/or on a drying screen.
	Mount [each object] in an acid-free window mat by hinging to a backboard with
	Japanese paper hinges using wheat starch paste.
	Matting is recommended if the object is to be framed.
	If matting or framing is not done, Encapsulate in polyester film to reinforce and to protect
	against dirt, handling and atmospheric pollution. Recommended for objects which are not
	to be framed but which will be handled. Highly recommended for vellum or parchment to
	minimize humidity fluctuations.
	· · · · · · · · · · · · · · · · · · ·
	Refit in present frame with spacers to keep object away from glazing.
	If object is to be matted or framed, substitute/provide ultra-violet filtering Plexiglas
	cut to fit the mat./ for present window glass.
	Other
GIVE ESTIM	MATE TIMES FOR THE FOLLOWING:
	Preparation of estimate (examination, discussions with client, phone calls, etc.)
	Packing. Special instructions
_	Unframing, storage preparation.
	Other .
	ouer .
EXAMINER	Date of examJob Book
Object storage	e Frame Storage Job Book
COVER LET	TERA (longer)B (shorter)Personal, attached
Dear	
OVERSIZE S	SURCHARGE: 20%(over 30" x 40" or 1,200 sq. inches)
· · · · · · · · · · · · · · · · · · ·	40%(over 40" x 60" or 2,400 sq. inches)
	(0,02 10 12 00 01 01 01

NORTHEAST DOCUMENT CONSERVATION CENTER PAPER EXAMINATION REPORT (FOR ON-SITE SURVEYS)

Requested by	Conservation priority (1 is highest, 5 lowest) Needs immediate rehousing (see below)
	Date of examination: Examiner:
INFORMATION TO BE PROVIDED BY CLI	ENT
Storage location	
Accession number	Dimensions: Sheet
Type of object	Plate
Artist or Author	Auxiliary materials
Place/Date	Mat
Title or Subject	Frame
	Glazing
CONSERVATOR'S EXAMINATION - GENE	RAL (for specifics, see reverse)
Design medium	Mount or backing (endangering object) Adhered overall to
technique	Attached to mat backboard
Support	hinged with otherwise attached Attached to mat window
General comments on condition:	Partially adhered to
General comments on housing/auxiliary materi	als:
COST OF TREATMENT (without options)	
COST OF OPTIONS:	
Treatment approved by	· Date
Options approved	

NEDCC PAPER EXAMINATION - page 2	
PREVIOUS TREATMENT:	
Mounted (see page 1) Repaired with Hinges, tapes were applied leaving adhesive, paper remnants	Losses filled Retouched or overpainted Other
CONDITION	
Insecurity Insecure mounting Fragile due to extensive tearing Brittle or weak support Destructive backing Possibly destructive backing Destructive adhesive or tape Possibly destructive adhesive Flaking of medium Cracking of medium Cracking of medium Defects in plane Creases, wrinkles, folds Cockling, warping	Discoloration Surface dirt Insect specks Other accretions Mold Overall discoloration Fading Staining Miscellaneous minor stains mat burn foxing/mold stains tape or adhesive stains water or liquid stains oily stains other stains
Mechanical damages Tears, breaks, punctures Losses, holes Abrasions, scratches	Other
TREATMENT RECOMMENDATIONS:	
Photograph to document condition Consolidate media Surface clean Remove accretions mechanically Remove from mount or backing Remove old repairs, hinges Reduce stains by bleaching use of organic solvents Wash with water Alkalize aqueously	Back with supporting paper Flatten Rehouse New mat Reuse present mat Reframe New glass UF-3 Plexiglas Encapsulate Other
	Damage location key: TL TC TR CL C CR BL BC BR TLC - top left corner (etc.) CLE - center left edge (etc.)

TYPE: SUBJECT: TITLE: EXAMINER:	CALL NUMBER: ARTIST: DATE: DATE EXAMINED:		
DESCRIPTION: Structure/Technical History	DIMENSIONS: PLATEMARK: HOUSING:	Н	W
	Notations, Signa	tures,	Stamps, Labels
	E		
SUPPORT			
Fiber: Fabrication			
Grain Direction:			
Color/Texture:			
Other:			
MEDIA			
Inks:			
Colors:			
Graphics:			
Other:			
AUXILIARY MATERIALS:			
Backing/Mount: Surface Film: Hat: Other:			
CONDITION: General:	,		
pport ittleness/pH			

Cockling:		
Folds/Creases:	© .	
Abrasions:		
Skinning:	The state of the s	
Scratches:		
Tears:		70 CO
Losses:		,
Tack Holes:	·	
Plastic Tapes:		at the first
Cloth Tapes:		
Paper Tapes/Hinges:		
Adhesives:		
Stains:		
Discoloration:		
Matburn:		
Foxing/Mold:		
Accretions/Surface Gri	me:	
DIAGRAM:		
J. I. G. K. H.		
	•	•
MEDIA: Cracking/Flaking:	. "	
Abrasion:		
Fading:		

Bleeding/Feathering:

Strike-Through:	•	
Other:		
TESTS:		
Solubilities: Water:	Alkalai:	Organic Solvents:
Substrate: Expansion/absorption		
Adhesives:		

TREATMENT PROPOSAL:

Photographs:	
TDFATMENT.	

E

LOS ANGELES COUNTY MUSEUM OF ART CONDITION SURVEY REPORT - JAPANESE PRINT COLLECTION

Accession Numi	ber: M.84.31,231		Artist: I	sukioka tosnitosni,	1839-1892	
Title: Omori Hik	coshichi and a Dem	non, from the se	ries Shinkei San	jurokkaisen (New F	orms of the Th	nirty-six Ghosts)
Medium: Color	woodblock print		Location	n: Pk shelf 15, Solar	nder Box Yosh	Ш
Dimensions:	lmage: H:	in. (cm.)	W:	in. (cm.)
	Paper: H:	in. (cm.)	W:	in. (cm.)
PRIMARY SUP	PORT					
Partially m	nounted			Embossed		
Mounted	overall			Abrasion		
Cockling_				Creases		
Dents				Folds		
Losses				Punctures _		
Scuffs				Tears/break	s	
Pilling				Other		
DAMAGES						
Accretion	s			Adhesive re	sidues	
Skinned _				Mends/fills_		
Tapes				Surface dirt		
Hinges				Ground-in s	oil	
Mica flaki	ng			Other/rema	rks	
STAINING AN	D DISCOLORATIO	ON				
General_				Foxing		
Light dam	nage			Mat burn		
Tidelines _				Adhesive st	ains	
Oil/resin s	tains			Tape stains		
Other/rem	narks					
MEDIA						
Oxidation				Fading		
Rubbed/sh	nined			Losses		
Mica fleck	cs/ground			Retouching		
	_					
-	registration 1					
	RECOMMENDATI					
Remove f	rom poor quality	mount and/o	r mat			
Remove h			e tapes	Remove adl	hesive residu	es
Surface cl		Bathe	•	Reduce stai		
	rs/breaks			Line for sec		
	pensate					
	ON PRIORITY 1		,	CURATORIAL PI		3 4
			ATOR: Lisa Fo	rman		

LOS ANGELES COUNTY MUSEUM OF ART/CONSERVATION SU

AR TIST/SchoolTIT	LE	M//
DATEMEDIUM	SUPPORT	LOCATION
	in/cm) PAPER Size H(in/cm) x W(
CONDITION Supports and Attachments Affixed to Cardboard Affixed to Paper Affixed to Mat Old Tapes. Paper Rëmnants Improper Hinges Old Repairs Adhesive Residue Other	AIIPartPoor QualityOKAIIPartPoor QualityOKOKOKOKOKOKOK	TREATMENTRemove
Discoloration General Darkening Surface Soiling Foxing Mat Burn—Light Damage Fading—Blurred Color Adhesive Stains—Tape Stains Stains Accretions—Residue Retouching—Overpaint Surface Coating Other	Support Attachments Minimal Severe Overall Localized Minimal Severe Other Other Other	——Dry Cleaning ——Bathe ——Reduce Discoloration ——Mechanical Action ——Deacidification
Structural Condition Embrittlement Losses Holes Burnishing Abrasion Tears Breaks Thinning Delaminations Creases Folds Dents/grooves Cockling Distortion Flattened Plate Mark Trimmed Other	PaperMediaCleavageFlakingPaperMediaInsect DamageSupportAttachmentsResidueOther	Consolidate Mend/Fill Repair Reinforce by Lining Reduce Planar Distortion Color Compensate Humidify and Flatten
Matting/Hinging Improper Hinges Proper Hinges Improper Mat Proper Mat	Not Standard Size No Mat	Hinge Mat
DateConservator		1 2 3 4 1 2 3 ′