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INTRODUCTION

EAD finding aids can be created using a variety of methods. Processors can either type the entire finding aid by hand or use any number of tools to create an EAD inventory. Tools used by the Minnesota Historical Society include:

- **MARC2EAD.xsl**

  This stylesheet converts a MARCXML catalog record into an EAD file. This method is very efficient for encoding the overview, administrative information, and catalog headings of an inventory. Once a MARC record has been converted into EAD, a detailed description can easily be appended to the xml file that results from this process.

- **EAD2002_template.xml**

  This is an xml template that can be filled in as needed using either an xml or a text editor. Comments and notes are included to alert processors to fields that need attention, e.g. `<replace_text {person/organization'sName}>`.

When using the EAD template, processors must edit several pieces of boilerplate, remove notes to processors, and delete empty elements that were not used.

Boilerplate that processors must revise includes the following tags in the template:

```
<archdesc>
    Edit the level attribute for the appropriate level of archival description:
    <archdesc level="collection/subgrp/series" type="inventory" relatedencoding="MARC">

<origination>
    Edit encodinganalog for the appropriate MARC field:
    <origination label="Creator:" encodinganalog="100/110/111">

<corpname>
    Edit encodinganalog for the appropriate MARC field:
    <corpname encodinganalog="110/111" role="creator"> <?replace_text {MARC 1xx text}>.

<unitdate>
    Edit normal for the appropriate inclusive year span:
    <unitdate label="Date:" encodinganalog="245$f" normal="yyyy/yyyy" type="inclusive">

<language>
    Revise language and langcode as appropriate.
    <language langcode="eng">English.</language>

<physloc>
    Add collection call numbers as appropriate.
```
• Excel tables

Box lists, chronologies, and other tables that contain highly structured data can be entered quite easily into an Excel table. EAD tags can be added to surrounding columns and the data may then be exported into xml.

Tagging templates that facilitate Excel methods are available on the department's network in the FindingAids/Excel 2 EAD folder. Separate instructions included within this folder explain how to use Excel templates to create the detailed description section of an EAD inventory (EAD_2002 Excel Instructions.doc).

• Scan to PDF

Typewritten lists can be scanned to PDF and exported into Word with Adobe Acrobat or copy and pasted into Word. Once exported into Word, search and replace techniques can be used to separate the lists into discrete parts. These parts can be converted into a table that can be opened in Excel and then tagged in EAD.

CORRECTIONS AND REVISIONS

MHS migrated to EAD version 2002 in August 2008. Inventories created prior to August 2008 may not meet the standards detailed in these guidelines.

In particular, under EAD version 1 guidelines, boilerplate labels for each section head were tailored to each specific inventory, e.g. Biography of Walter F. Mondale. Beginning in August 2008, section heads were standardized and are no longer tailored, e.g. Biographical Note. When revising a legacy finding aid, sections heads should be changed to meet the current standard.

Processors may also find other coding inconsistencies in earlier EAD inventories. Language of material will be missing from the Overview and should be added. The normal attribute will also be missing from the date in the Overview date and should be added. Component level dates in detailed descriptions may not be encoded as <unitdate> but encoded as parts of titles. Other finding aid notes that are self-referential, meaning
that they refer to the availability of a printed version of the inventory, may have been included and should be eliminated.

When making corrections or revisions, the time required to edit a legacy finding aid must be balanced against user needs and processing priorities.

**EAD STRUCTURE**

For web display, an xslt stylesheet is used to transform the xml files into html. The stylesheet tells the browser how to display each EAD element. Processors should take note that not every valid EAD element is built into the stylesheet.

The EAD structures shown below represent both the minimal and full sets of EAD tags that MHS uses. Additional tags and attributes should be encoded as explained in the remainder of these guidelines.

All inventories must meet the minimal standard. Many elements included within the full set are optional or required when applicable to the collection in hand.

For more specific information about EAD elements and their related attributes, see the EAD Tag Library: [http://www.loc.gov/ead/tglib/index.html](http://www.loc.gov/ead/tglib/index.html).

```
**Minimal Standard**
All elements are mandatory.

```
```xml
<ead>
  <eadheader>
    <eadid></eadid>
    <filedesc>
      <titlestmt>
        <titleproper></titleproper>
        <subtitle></subtitle>
        <author></author>
      </titlestmt>
      <publicationstmt>
        <publisher></publisher>
        <address> <addressline></addressline> </address>
      </publicationstmt>
      <seriesstmt>
        <p></p>
      </seriesstmt>
    </filedesc>
    <profiledesc>
      <creation> <date></date> </creation>
      <langusage> <language></language> </langusage>
    </profiledesc>
  </eadheader>
  <archdesc>
    <unitid></unitid>
    <repository></repository>
  </archdesc>
</ead>
```
**Full Standard**

Includes all mandatory elements listed in the minimal structure as well as additional optional elements or elements that are required when applicable.
XML, DOCUMENT TYPE, AND STYLESHEET DECLARATIONS

Each EAD finding aid must begin with three declarations that instruct a computer how to interpret and process the file. These declarations include an XML language statement, a reference to the EAD document type definition, and a reference to the xslt stylesheet that transforms the finding aid into html in a web browser.

<table>
<thead>
<tr>
<th>XML declaration</th>
<th><code>&lt;?xml version=&quot;1.0&quot; encoding=&quot;utf-8&quot; standalone=&quot;no&quot;?&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>DTD declaration</td>
<td><code>&lt;!DOCTYPE ead PUBLIC &quot;+//ISBN 1-931666-00-8//DTD ead.dtd (Encoded Archival Description (EAD) Version 2002)//EN&quot; &quot;ead.dtd&quot;&gt;</code></td>
</tr>
<tr>
<td>XSLT declaration</td>
<td><code>&lt;?xml-stylesheet type=&quot;text/xsl&quot; href=&quot;webead.xsl&quot;?&gt;</code></td>
</tr>
</tbody>
</table>

All three declarations are already built into EAD2002 template.

When using the MARC2EAD conversion process, the xslt stylesheet declaration is included in a note to the processor that must be edited.

EAD HEADER

```
<eadheader audience="internal" countryencoding="iso3166-1"
  dateencoding="iso8601" langencoding="iso639-2" repositoryencoding="iso15511">

The `<eadheader>` contains several elements that are not displayed on the web screen or in a printout but that are essential to each xml file. These elements provide information about the file’s name, content, creation, revision, and publication.

All the tags and attributes shown in the table below are mandatory except `<sponsor>` and `<revisiondesc>`.

<table>
<thead>
<tr>
<th>EAD Examples</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ead header</td>
<td>Mandatory</td>
</tr>
<tr>
<td>File Name</td>
<td>Mandatory</td>
</tr>
<tr>
<td>File Description</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

```

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Last revised: July 16, 2014
<seriesstmt><p>
A paragraph included within the series statement is used to indicate the larger holding area for each inventoried collection. The EAD template and files transformed by the MARC2EAD stylesheet include a note to the processor to select one of the five holding area statements and delete the others. The five holding areas include:

Government Records
Library Collection
Manuscripts Collection
Oral History Collection
Sound and Visual Collection

</seriesstmt>

</sponsor>

When a finding aid has been created under a grant, a <sponsor> element should be included within the <titlestmt> immediately following the <author> statement.
<revisiondesc>

This element is included when a revision to a finding aid has been made to indicate who made the revision, when, and why. MHS uses this element to track additions or changes that have been made to a collection. Minor revisions and corrections are not indicated.

Changes are listed in descending chronological order with the most recent revision listed first.

Example: <revisiondesc>
<change>
  <date>July 2014</date>
  <item>Accession 16880 added, David B. Peterson</item>
</change>
<change>
  <date>January 2012</date>
  <item>Digital versions added</item>
</change>
</revisiondesc>

<eadid>

Enter the unique filename assigned to each specific EAD inventory.

INVENTORY SECTIONS

Inventories can contain up to nine sections to describe different aspects of a collection. These sections include an overview, biographical or historical note, scope and contents note, arrangement, other finding aids, administrative information, detailed description, related or separated materials, and catalog headings. Of these, only the overview, administrative information, and detailed description are mandatory.

The webead.xsl stylesheet produces a sidebar to help users navigate an inventory. Buttons in the table of contents allow a user to link to individual sections within the inventory. These buttons are produced by the stylesheet and require accurate coding of the id attribute in the <head> element of each EAD section. The attributes are included in the EAD template and MARC2EAD conversion process.
Expand/Collapse

Buttons on the navigation sidebar allow users to expand or collapse an entire finding aid.

Individual sections can also be expanded or collapsed.

Subsections nested within the main <bioghist> or <scopecontent> sections and complex series and subseries listed within the <dsc> will also expand or collapse.

Inventory Sections

For each major section within an inventory, encoding analogs are included that map the section to its MARC counterpart. Header labels for each section are typed in all upper case.

The table below shows how section encoding analogs and head id attributes for each section must be coded.

<table>
<thead>
<tr>
<th>Sidebar Button</th>
<th>EAD Attributes</th>
<th>EAD Examples</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>&lt;did&gt;&lt;head id=&quot;a1&quot;&gt;</td>
<td>&lt;head id=&quot;a1&quot;&gt;OVERVIEW&lt;/head&gt;</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Biographical Note</td>
<td>encodinganalog=&quot;545&quot; id=&quot;a2&quot; altrender=&quot;biography&quot;</td>
<td>&lt;bioghist encoding analog=&quot;545&quot;&gt; &lt;head id=&quot;a2&quot; altrender=&quot;biography&quot;&gt; BIOGRAPHICAL NOTE&lt;/head&gt; &lt;p&gt;Auguste Louis Larpenteur, pioneer St. Paul, Minnesota settler, was born… &lt;/p&gt; &lt;/bioghist&gt;</td>
<td>Required when applicable*</td>
</tr>
<tr>
<td>Historical Note</td>
<td>encodinganalog=&quot;545&quot; id=&quot;a2&quot; altrender=&quot;history&quot;</td>
<td>&lt;bioghist encoding analog=&quot;545&quot;&gt; &lt;head id=&quot;a2&quot; altrender=&quot;history&quot;&gt; HISTORICAL NOTE&lt;/head&gt; &lt;p&gt;Established by an Act of Congress in 1906… &lt;/p&gt; &lt;/bioghist&gt;</td>
<td>Required when applicable*</td>
</tr>
<tr>
<td>Scope and Contents</td>
<td>encodinganalog=&quot;520&quot;</td>
<td>&lt;scopecontent encodinganalog=&quot;520&quot;&gt;</td>
<td>Required</td>
</tr>
<tr>
<td>ID</td>
<td>Contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a3</td>
<td><strong>SCOPE AND CONTENTS</strong>&lt;br&gt;Legislative bills, committee files, campaign files…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a4</td>
<td><strong>ARRANGEMENT</strong>&lt;br&gt;Required when applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a6</td>
<td><strong>OTHER FINDING AIDS</strong>&lt;br&gt;Required when applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a8</td>
<td><strong>ADMINISTRATIVE INFORMATION</strong>&lt;br&gt;Mandatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a9</td>
<td><strong>DETAILED DESCRIPTION</strong>&lt;br&gt;Mandatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a5</td>
<td><strong>RELATED MATERIALS</strong>&lt;br&gt;Required when applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a5a</td>
<td><strong>SEPARATED MATERIALS</strong>&lt;br&gt;Required when applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a7</td>
<td><strong>CATALOG HEADINGS</strong>&lt;br&gt;Required when applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Note that the button for both the biographical note and the historical note are coded `<head id="a2">`. Because the attribute is coded the same regardless of how the altrender attribute is coded, only one main `<bioghist>` section can be included. Code the altrender attribute as either "biography" or "history" to generate the appropriate button label. When needed, `<bioghist>` subsections may be included within a main `<bioghist>` section to delineate multiple notes.

**OVERVIEW**

```xml
<did>
  <head id="a1">```

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The Overview provides a high-level description of a collection. Creator, title, date, language, quantity, shelving location, and an abstract describe the entirety of the collection.

Several elements within the Overview map exactly to MARC fields and information that is provided in these elements should exactly match corresponding MARC data. Attributes that specify MARC encoding analogs are included within these elements.

<table>
<thead>
<tr>
<th>Web Display Label</th>
<th>MARC Tag</th>
<th>EAD Tag</th>
<th>Attribute Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;head&gt;</td>
<td></td>
<td>id=&quot;a1&quot;</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>&lt;unitid&gt;</td>
<td></td>
<td>countrycode=&quot;US&quot;</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>repositorycode=&quot;MnHi&quot;</td>
<td></td>
</tr>
<tr>
<td>Creator:</td>
<td>&lt;origination&gt;</td>
<td>label=&quot;Creator:&quot;</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>100 110 111</td>
<td>&lt;persname&gt; &lt;famname&gt; or &lt;corpname&gt;</td>
<td>role=&quot;creator&quot; encodinganalog=&quot;[MARC tag]&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title:</td>
<td>245 $a</td>
<td>&lt;unittitle&gt;</td>
<td>label=&quot;Title:&quot;</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

Enter the appropriate MARC encoding analog for the type of name heading:

- 100 Personal name
- 100 Family name
- 110 Corporate name
- 111 Meeting name
| **Dates:** | 245 $f or 260 $c | <unitdate> label="Date:" encodinganalog="245$f" or "260$c" normal="[yyyy/yyyy]"  
Replace yyyy/yyyy with the date span for the entire collection.  
type="inclusive" |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language:</strong></td>
<td>&lt;langmaterial&gt; label=&quot;Language of Materials:&quot;</td>
<td></td>
</tr>
</tbody>
</table>
| | <language langcode="eng">Enter each language in a separate <language> tag.  
Enter the ISO 639-2b code for each language. |
| **Abstract:** | 520 <abstract> label="Abstract:" |
| | <abstract> |
| **Quantity:** | 300 <physdesc> label="Quantity:" encodinganalog="300" |
| | <physdesc> |
| **Location:** | <physloc> label="Location:" |
| | <physloc> |

**EAD Example**

```
<did>
  <head id="a1">OVERVIEW</head>
  <unitid countrycode="US" repositorycode="MnHi"></unitid>
  <origination label="Creator:">
    <persname role="creator" encodinganalog="100">Dayton, Mark, 1947-</persname>
  </origination>
  <unititle label="Title:" encodinganalog="245$a">Mark Dayton senatorial files.</unititle>
  <unitdate label="Date:" encodinganalog="245$f" normal="2001/2006" type="inclusive">2001-2006.</unitdate>
  <langmaterial label="Language of Materials">Materials in  
    <language langcode="eng">English.</language></langmaterial>
  <abstract label="Abstract;">Personal and political records, legislative records, Minnesota office files, press and media relations, and office administration files of United States senator from Minnesota, Mark Dayton, spanning 2001-2006.</abstract>
  <physdesc label="Quantity:" encodinganalog="300">54.0 cu. ft.  
    (54 boxes).</physdesc>
  <physloc label="Location:">See <ref target="a9">Detailed Description</ref> for shelf locations.</physloc>
```
Unit Date

Several attributes are specified in the <unitdate> given in an overview. These include label, encodinganalog, type, and normal. All four attributes are supplied in the MARC conversion and the EAD template.

However, while the normal attribute is automatically provided in the EAD template and the MARC2EAD conversion, processors must type over the boilerplate "yyyy/yyyy" with the specific year spans for each collection. Inclusive year spans are to be used.

| Boilerplate EAD Template: | <unitdate label="Date:" encodinganalog="245$f"
normal="yyyy/yyyy" type="inclusive">
  &lt;?replace_text {MARC 245 $f $g text}?>.
</unitdate> |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Complete EAD Example:    | <unitdate label="Date:" encodinganalog="245$f"
normal="2001/2006" type="inclusive">
  2001-2006.
</unitdate> |

Although the ideal situation would be to normalize all dates in the detailed description of a finding aid as well as in the overview, MHS will only encode the normal attribute in the overview section. Due to time constraints, MHS will not enter normalized dates at component levels in the detailed description <dsc>.

Language of Materials

MHS began encoding language of materials with version 2002 in August 2008. This element provides information about the languages present in the collection.

The default value is English. If any portion of the materials in a collection is in another language, or if a collection is not in English, processors must modify the boilerplate. To add a second language, repeat the <language> element and encode the langcode attribute with the appropriate ISO 639-2b code. An alphabetical listing

Use proper grammar and punctuation to separate two or more <language> elements. Enter spaces as needed to separate text.

<table>
<thead>
<tr>
<th>EAD Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>One language</td>
</tr>
<tr>
<td>&lt;langmaterial label=&quot;Language of Materials&quot;&gt;Materials in</td>
</tr>
<tr>
<td>&lt;language langcode=&quot;eng&quot;&gt;English&lt;/language&gt;</td>
</tr>
<tr>
<td>&lt;/langmaterial&gt;</td>
</tr>
<tr>
<td>Multiple languages</td>
</tr>
<tr>
<td>&lt;langmaterial label=&quot;Language of Materials&quot;&gt;Materials in</td>
</tr>
<tr>
<td>&lt;language langcode=&quot;eng&quot;&gt;English&lt;/language&gt;,</td>
</tr>
<tr>
<td>&lt;language langcode=&quot;ger&quot;&gt;German&lt;/language&gt; and</td>
</tr>
<tr>
<td>&lt;language langcode=&quot;fre&quot;&gt;French&lt;/language&gt;.</td>
</tr>
<tr>
<td>&lt;/langmaterial&gt;</td>
</tr>
</tbody>
</table>

**Location**

<physloc>

When a collection consists of only one shelving location, such as in the case of microfilm collections, P-numbered collections, or when there is only one box, modify the standard boilerplate to include the call number.

*Examples:*

Location: M670: See Detailed Description for reel numbers.

Location: P2668: See Detailed Description for shelf locations.

**BIOGRAPHICAL or HISTORICAL NOTE**

<bioghist encodinganalog="545">
  <head id="a2" altrender="[biography or history]">

The <head> element within a <bioghist> must include two attributes: id and altrender.

The id attribute is always coded as "a2."
The `altrender` attribute is used as a switch to trigger the appropriate button label on the navigation sidebar. Code the `altrender` attribute as either "biography" or "history" depending on the type of note that is provided.

Include only one main `<bioghist>` section.

Subsections for specific notes about multiple persons or corporate entities may be nested as additional `<bioghist>` elements inside the main `<bioghist>` section.

<table>
<thead>
<tr>
<th>Type of Note</th>
<th><code>&lt;head&gt;</code> attributes</th>
<th>EAD Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biographical note for persons.</td>
<td>id=&quot;a2&quot; altrender=&quot;biography&quot;</td>
<td><code>&lt;bioghist&gt;</code>&lt;head id=&quot;a2&quot; altrender=&quot;biography&quot;&gt;BIOPGRAPHICAL NOTE&lt;/head&gt;</td>
</tr>
<tr>
<td>Historical note for corporate bodies or for larger historical contexts.</td>
<td>id=&quot;a2&quot; altrender=&quot;history&quot;</td>
<td><code>&lt;bioghist&gt;</code>&lt;head id=&quot;a2&quot; altrender=&quot;history&quot;&gt;HISTORICAL NOTE&lt;/head&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subsection</th>
<th>EAD Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biographical sketches for multiple persons.</td>
<td><code>&lt;bioghist&gt;</code>&lt;head id=&quot;a2&quot; altrender=&quot;biography&quot;&gt;BIOPGRAPHICAL NOTE&lt;/head&gt;</td>
</tr>
<tr>
<td></td>
<td><code>&lt;bioghist&gt;</code>&lt;head&gt;Walter F. Mondale&lt;/head&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;p&gt;Walter Frederick (&quot;Fritz&quot;) Mondale, a native Minnesotan, hasspent most of his life…&lt;/p&gt;</td>
</tr>
<tr>
<td></td>
<td><code>&lt;bioghist&gt;</code>&lt;head&gt;Joan A. Mondale&lt;/head&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;p&gt;Joan Adams Mondale was born…&lt;/p&gt;</td>
</tr>
<tr>
<td></td>
<td><code>&lt;bioghist&gt;</code></td>
</tr>
<tr>
<td>Historical sketches for multiple corporate bodies or for notes that combine</td>
<td><code>&lt;bioghist&gt;</code>&lt;head id=&quot;a2&quot; altrender=&quot;history&quot;&gt;HISTORICAL NOTE&lt;/head&gt;</td>
</tr>
<tr>
<td>biographical sketches, corporate histories, and/or additional historical</td>
<td><code>&lt;bioghist&gt;</code>&lt;head&gt;T. B. Walker&lt;/head&gt;</td>
</tr>
<tr>
<td>background.</td>
<td>&lt;p&gt;Thomas Barlow Walker (1840-1928) was born at Xenia, Ohio…&lt;/p&gt;</td>
</tr>
<tr>
<td></td>
<td><code>&lt;bioghist&gt;</code>&lt;head&gt;Red River Lumber Company&lt;/head&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;p&gt;The Red River Lumber Company (RRLC) was organized in 1883…&lt;/p&gt;</td>
</tr>
<tr>
<td></td>
<td><code>&lt;bioghist&gt;</code></td>
</tr>
</tbody>
</table>

Chronologies
A chronology of significant dates and events may be used in place of or in addition to textual paragraphs within a biographical or historical note.

The web stylesheet outputs these chronologies in a two-column table. Date elements are always displayed before events.

Include <listhead><head01> and <head02> elements to provide column labels for Date and Event.

An Excel template (chronlist.template.xls) may be used to simplify data entry.

A chronology, coded as shown in the example below, may also be used in biographical/historical notes for series-level components that are coded as <c01 level="series"/>.

```xml
<bioghist>
  <chronlist>
    <listhead>
      <head01>Date</head01>
      <head02>Event</head02>
    </listhead>
    <chronitem>
      <date era="ce" calendar="gregorian">1899</date>
      <event>Born April 4 in Chicago, Illinois, the second son of Lawrence J. Olson, a Baptist minister, and Ida May Cederholm.</event>
    </chronitem>
    <chronitem>
      <date era="ce" calendar="gregorian">1906</date>
      <event>Moved to northern Wisconsin, first to Sister Bay; then to Prentice; then Ashland.</event>
    </chronitem>
    <chronitem>
      <date era="ce" calendar="gregorian">1916</date>
      <event>Graduated from Ashland High School, Wisconsin.</event>
    </chronitem>
  </chronlist>
</bioghist>
```

Information for the chronology was compiled from the collection and from The Sigurd F. Olson Web Site produced by David Backes, University of Wisconsin-Milwaukee.
Other columnar tables may also be included within a biographical or historical note or subsection to provide information that can easily be categorized into two, three, or four columns. The stylesheets will automatically space the columns for browser and print display.

Attributes must be included to tell the stylesheet how many columns the table contains and in which column each piece of data belongs.

Bold emphasis can be added to entries within the table to provide headers for each column.

<table>
<thead>
<tr>
<th>EAD Tag</th>
<th>Attribute Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;head&gt;</td>
<td>No attributes are entered.</td>
<td>Optional</td>
</tr>
<tr>
<td>&lt;table&gt;</td>
<td>No attributes are entered.</td>
<td>Mandatory</td>
</tr>
<tr>
<td>&lt;group&gt;</td>
<td>cols=&quot;n&quot;</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>Enter the total number of table columns (2-4).</td>
<td></td>
</tr>
<tr>
<td>&lt;tbody&gt;</td>
<td>No attributes are entered.</td>
<td>Mandatory</td>
</tr>
<tr>
<td>&lt;row&gt;</td>
<td>No attributes are entered.</td>
<td>Mandatory</td>
</tr>
<tr>
<td>&lt;entry&gt;</td>
<td>colname=&quot;n&quot;</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

**BIOGRAPHY OF SIGURD F. OLSON**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1899</td>
<td>Born April 4 in Chicago, Illinois, the second son of Lawrence J. Olson, a Baptist minister, and Ida May Cedarholm.</td>
</tr>
<tr>
<td>1906</td>
<td>Moved to northern Wisconsin, first to Sister Bay; then Prentice; then Ashland.</td>
</tr>
<tr>
<td>1916</td>
<td>Graduated from Ashland High School, Wisconsin.</td>
</tr>
<tr>
<td>1916-1918</td>
<td>Attended Northland College in Ashland.</td>
</tr>
<tr>
<td>1918-1920</td>
<td>Attended University of Wisconsin in Madison, earning a bachelor’s degree in agriculture.</td>
</tr>
<tr>
<td>1920-1922</td>
<td>Taught high school agriculture and geology courses in Neshnauk and Keewatin, Minnesota.</td>
</tr>
<tr>
<td>1921</td>
<td>Olson’s first article, an account of a canoe expedition, published by the Milwaukee Journal, July 31.</td>
</tr>
<tr>
<td>1921</td>
<td>Married Elizabeth Dorothy Urenholdt from Seeley.</td>
</tr>
</tbody>
</table>
Enter the column number where each specific entry should appear.

### Biographical/Historical Note: Table

**EAD Example:**

```
<bioghist>
  <head id="a2" altrender="history">HISTORICAL NOTE</head>
  <p>
    <emph altrender="subhead">U.S. Office of Indian Affairs, St. Louis, Missouri</emph>
  </p>
  <table>
    <tbody>
      <tr>
        <th>Agency</th>
        <th>Dates</th>
      </tr>
      <tr>
        <td>Louisiana Territory Agency</td>
        <td>1807-1812</td>
      </tr>
      <tr>
        <td>Missouri superintendency</td>
        <td>1812-1821</td>
      </tr>
      <tr>
        <td>St. Louis Superintendency</td>
        <td>1822-1851</td>
      </tr>
      <tr>
        <td>Central Superintendency</td>
        <td>1851-1855</td>
      </tr>
    </tbody>
  </table>
</bioghist>
```
In addition to the abstract provided in the high-level overview, a fuller scope and content note may be included to describe the nature of large or complex collections. Typically, these notes are simply entered as textual paragraphs.

**Tables -- `<scopecontent>`**

In rare cases, where the contents of a collection have been fully analyzed, a table may be nested within the scope and contents note or as a subsection to delineate specific categories of correspondents, corporate bodies, topical matter, or forms of material.

Tables can contain two, three, or four columns. The stylesheet will automatically space the columns for browser display.

Attributes must be included to tell the stylesheet how many columns the table contains and in which column each piece of data belongs.

Bold emphasis can be added to entries within the table to provide headers for each column.

This type of table may also be used in scope and content notes for series-level components that are coded as `<c01 level="series">`. 

Tables

<table>
<thead>
<tr>
<th>EAD Tag</th>
<th>Attribute Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;head&gt;</td>
<td>No attributes are entered.</td>
<td>Optional</td>
</tr>
<tr>
<td>&lt;table&gt;</td>
<td>No attributes are entered.</td>
<td>Mandatory</td>
</tr>
<tr>
<td>&lt;tgroup&gt;</td>
<td>cols=&quot;n&quot;</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>Enter the total number of table columns (2-4).</td>
<td></td>
</tr>
<tr>
<td>&lt;tbody&gt;</td>
<td>No attributes are entered.</td>
<td>Mandatory</td>
</tr>
<tr>
<td>&lt;row&gt;</td>
<td>No attributes are entered.</td>
<td>Mandatory</td>
</tr>
<tr>
<td>&lt;entry&gt;</td>
<td>colname=&quot;n&quot;</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>Enter the column number where each specific entry should appear.</td>
<td></td>
</tr>
</tbody>
</table>

Scope and Content Note: Table

EAD Example:

```xml
<scopecontent>
  <head>Correspondents: Church Affairs</head>
  <table>
    <tgroup cols="3">
      <tbody>
        <row>
          <entry colname="1">Correspondent</entry>
          <entry colname="2">Episcopate</entry>
          <entry colname="3">Years</entry>
        </row>
        <row>
          <entry colname="1">Anderson, David</entry>
          <entry colname="2">Bishop of Rubert’s Land, 1849-1864</entry>
          <entry colname="3">1861-1864</entry>
        </row>
        <row>
          <entry colname="1">Armitage, William Edmond</entry>
          <entry colname="2">Assistant Bishop and Bishop of Wisconsin, 1866-1873</entry>
          <entry colname="3">1866-1872</entry>
        </row>
      </tbody>
    </tgroup>
  </table>
</scopecontent>
```
ARRANGEMENT

<arrangement encodinganalog="351">
<head id="a4">

<table>
<thead>
<tr>
<th>Inventory Style</th>
<th>EAD Example</th>
</tr>
</thead>
</table>
| Simple Style: Series       | <list>
| c01 level="series"        |   <item>
|                            |     First c01 Series Title</item>
|                            |   <item>
|                            |     Second c01 Series Title</item>
|                            |   <item>
|                            |     Third c01 Series Title</item>
|                            | </list>                                          |
| Complex Style: Series with Subseries |<arrangement>
| c01 level="series" and c02 level="subseries" |  <head id="a4">ARRANGEMENT</head>
|                            |   <p>The collection is organized into the following sections:</p>
|                            |   <list>
|                            |     <head>First c01 Series Title</head>
|                            |     <item>First c02 Subseries Title</item>
|                            | </list>                                          |
Mixed Style: Simple and Complex Series

This style includes both complex series that contain subseries and simple series that do not contain subseries.

OTHER FINDING AIDS

<otherfindaids encodinganalog="555">  
<head id="a6">
This element is used to draw a researcher's attention to other finding aids that act as fuller indexes to the contents of a collection. Self-referential notes that highlight the existence of a printed version of an inventory should not be included.

ADMINISTRATIVE INFO

<dsgrp type="admininfo">
<head id="a8">

Notes regarding restrictions, preferred citation, alternative formats, microfilm production, originals, duplicates, acquisition, processing, and other details pertinent to the administration and management of the collection are grouped together in a section containing administrative information.

Only three note fields are mandatory: preferred citation, accession information, and Aleph system catalog ID number. Other notes are included when required by the conditions of a collection.

Individual notes within the Administrative Information section are headed by a standard label typed in title case format that ends with a colon.

Each note should include an encodinganalog attribute that corresponds to its crosswalked MARC tag. Note labels for MARC tags 530 and 535 can be modified as necessary to fit the specifics of a collection.

Preferred Citation

The preferred citation contains a standard recommendation for bibliographic citations to the contents of a collection. Both the MARC conversion and the template supply boilerplate that processors will need to modify by entering the citation form of the collection's title.

Accession Information

All accession numbers related to a particular collection must be listed in this note. The names of donors and the dates of accessions are not included.

Processing Information
For collections that are also cataloged in MARC, the Aleph catalog ID number for the MARC record is mandatory. Information about when the collection was processed and who processed it or made additions may also be included.

Restrictions

Restrictions that have been imposed on either access or use must be stated when appropriate. Access restrictions are coded as `<accessrestrict>`. Use restrictions on copyright, publication, and reproduction are coded as `<userestrict>`.

Whenever either an access or use restriction is added to the `<descgrp>`, the web and print stylesheets display a boilerplate statement at the top of an inventory. The boilerplate states "Access to or use of this collection is currently restricted. For Details, see the Restrictions Statement." When a user clicks on this statement in a web display, the statement will link to the fuller notes given in the Administrative Information.

When specific restrictions exist on only parts of a collection, the restrictions must also be stated at the appropriate component levels within the detailed description.

Grant Funding

A statement should be added to either the accession or processing information notes whenever processing or acquisition of a collection has been supported by a publicly acknowledged grant or gift.

<table>
<thead>
<tr>
<th>Note Labels</th>
<th>EAD Examples</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Restrictions</td>
<td><code>&lt;accessrestrict encodinganalog=&quot;506&quot;&gt;</code></td>
<td>Required when applicable</td>
</tr>
<tr>
<td></td>
<td><code>&lt;head&gt;Access Restrictions:&lt;/head&gt;</code></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>&lt;p&gt;Until 2025, access to … &lt;/p&gt;</code></td>
<td></td>
</tr>
<tr>
<td>Use Restrictions</td>
<td><code>&lt;userestrict encodinganalog=&quot;540&quot;&gt;</code></td>
<td>Required when applicable</td>
</tr>
<tr>
<td></td>
<td><code>&lt;head&gt;Use Restrictions:&lt;/head&gt;</code></td>
<td></td>
</tr>
<tr>
<td>Alternate Form</td>
<td><code>&lt;altformavail encodinganalog=&quot;530&quot;&gt;</code></td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Available:</td>
<td><code>&lt;head&gt;Alternate Form of Material:&lt;/head&gt;</code></td>
<td></td>
</tr>
<tr>
<td>Digital Images</td>
<td><code>&lt;altformavail encodinganalog=&quot;530&quot;&gt;</code></td>
<td>Required when applicable</td>
</tr>
<tr>
<td></td>
<td><code>&lt;head&gt;Digital Images:&lt;/head&gt;</code></td>
<td></td>
</tr>
<tr>
<td>Preferred Citation</td>
<td><code>&lt;prefercite encodinganalog=&quot;524&quot;&gt;</code></td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td><code>&lt;head&gt;Preferred Citation:&lt;/head&gt;</code></td>
<td></td>
</tr>
<tr>
<td><strong>Microfilm Production:</strong></td>
<td><code>&lt;odd&gt;</code>&lt;head&gt;Microfilm Production:&lt;/head&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td><strong>Location of Originals:</strong></td>
<td><code>&lt;originalslloc encodinganalog=&quot;535&quot;&gt;</code>&lt;head&gt;Location of Originals:&lt;/head&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td><strong>Location of Duplicates:</strong></td>
<td><code>&lt;originalslloc encodinganalog=&quot;535&quot;&gt;</code>&lt;head&gt;Location of Duplicates:&lt;/head&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td><strong>Provenance:</strong></td>
<td><code>&lt;custodhist encodinganalog=&quot;561&quot;&gt;</code>&lt;head&gt;Provenance:&lt;/head&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td><strong>Accession Information:</strong></td>
<td><code>&lt;acqinfo encodinganalog=&quot;541&quot;&gt;</code>&lt;head&gt;Accession Information:&lt;/head&gt;</td>
<td>Mandatory</td>
</tr>
<tr>
<td><strong>Processing Information:</strong></td>
<td><code>&lt;processinfo&gt;</code>&lt;head&gt;Processing Information:&lt;/head&gt;&lt;p&gt;Processed by: Name, date.&lt;/p&gt;&lt;p&gt;Processing of the X papers was supported by a grant from …&lt;/p&gt;&lt;p&gt;Catalog ID Number: Aleph System id.&lt;/p&gt;</td>
<td>Processing data is optional. Catalog ID Number is required when applicable</td>
</tr>
<tr>
<td><strong>Appraisal Information:</strong></td>
<td><code>&lt;appraisal encodinganalog=&quot;583&quot;&gt;</code>&lt;head&gt;Appraisal Information:&lt;/head&gt;</td>
<td>Optional</td>
</tr>
</tbody>
</table>

**Web Display**

```
 ADMINISTRATIVE INFORMATION

Preferred Citation:
[Indicate the cited item and/or series here]. Henry B. Whipple Papers. Minnesota Historical Society.

See the Chicago Manual of Style for additional examples.

Accession Information:
Accession numbers: 1752M; 1765F; 1766B; 175043; 1802FS; 1894; 2553; 3390; 3426; 3429; 3458; 3801; 3868; 3937; 5262; 5373; 5389; 5616; 6173; 6428; 6601; 8368; 8716; 8911; 8923; 10,990; 11,405; 11,415; 11,704; 11,988

Processing Information:
Catalog ID number: 001733713

Return to Top
```
**DETAILED DESCRIPTION**

```xml
<dsc>
    <head id="a9">

Series, subseries, and the contents of containers are listed as hierarchically nested components in the Detailed Description.

The minimal mandatory elements that are included within each component as appropriate are:

```xml
    <physloc>
    <container>
    <unititle>
    <unitdate>
    <physdesc>
    <langmaterial>

    <accessrestrict>
    <userestrict>
```

**Optional component elements**

The following additional optional EAD elements can be used within each component to describe particular aspects of the component. `<p>` tags must be used within each of these tags, into which the content is placed. The `<head>` element within each of these elements is not used at the component level as standard practice at this time.

- scopecontent
- bioghist
- arrangement
- userestrict
- accessrestrict
- processinfo
- acqinfo
- accruals
- appraisal
- custodhist
- controlaccess
- phystech
- altformavail
- bibliography
- relatedmaterial
- separatedmaterial
- originalsloc
Any number of these tags may be used in any combination within a single component.

### EAD Example

```xml
<s0cket>
  <did>
    <physloc>64.C.5.3</physloc>
    <unititle>Diaries and transcripts.</unititle>
    <unitdate>1897-1901.</unitdate>
  </did>
  <scopecontent>
    <p>Daily diaries are accompanied by typed transcripts.</p>
  </scopecontent>
  <altformavail>
    <p>Also available in pdf format:</p>
    <extref show="new" actuate="onrequest"
      href="00718/pdf/00718_MTH1897.pdf">
      1897 diary transcript
    </extref>
  </altformavail>
</s0cket>
```

### Web Display

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>64.C.5.3</td>
<td>Diaries and transcripts, 1897-1901. Daily diaries are accompanied by typed transcripts. Also available in pdf format: 1897 diary transcript</td>
</tr>
</tbody>
</table>

**Using boldface to distinguish between elements**

While not required, using boldface to distinguish between elements within a component level can be helpful to those using EADs. It allows users to view the elements separately rather than have the display run them together, and provides a label for the paragraph.
Biographical Information: Michael Pindegayosh was born in 1921. After attending school he was married and had six children. He worked for the Lakeland Door Company in Minneapolis before moving back to the Indian Reservation where he grew up.

Scope and Content: Subjects discussed include going to powwows when he was younger; how powwows have changed in modern times; getting married at a young age; hunting and gardening; working for the Lakeland Door Company; life in Minneapolis; moving back to the reservation; his deteriorating health; being labeled as a “deserter”; maintaining Indian traditions.

Interviewed by: Karissa White.

Use Restrictions: None.
For greater information about MHS standards related to the encoding of components, see the guidelines for detailed descriptions (FindingAids_DetailedDescriptionGuidelines.doc).

Location and Container Information

<physloc> <container>

The display of location and container information is controlled by the pairing of <physloc> and <container> tags. Physical locations are always displayed flush left in the first column of a detailed description. Container information is always displayed in the second column.

The existence of a <physloc> is required for column labels to be displayed.

A label over the <physloc> column is always displayed when a <physloc> exists. The default display states "Location."

When a <container> is paired with a <physloc>, labels are displayed above both columns. The default container label is displayed as "Box."

When a <container> is not paired with a <physloc>, no container label is displayed.

Type attributes can be added to either <physloc> or <container> to display labels for atypical shelving locations or housings.

Type attributes must be entered in all lower case and can not contain any spaces. The xslt stylesheet will automatically capitalize the first letter for web and print display.
Both the width of the display columns and the need to use specific but standard terminology should be considered when type attributes are used to generate shelving and container labels. Labels should be kept short in order to generate a clean display. Standard terms are to be used so that both staff and the public can interpret information necessary for retrieval.

<table>
<thead>
<tr>
<th>EAD Tags</th>
<th>Standard Type Attribute Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;physloc type=&quot;x&quot;&gt;</td>
<td>image master negative submaster print</td>
</tr>
<tr>
<td>&lt;container type=&quot;x&quot;&gt;</td>
<td>file folder image master negative number print reel submaster tube</td>
</tr>
</tbody>
</table>

### Web Displays

<table>
<thead>
<tr>
<th>Default</th>
<th>Location</th>
<th>Box</th>
<th>Copies of Letterbooks:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Letterbook 3, June 26, 1862-August 11, 1864.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Letterbooks 4 and 5, October 1862-1867.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>41</td>
<td>Volume 1: Letterbook 1, 1857, 1859.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Volume 2: Letterbook 2, July 12-30, 1859.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;container type=&quot;reel&quot;&gt;</th>
<th>Location</th>
<th>Reel</th>
<th>American Fur Company account book, Retail Store, 1824-1827. 373 pages.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>&lt;container type=&quot;packet&quot;&gt;</th>
<th>Location</th>
<th>Packet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1210.1.3</td>
<td>[D] 3998-3999, 4017-4020, 4022-2023, 4026, 4918, 5049, 5335, 5424, 5519.</td>
</tr>
</tbody>
</table>
Open Space in Containers

Open space remaining in a container that could be filled by later additions is noted as other descriptive data in the last component of the container.

| EAD Example | "<c03>" | "<did>" | "<unititle>" Ramsey County Government reorganization, "<unititle>" | "<unitdate>" October 1975."<unitdate>"
|             | "</did>" | "<odd><p>[.5 cubic feet empty, letter sized]</p>" | "</odd>" |

Web Display

Ramsey County Government reorganization, October 1975.

[.5 cubic feet empty, letter sized]

Published Materials

"<imprint>"
"<geogname>"
"<publisher>"
"<date>"

Imprint information regarding place of publication, publisher, and publication date can be coded as part of a "<unititle>". Follow AACR2 rules for the order of elements and proper punctuation.

| EAD Example | "<c01>" | "<did>" | "<unititle>" Metropolitan policy and metropolitan development : a proposal for governmental organization in the Twin Cities area. |
|             | "</did>" | "<imprint>" | "<geoqname>" Minneapolis, Minn.: "<geoqname>" |
|             | "<publisher>" Metropolitan Development Guide Committee, "<publisher>" |
Related material notes should be used sparingly to identify collections that are very closely related by provenance and that are also available in the collections of the Minnesota Historical Society.

Topically related material that users can easily find through MnPALS or the federated search system should not be included here.

When revising a legacy finding aid, related material notes should be carefully evaluated for the value they add to a user's understanding.

Brief information about the availability and location of parts of a collection that exist in another repository or that have been removed from the Minnesota Historical Society should be provided as a note about separated material.
CATALOG HEADINGS

/controlaccess/
/head id="a7">

Name, subject, geographic places, genre, occupation, titles, and function headings that are added to a MARC record are also included here. Because catalog headings are controlled by authorized vocabularies, their EAD form must match their corresponding MARC record.

When the MARC2EAD conversion is used, MARC added access points are automatically transformed into xml.

Each type of access point is nested as a subset of <controlaccess> elements within a main <controlaccess> section. Standard textual labels are provided by adding a <head> element. Because these head labels are not linked anywhere, no id attribute is entered. Appropriate MARC encoding analogs are added to each specific heading within each subset.

<table>
<thead>
<tr>
<th>Head Labels</th>
<th>EAD Examples</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics:</td>
<td>&lt;controlaccess&gt; &lt;head&gt;Topics:&lt;/head&gt; &lt;subject encodinganalog=&quot;650&quot;&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Persons:</td>
<td>&lt;controlaccess&gt; &lt;head&gt;Persons:&lt;/head&gt; &lt;persname role=&quot;subject&quot; encodinganalog=&quot;600&quot;&gt; &lt;persname role=&quot;creator&quot; encodinganalog=&quot;700&quot;&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Organizations:</td>
<td>&lt;controlaccess&gt; &lt;head&gt;Organizations:&lt;/head&gt; &lt;corpname role=&quot;subject&quot; encodinganalog=&quot;610&quot;&gt; &lt;corpname role=&quot;creator&quot; encodinganalog=&quot;710&quot;&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Meetings:</td>
<td>&lt;controlaccess&gt; &lt;head&gt;Meetings:&lt;/head&gt; &lt;corpname role=&quot;subject&quot; encodinganalog=&quot;611&quot;&gt; &lt;corpname role=&quot;creator&quot; encodinganalog=&quot;711&quot;&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Places:</td>
<td>&lt;controlaccess&gt; &lt;head&gt;Places:&lt;/head&gt; &lt;geogname encodinganalog=&quot;651&quot;&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Document Types:</td>
<td>&lt;controlaccess&gt; &lt;head&gt;Types of Documents:&lt;/head&gt; &lt;genreform encodinganalog=&quot;655&quot;&gt;</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>Occupations:</td>
<td>&lt;controlaccess&gt;&lt;head&gt;Occupations:&lt;/head&gt;&lt;occupation encodinganalog=&quot;656&quot;&gt; Required when applicable</td>
<td></td>
</tr>
<tr>
<td>Titles:</td>
<td>&lt;controlaccess&gt;&lt;head&gt;Titles:&lt;/head&gt;&lt;title encodinganalog=&quot;630&quot;&gt; &lt;title encodinganalog=&quot;730&quot;&gt; &lt;title encodinganalog=&quot;740&quot;&gt; Required when applicable</td>
<td></td>
</tr>
<tr>
<td>Functions:</td>
<td>&lt;controlaccess&gt;&lt;head&gt;Functions:&lt;/head&gt;&lt;function encodinganalog=&quot;657&quot;&gt; Required when applicable</td>
<td></td>
</tr>
</tbody>
</table>

**Web Display**

**CATALOG HEADINGS**

This collection is indexed under the following headings in the catalog of the Minnesota Historical Society. Researchers desiring materials about related topics, persons or places should search the catalog using these headings.

**Topics:**
- Authors and publishers -- Minnesota.
- Canoes and canoeing.
- Conservation of natural resources -- Minnesota.
- Environmental protection.
- Forests and forestry -- Minnesota.
- Mines and mineral resources -- Minnesota.
- National parks and reserves.
- Natural history.
- Waterways.
- Wilderness areas -- Minnesota.
- Wilderness areas -- Ontario.
- Wildlife conservation -- Law and legislation.
- Wolves -- Research.
- Voyages and travels.

**Places:**
- Boundary Waters Canoe Area (Minn.).
- Quetico Provincial Park (Ont.).
- Quetico-Superior area (Ont.-Minn.).
- Superior National Forest (Minn.).

**Persons:**
- Douglas, William O. (William Orville), 1893-
- Hubbeck, Frank Brookes, 1894-
- Leopold, Aldo, 1886-1948.
- Magie, Bill, 1902-

**FONT EMPHASIS**

<emph>

The xslt stylesheet automatically transforms font face, size, and emphasis for most headings, subheadings, and paragraphs. When necessary, bold, italic, subheading, or underlined emphasis can be added to text by wrapping the text within an <emph> tag.
Emphasis tags can not be used for external references or digital archival object descriptions because the added emphasis disables hyperlinks.

<table>
<thead>
<tr>
<th>&lt;emph&gt; attributes</th>
<th>EAD Examples</th>
<th>Display</th>
</tr>
</thead>
</table>
| render="bold"     | <entry colname="1">  
|                   |   <emph render="bold">  
|                   |     Correspondent</emph>  
|                   |   </entry> </emph> | Correspondent               |
| render="italic"   | <p> ... reported in the <emph render="italic">Pioneer Press  
|                   |     on December 12, 1914</emph>  
|                   |   </p> | reported in the *Pioneer Press*  
|                   |                        | on December 12, 1914        |
| altrender="subhead" | <p>  
|                   |     <emph altrender="subhead">Church Affairs</emph>  
|                   |   </p> | CHURCH AFFAIRS               |
| render="underline" | <p>  
|                   |     <emph render="underline">Henry B. Whipple</emph> was born ...  
|                   |   </p> | Henry B. Whipple was born ... |

EXTERNAL REFERENCES

<extref show="new" actuate="onrequest" href="[url]">  

External links to other Internet resources may be included anywhere within an inventory by using the <extref> element.

To add external links to an inventory, two <extref> attributes are required:

actuate="onrequest"  
href="linking url"  

To open a linked resource in a new browser window, one attribute is required:
Show="new"

When an external resource will be loaded on the Web server in the same folder as the finding aid (www.mnhs.org/library/findaids), provide only the filename and extension of the linked resource.

   Example:  href="00690/walker_1.htm"
When an external resource is stored in a subfolder of the finding aids directory, state the relative path of the folder and provide the filename.

**Example:**  
href=p2668/"images/pt131103_thumb.jpg"

When an external resource is loaded on another Web server or in another set of folders than the finding aid, include the Internet protocol, absolute path, and filename.

**Example:**  
href="http://www.mnhs.org/library/tips/history_topics/133women_military_image0201.htm"

Both the EAD template and the MARC2EAD conversion already include an external link to the library catalog within the Catalog Headings section. No modification of the xml coding for the link is necessary.

### <extref> attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>actuate</td>
<td>onrequest</td>
<td>Mandatory</td>
</tr>
<tr>
<td>audience</td>
<td>external</td>
<td>Optional</td>
</tr>
<tr>
<td>linktype</td>
<td>simple</td>
<td>Optional</td>
</tr>
<tr>
<td>show</td>
<td>new</td>
<td>Required when applicable</td>
</tr>
<tr>
<td>href</td>
<td>path/filename.jpg</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

This attribute is used to indicate that a linked resource opens a new browser window.

**EAD Examples**

```xml
<altformavail>
    <head>Alternate Form Available:</head>
    <p>Selected images from this collection are also available in the
    <extref actuate="onrequest" show="new" href="http://collections.mnhs.org/visualresources/Results.cfm?Page=1&amp;Location=Collection%201%2E380%2E%2A">Visual Resources Database.</extref>  </p>
</altformavail>
```

```xml
<scopecontent>
    <p>A roster of WASP pilots. The volume contains a dedication to WASP pilots killed in service, and lists the name of Virginia M. Hope.</p>
    <p>View
    <extref href="http://www.mnhs.org/library/tips/history_topics/133women_military_image0201.htm" actuate="onrequest" show="new" linktype="simple">selected pages</extref>  from this roster.</p>
</scopecontent>
```
CATALOG HEADINGS

This collection is indexed under the following headings in the catalog of the Minnesota Historical Society. Researchers desiring materials about related topics, persons or places should search the catalog using these headings.

IMAGES AND DIGITAL ARCHIVAL OBJECTS

Digital images in jpg, bmp or png file formats can be added to inventories for illustrative purposes and to represent collection content. TIF images can not be embedded as illustrative images because browsers do not support the TIF file format.

Images can also be used to link to other Web pages, such as Collections Online or other digitized content. The stylesheet contains three different options for displaying digital images: 1. embedded images for illustrative purposes; 2. embedded images that link to other web pages; and 3. thumbnail images of digital archival objects that link to larger views of digitized collection content.

Images embedded within an inventory must be scaled to the exact dimensions for their web display. Images displayed within biographical and scope notes may be scaled at a larger size than images displayed within the detailed description. Maximum screen width is 564 pixels. Images are best kept well under 300 pixels wide.

In order to save web screen real estate and to provide uniformity within and across inventories, thumbnail images used to represent digital archival objects are to be scaled to 90 pixels at their longest dimension. Exceptions to the standard thumbnail size may occur for panoramic or other items of unusual shape.

1. Illustrative Images

<p>
<extptr actuate="onload" show="embed" altrender="[left or right]" title="[alt mouseover]" href="[url]">
At the `<archdesc>` level, an `<extptr>` can be used to display an image within biographical and historical notes, scope and content notes, related and separated material notes, and administrative information fields.

Each `<extptr>` must be coded within a paragraph `<p>` and requires several attributes.

<table>
<thead>
<tr>
<th><code>&lt;extptr&gt;</code> attributes</th>
<th>Attribute Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>actuate</td>
<td>onload</td>
<td>Mandatory</td>
</tr>
<tr>
<td>audience</td>
<td>external</td>
<td>Optional</td>
</tr>
<tr>
<td>linktype</td>
<td>simple</td>
<td>Optional</td>
</tr>
<tr>
<td>show</td>
<td>embed</td>
<td>Mandatory</td>
</tr>
<tr>
<td>altrender</td>
<td><code>left</code> <code>right</code></td>
<td>Mandatory</td>
</tr>
<tr>
<td>href</td>
<td><code>path/filename.jpg</code></td>
<td>Mandatory</td>
</tr>
<tr>
<td>title</td>
<td></td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

Enter either "left" or "right" to instruct the stylesheet to display the image either flush against the left margin or flush right.

Enter the *path* and *filename* that identifies the url for the image you wish to display, e.g. *images/mondaleVP.jpg*

Enter a title for the item that will display as a mouseover `<alt>` tag. An abbreviated title is appropriate if necessary.

**EAD Example:**

```xml
<p>
  <extptr>
    actuate="onload"
    audience="external"
    linktype="simple"
    show="embed"
    altrender="right"
    href="00697/images/mondaleVP.jpg"
    title="Vice President Walter Mondale, 1977"
  />

  Walter Frederick ("Fritz") Mondale, a native Minnesotan, has spent most of his life in public service …
</p>
</bioghist>
```
2. Linked Images

```html
<p>
  <extref>
    <extptr>

Images can link to other web pages, such as a larger views or pre-coordinated searches in Collections Online, by wrapping an external reference `<extref>` around an extended pointer `<extptr>`.

Each `<extref>` `<extptr>` must be coded within a paragraph `<p>`.

Include the attribute `show="new"` when you wish the link to open in a new window.

<table>
<thead>
<tr>
<th><code>&lt;extref&gt;</code> attributes</th>
<th>Attribute Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>actuate</td>
<td>onrequest</td>
<td>Mandatory</td>
</tr>
<tr>
<td>audience</td>
<td>External</td>
<td>Optional</td>
</tr>
<tr>
<td>show</td>
<td><code>new</code></td>
<td>Required when applicable</td>
</tr>
</tbody>
</table>

Include this attribute only when the link is to open in a new window.

| href                  | `url`            | Mandatory                 |
Enter the "url" for the target link.

| EAD Example: | <bioghist>
| &lt;p&gt; | &lt;p&gt; |
| &lt;extref&gt; | &lt;extref actuate="onrequest" show="new" audience="external" href="http://collections.mnhs.org/visualresources/image.cfm?imageid=145952"> |
| &lt;extptr actuate="onload" audience="external" linktype="simple" show="embed" altrender="left" href="00697/images/pof01932.jpg" title="Mondale DFL political poster, 1970"/&gt; |
| &lt;/extref&gt; |
| Mondale’s entry into national politics came at the 1964 Democratic National Convention … |
| &lt;/p&gt; |
| &lt;/bioghist&gt; |

3. Digital Archival Objects

&lt;daogrp&gt;
   &lt;daodesc&gt;
       &lt;daoloc role="reference" href=[url]&gt; |
       &lt;daoloc role="thumbnail" title="[alt mouseover]" altrender="left" href=[url]"> |

To draw a reader's eye to linked digital content listed in the detailed description, a thumbnail image can be added to any component level. These images and external links are coded as groups of digital archival objects. The &lt;daogrp&gt; element contains both a description of the linked content or file format and the electronic location (url) of each object.

A &lt;daogrp&gt; can be added to component levels 1-6. Each &lt;daogrp&gt; contains one &lt;daodesc&gt; and two &lt;daoloc&gt; tags.

Each &lt;daodesc&gt; contains one &lt;p&gt; that provides a very brief textual description of the content or file format of a digital object. The text is displayed as a hyperlink within the inventory. If the object is an entire folder or series, the description can simply state "Digital version." If the object contains selected items, the description can state "Selected digital images." If the object is a single item contained within a larger file or series, the description should state the title of the specific item.
One `<daoloc>` tag with a `role` attribute of "thumbnail" is used to display an image within the inventory. The `href` attribute contains the path and filename of the scan that is to be displayed. The `altrender` attribute is coded as "left," "right," "top," "bottom," or "middle" depending upon the desired position of the image. For display uniformity, left is the standard value for the `altrender` attribute.

A second `<daoloc>` with a `role` attribute of "reference" is used to link the inventory to another web page that displays a larger, more viewable version of the digital object and may contain additional information about the item.

Each `<daoloc>` must be coded with the attributes listed in the table below:

<table>
<thead>
<tr>
<th><code>&lt;daoloc&gt;</code> attributes</th>
<th>Attribute Values</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>audience</td>
<td>external</td>
<td>Optional</td>
</tr>
<tr>
<td>altrender</td>
<td>left, right, top, bottom, middle</td>
<td>Mandatory (thumbnails only)</td>
</tr>
<tr>
<td>role</td>
<td>reference, thumbnail</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>Enter &quot;reference&quot; to specify that the <code>&lt;daoloc&gt;</code> is a large viewing-sized image that will link out from the inventory. Enter &quot;thumbnail&quot; to specify that the <code>&lt;daoloc&gt;</code> is a link to a small thumbnail-sized image that will be displayed within the inventory.</td>
<td></td>
</tr>
<tr>
<td>href</td>
<td>url/path/filename</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>For links to reference-sized pages, enter the <code>url</code> or the <code>path</code> and <code>filename</code> of the <code>url</code> for the target link. For thumbnail-sized images, enter the <code>path</code> and <code>filename</code> for the <code>url</code> of the image, e.g. 00690/images/05011_thumb.</td>
<td></td>
</tr>
<tr>
<td>title</td>
<td>Enter a caption title for the image that will display as an <code>&lt;alt&gt;</code> tag in the mouseover.</td>
<td>Mandatory (thumbnails only)</td>
</tr>
</tbody>
</table>

**EAD Example:**

```xml
<daoloc>
<did>
</did>
</daoloc>
```
Selected digital images.

<daogrp>
<daodesc>
<p>Images include Neill family members, as well as family friends and relatives.</p></daodesc>
<daoloc role="reference" href="http://collections.mnhs.org/visualresources/Results.cfm?Page=1&Location=P2668%2A&"/>
<daoloc altrender="left" role="thumbnail" title="Edward D. Neill, Jr., ca. 1861" href="p2668/images/pt131103_thumb.jpg"/>
</daogrp>

Web Display

<table>
<thead>
<tr>
<th>Location</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2668</td>
<td>15</td>
</tr>
</tbody>
</table>

Photographs: 46 carte de visites; 2 tintypes: b&w; 2.5 x 4 in. and smaller.
Images include Neill family members, as well as family friends and relatives.

EAD Example:

PDF version of a single item contained within a larger file set.

<daogrp>
<daodesc>
<p>Digital version of Memorandum to President Carter from Walter Mondale.</p></daodesc>
<daoloc role="reference" href="00697/pdfa/00697-00034-1.pdf"/>
<daoloc altrender="left" role="thumbnail" title="Mondale to Carter re: The Role of the Vice President in the Carter Administration, December 9, 1976" href="00697/images/00034-1_thumb.jpg"/>
</daogrp>
Digital Archival Object Filenames

Filenames for a digital archival object are typically composed of three parts, plus a file extension. Each part is separated by a dash (hyphen), with the exception of the file extension, which is always preceded by a period.

Finding Aid ID Number \textit{(required)}: The first portion of the digital archival object filename is exactly the same as the filename for the finding aid.

Digital Object Number \textit{(required)}: The second part of the filename is the number of the digital archival object. All digital archival objects within a single collection are numbered in sequential order using a five-digit serial number beginning with 00001. Object numbers are not necessarily assigned in the same order as the original papers are physically stored.

Part Number \textit{(required when applicable)}: Part numbers are added to a filename when a component consists of multiple containers (multiple folders, reels, etc.) Each part is numbered in sequential order beginning with 1 to indicate its relation to other parts of the same digital object.

\textit{Legacy Practice note: Prior to 2012, some digital reproductions in PDF formats were limited to a file size of 5000 or 10000 KB. Reproductions larger than this were broken into multiple parts and part numbers were included in filenames.}

Thumbnail Images and Filenames
For the detailed description, thumbnail images should be sized between 90 and 150 pixels along the longest dimension. Care should be taken not to exceed these dimensions as text flow can be shortened by the display of a thumbnail.

Filenames for thumbnail images are the same as their companion digital object, but are appended by the “thumb” size of the file. The thumb size is separated from the object filename by an underscore, and the file extension follows.

For example, the thumbnail image corresponding to a full digital object that was named: 00697-00034-2 would be 00697-00034-2_thumb.jpg.

For thumbnails of 150 pixels or smaller, append the word “thumb” to the object filename.

    Example: 00697-00034-2_thumb.jpg

For thumbnails larger than 150 pixels, append the horizontal and vertical dimensions to the object filename.

    Example: 01042-00004_200x154.jpg

Folder Paths and Filenames for Acquired Digital Objects

Folder paths and filenames for materials that were acquired in digital format and are stored on the preservation server are retained so that there is a mirrored pairing between the master copies stored on the preservation server and the access copies made available in a finding aid folder.

For examples, see the inventories and folder directories for:

Minnesota. Board of Timber Commissioners. Reports of estimates and appraisals: http://www.mnhs.org/library/findaids/gr00664.xml


Filenames for digital reproductions that were created in the acquisitions stage and that are stored on the preservation server are retained so that there is a mirrored pairing between the master copies stored on the preservation server and the access copies made available in a finding aid folder. Depending upon the number of digital objects, the variety of file formats, and the addition of thumbnail images, finding aid subfolders may be created to separately store audio, image, pdf, and video files.
URL Paths

There are two types of URL path statements: relative paths and absolute paths.

Relative paths are used for links to resources that are stored in the same directory as the xml inventory. Relative paths should be used for all images that are to be displayed in an inventory.

*Example:* 00697/images/00697-00102-5.jpg

Absolute paths are used for links to resources that are not stored in the same directory as the xml inventory.


URL Encoding: Unsafe or Reserved Characters

Typographical characters used to encode a url should consist of alphabetical or numerical characters. However, sometimes a filename or pathway can include characters that are reserved for special purposes. Reserved characters include the pound sign or hash tag (#), the at sign (@), the question mark (?), and many others. Because reserved characters are often used for distinct purposes, they are considered unsafe and can not be used in a url.

When encoding a url for a filename or pathway that includes any reserved characters, substitute the reserved character with the hexadecimal code prefixed with a percent sign as shown in the chart below:

<table>
<thead>
<tr>
<th>Reserved character</th>
<th>[space]</th>
<th>!</th>
<th>#</th>
<th>$</th>
<th>&amp;</th>
<th>'</th>
<th>(</th>
<th>)</th>
<th>*</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexadecimal character</td>
<td>%20</td>
<td>%21</td>
<td>%23</td>
<td>%24</td>
<td>%26</td>
<td>%27</td>
<td>%28</td>
<td>%29</td>
<td>%2A</td>
<td>%2B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reserved character</th>
<th>,</th>
<th>/</th>
<th>:</th>
<th>;</th>
<th>=</th>
<th>?</th>
<th>@</th>
<th>[</th>
<th>]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexadecimal character</td>
<td>%2C</td>
<td>%2F</td>
<td>%3A</td>
<td>%3B</td>
<td>%3D</td>
<td>%3F</td>
<td>%40</td>
<td>%5B</td>
<td>%5D</td>
</tr>
</tbody>
</table>

For an easy to use, accurate character conversion tool, use the url encoder available at: http://meyerweb.com/eric/tools/dencoder/
For additional information about url encoding, see
http://en.wikipedia.org/wiki/Percent-encoding

For more information regarding the syntax and semantics governing urls, see the
standards at:  http://www.ietf.org/rfc/rfc1738.txt
Department Network - Drafts in Progress

Draft finding aids that are in progress are stored on the Collections Management department network in a Drafts folder of the FindingAids directory. Images, PDF, or PDF/A files that are linked to finding aids are stored within format-specific subfolders within a folder bearing the name of the associated finding aid. This file structure is identical to the file structure on the Web server.
Department Network - Completed Versions

For easier file management, completed versions of finding aids are stored in folders for each holding area on the Collections Management network. Specific files are stored by file format within each holding area.

Web Server

Finding aids files loaded on the Web server are stored in one flat directory with subfolders for linked content. This file structure is identical to the structure of the department's FindingAids/Drafts folder.