High-level accessibility review – BTAA (Gale ECCO - final version)

Primary Point of Contact

Denis Boudreau
Principal Web Accessibility Consultant

Deque Systems, Inc.
Web: www.deque.com
Email: denis.boudreau@deque.com

September 11th, 2017

High-level accessibility review – Gale ECCO

TABLE OF CONTENTS

Gale ECCO

Summary (top 3 problems for Gale ECCO)

Beyond color contrast issues that were constantly brought up by our automated tests, the main accessibility barriers found with the Gale ECCO platform were related to how easily screen reader users could understand their way around the interfaces and how efficiently they could find and consume publications. The top 3 issues found in this application were:

1. Scripting coming in the way of screen reader navigation (most object announced as clickable).
2. PDF documents in the reader being scanned document, resulting in an inaccessible experience.
3. Wayfinding in the Publications, resulting in a poor navigation experience for screen readers.

Accessibility findings

Project wide issues

The issues presented in this section were identified in multiple pages, and are recorded here to avoid repetition. These are applicable to each screen.

Automated findings using Axe

- **SC 1.4.3 –** Elements in the page have insufficient color contrast ratios.
- **SC 4.1.1 –** Elements in the page share common ID attribute values while each ID attribute value needs to be unique.
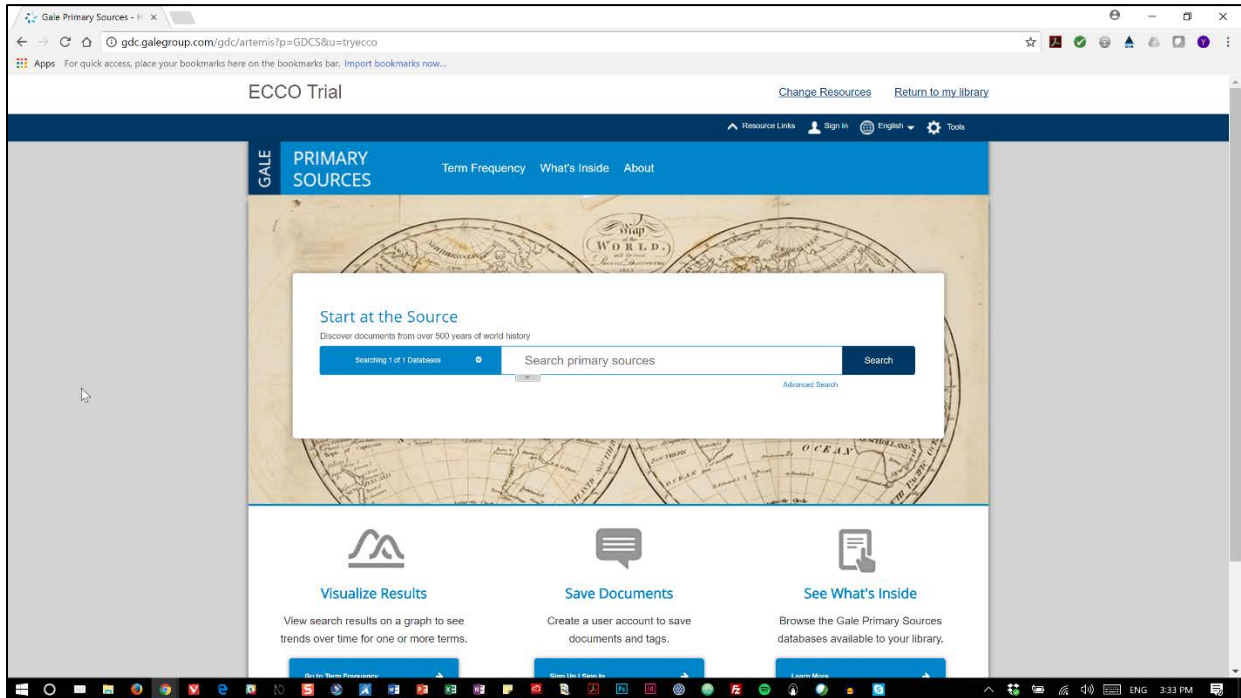
Additional manual findings using NVDA screen reader

- **SC 1.1.1 –** The logo at the bottom of the page has incomplete alt text. It should announce Gale A Cengage Company.
- **SC 1.3.1 –** The ECCO Trial heading at the top of the page is not marked up or conveyed as such to screen readers.
- **SC 2.1.1 –** The Tools drop down menu is only usable with the mouse. While the links are announced to screen reader users, the drop down does not get triggered on keyboard focus, meaning sighted keyboard-only users would not be able to access these 4 links.
- **SC 2.4.1 –** The Skip to main content link is located after the header section, which defeats the purpose of having it in the first place. It should be at the very beginning of the document.
- **SC 4.1.2 –** The modal to select a language is not announced as such to screen reader users. Its content is announced all at once, and it's impossible for the user to methodically go through the list to find the language they might be interested in switching to.
- **SC 4.1.2 –** The Resource links link does not announce its state to screen reader users (collapsed versus expanded). This leads users to believe it's a link leading to a different page, while it simply collapses or expands the top part of the header.
- **SC 4.1.2 –** There's a significant issue in the scripting, causing most objects in the page to be announced as "clickable" to screen reader users, even when they're not active elements. There are situations when users will hear the word clickable as often as 6 or 7 times when setting focus to an object. These notifications also get in the way of conveying document structure information (happens on some of the H2s for instance).

1. Gale ECCO landing page

Source: http://gdc.galegroup.com/gdc/artemis?p=GDCS&u=tryecco

Use case: Test initial interface to ensure menus, search boxes, dropdowns, icons, links below search boxes, etc. are accessible.

Automated findings using Axe

- Nothing beyond what has been reported under "Project-wide issues".

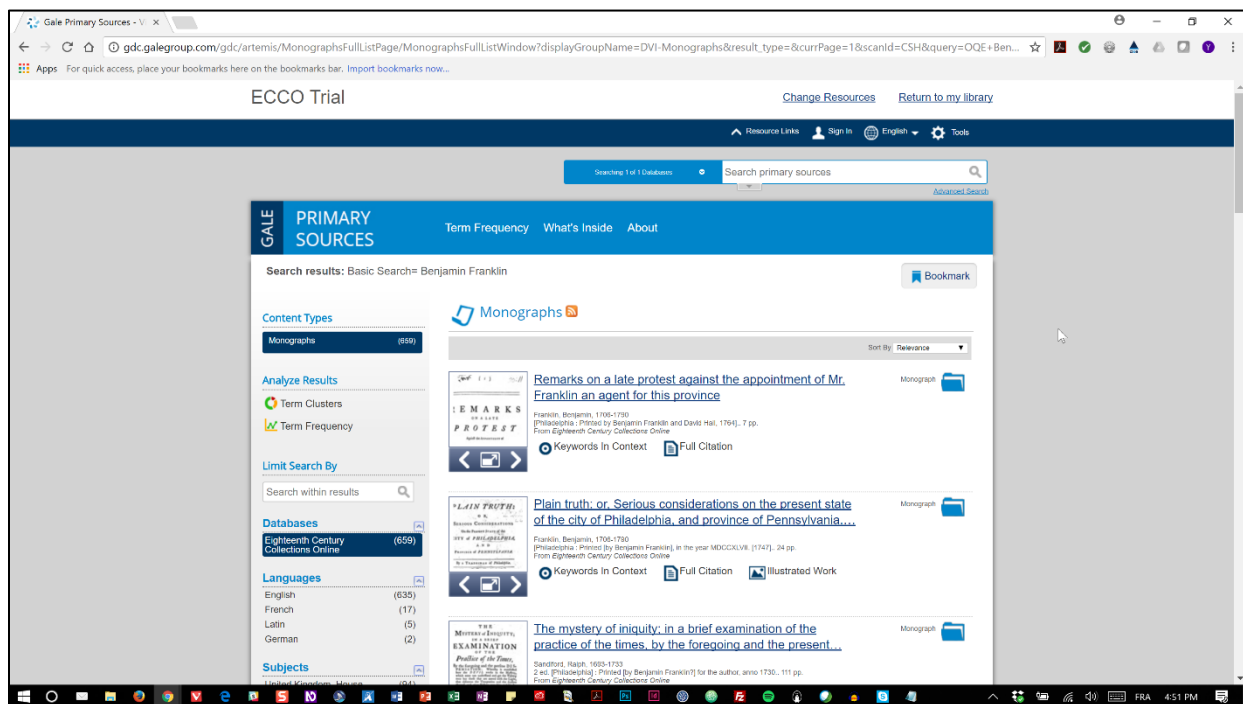**Additional manual findings using NVDA screen reader**

- **SC 1.3.1 –** The Start at the source above the search field is not marked up or conveyed as such to screen readers.
- **SC 2.4.3 –** The reading order of the elements that are part of the search feature is illogical; the search assist feature comes after the advanced search link and is no longer within context.
- **SC 2.4.4 –** The Learn more link under See what's inside is not meaningful within its immediate context. It makes it very hard for a screen reader user to understand what the link is about.
- **SC 3.1.1 –** Each language option provided in the language modal is presented in its own language, yet each object is not identified as a passage of text from that language. As a result, all the words are announced using an English synthesis, which makes it very difficult for users to understand what those options are. The data-lang attribute is not sufficient to convey the information to assistive technologies.
- **SC 4.1.2 –** The button defining how many databases are being searched into does not announce to screen reader users that it can be expanded to show other search options.
- **SC 4.1.2 –** The error message displayed when no databases are selected is not announced to screen reader users.
- **SC 4.1.2 –** The Close search assist link is always labelled "Close" although the search assist widget may already be collapsed. The value of the link should change based on the toggle state.

2. Benjamin Franklin search and test search results page

Source:
http://gdc.galegroup.com/gdc/artemis/MonographsFullListPage/MonographsFullListWindow?displayGroupName=DVI-Monographs&result_type=&currPage=1&scanId=CSH&query=OQE+Benjamin+Franklin&prodId=ECCO&source=fullList&p=GDCS&mode=view&catId=&u=tryecco&logFullListRequest=false&limiter=&totalSearchResultCount=659&display-query=OQE+Benjamin+Franklin&contentModules=&displayGroups=&action=e&sortBy=&windowstate=normal&activityType=BasicSearch&resetBreadCrumb=&failOverType=

Use case: From initial interface, enter a simple search for: Benjamin Franklin (leaving dropdown as is) and select "Search". Test search results page, including sort by dropdown, adding results to folders, testing how accessible the popup windows are, and updated content for each result.

Additional automated findings using Axe

- **SC 1.3.1 –** Form element must have a programmatically associated label.

Additional manual findings using NVDA screen reader

- **SC 1.1.1 –** The thumbnails displayed with each publication, while clickable, have no alt text and are not described to screen reader users.
- **SC 1.3.2 –** The order in which elements are accessed using the keyboard for a given publication is illogical and lacks meaning. Going sequentially through a publication result, users will go through the thumbnail, then the monograph link, then the publication title, then the information underneath, then the folder icon on the right, then the rest of the content. This makes it very confusing and very difficult for a non-sighted user to make sense of.
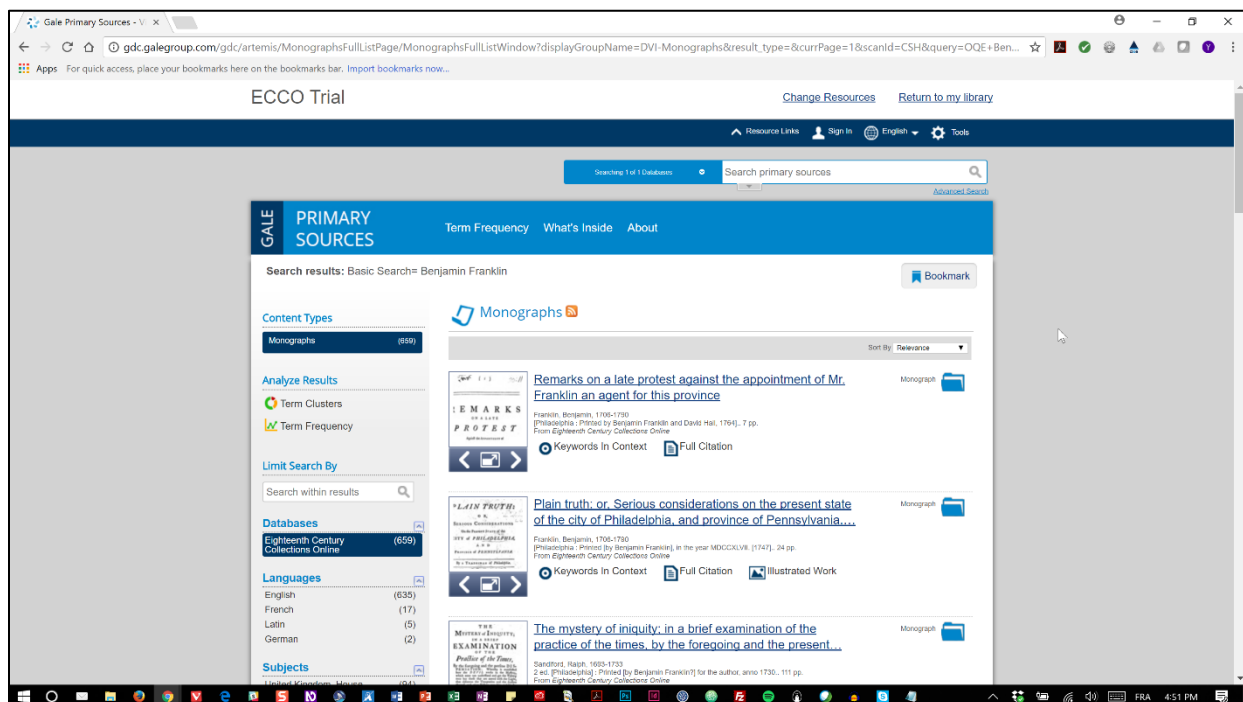
- **SC 2.1.1 –** The monograph link is only usable with a mouse and will not trigger with the keyboard. It cannot be triggered by screen reader users either, making the entire modal unusable to anyone who does not use a mouse.
- **SC 2.4.3 -** The arrow icons displayed to the right of the content types in the left column can be clicked with the mouse to collapse/expand the content types, but they are not part of the default keyboard tabbing order.
- **SC 3.2.1 –** Going through the list of options in the dropdown menu for the sort by feature automatically triggers a page reload for anyone who navigates using the keyboard. This will automatically reset the page for anyone using a screen reader, and send them back at the very top of the page. Furthermore, anyone navigating without a mouse will never be able to get past the first option, as going through them sequentially automatically triggers a reload on the first option.
- **SC 4.1.2 –** Screen reader users cannot get past the first item in the list of publication results. The screen reader loses its focus and repeatedly stays what appears to be the first item of the list, and seems unable to get past it. None of the content that follows is reachable using a screen reader, meaning that none of the features that support a publication can be used. To be able to test past this barrier, I had to disable CSS rules that were setting outlines to 0, at which point, navigation became possible again.
- **SC 4.1.2 –** The previous image and next image arrows under the thumbnails for each publication allow users to change the thumbnail and even see a larger version of the image. Same goes for the enlarge icon in the middle. However, neither of these interactions are conveyed to screen reader users, who end up interacting with the controls without getting any sort of feedback.

3. Left sidebar of search results page

Source:
http://gdc.galegroup.com/gdc/artemis/MonographsFullListPage/MonographsFullListWindow?displayGroupName=DVI-Monographs&result_type=&currPage=1&scanId=CSH&query=OQE+Benjamin+Franklin&prodId=ECCO&source=fullList&p=GDCS&mode=view&catId=&u=tryecco&logFullListRequest=false&limiter=&totalSearchResultCount=659&display-query=OQE+Benjamin+Franklin&contentModules=&displayGroups=&action=e&sortBy=&windowstate=normal&activityType=BasicSearch&resetBreadCrumb=&failOverType=

Use case: Test options on left-hand side of search results page. Limit to English (under Language) and American Revolution (under subjects).

Additional automated findings using Axe

- **SC 1.3.1** – Form element must have a programmatically associated label.

Additional manual findings using NVDA screen reader

- **SC 1.1.1** – The graphic displayed under Publications is not meaningfully described using alt text and is not usable as is for someone who cannot see the screen.
- **SC 2.1.1** – The arrow icons displayed to the right of the content types in the left column can be clicked with the mouse to collapse/expand the content types, but cannot be triggered using only the keyboard.
- **SC 2.1.1** – The sliders provided under the graph for Publications do not convey updated values to screen reader users as they are moved across the axis. This makes it impossible for a screen reader user to use them to refine the search.
- **SC 2.4.4** – The View more link under Subjects in the left column is not meaningful to a screen reader user, even within its immediate context.
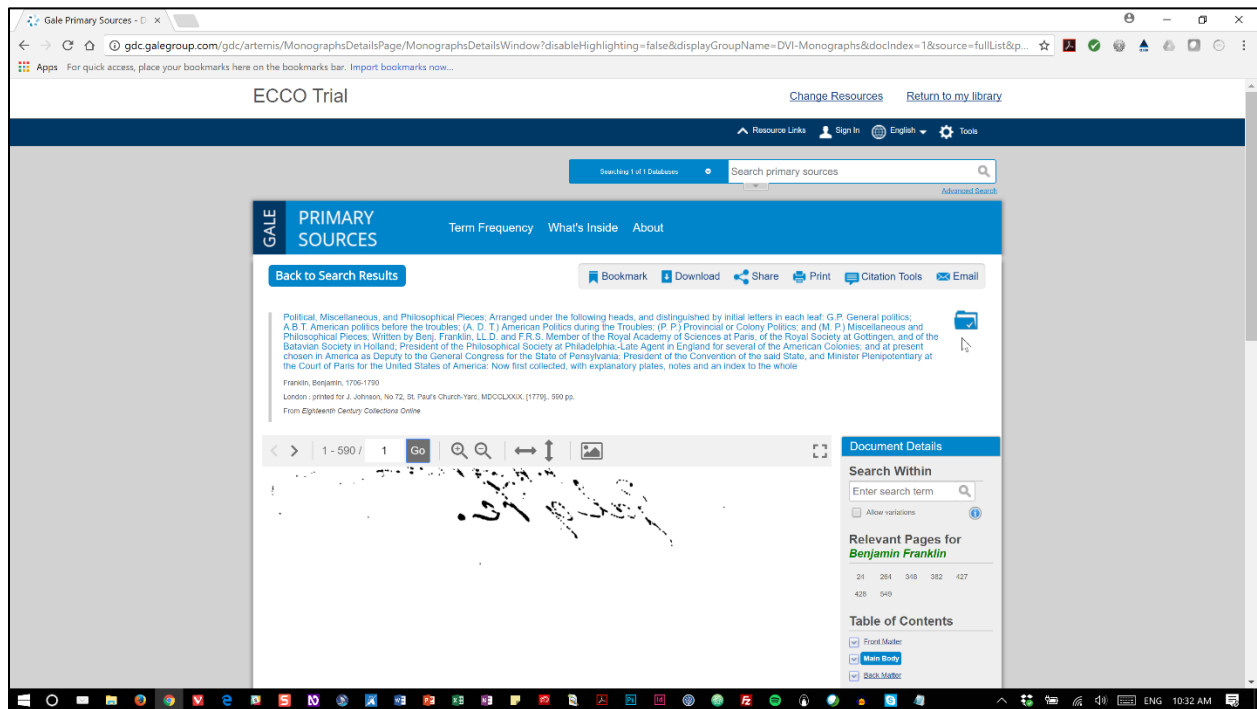
- **SC 4.1.2 –** The sliders provided under the graphic are not providing any context for a screen reader user to understand what their purpose is. No instructions are provided, the sliders are not identified as such and the user has no way of understanding what they are for. This makes it impossible for a screen reader user to use them to refine the search.
- **SC 4.1.2 –** The updated values displayed under the sliders, as users move the sliders under the graph for publications are not conveyed to screen reader users either.

4. Selecting a book result

Source:
http://gdc.galegroup.com/gdc/artemis/MonographsFullListPage/MonographsFullListWindow?displayGroupName=DVI-Monographs&result_type=&currPage=1&scanId=CSH&query=OQE+Benjamin+Franklin&prodId=ECCO&source=fullList&p=GDCS&mode=view&catId=&u=tryecco&logFullListRequest=false&limiter=%28SU_PH+%22American+Revolution%2C+1775-1783%22%29+AND+LG+%22English%22&totalSearchResultCount=67&display-query=OQE+Benjamin+Franklin&contentModules=&displayGroups=&action=e&sortBy=&windowstate=normal&activityType=BasicSearch&resetBreadCrumb=&avoidSearchHistory=true&failOverType=

Use case: Select an individual book/result by clicking on one record from the search results page. Is the page/reader/actual file accessible? Is there an accessible full-text file format (quickly evaluate a PDF or ePub file if available)?

Additional automated findings using Axe

- **SC 1.3.1** – Form element must have a programmatically associated label.

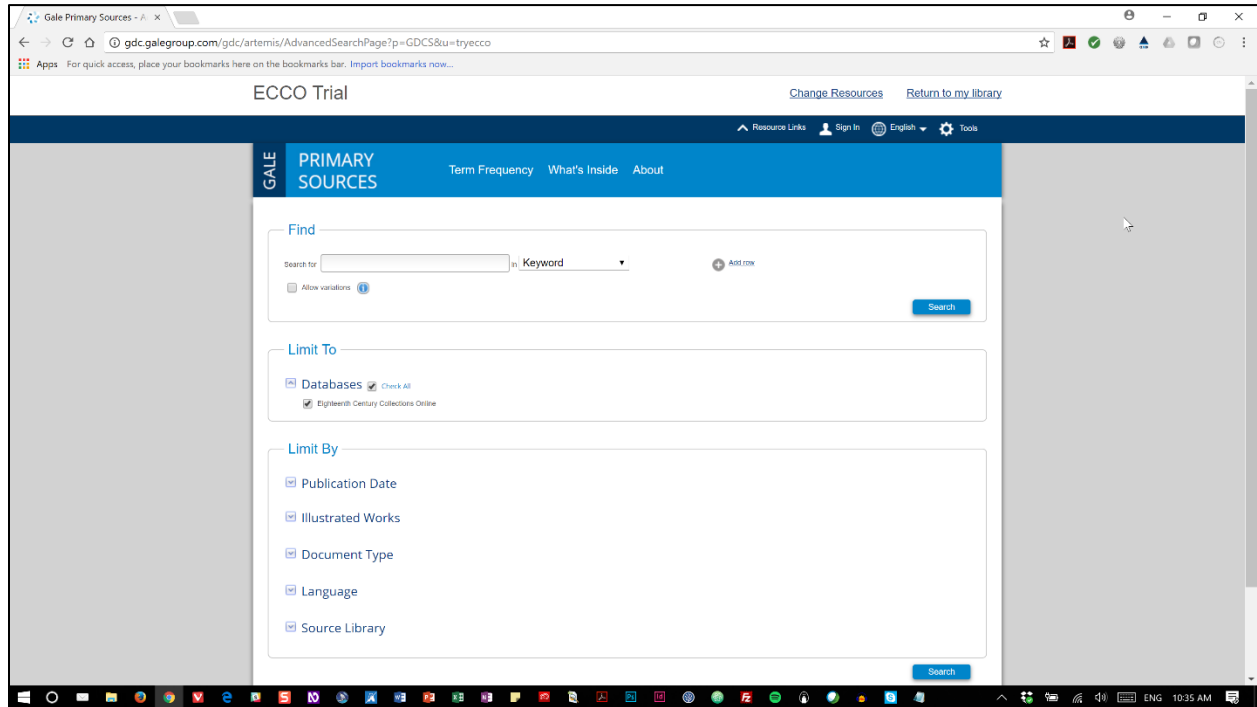**Additional manual findings using NVDA screen reader**

- **SC 1.1.1** – The document shown in the Document pane is a collection of scanned pages and not an accessible version based on text. As a result, going through this document with a screen reader results in an image being announced for the entire page. This image has no alt text, so it's filename is being announced instead (a series of numbers). This makes the reader impossible to use for such a document for screen reader users. ***Note: There's an option provided under "Download" the save an OCR'ed version of the document, but we did not test what the resulting document would look like. Ultimately, this still leaves the reader itself inaccessible.***

- **SC 1.3.1 –** The bibliographic reference under "Back to search results" is marked up as a heading level 2 (H2), while it should be marked up as a regular paragraph.
- **SC 1.3.1 –** Text fields in the "Sign In" modal are not programmatically associated with their labels (prompted when trying to add document to folder).
- **SC 2.1.1 –** The "Share" dropdown menu does not retain focus when navigated through with a keyboard. Options therein are only accessible if users rely on a mouse to point and click.
- **SC 2.1.1 –** The Help icon under the Search text field in the right column has a tooltip that is displayed on mouseOver. That tooltip is not triggered when focus is set to the icon, or when screen readers set focus to it.
- **SC 2.1.1 –** The links to relevant pages cannot be navigated through with the keyboard alone, when a screen reader is on. Users can only tab to the first one, then need to use arrow keys to get to the other ones, which makes the results confusing.
- **SC 2.1.1 –** Content under the down arrow icon under Table of Contents cannot be displayed without the use of a mouse. These icons do not get keyboard focus, resulting in screen reader users and keyboard-only users being unable to open the tree views.
- **SC 2.1.1 –** The Zoom in and Zoom out features on the control panel above the document window are not keyboard accessible and only work with the mouse.
- **SC 2.4.3 –** Keyboard focus is not sent to the "Citation tool" modal when triggered, making it impossible for screen reader users and even sighted keyboard users to interact with it.
- **SC 4.1.2 –** The "Adjust this image" feature on the control panel above the document does not let screen reader users know when the panel for contrast and brightness is expanded or collapsed.
- **SC 4.1.2 –** Screen reader users can get into the reader, but our tests have not determined how screen readers would have if the displayed document was text-based. Based on the document that was displayed in our testing, this reader will not be accessible to blind users using a screen reader.

5. Advanced search

Source: http://gdc.galegroup.com/gdc/artemis/AdvancedSearchPage?p=GDCS&u=tryecco

Use case: Test "Advanced Search" page for accessibility (link found under search box) - no need to do an actual search/analyze results page since that's covered above.

Additional automated findings using Axe

- **SC 1.3.1** – Form element must have a programmatically associated label.
- **SC 1.3.1** – Radio inputs with the same name attribute value must be part of a group.

Additional manual findings using NVDA screen reader

- **SC 1.3.1** – The "Check all" checkbox is marked up as a H2, while it does not semantically play the role of a header in the page.
- **SC 2.1.1** – The Help icon next to "Allow variations" has a tooltip that is displayed on mouseOver. That tooltip is not triggered when focus is set to the icon, or when screen readers set focus to it.
- **SC 2.1.1** – Keyboard focus is not moved to the error message once such errors are returned.
- **SC 4.1.2** – No confirmation on state (added or removed) is announced to screen reader users when a new row is added to the Find section of the Advanced Search. This makes it very hard to non-sighted screen reader users to get confirmation of what happens as a result of triggering the Add row / Delete row links.
- **SC 4.1.2** – No confirmation on state (collapsed or expanded) is announced to screen reader users when the Database, Publication Date, Illustrated Work, Document Type, Language and Source Library links are triggered. This makes it very hard to non-sighted screen reader users to get confirmation of what happens as a result of triggering those links.
- **SC 4.1.2** – Error messages returned in the Advanced Search are not conveyed to assistive technologies.