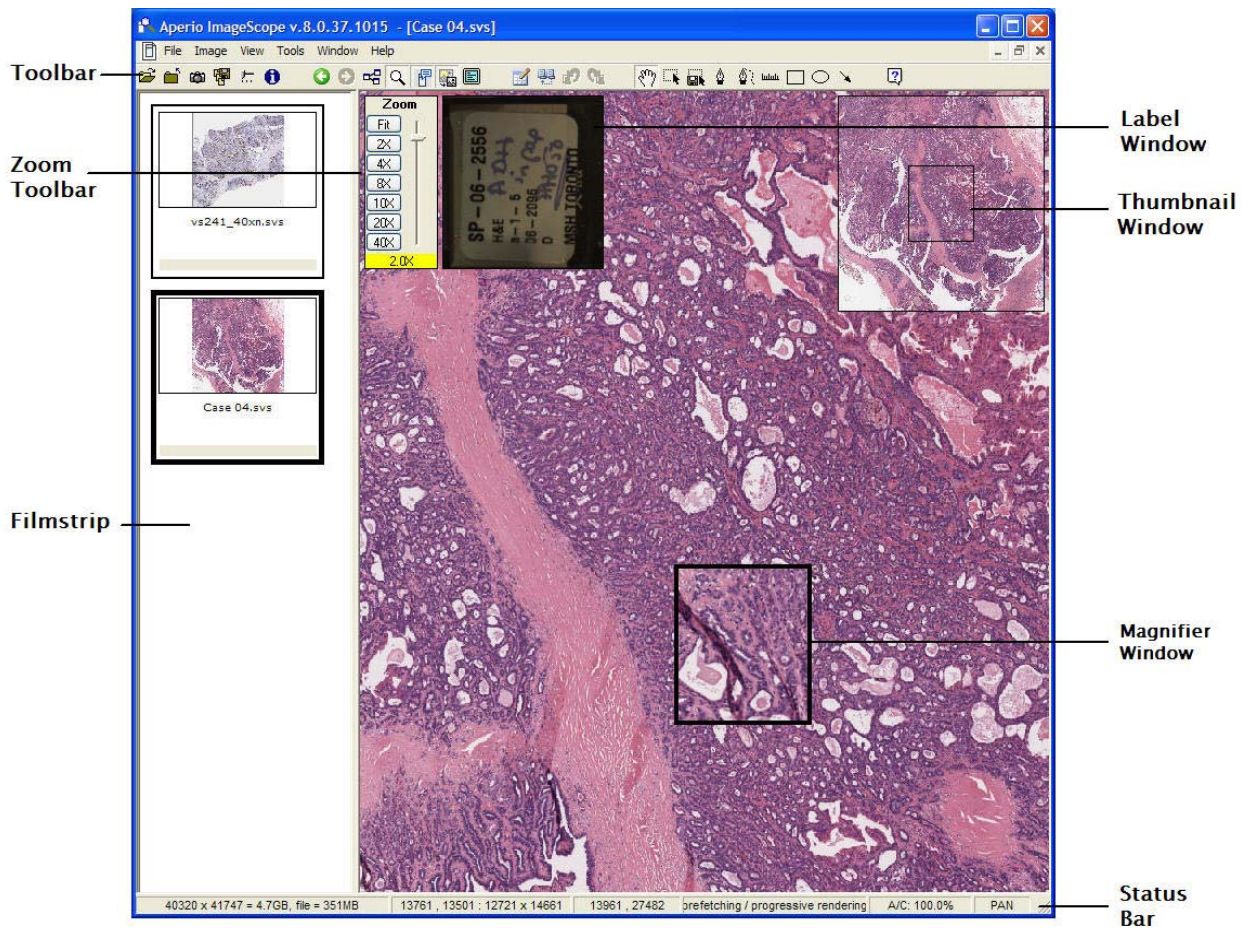


# 4 Viewing a Digital Slide

This chapter introduces you to using ImageScope by giving a tour of the ImageScope main window and showing you how to use the navigation and magnification tools.

## The ImageScope Viewing Window



Throughout the rest of this guide, we will be discussing these elements of the ImageScope viewing window.




- **Toolbar** – Many of the ImageScope commands and features are available on the toolbar. You can also access many of these features through the

ImageScope menus. See the next section for a quick reference list of the ImageScope toolbar icons.

- **Zoom Toolbar** – You can magnify or shrink the current view. See “Using the Zoom Toolbar” on page 27 for details.
- **Filmstrip** – The filmstrip shows what slides are open. You can move between digital slides by clicking the slide’s image in the filmstrip.
- **Label Window** – If a photo of the slide label has been associated with the digital slide, you can see it in the slide label window.
- **Thumbnail Window** – Digital slides are large and often you see only a portion of one in the ImageScope main window. The thumbnail is a view of the complete digital slide. See “Using the Thumbnail Window” on page 24.
- **Magnifier Window**– Move this tool to the area you are interested in to see a magnified view. See “Using the Magnifier Window” on page 26.

## Hiding and Showing ImageScope Window Features

To hide or show elements of the ImageScope window:

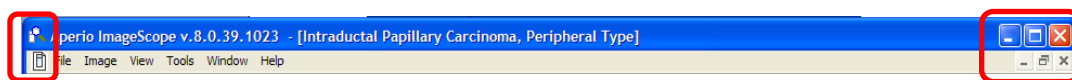
ImageScope Element	To turn on or off...
Filmstrip	Go to the <b>View</b> menu and select <b>Filmstrip</b> to show or hide the filmstrip.
Thumbnail	Go to the <b>View</b> menu and select <b>Thumbnail</b> or click  on the toolbar to show or hide the thumbnail window.
Magnifier	Go to the <b>View</b> menu and select <b>Magnifier</b> or click  on the toolbar to show or hide the magnifier window.
Status Bar	Go to the <b>View</b> menu and select <b>Status Bar</b> to show or hide the status bar.
Slide Label	Go to the <b>View</b> menu and select <b>Label Image</b> or click  on the toolbar to show or hide the slide label window.

These commands reverse the current state of the element display: if the element is showing, the command hides it; if it is hidden, this command shows it

## Adjusting the ImageScope Window

To adjust the ImageScope window to the size you prefer, grab the boundary of the window and drag it in or out.

You can maximize, minimize/restore, or close either the main ImageScope window or the individual digital slide window by using the appropriate controls:















- The controls on the right are standard Windows controls that allow you to minimize, maximize, restore, or close the window.
- The icons on the left perform the same functions by displaying a menu from which you can select the action to perform.
















## ImageScope Toolbar Quick Reference

Following chapters discuss using ImageScope features in detail—here is a quick list of the toolbar icons and what they do.

The ImageScope toolbar:




Icon	Action
	Go to the Open Image window where you can browse for a local digital slide to open for viewing.
	Close the digital slide that is currently being viewed in ImageScope.
	Create a snapshot image of the digital slide currently being viewed.
	Save an ImageScope view, the entire set of digital slides that is currently open in ImageScope, as a .sis file.
	Go to the Image Adjustment window where you can make color and other adjustments to the digital slide currently being viewed.
	Go to the Image Information window which displays information about the digital slide currently being viewed.
	Go to previous view of the digital slide.
	Go to the next view of the digital slide (only enabled if you first used the back arrow icon to go to a previous view).
	Manually synchronize navigation for all digital slides currently being viewed. (Used when multiple digital slides are open in the ImageScope window.)
	Show or hide the magnifier window.
	Show or hide the digital slide label window.
	Show or hide the thumbnail window.

Icon	Action
	Display on the full monitor screen. (Or turn off if already in full–screen mode.)
	Open the Annotations window where you can create multiple annotation layers and organize and add descriptions to annotations.
	Open the Annotation Link Manager window where you can link annotations or digital slides to create a viewing sequence.
	Go to the previous link (if a previous link exists).
	Go to the next link (if a next link exists).
	Pan the digital slide.
	Zoom the selected area of the digital slide.
	Extract a region of a digital slide.
	Draw a free–form annotation.
	Draw a free–form annotation to be excluded from analysis. (This creates a <i>negative</i> annotation.)
	Measure an object on a digital slide.
	Draw a rectangular region (or a square if you hold down the Shift key while you draw).
	Draw an elliptical annotation (or a circle if you hold down the Shift key while you draw).
	Draw an arrow pointing to an area of interest.
	See help information for ImageScope.

## Full Screen Viewing

To view the digital slide with the maximum viewing area, switch to full screen viewing:

1. Go to the **View** menu and select **Full Screen** or click  on the ImageScope toolbar. The menu bar does not appear in this mode.

To switch back to regular viewing mode:


1. Click  on the ImageScope toolbar.

## Moving the Viewing Area


ImageScope offers many different options for moving around a digital slide.

### Panning

The simplest method for moving the viewing area is to pan the image:

1. Click and hold the mouse button down while you drag the cursor across the digital slide. Your cursor turns into a closed fist . Panning moves the slide in the direction you are dragging, allowing you to see more of the slide.

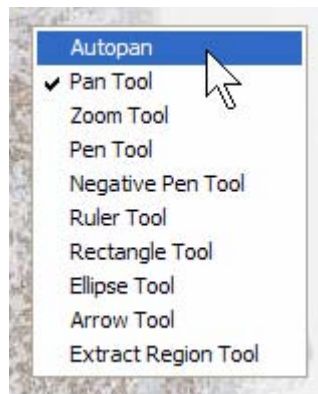
### Panning Tips



- If you can't pan the image, you may have an annotation tool selected. Click the  icon on the ImageScope toolbar and try again.
- As you pan, the black rectangle in the thumbnail image also moves to indicate the section of the slide you are viewing.
- If you want to set ImageScope to pan in reverse (called “pathologist mode”), see “Panning Options” on page 118.

### Autopanning

You can use autopanning to move at high speed over a digital slide:

1. Move the cursor to the center of the main viewing area.
2. If your mouse has a scroll wheel, click it to start autopanning or right-click and select **Autopan** from the context menu:



A small navigation icon appears: , and you also see a darker version showing your cursor position: .

3. By moving the mouse in any direction, you can automatically pan in that direction very quickly. To stop autopanning, click any mouse button.

# 6







## Annotating Digital Slides

Annotations direct viewers' attention to interesting elements of a digital slide. This chapter contains basic information on creating annotations. See the next chapter for advanced annotation information on moving and deleting annotations, using annotation layers to organize annotations, and storing algorithm analysis results.

Annotations can define a region of the digital slide you are interested in, measure an object, or point to an interesting area. You also use annotations to define the areas of a digital slide on which to perform an algorithm analysis or to define the areas on which *not* to perform an analysis.

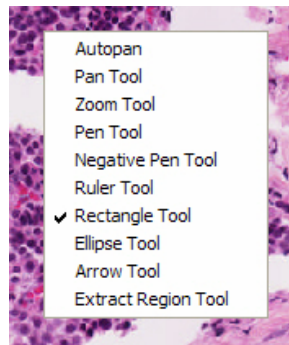
In the next chapter you will learn how to add text to an annotation so the text appears in the main window. To avoid having the text display on *top* of the annotation, when you create an annotation, finish drawing it at the upper right corner of the annotation.

To add an annotation to a digital slide, use the drawing tools on the ImageScope toolbar:

-  Ellipsis (or circle if you hold down the Shift key while drawing)
-  Rectangle (or square if you hold down the Shift key while drawing)
-  Free-form shape
-  Free-form shape to exclude from analysis (negative pen)
-  Arrow
-  Measurement




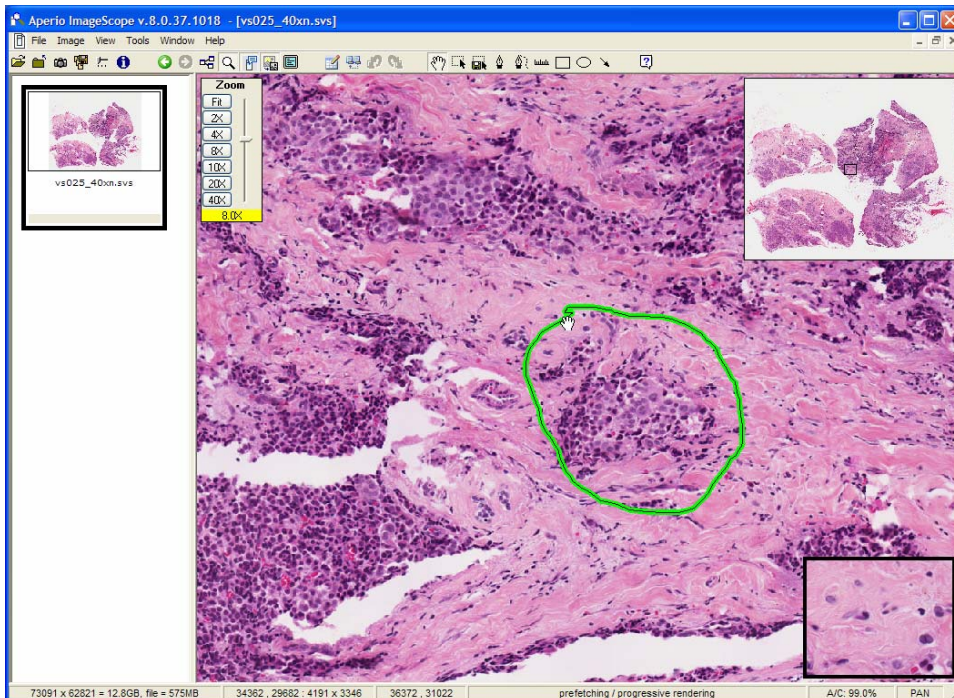
Note that you can also select these tools by right-clicking on the ImageScope main window and selecting the tool from the context menu:



## Free-form Drawing

To draw a free-form shape on a digital slide:


1. Click  on the toolbar.
2. Begin drawing in the main window by clicking and dragging. You see a colored line following the pen, as shown below. Release the pen when you have finished the shape.

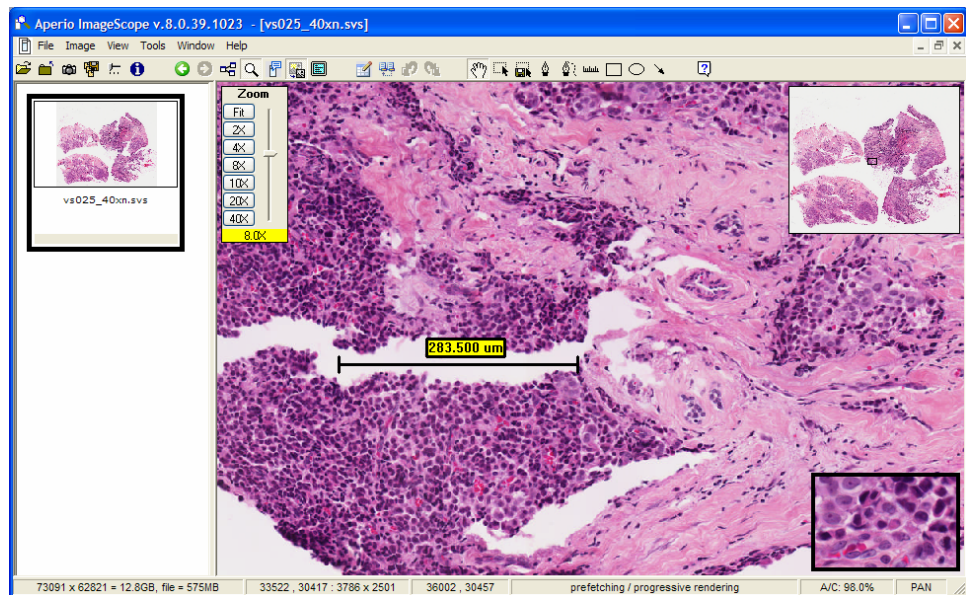


## Measuring Objects

The ruler tool may not work for all images you can view with ImageScope. Images that were not created by the ScanScope scanner may not have enough information included in them to allow the ruler tool to measure.

Use the ruler tool to measure an object on the digital slide:

1. Click  on the toolbar.
2. Place your cursor on the object you want to measure in the main window and click while dragging the ruler over the object. Here is a sample display:




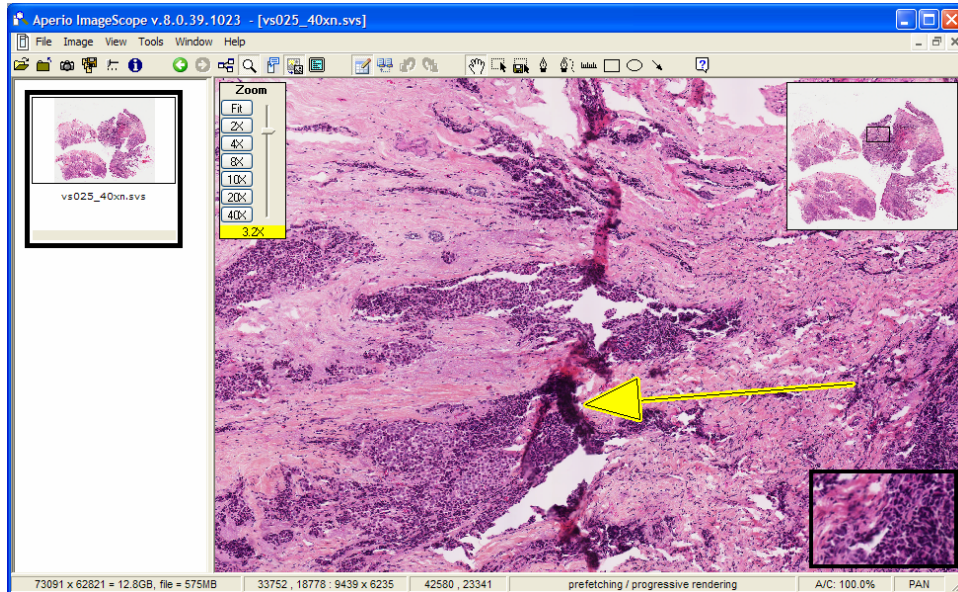
The ruler automatically adjusts for the current display resolution. If you change magnification, the ruler stays in the same location relative to the image when you zoom. When you measure with the image displayed at lower magnifications, such as 2x, the ruler displays in millimeters rather than microns as it is measuring something in a larger scale.



## Drawing an Arrow

To draw an arrow to direct someone’s attention to an interesting feature of the digital slide:


1. Click  on the toolbar.
2. Place your cursor on the image in the main window close to the object you want to point at, and click and drag away from it. The further you drag, the larger the arrow appears.



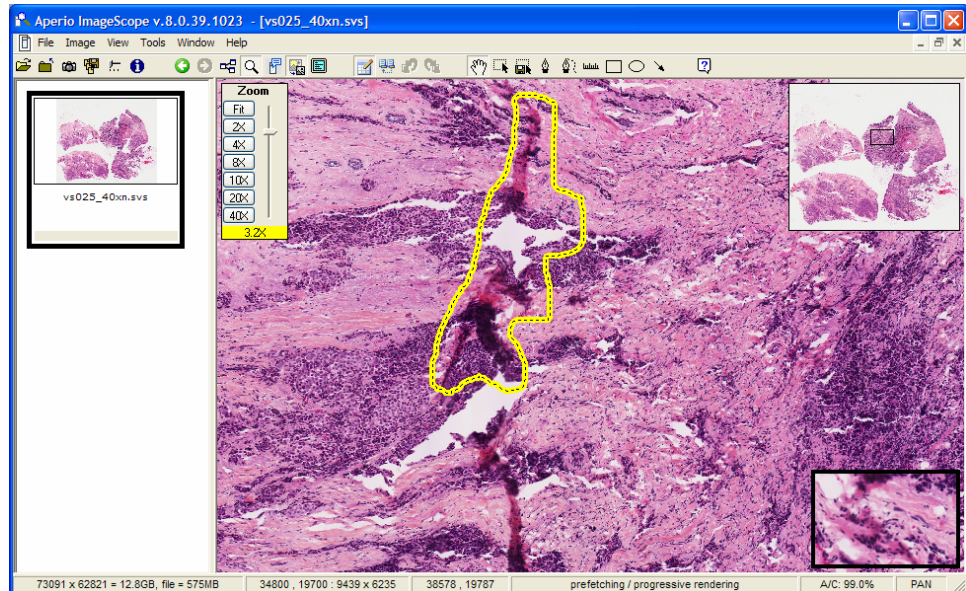
## Drawing with the Negative Pen

The negative pen tool is used to draw negative free-form shapes. These are used in algorithm analysis to designate areas *not* to analyze.

To draw a negative shape on the digital slide:

1. Click  on the toolbar.

2. Place your cursor on the image in the main window and begin drawing by clicking and dragging. Release the mouse button when you have finished. A negative region is indicated on the display by a dashed line.



## For More Information

- See Chapter 7, “Annotation Layers,” on page 45 for information on other things you can do with annotations:
  - Add text to an annotation
  - Delete or move an annotation
  - Export or import annotations
  - Define annotation attributes to add information to an annotation.
- For information on creating viewing sequences, see Chapter 8, “Linking Annotations and Digital Slides,” on page 55.
- When analyzing digital slides, you can use free-form or rectangle annotations to define what areas to analyze or use the free-form negative pen tool to define what areas *not* to analyze. See Chapter 10, “Analyzing Digital Slides,” on page 67 for details.