CAT® S•O•S^{SM} Web
Help Guide

Oct 2021

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DASHBOARD

FLEET

SAMPLES

SUBMIT

HELP - DASHBOARD

USING THE DASHBOARD PAGE

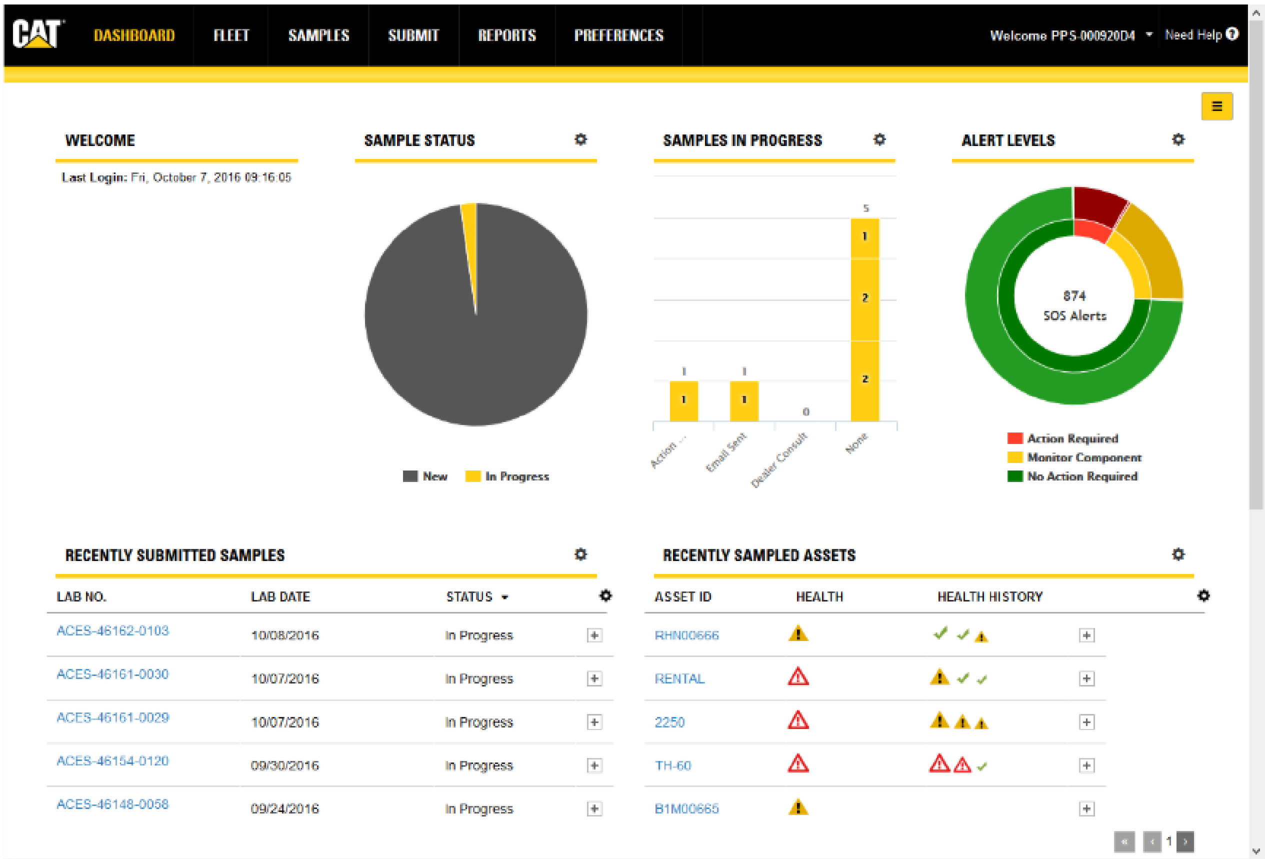
The *Dashboard* page provides you with an overview of various sample elements using widgets that summarize sample information based on default system parameters and parameters you specify.

Many of the widgets in the Dashboard have links that automatically take you to other pages within the application to view sample or asset information. You can use the browser's Back button to return to the *Dashboard* page, or you can click on the **Dashboard** tab in the main toolbar.

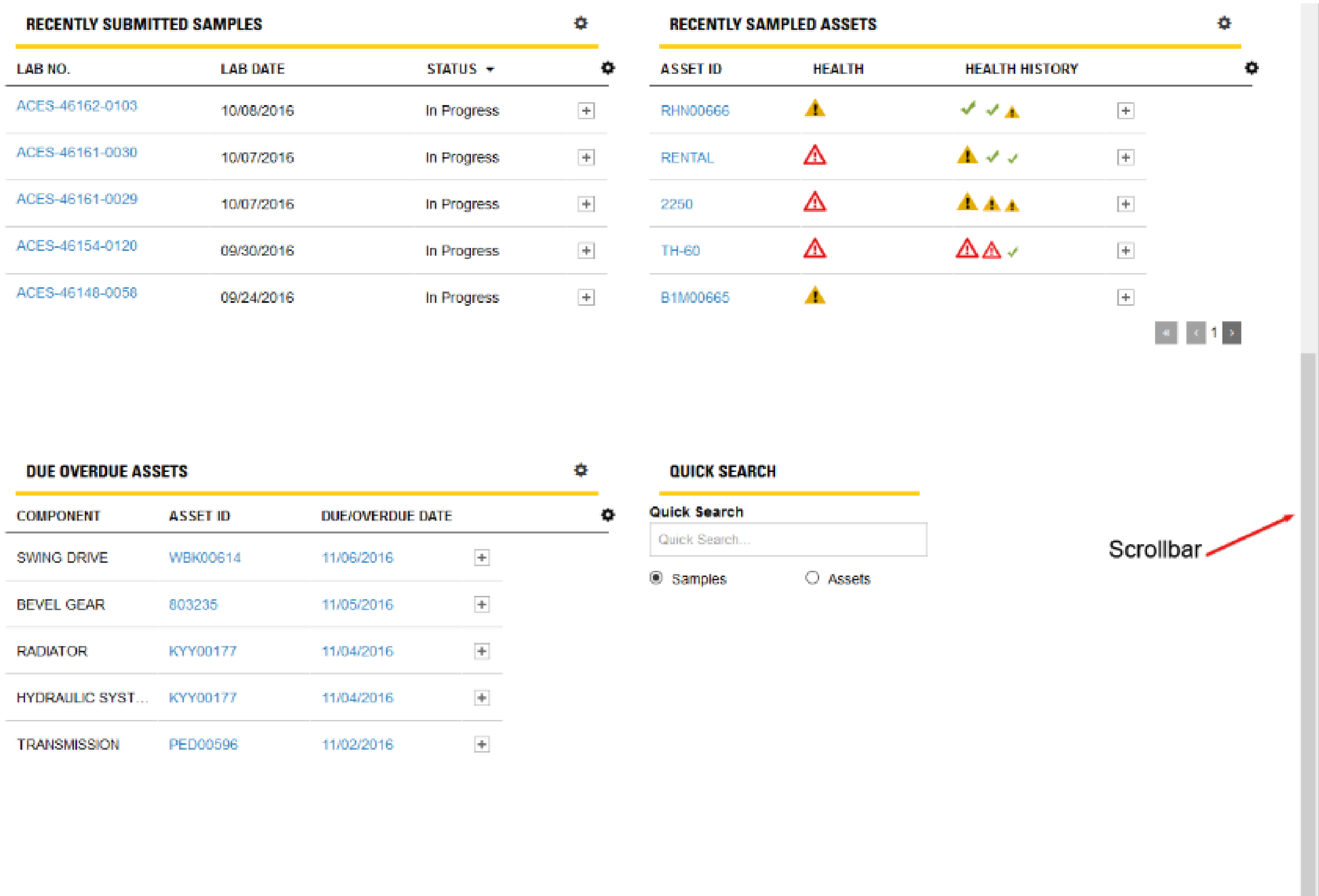
The Dashboard can include any combination of the following widgets:

- Alert Levels
- Due Overdue Assets
- Quick Search
- Recently Sampled Assets
- Recently Submitted Samples
- Sample Status
- Samples In Progress
- Welcome

Widgets are presented in a four-column layout as shown in the example below. Most widgets occupy only one column by default, but the **Recently Submitted Samples, Recently Sampled Assets,** and the **Due Overdue Assets** widgets occupy two columns due to their widths.



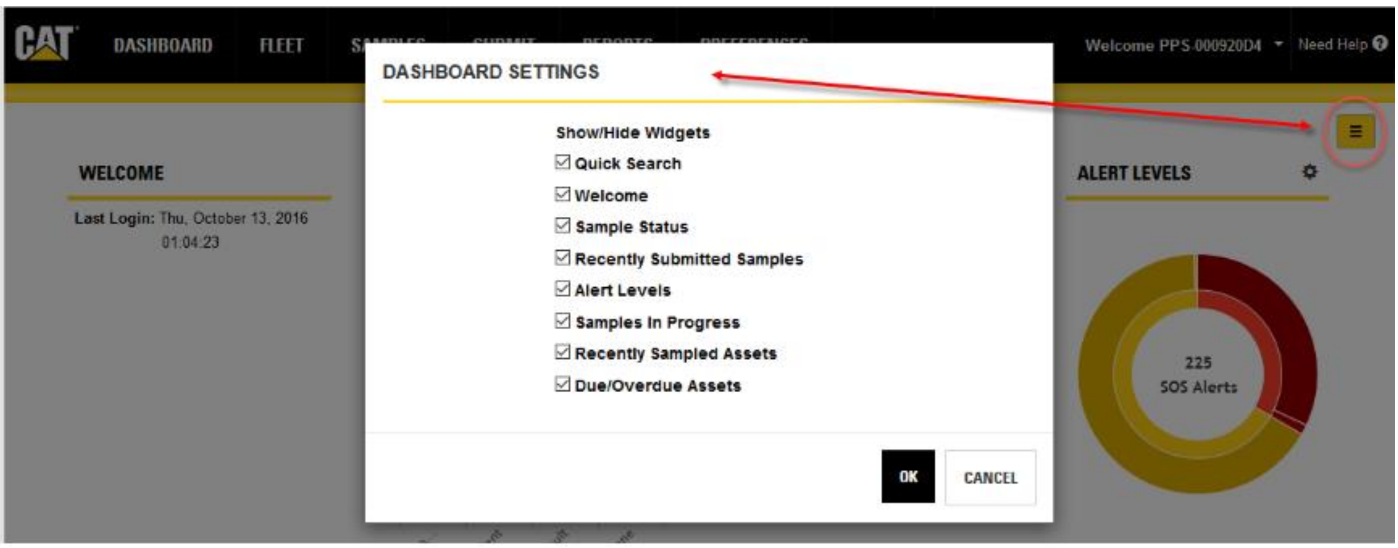
Use the scroll bar on the right to view widgets that might not fit within your browser.



You can resize the overall layout by stretching or shrinking the width of your browser and adjusting the layout as needed. The widgets will remain in their assigned locations and will resize with the browser adjustment; however, smaller sizing will make it more difficult to view some widget content. The layout width also remains at four columns.

Selecting Widgets to Display

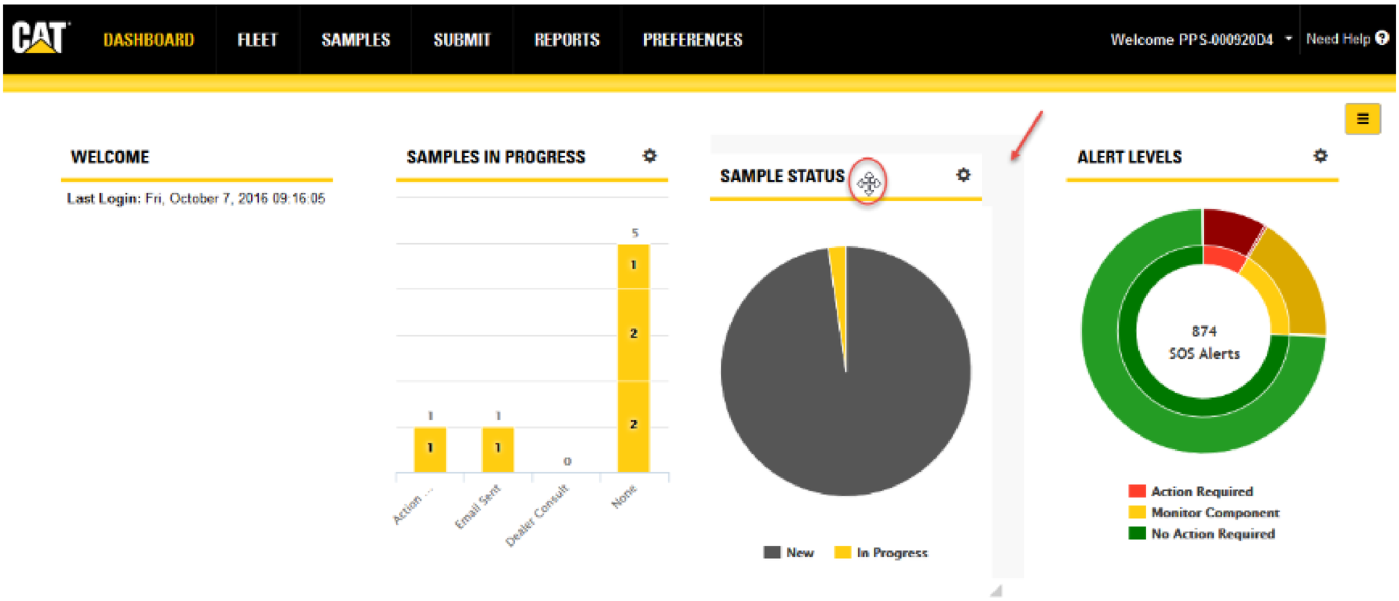
Click on the **Page Settings** icon found in the top right corner of the page to open a dialog box used to select the widgets that you want to appear in your Dashboard. Simply check the boxes next to the widget titles you want to use then click on **OK**.



Arranging and Sizing Widgets

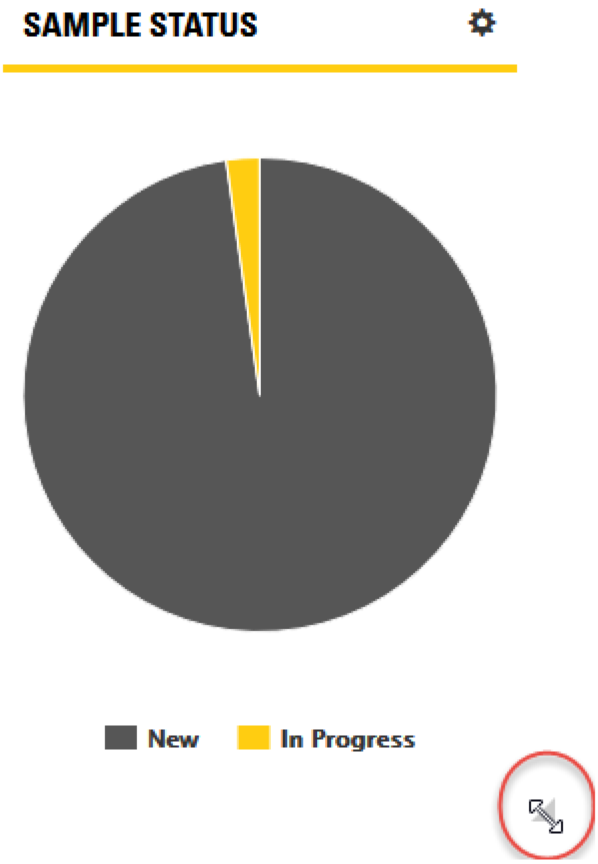
Drag and drop widgets to arrange your Dashboard as you prefer. Click and hold down the left mouse button over the widget's title bar and drag it to the desired location.

You will notice a grey box left behind in the old/current location and another appear when you reach a valid new location.



Placing one widget over another moves the lower widget to an adjacent location when you release the mouse button.

You can resize individual widgets by hovering the mouse cursor over the lower right corner, or any edge of the widget, until you see a two-headed arrow as shown in the example below. Click and hold down the left mouse button to drag the widget to the desired size.



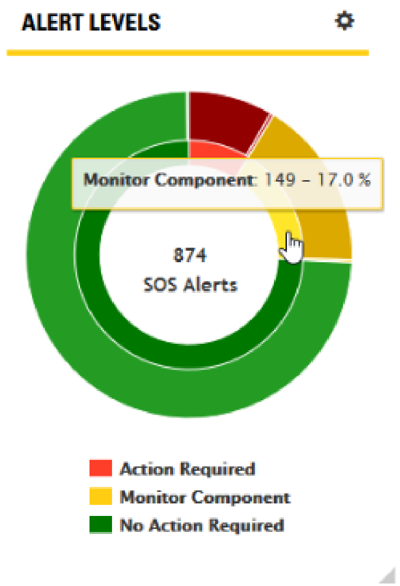
DASHBOARD WIDGET DESCRIPTIONS

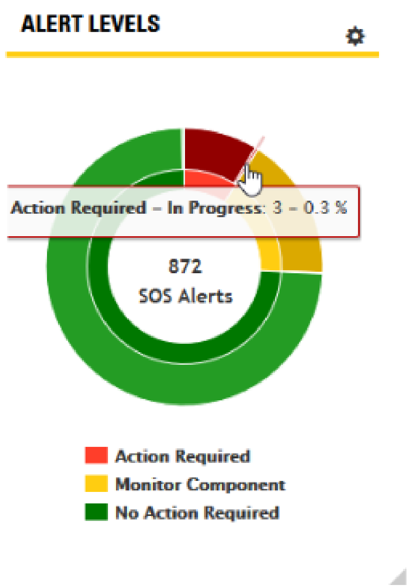
Alert Levels Widget

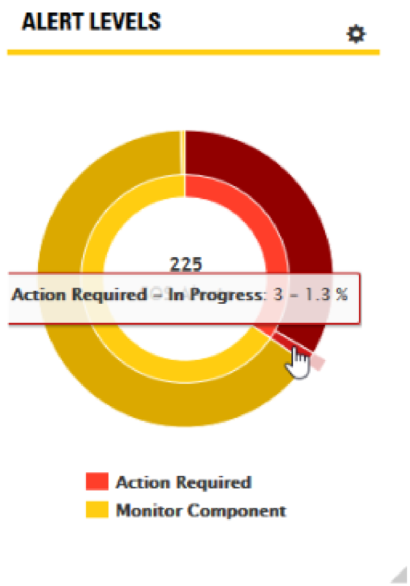
This widget features a two-level doughnut chart. The inner ring shows the number of samples for the selected period currently assigned to selected alert levels. The outer ring provides additional information by dividing samples for a selected alert level by the statuses selected.

Hovering the mouse cursor over a segment within the inner or outer ring opens a tooltip showing the details for that segment.

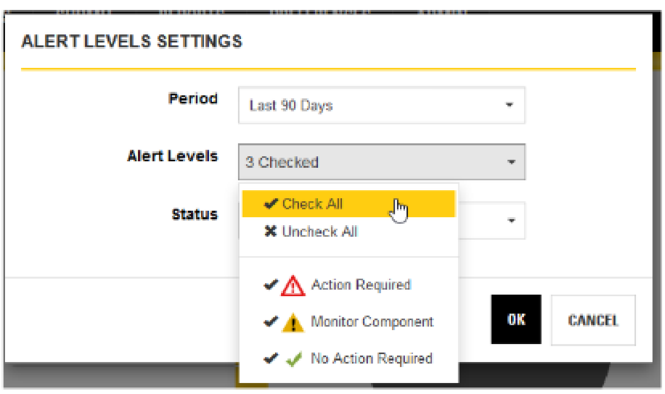
Clicking on a segment automatically takes you to the *Samples* page so you can view detailed information about the samples within the selected set.

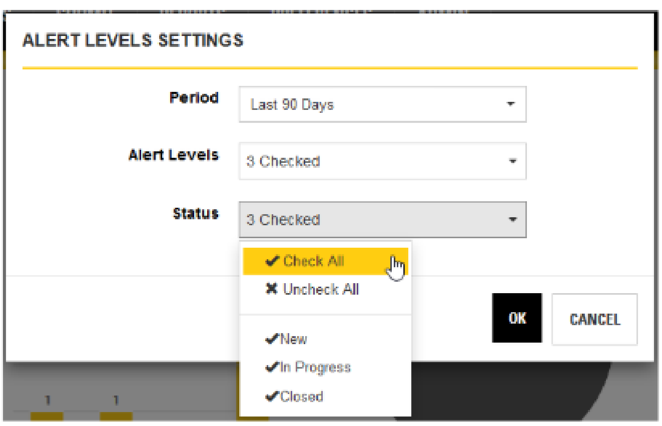






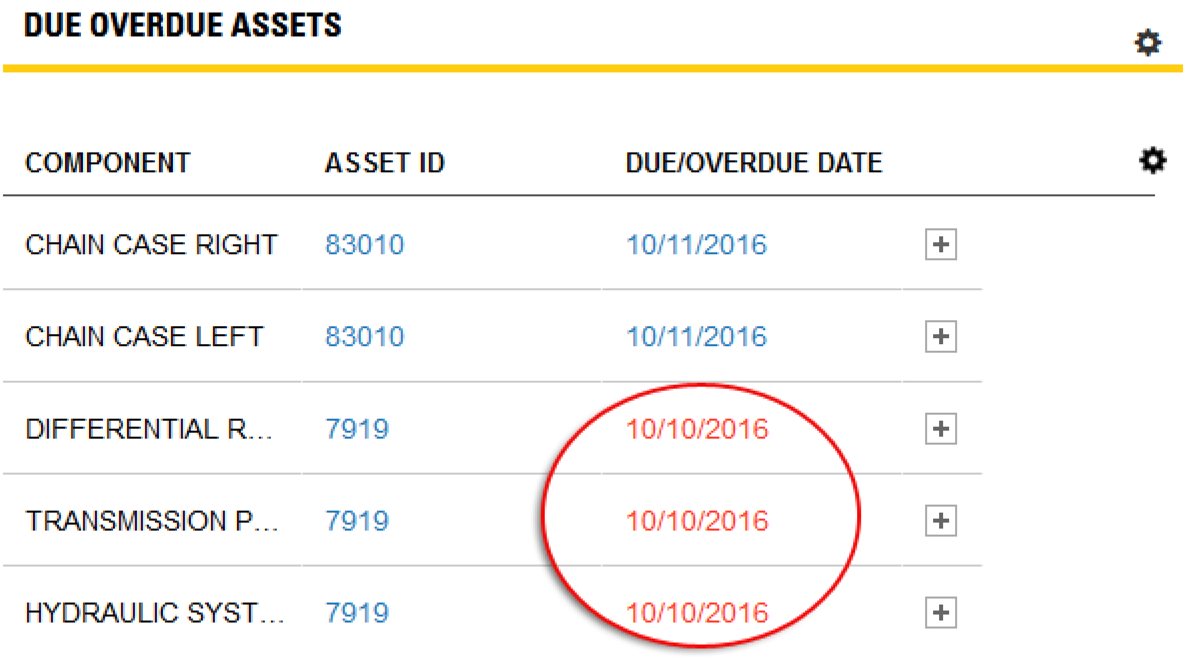
By default, the system displays the last 30 days of available information. Clicking on the **Settings** (gear) icon at the top right of the widget opens a *Settings* dialog box so you can define the Period, Alert Levels, and Status parameters needed. After setting parameters, click on the **OK** button to update the sample information displayed within the widget.





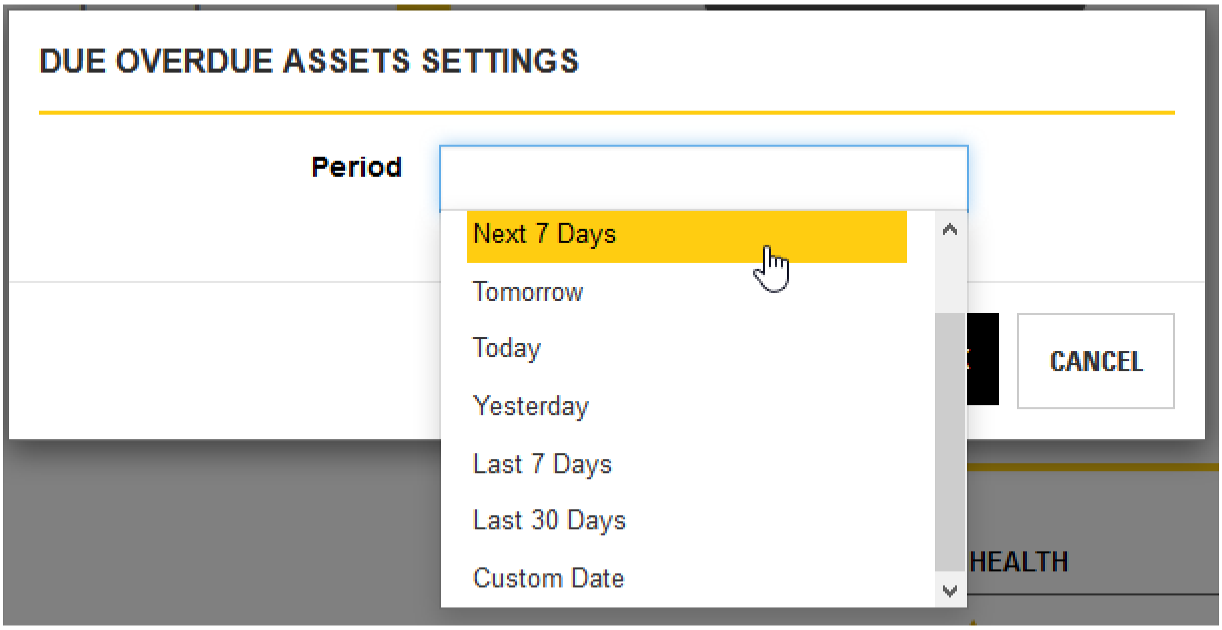
Due Overdue Assets Widget

The **Due Overdue Assets** widget provides an overview of assets that are approaching or have missed their scheduled sampling dates. As the example below illustrates, the value in the **Due/Overdue Date** column is displayed in red when a sample is overdue.

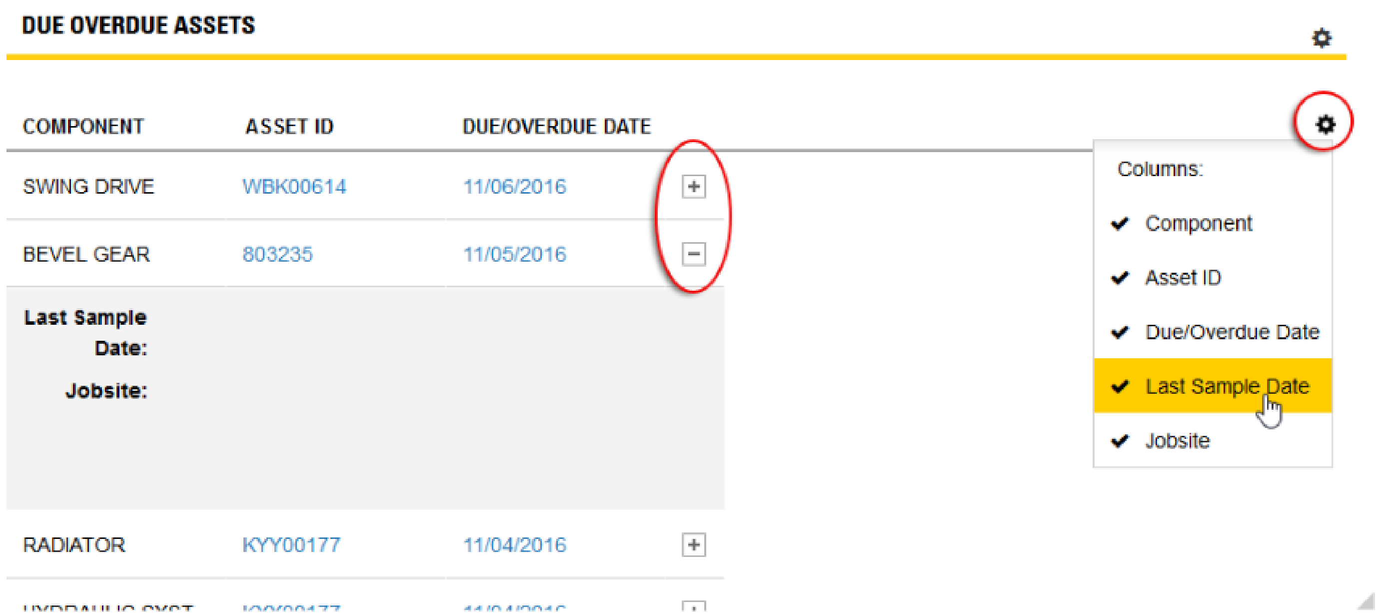


When you click on a link in the **Asset ID** column, the software automatically takes you to the *Fleet* page and opens the *Asset Details* view for the selected asset.

Clicking on the **Settings** (gear) icon at the top right of the widget opens a *Settings* dialog box so you can define the Period. The available options allow you to look ahead for assets coming due for sampling or back in time to look for overdue samples. You can also specify a Custom Date to retrieve information for a specific time period.

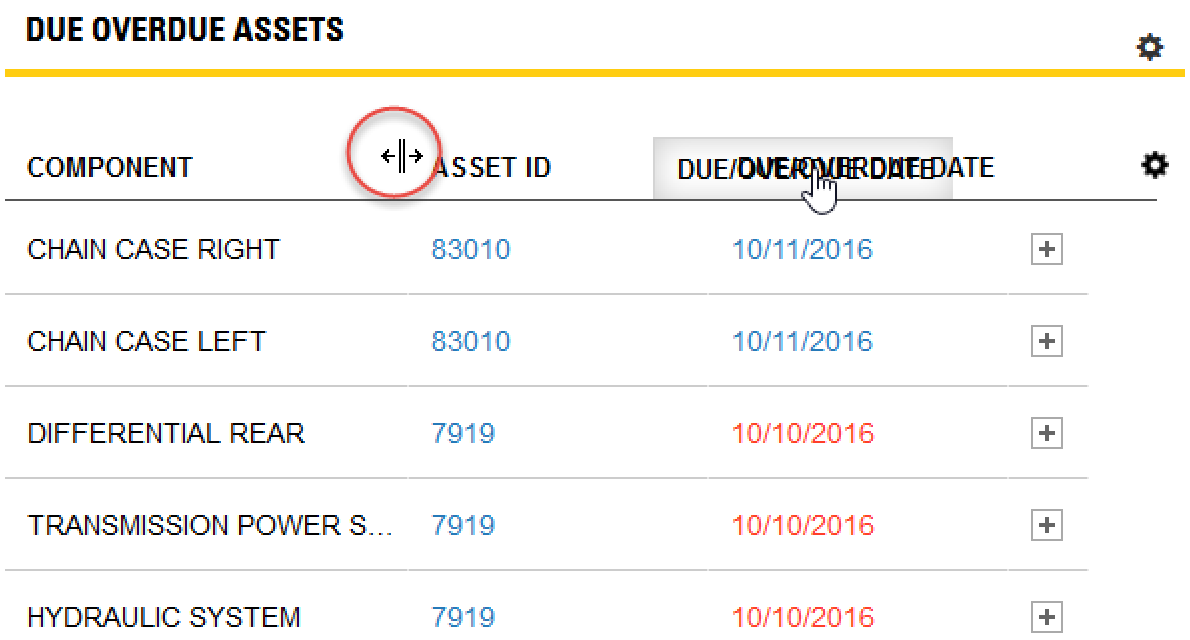


Clicking on the **Column Settings** (second gear) icon at the top right of the widget�s table opens a drop-down list so you can select the columns you want to appear within the table. If more than three columns are selected, you will see a plus sign **(+)** appear to the right of the columns indicating that more information is available. Clicking on the plus sign expands the row so you can view the additional information.



You can resize the column width by hovering the mouse cursor near the edge of a column header until you see a two-sided arrow as shown in the example below. Click and hold the left mouse button then drag the edge to the new size.

You can also change the order of the top three columns by hovering the mouse cursor over a column heading until you see the finger cursor as shown below. Click and hold the left mouse button then drag the heading to the new location.



Quick Search Widget

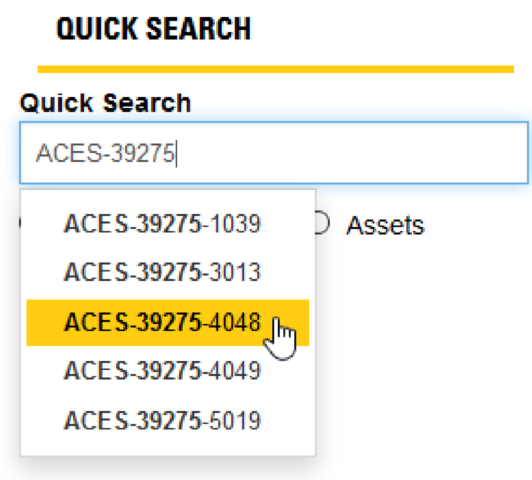
The **Quick Search** widget provides you with a tool to quickly locate samples or assets within the system.

In most cases, type ahead (suggest) values will be displayed as a list below the input field to facilitate the selection of a specific sample or asset.

When you click on the **Samples** radio button, the software uses the value entered in the input field to search across a subset of sample fields.

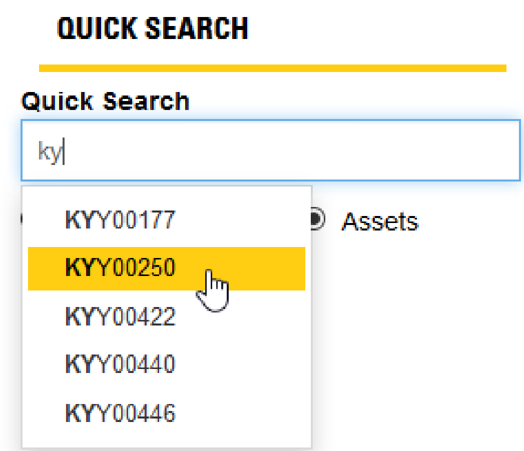
When multiple samples results are found, the software automatically loads the results in the *Samples* page.

When single sample matches are found, the software automatically loads the results in the *Sample Details* view.



When you click on the **Assets** radio button, the software will use the value entered in the input field to search across a subset of assets (equipment) and component fields.
When multiple asset results are found, the software automatically loads the results in the *Fleet* page.

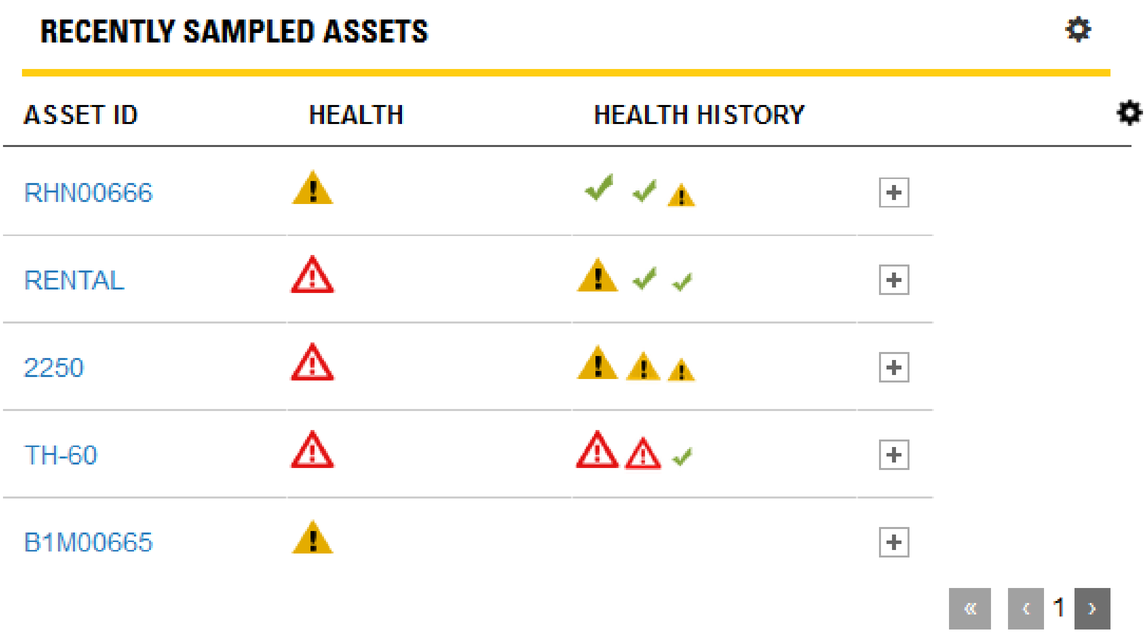
When single asset matches are found, the software automatically loads the results in the *Fleet* page *Asset Details* view.



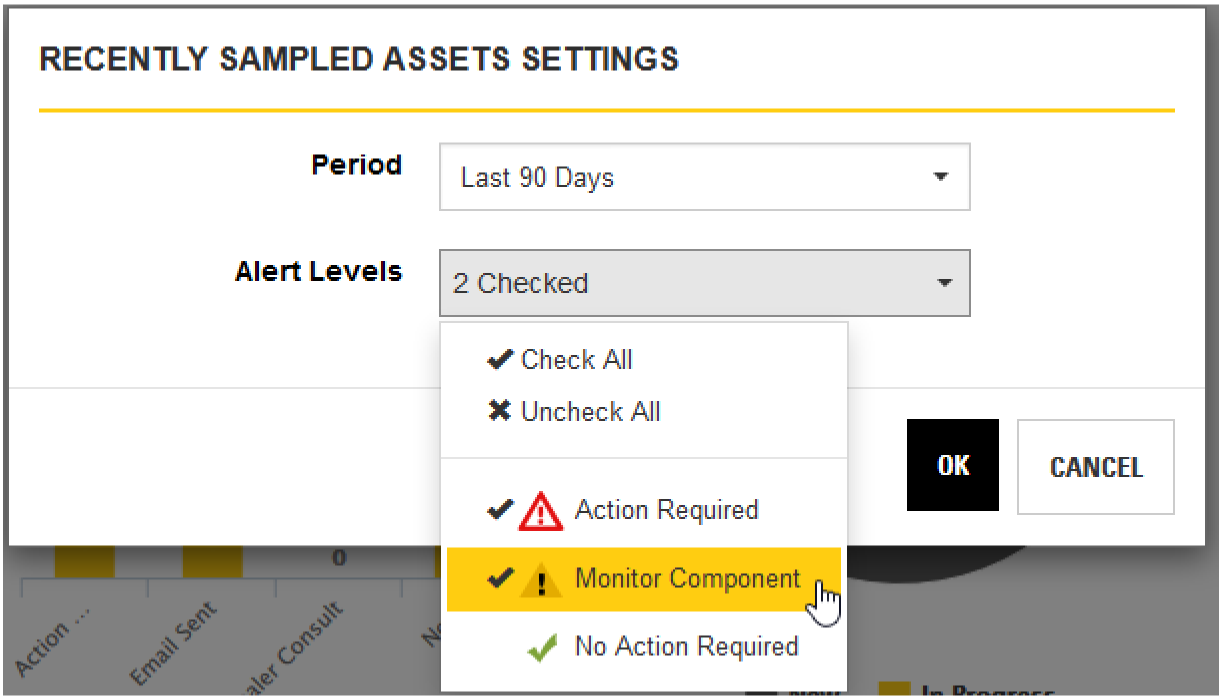
Recently Sampled Assets Widget

This widget displays information in a table view about assets that have been recently sampled.

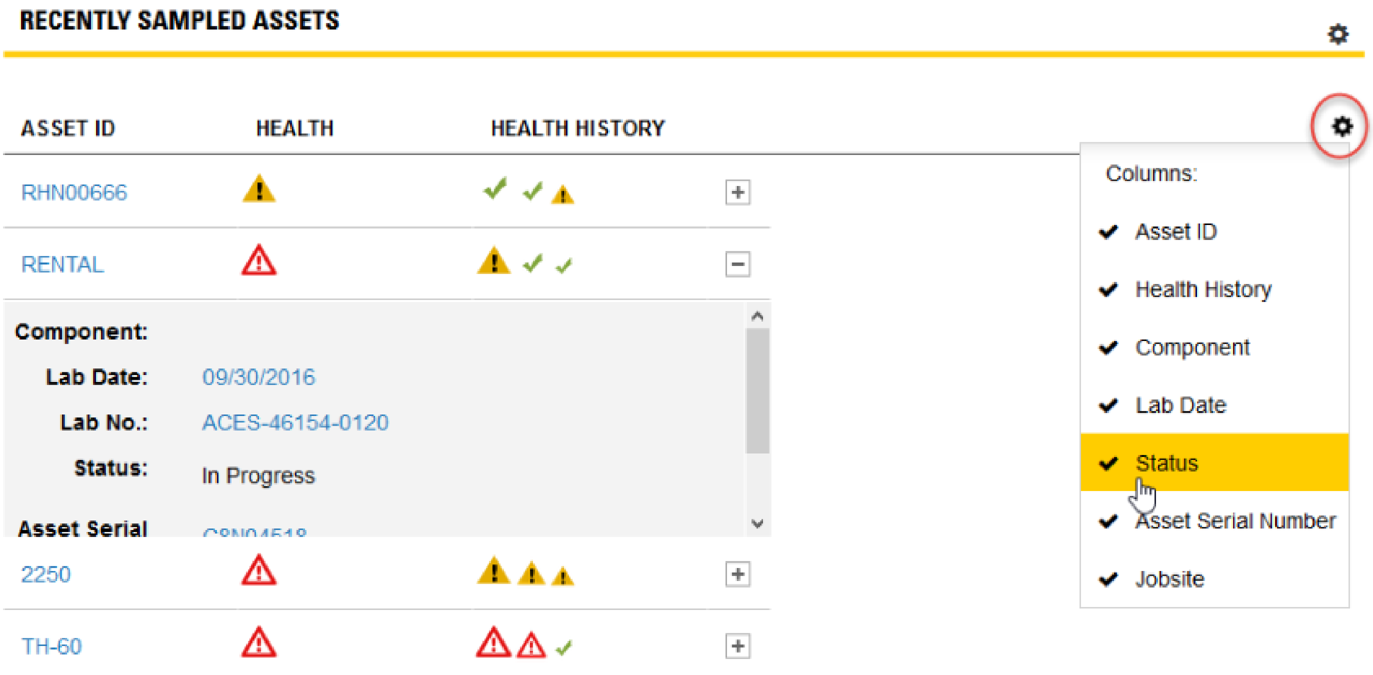
When you click on a link in the **Asset ID** column, the software automatically loads the results in the *Fleet* page *Asset Details* view.



Clicking on the **Settings** (gear) icon at the top right of the widget opens a *Settings* dialog box so you can define the Period and Alert Levels to filter the samples listed in the table.

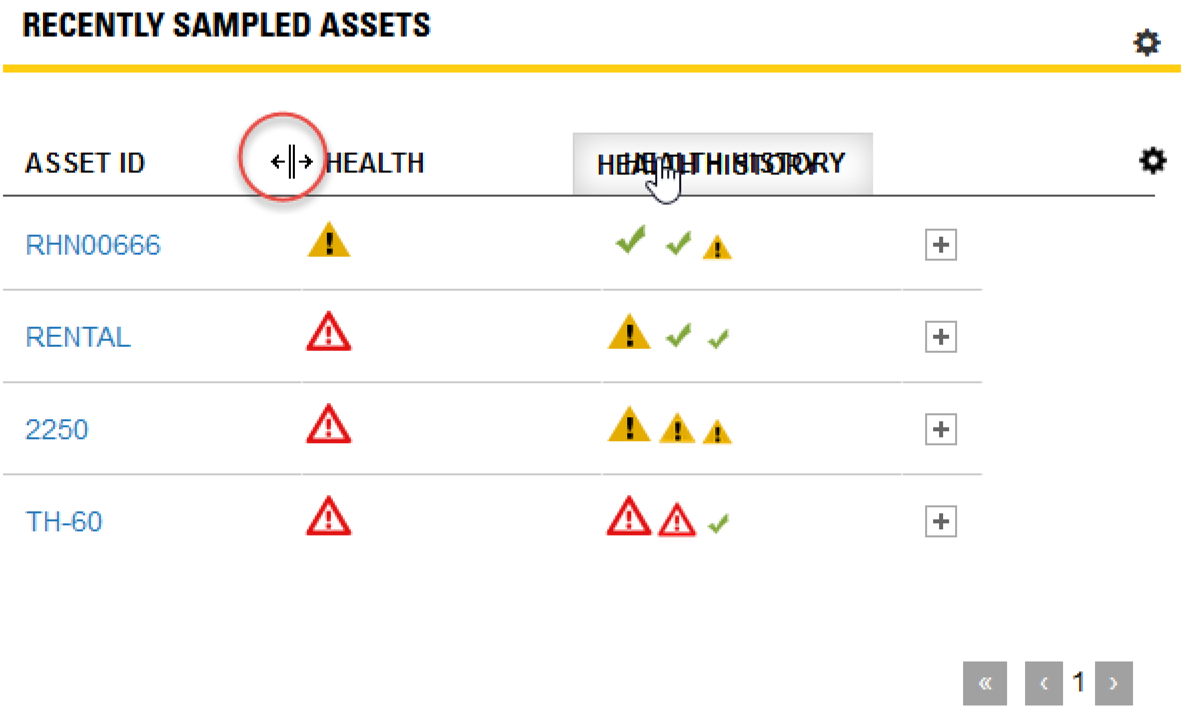


Clicking on the **Column Settings** (second gear) icon at the top right of the widget�s table opens a drop-down list so you can select the columns you want to appear within the table. If more than three columns are selected, you will see a plus sign **(+)** appear to the right of the columns indicating that more information is available. Clicking on the plus sign expands the row so you can view the additional information.



You can resize the column width by hovering the mouse cursor near the edge of a column header until you see a two-sided arrow as shown in the example below. Click and hold the left mouse button then drag the edge to the new size.

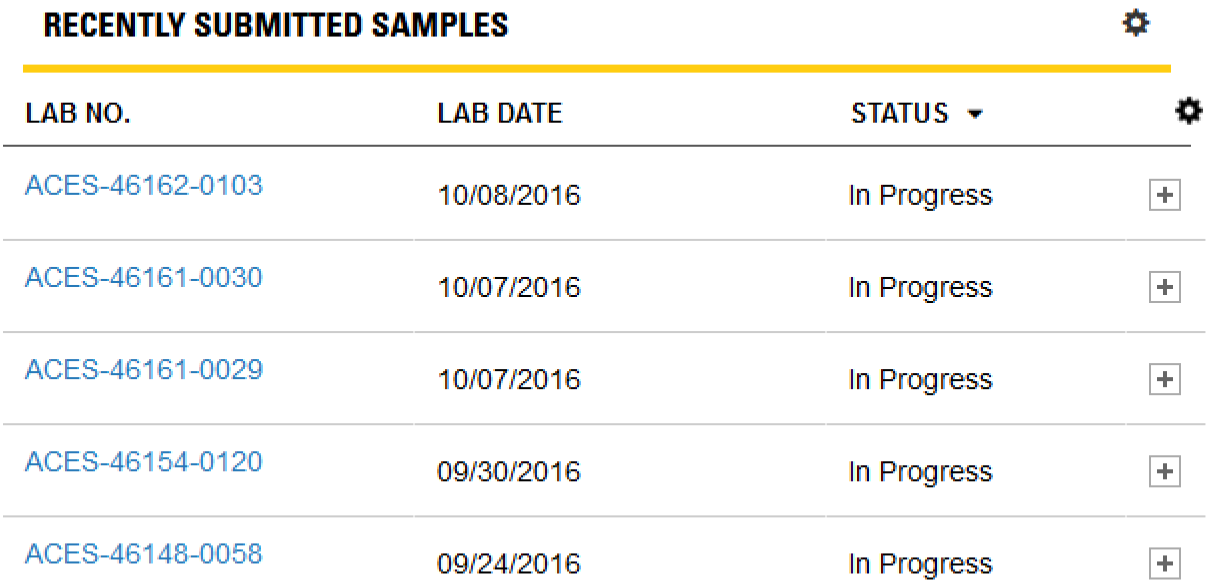
You can also change the order of the top three columns by hovering the mouse cursor over a column heading until you see the finger cursor as shown below. Click and hold the left mouse button then drag the heading to the new location.



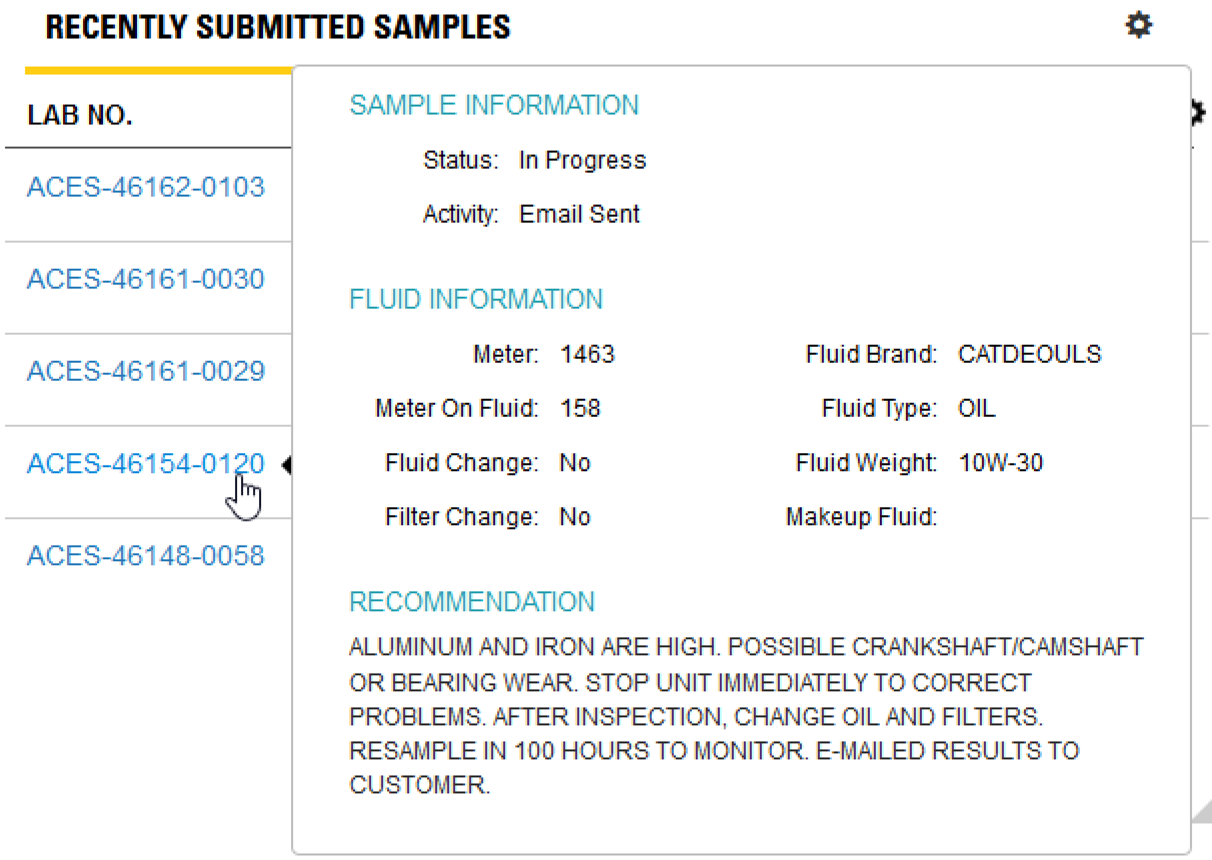
Recently Submitted Samples Widget

This widget displays samples that were recently submitted in the system using a table view.

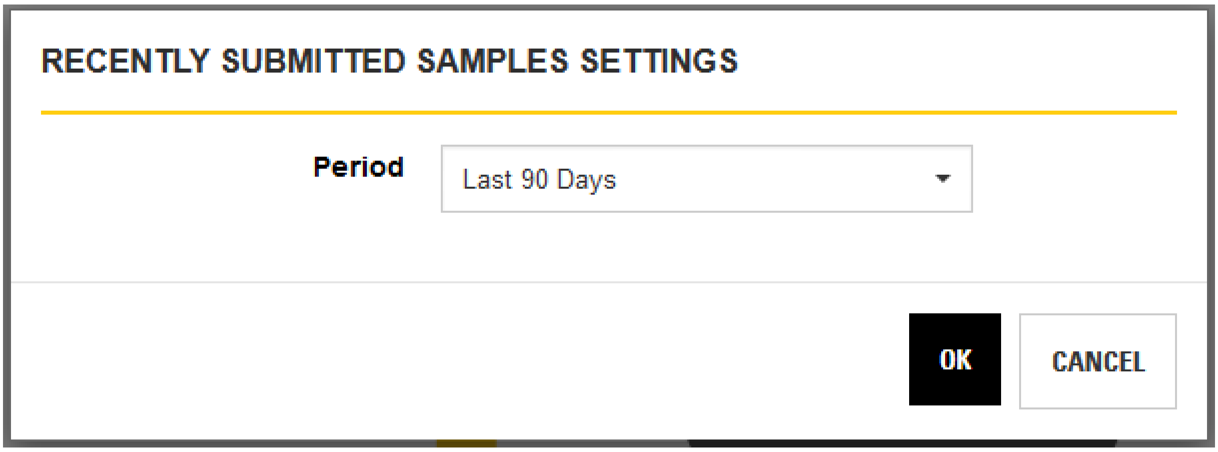
When you click on a link in the **Lab No** column, the software automatically loads the results in the *Samples* page *Sample Details* view.



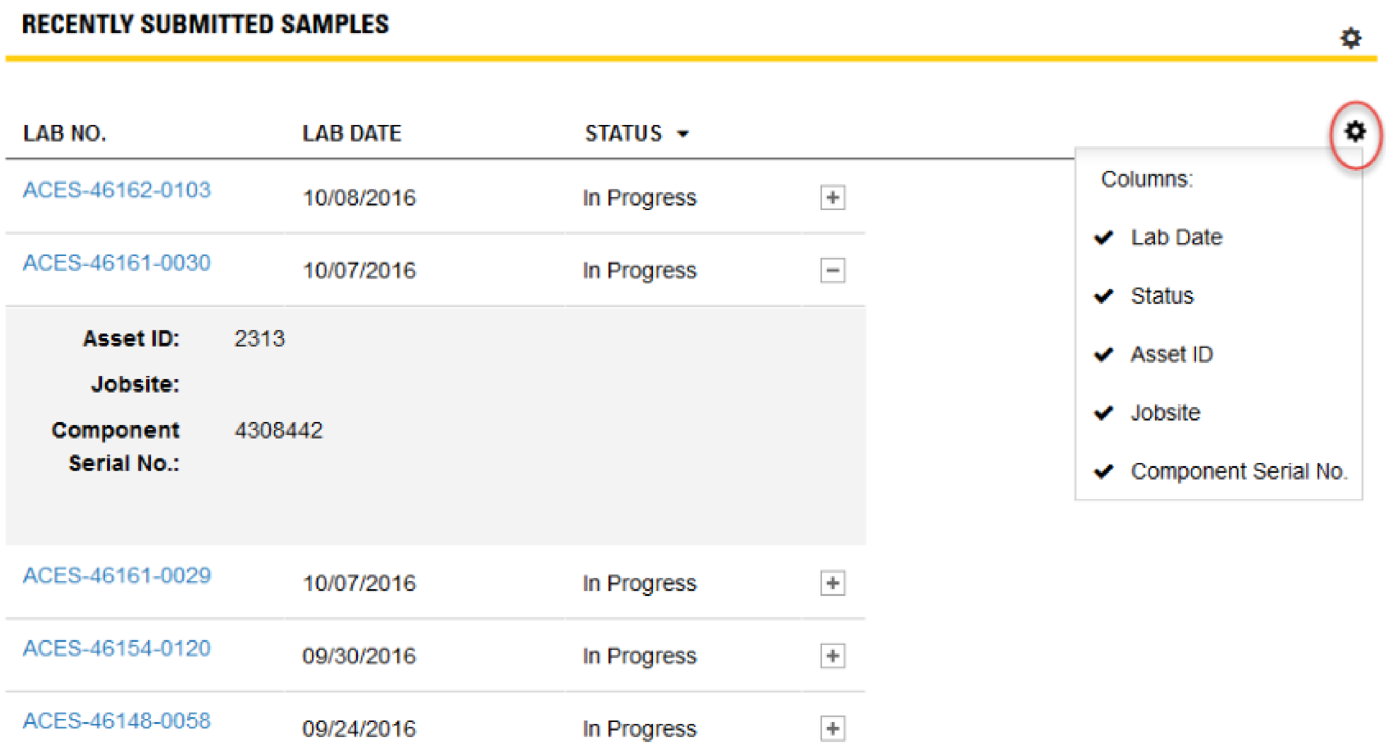
Hovering the mouse cursor over a link in the **Lab No** column opens a tooltip like the one shown in the example so you can quickly view related sample and fluid information, and recommendations (if available).



Clicking on the **Settings** (gear) icon at the top right of the widget opens a *Settings* dialog box so you can define the Period for the samples submitted to filter the samples listed in the table.

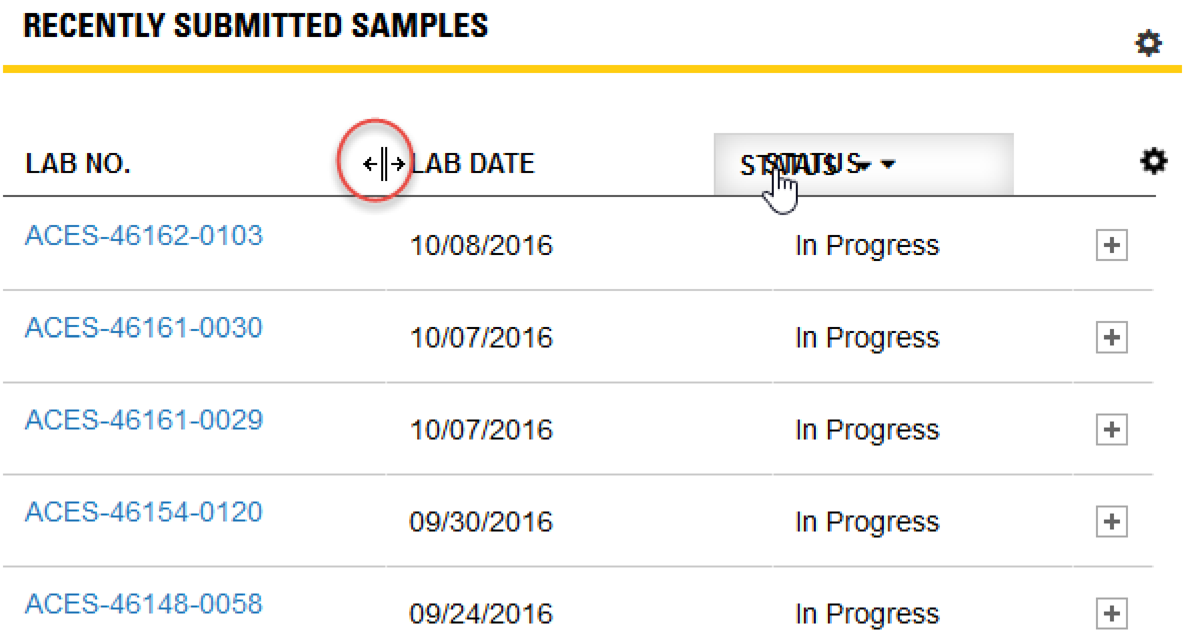


Clicking on the **Column Settings** (second gear) icon at the top right of the widget�s table opens a drop-down list so you can select the columns you want to appear within the table. If more than three columns are selected, you will see a plus sign **(+)** appear to the right of the columns indicating that more information is available. Clicking on the plus sign expands the row so you can view the additional information.



You can resize the column width by hovering the mouse cursor near the edge of a column header until you see a two-sided arrow as shown in the example below. Click and hold the left mouse button then drag the edge to the new size.

You can also change the order of the top three columns by hovering the mouse cursor over a column heading until you see the finger cursor as shown below. Click and hold the left mouse button then drag the heading to the new location.



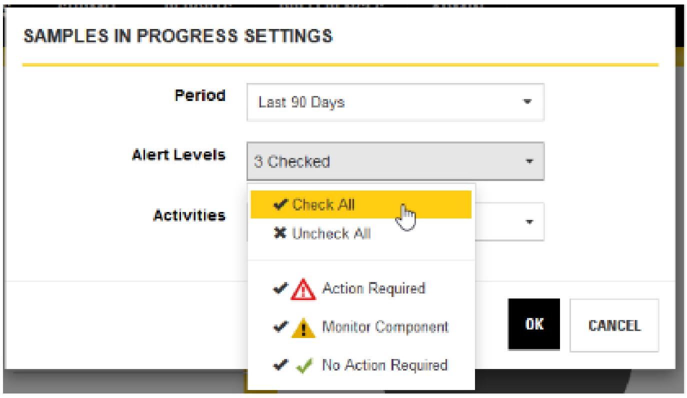
Samples in Progress Widget

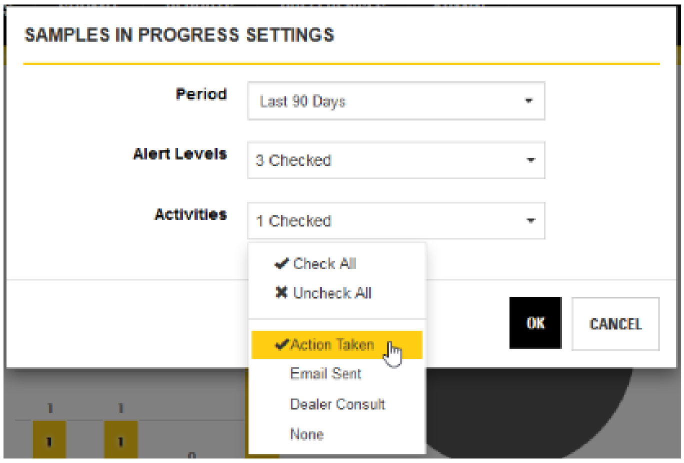
The **Samples in Progress** widget provides you with an overview of samples that are in progress within the sampling process.

Columns are organized by activities, which are shown on the X-axis. Hovering the mouse cursor over an entry in a column opens a tooltip to reveal the number of samples assigned to a specific alert level within the activity.

When you click on an entry within a column, the software automatically switches to the *Samples* page, so you can view more detailed information about the samples assigned to the activity.

By default, the system displays the last 30 days of available information. Clicking on the **Settings** (gear) icon at the top right of the widget opens a *Settings* dialog box so you can define the Period, Alert Levels, and Activities parameters needed. After setting parameters, click on the **OK** button to update the sample information displayed within the widget.





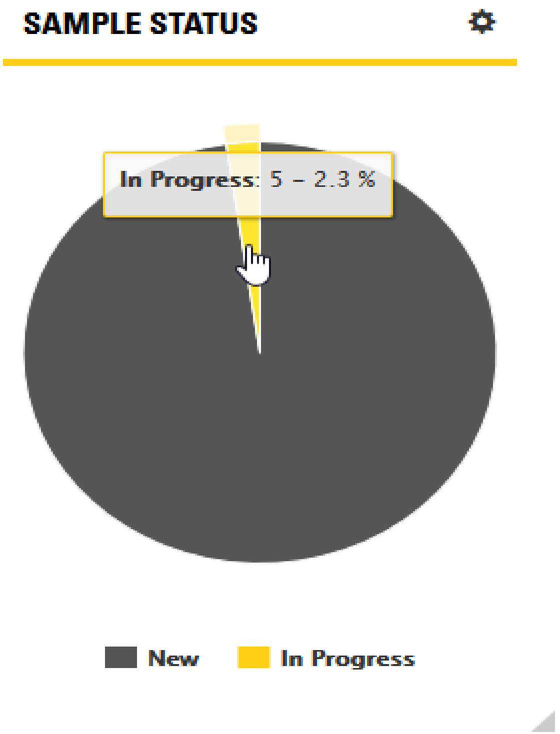
Sample Status Widget

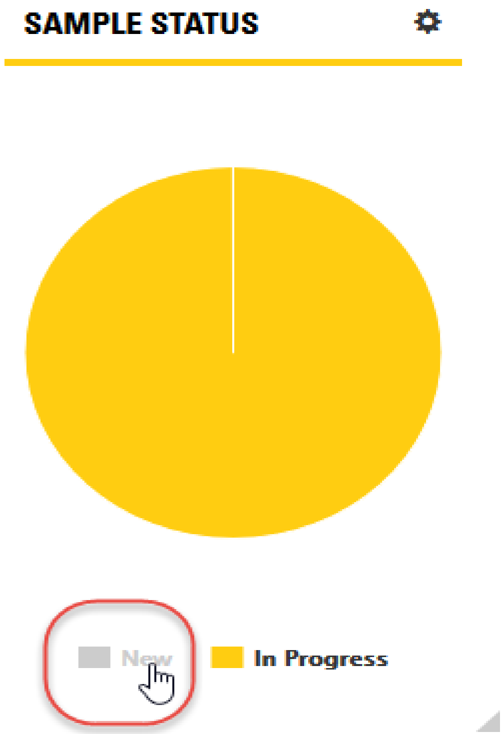
Use the **Sample Status** widget to quickly check the number (or percentage) of samples in the system that have been assigned to specific statuses over a specified time range.

Hovering the mouse cursor over a slice in the pie chart opens a tooltip showing the number and percentage of samples assigned to the specific status.

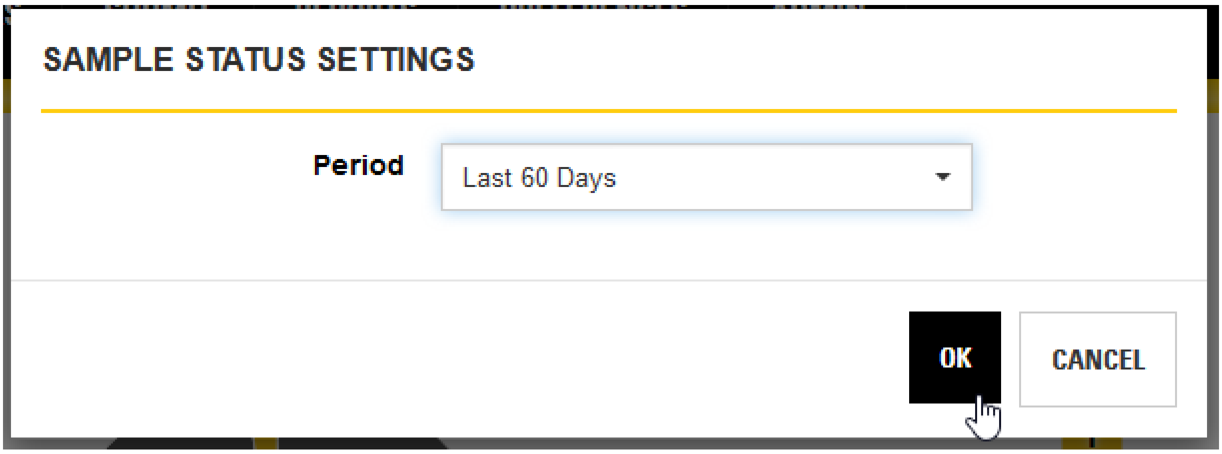
When you click on a slice in the pie chart, the software automatically switches to the *Samples* page so you can view more detailed information about the samples assigned to the related status.

Clicking on an item in the legend below the pie chart toggles the display of that status within the chart.



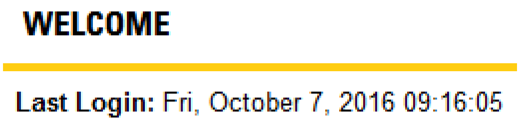


Clicking on the **Settings** (gear) icon in the top right corner opens a dialog box used to define the period for the samples.



Welcome Widget

The **Welcome** widget provides you with general information about the application along with information about the last time you logged into the system. The widget can also include message from the system administrator.



HELP - FLEET

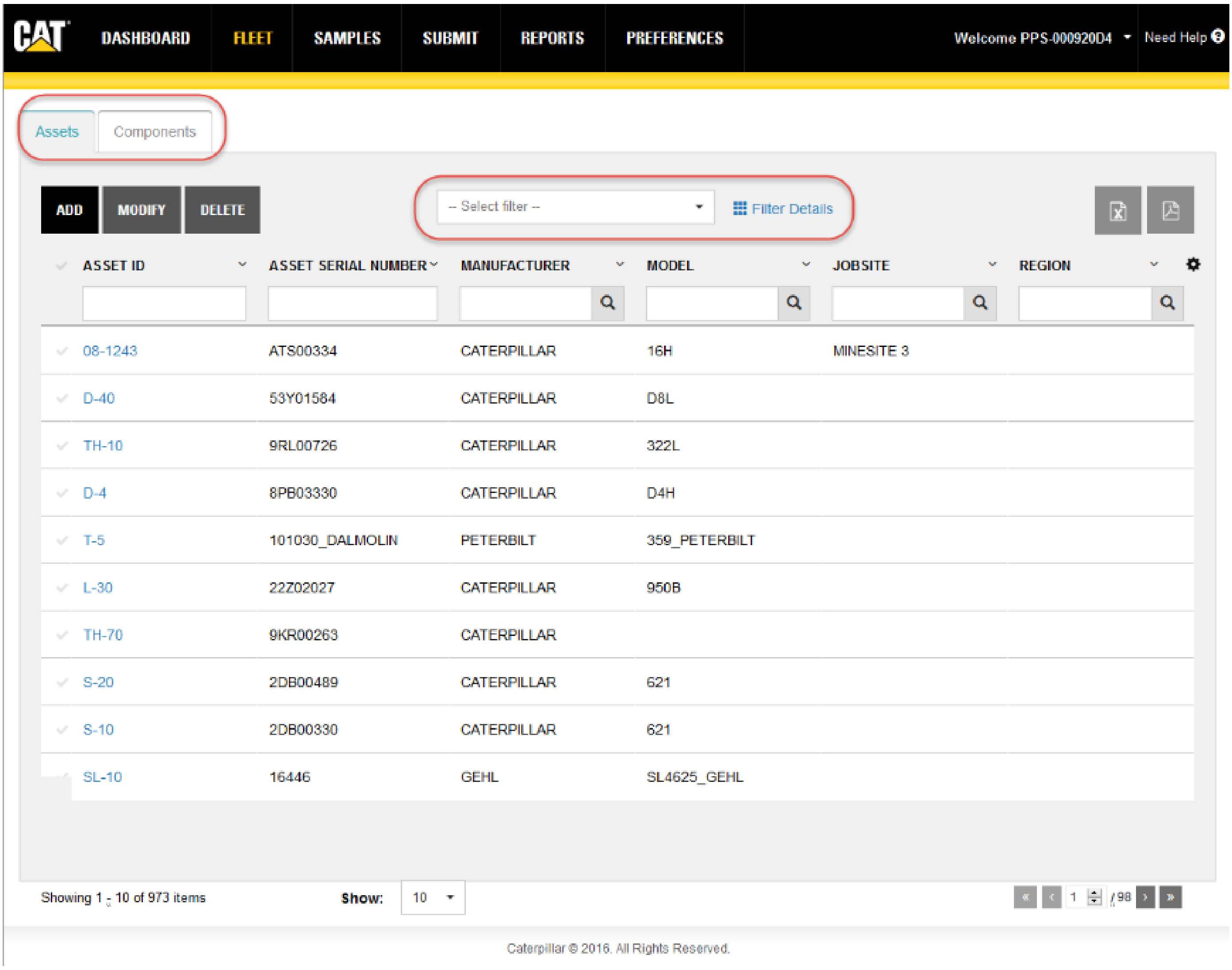
USING THE FLEET PAGE

The *Fleet* page provides you with the tools needed to display, find, and manage your equipment. The page views and elements include:

- Assets tab
- Components tab
- Asset Details view
- Add/Modify Asset view
- Add/Modify Component dialog

In the **Assets** and **Components** tabs, the top of the *Fleet* page includes a filters section used to refine search capabilities. The Advanced Filter tools allow you to apply ad hoc or previously saved filters when searching for asset data.

The *Asset Details* view provides you with the tools needed to manage asset data.



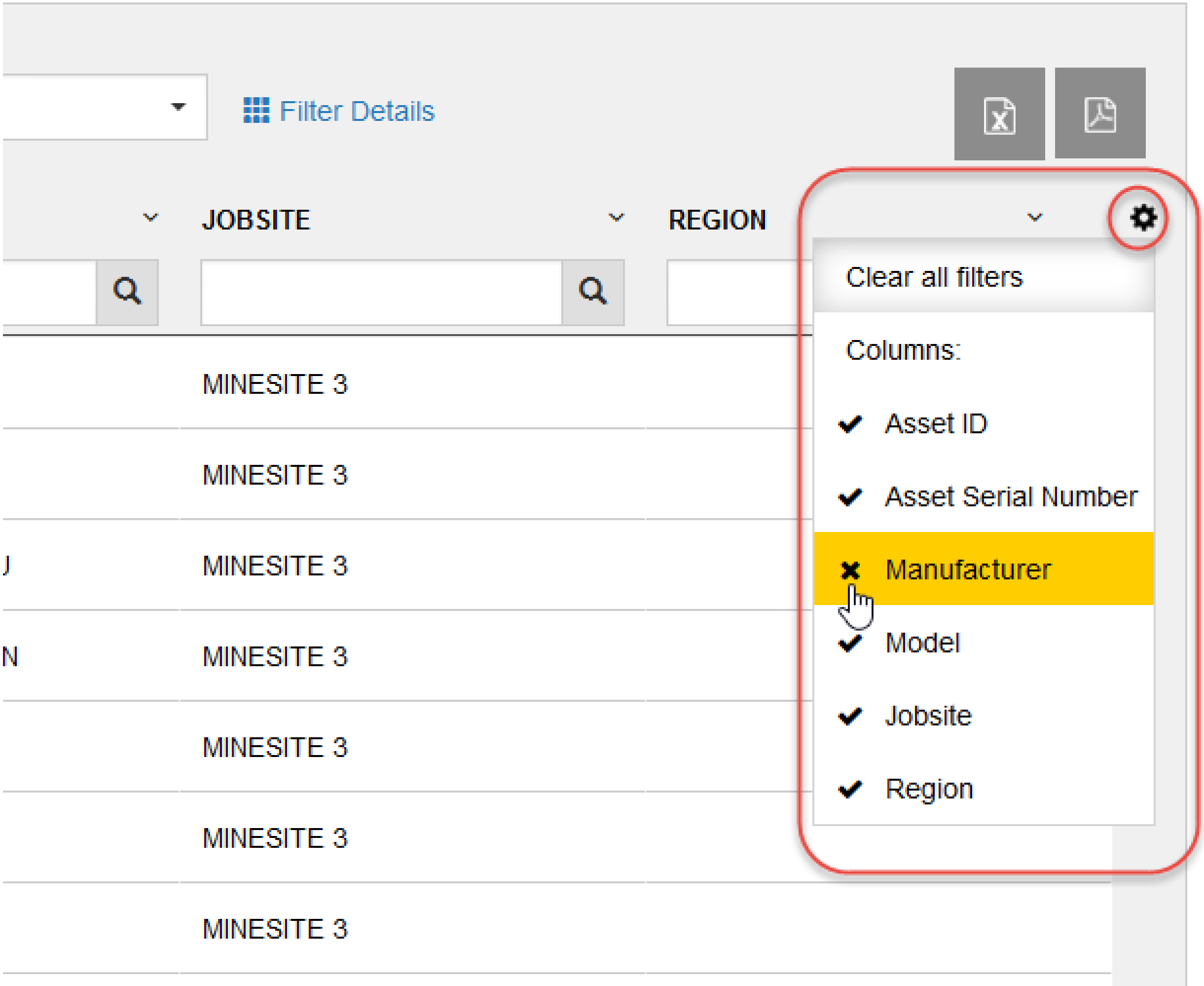
FLEET PAGE COMMON FEATURES AND FUNCTIONS

The **Assets** and **Components** tabs share common functions such as column selecting, arrangement, and sorting. Descriptions of common functions are described in this section.

Choosing Columns to Display

Click on the **Settings** (gear) icon found to the right of the column headers to open a drop-down list as shown below. A check mark appearing to the left of a column title signifies that the column will appear within the table; an X mark hides the related column.

Click anywhere outside the drop-down list to close it.

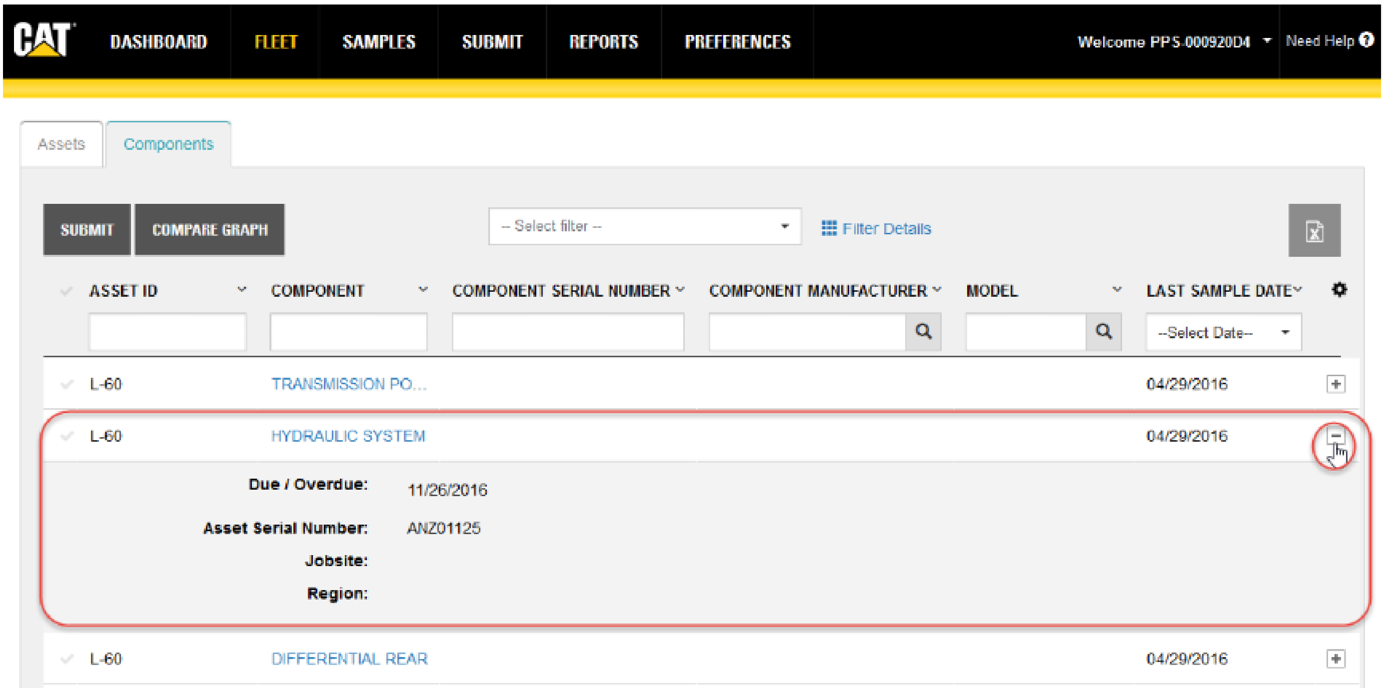


NOTE: *The columns that are available for viewing will depend on the user type logged into the system.*

The columns that actually appear within the table view depend on the screen real estate available. If more columns are selected than space allows, a plus sign (+) icon appears to the right of the rows signifying that additional information is available.

Clicking on the plus sign (+) icon within a specific row expands the row as shown in the example so you can view the additional information as needed. Scroll bars are used to help you view content that is longer or wider than what can be shown within the display area.

The changes made to column settings will persist as your preference, so when you log out then return to the system, you will see the columns and the order appear based on the last defined settings.

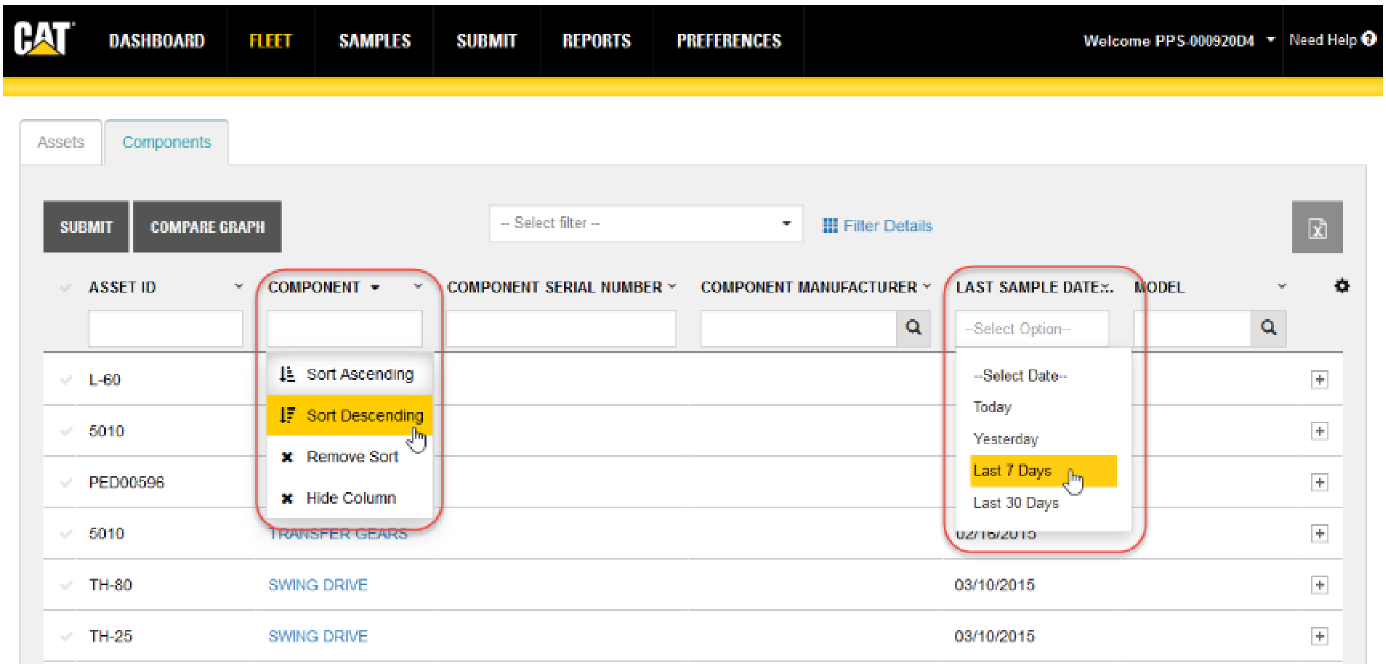


Sorting and Filtering via Column Headers

Headers identify the information displayed in columns, but you can also use them to sort and filter the table's data.

To sort data in ascending or descending order, click on the small arrow to the right of a column header then select the desired order. Columns can also be hidden by clicking on the **x Hide Column** item in the header's menu.

Some column headers provide drop-down lists used to select information options; others use direct entry fields in which you can enter specific search elements to more quickly locate a particular sample.



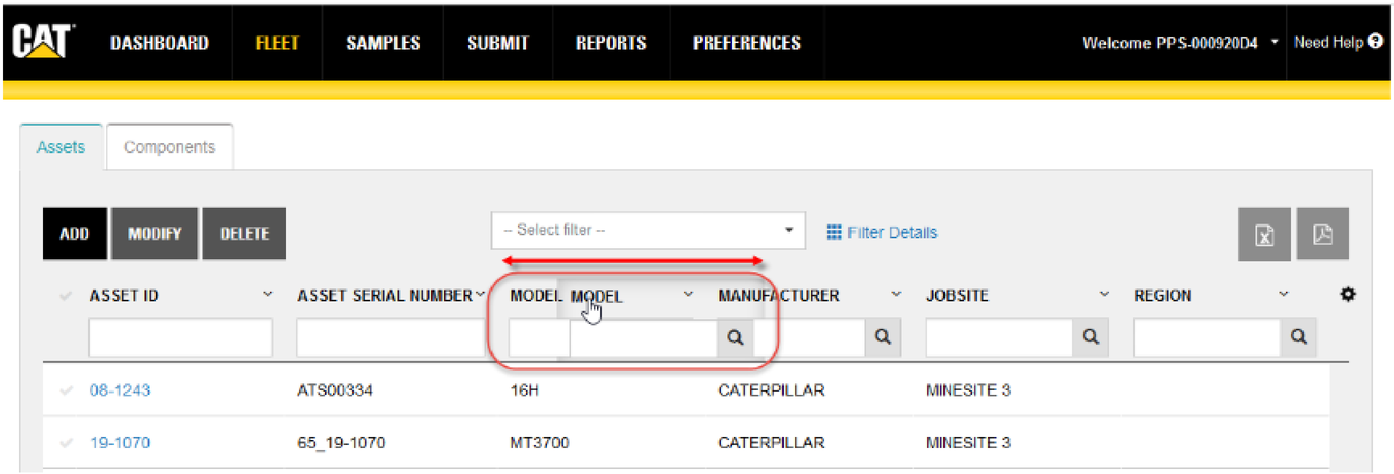
To clear header filters, click on the **Settings** gear icon located top right of the table then click on **Clear all filters**.

NOTE: *Clicking on **Clear all filters** from **Settings** does not clear filters applied via the Advanced Filters feature. An active advanced filter must be cleared by clicking on **Reset** found in that section.*

Arranging Columns

You can rearrange the order of the columns simply by dragging them to the location you want.

Move your mouse cursor over the column title, then click and hold the left mouse button down. As the image below shows, the selected column "detaches" from its original location to confirm which column you are moving.

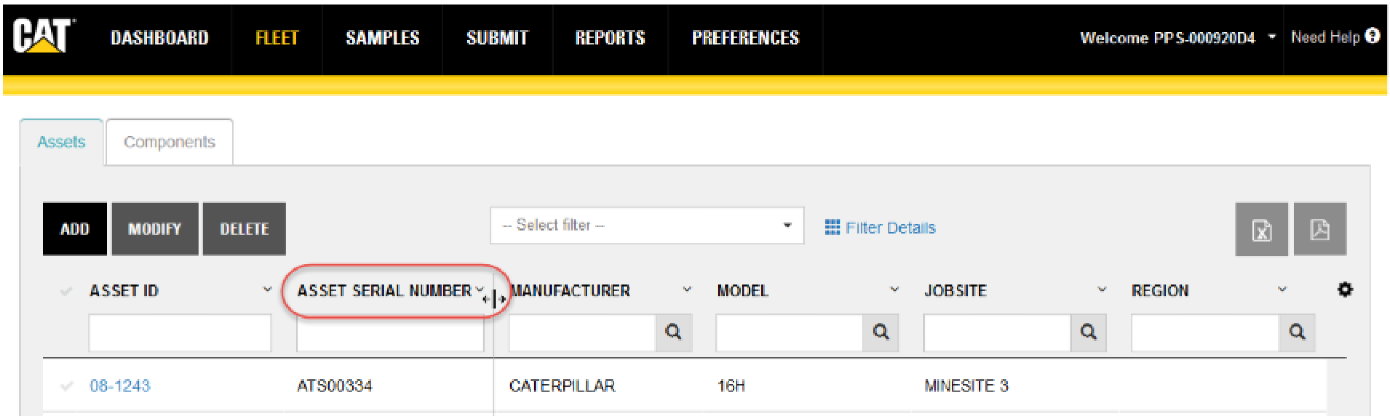


Drag the column to the desired location then release the mouse button. In a moment, the application will reorganize the table with the column in the new location. When you log out, the system saves the latest configuration so that the table will appear the same in your future sessions.

NOTE: *The check mark column is always displayed in the far left column of the table and cannot be moved or removed.*

Sizing Columns

You can adjust the width of columns by hovering the mouse cursor between column edges until you see a double-line arrow as shown in the example. Then hold down the left mouse button, drag the column to the desired width then release the mouse button.



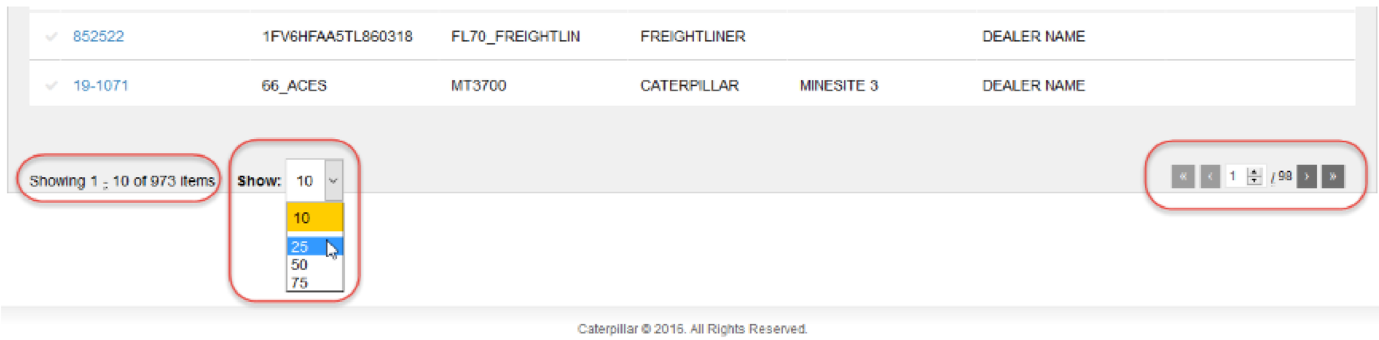
Navigating and Managing Samples Lists

Paging controls appear at the bottom of the table (left and right) to facilitate navigation through longer lists of data.

A **Showing** segment label identifies the range of results displayed.

A **Show** section filter identifies the number of results shown within the table. As the options suggest, you can show 10, 25, 50, or 100 samples per page.

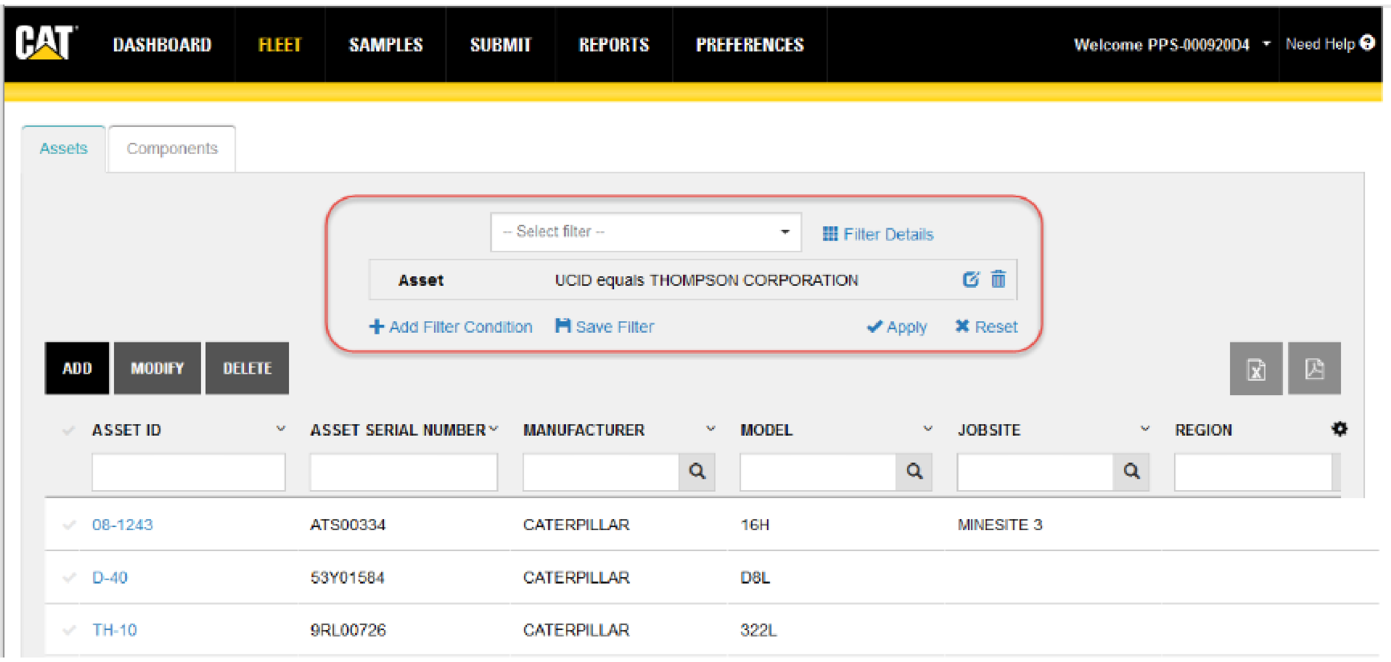
Controls to the right allow you to select from multiple pages for longer sample sets.



USING ADVANCED FILTERS

Many column headers in the main **Assets** and **Components** tab tables provide direct filtering capabilities to help you locate specific equipment within the database. In addition, the Advanced Filters feature helps you further narrow down data by giving you the tools to specify multiple conditions (properties) for a given filter, so you can customize the information displayed based on the filter selected.

If you end your session with a filter selected, when you log back in, the system will retain the last filter used and the data presented will be filtered accordingly. In addition, filters set via the column headers will also persist between sessions.

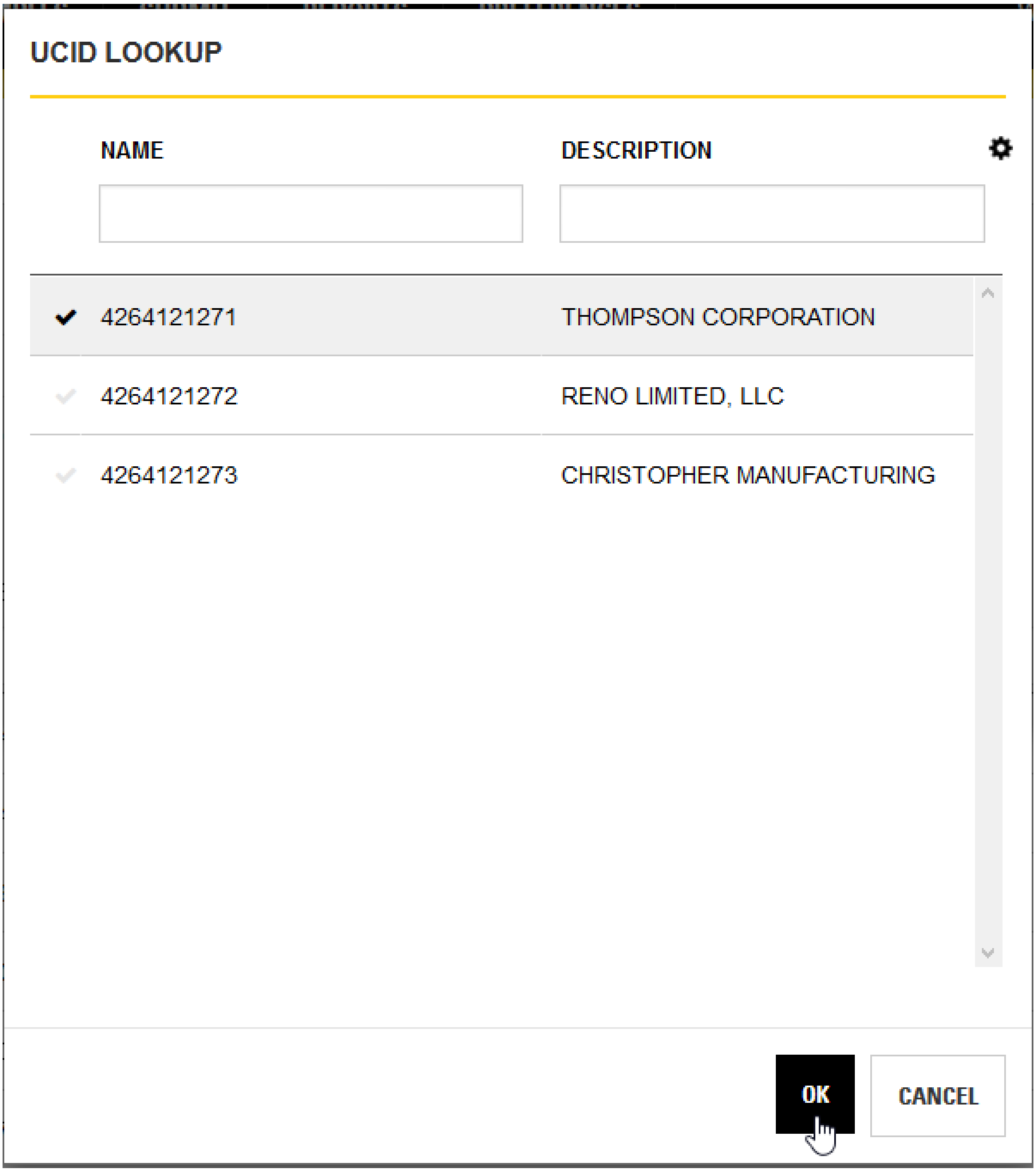


You can use existing filters by clicking on the arrow to the right of the **Select filter** drop-down list then clicking on the desired filter shown in the list.

Create new filters by clicking on **Filter Details** then **Add Filter Condition**.

Specify filter criteria by using lists to choose the property, operator, and in many cases predefined values based on the filter types.

In other cases, you will need to know the value to enter directly, or you may be presented with a *Lookup Value* dialog box to help you quickly retrieve condition values from information stored in the database.



To further refine search parameters, click again on **Add Filter Condition** and specify the additional parameters needed.

After creating a new filter, you can click on **Apply** to have the system refine the samples list presented. Note that applying the filter does not save the filter for future use.

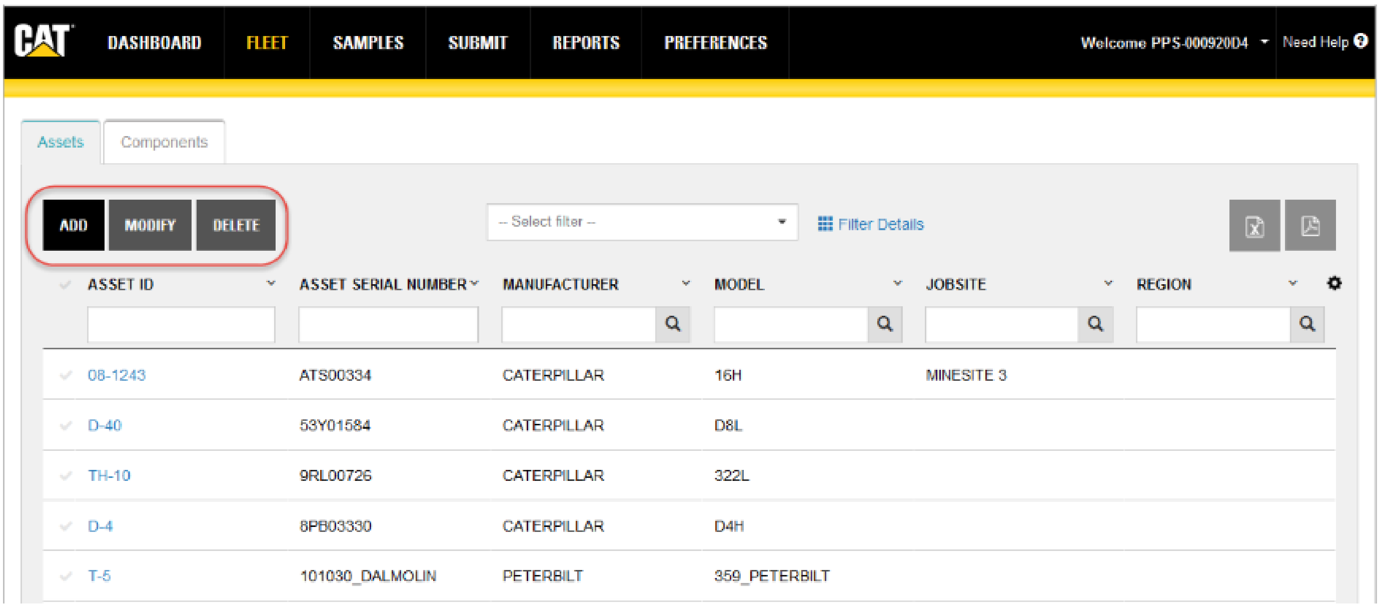
Be sure to click on **Save Filter** to add the new filter to your list.

Clicking on **Reset** clears all advanced filter fields, deselects the active advanced filter, and updates the samples display accordingly.

NOTE: *Clicking on **Reset** does not affect filters selected via the column headers. To clear those filters, click on the **Settings** gear icon located top right of the table then click on **Clear all filters**.*

ASSETS TAB FEATURES AND FUNCTIONS

The **Assets** tab provides you with the tools to browse and manage all of the assets in your fleet including adding, modifying, and deleting assets.



Adding an Asset

Adding an asset is simply a matter of clicking on the **Add** button and filling out the form provided in the *Add Asset* view.

The **Add Asset** form collects asset and ownership information. Providing information for the required fields will create the new asset as needed, but including information in other fields can prove useful when completing other tasks within the application.

Some fields are direct entry; you must know the value that needs to be entered. Other fields have suggest capability; entering partial information will cause the software to provide filtered lists that contain the partial value entered.

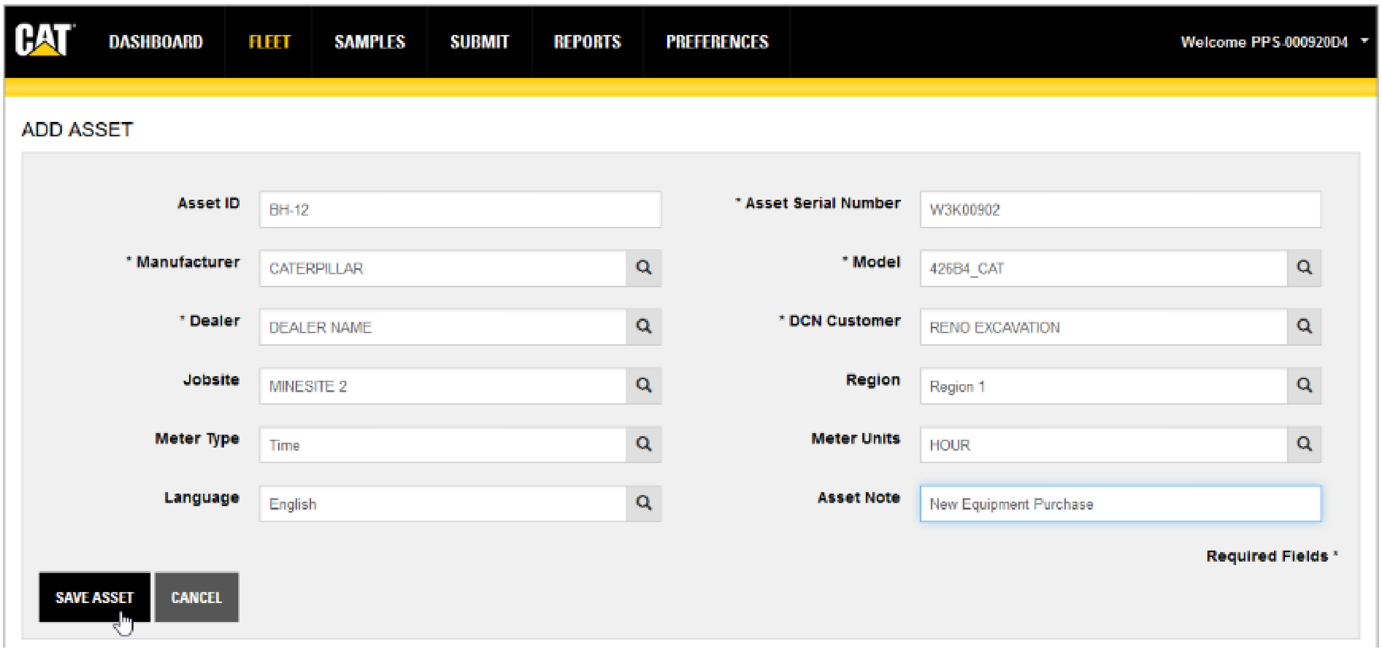
Additionally, many fields include lookup features to help you locate the needed values that are currently stored in the database.

When you first enter the **Add Asset** form, the **Manufacturer** and **Dealer** fields will be grayed out. To activate the **Manufacturer** field, enter a valid serial number in the **Asset Serial Number field** then press Enter on your keyboard.

The software will not only enable the **Manufacturer** field, it will automatically update the lookup list for the **Model** field.

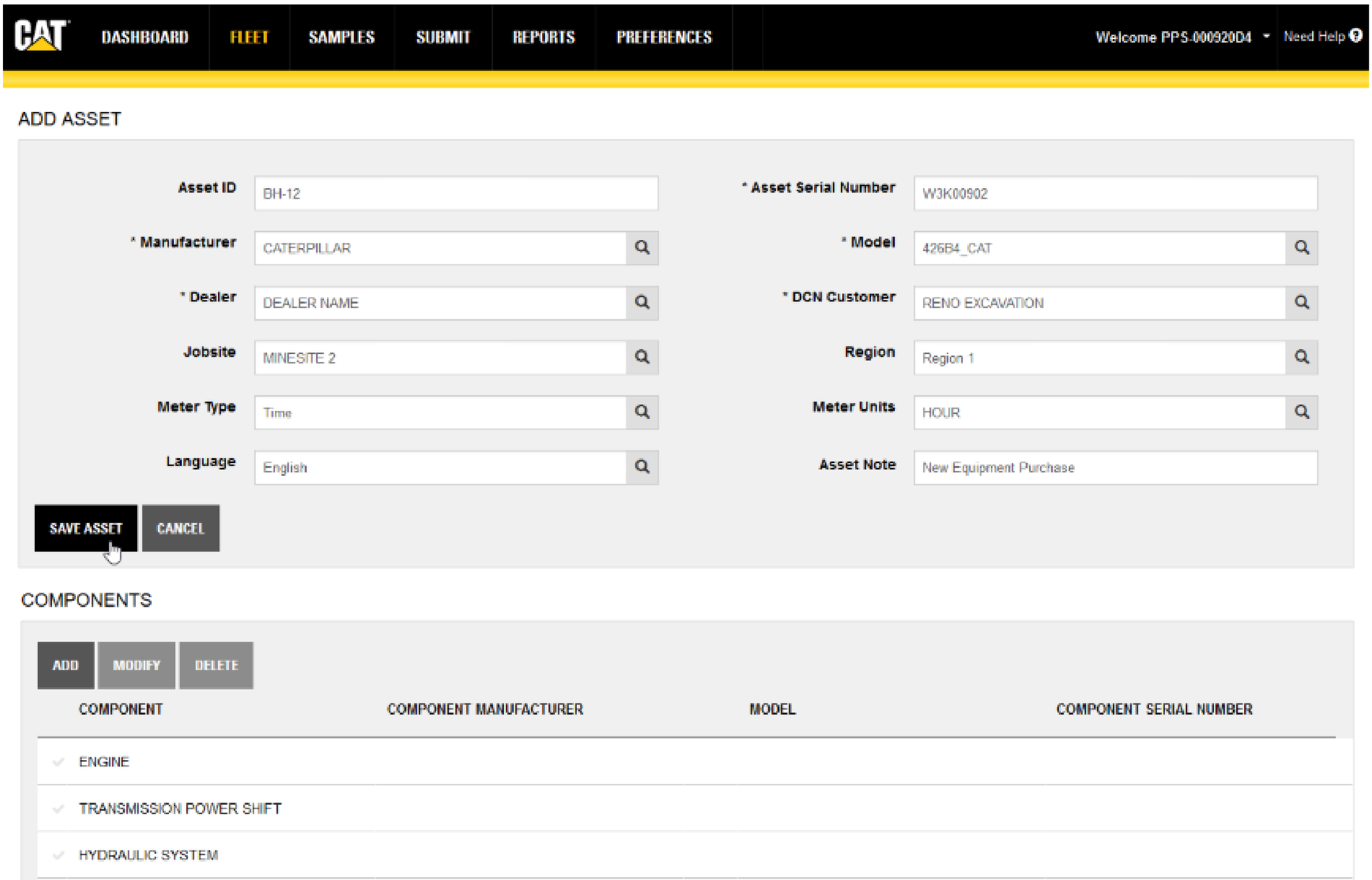
Selecting a model from the **Model** lookup will in turn activate the **Dealer** field. The software will then have the information it needs to automatically populate the **COMPONENTS** table when the new asset is saved.

When you have satisfactorily completed at least the required fields, click on **SAVE ASSET** to save the new asset to the database.



After saving the new asset, the **COMPONENTS** table appears in the bottom section of the view.

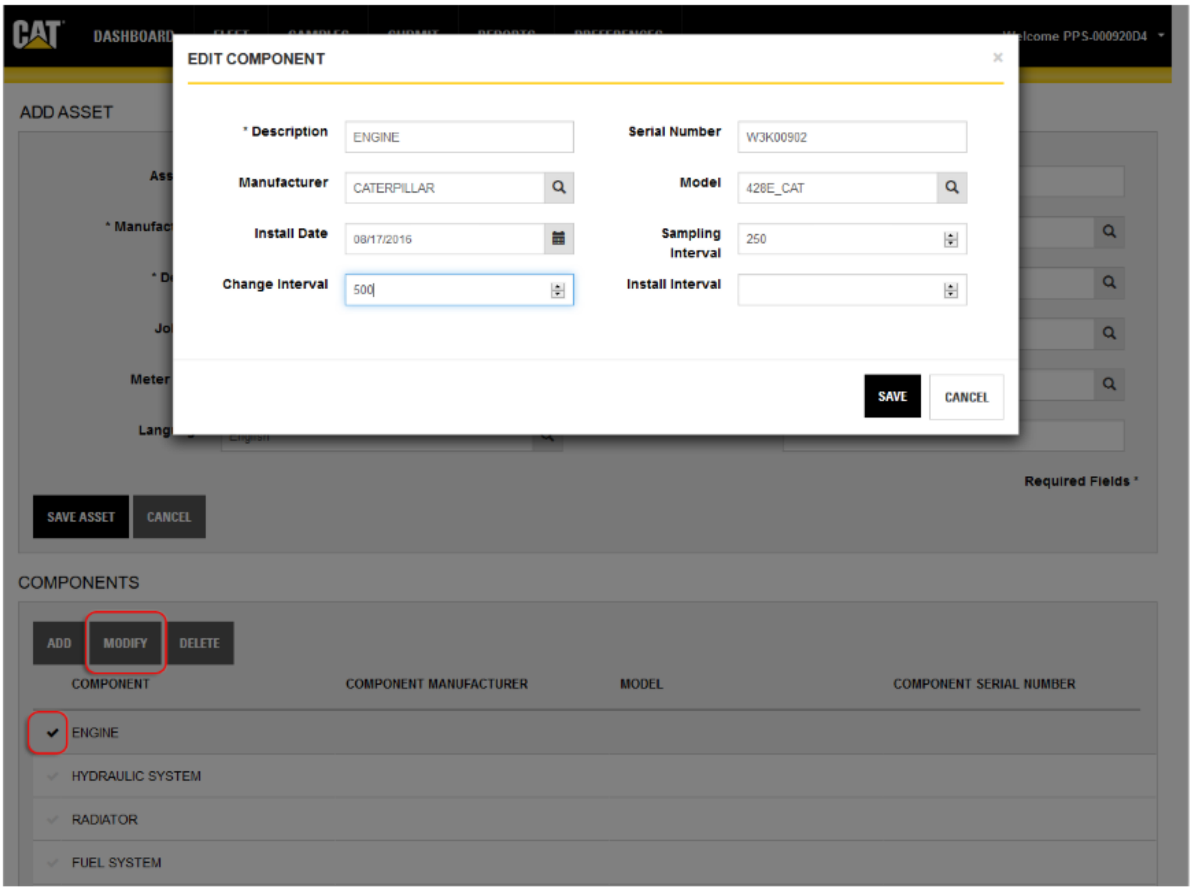
You can use this table to add, edit, or delete components assigned to the asset.



To add a component, click on the **Add** button then enter information as needed in the *ADD COMPONENT* dialog box.

To edit information for a component, click on the **Check Mark** to left of the component you want to edit then click on the **MODIFY** button.

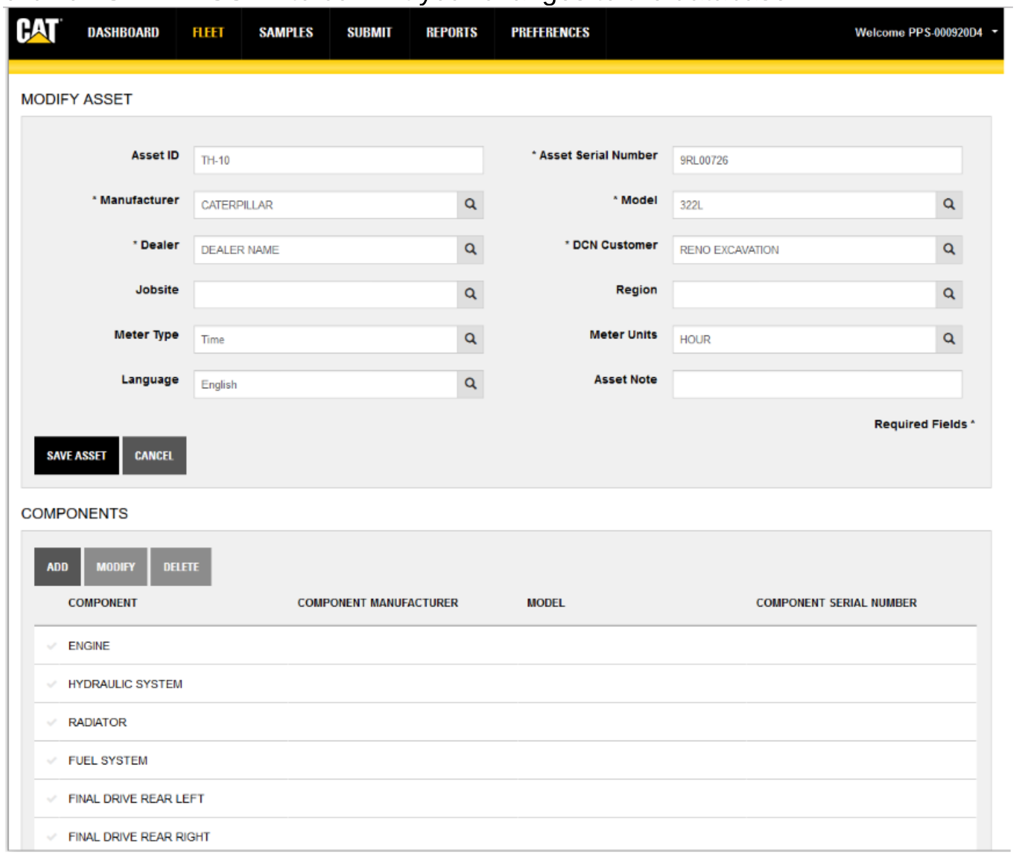
Modify the information in the *EDIT COMPONENT* dialog box as needed then save your changes.



Modifying an Asset

Modifying information for an existing asset is similar to adding a new asset; click on the **Check Mark** to select the asset you want to modify then click the **MODIFY** button to open the *Modify Asset* view.

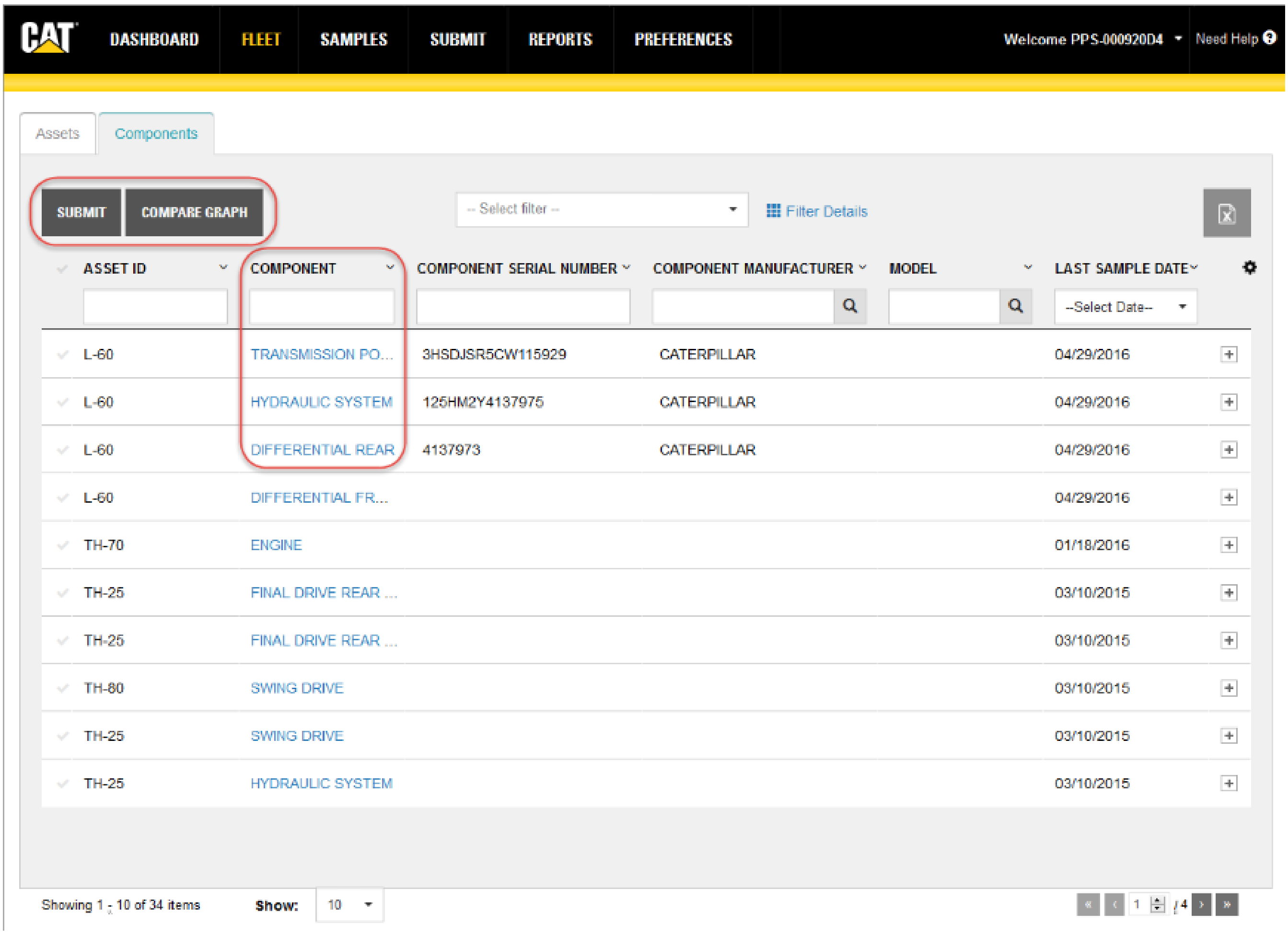
Make your changes to the necessary fields within the form, and manage component information as needed then click on **SAVE ASSET** to commit your changes to the database.



COMPONENTS TAB FEATURES AND FUNCTIONS

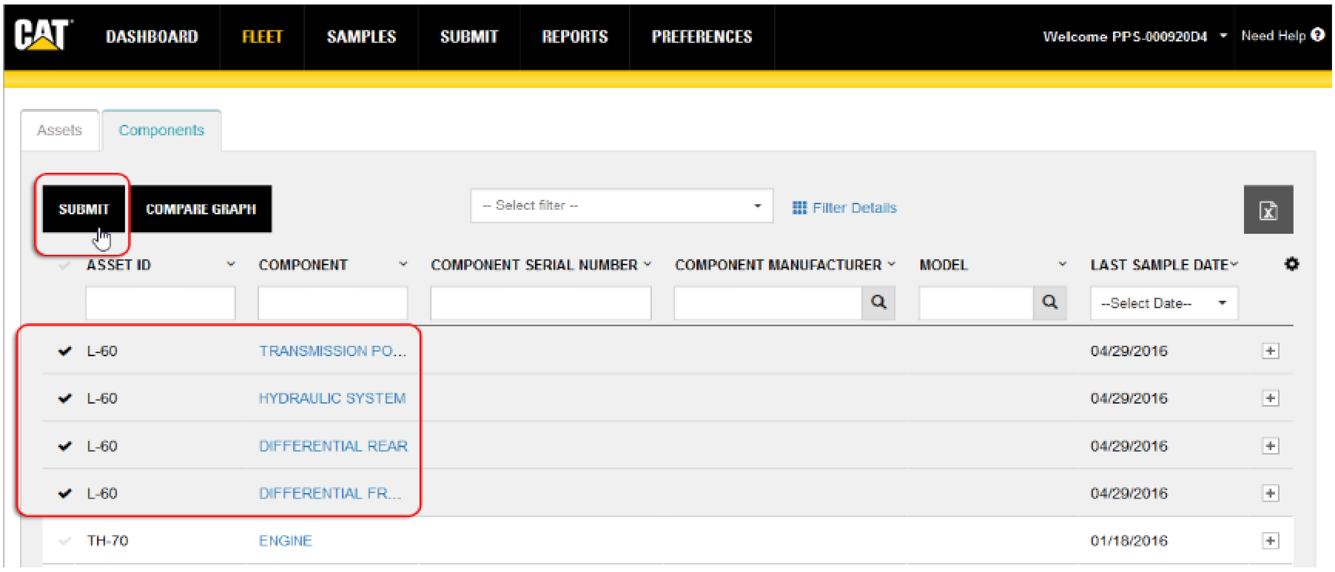
The **Components** tab provides you with the tools to view data for all of the components in your fleet. You can also use this tab to submit new samples and compare sample results data for two or more components.

Clicking on an item in the **Component** column automatically takes you to the *Asset Details* view for the selected component. Refer to the *Asset Details Features and Functions* section for more information.

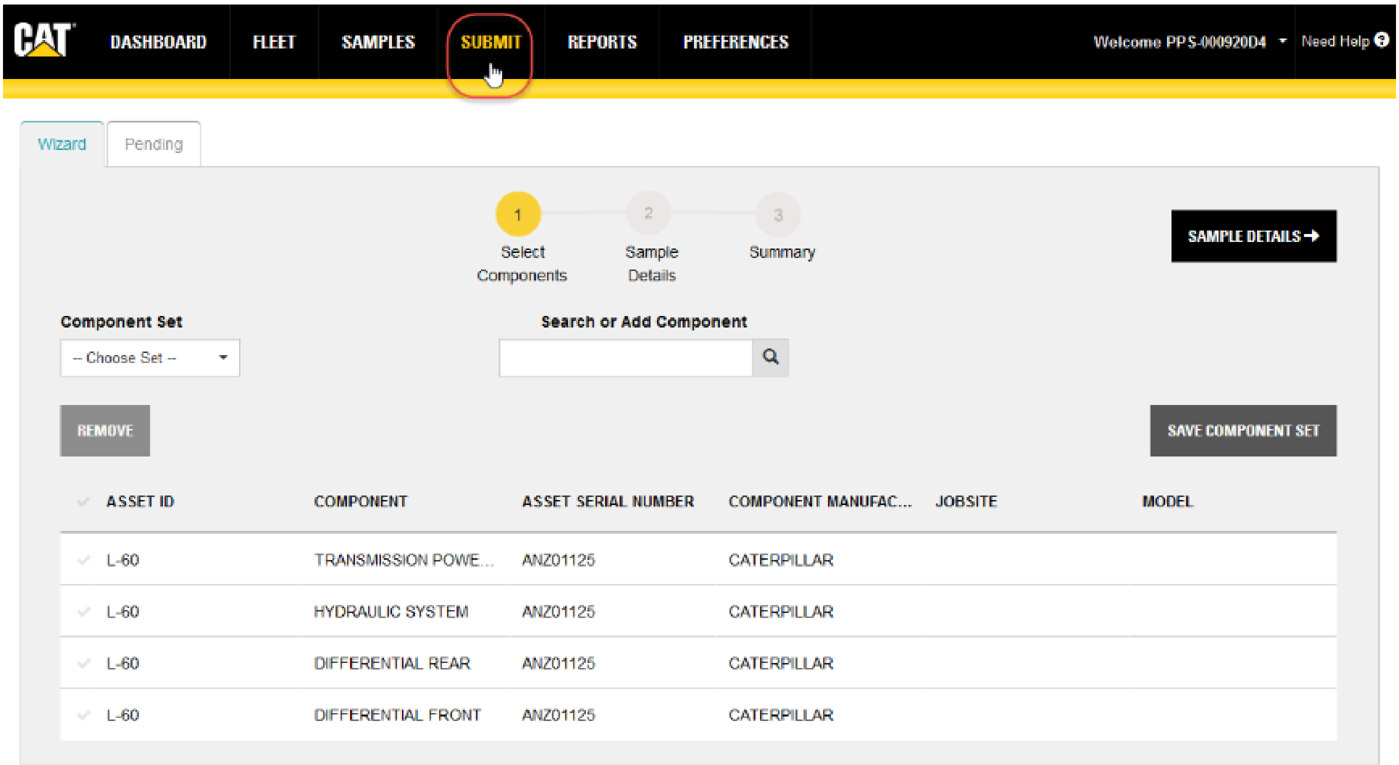


Submitting Component Samples

Click on the **Check Mark** for one or more components for which you will be submitting samples then click on the **SUBMIT** button.



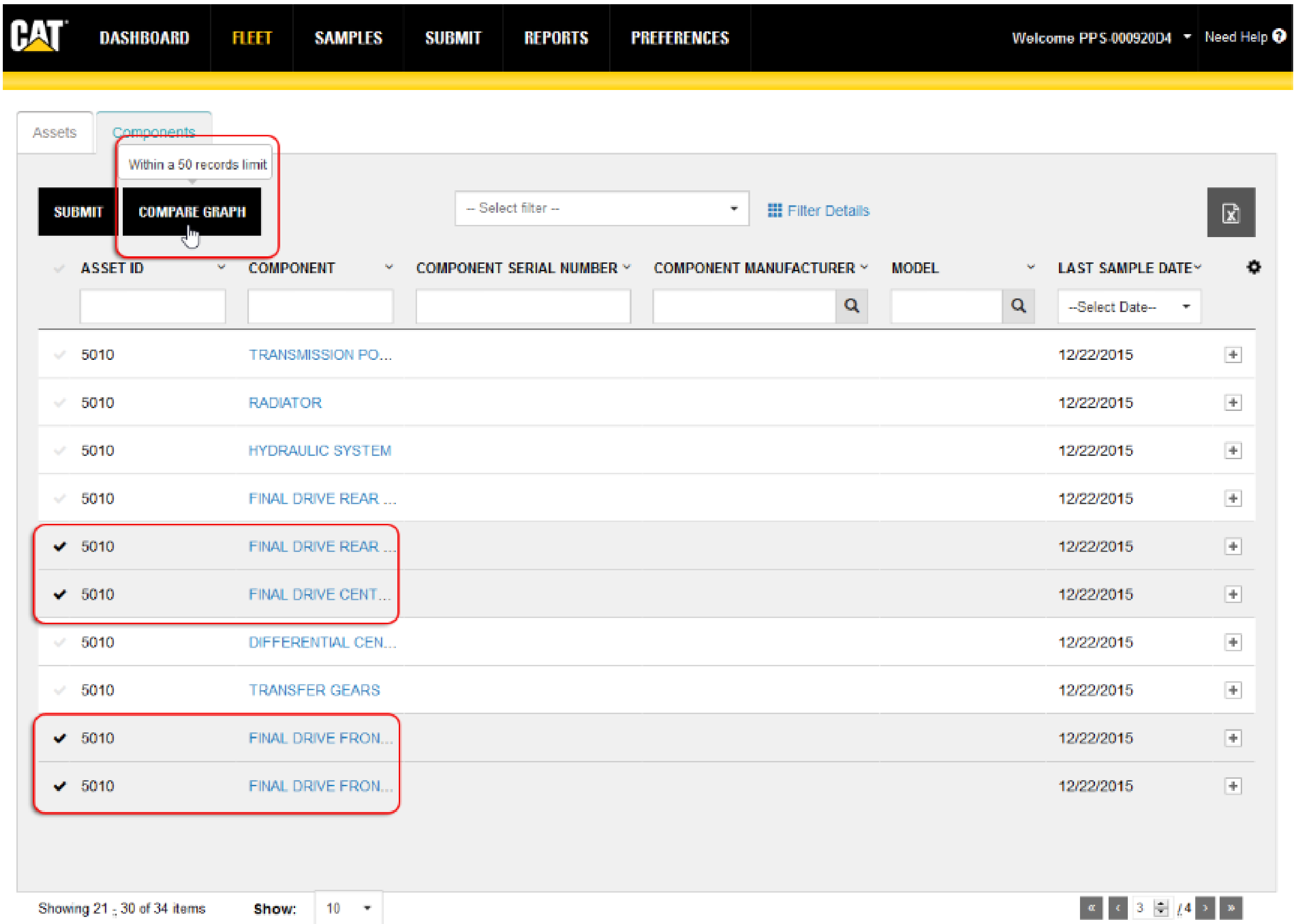
The application automatically changes to the *Submit* page, which you will use to complete the sample submission process. Refer to the *Submit* page help for details on using the page's features and functions.



Using the Compare Graph Feature

The **Compare Graph** is used to compare existing test results data between two or more selected components.

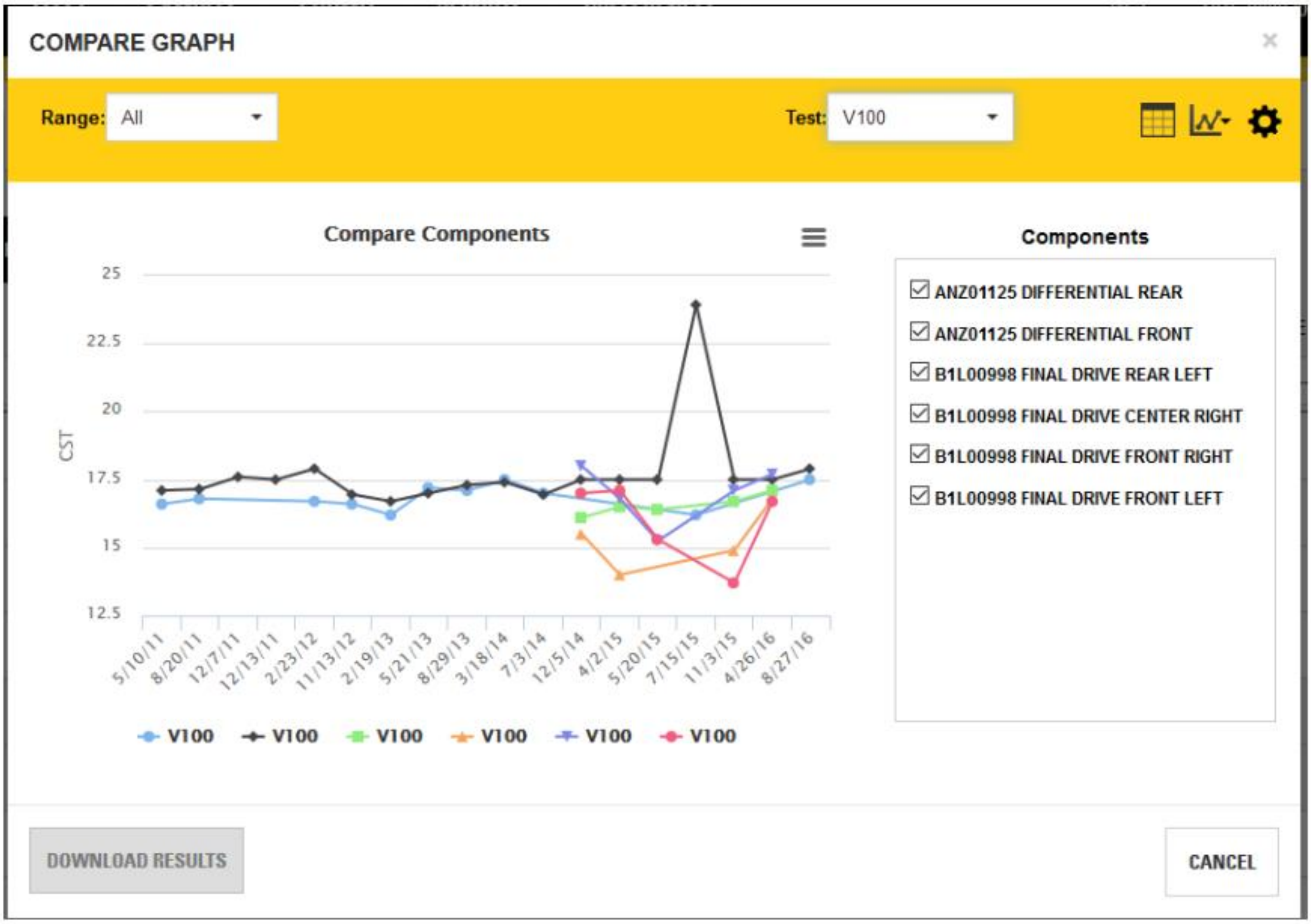
Click on the check marks for the components you want to compare then click on the **COMPARE GRAPH** button.



The **Compare Graph** appears with the selected components listed and selected in the **Components** list. Use the check boxes to add and remove component data from the graph.

You can select from a wide range of analysis results to compare by using the **Test** drop-down list. Note that only one analysis at a time may be selected.

The default X-axis for this graph is a meter reading and the line chart is the default style displayed.



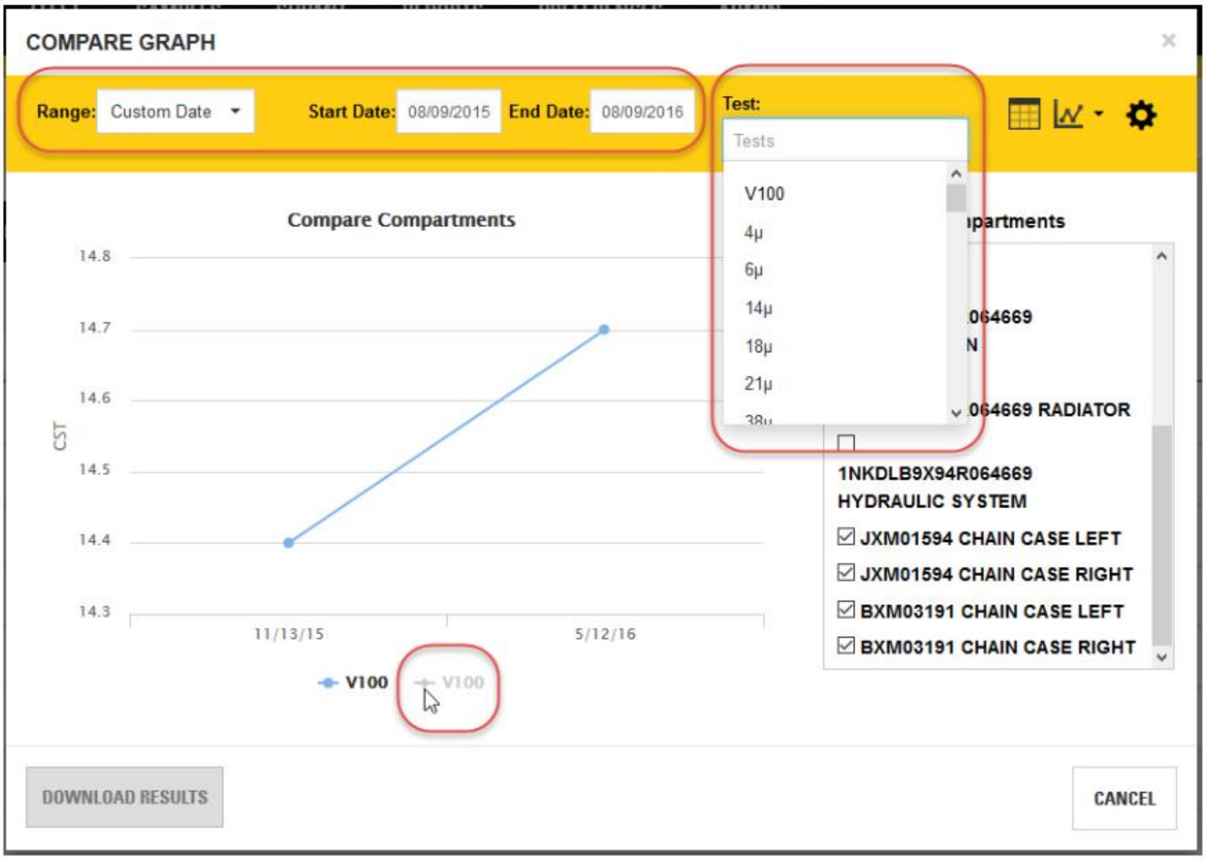
Range drop-down list

This drop-down list helps you select the date range desired for the related sample. You can choose from:

- All samples
- Specific date ranges (Last Month, Last Quarter, Last Semester, or Last Year)
- Custom date range (enables **Start Date** and **End Date** fields
- Custom sample range (enables **Last Samples** field to select last 5 samples, last 10 samples and so on

Test Selection drop-down list

Allows for easy selection of test results to be displayed in the graph.

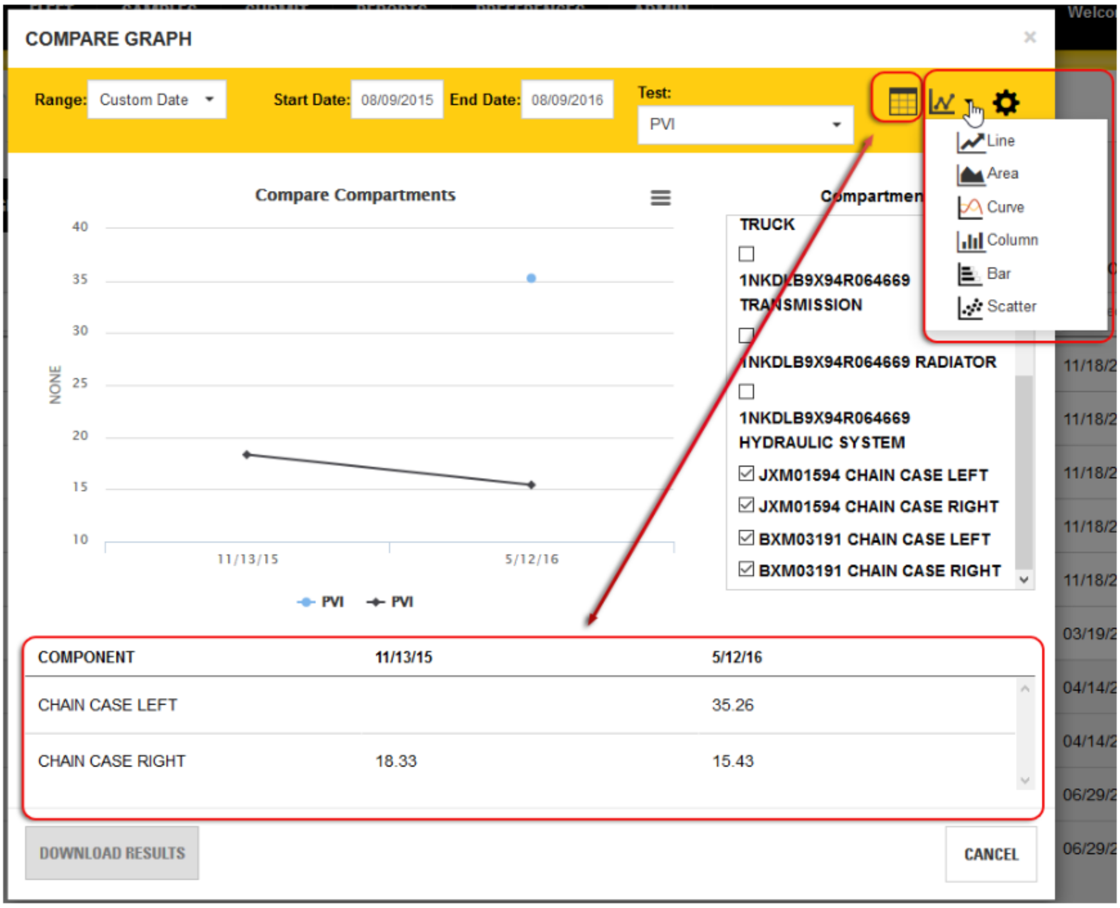


Show/Hide Data Table icon

Can be toggled on and off to display a data table below the graph.

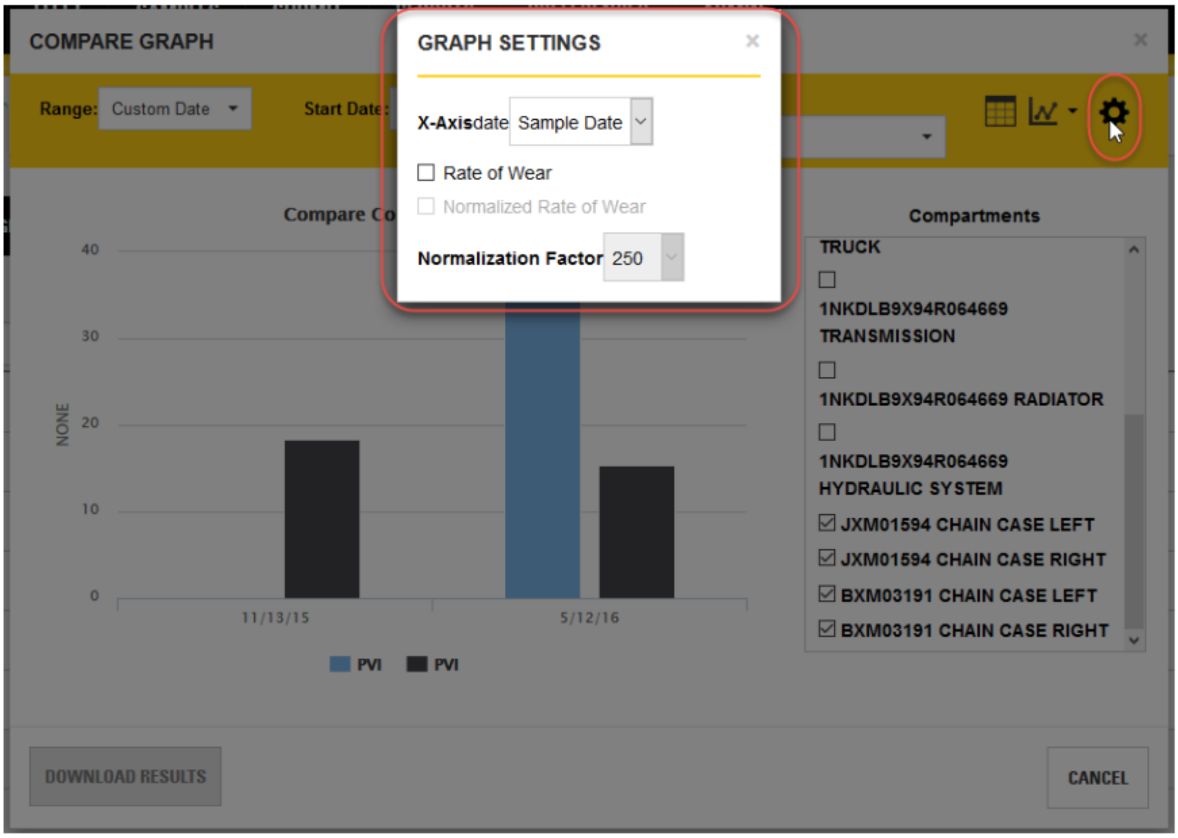
Chart Types drop-down list

Allows you to switch the graph between chart types including line, area, curve, column, bar, and scatter. The default chart type is "line."



Settings (gear icon) popup box

- Toggle X-Axis between meter and sample date.
- Check box to include analysis / test selection by Rate of Wear.
- Check box to include analysis / test selection by Normalized Rate of Wear.
- Normalization Factor input (this will apply to all Normalized Rates on the Graph at one time).



Download Results button

Clicking on this button downloads the selected data in a .CSV formatted file.

Graph Area Features

- Hold left mouse button down and drag to zoom and show more details of any area of the graph.
- Mouse-over a data point will show more details of that sample point.
- Legend below graph shows test abbreviations (data points).
- Clicking on a data point label in the legend toggles the display of the test in the graph.

ASSET DETAILS VIEW FEATURES AND FUNCTIONS

The *Asset Details* view is accessed by clicking on an entry in the **Asset ID** column within the **Assets** tab or by clicking on an entry within the **Component** column in the **Components** tab.

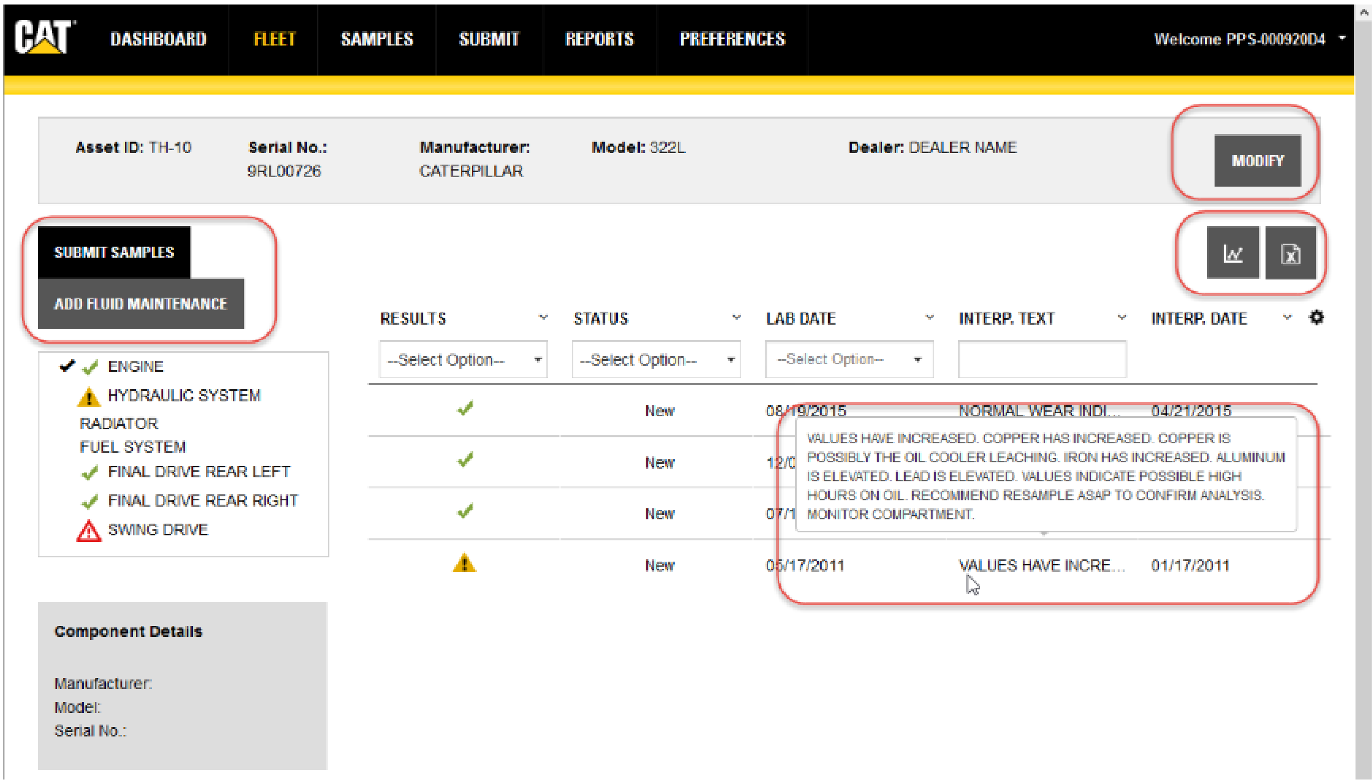
The *Asset Details* view provides you with an overall picture of an asset and allows you to see the sample and maintenance event history for each component.

Other features available in this view include:

- Accessing the *Modify Asset* view to make changes to the asset or its components.
- Starting the sample submission process for the asset's components.
- Adding a fluid maintenance event to the asset's history.

Icons in the top right of the view provide you with access to the Trend Chart for the selected asset, or you can download the asset history.

Hovering the mouse cursor over an item in the **Interp. Text** column opens a tooltip with the complete text for that entry.

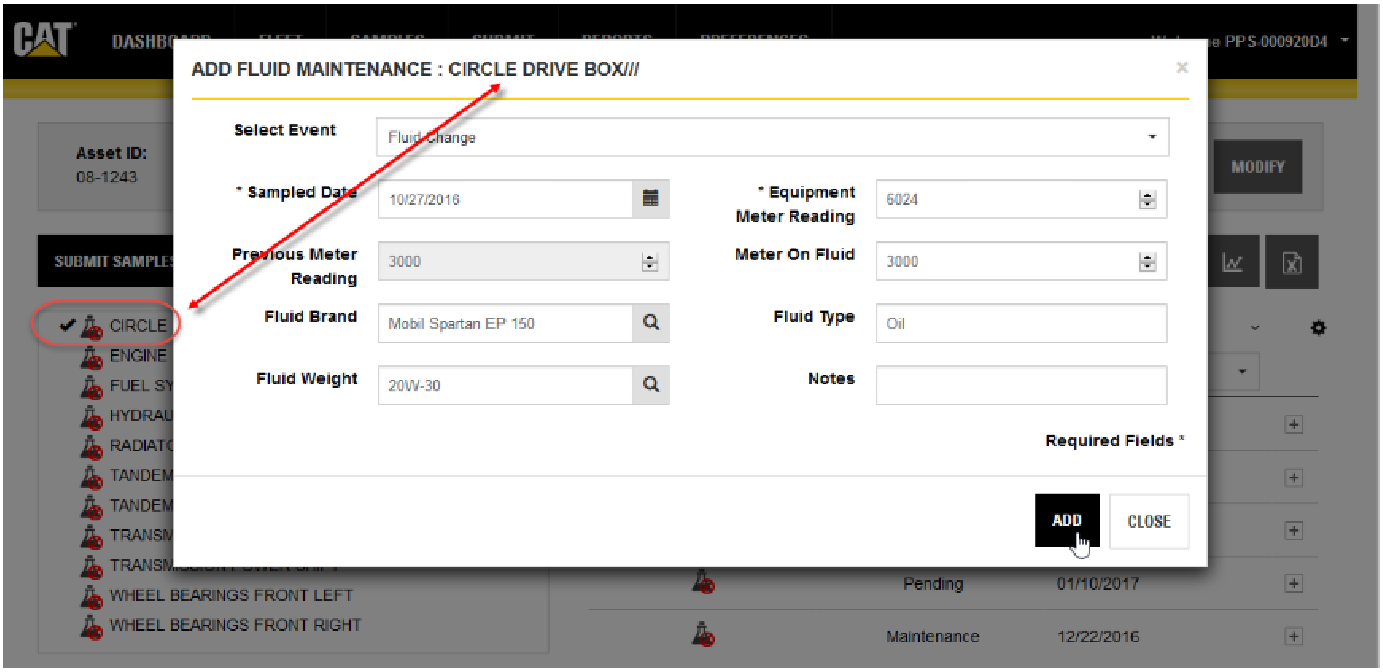


Adding a Fluid Maintenance Event

You can add maintenance events to a selected component for the current asset by checking the component in the components list then clicking on the **ADD FLUID MAINTENANCE** button.

In the *Add Fluid Maintenance* dialog box, use the drop-down list to select the event type(s) to add then enter values in the other fields to describe the details for the event. Values can be entered directly into most fields, or you can use the incrementing or lookup controls provided. You can select multiple event types, such as a Fluid Change and a Filter Change, and the dialog box will add fields as needed to collect the proper information.

NOTE: *The fields that appear within the Add Fluid Maintenance* dialog box will vary depending on the event type and number of event types selected.



HELP - SAMPLES

USING THE SAMPLES PAGE

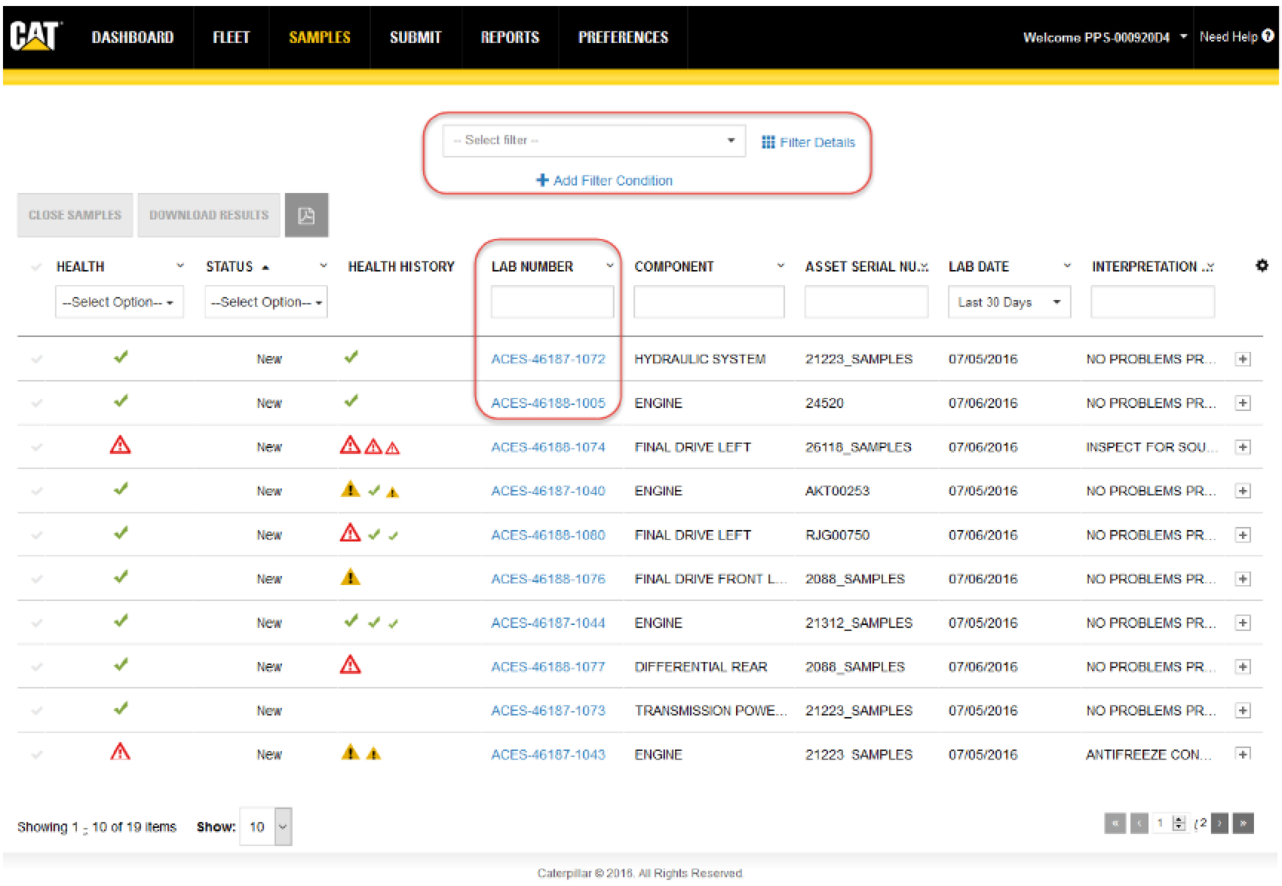
The *Samples* page is the primary interface in the application for:

- Viewing lists of samples
- Creating advanced searching and filtering of samples
- Managing saved searches
- Drilling down to see or modify sample details
- Displaying a sample graph
- Downloading sample data
- Displaying sample reports

When you first enter the *Samples* page, you will see a listing of samples presented in a table view along with column headers and other controls to help you filter, locate, and view information for specific samples.

An **Advanced Filters** section at the top center of the page can be expanded to select existing filters or to create new ones that you can use to refine the samples displayed.

Clicking on the **Lab Number** column entry for a specific sample changes the view to *Sample Details*, where you can examine all information collected on the selected sample.



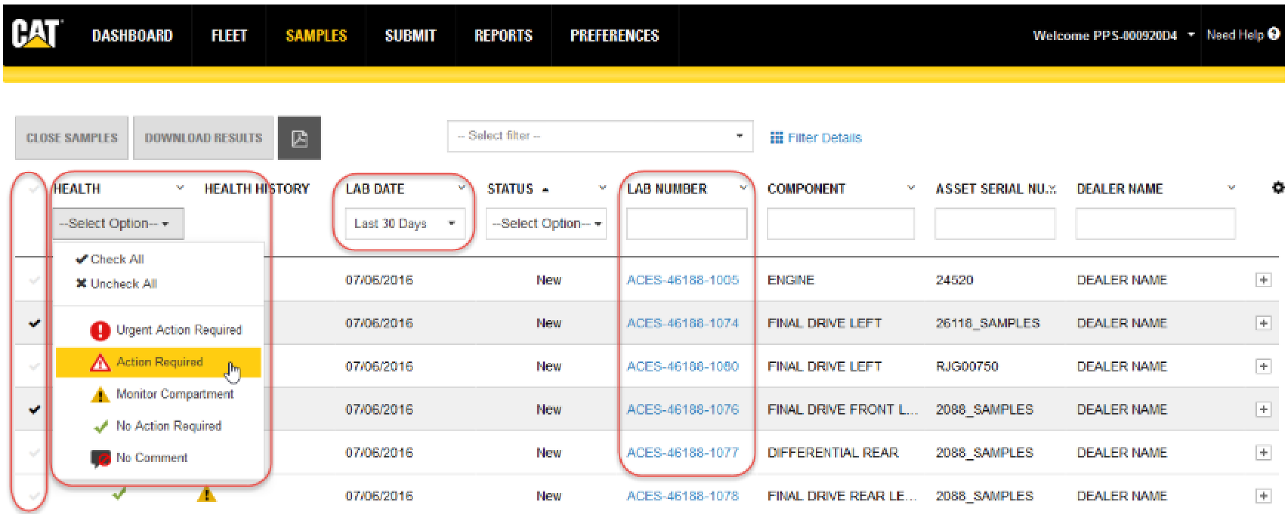
USING THE SAMPLES TABLE FEATURES

By default, the **Samples** table will be populated with the last 30 days' worth of samples. The **Lab Date** column will show "Last 30 days" by default. This value can easily be changed as can other filtering elements available via many of the column headers. Any changes made to the filters will adjust the sample records display, and will persist as a preference within the current session.

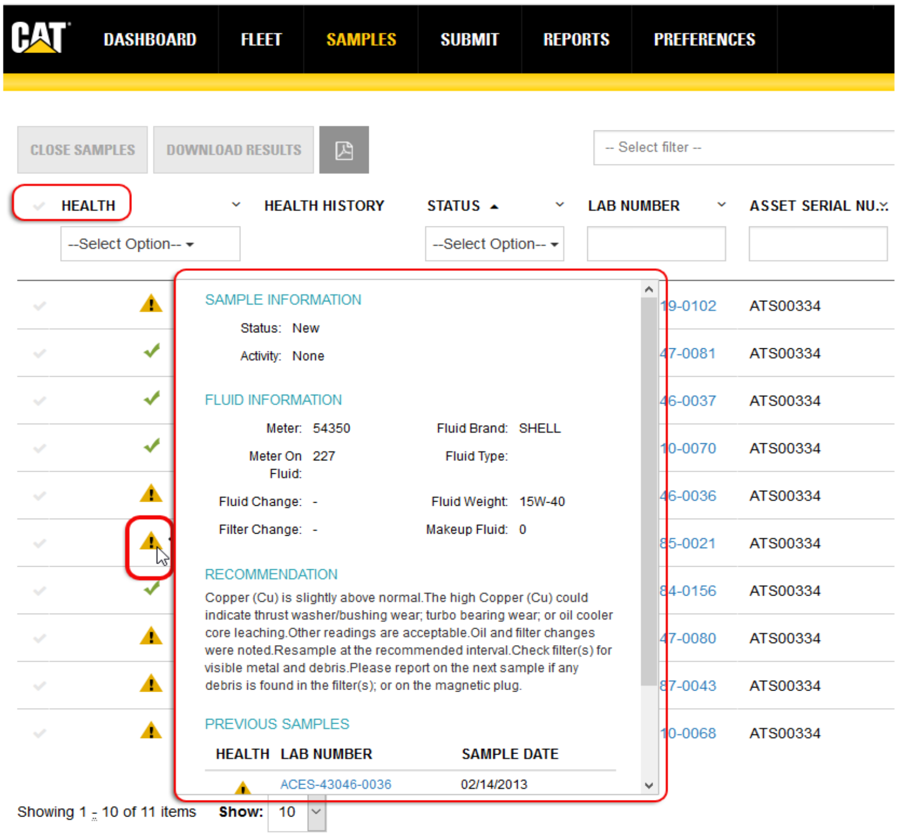
Columns that appear within the table are presented in a default set and order when you first start the interface. Three of these columns-**Check Mark, Health,** and **Lab Number**-are displayed at all times. A number of other columns appear by default, but you can select which columns to display and you can adjust column order as you prefer.

Persistent Columns

- **Check Mark**-this column always appears to the left of the first data column in a table row regardless of other table elements; it cannot be moved. After a row is selected using the check mark, the sample can be included in a download or closed using the **Close Samples** button.
- **Lab Number**-the number assigned to the sample. The column is displayed at all times, but it can be moved to a new position in the table if desired. Clicking on an entry in the **Lab Number** column changes the view to the *Sample Details* page for that particular sample number.
- **Health**-the result status of the sample is represented by icons displayed in the **Health** column. The column is displayed at all times, but it can be moved to a new position in the table if desired. The icons' alert levels are visible in the drop-down list provided just below the column header.

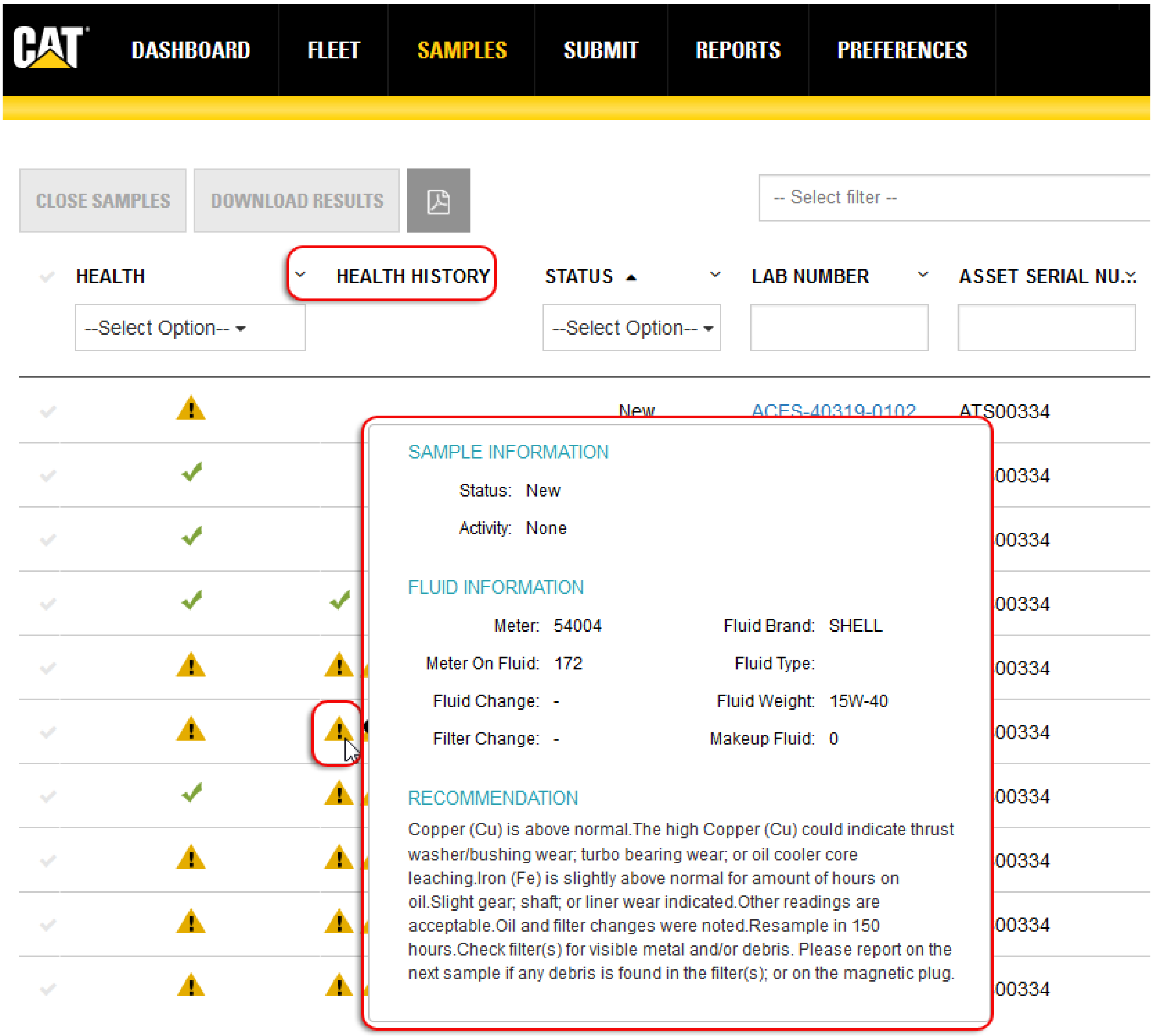


Clicking on the icons in the **Health** column opens a summary tooltip similar to that shown below to give you a quick view of the current sample without having to leave the page.



Clicking on the **Lab Number** entry within the summary tooltip changes the view to *Sample Details* for the selected sample.

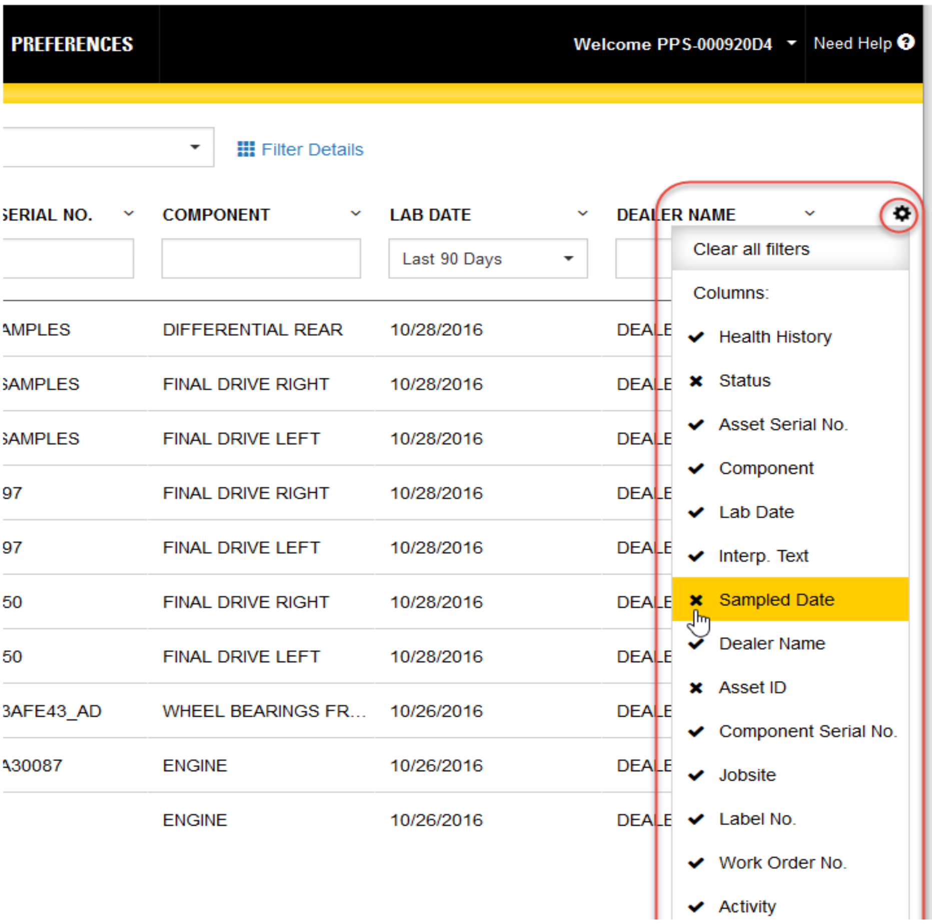
Likewise, clicking on the icons in the **Health History** column opens a summary tooltip with basic information about the historic sample assigned to the icon.



Optional Columns / Choosing Columns to Display

Click on the **Settings** (gear) icon found to the right of the column headers to open a drop-down list as shown below. A check mark appearing to the left of a column title signifies that the column will appear within the table; an X mark hides the related column.

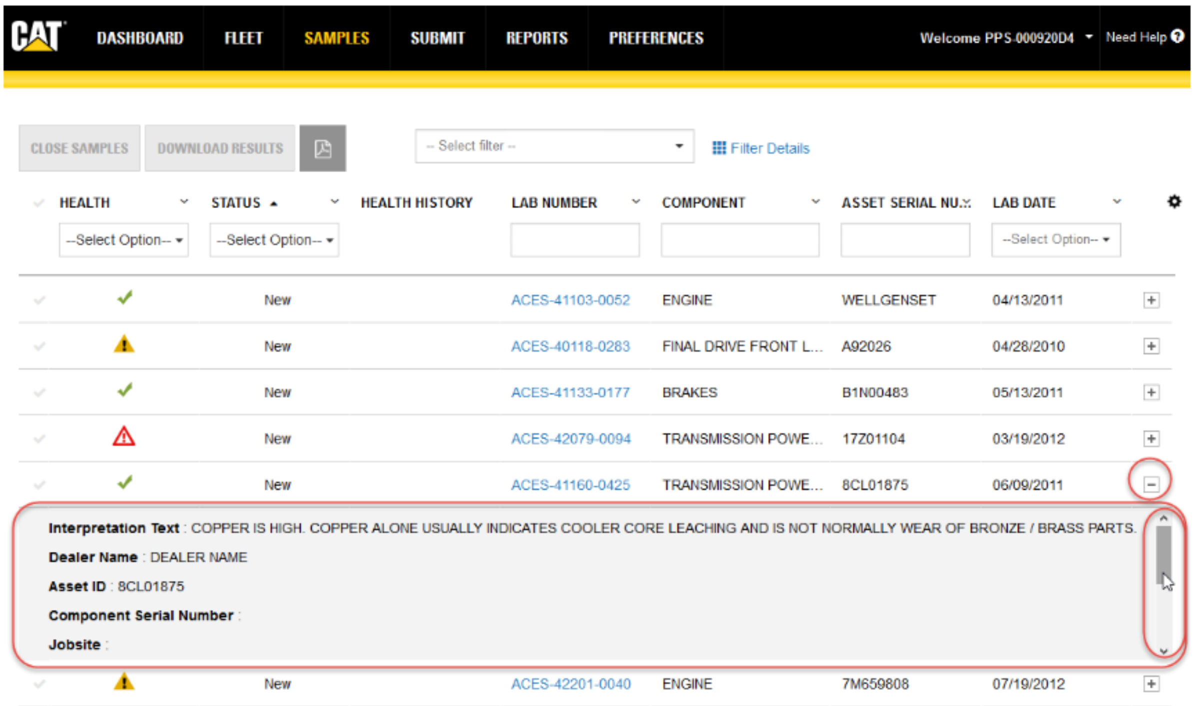
Click anywhere outside the drop-down list to close it.



The columns that appear within the table view depend on the screen real estate available. If more columns are selected than space allows, a plus sign (+) icon appears to the right of the rows signifying that additional information is available.

Clicking on the plus sign (+) icon within a specific row expands the row as shown in the example so you can view the additional information as needed. Scroll bars are used to help you view content that is longer or wider than what can be shown within the display area.

The changes made to column settings will persist as your preference, so when you log out then return to the system, you will see the columns and the order appear based on the last defined settings.



Health History

One icon appears in this column for each of the preceding three samples for a component. Different sized icons distinguish the most recent historical sample (largest icon) from the second and oldest samples (oldest sample uses smallest icon). Clicking on an icon opens a summary dialog for that specific sample.

Status-identifies the current status of the sample. There are five possible statuses for a sample:

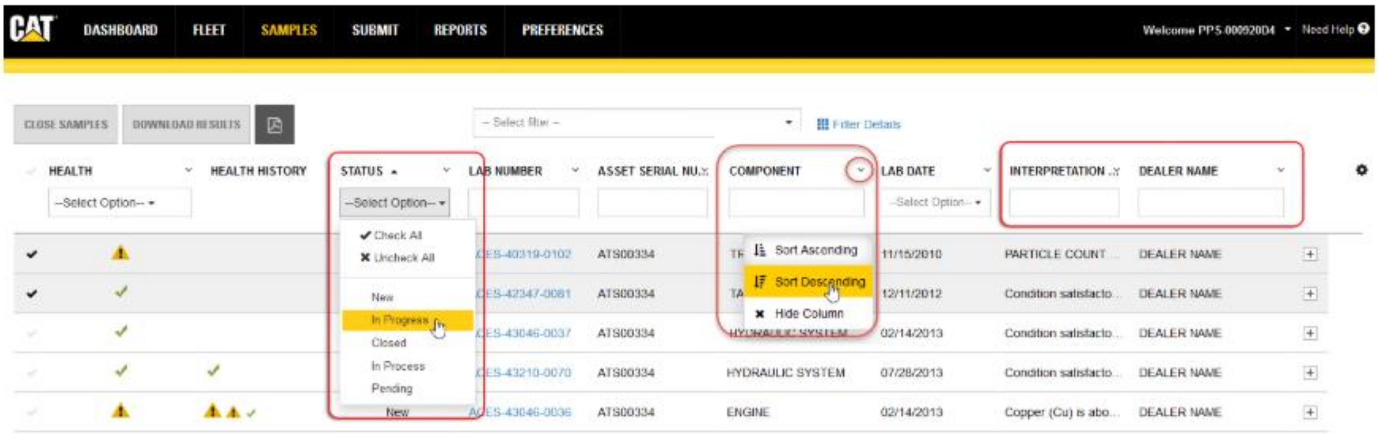
- **New**
- **In Progress**
- **Closed**
- **In Process**-indicates that the sample is currently being analyzed by the lab.
- **Pending**-indicates that the sample has not been received by the lab.

Sorting and Filtering via Column Headers

Column headers are displayed at the top of each column. The headers identify the information displayed in the columns, and they allow you to sort and filter the table data.

To sort data in ascending or descending order, click on the small arrow to the right of a column header then select the desired order. Some columns can also be hidden by clicking on the **x Hide Column** item in the header's menu.

Some column headers provide drop-down lists used to select information options; others use direct entry fields in which you can enter specific search elements to more quickly locate a particular sample.



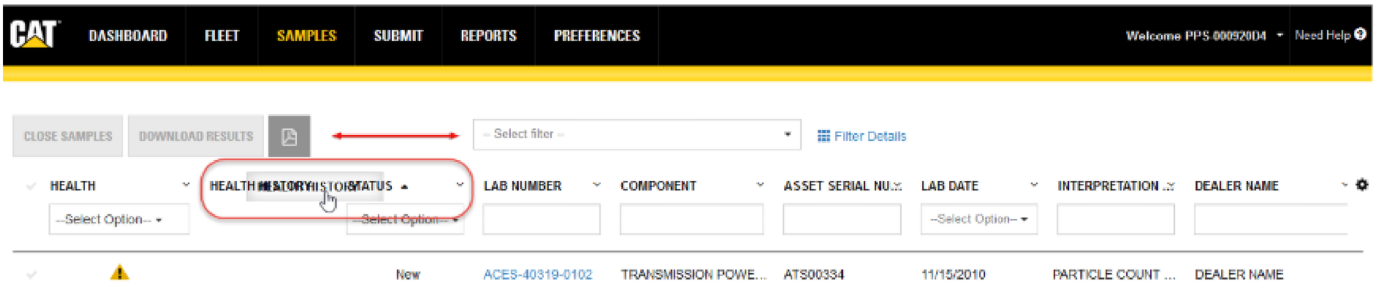
To clear header filters, click on the **Settings** gear icon located top right of the table then click on **Clear all filters**.

NOTE: Clicking on **Clear all filters** from **Settings** does not clear filters applied via the Advanced Filters feature. An active advanced filter must be cleared by clicking on **Reset** found in that section.

Arranging Columns

You can rearrange the order of the columns simply by dragging them to the location you want.

Move your mouse cursor over the column title, then click and hold the left mouse button down. As the image below shows, the selected column "detaches" from its original location to confirm which column you are moving.

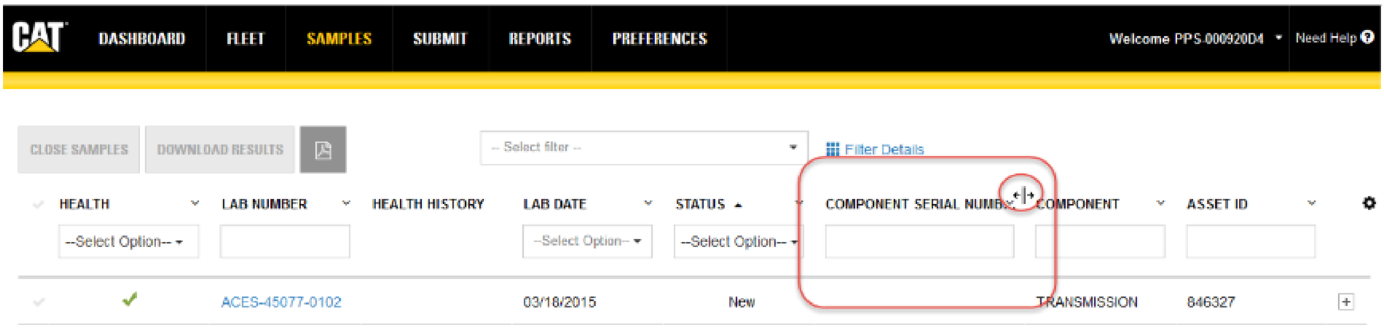


Drag the column to the desired location then release the mouse button. In a moment, the application will reorganize the table with the column in the new location. When you log out, the system saves the latest configuration so that the table will appear the same in your future sessions.

NOTE: *The check mark column is always displayed in the far-left column of the table and cannot be moved or removed.*

Sizing Columns

You can adjust the width of columns by hovering the mouse cursor between column edges until you see a double-line arrow as shown in the example. Then hold down the left mouse button, drag the column to the desired width then release the mouse button.



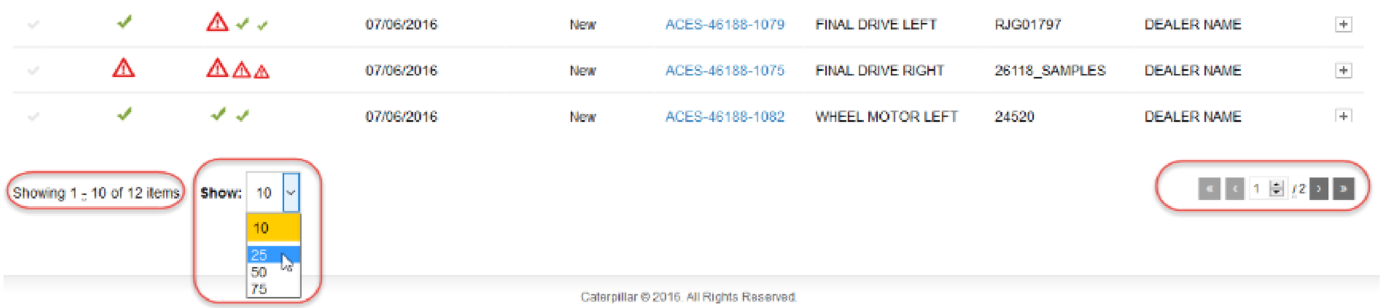
Navigating and Managing Samples Lists

Paging controls appear at the bottom of the table (left and right) to facilitate navigation through longer lists of data.

A **Showing** label identifies the range of results displayed.

A **Show** filter identifies the number of results shown within the table. As the options suggest, you can show 10, 25, 50, or 100 samples per page.

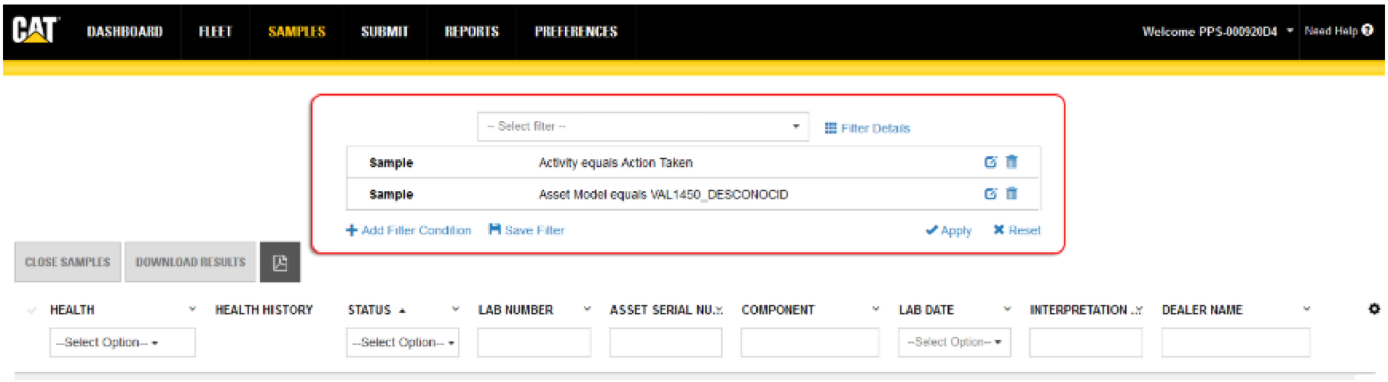
Controls to the right allow you to select from multiple pages for longer sample sets.



USING ADVANCED FILTERS

Many column headers in the main *Samples* table provide direct filtering capabilities to help you locate specific samples within your list of samples. In addition, the Advanced Filters feature helps you further narrow down data by giving you the tools to specify multiple conditions (properties) for a given filter, so you can customize the information displayed based on the filter selected.

If you end your session with a filter selected, when you log back in, the system will retain the last filter used and the data presented will be filtered accordingly. In addition, filters set via the column headers will also persist between sessions.

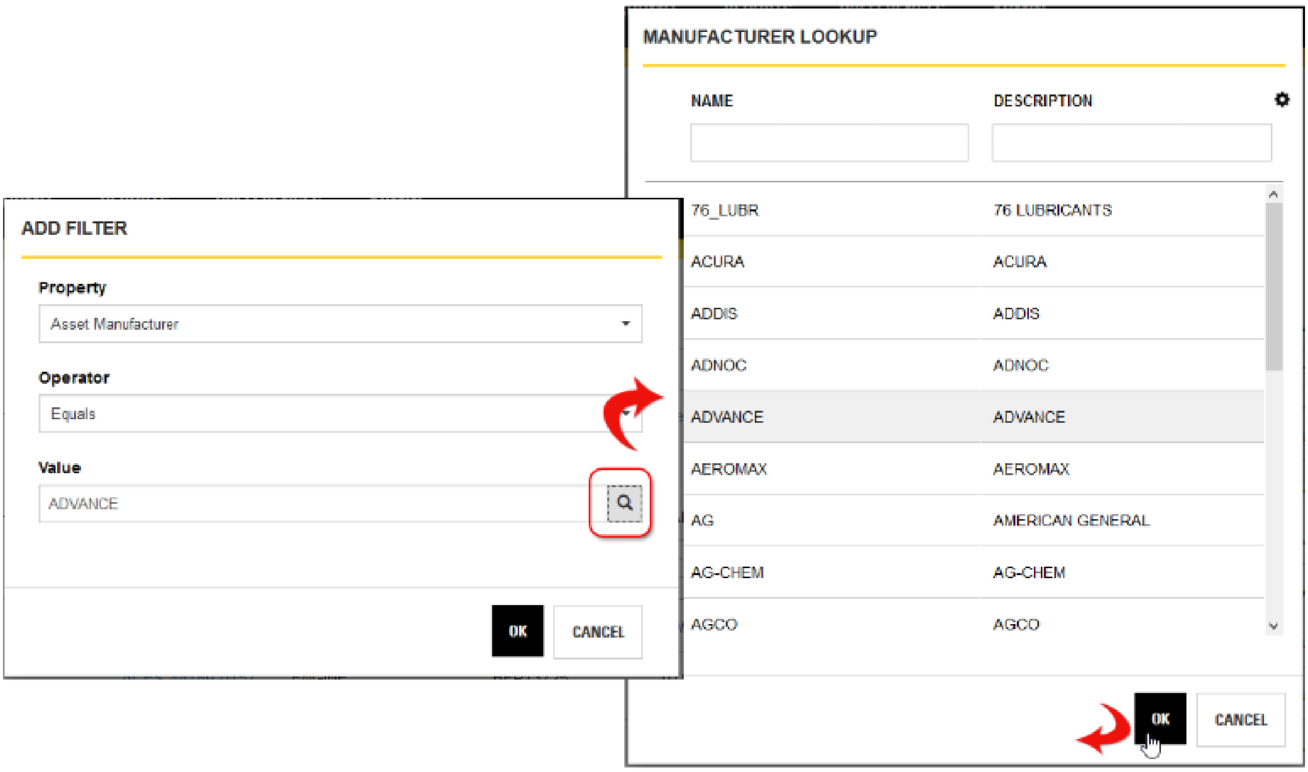


You can use existing filters by clicking on the arrow to the right of the **Select filter** drop-down list then clicking on the desired filter shown in the list.

Create new filters by clicking on **Filter Details** then **Add Filter Condition**.

Specify filter criteria by using lists to choose the property, operator, and in many cases predefined values based on the filter types.

In other cases, you will need to know the value to enter directly, or you may be presented with a *Lookup Value* dialog box to help you quickly retrieve condition values from information stored in the database.



To further refine search parameters, click again on **Add Filter Condition** and specify the additional parameters needed.

After creating a new filter, you can click on **Apply** to have the system refine the samples list presented. Note that applying the filter does not save the filter for future use.

Be sure to click on **Save Filter** to add the new filter to your list.

Clicking on **Reset** clears all advanced filter fields, deselects the active advanced filter, and updates the samples display accordingly.

NOTE: *Clicking on **Reset** does not affect filters selected via the column headers. To clear those filters, click on the **Settings** gear icon located top right of the table then click on **Clear all filters**.*

CLOSING SAMPLES

"New" and "In Progress" samples can be closed under the following conditions. They must have overall interpretations of:

- NC (No Comment)
- NAR (No Action Required)
- MC (Monitor Compartment)
- AR (Action Required, but only if an action has been associated with the sample)
- AR+ (Urgent Action Required, but only if an action has been associated with the sample)

If the preceding conditions have been met for one or more samples you want to close, check the samples then click on the **CLOSE SAMPLES** button (above left of the **Samples** table).

If the system confirms that the criteria for closing the sample(s) have been met, a confirmation dialog box will appear to ensure that you want to complete the action.

If you attempt to close selected samples that do not match the criteria, the system will display a message alerting you that one or more of the selected samples does not match the criteria for closing.

DOWNLOADING DATA

The data set represented in the **Samples** table can be downloaded as a spreadsheet file in Microsoft XLS format.

The columns in the download will comprise all of the available columns for the **Samples** table. Results will be downloaded with a column for each result.

You can download results or summary for selected samples by highlighting the check mark for the sample(s) desired then clicking on the **DOWNLOAD RESULTS** or **DOWNLOAD HISTORY** buttons.

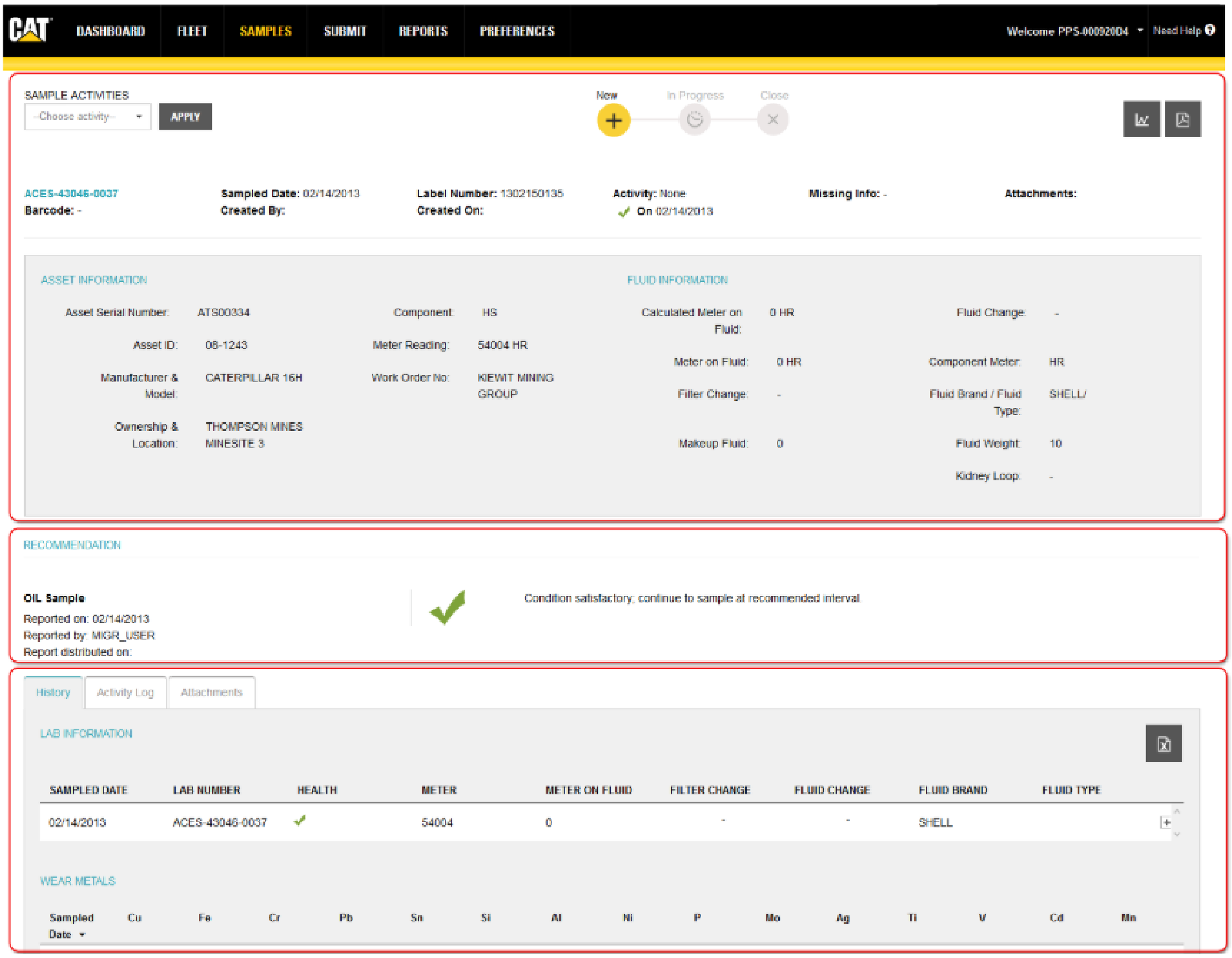
Downloading results is limited to a maximum of 10,000 records, while downloading sample summary is limited to 15 records. The limits can also be refined by the system administrator.

If your selected download exceeds the specified limit, the system will notify you of the issue so you can narrow your selection or accept a truncated download set.

SAMPLE DETAILS VIEW FEATURES AND FUNCTIONS

The *Sample Details* view appears when you click on the **Lab Number** column for a specific sample. This view displays all the data currently stored in the database for the selected sample. As the example illustrates, this view includes a variety of fields and tables showing you information about the customer, user logged in, sample information, asset information, date the sample was received, and more.

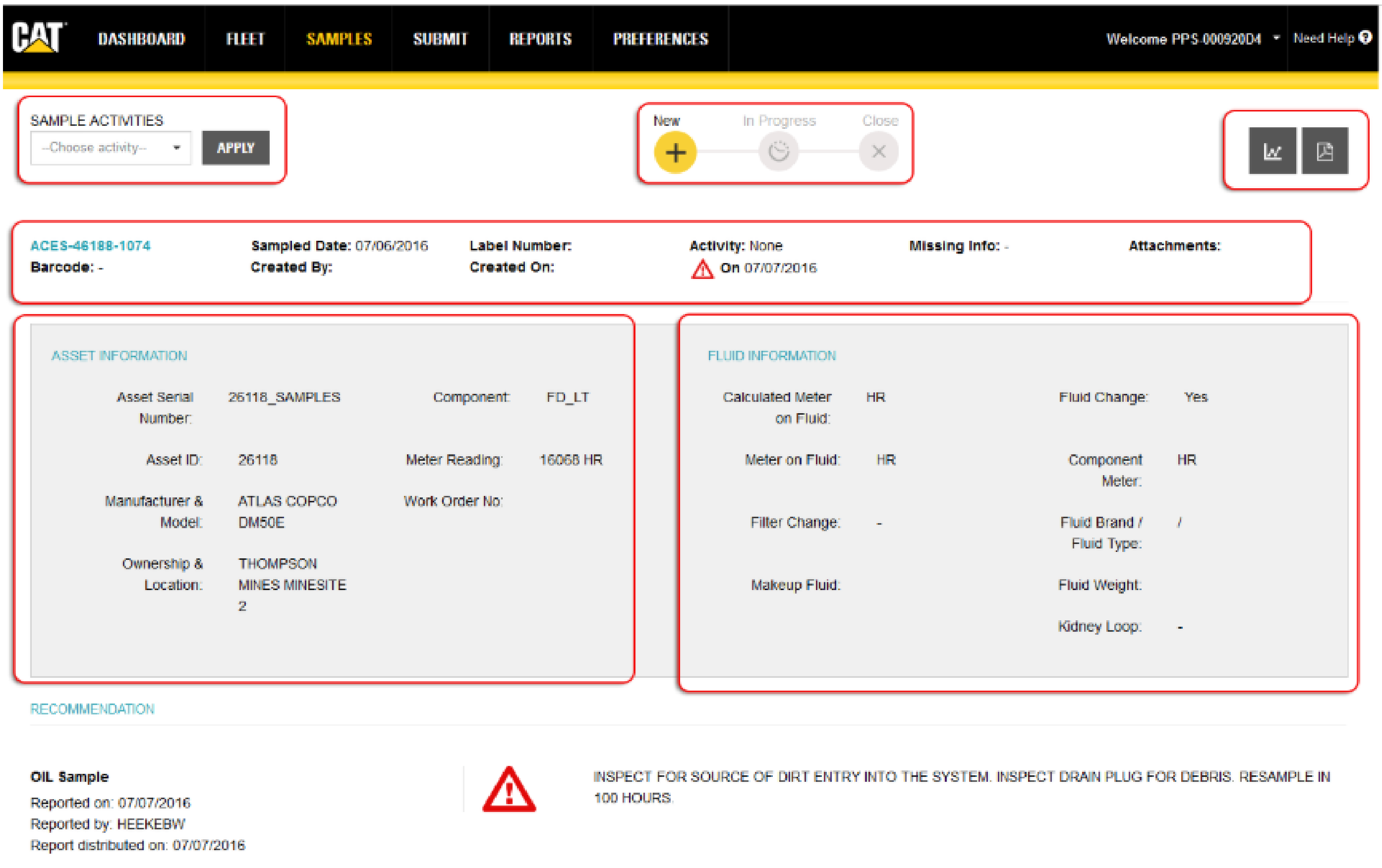
The **Sample Details** view comprises three main areas: the General Information area, the Recommendation area, and the History/Log/Attachments area.



General Information Area

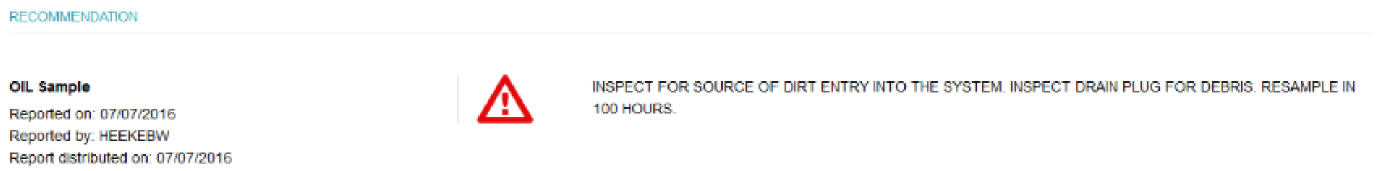
The top area of the page includes six sections:

1. **Sample Activities**-the status of a sample is controlled by the **Sample Activities** drop-down list located in the top left corner of the page
2. **Sample Status**-a graphical representation of the current status of the sample. This section is read-only; it cannot be used to change the sample status.
3. **Report Tools**-used to generate a Trend Graph or download a LIMS customer report (without contact information).
4. **Sample Summary**-includes fields that describe the sample.
5. **Asset Information**-includes fields that describe the asset from which the sample was acquired.
6. **Fluid Information**-includes fields that describe details about the fluid taken as the sample.



Recommendation Area

The **Recommendation Area** provides you with further action (if any) recommended for the sample. It includes the recommendation text and an icon indicating the alert level for the sample.



History / Activity Log / Attachments Area

The bottom of the page includes three tabs-**History, Activity Log,** and **Attachments** that provided specific information related to the sample.

History Tab

The **History** tab shows the analyses results for the current sample along with up to four of the immediately preceding samples for the same component.

Depending on the size of the screen, the application will automatically organize the view and will display the history tables so that the information is visible with minimum interaction from the user. For example, in the example below, a larger resolution screen allows the tables to be displayed in full view. On screens with lower resolutions, some tables may be displayed side by side, with collapsible columns.

Clicking on the **Show more results** link at the bottom of the page (when applicable) will show the entire history for the sampled component.

When no results are available for a particular test, the test column will not be shown. If none of the tests within a table has results, the table will not be displayed.

All history data can be downloaded as a Microsoft XLS file by clicking on the download (MS Excel "X") icon in the top right of the tab.

History | Activity Log | Attachments

LAB INFORMATION

SAMPLED DATE	LAB NUMBER	HEALTH	METER	METER ON FLUID	FILTER CHANGE	FLUID CHANGE	FLUID BRAND
07/06/2016	ACES-46188-1083	✓	67301	453	-	-	
05/27/2016	ACES-46148-1107	✓	66848	680	-	Yes	
03/01/2016	ACES-46061-1149	⚠	66014		-	Yes	

WEAR METALS

Sampled Date	Cu	Fe	Cr	Pb	Sn	Si	Al	Ni	P	Mo
07/06/2016	0	260	6	0	0	21	1	47	231	0
05/27/2016	4	178	3	1	1	17	2	4	208	0
03/01/2016	7	338	7	0	0	45	5	7	192	0

ADDITIVES / FORMULATION

Sampled Date	V100	Ca	Si	Mo	P	Zn	Mg	Cu	Na
07/06/2016	48.3	6	21	0	231	12	0	0	0
05/27/2016	49.6	22	17	0	208	25	1	4	1
03/01/2016	40.2	48	45	0	192	38	1	7	0

CONTAMINANTS

Sampled Date	W	Na	K	Si	Al	Fe	Pb	Ca	Zn	ISO	4μ	6μ	14μ	21μ	38μ
07/06/2016	N	0	0	21	1	260	0	6	12	DARK					
05/27/2016	N	1	1	17	2	178	1	22	25	23/23/19	62688	43616	3761	323	20
03/01/2016	N	0	0	45	5	338	0	48	38	DEBRIS					

OIL CONDITION

Sampled Date	ST	OXI	NIT	SUL
07/06/2016	3	81	4	83
05/27/2016	0	74	4	68
03/01/2016	0	58	4	54

Activity Log Tab

Using the **Activity Log** tab, you can view all of the key events for the selected sample. These events include:

- Basic sample life cycle events such as when the sample was created, received, authorized, and so on.
- Any activity generated from the **Sample Activities** drop-down.

The application will display the sample events in chronological order, with the newest displayed at the top of the list.

Several main events (created, updated, emailed, and closed) and secondary events for update (changed status, changed health level, created interpretation, repaired, and so on) can appear in the log. When needed, additional details will be shown. For interpretation, the actual interpretation text will be shown; for a repair, the component, date, and result of the repair will be displayed.

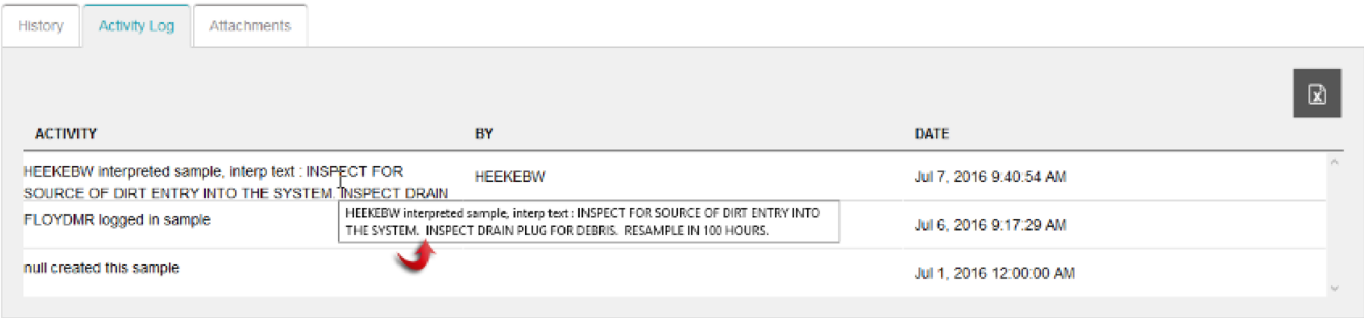
An email event can also trigger one or more secondary actions (created attachment) based on the number of attachments included in an email.

When the contents of an event (commonly interpretation) are too long to display in the space provided, hovering the mouse cursor over the event text will display the complete text in a small dialog box.

You can edit and/or delete sample activities only if you performed them. If transitioned to a different status, edit/delete will not be available for previous events.

Email events cannot be edited or deleted. Any action before the transition of the sample to NEW cannot be edited or deleted.

The *results* element within an entry can be up to 650 characters long. In cases where the entry is too long to display properly, it will be truncated within the **Activity Log** tab.

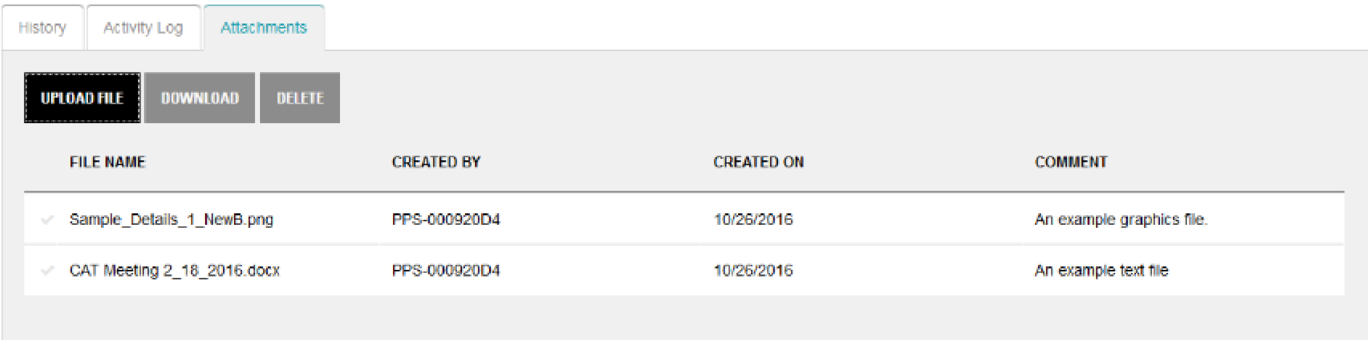


Attachments Tab

The **Attachments** tab shows the attachments uploaded for the sample being viewed. A number appears next to the **Attachments** field in the general information area at the top of the *Sample Details* view so users will be aware that attachments have been added for the selected sample.

Files can be uploaded, downloaded, or deleted from the tab using the controls found at the top of the tab.

NOTE: *Attachments can be deleted only if the currently logged in user created the file.*



To download or delete a file, ensure that the check mark appears to the left of the target file before selecting the desired function.

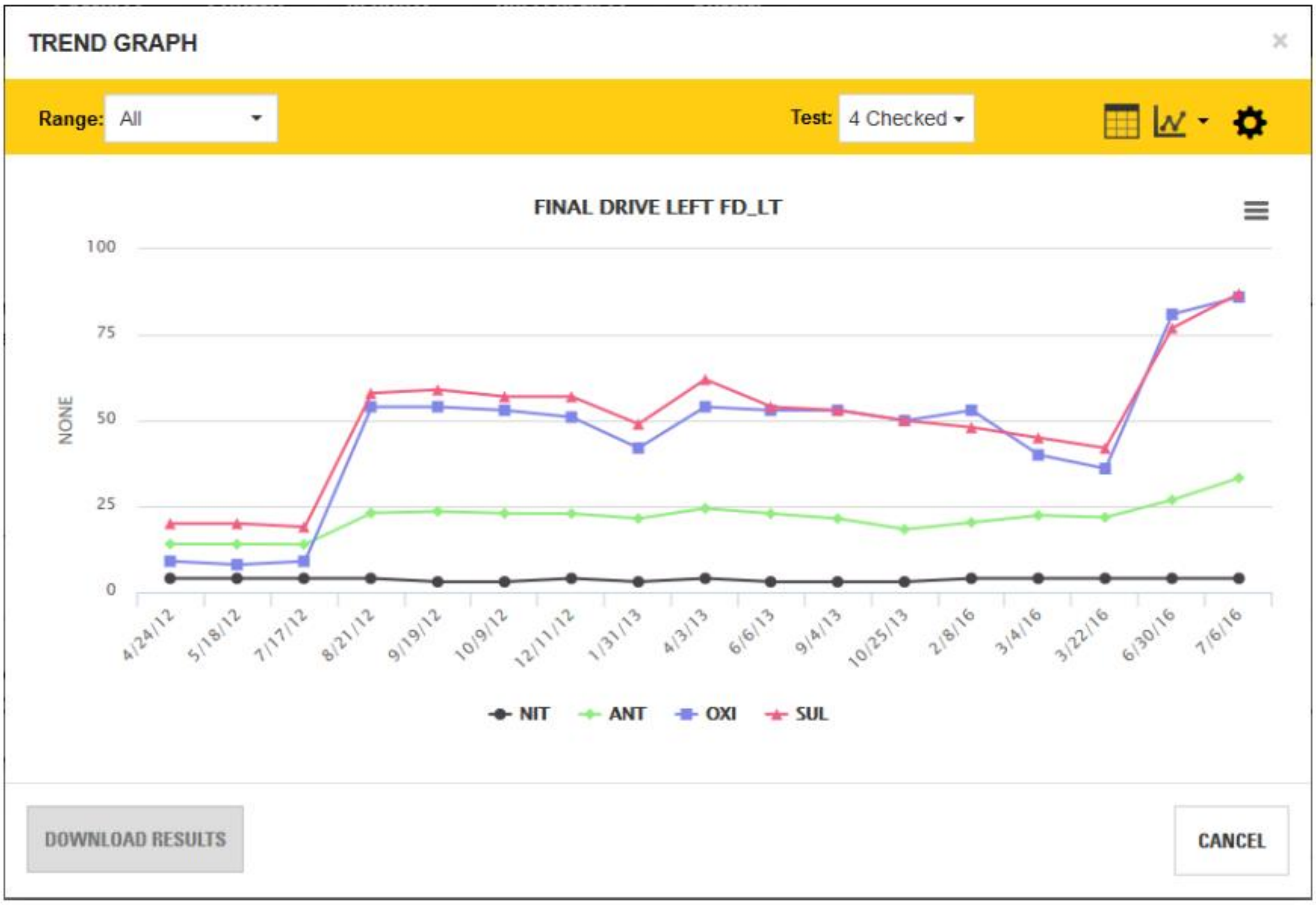
When you click on **Upload File**, a dialog like the one shown below appears so you can locate the file you want to upload. A field appears to the right of the upload file field so you can add a description or other note, which will also appear in the **Attachments** tab.

USING THE TREND GRAPH

The **Trend Graph** opens for the selected sample by clicking on the "graph" icon in the top right of the page. The Trend graph provides controls and options to help you view specific details about the sample.

The graph opens with the sample date as the default X-axis and the component pane hidden.

A wide range of the available analysis/result types can be selected from the header bar at the top of the graph.



Range drop-down list

This drop-down list helps you select the date range desired for the related sample. You can choose from:

- All samples
- Specific date ranges (Last Month, Last Quarter, Last Semester, or Last Year)
- Custom date range (enables **Start Date** and **End Date** fields
- Custom sample range (enables **Last Samples** field to select last 5 samples, last 10 samples and so on

Test Selection drop-down list

Allows for easy selection of test results to be displayed in the graph.

Show/Hide Data Table icon

Can be toggled on and off to display a data table below the graph.

Chart Types drop-down list

Allows you to switch the graph between chart types including line, area, curve, column, bar, and scatter. The default chart type is "line."

Settings (gear icon) popup box

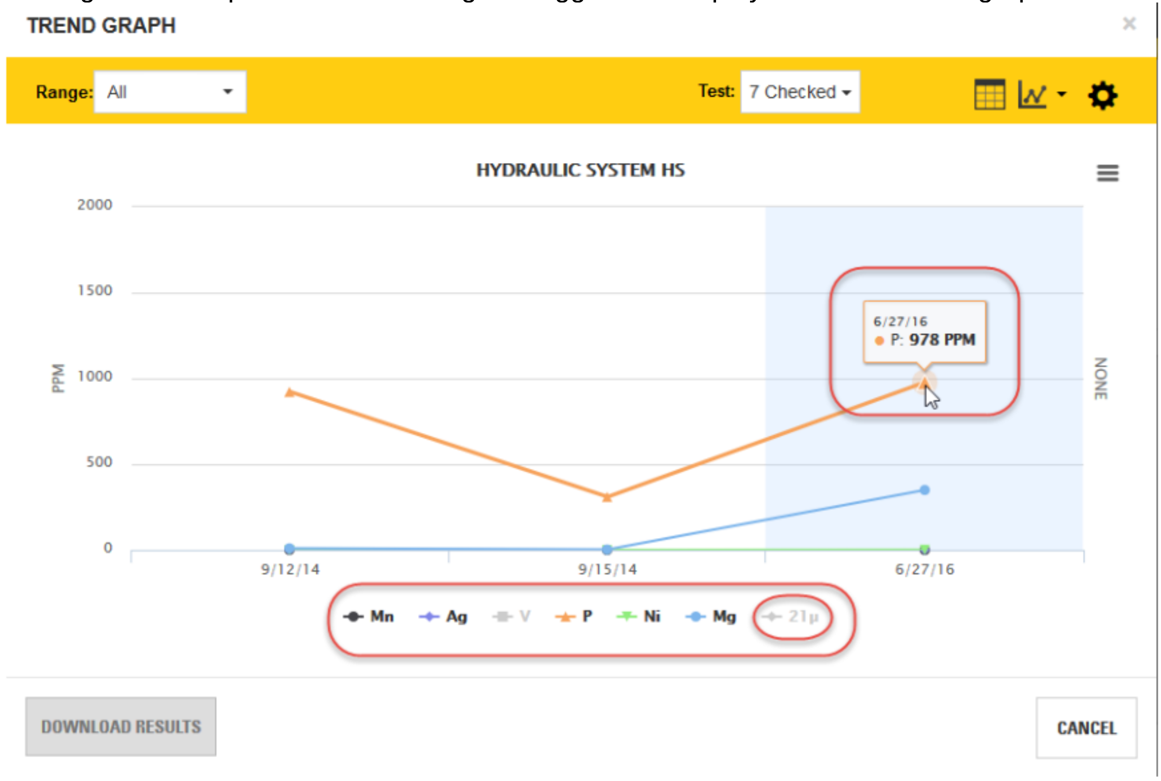
- Toggle X-Axis between meter and sample date.
- Check box to include analysis / test selection by Rate of Wear.
- Check box to include analysis / test selection by Normalized Rate of Wear.
- Normalization Factor input (this will apply to all Normalized Rates on the Graph at one time).

Download Results button

Clicking on this button downloads the selected data in a .CSV formatted file.

Graph Area Features

- Hold left mouse button down and drag to zoom and show more details of any area of the graph.
- Mouse-over a data point will show more details of that sample point.
- Legend below graph shows test abbreviations (data points).
- Clicking on a data point label in the legend toggles the display of the test in the graph.



HELP - SUBMIT

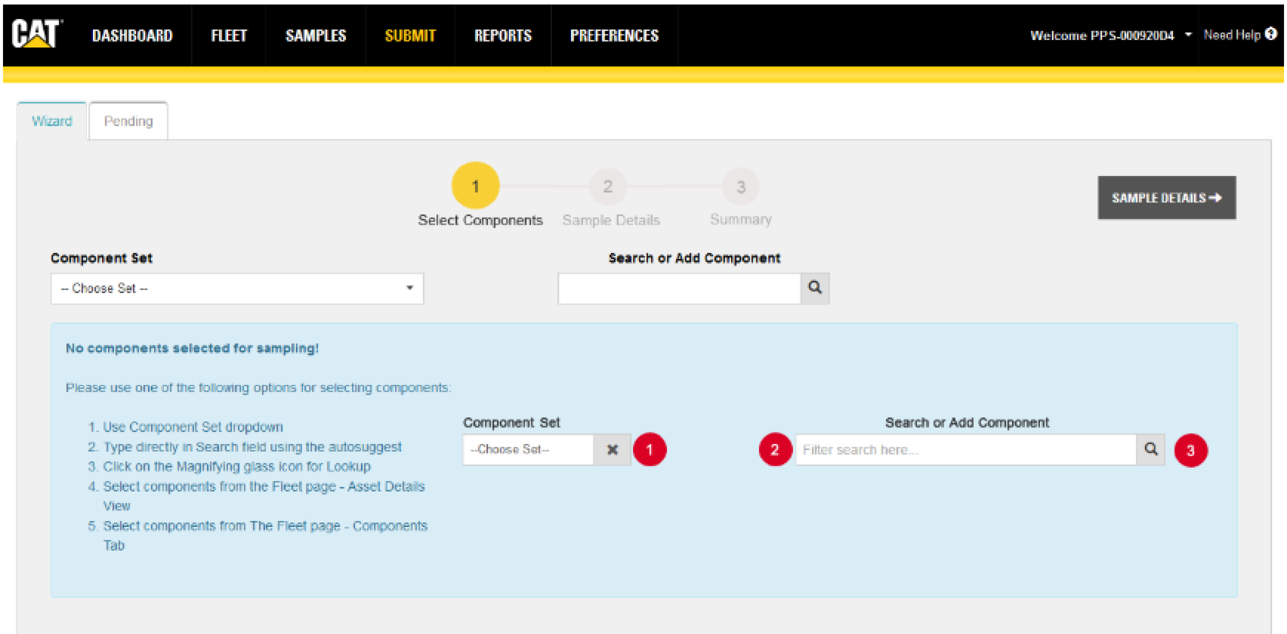
USING THE SUBMIT PAGE

The *Submit* page is used to submit information related to samples being sent for testing, and to monitor and manage information on pending samples.

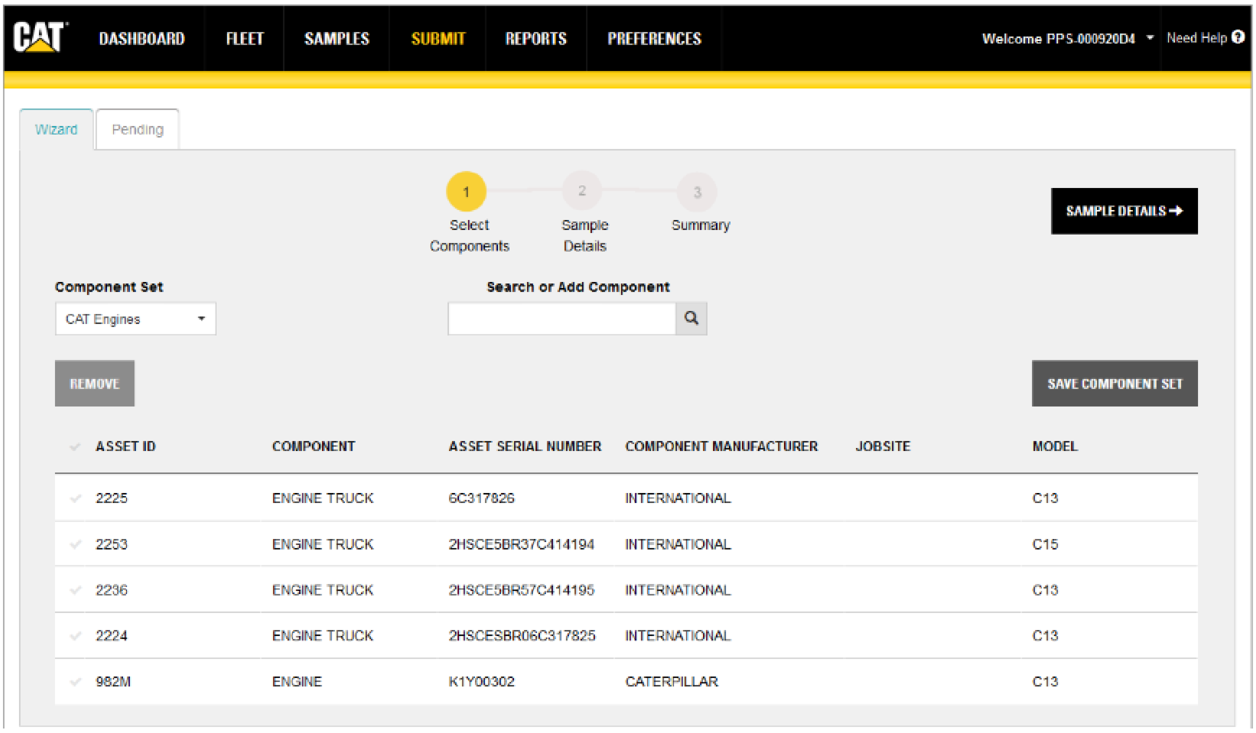
The *Submit* page has two tabs: **Wizard** and **Pending**. The **Wizard** tab contains a 3-step wizard used to select components for which samples will be submitted and to enter sample-specific information. The **Pending** tab is used to find and manage samples that have already been submitted.

The sample information submission process can be entered by going directly to the *Submit* page, or the process can be initiated from other pages in the application that automatically transfer you to the *Submit* page.

If you open the page for the first time, or enter the page with no components selected, an instructional graphic appears as shown below to guide you through the sample submission process.



When you land on the *Submit* page after starting the submission process from another part of the interface, the application will automatically populate the table with the asset and component information for the new sample being submitted.



The *Submit* page allows the submission of duplicate samples. For example, if you take an initial sample, make a repair (such as addressing a leak issue), run the engine for a bit then re-sample.

WIZARD TAB FEATURES AND FUNCTIONS

The **Wizard** tab opens at the first step in a three-step process for submitting new sample information. During the first step, you must select the components that will be sampled.

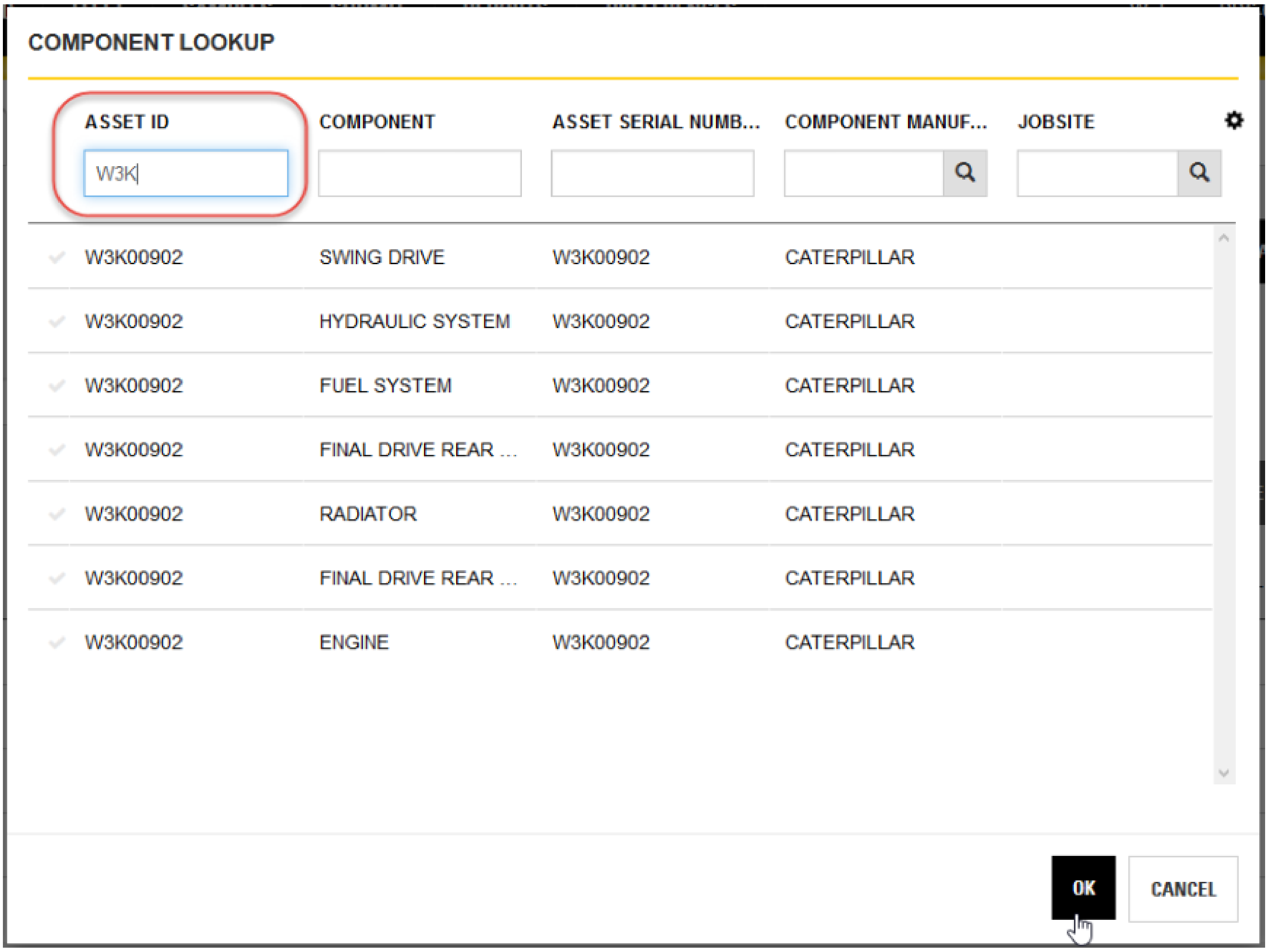
Components can be added to the table using one of five methods:

1. Direct entry in the **Search or Add Component** field located above and center of the table.
2. Using the lookup feature (magnifying glass icon) of the **Search or Add Component** field.
3. Selecting an existing set from the **Component Set** drop-down list located above and left of the table.
4. Via the submit samples feature in the *Asset Details* view of the *Fleet* page.
5. Via the submit samples feature in the **Components** tab of the *Fleet* page.

When using the **Search or Add Component** field, start typing an asset ID or serial number and a suggest list appears to help you choose from available components.

Click on the magnifying glass icon to open a lookup dialog listing the available components. The lookup contains a selectable multi-column table with filter inputs as column headers along with check boxes for selecting multiple components.

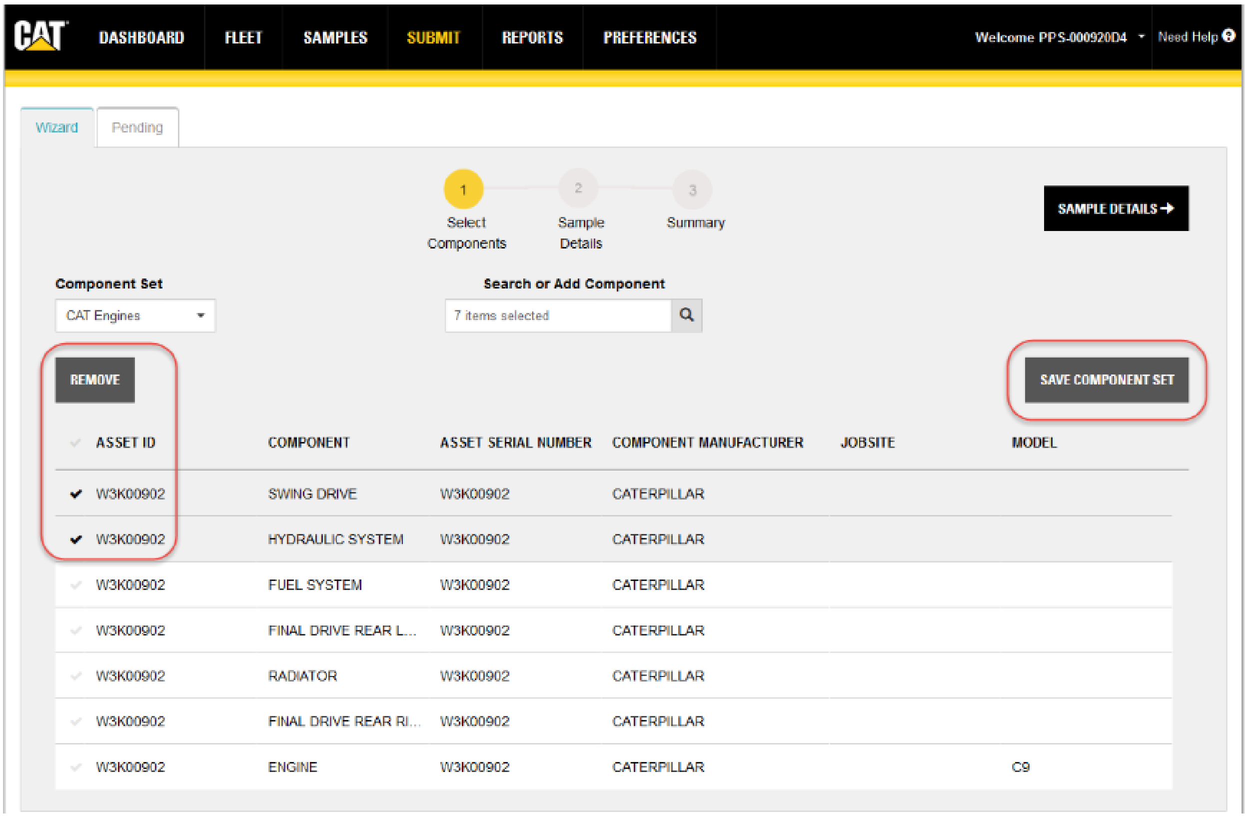
The headers in this dialog also employ suggest and lookup features. For example, entering a partial value in the **ASSET ID** then pressing enter will provide the list of asset IDs including the partial value along with the components for those assets. You can then complete the asset ID or simply select the components needed from an asset for sample submission.



After the component table is populated, you can remove components that might not be needed by clicking on the **Check Mark** to the left of the component then click on the **REMOVE** button.

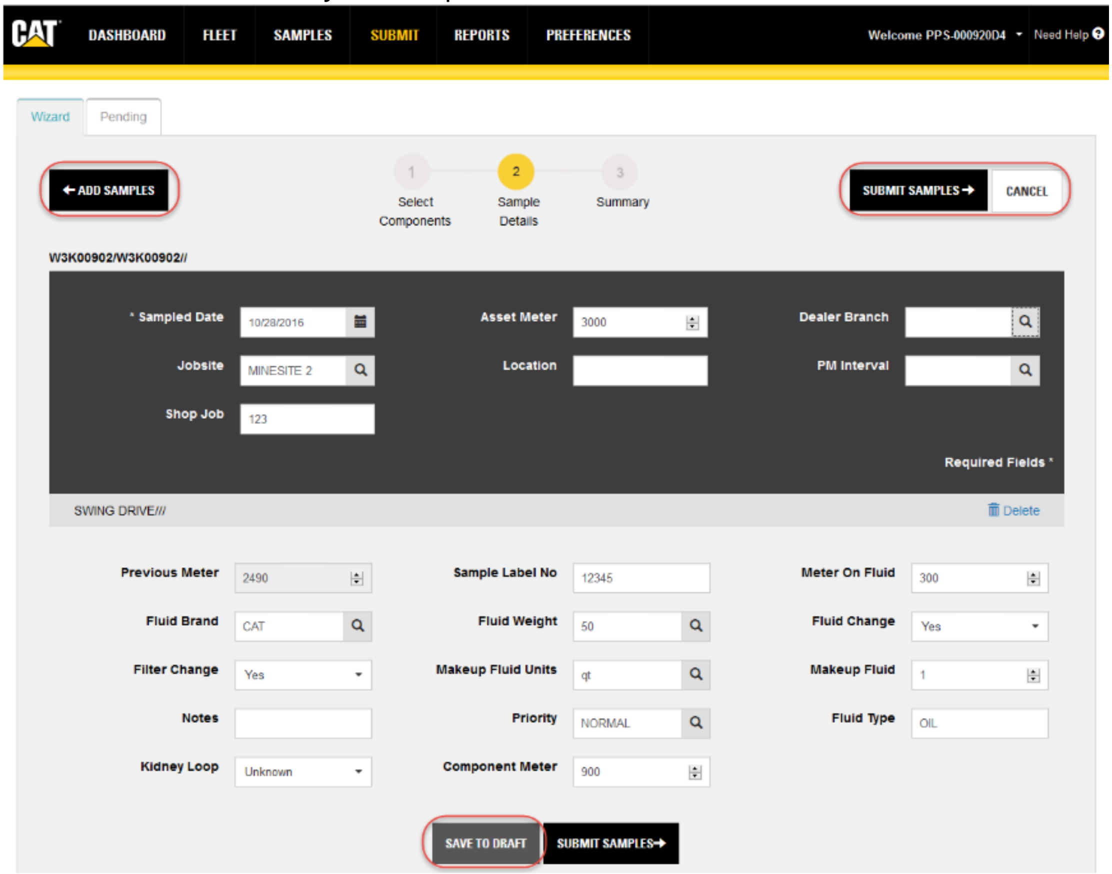
If the table contains a new set of components that you will create samples for again, you can create a new set and add it to the **Component Set** list by clicking on the **SAVE COMPONENT SET** button.

Component sets can be managed in the **Filters** tab within the *Preferences* page.



After clicking on the **Check Marks** to select one or more components for sample submission, the **SAMPLE DETAILS** button will be enabled. Click on the button to go to step 2.

As with most wizard-style user interfaces, navigation buttons are provided to go back to the previous step or forward to the next step (provided all required fields have been completed). For this view, the **ADD SAMPLES** button returns you to step 1 and the **SUBMIT SAMPLES** button continues to step 3.



The input fields in the *Sample Details* view are arranged in sections:

- Asset information—appears at the top of the view with a dark gray background.
- Component identification—presented in a mid-gray separator.
- Component sample details—appear below each separator with a light gray background.

Use the **Delete** (trash can) icon appearing at the right end of each separator to delete the related component from the list. A confirmation dialog appears to ensure that you want to delete the selected component.

Sample Date is the only required field in this view, but providing as much information as possible is recommended to assist in the processing, tracking, and historical analysis of the submitted samples.

Saving Drafts

You have the option of entering information for components and not submitting the samples immediately. When you click on the **SAVE TO DRAFT** button, you can leave the page then return at a later time and resume the process.

When you return to the *Submit* page, you will start at step 1 with the saved component(s) selected. You can go directly to step 2, or add components to create additional samples before proceeding.

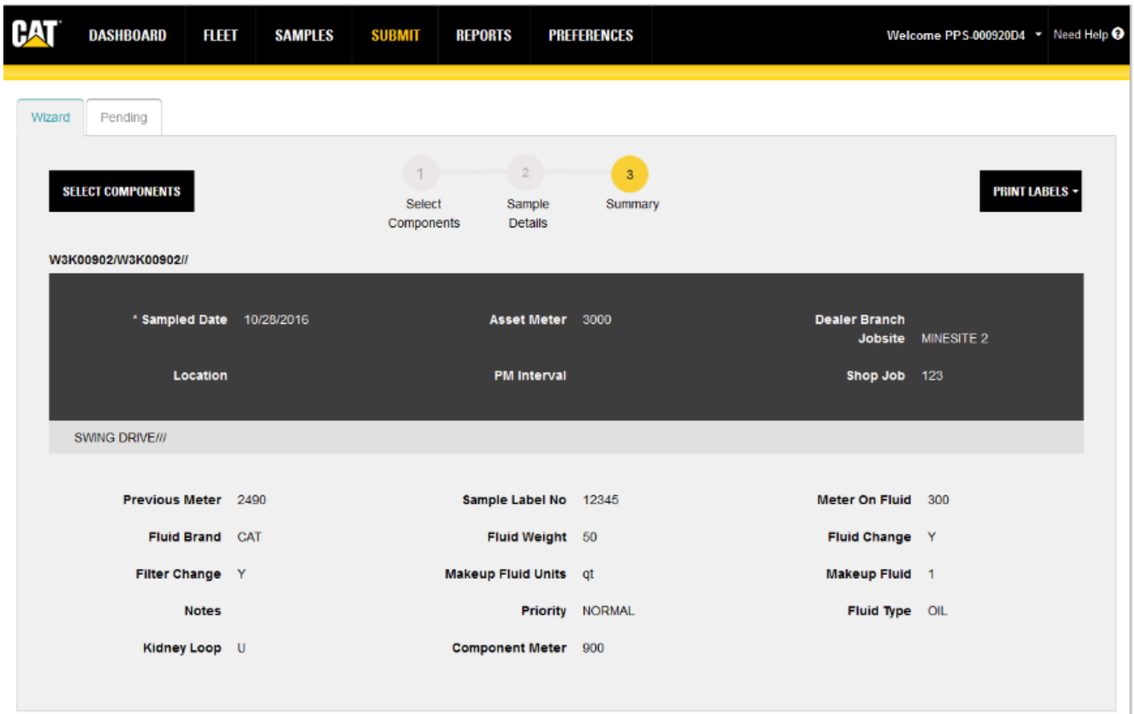
When you get to step 2, the application will automatically populate the fields with the information previously entered for the saved component(s).

NOTE: *Leaving the page without clicking* ***SAVE TO DRAFT*** *results in a reset of all fields and loss of data entered.*

After you have completed entering information in the *Sample Details* view, click on the **SUBMIT SAMPLES** button to commit the information to the database. Sample information will then be viewable in the **Pending** tab until the physical samples are received by the lab.

Step 3 of the wizard is simply a confirmation step. The information is organized in the same sections as step 2, except the fields are read only. However, you can modify or delete a submitted sample by going to the **Pending** tab.

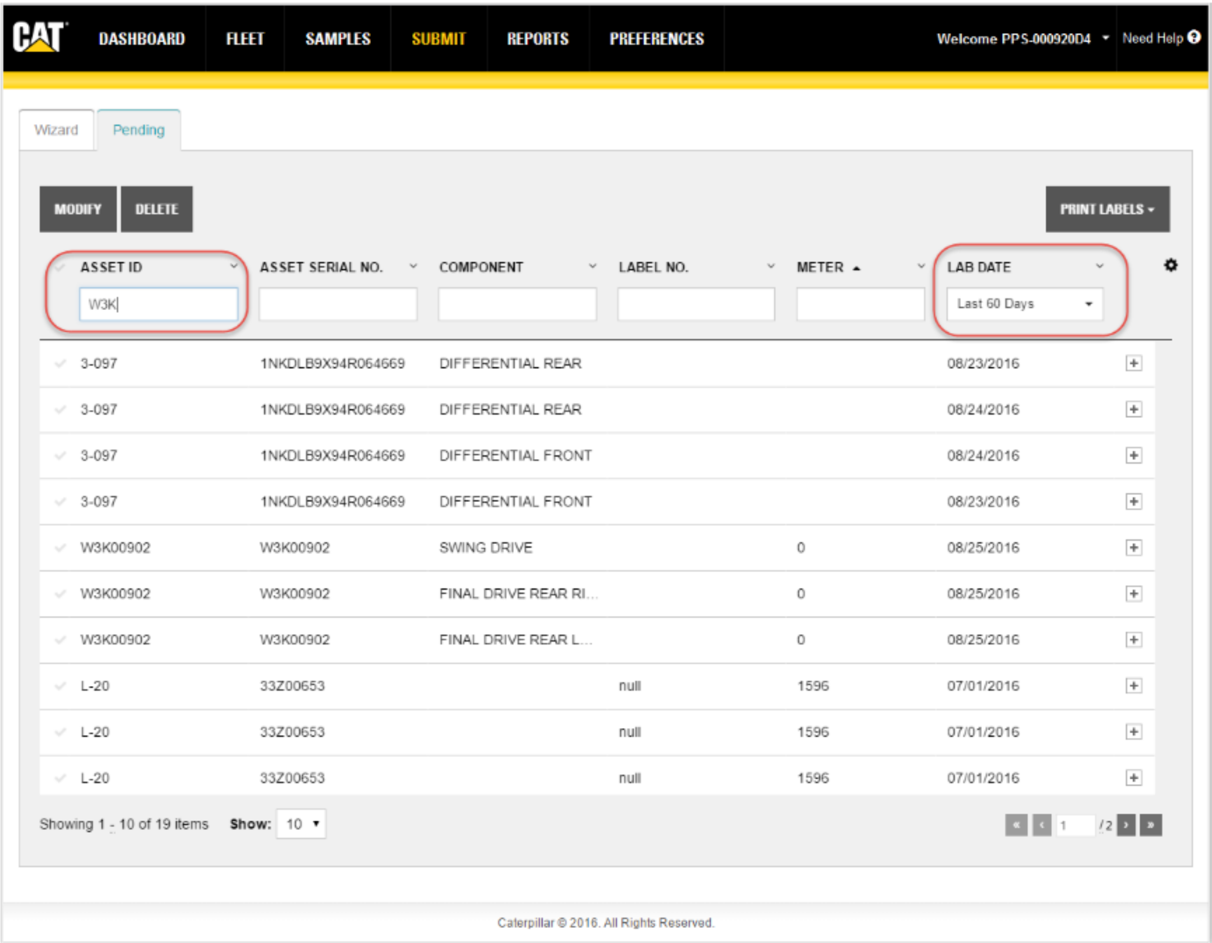
You can print labels for the samples currently shown within the page by clicking on the **PRINT LABELS** button, or you can review the information via the **Pending** tab, make changes if needed, then print the labels from that page.



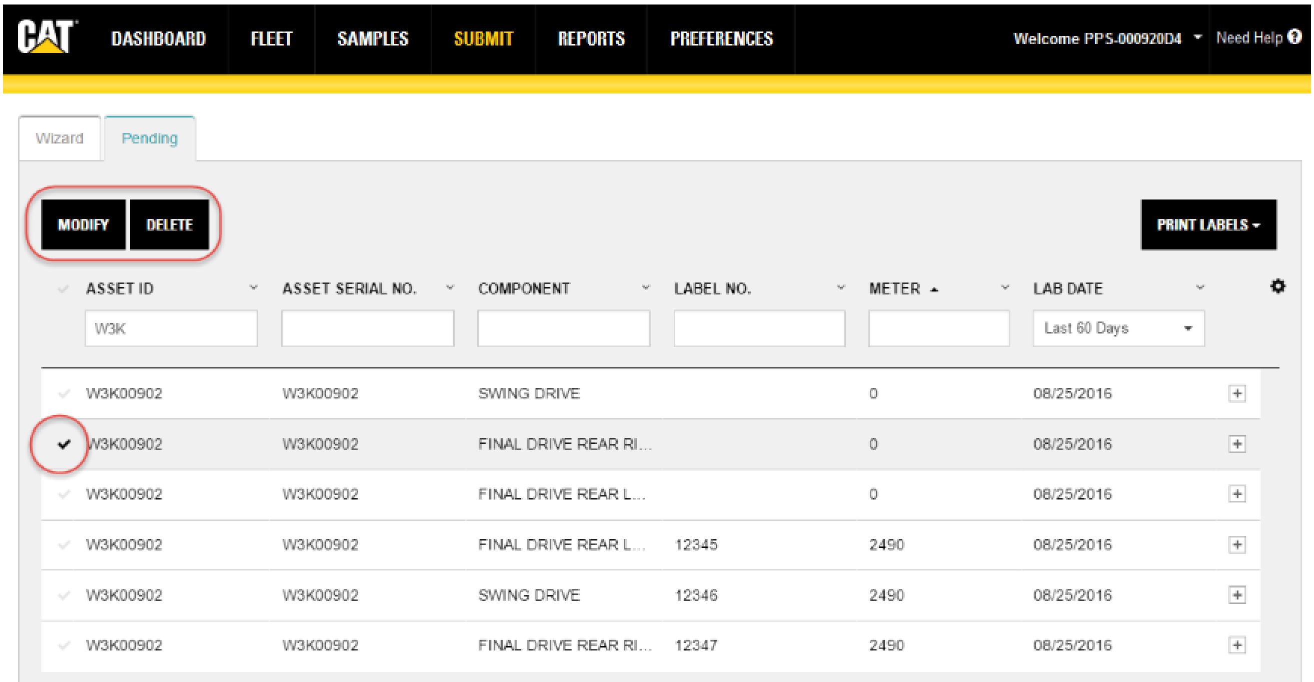
USING THE PENDING TAB

The **Pending** samples tab allows you to find and view previously submitted samples. Start your sample search by using the **Lab Date** drop-down list.

You can then refine the entries listed in the table by using the fields below the column headers to filter the list.



Samples that have not yet been received by the lab can be deleted or modified by clicking on the sample's **Check Mark** then clicking on the **Modify** or **Delete** button.



If you choose to delete a sample a message dialog appears to confirm the action.

NOTE: *Only the user who originally creates a sample submission can delete the submission.*

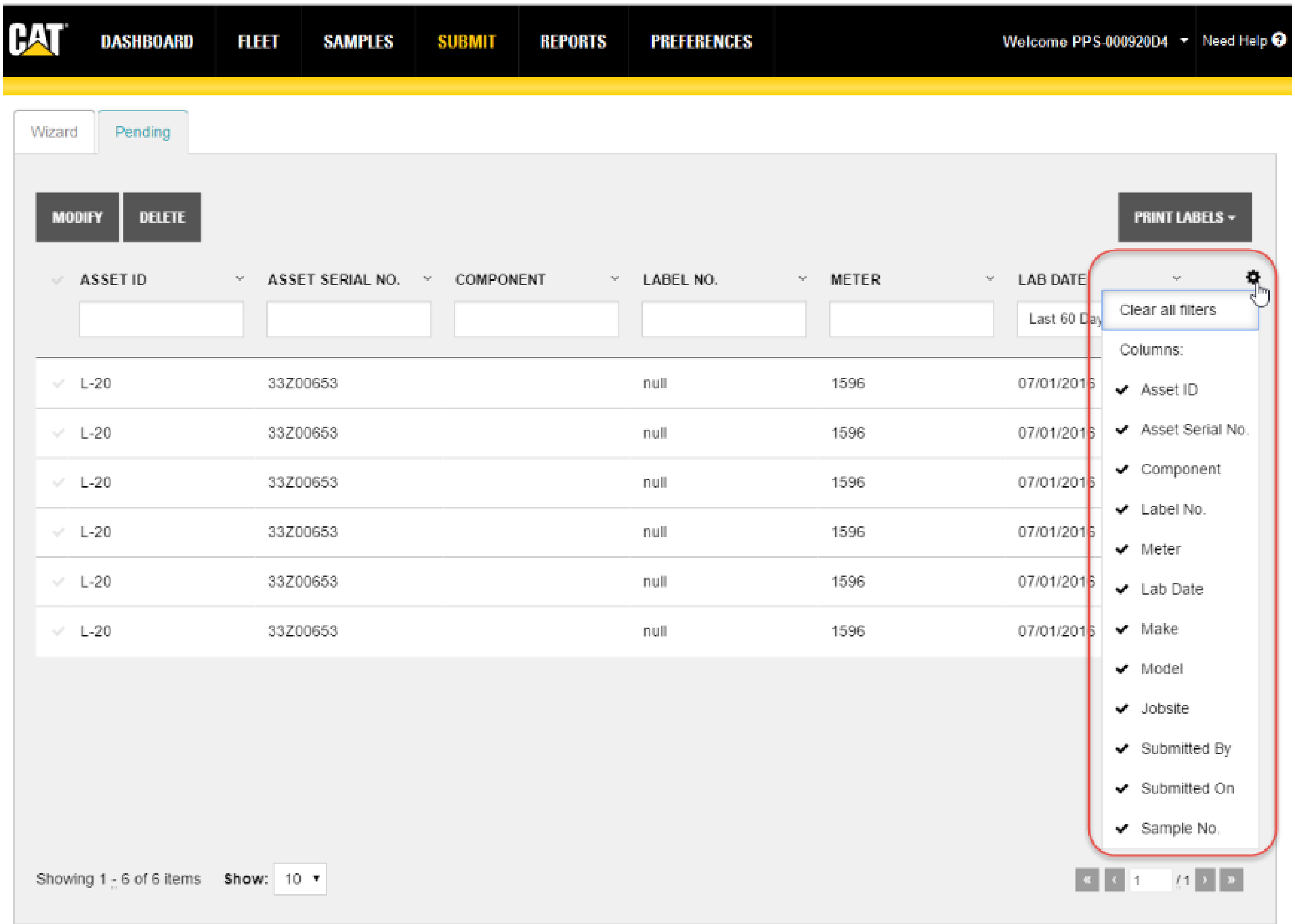
If you choose to modify information for a sample, the software will take you back to the Sample Details step where you can revise the information that needs changing before you re-submit the sample(s).

Table Columns

Choosing Columns to Display

Click on the **Settings** (gear) icon found to the right of the column headers to open a drop-down list as shown below. A check mark appearing to the left of a column title signifies that the column will appear within the table; an X mark hides the related column.

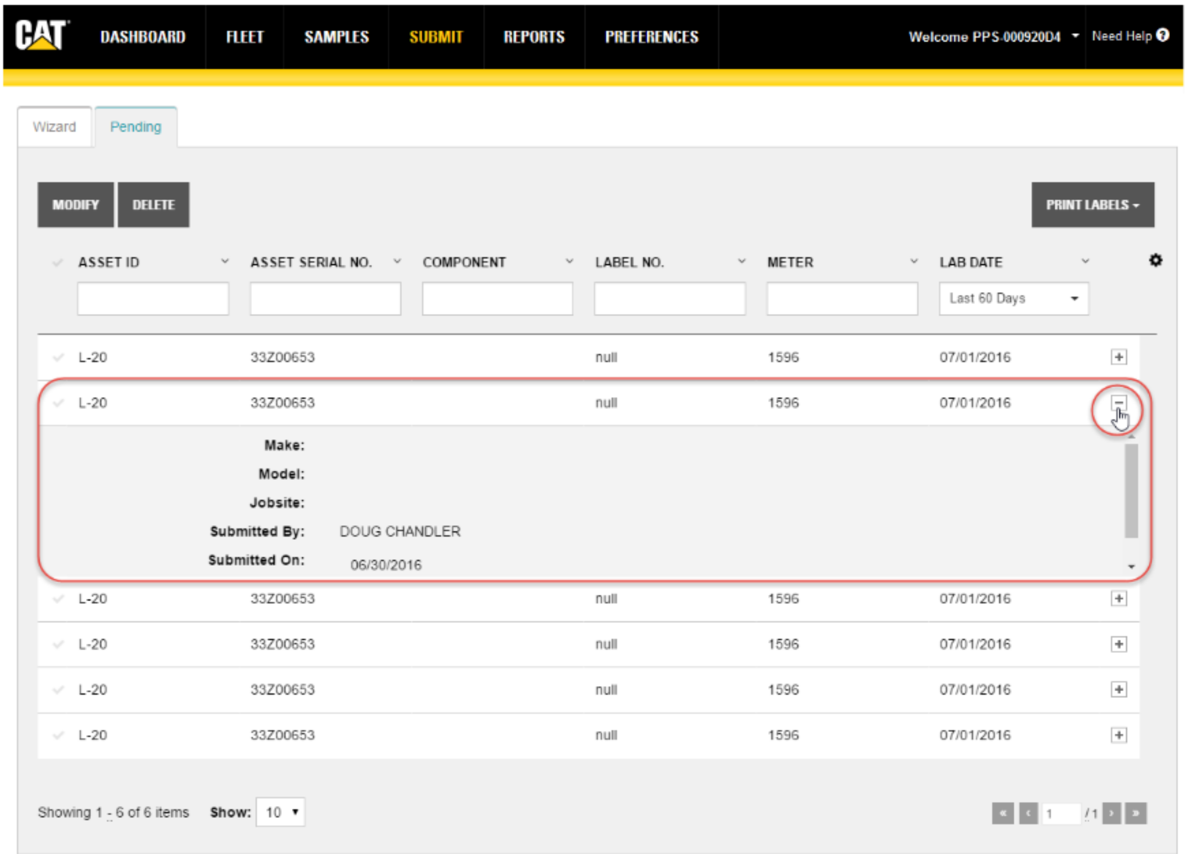
Click anywhere outside the drop-down list to close it.



The columns that actually appear within the table view depend on the screen real estate available. If more columns are selected than space allows, a plus sign (+) icon appears to the right of the rows signifying that additional information is available.

Clicking on the plus sign (+) icon within a specific row expands the row as shown in the example so you can view the additional information as needed. Scroll bars are used to help you view content that is longer or wider than what can be shown within the display area.

The changes made to column settings will persist as your preference, so when you log out then return to the system, you will see the columns and the order appear based on the last defined settings.

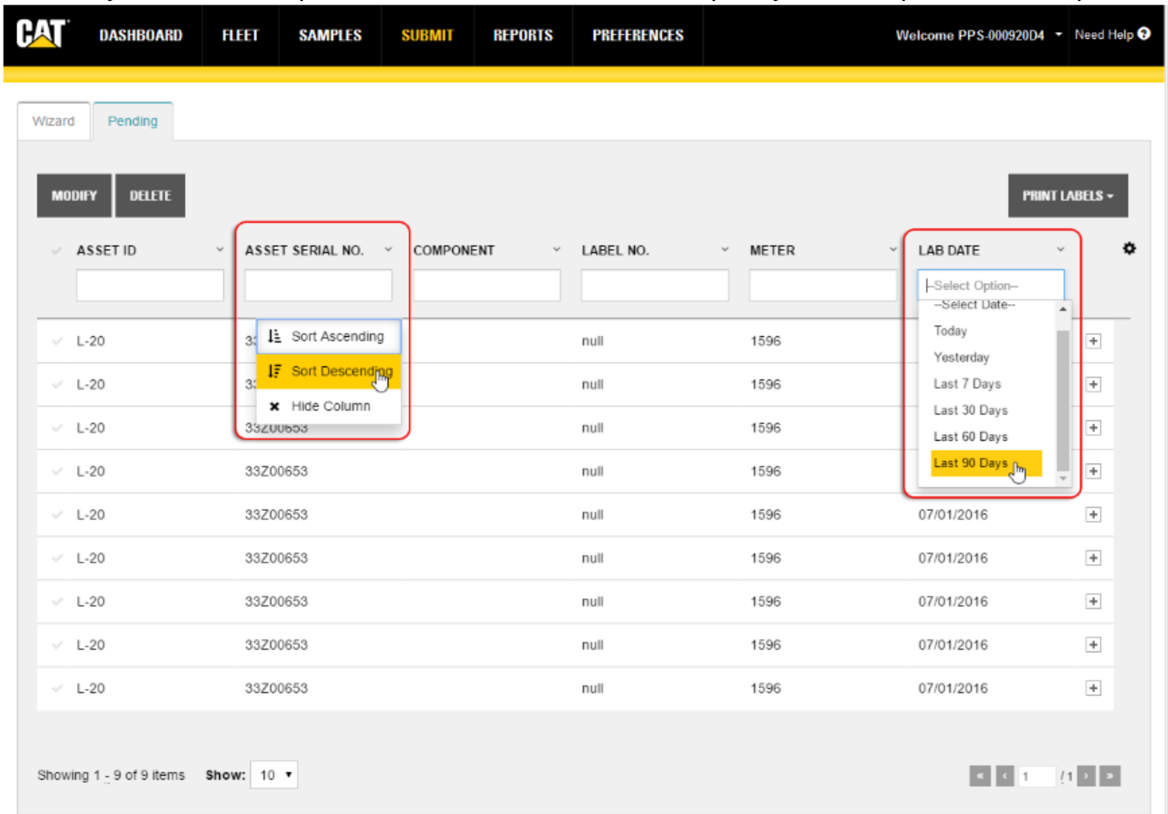


Sorting and Filtering via Column Headers

Column headers are displayed at the top of each column. The headers identify the information displayed in the columns, and they allow you to sort and filter the table data.

To sort data in ascending or descending order, click on the small arrow to the right of a column header then select the desired order. Columns can also be hidden by clicking on the **x Hide Column** item in the header's menu.

Some column headers provide drop-down lists used to select information options; others use direct entry fields in which you can enter specific search elements to more quickly locate a particular sample.



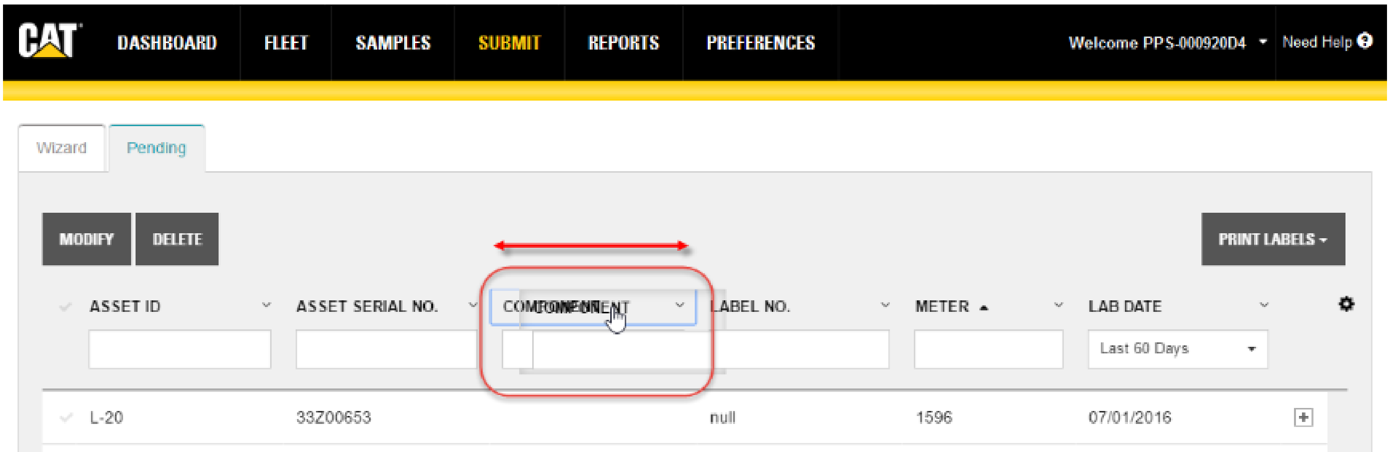
To clear header filters, click on the **Settings** gear icon located top right of the table then click on **Clear all filters**.

NOTE: *Clicking on **Clear all filters** from **Settings** does not clear filters applied via the Advanced Filters feature. An active advanced filter must be cleared by clicking on **Reset** found in that section.*

Arranging Columns

You can rearrange the order of the columns simply by dragging them to the location you want.

Move your mouse cursor over the column title, then click and hold the left mouse button down. As the image below shows, the selected column "detaches" from its original location to confirm which column you are moving.

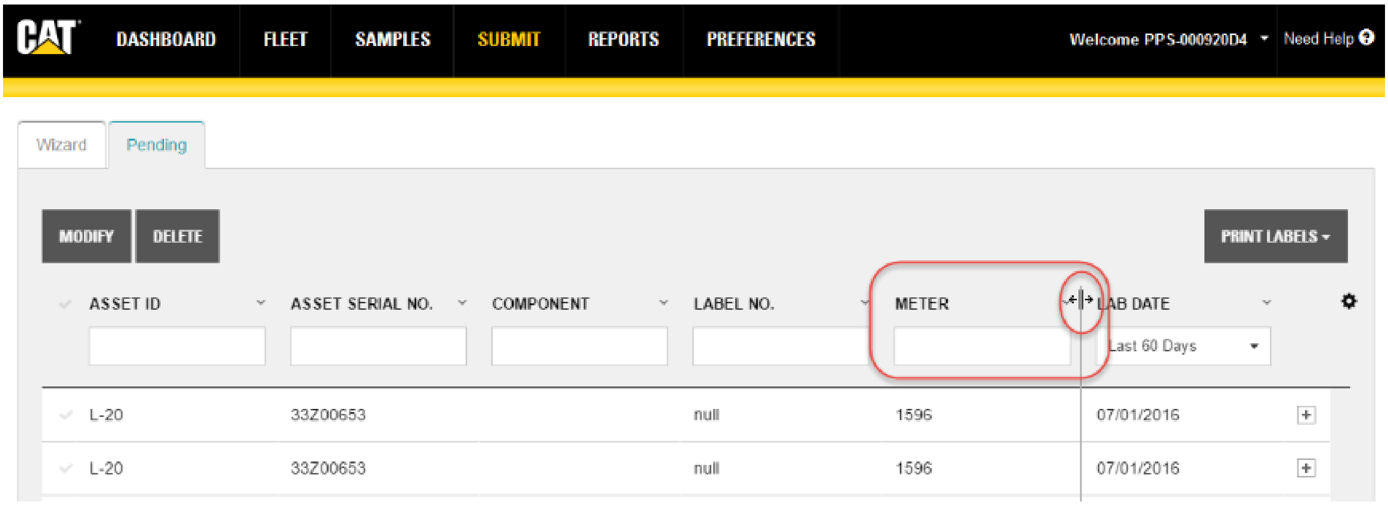


Drag the column to the desired location then release the mouse button. In a moment, the application will reorganize the table with the column in the new location. When you log out, the system saves the latest configuration so that the table will appear the same in your future sessions.

NOTE: *The check mark column is always displayed in the far left column of the table and cannot be moved or removed.*

Sizing Columns

You can adjust the width of columns by hovering the mouse cursor between column edges until you see a double-line arrow as shown in the example. Then hold down the left mouse button, drag the column to the desired width then release the mouse button.



Samples labels can be printed by checking the box to the left of one or more samples then clicking on the **PRINT LABELS** button. You will then select the label size needed and the system will automatically create the labels and display them in a new browser tab. You can then download the labels as a PDF file, or print them using your browser's controls.