

Using the Samples Page

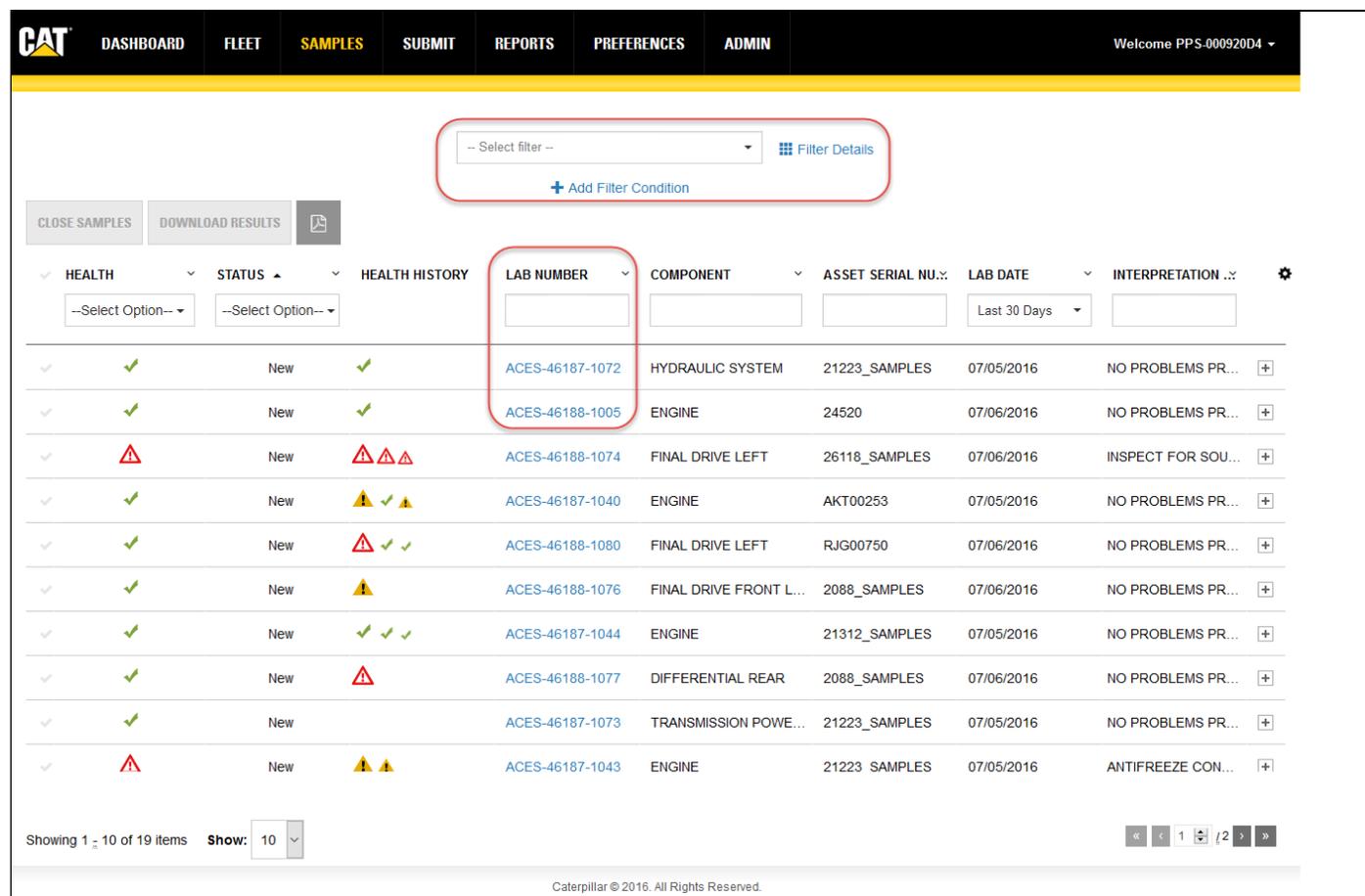
The *Samples* page is the primary interface in the application for:

- 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.



The screenshot displays the CAT Samples page interface. The top navigation bar includes CAT logo, DASHBOARD, FLEET, **SAMPLES** (active), SUBMIT, REPORTS, PREFERENCES, and ADMIN. A user greeting "Welcome PPS-000920D4" is on the right. Below the navigation is a filter section with a dropdown menu set to "-- Select filter --" and a "Filter Details" button. A "+ Add Filter Condition" button is below. The main table has columns: HEALTH, STATUS, HEALTH HISTORY, LAB NUMBER, COMPONENT, ASSET SERIAL NU., LAB DATE, and INTERPRETATION. The LAB NUMBER column is highlighted with a red box. The table contains 10 rows of sample data. At the bottom, there is a pagination control showing "Showing 1 - 10 of 19 items" and a "Show: 10" dropdown. The footer reads "Caterpillar © 2016. All Rights Reserved."

HEALTH	STATUS	HEALTH HISTORY	LAB NUMBER	COMPONENT	ASSET SERIAL NU.	LAB DATE	INTERPRETATION
✓	✓	New ✓	ACES-46187-1072	HYDRAULIC SYSTEM	21223_SAMPLES	07/05/2016	NO PROBLEMS PR... +
✓	✓	New ✓	ACES-46188-1005	ENGINE	24520	07/06/2016	NO PROBLEMS PR... +
✓	⚠	New ⚠⚠⚠	ACES-46188-1074	FINAL DRIVE LEFT	26118_SAMPLES	07/06/2016	INSPECT FOR SOU... +
✓	✓	New ⚠✓✓	ACES-46187-1040	ENGINE	AKT00253	07/05/2016	NO PROBLEMS PR... +
✓	✓	New ⚠✓✓	ACES-46188-1080	FINAL DRIVE LEFT	RJG00750	07/06/2016	NO PROBLEMS PR... +
✓	✓	New ⚠	ACES-46188-1076	FINAL DRIVE FRONT L...	2088_SAMPLES	07/06/2016	NO PROBLEMS PR... +
✓	✓	New ✓✓✓	ACES-46187-1044	ENGINE	21312_SAMPLES	07/05/2016	NO PROBLEMS PR... +
✓	✓	New ⚠	ACES-46188-1077	DIFFERENTIAL REAR	2088_SAMPLES	07/06/2016	NO PROBLEMS PR... +
✓	✓	New	ACES-46187-1073	TRANSMISSION POWE...	21223_SAMPLES	07/05/2016	NO PROBLEMS PR... +
✓	⚠	New ⚠⚠	ACES-46187-1043	ENGINE	21223_SAMPLES	07/05/2016	ANTIFREEZE CON... +

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.

The screenshot shows the CAT software interface with a navigation bar at the top containing 'DASHBOARD', 'FLEET', 'SAMPLES', 'SUBMIT', 'REPORTS', 'PREFERENCES', and 'ADMIN'. The 'SAMPLES' tab is active. Below the navigation bar, there are buttons for 'CLOSE SAMPLES' and 'DOWNLOAD RESULTS', and a filter dropdown set to '-- Select filter --'. The main table has columns: HEALTH, LAB DATE, STATUS, LAB NUMBER, COMPONENT, ASSET SERIAL NU., and DEALER NAME. A tooltip is open over the 'HEALTH' column, showing options: 'Check All', 'Uncheck All', 'Urgent Action Required', 'Action Required' (highlighted), 'Monitor Compartment', 'No Action Required', and 'No Comment'. The table rows show sample data with dates, statuses, and lab numbers.

HEALTH	LAB DATE	STATUS	LAB NUMBER	COMPONENT	ASSET SERIAL NU.:	DEALER NAME
✓	07/06/2016	New	ACES-46188-1005	ENGINE	24520	DEALER NAME
✓	07/06/2016	New	ACES-46188-1074	FINAL DRIVE LEFT	26118_SAMPLES	DEALER NAME
⚠	07/06/2016	New	ACES-46188-1080	FINAL DRIVE LEFT	RJG00750	DEALER NAME
✓	07/06/2016	New	ACES-46188-1076	FINAL DRIVE FRONT L...	2088_SAMPLES	DEALER NAME
✓	07/06/2016	New	ACES-46188-1077	DIFFERENTIAL REAR	2088_SAMPLES	DEALER NAME
⚠	07/06/2016	New	ACES-46188-1078	FINAL DRIVE REAR LE...	2088_SAMPLES	DEALER NAME

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.

The screenshot displays the CAT Samples application interface. At the top, there is a navigation bar with tabs for DASHBOARD, FLEET, SAMPLES, SUBMIT, REPORTS, PREFERENCES, and ADMIN. Below the navigation bar, there are buttons for CLOSE SAMPLES, DOWNLOAD RESULTS, and a filter dropdown menu. The main content area features a table with columns for HEALTH, HEALTH HISTORY, STATUS, LAB NUMBER, and ASSET SERIAL NUMBER. A tooltip is open over a warning icon in the HEALTH HISTORY column, displaying sample information, fluid information, a recommendation, and previous samples.

HEALTH	HEALTH HISTORY	STATUS	LAB NUMBER	ASSET SERIAL NUMBER
⚠			19-0102	ATS00334
✓			47-0081	ATS00334
✓			46-0037	ATS00334
✓			10-0070	ATS00334
⚠			46-0036	ATS00334
⚠			85-0021	ATS00334
✓			84-0156	ATS00334
⚠			47-0080	ATS00334
⚠			87-0043	ATS00334
⚠			10-0068	ATS00334

SAMPLE INFORMATION
 Status: New
 Activity: None

FLUID INFORMATION
 Meter: 54350 Fluid Brand: SHELL
 Meter On: 227 Fluid Type:
 Fluid:
 Fluid Change: - Fluid Weight: 15W-40
 Filter Change: - Makeup Fluid: 0

RECOMMENDATION
 Copper (Cu) is slightly above normal. The high Copper (Cu) could indicate thrust washer/bushing wear; turbo bearing wear; or oil cooler core leaching. Other readings are acceptable. Oil and filter changes were noted. Resample at the recommended interval. Check filter(s) for visible metal and debris. Please report on the next sample if any debris is found in the filter(s); or on the magnetic plug.

PREVIOUS SAMPLES

HEALTH	LAB NUMBER	SAMPLE DATE
⚠	ACES-43046-0036	02/14/2013

Showing 1 - 10 of 11 items Show: 10

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.

The screenshot shows the CAT software interface with a table of sample health data. A modal window is open over one row, displaying detailed information. The table columns include HEALTH, HEALTH HISTORY, STATUS, LAB NUMBER, and ASSET SERIAL NU. The modal window contains the following information:

SAMPLE INFORMATION
 Status: New
 Activity: None

FLUID INFORMATION
 Meter: 54004 Fluid Brand: SHELL
 Meter On Fluid: 172 Fluid Type:
 Fluid Change: - Fluid Weight: 15W-40
 Filter Change: - Makeup Fluid: 0

RECOMMENDATION
 Copper (Cu) is above normal. The high Copper (Cu) could indicate thrust washer/bushing wear; turbo bearing wear; or oil cooler core leaching. Iron (Fe) is slightly above normal for amount of hours on oil. Slight gear, shaft, or liner wear indicated. Other readings are acceptable. Oil and filter changes were noted. Resample in 150 hours. Check filter(s) for visible metal and/or debris. Please report on the next sample if any debris is found in the filter(s); or on the magnetic plug.

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 screenshot shows an administrative interface with a table of data. The table has columns for Component, Asset Serial Number, Lab Date, Interpretation, and Dealer Name. A settings menu is open for the Dealer Name column, showing a list of columns to be displayed or hidden. The columns listed are: Health History, Status, Asset Serial Number, Component, Lab Date, Interpretation Text, Dealer Name, Asset ID, Component Serial Number, Jobsite, Label Number, and Work Order Number. The Asset ID column is currently unchecked and highlighted in yellow.

COMPONENT	ASSET SERIAL NU..	LAB DATE	INTERPRETATION ...	DEALER NAME
MISSION POWE...	ATS00334	11/15/2010	PARTICLE COUNT ...	DE
EM RIGHT	ATS00334	12/11/2012	Condition satisfacto...	DE
AULIC SYSTEM	ATS00334	02/14/2013	Condition satisfacto...	DE
AULIC SYSTEM	ATS00334	07/28/2013	Condition satisfacto...	DE
NE	ATS00334	02/14/2013	Copper (Cu) is abo...	DE
NE	ATS00334	03/25/2013	Copper (Cu) is slig...	DE
NE	ATS00334	10/09/2012	Condition satisfacto...	DE
NE	ATS00334	12/11/2012	Copper (Cu) is slig...	DE
NE	ATS00334	10/14/2011	SILICON, ALUMINU...	DE
NE	ATS00334	07/28/2013	Copper (Cu) is TRE...	DE

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.

The screenshot shows the CAT Samples application interface. At the top, there are navigation tabs: DASHBOARD, FLEET, SAMPLES (highlighted), SUBMIT, REPORTS, PREFERENCES, and ADMIN. A user greeting "Welcome PPS-000920D4" is visible in the top right. Below the navigation is a yellow header bar. The main content area features a table of sample data with columns: HEALTH, STATUS, HEALTH HISTORY, LAB NUMBER, COMPONENT, ASSET SERIAL NU., and LAB DATE. A tooltip is open for the sample with Lab Number ACES-41160-0425, showing an interpretation text: "COPPER IS HIGH. COPPER ALONE USUALLY INDICATES COOLER CORE LEACHING AND IS NOT NORMALLY WEAR OF BRONZE / BRASS PARTS." and other details like Dealer Name, Asset ID, Component Serial Number, and Jobsite. A red circle highlights the minus icon in the tooltip's close button, and another red circle highlights the scroll bar on the right side of the tooltip.

HEALTH	STATUS	HEALTH HISTORY	LAB NUMBER	COMPONENT	ASSET SERIAL NU.:	LAB DATE
✓	✓	New	ACES-41103-0052	ENGINE	WELLGENSET	04/13/2011
✓	⚠	New	ACES-40118-0283	FINAL DRIVE FRONT L...	A92026	04/28/2010
✓	✓	New	ACES-41133-0177	BRAKES	B1N00483	05/13/2011
✓	⚠	New	ACES-42079-0094	TRANSMISSION POWE...	17Z01104	03/19/2012
✓	✓	New	ACES-41160-0425	TRANSMISSION POWE...	8CL01875	06/09/2011
✓	⚠	New	ACES-42201-0040	ENGINE	7M659808	07/19/2012

Showing 1 - 10 of 13493 items Show: 10

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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. Clicking on the **Lab Number** link within the tooltip changes the view to *Sample Details* for that particular sample number.

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. 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.

The screenshot shows the CAT software interface with a table of samples. The table has columns for HEALTH, STATUS, LAB NUMBER, ASSET SERIAL NU., COMPONENT, LAB DATE, INTERPRETATION, and DEALER NAME. A dropdown menu is open for the STATUS column, showing options like 'Check All', 'Uncheck All', 'New', 'In Progress', 'Closed', 'In Process', 'Pending', and 'New'. A second dropdown menu is open for the COMPONENT column, showing options like 'Sort Ascending', 'Sort Descending', and 'Hide Column'. A settings gear icon is visible in the top right corner of the table area.

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.

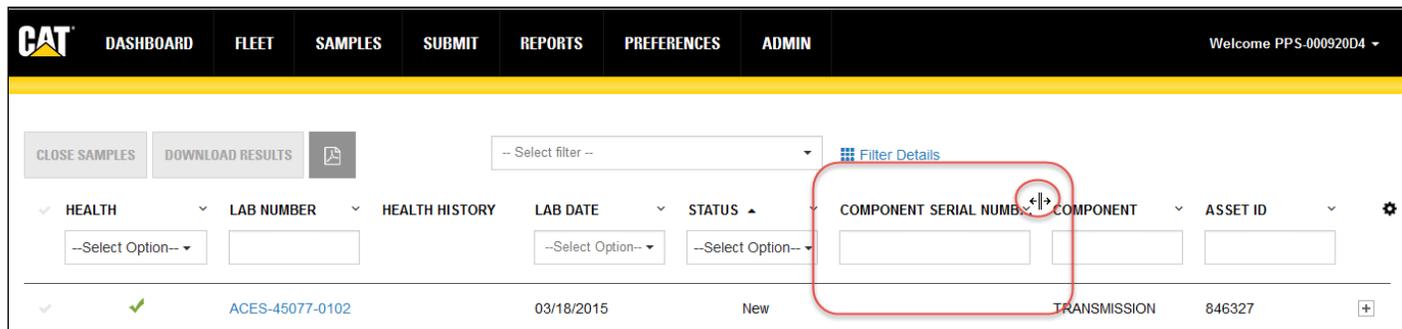
The screenshot shows the CAT software interface with a table of samples. The table has columns for HEALTH, HEALTH HISTORY, STATUS, LAB NUMBER, COMPONENT, ASSET SERIAL NU., LAB DATE, INTERPRETATION, and DEALER NAME. A red double-headed arrow is shown between the HEALTH HISTORY and STATUS columns, indicating they are being moved. The HEALTH HISTORY column is highlighted with a red box, and a red circle is around the column title.

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.



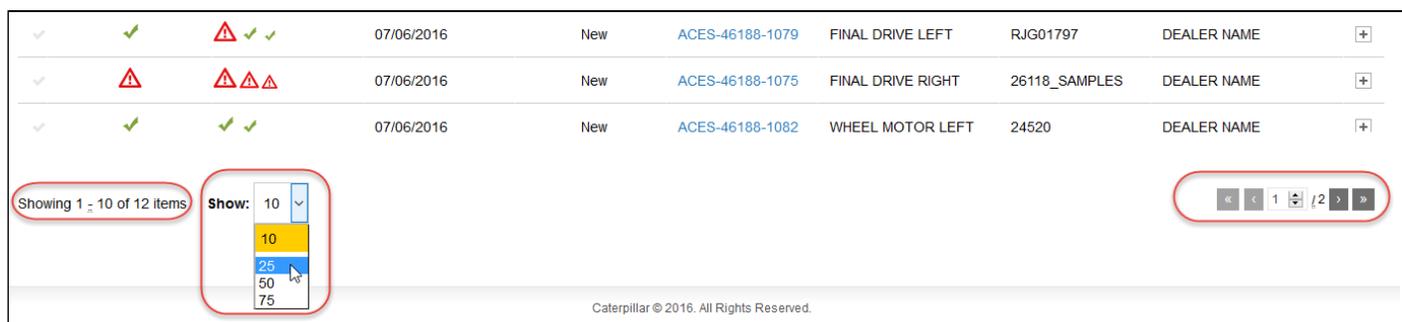
Navigating and Managing Samples Lists

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.

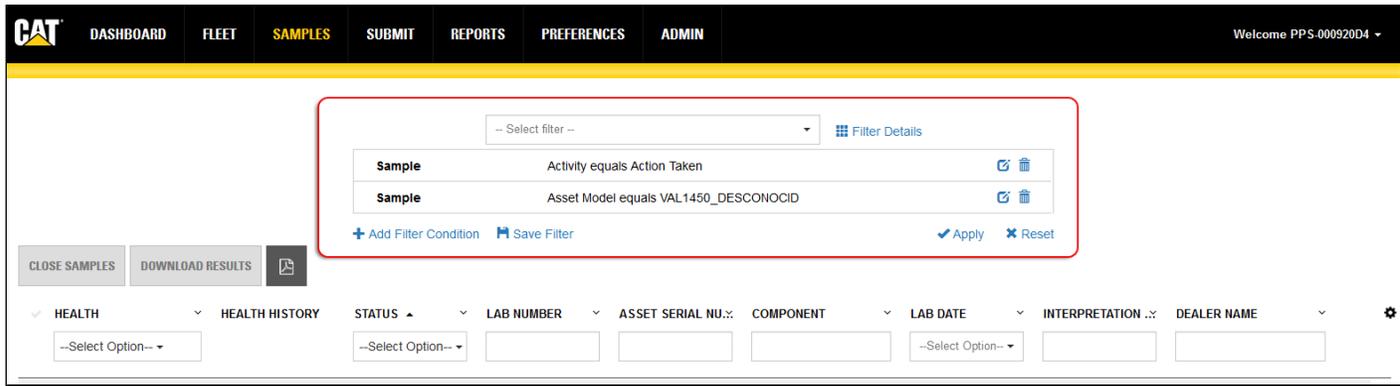
Controls to the right allow you to select from multiple pages for longer sample sets.



Using Advanced Filters

Many column headers in the main *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.

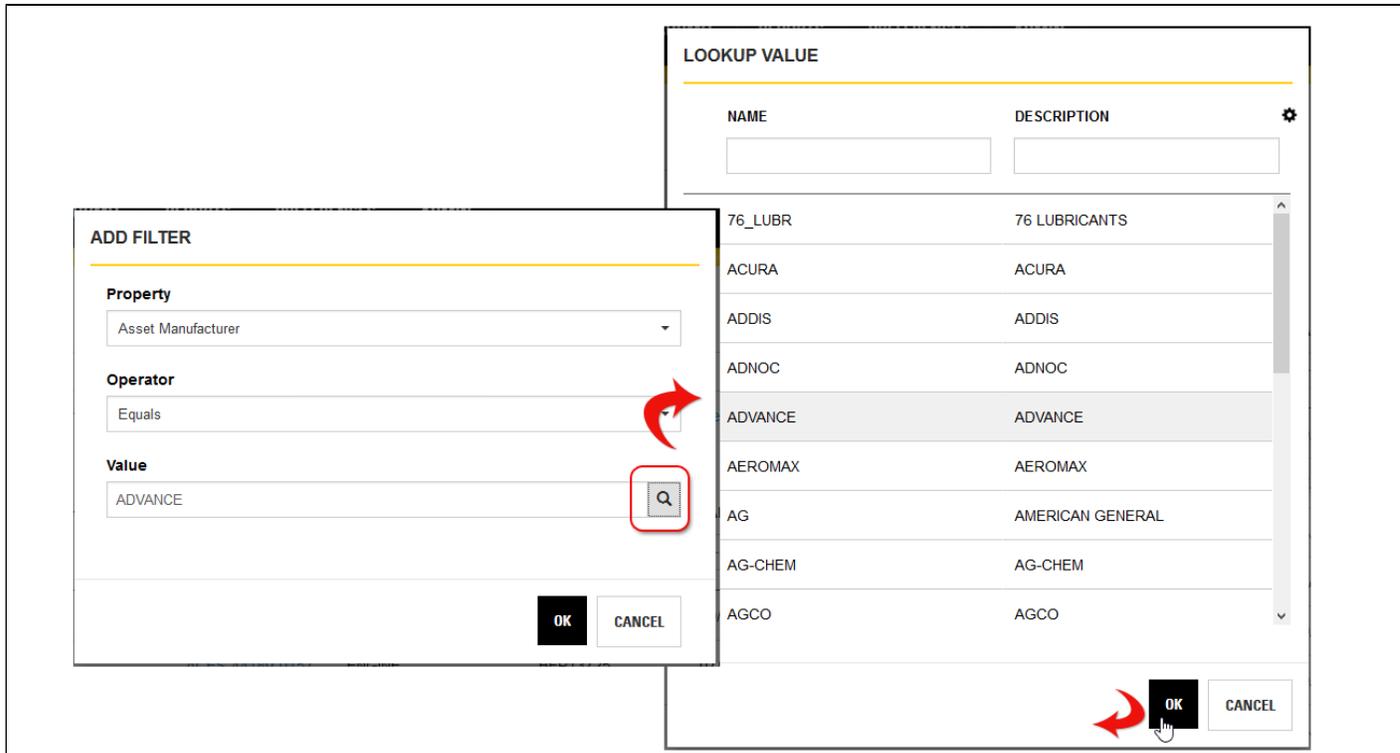


You can use existing filters by clicking on the arrow to the right of the **Select filter** drop-down list then clicking on the desired filter shown in the list.

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.

CAT DASHBOARD FLEET **SAMPLES** SUBMIT REPORTS PREFERENCES ADMIN Welcome PPS-00092004

SAMPLE ACTIVITIES
 -Choose activity- **APPLY** New In Progress Close 📄 📄

ACES-43046-0037 **Sampled Date:** 02/14/2013 **Label Number:** 1302150135 **Activity:** None **Missing Info:** - **Attachments:**
Barcode: - **Created By:** **Created On:** ✓ On 02/14/2013

ASSET INFORMATION **FLUID INFORMATION**

Asset Serial Number:	ATS00334	Component:	HS	Calculated Meter on Fluid:	0 HR	Fluid Change:	-
Asset ID:	08-1243	Meter Reading:	54004 HR	Meter on Fluid:	0 HR	Component Meter:	HR
Manufacturer & Model:	CATERPILLAR 16H	Work Order No.:	KIEWIT MINING GROUP	Filter Change:	-	Fluid Brand / Fluid Type:	SHELL/
Ownership & Location:	THOMPSON MINES MINESITE 3	Makeup Fluid:	0			Fluid Weight:	10
						Kidney Loop:	-

RECOMMENDATION

OIL Sample ✓ Condition satisfactory, continue to sample at recommended interval.
 Reported on: 02/14/2013
 Reported by: MIGR_USER
 Report distributed on:

LAB INFORMATION 📄

SAMPLED DATE	LAB NUMBER	HEALTH	METER	METER ON FLUID	FILTER CHANGE	FLUID CHANGE	FLUID BRAND	FLUID TYPE
02/14/2013	ACES-43046-0037	✓	54004	0	-	-	SHELL	

WEAR METALS

Sampled Date	Cu	Fe	Cr	Pb	Sn	Si	Al	Ni	P	Mo	Ag	Ti	V	Cd	Mn

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.

The screenshot shows the CAT software interface. At the top is a navigation bar with tabs: DASHBOARD, FLEET, SAMPLES, SUBMIT, REPORTS, PREFERENCES, and ADMIN. A user greeting 'Welcome PPS-00920D4' is on the right. Below the navigation bar is a 'SAMPLE ACTIVITIES' section with a dropdown menu and an 'APPLY' button. To the right are 'New', 'In Progress', and 'Close' buttons with corresponding icons. Below this is a summary row for sample 'ACES-46188-1074' with fields for Sampled Date, Label Number, Activity, Missing Info, and Attachments. The main content area is divided into two columns: 'ASSET INFORMATION' and 'FLUID INFORMATION'. The 'ASSET INFORMATION' column lists details like Asset Serial Number, Asset ID, Manufacturer & Model, and Ownership & Location. The 'FLUID INFORMATION' column lists details like Calculated Meter on Fluid, Meter on Fluid, Filter Change, and Makeup Fluid. Below these columns is a 'RECOMMENDATION' section with a warning icon and text: 'OIL Sample Reported on: 07/07/2016 Reported by: HEEKEBW Report distributed on: 07/07/2016 INSPECT FOR SOURCE OF DIRT ENTRY INTO THE SYSTEM. INSPECT DRAIN PLUG FOR DEBRIS. RESAMPLE IN 100 HOURS.'

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.

This close-up screenshot shows the 'RECOMMENDATION' section. It features a warning icon (a triangle with an exclamation mark) and the following text: 'OIL Sample Reported on: 07/07/2016 Reported by: HEEKEBW Report distributed on: 07/07/2016 INSPECT FOR SOURCE OF DIRT ENTRY INTO THE SYSTEM. INSPECT DRAIN PLUG FOR DEBRIS. RESAMPLE IN 100 HOURS.'

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 a 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).

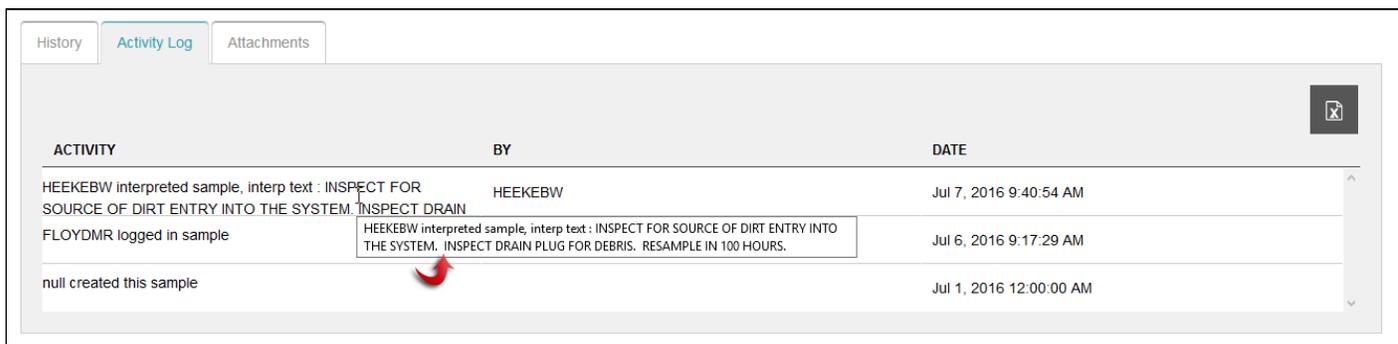
An email event can also trigger one or more secondary actions (created attachment) based on the number of attachments included in an email.

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.



ACTIVITY	BY	DATE
HEEKEBW interpreted sample, interp text : INSPECT FOR SOURCE OF DIRT ENTRY INTO THE SYSTEM. INSPECT DRAIN	HEEKEBW	Jul 7, 2016 9:40:54 AM
FLOYDMR logged in sample	HEEKEBW interpreted sample, interp text : INSPECT FOR SOURCE OF DIRT ENTRY INTO THE SYSTEM. INSPECT DRAIN PLUG FOR DEBRIS. RESAMPLE IN 100 HOURS.	Jul 6, 2016 9:17:29 AM
null created this sample		Jul 1, 2016 12:00:00 AM

Attachments Tab

The **Attachments** tab shows the attachments uploaded for the sample being viewed.

Image attachments will be shown directly in the page (at a reduced size/resolution) so users do not have to download to see them. A visual indicator will be displayed as a field label so users are aware that attachments have been added for the selected sample.

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

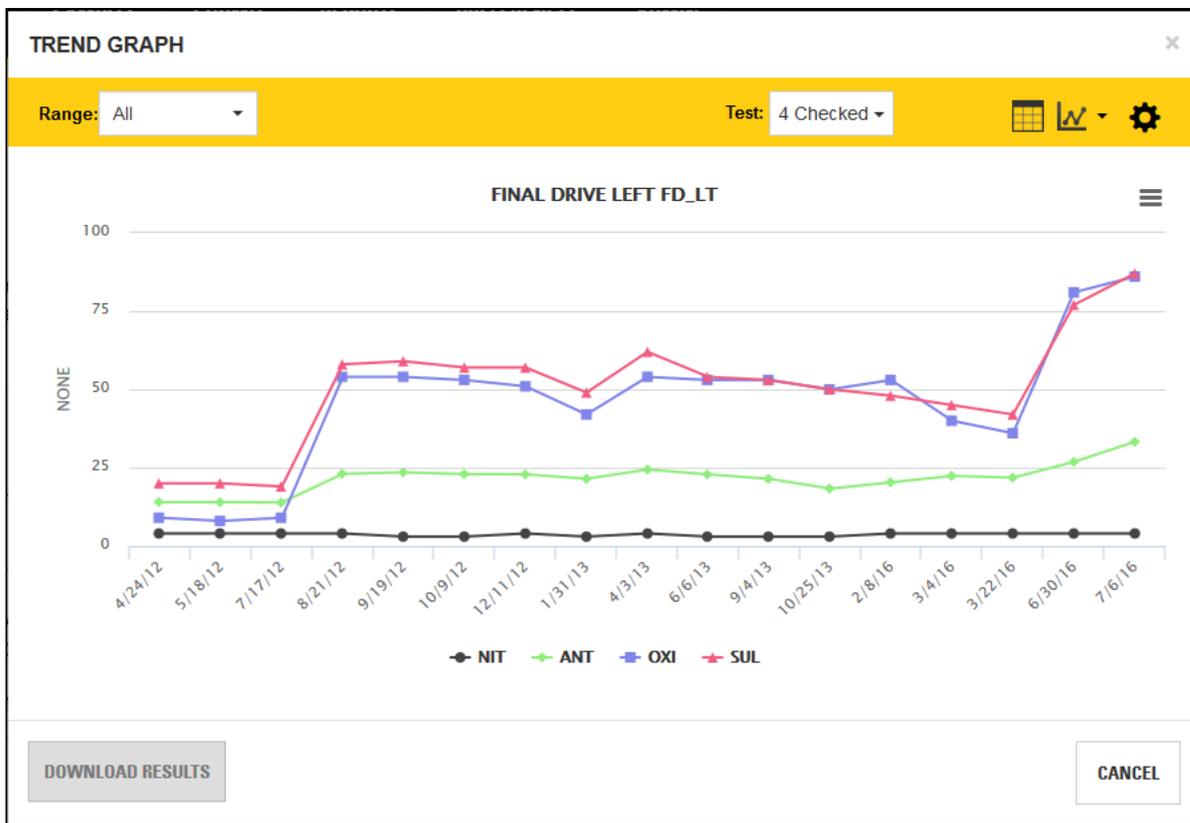
NAME	ATTACHMENTS	CREATED BY	CREATED ON
Attachment file 1		Chris Fisher	Aug 29, 2015
Attachment file 2		Chris Fisher	Aug 29, 2015
Attachment file 3		Chris Fisher	Aug 29, 2015

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.

