



# How to retrieve Audit Trail, Sample & Specimen Reports using the CellMek SPS Sample Preparation System

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## In this paper you will

Learn how to access and archive audit trail data using the instrument's touchscreen GUI

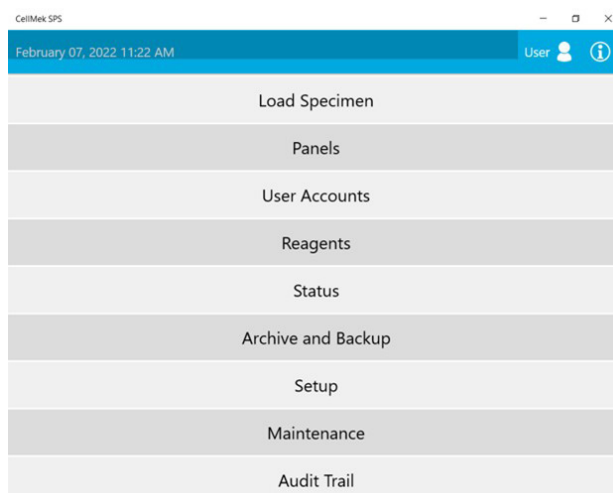
How to access the archived information using the CellMek SPS Panel Designer Software

Which information is included in the archived audit trail and sample / specimen logs

The CellMek SPS sample preparation system automates a workflow—from sample loading to samples ready to analyze—without user intervention. In order to take the accreditation pressure off the lab, the system also tracks everything that comes onboard by using a total of eight barcode scanners. This info can be easily retrieved to provide a full audit trail for samples and reagents.



## How to retrieve and archive Audit Trail information from the CellMek SPS instrument using the touchscreen GUI

1. From the CellMek SPS Home Screen, select the **Audit Trail (Figure 1)**



2. Select the date of interest. Instrument will display actions taken with associated time stamps on the given date. These can also be filtered by **Category** and **User** to assist with searchability.

Examples:

Audit Trail			
<div> <div>2 Feb 2022</div> <div>   </div> </div>			
Date/Time	Category ▾	User ▾	Description
2 Feb 2022 2:29:56 PM	Maintenance	Service	Instrument shutdown completed successfully.
2 Feb 2022 2:14:34 PM	Maintenance	Service	Instrument shutdown initiated.

**Figure 2:** Shutdown

\*Noting the last occurrence of shutdown prior to testing start helps avoid disruption due to 24hr restart requirement.

3 Feb 2022 10:12:42 AM	Run Panel	Service	Panel '20220201 DD PerFix-nc' was added to specimen '89352402237' (LIS Order: No)
3 Feb 2022 9:53:11 AM	Error	Service	[FE_WORKFLOW_ERROR_CELLWASH_NOT_PRIMED] Cell Wash requires priming. Ensure system is not in processing state, then press Check System button.  Cell Wash requires priming. Ensure system is not in processing state, then press Check System button.
3 Feb 2022 9:53:11 AM	Consumables	Service	Cell wash fluid updated. Reagent: buffer1, Lot: 020122 (new: No), Expires: 2 May 2023, Fill Volume: 2.00 L, Remaining volume: 0.64 L, Comments:
3 Feb 2022 9:51:27 AM	Maintenance	Service	Instrument startup completed successfully.
3 Feb 2022 9:43:19 AM	Maintenance	Service	Instrument startup initiated.
3 Feb 2022 9:43:14 AM	User	Service	User signed in successfully: Service.

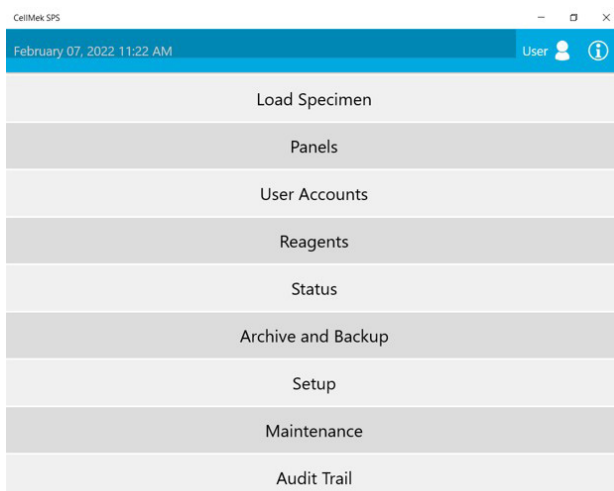
**Figure 3:** User Activity, Startup, Reagent Information, Error, Panel Assignment

In addition to the examples above, the Audit Trail function on the CellMek SPS instrument touchscreen GUI will also show event categories such as (examples only, list is not comprehensive):

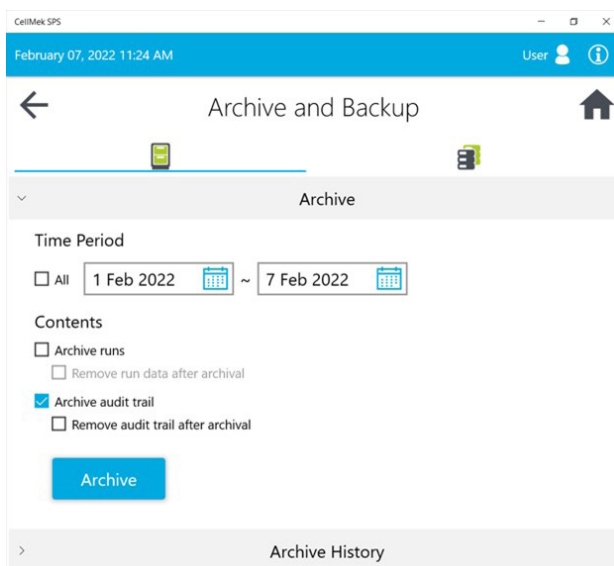
- Panel Import – shows information on panels imported into system from Panel Designer Software
- Password Changes
- Module activity (e.g. opening of liquid antibody module)
- User permissions
- Maintenance events (incl. daily Prime procedure)
- External resource error messages (e.g. waste tank full)
- Liquid antibody module Monitoring incl. temperature

## How to Archive and Backup Audit Trail data from the CellMek SPS home screen and import data into the Panel Designer Software

- Select **Archive and Backup** from the CellMek SPS Home Screen to export the audit trail (**Figure 4**)



- A. Select the dates desired and check the box for **Archive Audit Trail**. Ensure a USB is inserted in the CellMek SPS. The system will write an Archive file to a folder named CellMek on the USB.



**Figure 5:** Archive and Backup menu of CellMek SPS

Records associated with archive dates will display in the Archive History.

Date and Time	Username	Record
26 Oct 2021 11:23:50 AM	Marvin	Archived data successfully to USB Drive: \\CellMek\\MP00023_20210929_20211026_20211026112349.wfsa. Start date: 29 Sep 2021, End date: 26 Oct 2021, Archive runs: Yes, Remove run data after archival: No, Archive audit trail: Yes, Remove audit trail after archival: No.
7 Feb 2022 11:25:26 AM	User	Archived data successfully to USB Drive: \\CellMek\\MP00023_20220201_20220207_20220207112525.wfsa. Start date: 1 Feb 2022, End date: 7 Feb 2022, Archive runs: No, Remove run data after archival: No, Archive audit trail: Yes, Remove audit trail after archival: No.

Figure 6: Archive History

The archive files stored to the USB drive can now be imported into the Panel Designer software.



Figure 7: Open CellMek Panel Designer application on personal computer. Select **Open Archive**.

Select from the CellMek folder the archive file previously generated by the CellMek SPS. The file will open within the Panel Designer software, where the **Audit Trail** can be selected and filtered by date(s).

Example:

Serial Number	Operation	User	Time	Record
DEMOR	Worklist	Service	10 Nov 2021 2:19:36 PM	Worklist file successfully generated to USB Drive: CellMek\\Worklist\\99-10112021-141936.EWL
DEMOR	Worklist	Service	10 Nov 2021 2:19:36 PM	Worklist file successfully generated to: CellMek\\Worklist\\99-10112021-141936.EWL
DEMOR	Worklist	Service	10 Nov 2021 2:19:36 PM	Worklist file successfully generated to USB Drive: CellMek\\Worklist\\99-10112021-141936.json
DEMOR	Worklist	Service	10 Nov 2021 2:19:36 PM	Worklist file successfully generated to: CellMek\\Worklist\\99-10112021-141936.json
DEMOR	Worklist	Service	10 Nov 2021 2:19:37 PM	Worklist file successfully generated to USB Drive: CellMek\\Worklist\\99-10112021-141936.html
DEMOR	Worklist	Service	10 Nov 2021 2:19:37 PM	Worklist file successfully generated to: CellMek\\Worklist\\99-10112021-141937.html
DEMOR	Maintenance	Service	2 Dec 2021 7:37:31 PM	Instrument shutdown initiated.
DEMOR	Maintenance	Service	2 Dec 2021 7:37:40 PM	Instrument shutdown completed successfully.

Figure 8: Audit Trail info open in Panel Designer Software

## How to retrieve sample and specimen logs using the archived Audit Trail data in the Panel Designer Software

Select **Sample** to obtain run information by Sample ID, which are auto-populated in the drop down when the cursor is placed in the field:

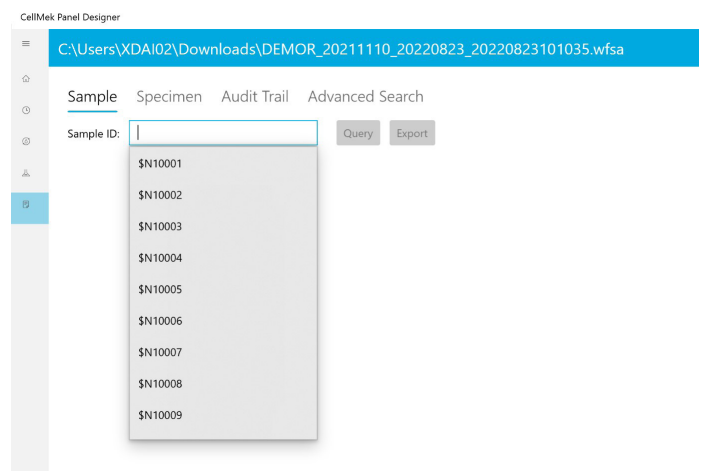


Figure 9: Selection of sample log by Sample ID

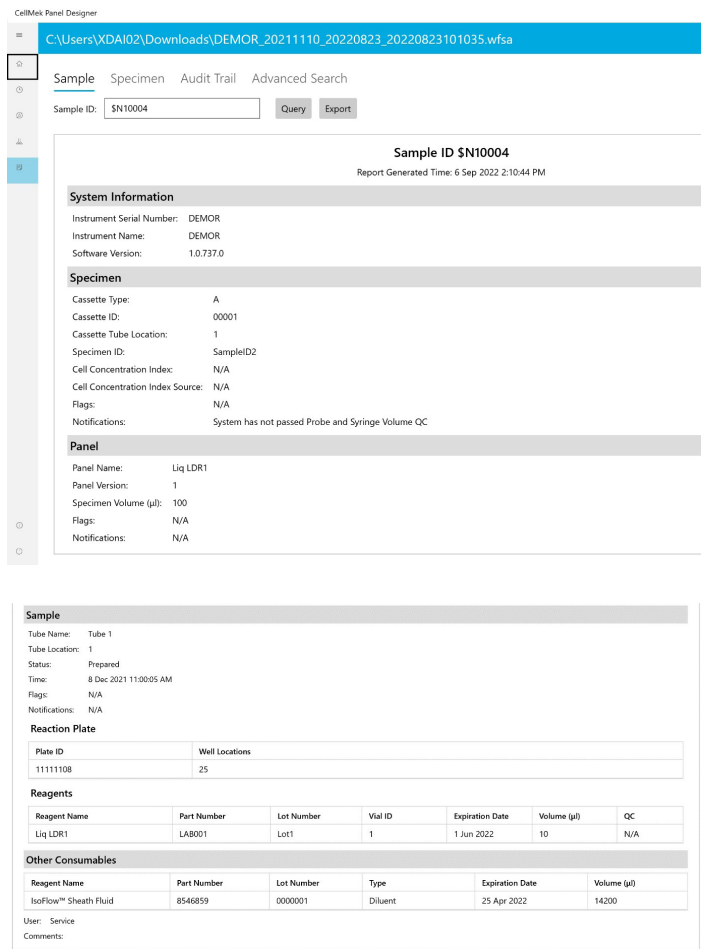


Figure 10: Example of information contained in sample log

The Sample log contains the following information:

Report Generated Time, Sample ID, Instrument Serial Number, Instrument Name, Software Version, Cassette Type and ID, Cassette Tube Location, Specimen ID, Cell Concentration Index and Source, Specimen Flags and Notifications, Panel Name and Version, Specimen Volume, Panel Flags and Notifications, Reaction Plate IDs and Well Locations, Reagent Names, Reagent Part and Lot Numbers, Reagent Vial IDs, Reagent Expiration Dates, Reagent Volume, Reagent QC Status, Consumables, User, and Comment.

In the same way, specimen logs can also be retrieved from the archived Audit Trail information:

Select **Specimen** to obtain run information by Specimen ID, which are auto-populated in the drop down when the cursor is placed in the field.

CellMek Panel Designer

C:\Users\XDAI02\Downloads\DEMOR\_20211110\_20220823\_20220823101035.wfsa

SampleSpecimenAudit TrailAdvanced Search

Specimen ID: Spec7, 30 Jun 2022 5:02:43 PMQueryExport

Spec7, 30 Jun 2022 5:02:43

System Information

Specimen

Panel3

Tube 1

Specimen ID Spec7

Report Generated Time: 6 Sep 2022 2:14:00 PM

System Information

Instrument Serial Number: DEMOR

Instrument Name: DEMOR

Software Version: 1.1.90.0

Specimen

Status: Completed

Time: 30 Jun 2022 5:02:43 PM

Cassette Type: A

Cassette ID: 00001

Cassette Tube Location: 1

Cell Concentration Index: N/A

Cell Concentration Index Source: N/A

Flags: N/A

Notifications: System has not passed Probe and Syringe Volume QC

Panel3

Panel Version: 1

Specimen Volume (µl): 100

Status: Completed

Time: 30 Jun 2022 5:02:43 PM

Tube 1

Tube Location: 1

Sample ID: \$NB0008

Status: Prepared

Time: 30 Jun 2022 5:02:35 PM

Flags: N/A

Notifications: N/A

Reaction Plate

Plate ID	Well Locations
15111101	25, 31

Reagents

Reagent Name	Part Number	Lot Number	Vial ID	Expiration Date	Volume (µl)
Dry1	200000000001	200000000001	10001	6 Dec 2041	0

Other Consumables

Reagent Name	Part Number	Lot Number	Type	Expiration Date	Volume (µl)
IsoFlow™ Sheath Fluid	8546859	5000001	Diluent	24 Apr 2024	21
MyWB1	N/A	MyWB1Lot1	Wash Buffer	1 Jul 2022	17

User: Service

Figure 12: Example of specimen information contained in specimen log

The specimen log contains the following information:

Report Generated Time, Specimen ID, Instrument Serial Number, Instrument Name, Software Version, Specimen Status and Time, Cassette Type and ID, Cassette Tube Location, Cell Concentration Index and Source, Specimen Flags and Notifications, Panel Name and Version, Specimen Volume, Panel Flags and Notifications, Tube Name and Location, Sample ID, Tube Status and Time, Tube Flags and Notifications, Reaction Plate IDs and Well Locations, Reagent Names, Reagent Part and Lot Numbers, Reagent Vial IDs, Reagent Expiration Dates, Reagent Volume, Reagent QC Status, Consumables, User, and Comment.

Select **Advanced Search** to obtain HTML data export files for Specimen Reports or Sample Reports that can be filtered by date(s), Instrument, Panel Name, Consumable Type, Reagent Name, Reagent Lot, Reagent Vial, Plate ID or Well. All parameters are auto-populated in the drop down upon placement of the cursor in the field.

The screenshot shows the 'Advanced Search' tab in a software interface. The address bar at the top displays the file path: C:\Users\XDAI02\Downloads\DEMOR\_20211110\_20220823\_20220823101035.wfsa. The interface includes several search criteria fields: 'Time Period' with a date range selector, 'Instrument' (set to DEMOR), 'Panel Name', 'Consumable Type', 'Reagent Name', 'Plate ID', 'Reagent Lot', 'Well', and 'Reagent Vial'. There is also a 'Report Type' section with radio buttons for 'Specimen' (selected) and 'Sample'. An 'Export' button is located at the bottom left of the search area.

**Figure 13:** Example of Exporting Specimen or Sample Report in Batches by different searching criteria

SpecimenExport-20220906		Search SpecimenExport-20220906						
Name	Type	Compressed size	Password pr...	Size	Ratio	Date modified		
Specimen-3TLiq-1 3-10-2022 6-02-0...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-1 3-10-2022 6-13-5...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-1 3-10-2022 6-23-3...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-2 3-10-2022 6-00-1...	Chrome HTML Document	2 KB	No	10 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-2 3-10-2022 6-13-5...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-2 3-10-2022 6-23-3...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-3 3-10-2022 6-00-1...	Chrome HTML Document	2 KB	No	10 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-3 3-10-2022 6-13-5...	Chrome HTML Document	2 KB	No	11 KB	87%	9/6/2022 2:03 PM		
Specimen-3TLiq-3 3-10-2022 6-23-3...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-4 3-10-2022 6-00-1...	Chrome HTML Document	2 KB	No	10 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-4 3-10-2022 6-13-5...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-4 3-10-2022 6-23-3...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-3TLiq-5 3-10-2022 6-23-3...	Chrome HTML Document	2 KB	No	11 KB	88%	9/6/2022 2:03 PM		
Specimen-4T1545-1020-1 2-1-2022 9...	Chrome HTML Document	2 KB	No	13 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-1 2-1-2022 ...	Chrome HTML Document	2 KB	No	14 KB	90%	9/6/2022 2:03 PM		
Specimen-4T1545-1020-2 2-1-2022 9...	Chrome HTML Document	2 KB	No	13 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-2 2-1-2022 ...	Chrome HTML Document	2 KB	No	14 KB	90%	9/6/2022 2:03 PM		
Specimen-4T1545-1020-3 2-1-2022 9...	Chrome HTML Document	2 KB	No	13 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-3 2-1-2022 ...	Chrome HTML Document	2 KB	No	14 KB	90%	9/6/2022 2:03 PM		
Specimen-4T1545-1020-4 2-1-2022 9...	Chrome HTML Document	2 KB	No	13 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-4 2-1-2022 ...	Chrome HTML Document	2 KB	No	14 KB	90%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-5 2-1-2022 ...	Chrome HTML Document	2 KB	No	12 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-6 2-1-2022 ...	Chrome HTML Document	2 KB	No	12 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-7 2-1-2022 ...	Chrome HTML Document	2 KB	No	12 KB	89%	9/6/2022 2:03 PM		
Specimen-4T-1545-1020-8 2-1-2022 ...	Chrome HTML Document	2 KB	No	12 KB	89%	9/6/2022 2:03 PM		
Specimen-10V2-1 4-12-2022 3-22-55...	Chrome HTML Document	2 KB	No	16 KB	90%	9/6/2022 2:03 PM		
Specimen-1545-1520-1 1-31-2022 11...	Chrome HTML Document	2 KB	No	14 KB	90%	9/6/2022 2:03 PM		
Specimen-1545-1520-2 1-31-2022 11...	Chrome HTML Document	2 KB	No	14 KB	90%	9/6/2022 2:03 PM		
Specimen-1545-1520-3 2-1-2022 12...	Chrome HTML Document	2 KB	No	14 KB	89%	9/6/2022 2:03 PM		

**Figure 14:** Example of exported Specimen report by Instrument

**Specimen ID 3TLiq-1**

Report Generated Time: 6 Sep 2022 2:03:26 PM

**System Information**

Instrument Serial Number: DEMOR  
Instrument Name: DEMOR  
Software Version: 1.0.737.0

**Specimen**

Status: Incomplete  
Time: 10 Mar 2022 1:02:04 PM  
Cassette Type: A  
Cassette ID: 00001  
Cassette Tube Location: 1  
Cell Concentration Index: N/A  
Cell Concentration Index Source: N/A  
Flags: N/A  
Notifications: System has not passed Probe and Syringe Volume QC

**3T-10CLiq4SpW-1545-1015**

Panel Version: 2  
Specimen Volume (µl): 100  
Status: Aborted  
Time: 10 Mar 2022 1:02:04 PM  
Flags: N/A  
Notifications: N/A

**Tube 1**

Tube Location: 1

**Figure 15:** Example of Specimen Report

Run information by Specimen or Sample captures every aspect of what reagents were used when during a given preparation. The Audit Trail and Advanced Search functions provide complete traceability across multiple variable parameters, allowing users to easily monitor and investigate specific sample runs as needed.



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