WCG™ velos

eSample User Guide

Table of Contents

1 About This Guide

This document presents the following topics:

- Create Specimen Acquisition
- Manage Specimen Processing and Tracking
- Analyze Assay Results
- Define Association to Study and/or Patient
- Generate Labels
- Create Queries and Analyze Data
- Oversee Sample Collections

Note: Depending on your specific permissions, some functions described in this guide may not appear in your user interface. If you see a functionality that you believe you should have access to, please contact your system administrator for assistance

1.1 Who Should Use It?

This guide is intended for study team administrators, researchers and investigators throughout the entire sample management process. It assumes users have a knowledge of managing patient data, clinical trial management systems, and clinical trial regulatory requirements.

2 eSample Overview

Velos eSample is a biospecimen research management solution that supports researchers, investigators, and study teams throughout the entire sample management process. It supports specimen acquisition, processing and tracking, assay results collection, association to patient and/or study data, label generation, the ability to query and analyze data, and manage study-based sample collection workflows. These capabilities combine to expedite the research process, enhance data quality and improve data access, and enable integrated specimen, patient, and research subject data collection. In addition, standard pre-defined reports or ad-hoc query reporting feature are part of the solution to view and analyze data collected through the application.

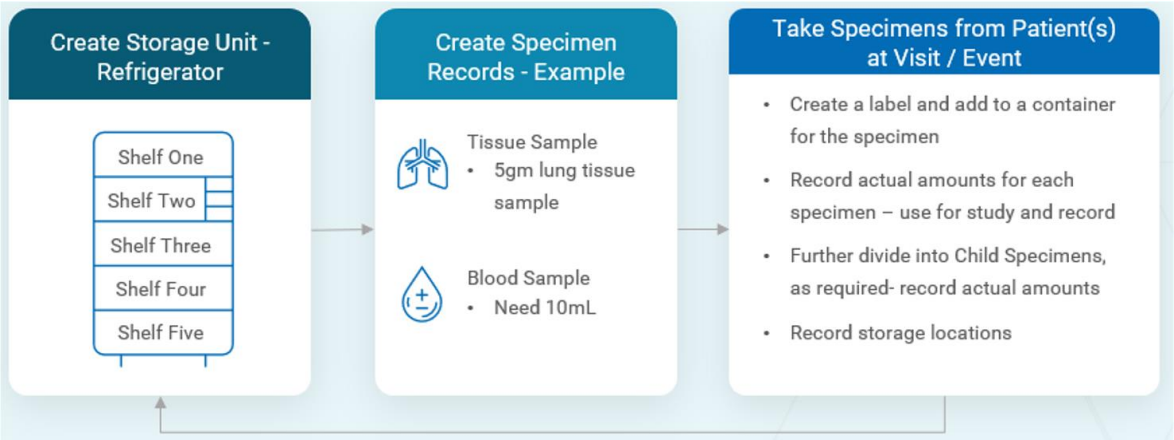
Four functions define the eSample module:

- **Specimens**: Samples are created and/or managed through this browser. In addition, a bulk specimen upload and status change can be performed.
- **Storage Admin**: From this browser, storage units are created and modified. Storage units are used to indicate the specimen location for specimens housed within the institution's facilities.
- **Storage Kit Library**: A storage kit is a virtual representation of the sample kit used to collect specimens during a study visit. A storage kit is a set of components (storage units, i.e. test tubes). Storage kits are linked to a study calendars to indicate when and what type of sample will be collected.
- **Preparation Area**: The Preparation Area is used to automate and accelerate study-based sample collection using pre-defined storage kits.

2.1 eSample Workflows

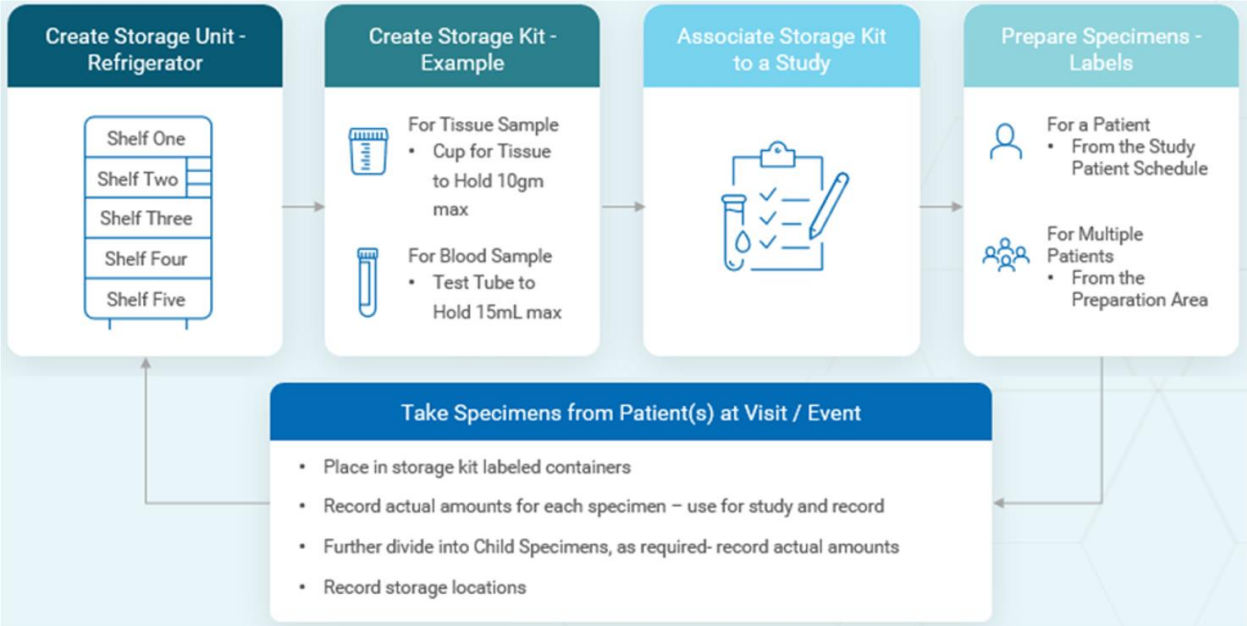
There are two basic workflows in eSample, as shown below, one is considered manual and the other is considered automated. Workflows will vary depending on procedural needs of a client.

MANUAL SPECIMEN COLLECTION: Specimens which are entered at the time of collection which may be collected for a study or anonymously for a biobank or a biorepository.



1. Storage locations can be created for samples.
    a. For example, the samples here are going to go into a refrigerator with five shelves. This storage unit could have shelves further divided, such as in shelf two where there are three additional storage containers. While this is not a mandatory step, it is helpful if you want to mimic your real-world storage locations and track sample locations.
2. Specimen records can be recorded for each type of specimen that is being collected.
    a. For this example, the doctor is going to collect a minimum of 5 grams of lung tissue and a separate specimen of 10 milliliters of blood.
3. The collection date and the amount collected can be recorded for each specimen. The samples could be used for a study immediately or stored and tracked for later use. If used for a study, the used amount and remaining amounts can be recorded in the Specimens tab. If stored, a label can also be added to the container storing the specimen sample.
    a. Also, for example, if the blood sample needs to be used for two tests, this specimen can be broken into two children records and data for each can be recorded
4. Specimens can then be stored in the storage unit.

AUTOMATED SPECIMEN COLLECTION: Involves using planned study specimen preparation and collection using storage kits.



1. Storage locations can be created for samples.
2. Storage kits are used to define the number and types of samples you may need to collect for one or more visits, based on your study protocol.
    a. In this example, the storage kit includes a cup for urine tissue collection which needs to be able to hold 30 ml and a test tube that can hold 5 ml of blood.
3. The storage kit would then be associated to a study's calendar or protocol to inform the system when and what type of samples may be collected during the patient visits
    a. For a single patient, the specimen collections may be prepared directly in their study patient schedule, including printing labels.
    b. For multiple patients who may be having the same type of specimens prepared on the same day, for example, their specimen collections can be prepared from the preparation area and labels printed. This step automates creation of required samples in bulk, that can be done ahead of real sample collection.
4. The specimens are collected and placed into the labelled storage kit collection containers.
5. The collection date and the amount collected can be recorded for each specimen, if necessary. The samples could be used for a study immediately or stored. If used for a study, the used amount and remaining amounts can be recorded. When samples are created through the

preparation area, the user checking-in samples should update the status and quantity as necessary.

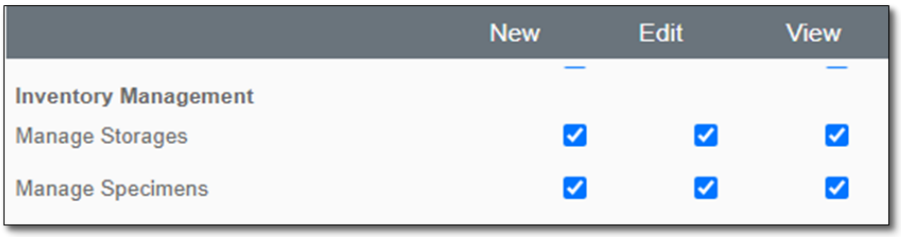
   a. Also, children records could be used for further divided specimens (although in storage kit design, you can specify if children need to be created)

6. Specimens can then be stored in the storage unit.

2.2 Accessing eSample

In addition to having access to the eSample add-on, you will need the appropriate Inventory Management access rights in the groups area. ***Refer to the Account Administration>Groups>Add a Group and Assign Users to a Group section in the eResearch User Guide*** for more information on assigning access.

Access options available for Inventory Management include:



	New	Edit	View
Inventory Management			
Manage Storages	☑	☑	☑
Manage Specimens	☑	☑	☑

Access rights can be managed to provide the following:

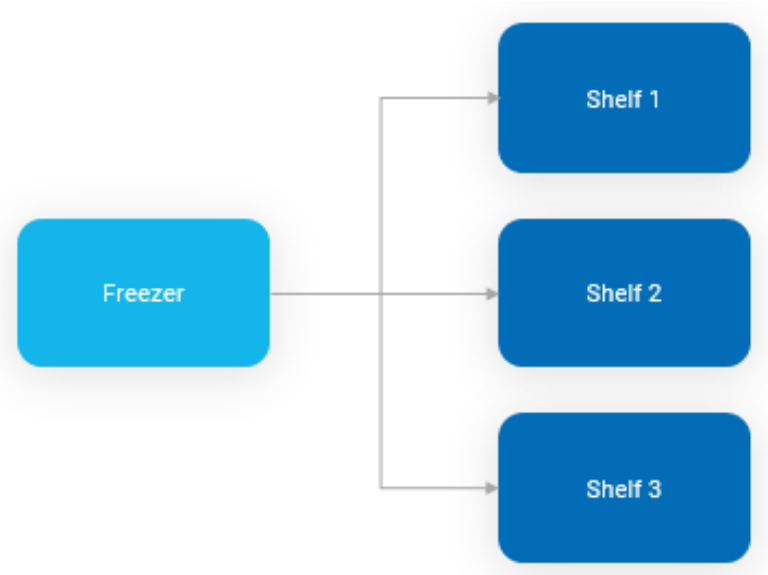
- Manage Storage access rights
- Manage Specimens access rights
- Study team role access/super user access rights to a study so that a user can view specimens that are linked to the appropriate studies
- Access to a patient's data prior to Specimen management so permissioned users can view specimens linked to the appropriate patients
- Access to the appropriate and specific organizations so that a user can view specimens linked to that organization
  - Access is available for organizing biobanks
- Access to the calendar library if lab staff will be utilizing storage kits

2.3 Storage Admin

The Storage Admin tab allows permissioned users to create and manage Storage Units.

Storage Units:

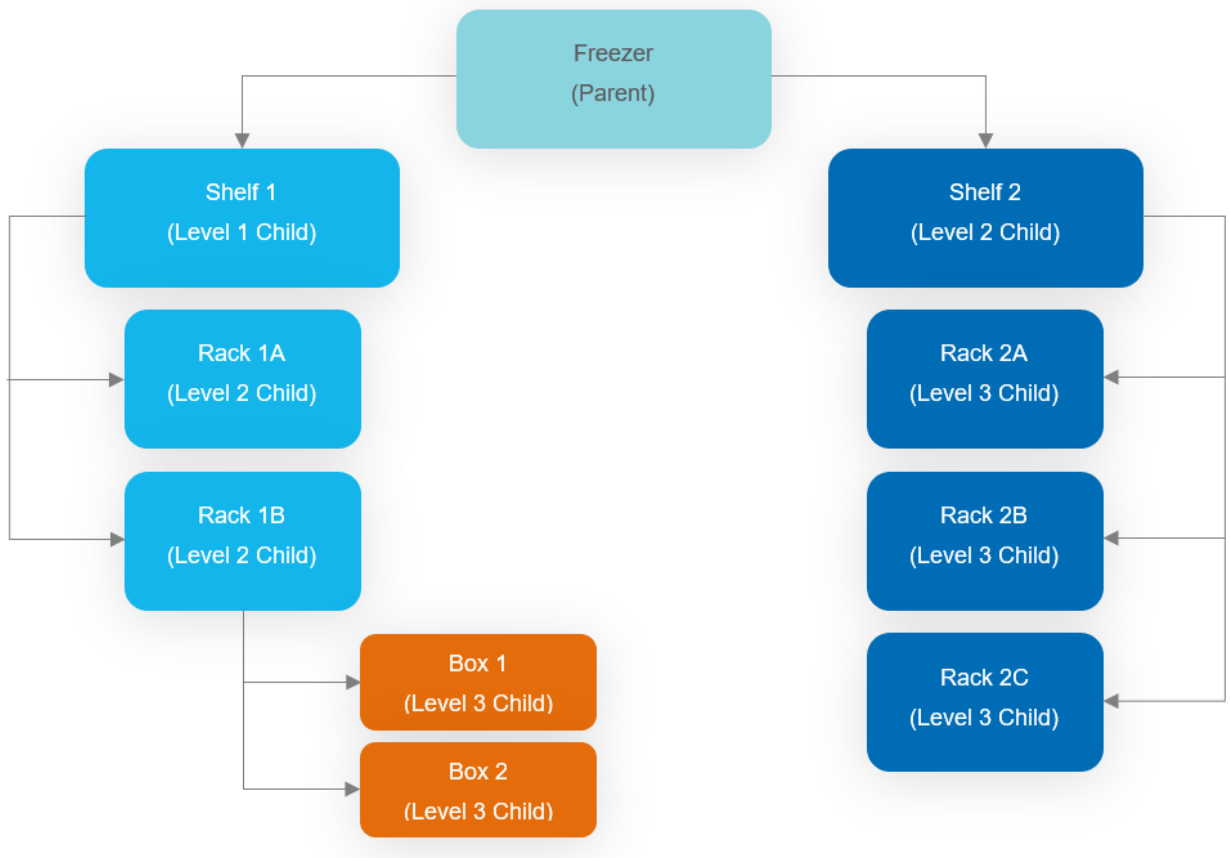
- are virtual representations of actual storage units such as freezers, refrigerators, etc.
- can be associated to a specimen to track a specimen's physical location
- are structured in a hierarchy to represent a physical unit:



2.3.1 Create a Storage Unit

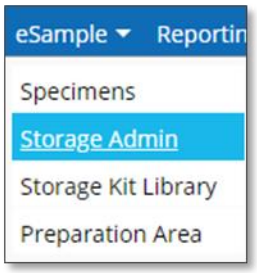
The following steps create a basic storage unit. The steps do not address all of the possible options that can be applied to a storage unit, as they can be personalized to fit any storage unit needs.

Note: When testing storage units, build a “simple” storage unit with 2 - 4 levels of child units. A simple storage unit allows a user to understand the storage unit hierarchy without being too overwhelming. A storage unit can have many child units which could be challenging when a new user is testing storage units.

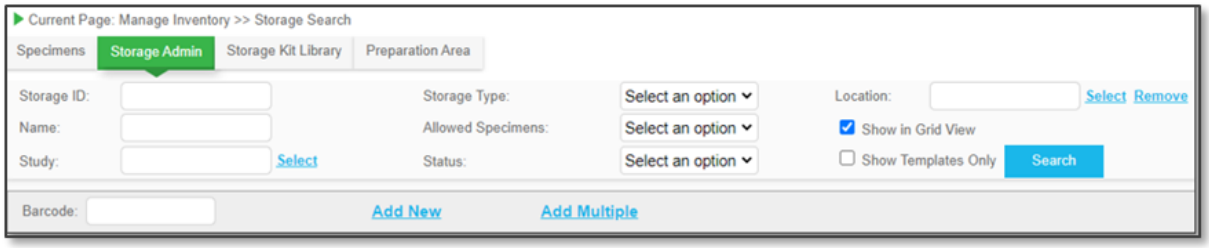


To create a storage unit:

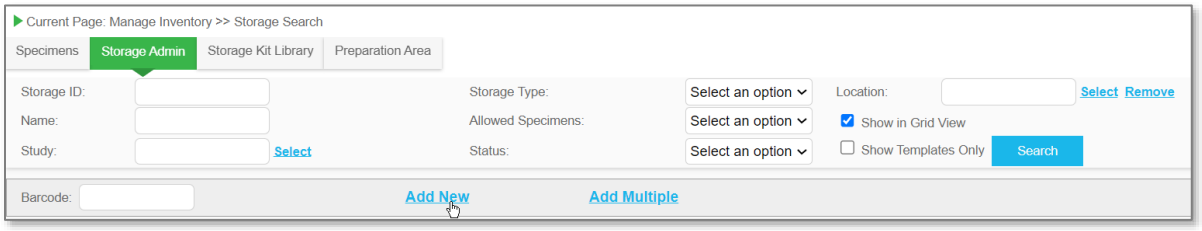
1. From the Navigation bar, select **eSample** and click **Storage Admin**.



The Storage Admin tab displays:



2. Click **Add New**.



The Storage Unit Details page displays:

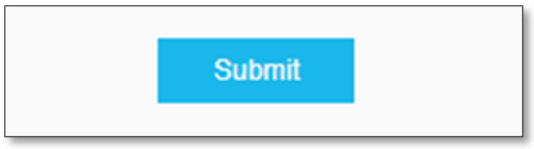
Warning: If a parent storage unit has the checkbox checked for 'Can Store Multiple Specimens', or if the unit is configured as CC/mg, the system will not allow allocation of storage units to specimens through bulk upload.

The following fields become available on this page to define the Storage Unit:

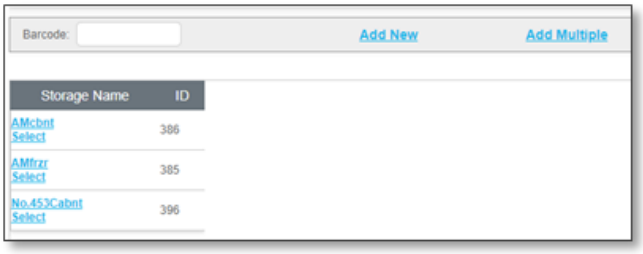
Field	Description
Storage ID	Enter an ID manually or leave it blank to auto-generate a system ID.
Storage Name	Enter in a Storage Name. This field is mandatory.
Storage Type	Select a Storage Type from the dropdown options available. This field is mandatory.
Template Type	Select a template type or keep as default.
Alternate ID	Enter an ID to be used as an Alternate ID.
Storage Unit Class	Define the Storage Unit Class from the available options: Permanent, Virtual, Temporary.
Notes	Enter any notes if applicable.
Storage Capacity	Enter a number and select an option from the dropdown option to define the Storage Capacity.
Location	Select a location for the Storage Unit using Select.
Allowed Contents	Click checkbox to select all options in Specimen Type and Storage Type line sections.
Specimen Type	Select one or multiple checkboxes to define the specimen type. It is possible to select which kind of specimen type to allow for the storage.
Storage Type	Select one or multiple checkboxes to define the Storage Type. It is possible to select which kind of storage type to allow for the storage.
Status	Select a status from the dropdown options. This field is mandatory.
Status Date	Enter a status date. This field is mandatory.
For Study	Select a Study to associate the Storage Unit with.
For User	Use the Select User link to select a User.
Status Notes	Enter in any Status Notes if applicable.
Child Storage Type	Select a Child Storage Type from the dropdown options.
Storage Naming Style	Select a Style from the dropdown options. Refers to the order in which the dimensions (rows and columns) are listed in the Storage name.
Dimension 1 (Columns) # of Cells	Define the number of cells for the dimension. This dimension will define the columns.
Dimension 2 (Rows) # of Cells	Define the number of cells for the dimension. This dimension will define the rows.
Naming Convention	Select an organizational Naming Convention for the Storage Unit.

Field	Description
Positioning	Use the dropdown options to define the position organization.

3. Define fields as appropriate.
4. Click **Submit** to save the Storage Unit.



The added Storage Unit is now able to be searched for on the Storage Admin page:



2.3.2 Edit Storage Unit

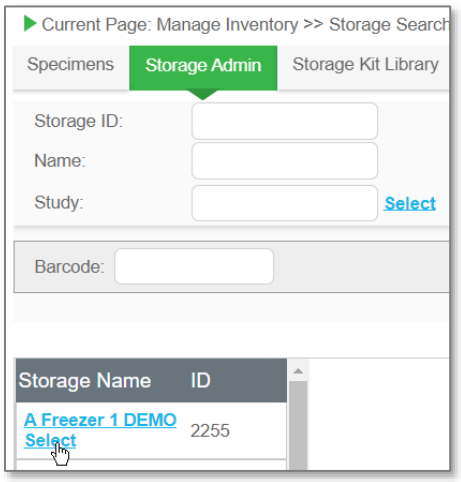
Storage units may be edited after their initial setup. The steps begin from the Storage Search page of the Storage Admin tab. Some examples for editing existing storage units include when a unit is retired.

Note: Once storage units are created, most users do not revisit this section unless acquiring a new storage unit or retiring a previously used unit.

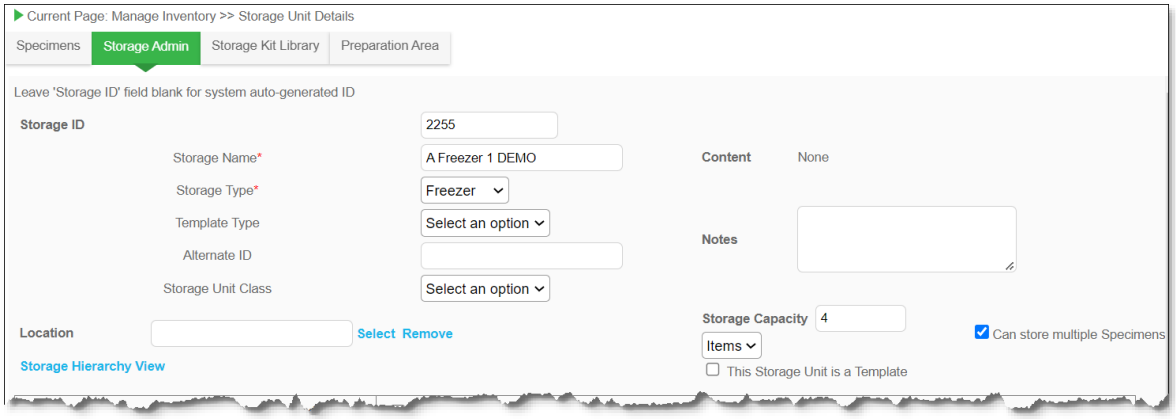
Warning: Storage configuration (racks, boxes, etc. grid sizes) should not be edited once you start allocating specimens to it. Use caution when editing the child unit grid. If dimensions were modified, the edits for the existing child units will be removed. For example, if a child unit is sub-divided, that sub-division would be deleted.

To edit a storage unit:

1. After searching for a storage unit on the Storage Admin tab, click **Select** under the appropriate storage unit name.

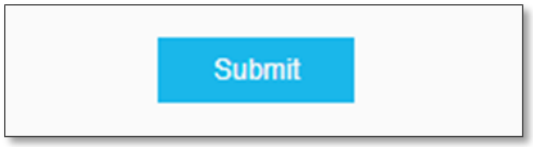


The Storage Unit Details for the selected Storage displays:



Warning: Use caution when editing the child unit grid. If dimensions were modified, the edits for the existing child units will be removed. For example, if a child unit has a child, that child will be deleted.

2. Modify as needed and click **Submit** to confirm.



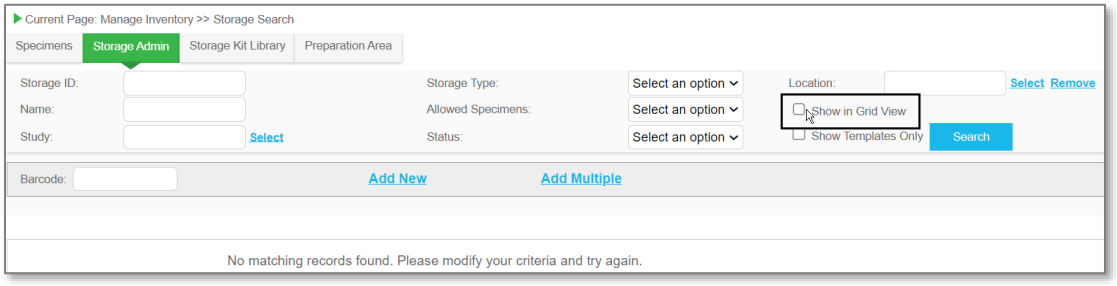
2.3.3 Delete a Storage Unit

When deletion is required, due to retirement or any other reason, storage units may be deleted in the system. The steps begin from the Storage Search page of the Storage Admin tab.

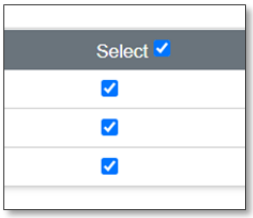
Warning: If a parent storage is deleted, all children get deleted. If storage has specimens, you get a message: "The selected Storage Unit(s) cannot be changed. There are one or more storage or child storage records linked with specimen(s). Please remove the association with the related specimen records and try again later."

To delete a storage unit:

1. From the Storage Admin tab, use the search filters to search for the appropriate storage unit and uncheck the checkbox for **Show in Grid View**.

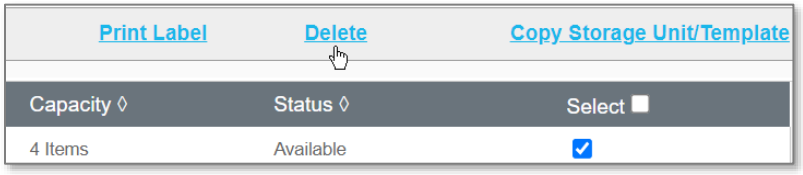


2. From the search results, click the checkbox for the unit you want to delete.

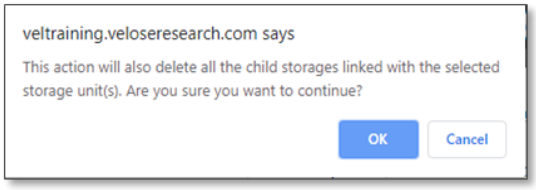


Note: If you delete a parent or top-level storage, the whole storage unit can be deleted. This will only work for empty storage units

3. Click **Delete**.



A confirm deletion window opens:



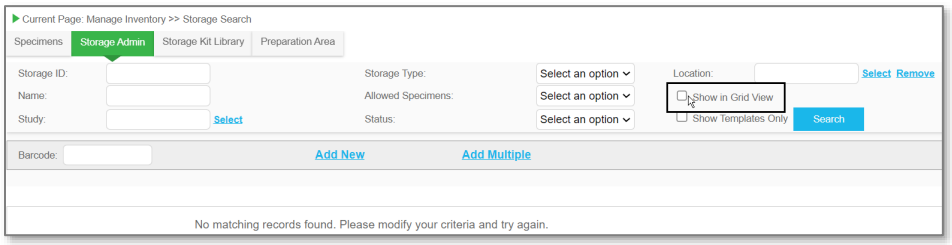
4. Click **OK**, then enter your e-Signature and click **Submit**.

2.3.4 Print Storage Unit Label

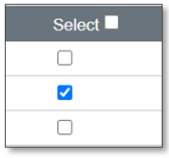
When creating storage units, labels can be printed to aid in identification of the unit. The steps begin from the Storage Search page of the Storage Admin tab.

To print a storage unit label:

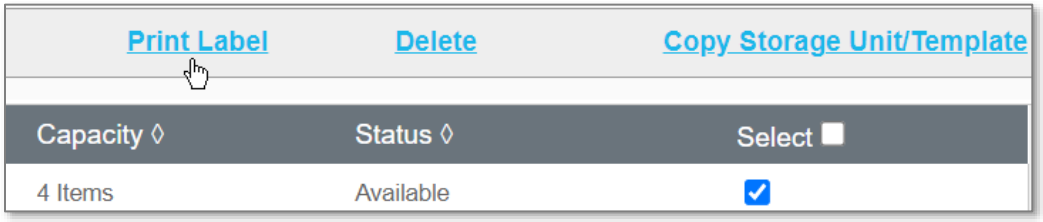
1. From the Storage Admin tab, use the search filters to search for the appropriate storage unit and **uncheck** the checkbox for **Show in Grid View**.



2. From the search results, click the checkbox for the unit you want to print a label for.



3. Click **Print Label**.



4. The Generate Bar Code window opens where you can choose a template and click **Go**.

The Barcode is Generated and may be printed:

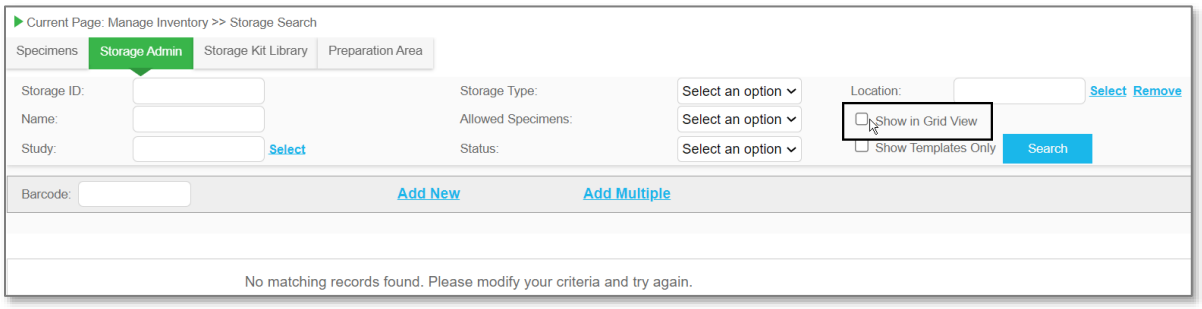
Note: Actual barcode size is approximately one inch. Please reach out to your Account Manager if you would need additional templates for labels.

2.3.5 Update Status for Multiple Units

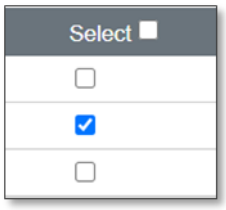
The Update Status link on the Storage Admin page allows permissioned users to update multiple Storage Unit statuses at one time.

To update multiple Storage statuses at once:

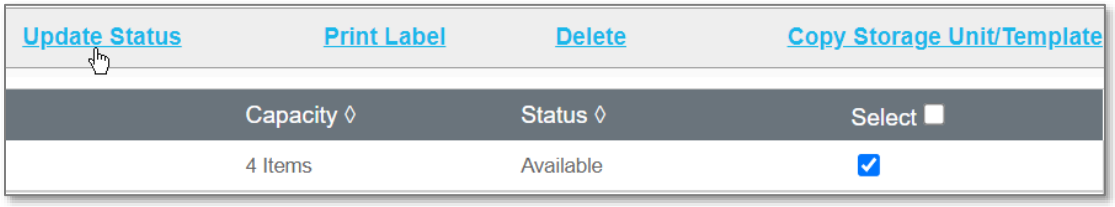
1. From the Storage Admin tab, use the search filters to search for the appropriate storage unit and **uncheck** the checkbox for **Show in Grid View**.



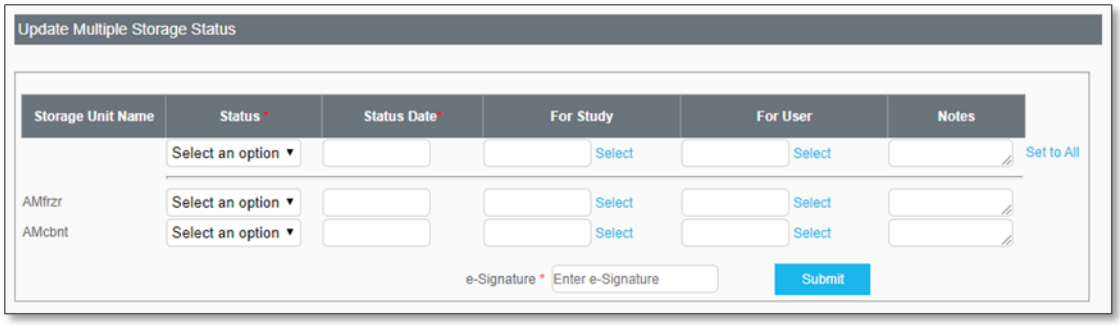
2. From the search results, click the checkboxes for the units you want to update a status for.



3. Click **Update Status**.



The Update Multiple Storage Status window opens:



4. Enter data in each field per row OR use the top Power Bar fields to enter data, which will update the additional column fields, and then click **Set to All**.

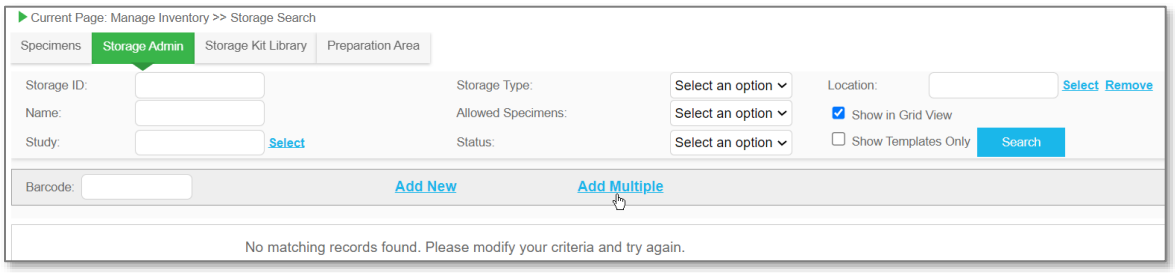
5. Enter your e-Signature and click **Submit** to confirm.

2.3.6 Add Multiple Storage Units

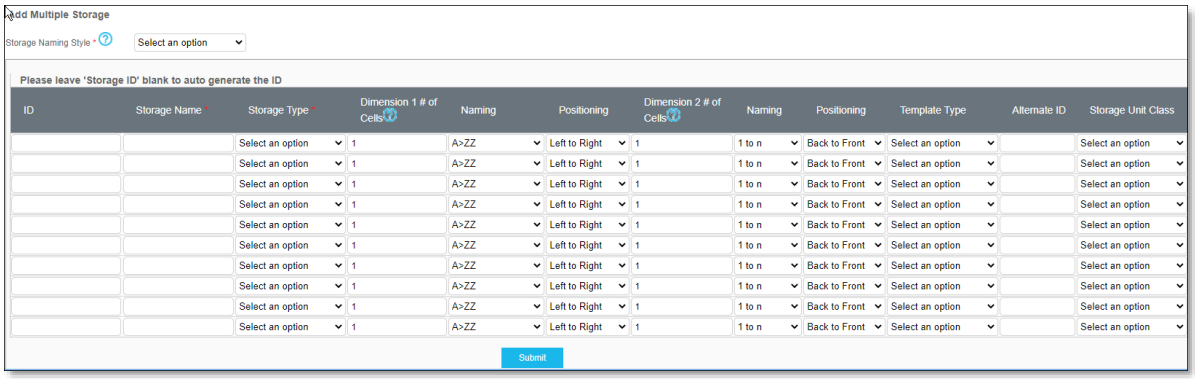
The Add Multiple link allows permissioned users to create multiple storage units at once from the Storage Admin tab.

To add multiple storage units:

1. From the Storage Admin tab, click **Add Multiple**.



The Add Multiple Storage page displays:

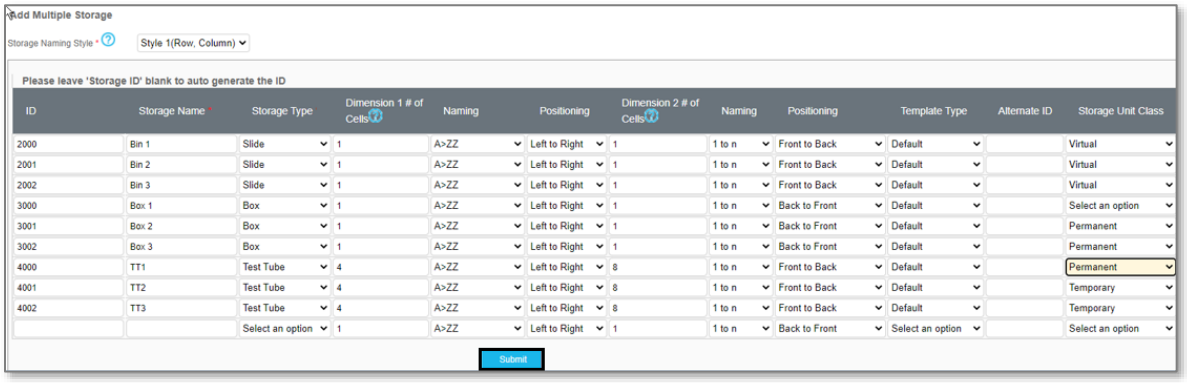


Note: Each row represents a Storage Unit, while each column represents a defining field for the corresponding row. Dimension 1 refers to number of columns and dimension 2 refers to number of rows. (Hover over question marks for more information.)

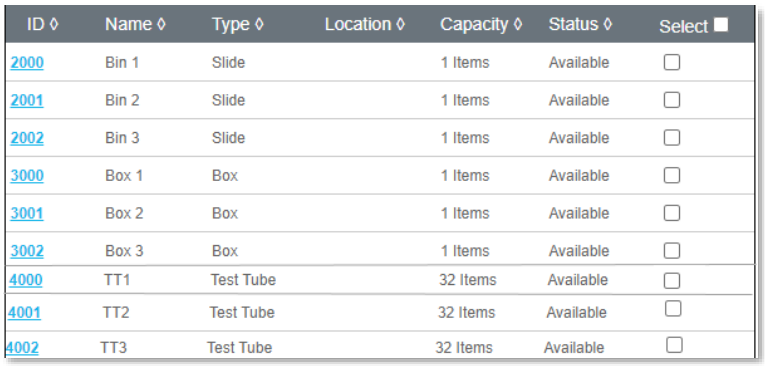
2. Define the Storage Units as appropriate.
   a. The Storage Naming Style dropdown is required to be used to assign the style of the storages which will show storage naming by row then column or by column and then row.

Note: The style selected will apply to all storages created on the selected page and cannot be selected individually for each storage created

3. Click **Submit** to confirm.



The new storage units will appear in the Storage Admin page.



Note: Capacity is the calculation of Dimension 1 multiplied by Dimension 2

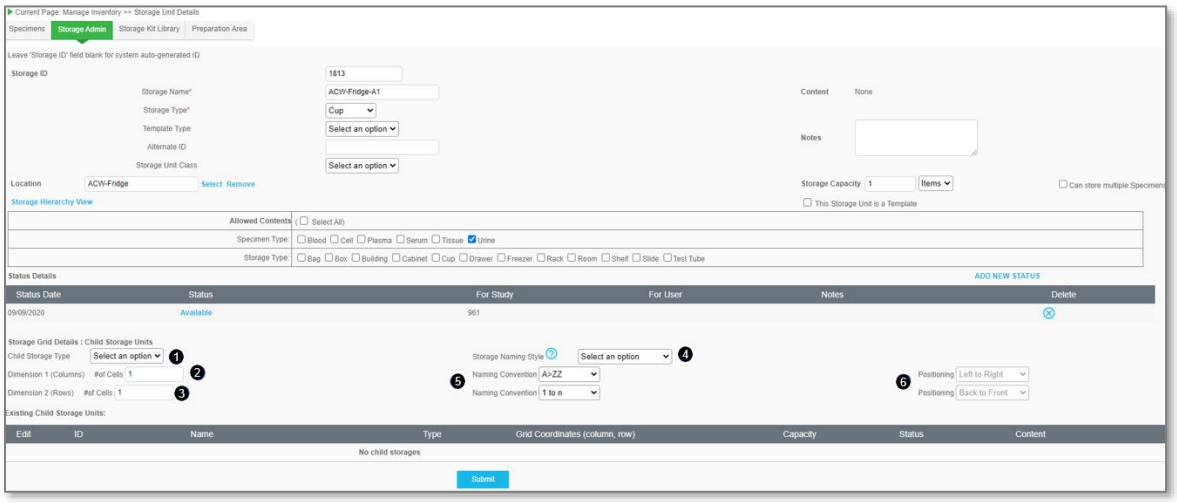
2.3.7 Child Storage Units

A storage unit can contain child storage units. Adding these child storage units will be defined in rows and columns using naming conventions that will be defined by the user from dropdown options. If adding to an existing parent storage unit, the Positioning fields will not be accessible.

Warning: If a parent storage unit has the checkbox checked for 'Can Store Multiple Specimens', or if the unit is configured as CC/mg, the system will not allow allocation of storage units to specimens through bulk upload.

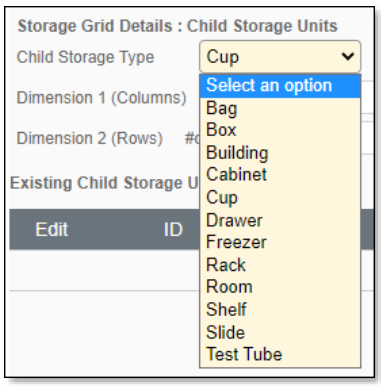
After searching for and selecting a storage unit to select as a parent storage unit, or if initially creating a storage unit, while in the Storage Admin tab:

1. Complete the Storage Grid Details: Child Storage Units fields as follows.



Follow the steps below to complete the Child Storage Units as numbered above.

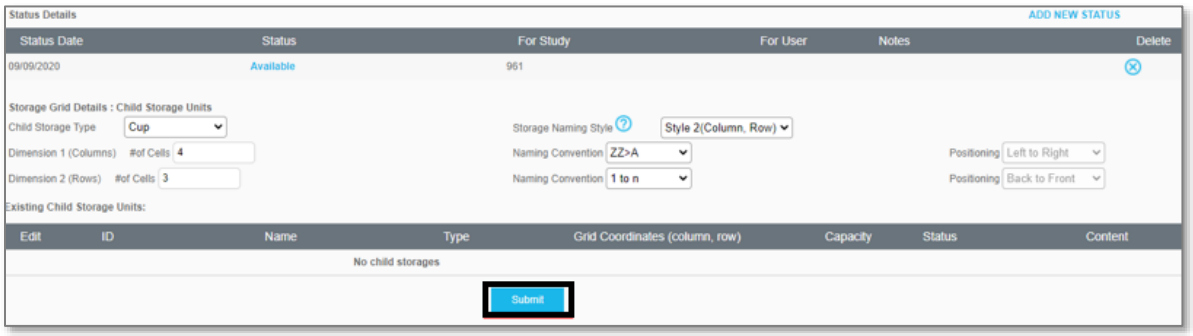
1. Select the type of Child Storage Type from the dropdown.



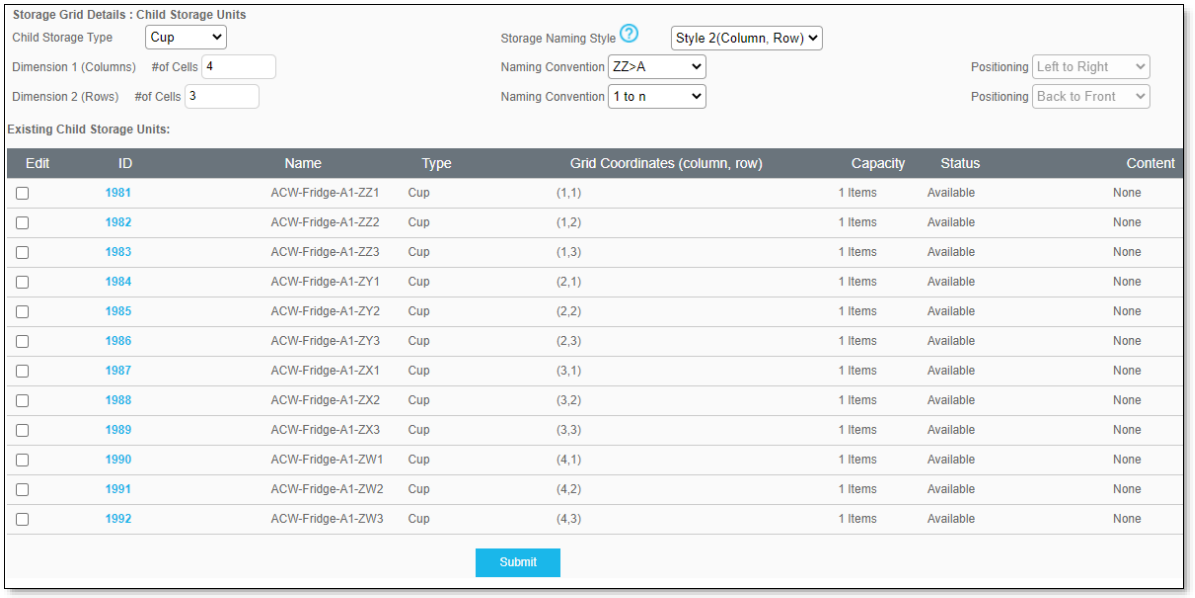
2. Enter the number of columns in the Dimension 1 (Columns) # of Cells field.
3. Enter the number of rows in the Dimension 2 (Rows) # of Cells field.
4. In the Storage Naming Style field, select either Style 1(Row, Column) or Style 2(Column, Row), to define whether rows or columns will appear in the resulting grid first.
5. In the Naming Convention fields, select either A>ZZ, ZZ>A, 1 to n, or n to 1, to define the direction in which the child specimens will be located in the grid and parent storage unit, for the columns and then rows.
6. In the Positioning fields, select Left to Right or Right to Left for columns and then Back to Front or Front to Back for rows.

Note: Positioning Fields are not accessible if adding to an existing specimen. These fields are only accessible when creating a new specimen

2. After defining the fields, click **Submit**.



3. The selections will appear in a grid / tabular format.

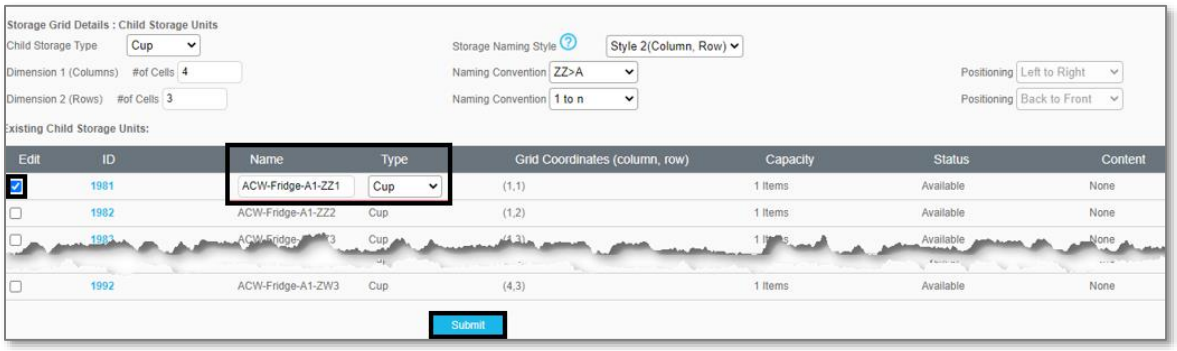


2.3.7.1 Edit Child Storage Units

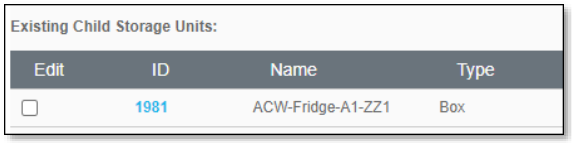
Children Storage Units can be edited after creation in either the Storage Unit Grid or for an existing Child Storage Unit individually.

To edit an individual existing child storage unit from the Storage Grid Details: Child Storage Units section for a parent storage unit selected:

1. Add a checkmark in the Edit column, change the name in the Name column and/or change the selection in the Type column, and click **Submit**.

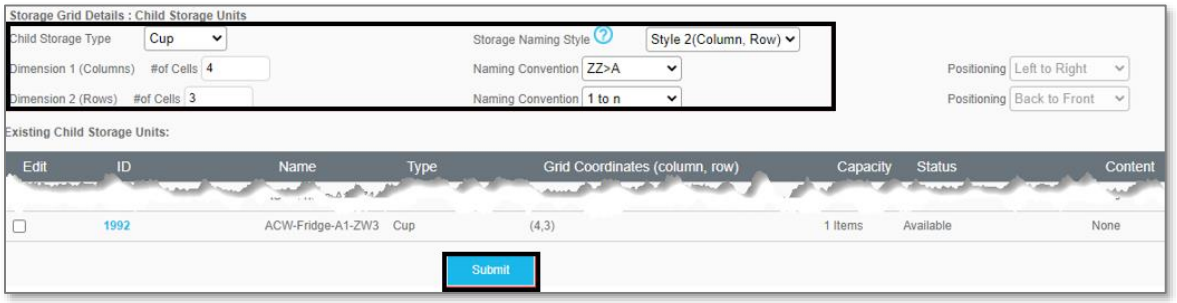


Changes submitted will appear in the grid.

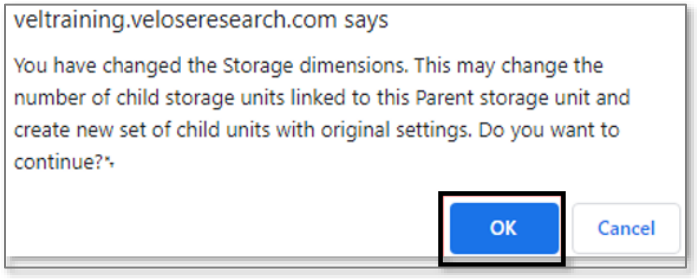


To edit the storage grid details for the entire grid:

1. Change any fields in the area between the Storage Grid Details: Child Storage Units area, then click **Submit**.

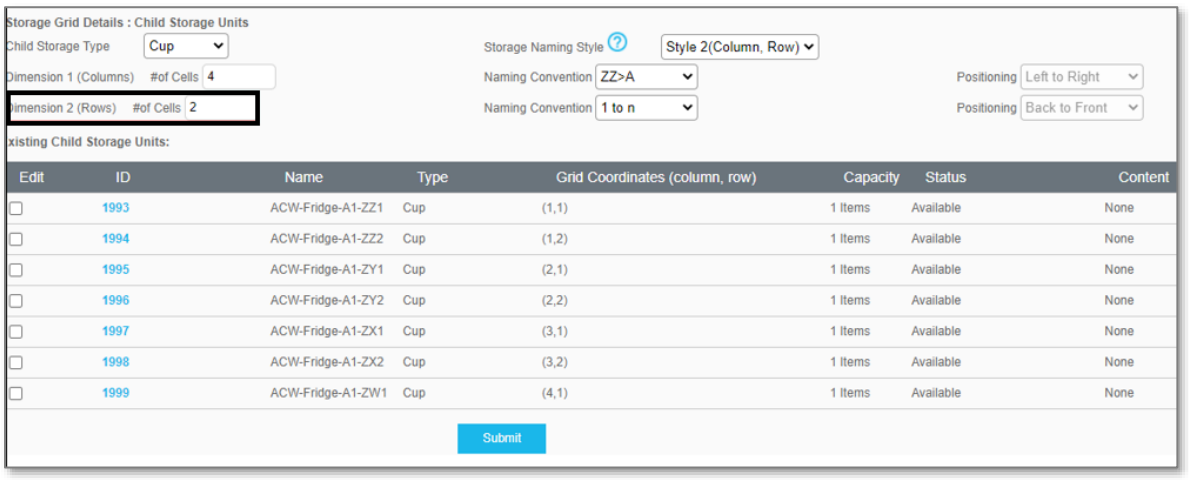


A message will appear.



2. Click **OK** to confirm the change.

   The change will be reflected in the grid, as shown in the example below.



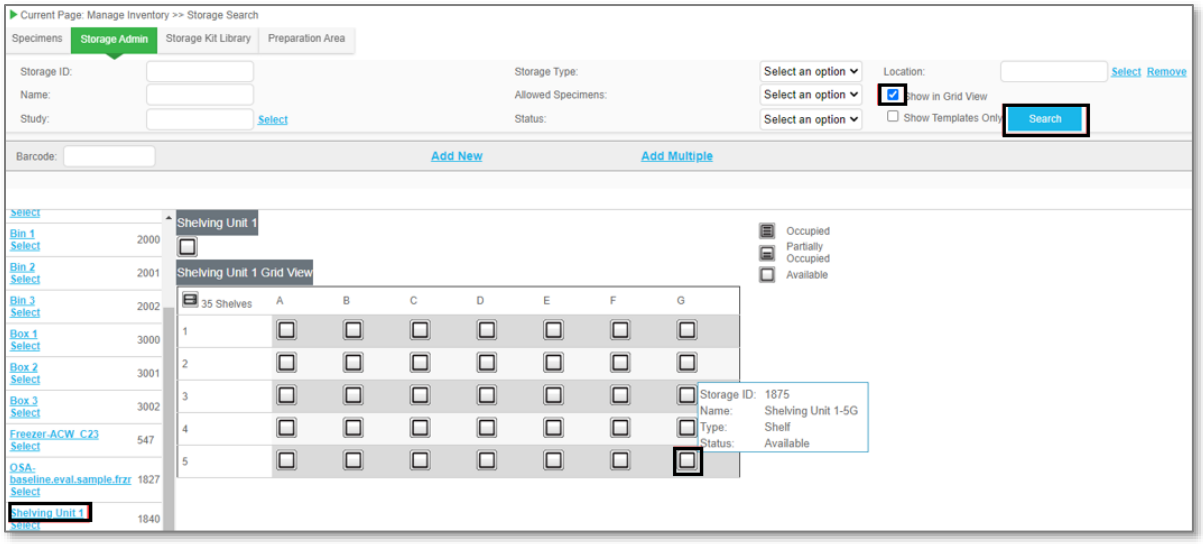
Note: Refer to the steps in the next section to view the grid view for the new child specimens.

2.3.7.2 Search and View in Grid View

A parent storage unit with child storage units can be viewed in a grid view after searching. A child storage unit may be accessed from the grid in the search view. After a child storage unit's status is updated, the parent storage unit's grid will update to show Occupied, Partially Occupied, or Available, as per the icons shown in the search view.

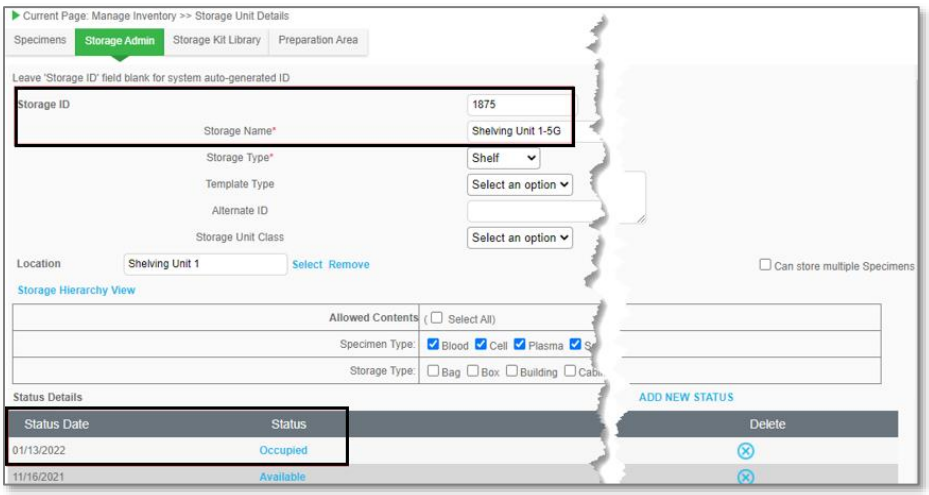
After searching in grid view for a storage unit:

1. Click a storage unit name to view the grid view.

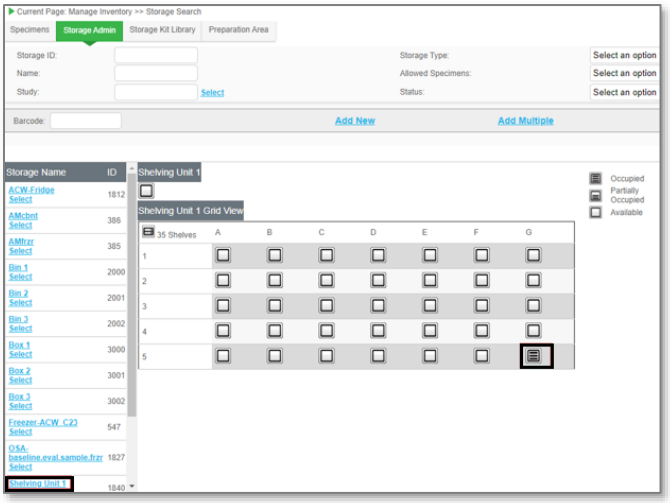


   - The example above shows a parent storage unit, titled Shelving Unit 1, with the G5 child storage unit hovered over to show details. The details show that this child storage unit is Storage ID 1875 with name Shelving Unit 1-5G, as defined in the dimensions for the child storage grid. This and all child storage units in this parent storage unit are currently available.

2. Click a square in the grid to access a child storage unit.
   a. Update data as needed. In the example below, a new status of Occupied has been added for the child storage unit in the Status Details section.

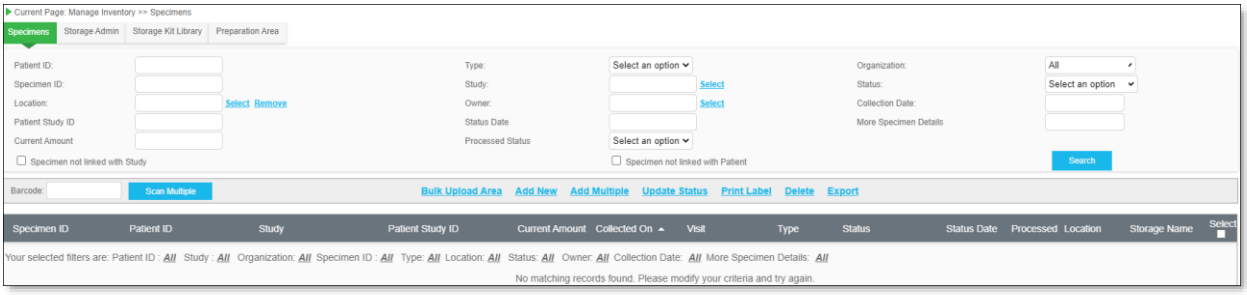


Returning to the parent storage unit view, as outlined in step 1 above, now shows that the child storage unit has the status of Occupied.



2.4 Specimen Management

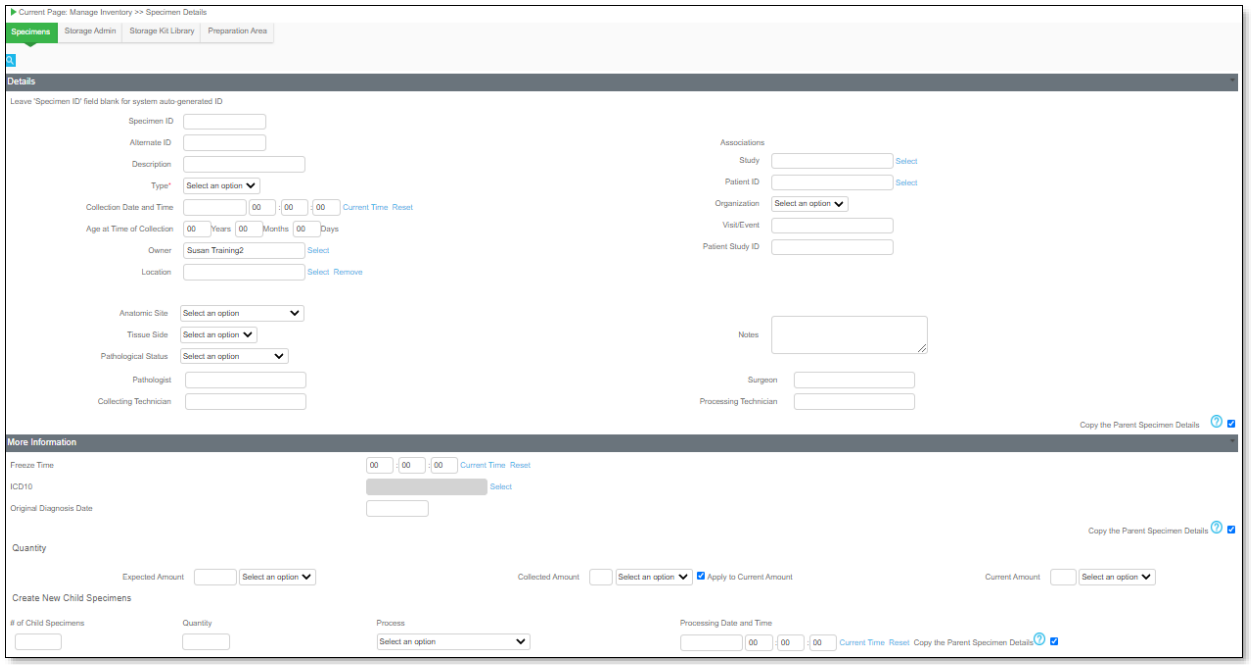
The Specimens tab allows permissioned users to manage or modify specimens. From the Specimens tab, users can search using the available fields or use the links to Bulk Upload Area, Add New, Add Multiple, Update Status, Print Label, Delete, and Export. Specimens can also be located on the Specimens tab for a Patient Record, if the specimen is associated with the Patient Record. ***Refer to the Patient Management>Patient Search section in the eResearch User Guide***, for more information.



Note: The More Specimen Details search field is used to search for data added for a specimen in the Specimen Details page from the section titled More Information, such as ICD10 data.

2.4.1 Specimen Details Overview

The Specimen Details page lists the characteristics for a specimen. Here, users can create and define a specimen entry using the available fields. The characteristics of a specimen are divided into sections. The default sections are Details and More Information.



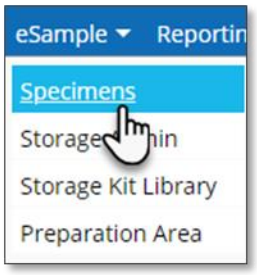
Note: The Visit/Event field may include the Visit/Event associated to the specimen as well as a See Patient Schedule link, which will bring the user to the visit and event for the specimen in the Patient Schedule.

2.4.2 Create Specimen

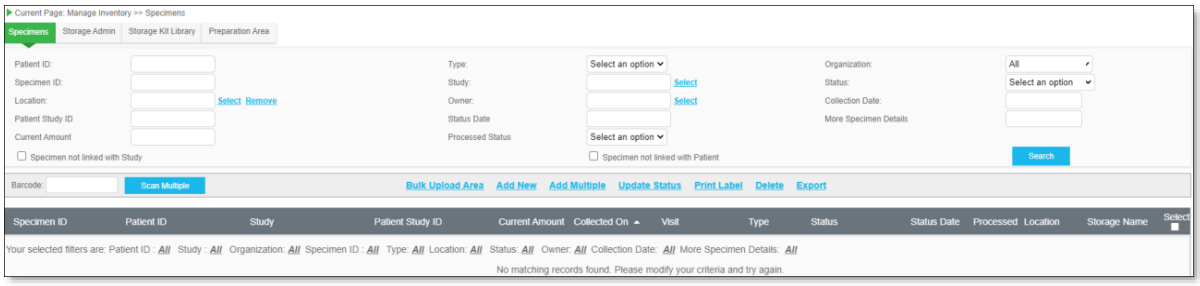
Specimens can be created for use during manual creation of specimens. Specimens can also be located on the Specimens tab for a Patient Record, if the specimen is associated with the Patient Record. ***Refer to the Patient Management>Patient Search section in the eResearch User Guide***, for more information.

To create a new Specimen:

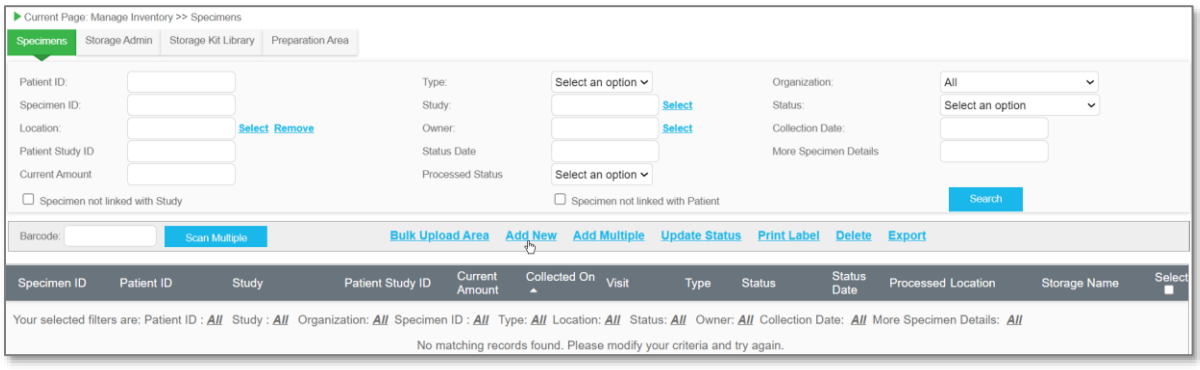
1. From the navigation bar, click the **eSample** tab and select **Specimens**.



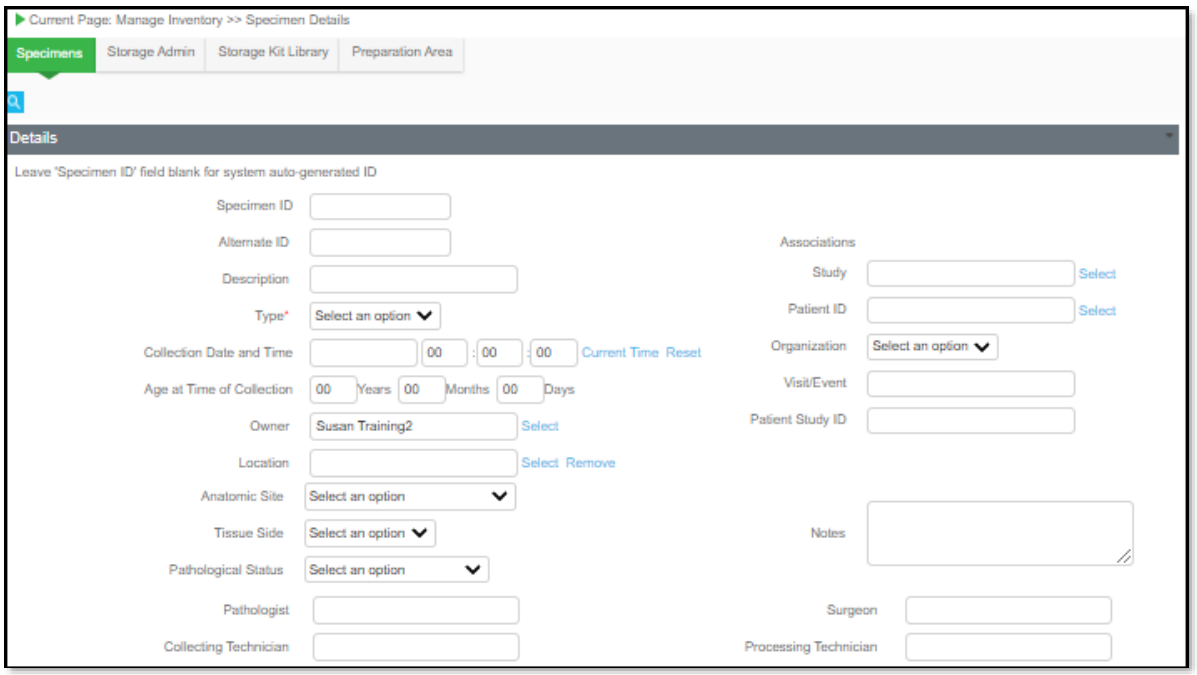
The Specimens tab displays:



2. Click **Add New**.



The Specimen Details page displays:



Here users may define the Specimen as appropriate using the available fields. Fields marked with a red asterisk (*) are required fields. For details of the available fields, please refer to the table below:

Section	Field	Description
Details	**Specimen ID**	ID for collected Specimen. If left blank, the field will auto generate.
	Alternate ID	Alternative ID for collected Specimen.
	Description	Enter a brief description for the Specimen.
	Type	Select a Type form the dropdown options.
	Collection Date and Time	Date and Time of Specimen collection.
	Age at Time of Collection	Auto-calculates based from the patient birth date to the collection date and time of the sample in Years, Months, and Days.
	Owner	User responsible for Specimen. Use “Select” to select available users in the system. The default user will be the user that is signed in and opened the Add New Specimen link.
	Location	Select or Remove the Storage Location, selecting from the various storage types.

Section	Field	Description
	Anatomic Site	Anatomic site from where the specimen was obtained.
	Tissue Site	Based on the option selected in the Anatomic Site field, select the Tissue Site for the Specimen.
	Pathological Status	Select the Pathological Status from the dropdown options.
	Pathologist	Field for entering the Pathologist. This field will search via available users in the system.
	Collecting Technician	Enter the Specimen Collecting Technician. This field will search via available users in the system.
	Associations Study	Select a Study to associate the Specimen to. Only one study may be selected for an entered Specimen. The link will list studies to select and is based on user study access.
	Patient ID	Use the Select link to select a patient record to associate the Specimen. The link will list the patient population the user has access to. The list is not linked to the selected study if one was specified.
	Organization	Select an Organization from the dropdown options.
	Visit/Event	Enter the appropriate calendar Visit/Event for the collection of the Specimen.
	Patient Study ID	Enter the Patient Study ID.
	Notes	Enter any notes, if appropriate regarding the collected Specimen.
	Surgeon	Enter the Surgeon in the field.
	Processing Technician	Enter the Processing Technician in the available field.
More Information	**Freeze Time**	Enter the Time, click Current Time, or Reset the field.
	ICD10	Enter the ICD10 (International Statistical Classification of Diseases and Related Health Problems).
	Original Diagnosis Date	Enter the date of the original diagnosis.
Quantity	**Expected Amount**	Enter a numeric measurement in the text field and select the measurement unit using the dropdown menu. This field is mandatory if a collected amount is specified. Additionally, this field is only used when creating a new specimen.

Section	Field	Description
	Collected Amount	Enter a numeric measurement in the text field and select the measurement unit using the dropdown menu. Use the checkbox to select if you wish to Apply to Current Amount. By default, the checkbox is checked.
	Current Amount	Enter a numeric measurement in the text field and select the measurement unit using the dropdown menu. This field is read only and gets populated if "Apply to Current Amount" is checked or through a selected status.
Create New Child Specimens	**# of Child Specimens**	Enter number. This field is not available to new users creating a new item and is used when managing or modifying previously created specimens.
	Quantity	Enter the quantity. This field is not available to new users creating a new item and is used when managing or modifying previously created specimens.
	Process	Use the dropdown options to select the appropriate process. This field is not available to new users creating a new item and is used when managing or modifying previously created specimens.
	Processing Date and Time	Enter the appropriate processing date and time. This field is not available to new users creating a new item and is used when managing or modifying previously created specimens.

Note: Visit/Event and Patient Study ID fields are auto-populated and are read only fields. These fields are populated when using a storage kit-based sample collection for a study.

3. Enter information as appropriate to define the Specimen, enter your e-Signature, and click **Submit** to confirm.

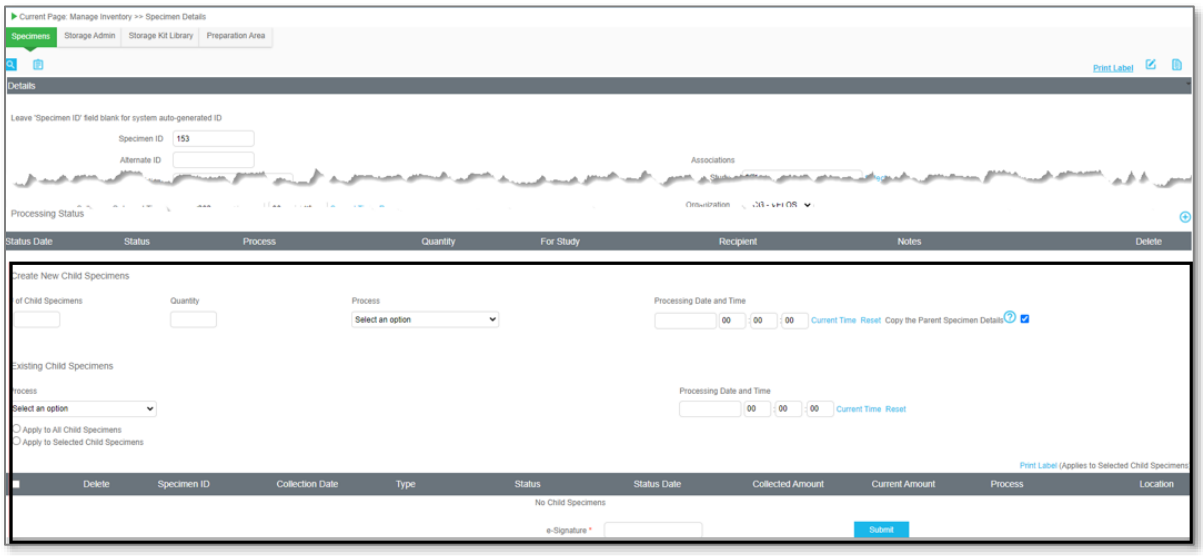
2.4.2.1 Child Specimens

After a specimen is created or while creating a new specimen, child specimen records can be added. Children records are used when an extracted specimen is further divided into additional specimens for use and / or storage. After adding child specimens, labels can be printed, they can be deleted, more access details can be accessed, and they can be edited.

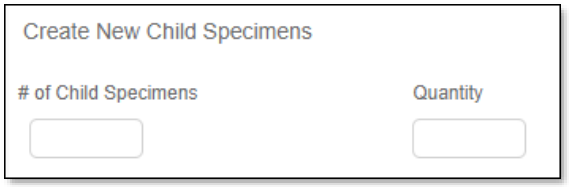
Note: The Current Amount of a specimen must be populated to create child specimens.

While creating a new specimen, or after a specimen record has been added, to add child specimen records:

1. Navigate to the Create New Child Specimens area of the Specimen Details page.

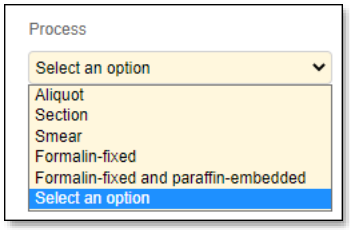


2. Enter the # of Child Specimens and the Quantity that each will contain in the open text fields.



Note: The Quantity field may auto-populate based on the Current Amount divided by the # of Child Specimens entered. This number may be manually adjusted.

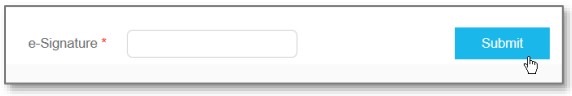
3. Select an option from the Process dropdown.



4. Enter a processing date, using a date picker after clicking in the first field, and enter a time in minutes, hours, and seconds, or select **Current Time** to select the current time.

   a. Use Reset if needed to reset the time.

5. Uncheck the default checked checkbox if the parent specimen details are NOT to be copied.
6. Enter your e-Signature and click **Submit**.

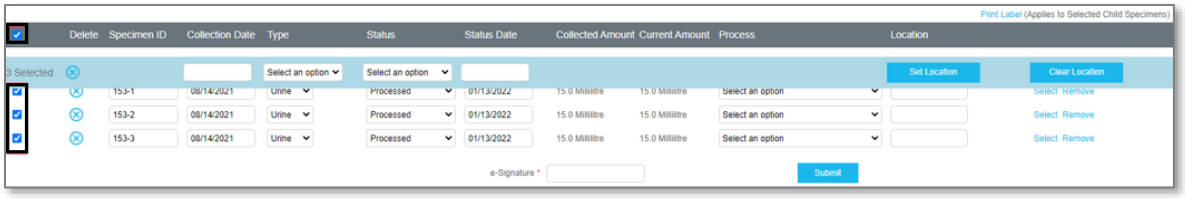


The child specimens will appear in a table at the bottom of the parent specimen page.

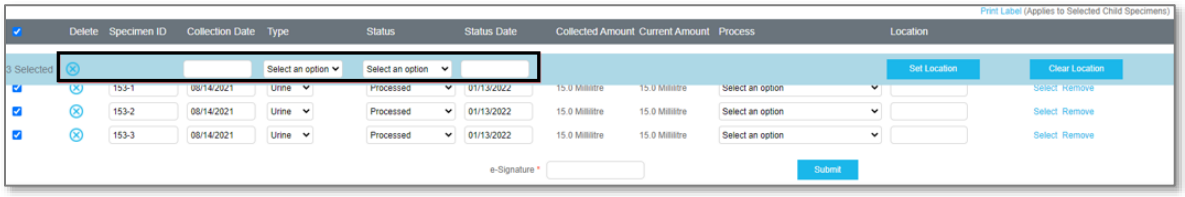
   1. If a child specimen requires deleting, click **Delete** in the Delete column and click **OK** in the warning pop-up
   2. To access the Specimen Details age for a child specimen, click a Specimen ID
   3. To print labels, check one or more checkboxes and click the **Print Label** link

Note: When a checkbox is checked for one or more child specimens, a power bar will open above the table.

7. Check one or more checkboxes to edit one or more child specimens. The checkbox in the navigation bar will select all specimens.



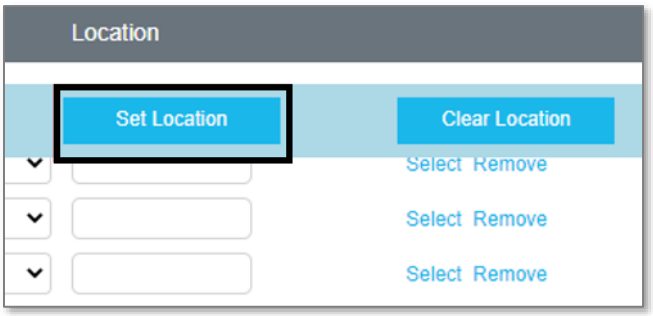
8. Update each field individually or update a field or fields in the Power Bar.



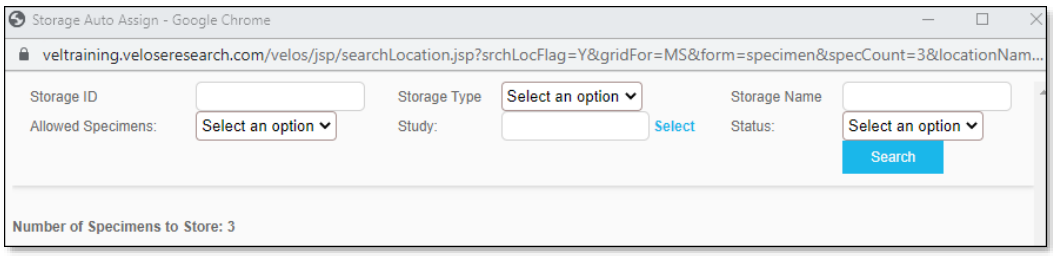
- Collection Data and Status Date are date fields
- Type and Status are dropdown fields
- All child specimens can be deleted here at one time by clicking the **Delete** button

Warning: Use caution when deleting child specimens because they cannot be recovered.

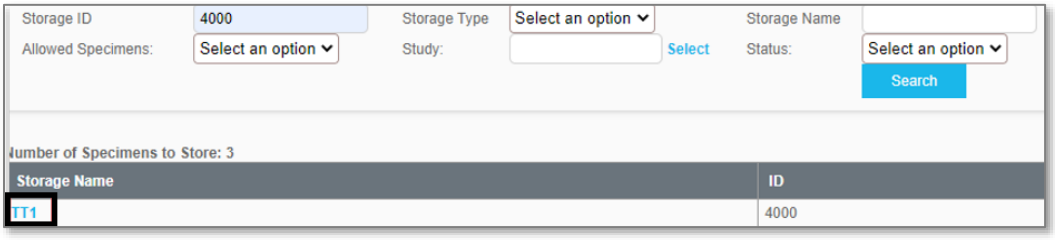
a. If setting a location for all specimens, click **Set Location**.



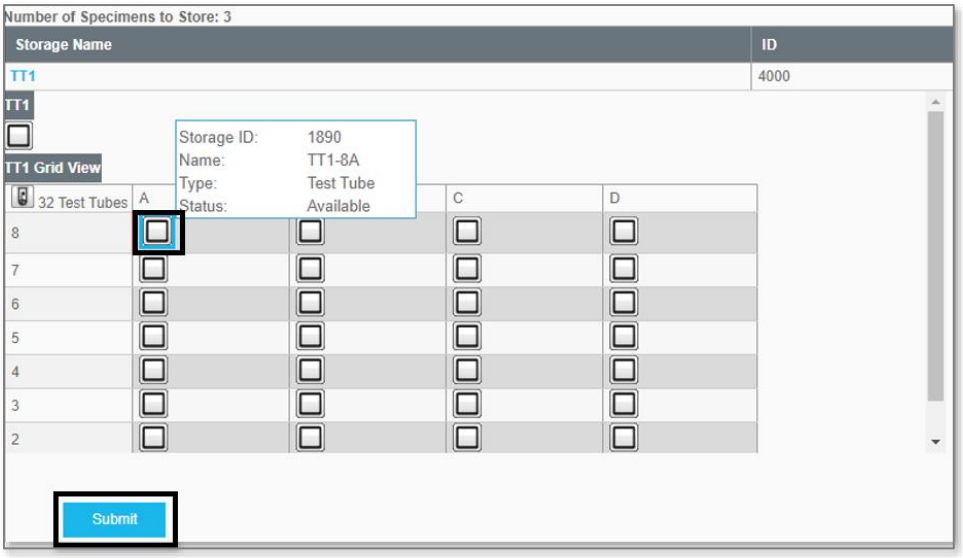
b. In the pop-up, enter criteria to search for a storage unit and click **Search**.



c. Select from the resulting options in the new table by clicking on a Storage Name.



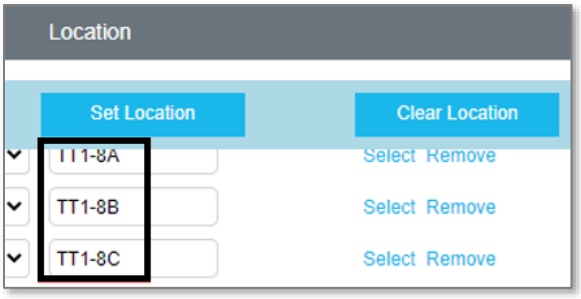
d. In the new storage grid, click on a box to select where the specimen(s) will be stored.



Note: When selecting a storage grid square, multiple child specimens will be assigned the child storage locations from left to right and top to bottom, automatically. For example, in the image above, the child storage locations will be assigned in 8A, then 8B, then 8C for the three child specimens. Adding more specimens would assign them as 8C, then 8D, then 7A, 7B and so on.

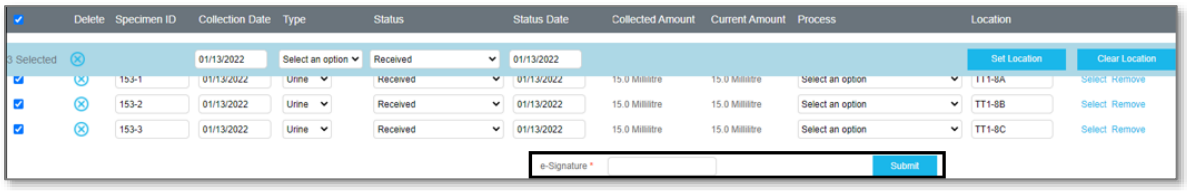
e. Click **Submit**.

f. The new child specimens with new child storage locations will be assigned and appear in the table.



- If locations need to be removed at any time, after checkboxes are checked for the child specimens, click **Clear** Location to remove
- To view or edit a child specimen storage location from this table, click **Select** for the Specimen under the Clear Location button and then re-assign in the pop-up
- To remove the child specimen storage location, click **Remove** for the Specimen under the Clear Location button and click **OK** in the warning pop-up

9. After making all changes in the Power Bar, to the child specimens, enter your e-Signature and click **Submit**.

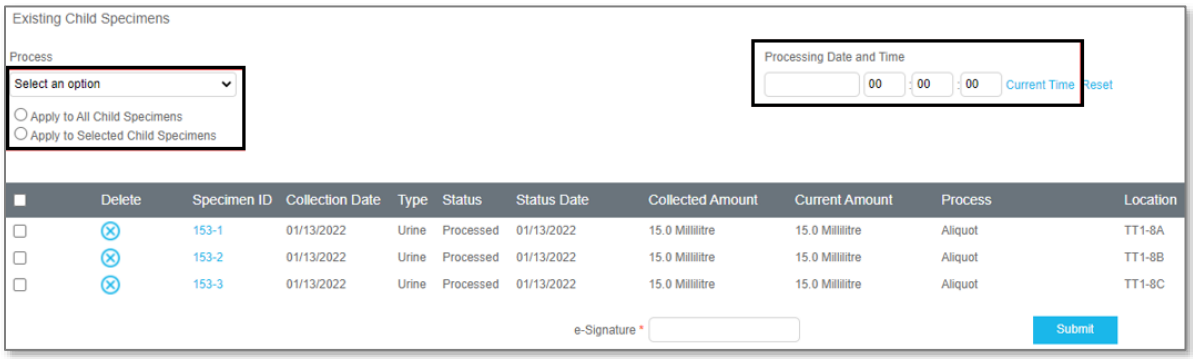


The changes will appear in the table.

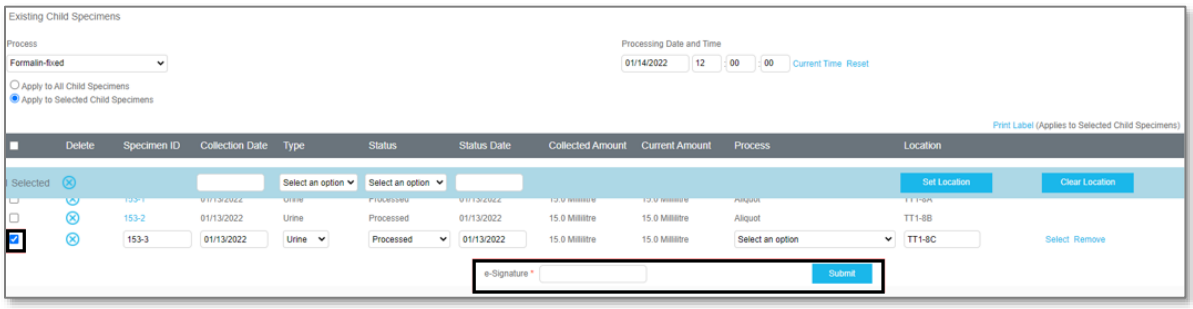
	Delete	Specimen ID	Collection Date	Type	Status	Status Date	Collected Amount	Current Amount	Process	Location
☐	⊗	153-1	01/13/2022	Urine	Processed	01/13/2022	15.0 Millilitre	15.0 Millilitre	Aliquot	TT1-8A
☐	⊗	153-2	01/13/2022	Urine	Processed	01/13/2022	15.0 Millilitre	15.0 Millilitre	Aliquot	TT1-8B
☐	⊗	153-3	01/13/2022	Urine	Processed	01/13/2022	15.0 Millilitre	15.0 Millilitre	Aliquot	TT1-8C

10. Alternatively, for the fields of Process and Processing Date and Time, all or only selected child specimens can be updated in the Existing Child Specimens area above the table.

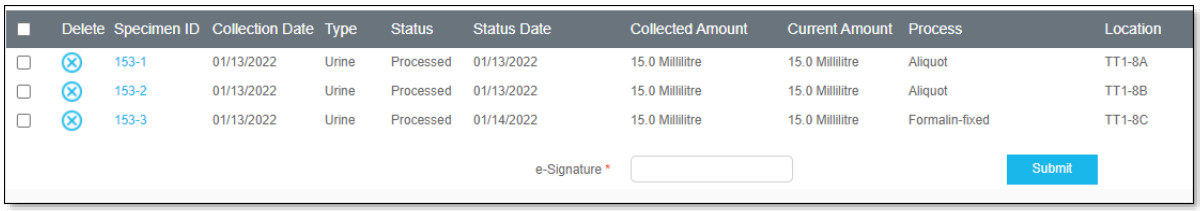
11. Update the Process from the dropdown below Process and / or update the Date and Time as described previously in this section, then select a radio button for either: Apply to All Child Specimens or Apply to Selected Child Specimens.



12. Check one or more checkboxes in the table and enter your e-Signature and click **Submit**.



13. The data will be saved.



Note: A Status Date cannot be changed to a date prior to the date already saved in the system.

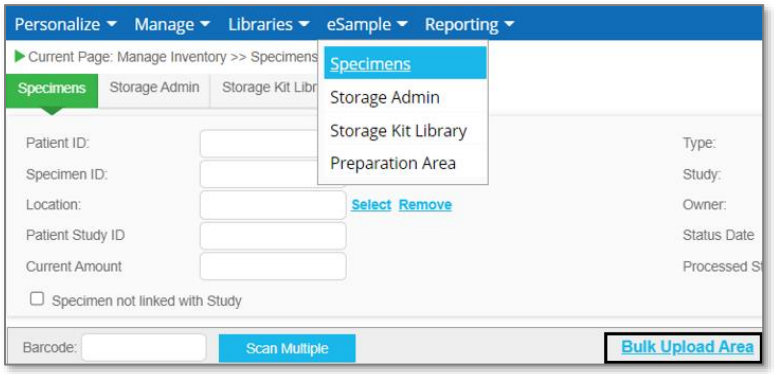
2.4.2.2 Bulk Upload of Specimen

Specimens can be created by bulk upload using an Excel spreadsheet template provided in the system. The Bulk Upload Area can be reached from either the eSample Specimens dropdown in the navigation bar or from a specific Study Patient Record's Specimen tab.

Warning: If a parent storage unit has the checkbox checked for 'Can Store Multiple Specimens', or if the unit is configured as CC/mg, the system will not allow allocation of storage units to specimens through bulk upload.

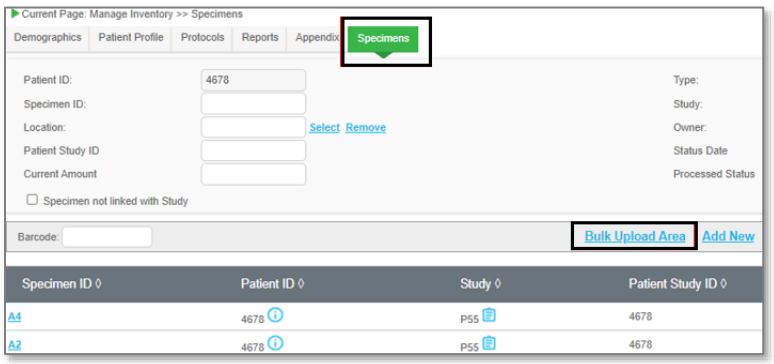
To upload a specimen or specimens by bulk upload:

1. Click **Specimens** in the **eSample** dropdown in the navigation bar and then click **Bulk Upload Area**.

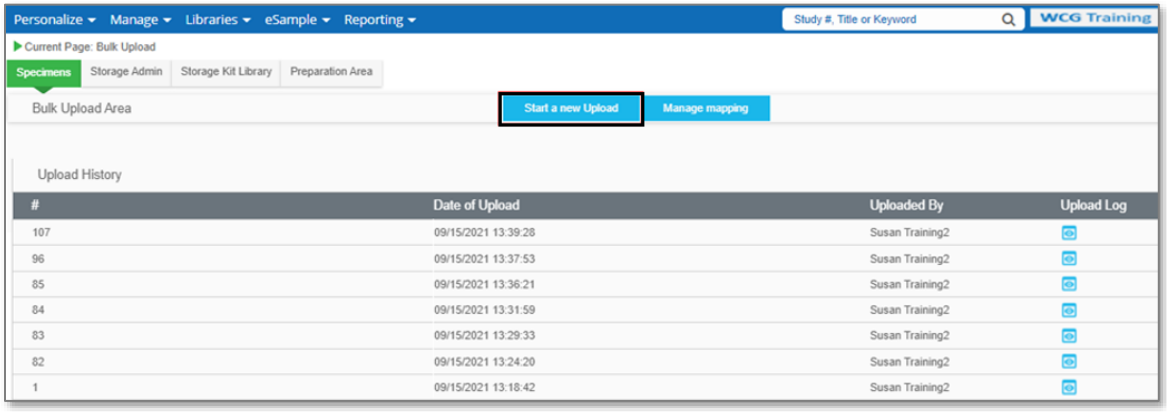


-OR-

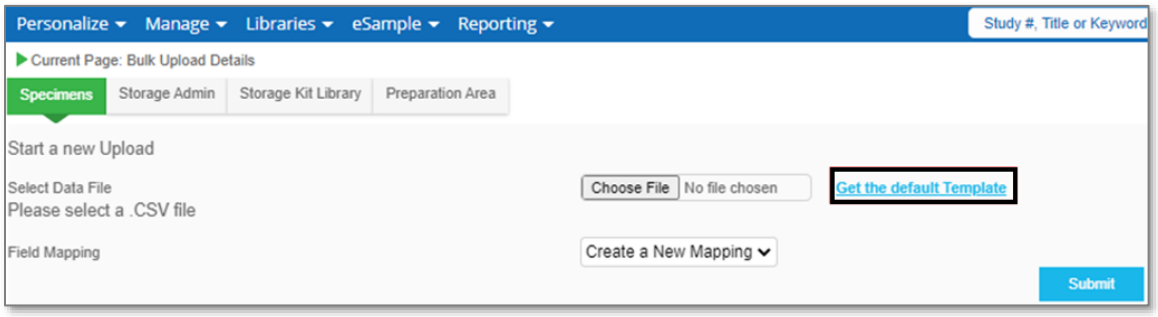
Access a Study Patient record, click the **Specimens** tab, and then click **Bulk Upload Area**. ***Refer to the Patient Management>Patient Search section in the eResearch User Guide***, for more information.



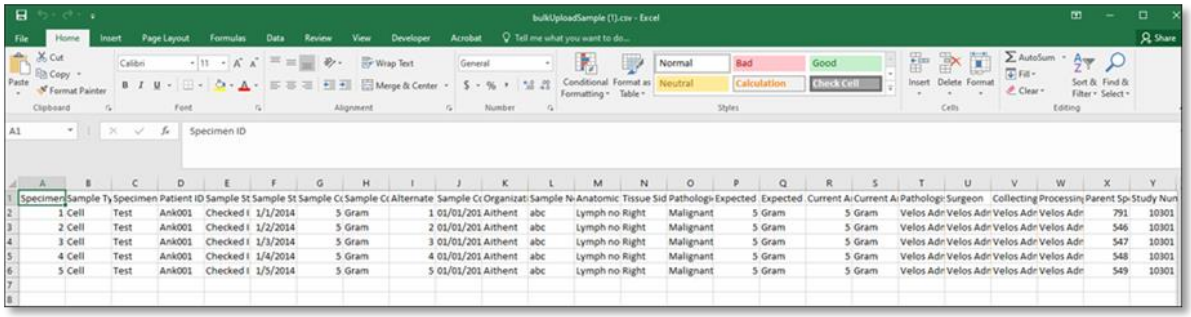
2. Click **Start a new Upload** button.



3. Download the default template by clicking **Get the default Template**.



4. Open the template and save to a local area. (Opening the template will differ based on the browser used, so these steps are not shown.)



5. Complete the fields in the template for each specimen, one specimen per row, and save locally.

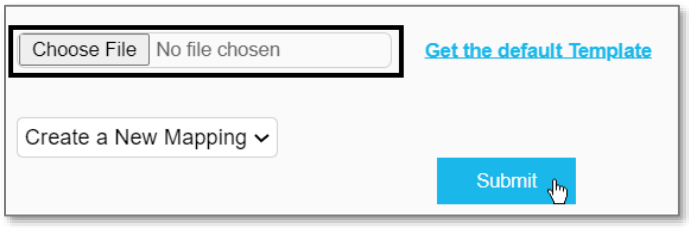
	A	B	C	D	E	F	G	H	I	J	K
1	Specimen ID	Sample Type	Specimen Description	Patient ID	Sample Status	Sample Status Date	Sample Collected Quantity	Sample Collected Quantity Units	Alternate ID	Sample Collection date and time	Organization
2	A3	Blood	1 Vial	4678	Checked In	9/15/2021	10	Gram	N/A	09/15/2021 10:00:00AM	WCG - VELOS
3	A4	Cell	1cm	4678	Checked In	9/15/2021	3	Gram	N/A	09/15/2021 10:30:00AM	WCG - VELOS

Note: Fields are configurable so your data and column headers may differ and should not be revised, as the upload will fail. Refer to a Patient Record's Demographics tab for all options available for your fields as defined in your system.

- **IMPORTANT:** All data for fields must exist in the system and align.
- For example:
  - if using a Patient ID, the Patient ID must be in the system
  - for an Organization, the name of the Organization must align with the Organizations used for a specific Patient ID
  - Doctors and Technicians must exist at minimum as Non-System Users
  - Units must be defined in the system in order to select them

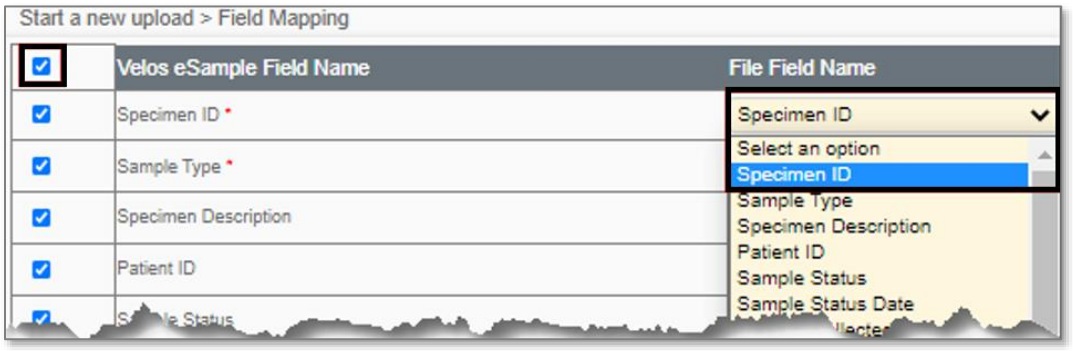
Note: Leave unknown fields blank in the spreadsheet, or leave a field blank if blinding, such as for the Patient ID.

6. Click **Choose File**, upload the locally saved spreadsheet and click **Submit**.



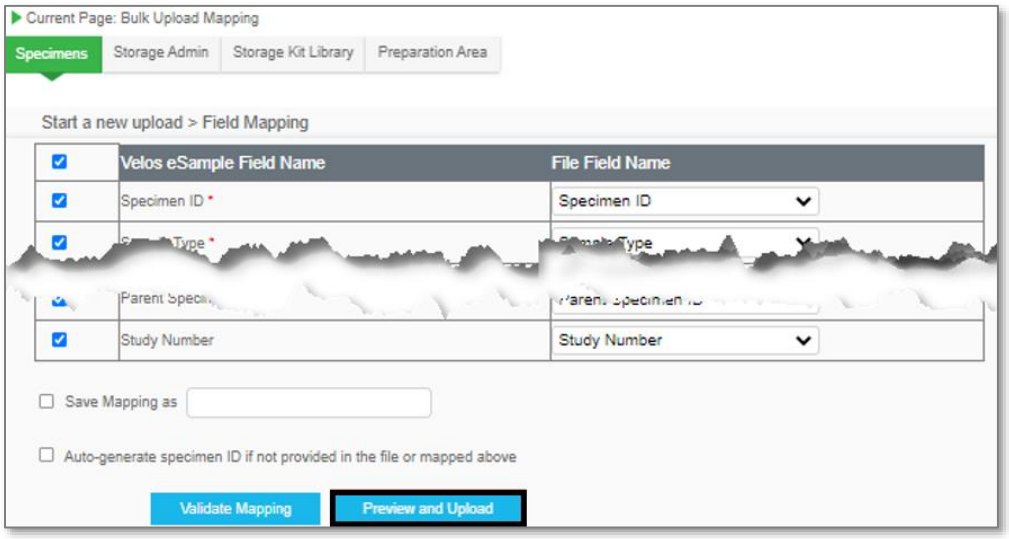
Note: A previously saved mapping can be selected from the dropdown here.

7. Check all checkboxes that apply for the field data you will be including for the specimen(s), or check the checkbox at the top left to select all, and then select a **File Field Name** to map with *each* Velos eSample Field Name checked (most likely these fields will be identical per row).

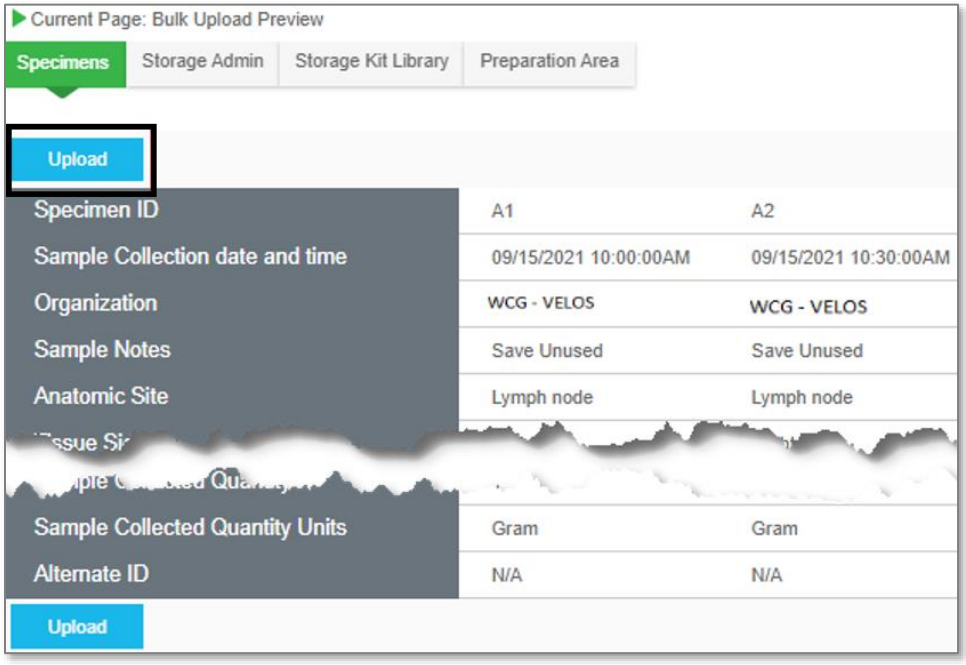


Note:
1. To save the mapping, check the checkbox for Save Mapping as and enter a name into the open text field.
2. To have the system generate a specimen ID, leave the **Auto-generate specimen ID** checkbox checked. The Specimen ID in the first row must be unchecked.

8. Click the **Preview and Upload** button.



9. Review the data and click **Upload** in the Bulk Upload Preview page.

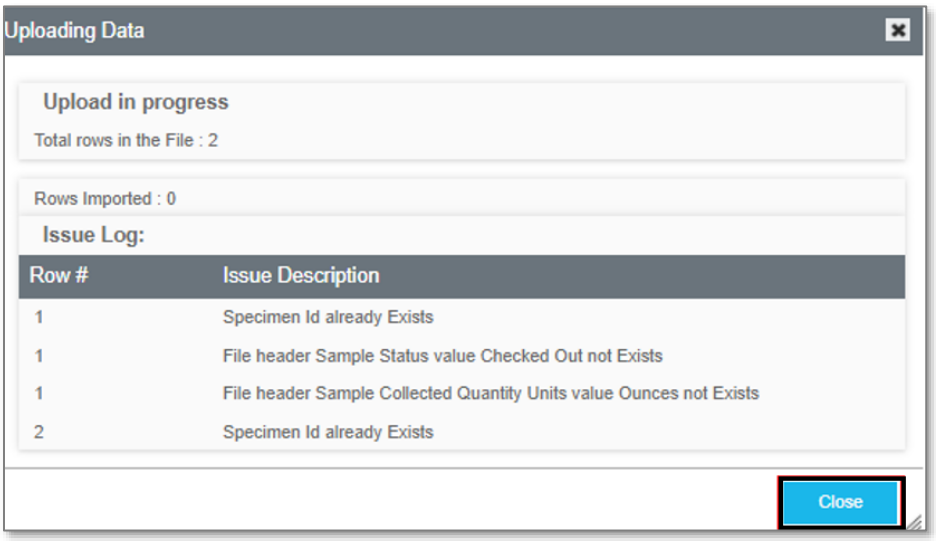


An inserted pop-up window will appear showing if there are any errors with the uploaded data.

- If all specimen data entries are validated, you will see a confirmation of the *Total rows in the File* equaling the number of *Rows Imported*, as in the example below.

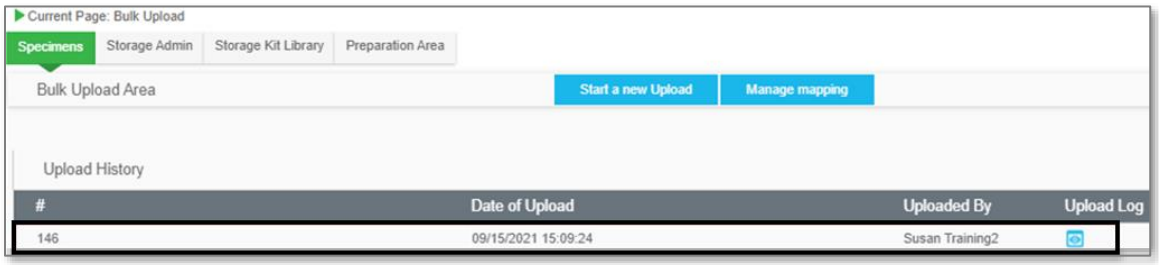
-OR-

- If the pop-up window shows an error or errors, like the following example, return to your spreadsheet and ensure that all the data selected exists in the system before uploading a revised spreadsheet and continuing with the bulk upload process.



10. Click **Close** in the pop-up window.

    When validated, the Bulk Upload Specimens page will appear showing the newly uploaded specimen(s) at the top of the table.



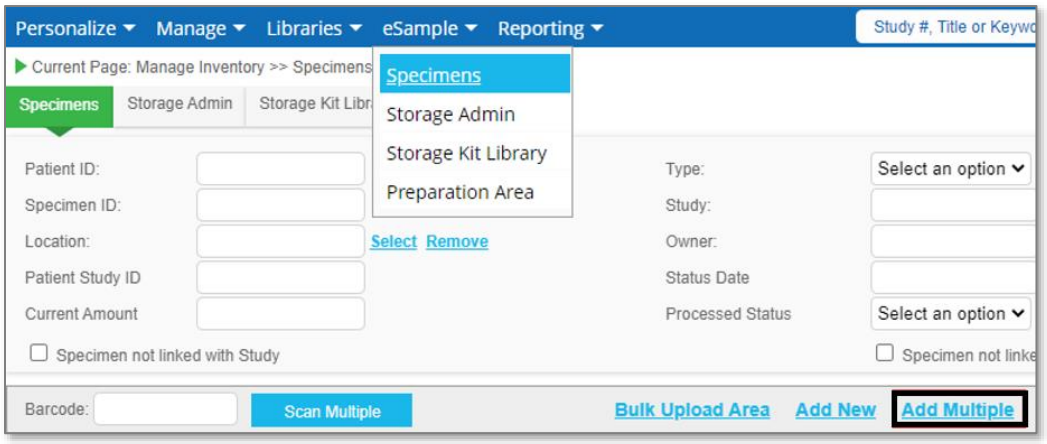
11. To view the upload log, click the **Preview** button in the Upload Log column. Click **Close**.

2.4.2.3 Add Multiple Specimens

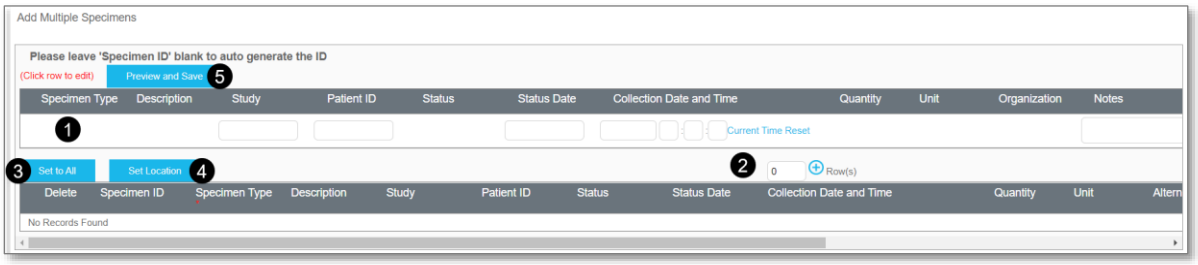
Specimens can be created, and locations can be assigned, for more than one specimen at a time, by using the Add Multiple link on the Specimens page.

To add multiple specimens:

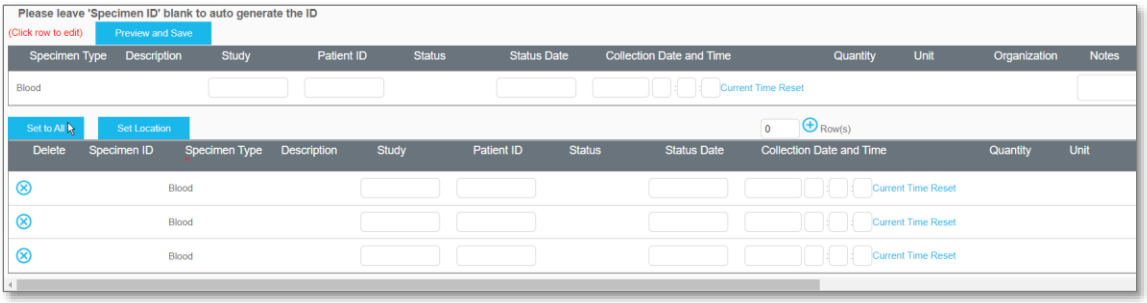
1. Click **Specimens** in the **eSample** dropdown in the navigation bar and then click **Add Multiple**.



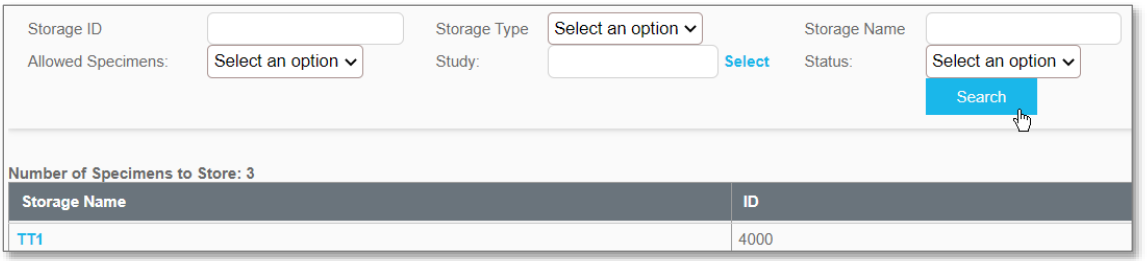
2. The Add Multiple Specimens pop-up appears.



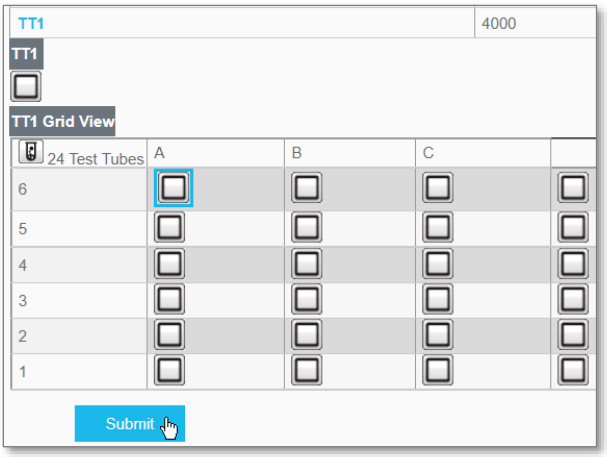
1. Click in the **Specimen Type** field of the Power Bar to reveal the dropdown options then click an option. Complete the rest of the fields in the row as needed.
   - Click below a header to reveal each entry field
2. Enter a number in the blank field to the left of the word 'Row(s)', then click **Add**. The number of rows will appear below.
3. Click **Set to All** and the information in the Power Bar will cascade to the table.



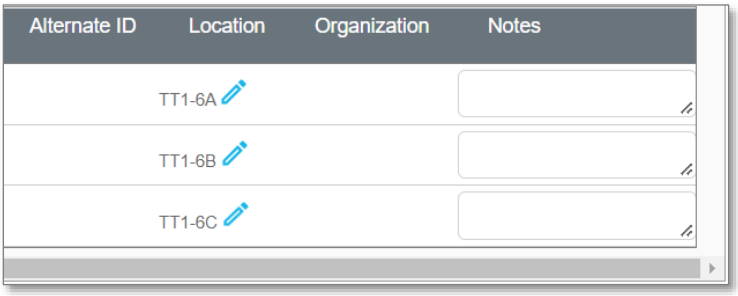
4. If a location is to be added, click **Set Location**.
   a. Click **Search** in the resulting pop-up, using search fields if needed. Then click a Storage Name to select.



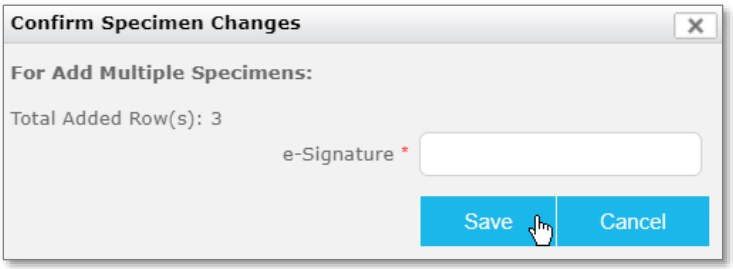
b. In the resulting graphic representation of the storage area, click on a starting unoccupied storage location, then click **Submit**.



c. Scroll to the far right on the Add Multiple Specimens page. The Location fields have been auto-populated with the storage location names.



5. Click **Preview and Save**. In the pop-up, enter your e-Signature, then click **Save** to confirm.



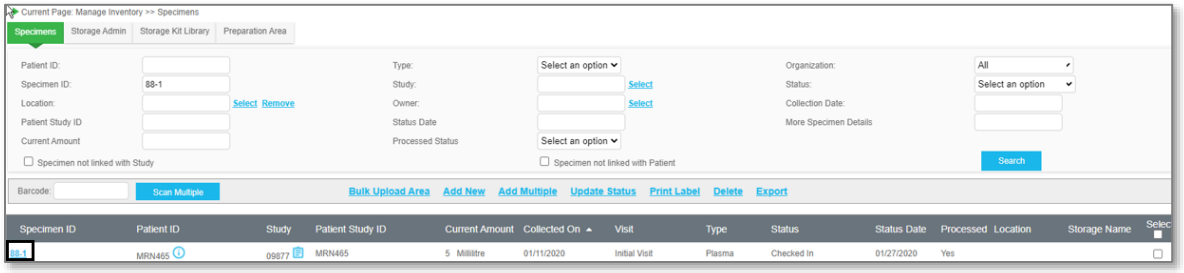
6. The new specimens are saved. Use the Search area in the Specimens tab to view the new specimens.

2.4.3 Edit a Specimen

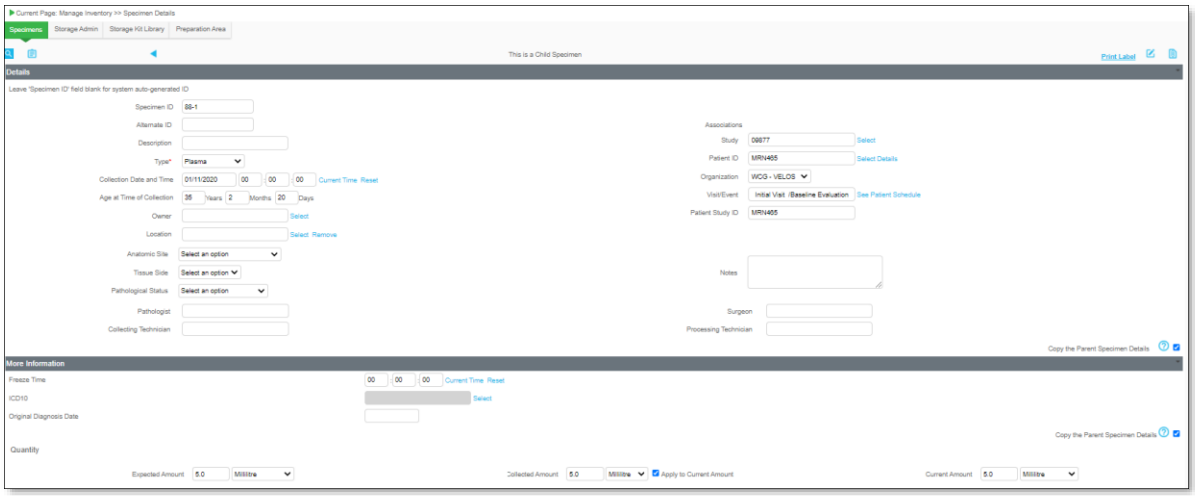
Make updates to the specimen or add additional information. The instructions for this section begin on the Specimens tab. Specimens can also be located on the Specimens tab for a Patient Record, if the specimen is associated with the Patient Record. ***Refer to the Patient Management>Patient Search section in the eResearch User Guide***, for more information.

To Edit a Specimen:

1. From the Specimens tab, use the **Search** filters to search for a specific Specimen. Click the **Specimen ID** to review and edit the specimen information.



The Specimen Details page displays:



Note:
1. If parent specimen details are being modified and the changes should not apply to the child specimens, uncheck the checkbox for Copy the Parent Specimen Details for the appropriate section(s).
2. In the upper right of the Specimen Details page is an Attachments button which appears as a paperclip icon. This button can be used to associate files to the specimen.

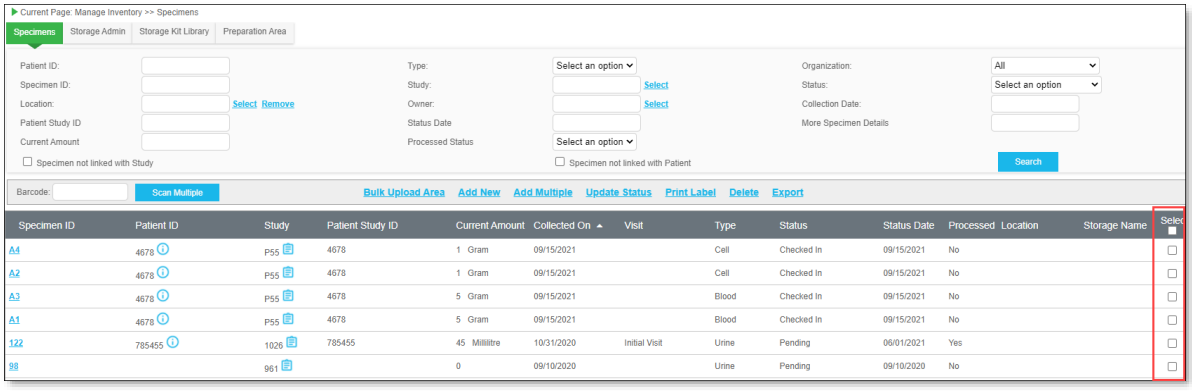
2. Enter information as appropriate to define the Specimen, enter your e-Signature, and click **Submit** to confirm.

2.4.3.1 Update Specimen Status

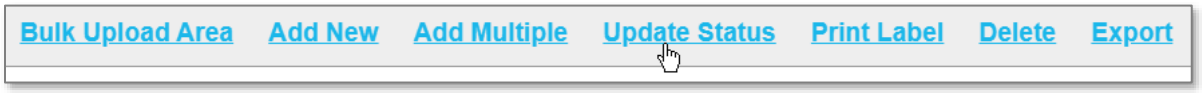
From the Specimens tab, users can select, and update specimen statuses as needed.

To update a specimen status:

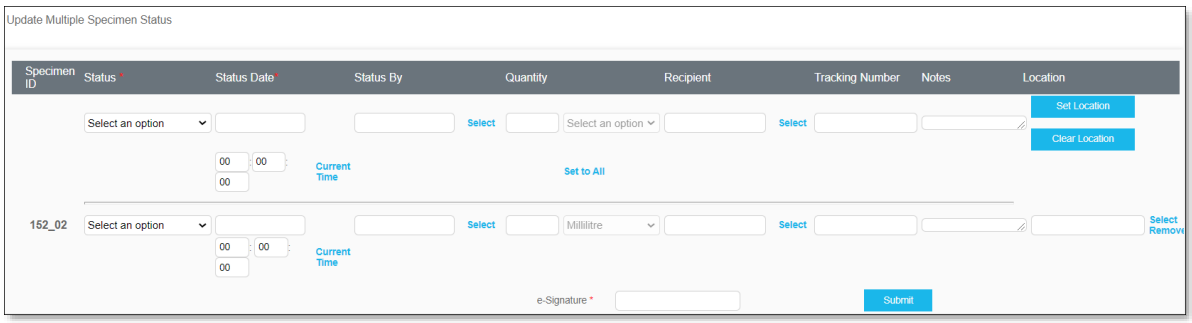
1. From the Specimens tab, **Search** for the desired specimens.



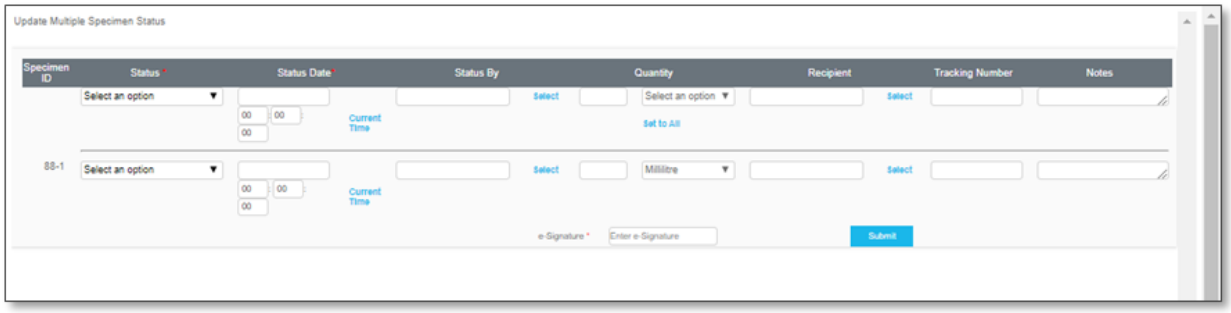
2. Using the select column, check the appropriate specimen that you would like to select.
3. Click **Update Status**.



The Update Multiple Specimen Status window opens:

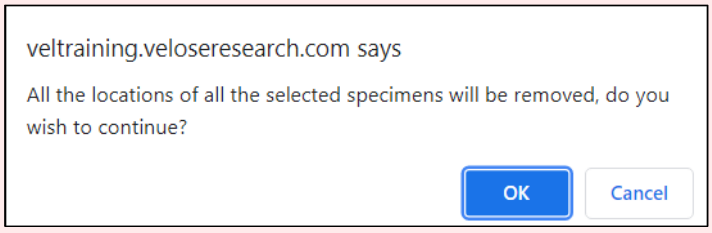


4. Enter in the appropriate information to update one or multiple Specimen statuses.



Note: To view how to use the Power Bar and the Set Location button, when selecting multiple specimens to update, refer to Step 8 of Child Specimens.

Warning: If the Clear Location button is clicked, all selected specimens will be removed, and a warning message will appear. Only click OK, if removing all selected specimens.



5. Enter your e-Signature and click **Submit** to confirm.

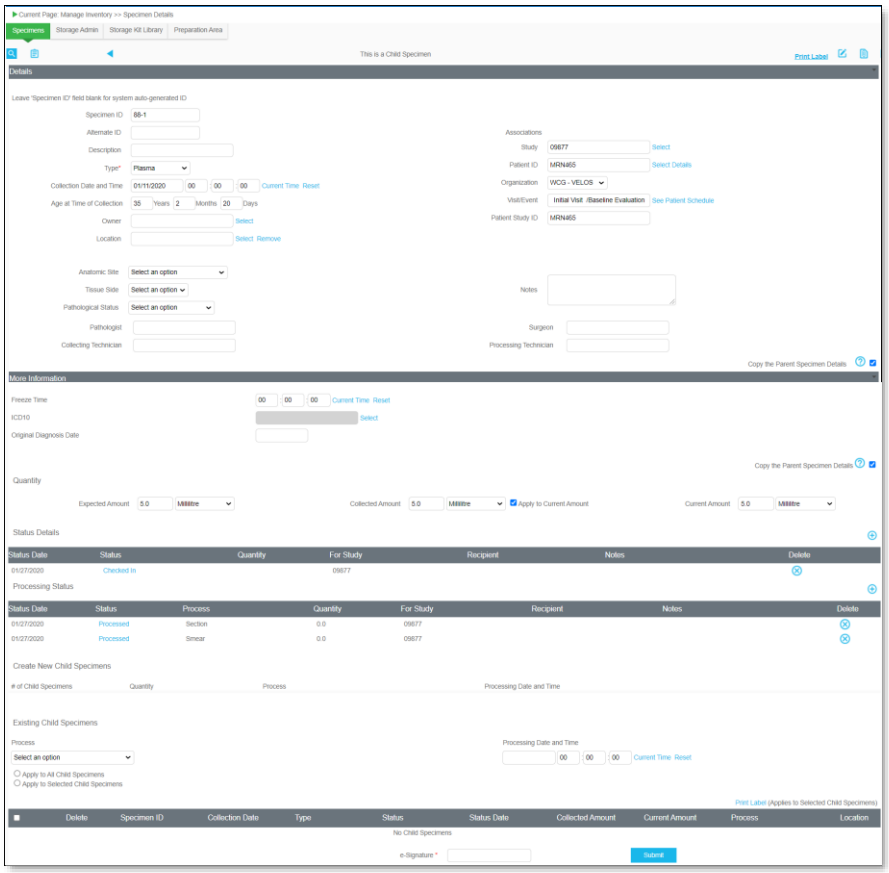
2.4.3.2 Cascading Information to Child Specimens

It is an optional function to link or associate a specimen to a parent specimen. This function will copy the parent specimen details.

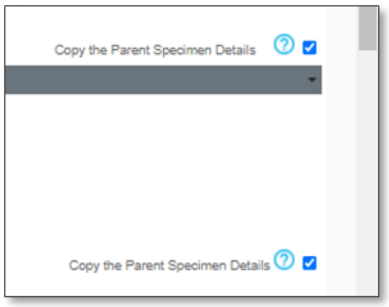
To cascade information from a parent specimen to a child specimen:

1. From the Specimens, tab, use the Search filters to search for a specific Specimen. Click the **Specimen ID** to review and edit the specimen information.

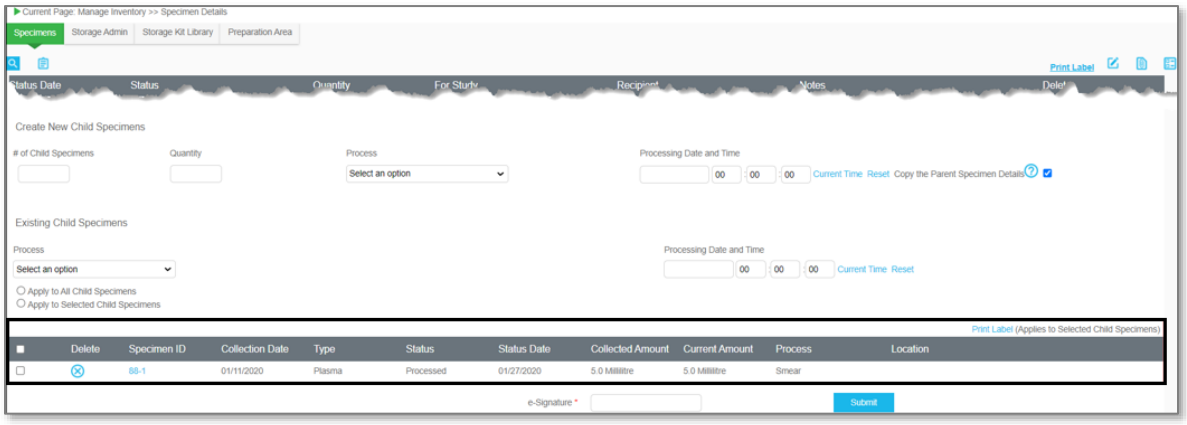
The specimen details page displays:



2. Check or uncheck the **Copy the Parent Specimen Details** field(s).



When a parent specimen is split to create child specimens, the child specimens will appear at the bottom of the parent specimen's Specimen Details page. Refer to Child Specimens for more details.



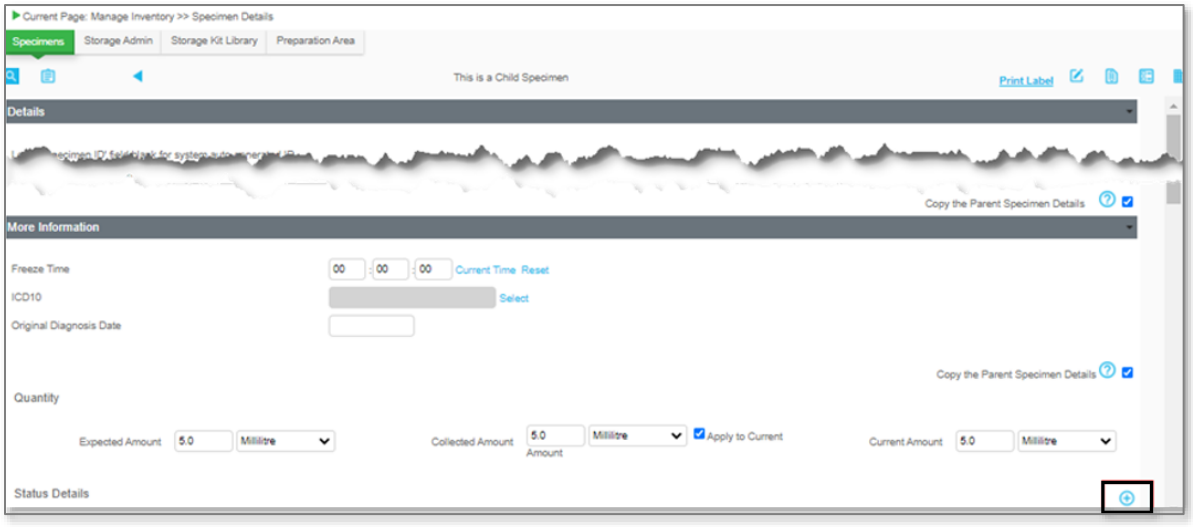
Note: To view how to use the Power Bar and the Set Location button, when selecting multiple specimens to update, refer to Step 8 of Child Specimens.

2.4.4 Add Specimen Status

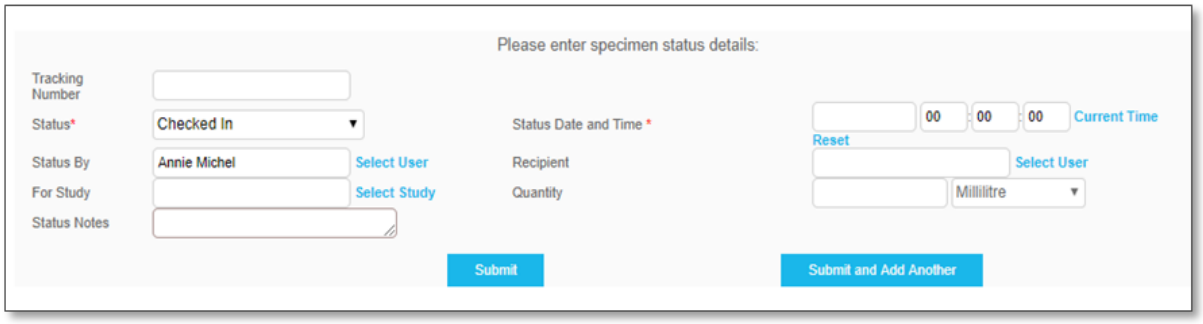
Statuses for specimens may be added to define the step in a process or transfer custody for a specimen such as being checked in after collection. The instructions of this section begin on the Specimen Details page.

To add a Specimen Status:

1. From the Specimen Details page, click the **Add New** button in the Status Details section.



The Specimen Status Details page displays:



2. Enter information as appropriate using the available fields.

Field	Description
Tracking Number	Enter a tracking number into the field for the Specimen Status.
Status	Select a status from the dropdown options. This field is required.
Status By	Select a user for the status entry. The default user will be the user that is signed into eResearch.
For Study	Use the Select Study button to select which study the status specimen should apply to.
Status Notes	Enter in any status notes if appropriate.
Status Date and Time	Enter in the status date and time or use the Current Time button to use the current time. This field is mandatory.
Recipient	Use the Select User link to select a user to be the recipient.

Field	Description
Quantity	Enter a numeric quantity into the field and select a unit measurement using the dropdown field options. This field may be mandatory depending on status.

Note: Specimen statuses can be configured to add or subtract the current quantity if specified for the specimen. When adding a status that does not affect the specimen's current quantity, enter "0" for the quantity. Reach out to Velos Support for configuration assistance.

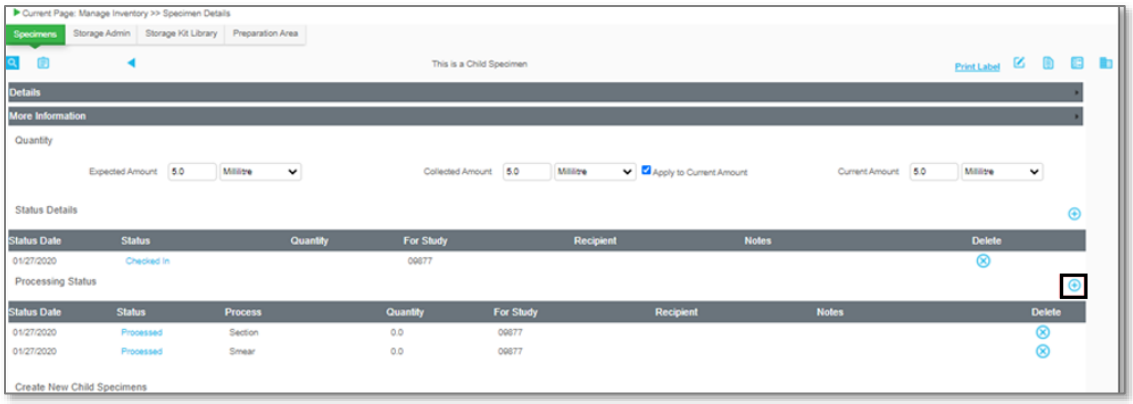
3. Once the information is entered, click **Submit** or **Submit and Add Another**.

2.4.5 Add Processing Status

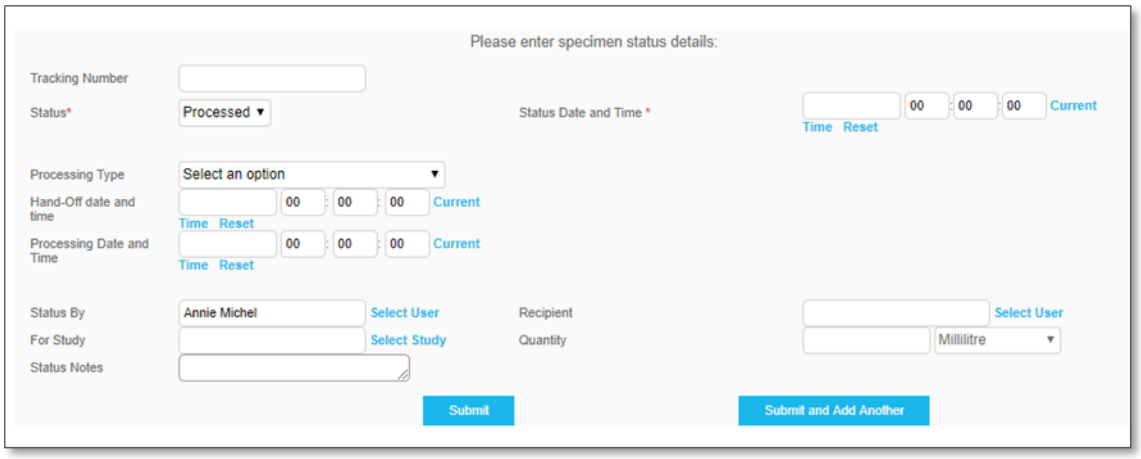
Process statuses may be added for a specimen such as if it has been processed. The instructions for this section begin at the Specimen Details page.

To add a Processing Status:

1. From the Specimen Details page, click the **Add New** button in the Processing Status section.



The Specimen Status Details window displays:



Note: To view how to use the Power Bar and the Set Location button, when selecting multiple specimens to update, refer to Step 8 of Child Specimens.

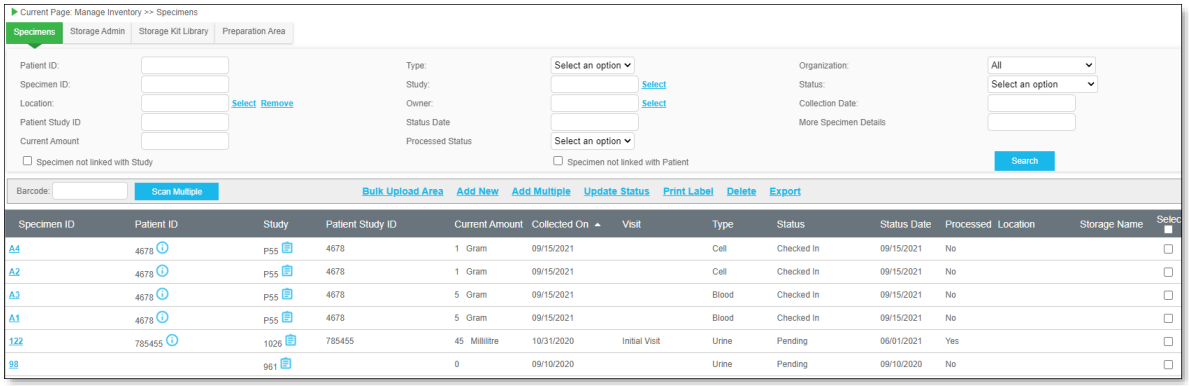
2. Define the fields as appropriate and click **Submit** or **Submit and Add Another**.

2.4.6 Print Specimen Labels

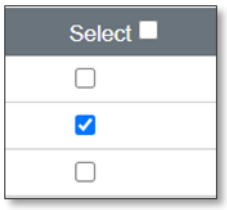
Specimen labels can be printed from this location for selected specimens.

To print Specimens Labels:

1. From the Specimens tab, **Search** for the Specimen using the search filters.

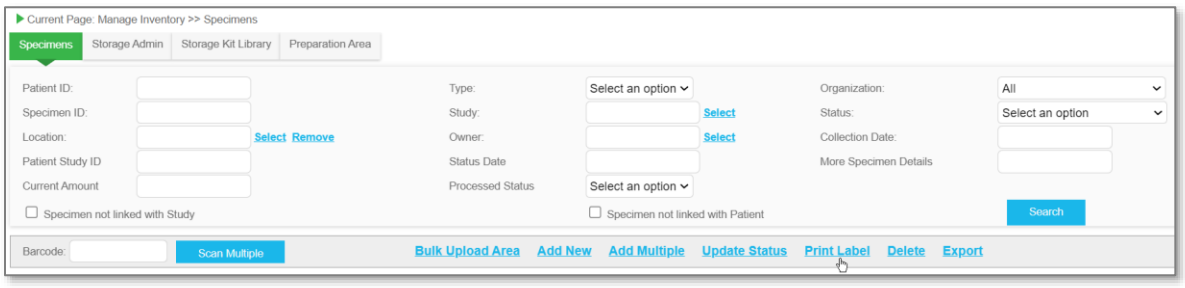


2. Using the **Select** column, select the appropriate checkbox for the desired specimen.

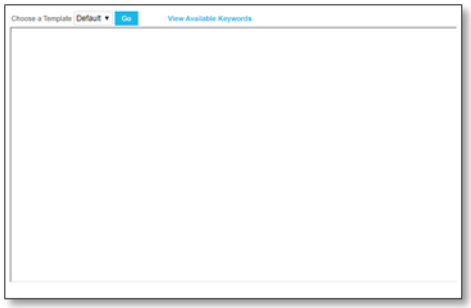


Note: Multiple specimens may be selected at once to print their respective labels

3. Click **Print Label**.



The Generate Bar Code page appears.



4. **Choose a Template** from the dropdown menu and click **Go**.

Note: Templates can be updated or added by support teams. Reach out to your business associate for more information.

The generated barcode displays and may be printed using the **Printer** button.

Note: Users may utilize a label printer of their choice.

- A sample label is included, however more styles may be added by Velos Support as an additional service. See the list of available keywords below:

Keywords in Specimen Template

These keywords, if used in the specimen template, will be replaced by the relevant data in the database.

{VEL_BARCODE}	The generated barcode image will be placed where this keyword is in the template.
{VEL_PDF417_BARCODE}	The generated 2D-barcode of PDF417 image will be placed where this keyword is in the template.
{VEL_DATA_MATRIX_BARCODE}	The generated 2D-barcode of DataMatrix image will be placed where this keyword is in the template.
{VEL_COLL_AMT}	Collected amount and unit of the specimen.
{VEL_COLL_DATE}	Date (without time) of collection.
{VEL_COLL_DATE_TIME}	Date and time of collection.
{VEL_IMAGE}	Path to static image files on server. This keyword will be replaced by value specified in eresearch.xml under <applicationDefaults> as <staticImagePath>. Prefix image file name with this keyword. e.g. src="{VEL_IMAGE}my_image.jpg"
{VEL_LATEST_STAT}	Latest specimen status.
{VEL_PARENT_SPEC}	Parent specimen ID.
{VEL_PAT_PK}	Patient primary key (internal ID).
{VEL_PAT_STUDY_ID}	Patient study ID.
{VEL_PATCODE}	Patient ID.
{VEL_PATHOLOGICAL}	Pathological Status.
{VEL_SAMPLE_TYPE}	Sample type.
{VEL_SPEC_ID}	Specimen ID.
{VEL_SPEC_ALT_ID}	Alternate specimen ID.
{VEL_STORAGE_ID}	ID of storage in which the specimen is stored.
{VEL_STUDY_NUMBER}	Study Number.
{VEL_STUDY_PHASE}	Study Phase.

Note: Actual barcode size is approximately one inch.

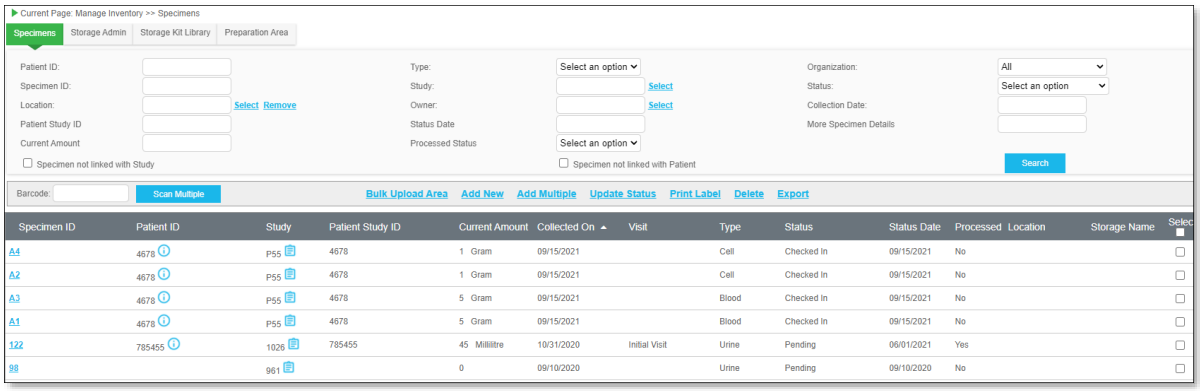
2.4.7 Delete Specimens

One or multiple specimens may be deleted at one time.

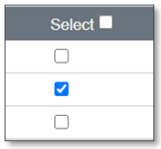
Warning: Use extreme caution when deleting.

To delete Specimens:

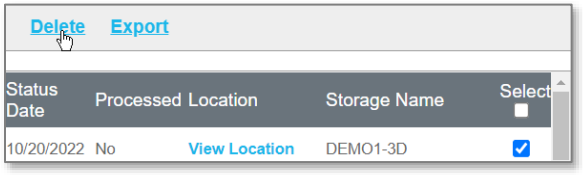
1. From the Specimens tab, **Search** for the Specimen using the search filters.



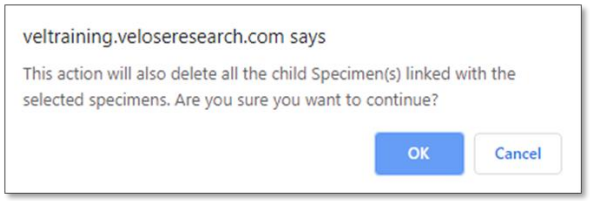
2. Using the **Select** column, select the appropriate checkbox for the desired specimen(s).



3. Click **Delete**.



A message window opens:



4. Click **OK** to confirm Specimen deletion.

   The Confirm Deletion page displays.

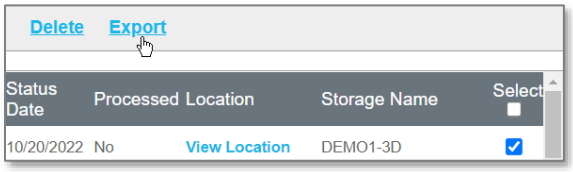
5. Enter your e-Signature and click **Submit** to confirm.

2.4.8 Export Specimens

All specimens displayed as search results can be exported as a CSV file in order to further review and analyze data.

After applying search filters, to export all specimen results:

1. Click **Export**.



2. Download the file, open, and save locally, as needed.

Specimen ID	Patient ID	Study	Patient Study ID	Current Amount	Collected On	Visit	Type	Status	Status Date	Processed	Location
109	0000-44444	9877	0000-44444	0	1/7/2020	Initial Visit	Blood	Pending	1/29/2021	No	
109_01	0000-44444	9877	0000-44444	0	1/7/2020	Initial Visit	Blood	Pending	1/29/2021	No	
109_02	0000-44444	9877	0000-44444	0	1/7/2020	Initial Visit	Blood	Pending	1/29/2021	No	
110	0000-44444	9877	0000-44444	0	1/7/2020	Initial Visit	Plasma	Pending	1/29/2021	No	
89	0000-44445	484744	0000-44445	0	6/25/2020	Initial Visit	Blood	Pending	6/25/2020	No	
89_01	0000-44445	484744	0000-44445	0	6/25/2020	Initial Visit	Blood	Pending	6/25/2020	No	
89_02	0000-44445	484744	0000-44445	0	6/25/2020	Initial Visit	Blood	Pending	6/25/2020	No	
111_02	0000-44445	9877	0000-44445	0	2/2/2020	Initial Visit	Blood	Pending	2/16/2021	No	
105	0000-44445	484744	0000-44445	0	7/2/2020	Initial Visit	Blood	Pending	9/10/2020	No	

Note: Individual specimens cannot be selected for export after searching. To narrow results, apply new filters in a search before exporting.

2.4.9 Scan Multiple Option

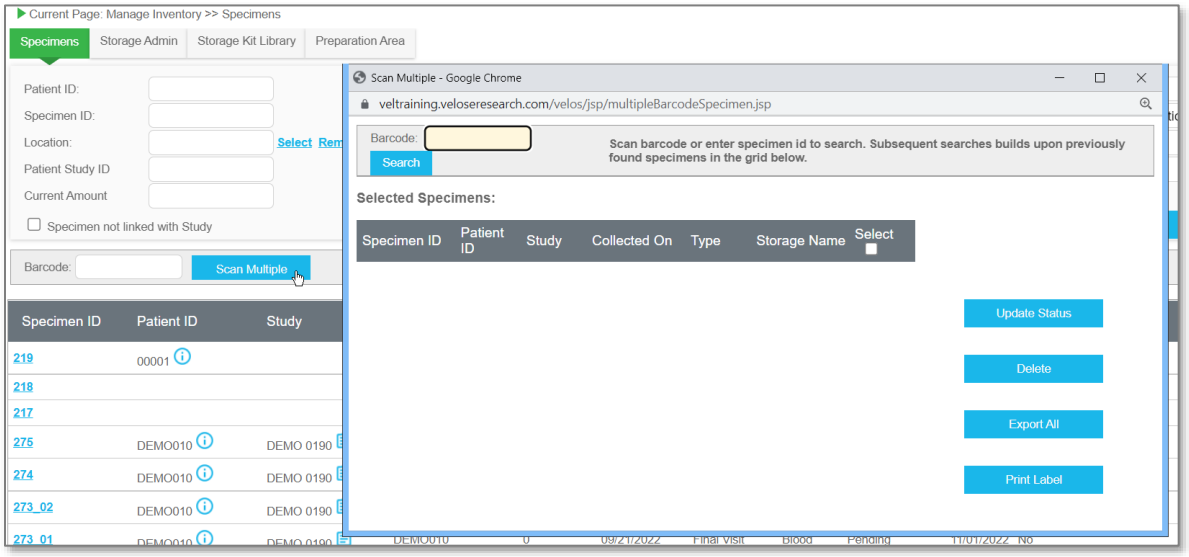
Specimens can be scanned in at one time, or manually added individually, using the Scan Multiple button to simultaneously update statuses, delete, export, or to facilitate the printing of labels for multiple specimens.

The Update Status option only allows to update 50 specimens' statutes at a time. Therefore, up to 50 specimens at a time can be selected to have their statuses updated in the Scan Multiple Window.

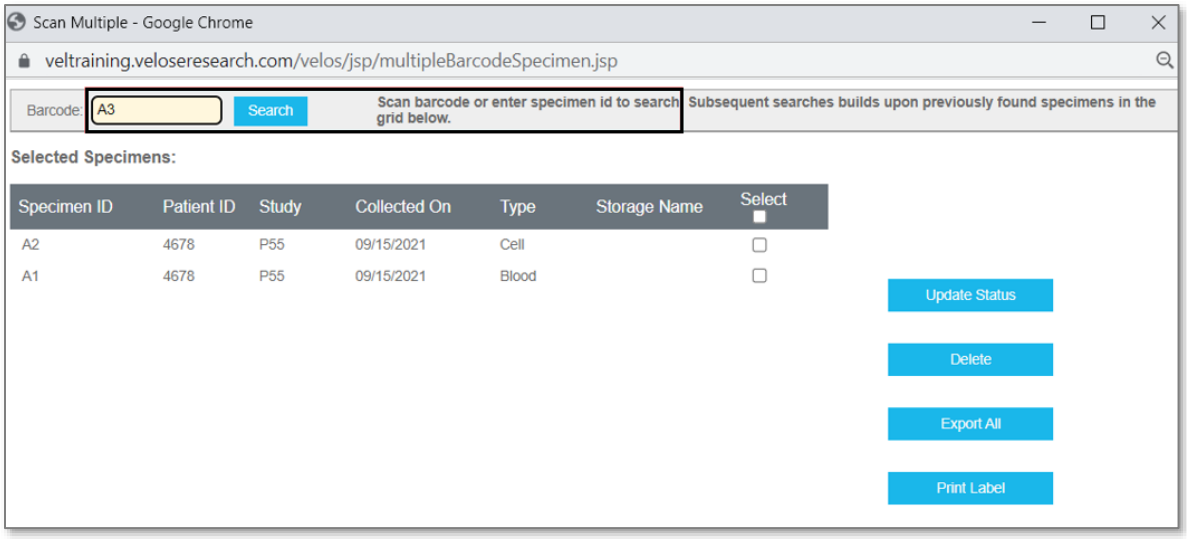
Note: To view how to use the Power Bar and the Set Location button, when selecting multiple specimens to update, refer to Step 8 of Child Specimens, as needed.

To access update multiple specimens simultaneously using the Scan Multiple button:

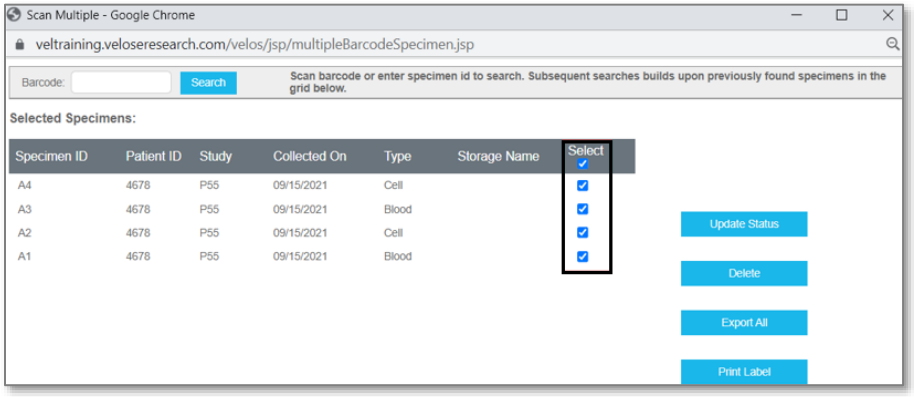
1. Click the **Scan Multiple** while in the Specimens tab.



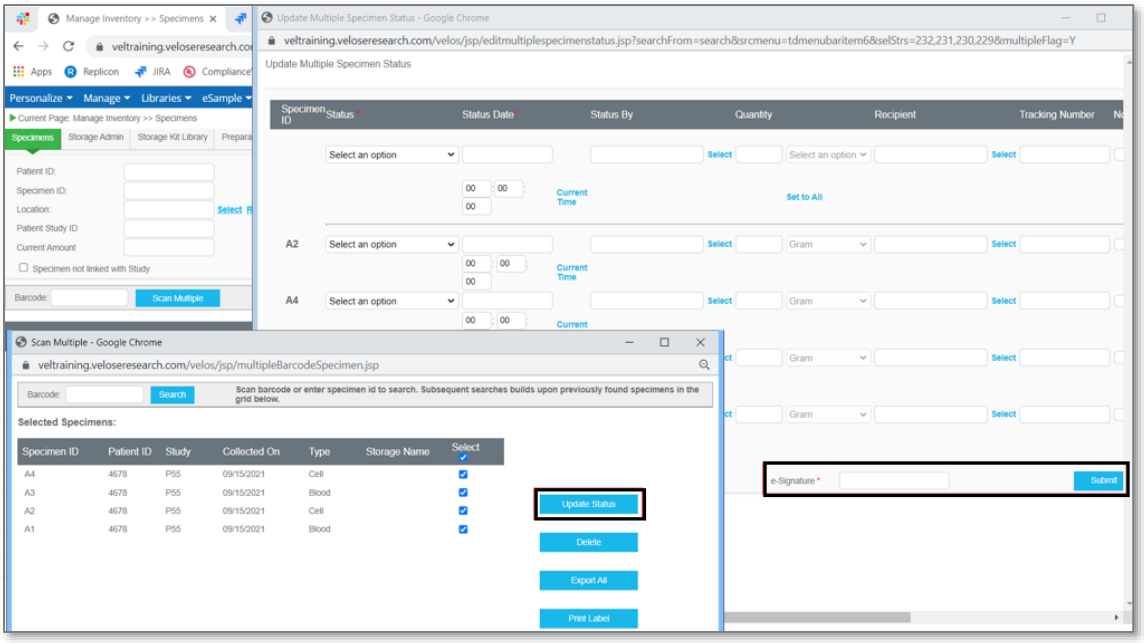
2. Either use a bar code scanner and scan each specimen or enter each Specimen ID into the Barcode search field and click **Search** to add to the table.



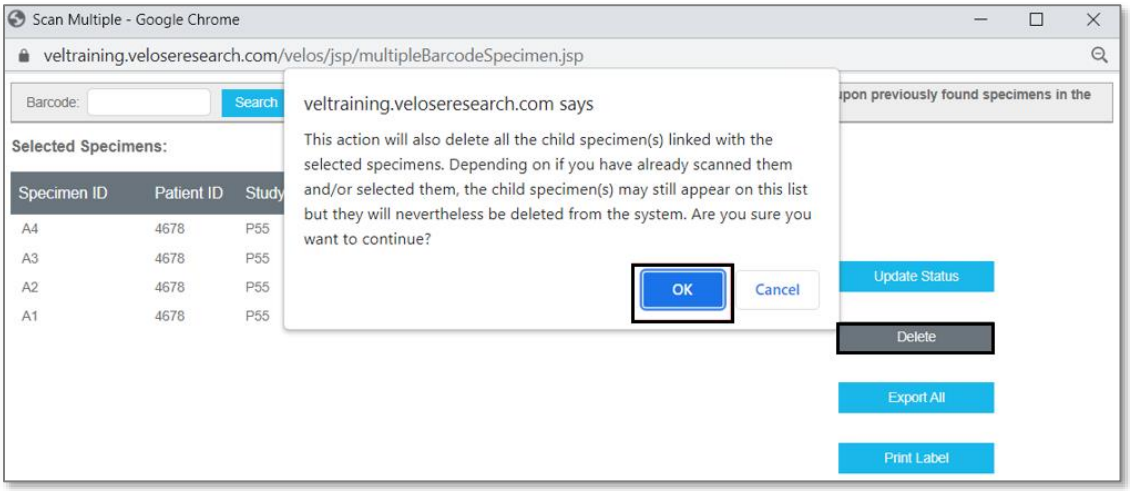
3. After all specimens are added, check the checkboxes in the Select column, or the single checkbox under Select to select all, as applicable.



a. After clicking **Update Status** in the Scan Multiple pop-up, update applicable data, then e-Sign and click **Submit**.

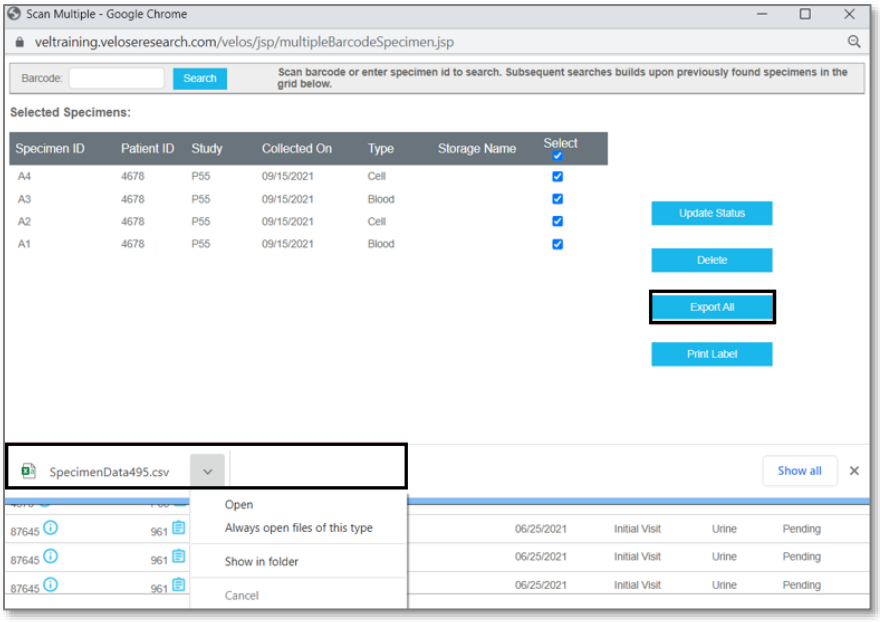


b. After clicking **Delete** in the Scan Multiple pop-up, click **OK** to confirm deletion.



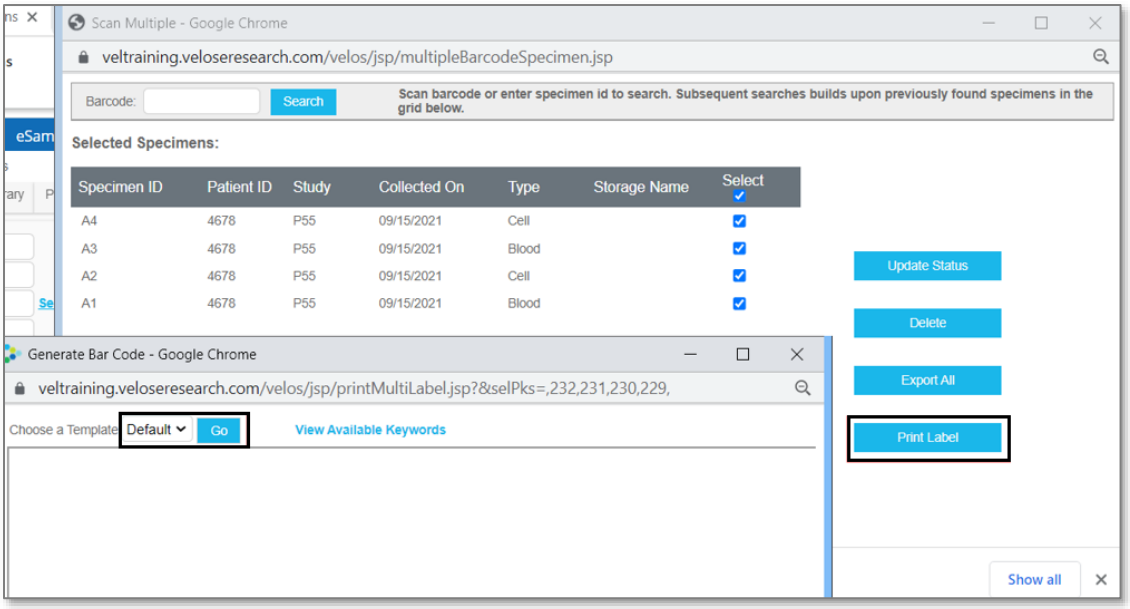
Warning: Only click **OK** if all specimens are confirmed to be deleted.

c. After clicking **Export All** in the Scan Multiple pop-up, download or open the CSV file, as per the browser being used.



Note: All specimens scanned will be exported regardless of the use of checkboxes for selection.

d. After clicking **Print Label** in the Scan Multiple pop-up, select from the Choose a Template dropdown and click **Go** in the new pop-up window.



i. Use the scroll bar to view all bar codes and use the options at the top navigation bar as needed including to download or print.

Note: Actual barcode size is approximately one inch. Templates can be configured or added. Please reach out to your business associate for assistance.

2.4.10 Specimen Forms

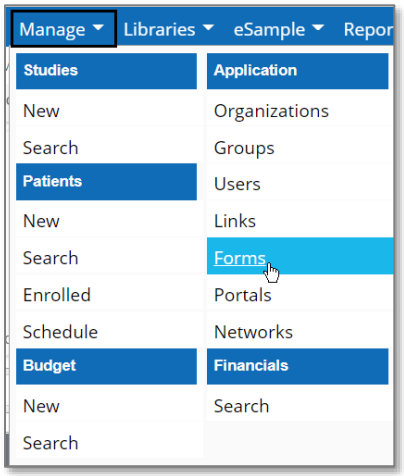
Forms may be added to a specimen. These forms must first be set to display in the Form Management > Form Display and Sequencing page. To collect additional information for a specimen, custom forms may be designed (Forms Library) and then displayed in Velos eSample.

2.4.10.1 Display of Forms in Specimen Management

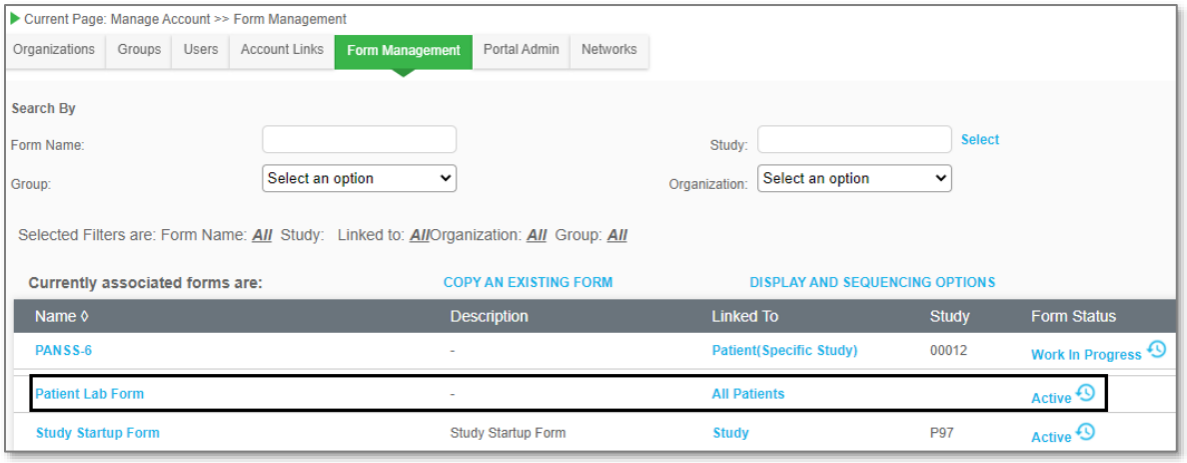
Forms must first be added to the Form Management page and associated to Patients and set to display in specimen management.

To set forms to display in patient management:

1. Click **Forms** under Application in the **Manage** dropdown.

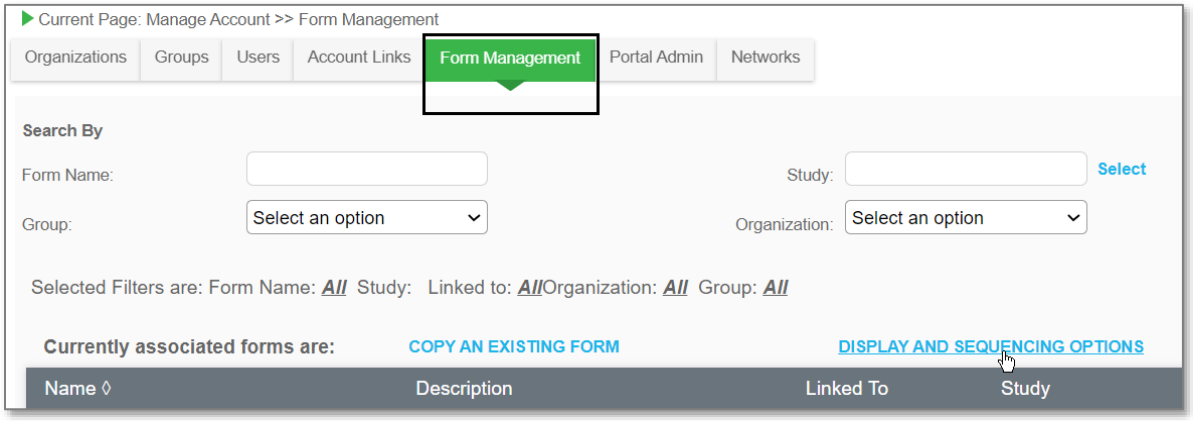


2. Ensure applicable forms are linked to the appropriate Form Management level and set to active. See example below showing a Patient Lab Form that is Active and linked to All Patients.

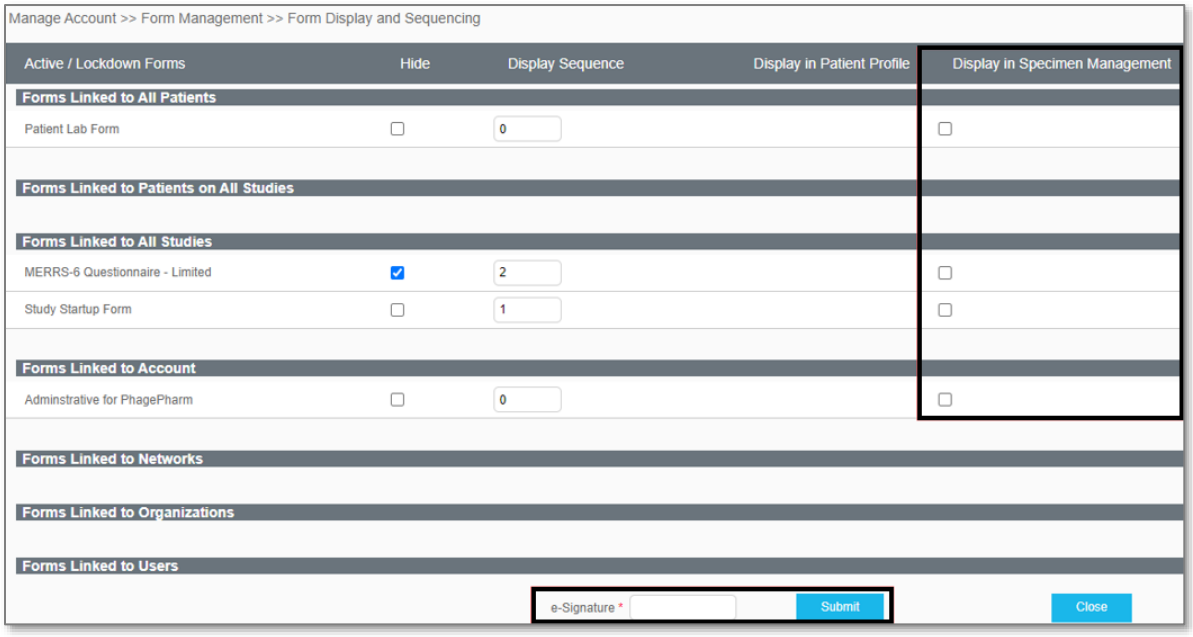


Note: Specimens can be created without patient or study information. For those type of specimens, other form types such as Account, Study, etc. may apply

3. Click **DISPLAY AND SEQUENCING OPTIONS**.



4. Check the applicable checkboxes for forms to appear in the forms for specimens in the Specimen Management area, enter your e-Signature, and click **Submit**.



The selected forms will now appear in the Biospecimen Management area.

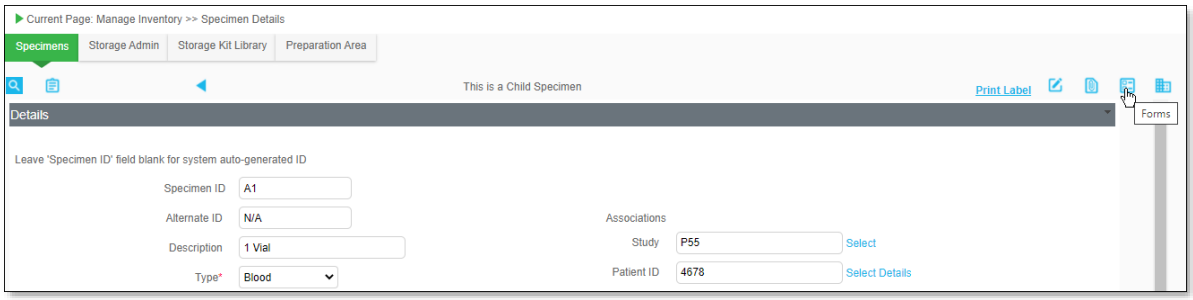
Note: If a form is checked for selection in the Display in Specimen Management field, but also is checked in the Hide field, it will not appear in the Specimen Management area for forms.

2.4.10.2 Adding, Editing, and Viewing Forms in eSample

Forms can be added, edited, and viewed in eSample from the specimen's details page.

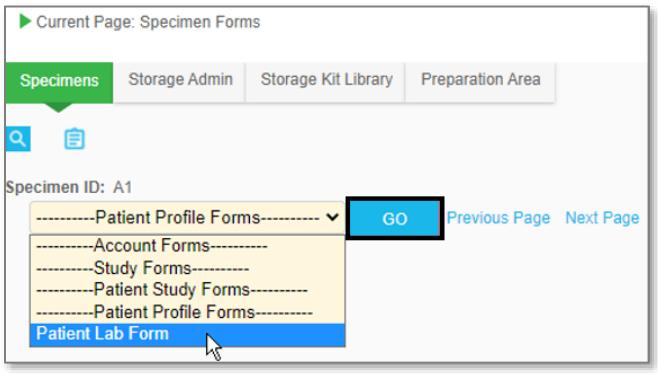
After navigating to the Specimens tab and clicking on a Specimen ID:

1. Click **Forms**.



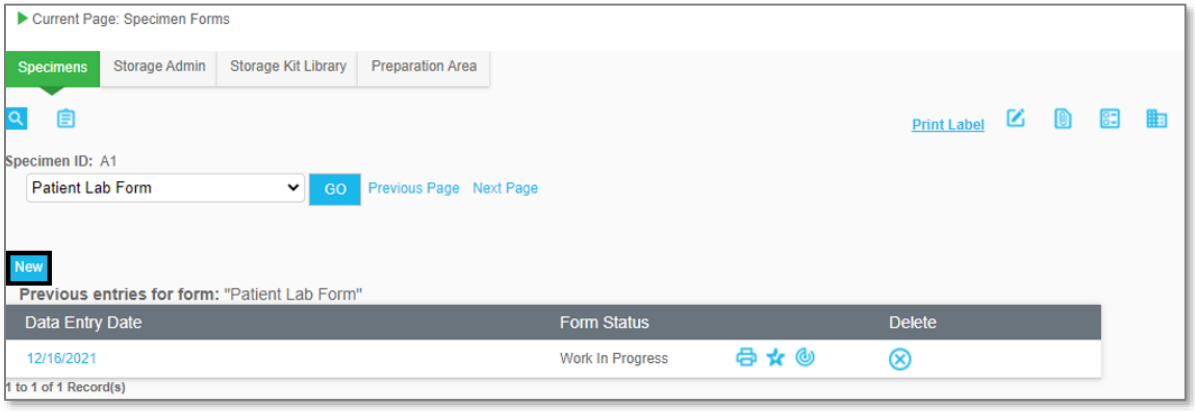
Note: The Attachments button, located to the left of the Forms button, allows for attaching documents and links to a specimen as is performed in the Attachments / Versions tab for a study

2. Select an appropriate form from the dropdown and click **GO**.



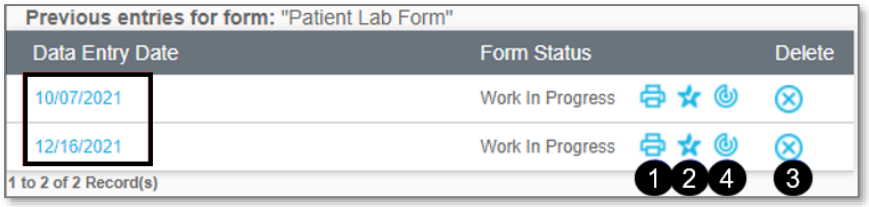
Note: If there are any existing forms, they will appear in a table below the New button

3. Click **New** to complete a new form.



4. Complete the form as needed, enter your e-Signature and click **Submit**.

The new form will appear in a table.



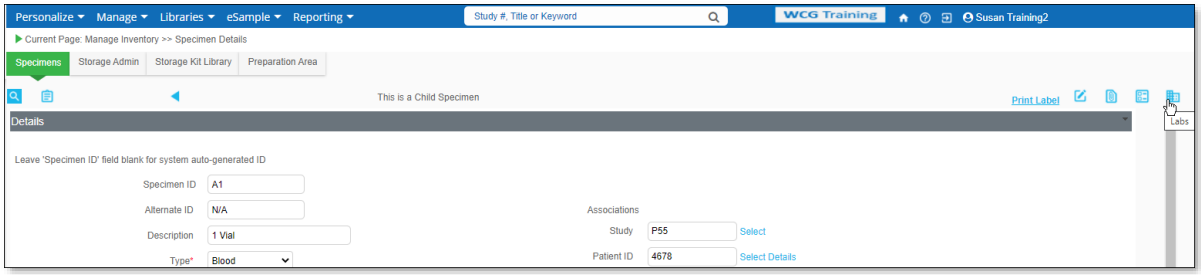
5. The form can be (1) printed, (2) audited, (3) deleted, and (4) track changes can be viewed.
6. Additionally, the form can be edited by clicking on the **Data Entry Date** link and then submitting the changes.

2.4.11 Specimen Labs

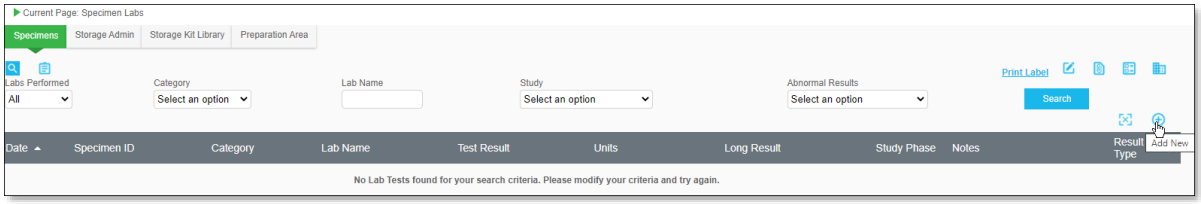
Labs may be added to a specimen. Labs include tests performed on a sample, the results, and the normal range of results for that test to determine if the lab result is normal or abnormal.
Often, labs are imported into eResearch by customer integrations.

After navigating to the Specimens tab and clicking on a Specimen ID, to add a lab:

1. Click **Labs**.

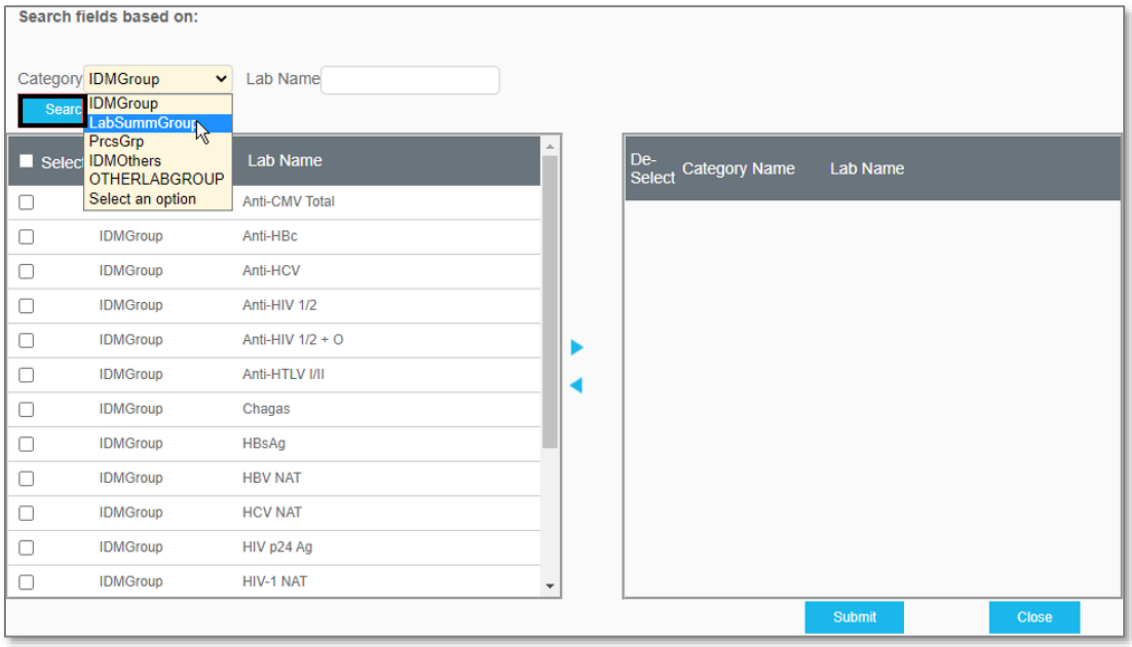


Any existing labs will appear in the Specimen Labs page below the header.

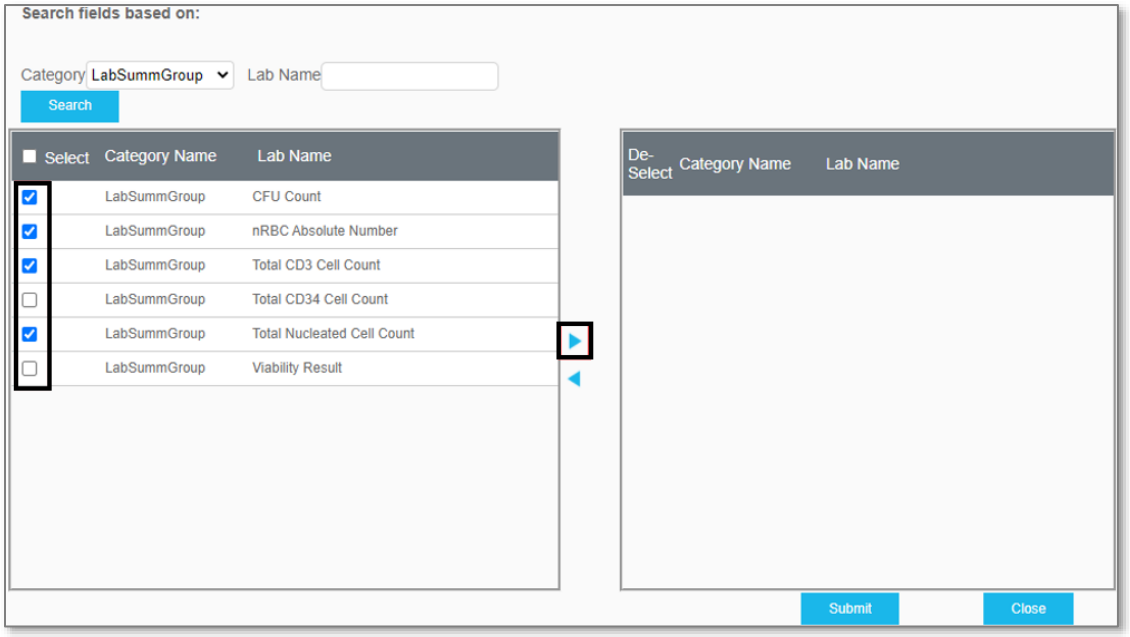


Note: Additionally, the search fields can be used to search the list of labs in the table.

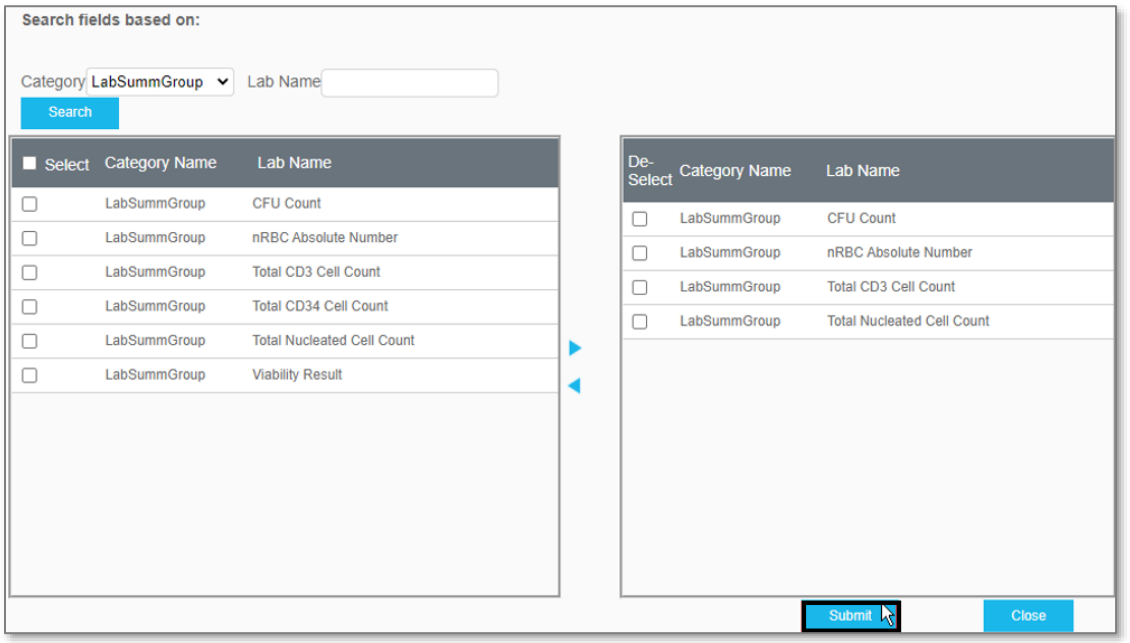
2. Click **Add New**, to add a new lab to the specimen.
3. In the pop-up window, select a Category from the dropdown, optionally enter a Lab Name into the open text field and click **Search**.



4. From the list, check checkboxes for the labs used for the sample and then click the right facing arrow to move the labs to the box on the right.

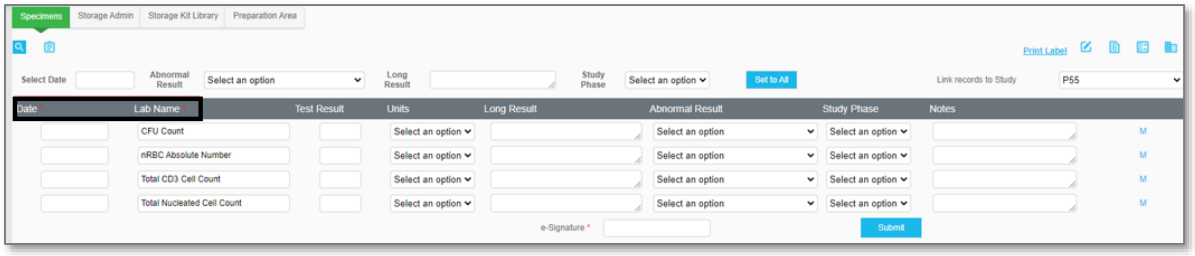


5. Click **Submit** to Submit the labs.



   a. If any labs need to be removed before submitting, check the De-Select checkboxes and then click the left facing arrow before clicking **Submit**. Alternatively, to not submit any labs, click **Close**.

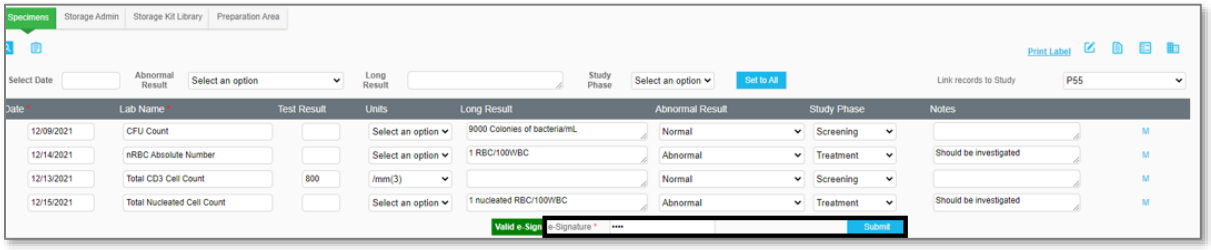
6. After submitting the labs, at minimum, the empty fields must be completed for all headers which contain a red asterisk.



a. Above the header is a Power Bar which can be used to update all labs with the same data simultaneously. Enter data as applicable and then click **Set to All**.

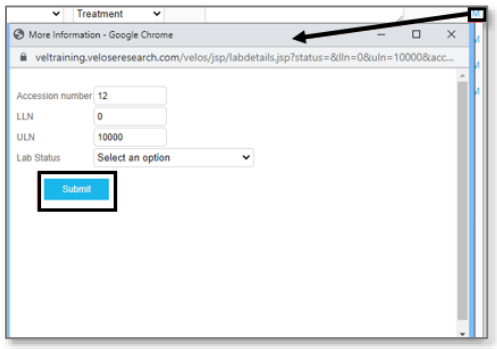
Note: For the Test Result field, either a short result or a long result must be entered, both entries will not be allowed, and an error message will appear when trying to submit. Non-numerical entries must be entered as long results.

7. Enter the lab data from left to right, enter your e-Signature, and click **Submit**.



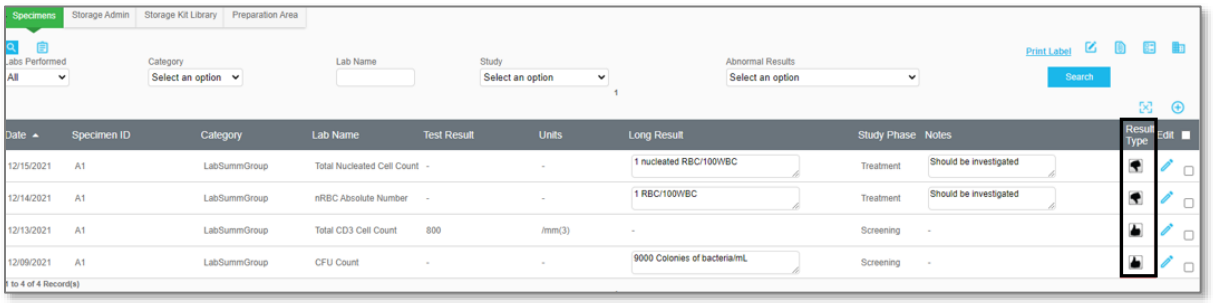
Note: Date field is the date of the lab processing, not when the data was entered.

a. Optionally, click the **M** link for the lab, and in the pop-up, enter the **Accession number**, Lower Limit of Normal (**LLN**) number, Upper Limit of Normal (**ULN**) number, select the **Lab Status**, and click **Submit**.

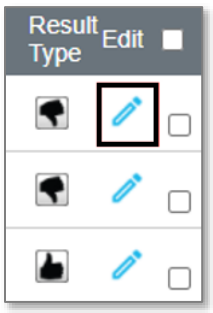


Note: An accession number is a unique identifier given for a DNA or protein sequence.

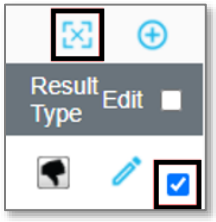
After submitting the lab data, the labs will appear in a table with a thumbs up (normal results) or down (abnormal results) indicating if the result is within or out of limits.



8. To edit a lab, click edit, make the change(s) in the pop-up window, as needed, add your e-Signature and click **Submit**.



9. To delete a lab, check a checkbox and then click **Delete**.

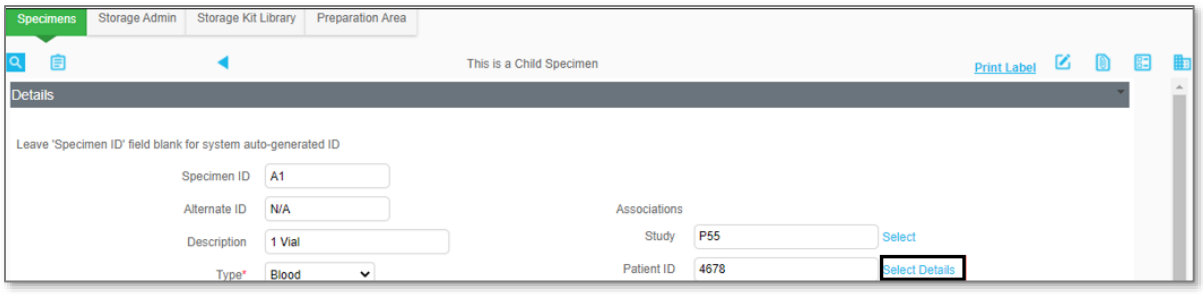


2.4.11.1 Viewing Labs Associated with a Patient

Labs can be viewed for a specific patient from either a patient's Patient Profile or Protocols page or from a Specimen Details page if the specimen is linked to a Patient ID.

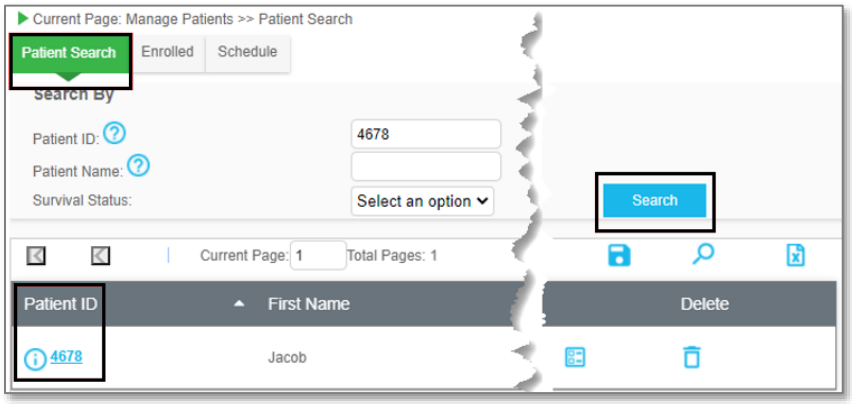
To view labs for a specific patient:

1. Click **Select Details** in the Specimen Details page, if there is data in the Patient ID field.

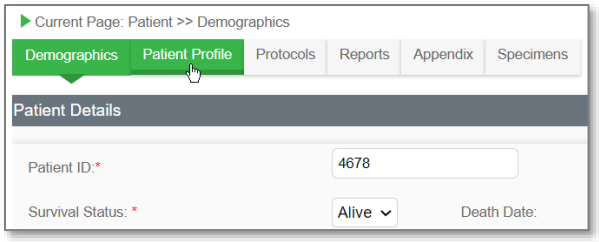


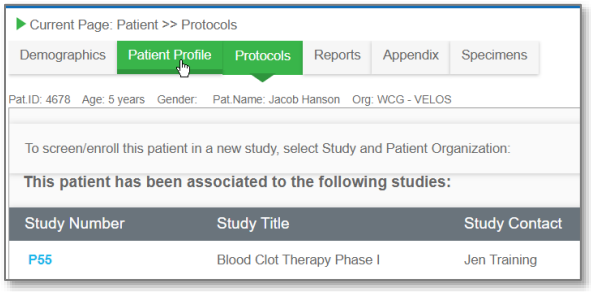
-OR-

Search for a patient in Patient Search and click on a Patient ID link.

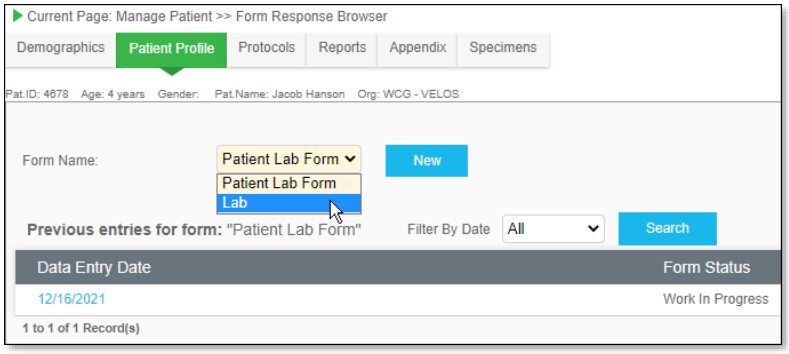


2. Click the **Patient Profile** tab. Depending on where you accessed from, you will either enter on the Patient's Demographics Tab or Patient's Protocols Tab.

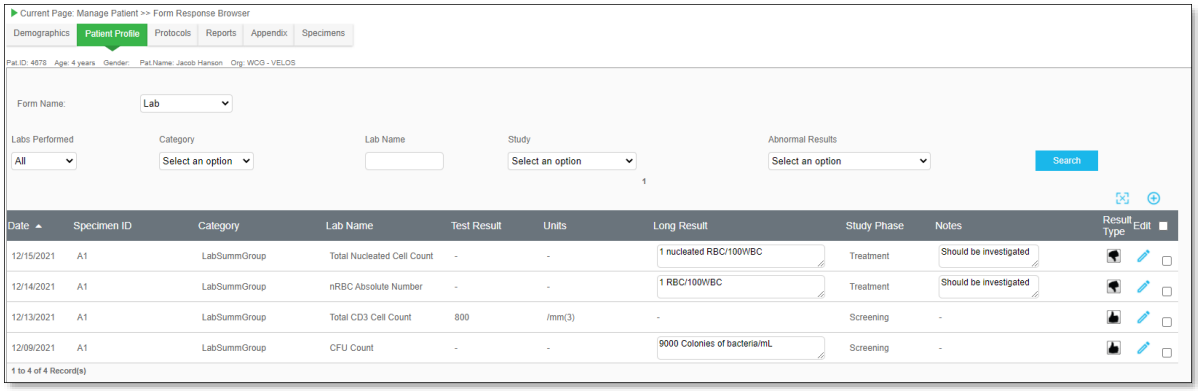




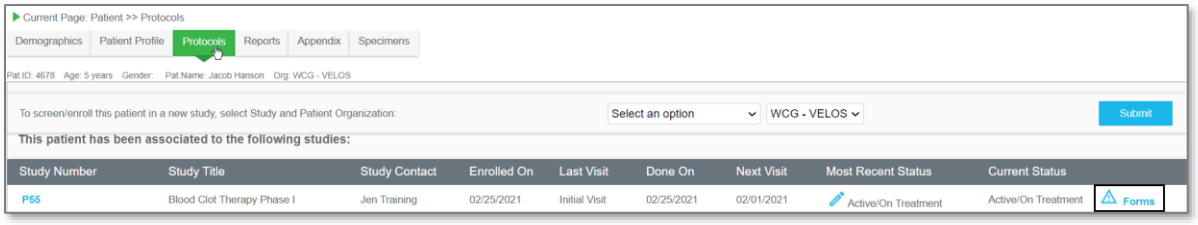
3. Select **Lab** from the Jump to Form dropdown.



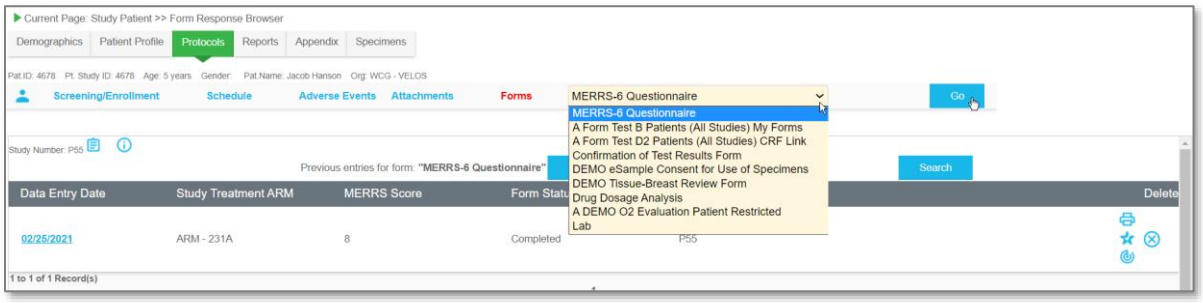
All patient specific labs will appear.



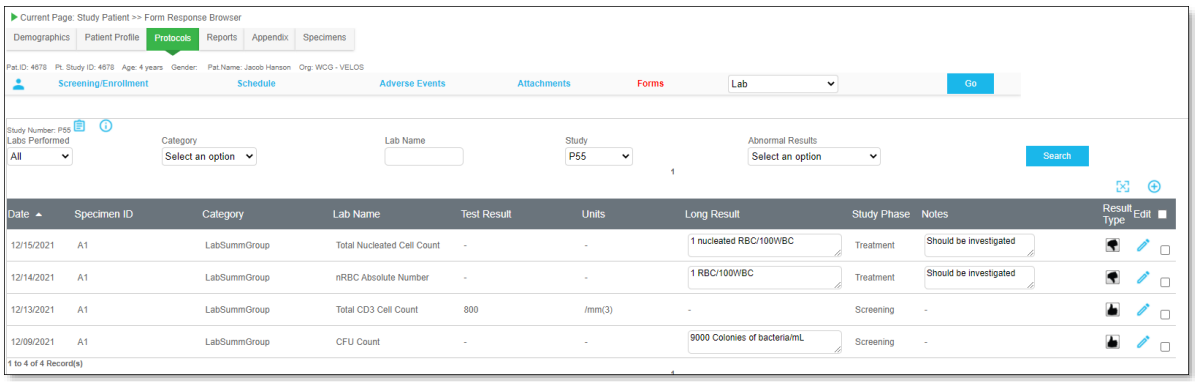
4. Alternatively, to view labs for a patient for a specific study, click the **Protocols** tab and then click **Forms** for a specific Study Number.



5. Click **Labs** in the dropdown and click **Go**.

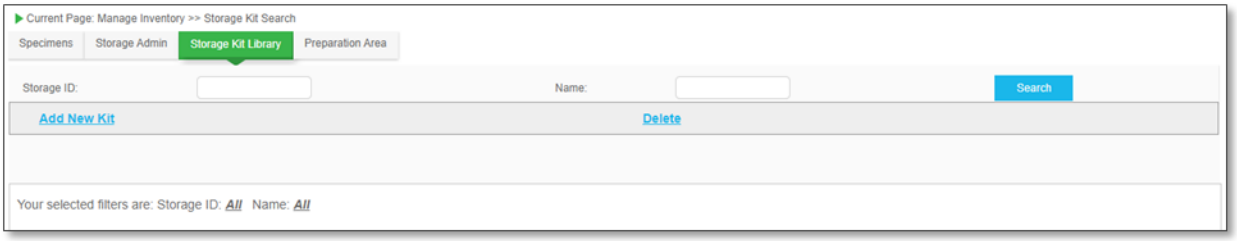


The study specific patient specific labs will appear.



2.5 Storage Kit Library

A storage kit is a virtual representation used to collect samples during a study visit. In eSample, a storage kit is used as part of a workflow to manage upcoming collections or for creating specimens for scheduled collections. A storage kit must be linked to an event for a calendar defined in the study setup tab.



Here, permissioned users can **Search**, **Add New Kit**, or **Delete** an existing Storage Kit.

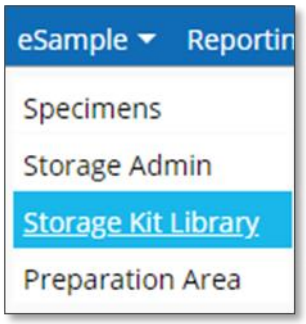
Note: There are two ways to prepare samples when using a storage kit- by Preparing a Sample with a Storage Kit or to Prepare Samples from a Patient Schedule, if the event has a storage kit associated with it, by using the “Prepare Sample” link. For both options, the process to create the storage kit and then associate the kit to a patient calendar is the same.

2.5.1 Create a Storage Kit

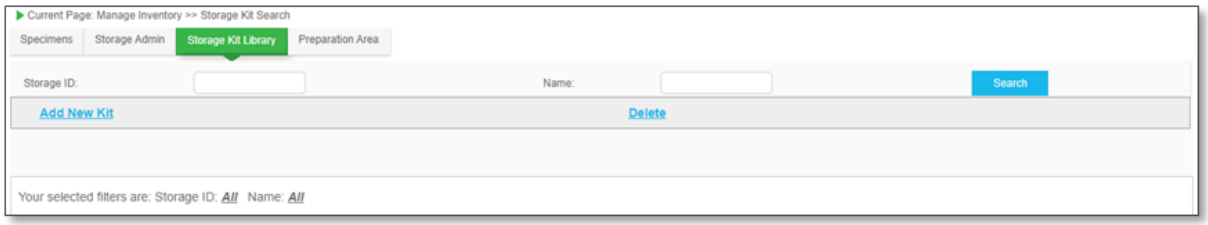
A storage kit can be created in the library to define what types of samples will be collected including expected quantities, processing steps, etc., in a study protocol's sample collection event.

To create a Storage Kit:

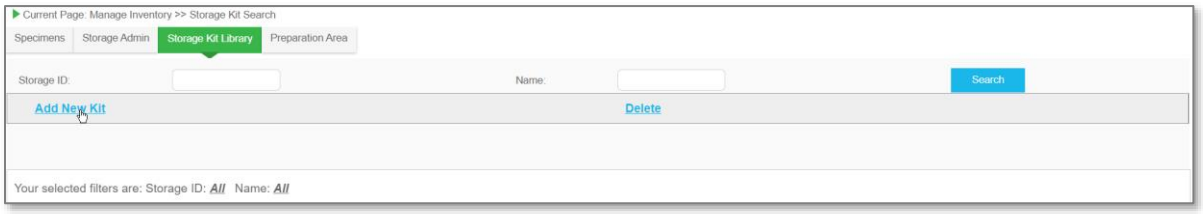
1. From the navigation bar, select **eSample** and click **Storage Kit Library**.



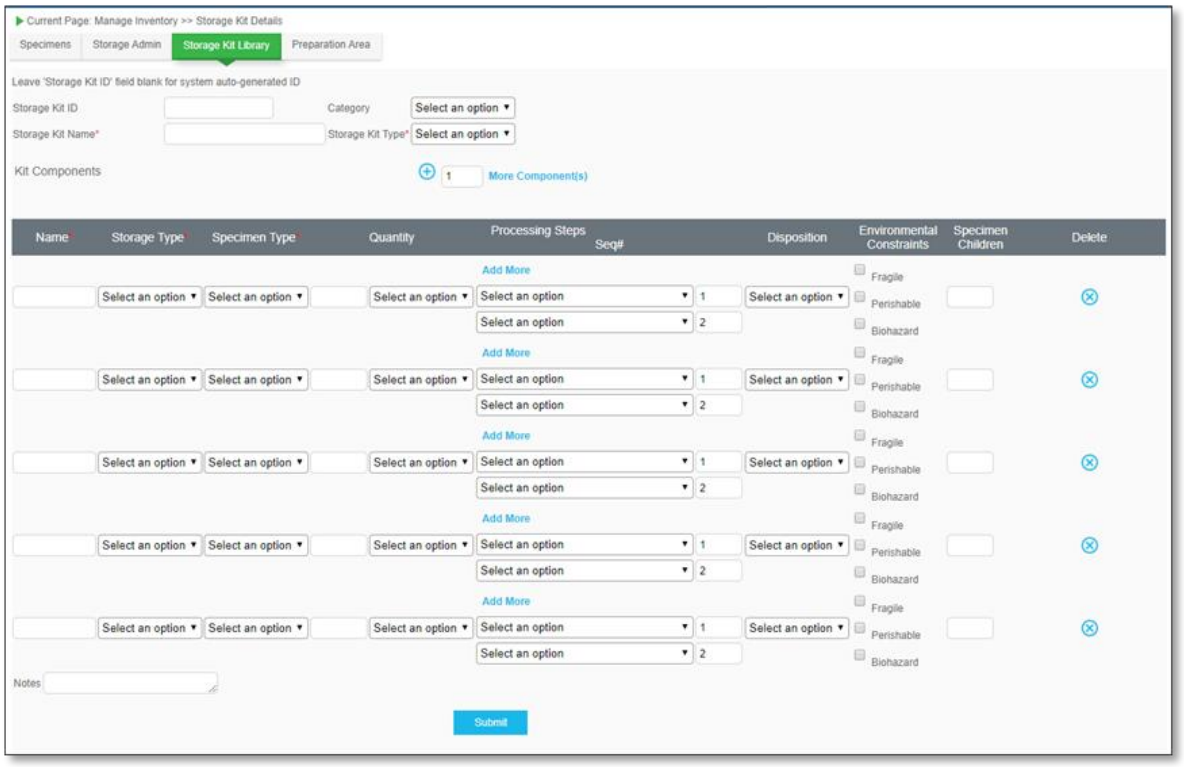
The Storage Kit Library tab displays:



2. Click **Add New Kit**.



The Storage Kit Details page displays:



The following table explains the fields in the Storage Kit Details page.

Section	Field	Description
N/A	**Storage Kit ID**	The Storage Kit ID. If left blank, the system will auto-generate an ID for the Storage Kit.
N/A	**Storage Kit Name**	Enter a name in the field to define the Storage Kit. It is recommended to use a short name as it will display on the patient schedule.
N/A	**Category**	Select a category from the dropdown options available to define the Storage Kit Category.
N/A	**Storage Kit Type**	Select a type for the Storage Kit from the dropdown options.
Kit Components Grid	**Name**	Enter a component name.
Kit Components Grid	**Storage Type**	Select the container for the component from the dropdown options.
Kit Components Grid	**Specimen Type**	Select the specimen type from the dropdown options.

Section	Field	Description
Kit Components Grid	**Quantity**	Enter a numeric quantity into the field and select a unit for the measurement in the dropdown options.
Kit Components Grid	**Processing Steps**	Select a processing step from the dropdown options or select Add More to add a Processing Step that is not preset.
Kit Components Grid	**Seq#**	Define the sequencing of a component's process steps as defined in the Processing Steps.
Kit Components Grid	**Disposition**	Select a disposition option from the dropdown, if available, or select Default.
Kit Components Grid	**Environmental Constraints**	Check a checkbox for one or more applicable environmental constraints including: Fragile, Perishable, and Biohazard.
Kit Components Grid	**Specimen Children**	Define the specimen children.
Kit Components Grid	**Delete**	Delete row if appropriate.

Note: The Kit Components Grid, by default, has 5 component rows listed. If less than 5 components are needed for the kit, click the **Delete** button for the rows not needed before submitting. For each row the processing steps and child specimens can be listed. Specimen Children cannot be added to a saved kit. A brand-new kit must be created.

3. Define the Storage Kit as appropriate and click **Submit** to confirm.

2.5.2 Associate Storage Kit to a Patient Calendar

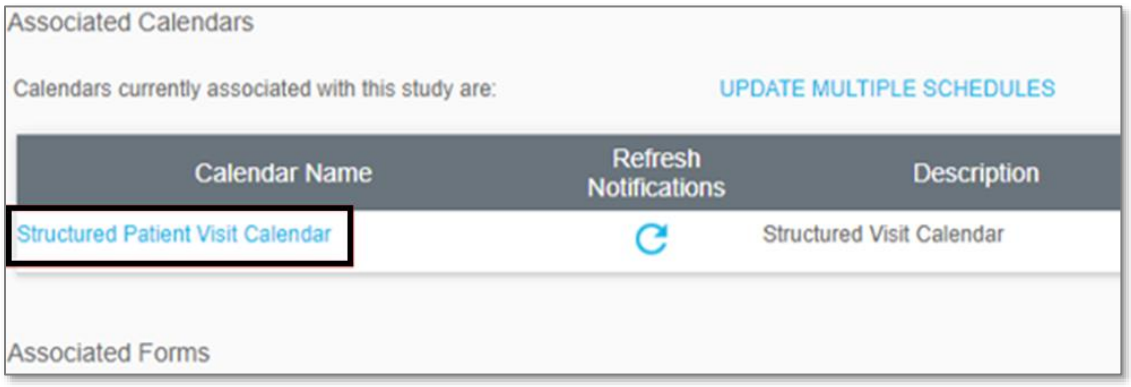
To use a storage kit to prepare samples, the kit needs to be associated to an event that will be listed on a patient calendar. The instructions for this section begin from the Study Setup tab.

Prior to associating a storage kit to a patient schedule, the following are prerequisites for this topic:

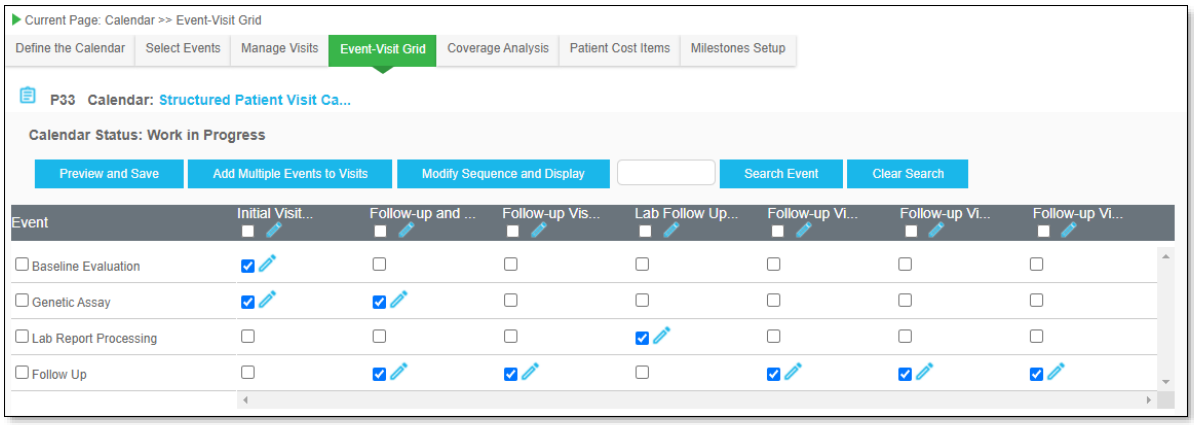
- The storage kit has been created
- A calendar in the study setup tab has been created and associated to the study
- A calendar on the Study Setup tab must have the status of "Work in Progress" or "Offline for Editing"

To associate a storage kit to a patient calendar:

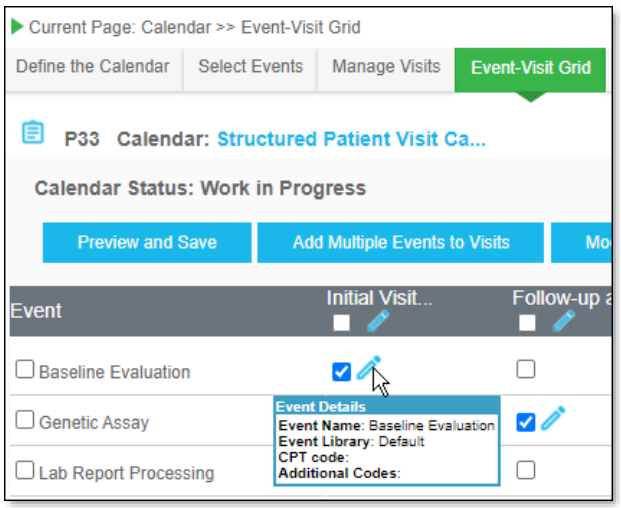
1. From the Study Setup tab, click the appropriate calendar name that you wish to associate a storage kit to.



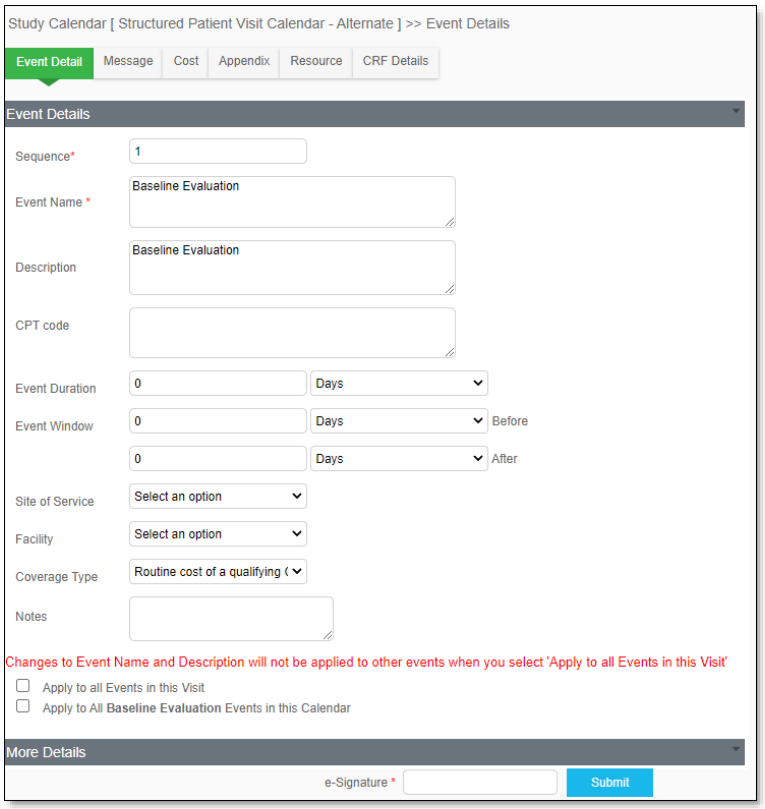
The Event-Visit grid for the selected calendar displays:



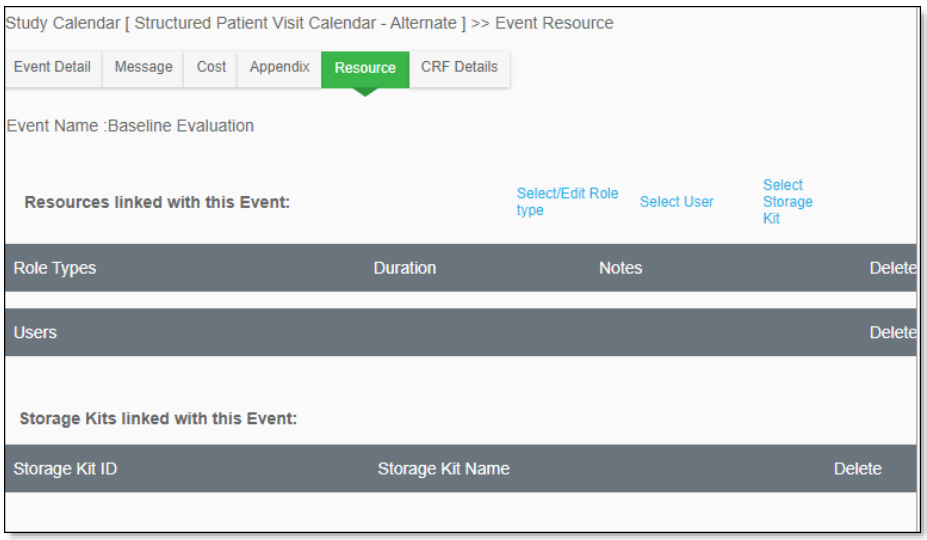
2. Click the **Edit** button for the desired event and visit that you wish to apply the Storage Kit to.



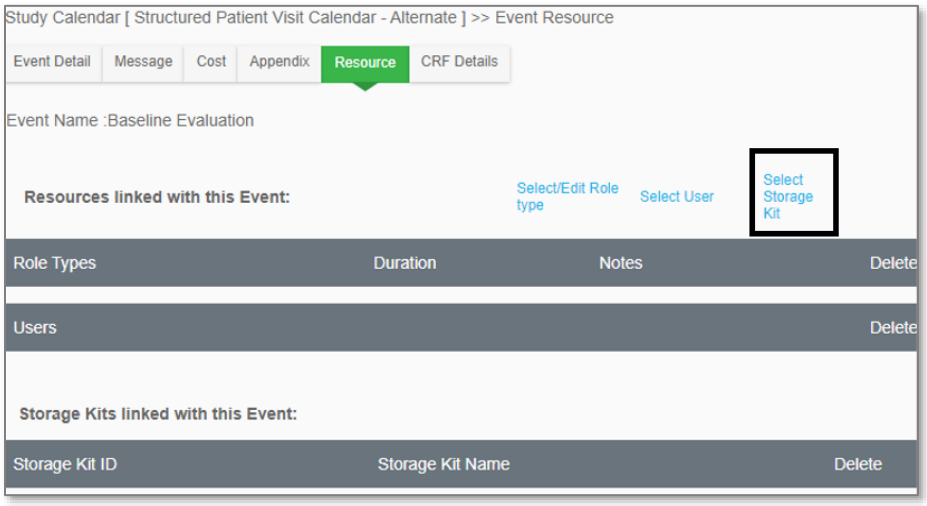
The Study Calendar Event Details page displays:



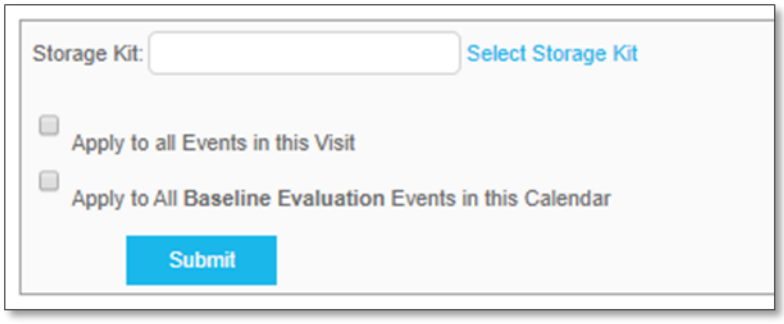
3. Select the **Resource** tab.



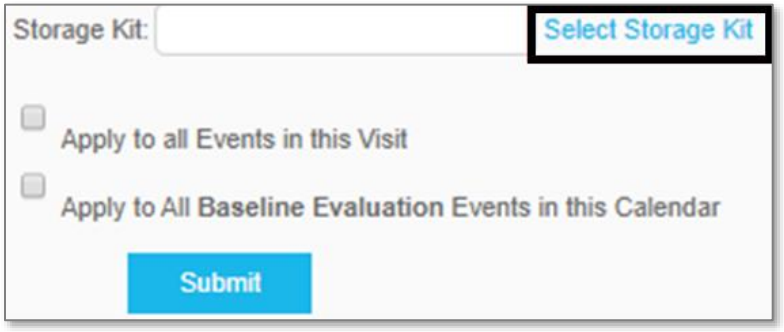
4. On the Resource tab, click **Select Storage Kit**.



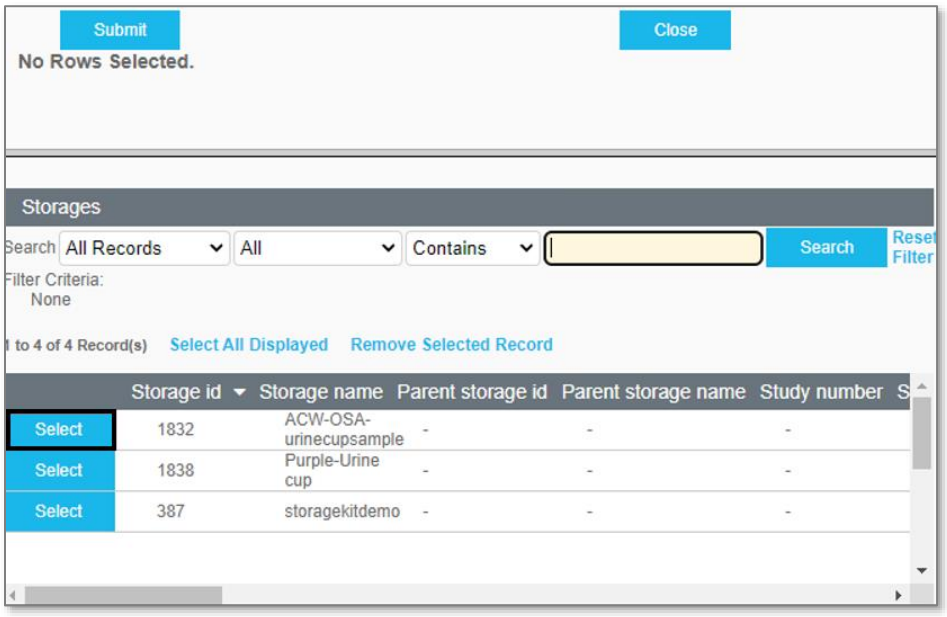
The Event Storage Kit window opens:



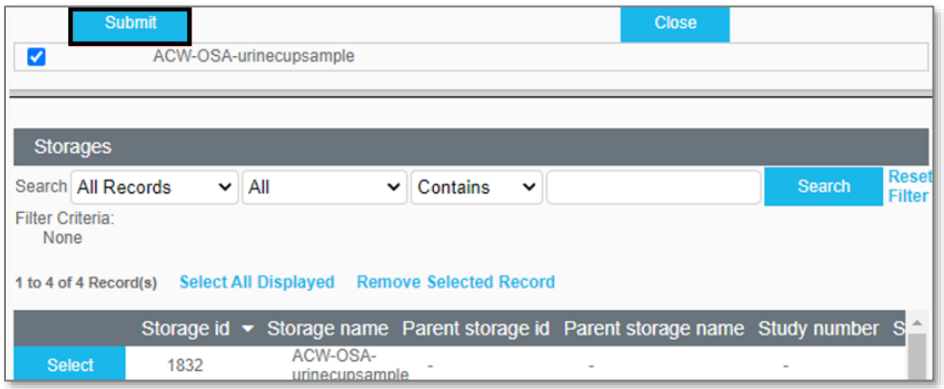
5. Click **Select Storage Kit**.



6. In the lookup window, click **Select** to select the appropriate Storage Kit to associate with the previously selected event.

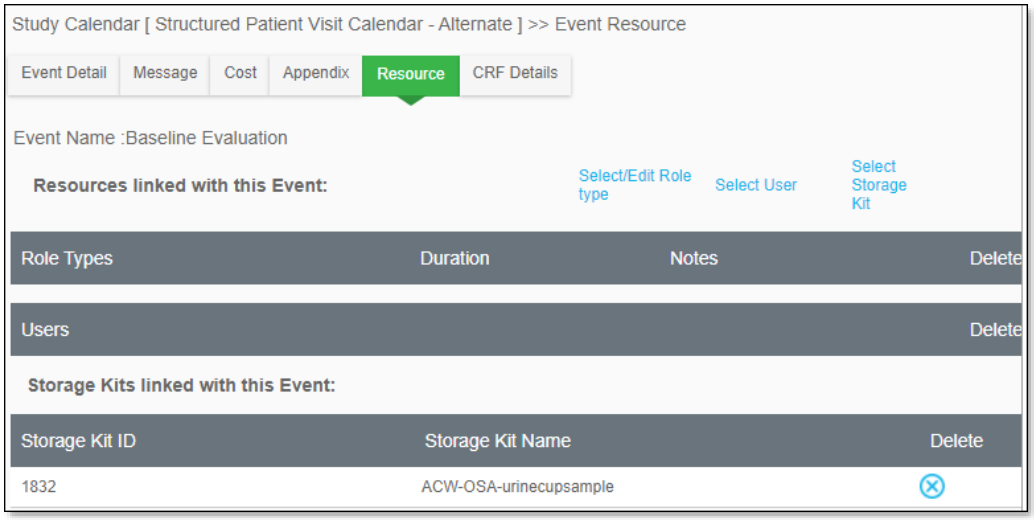


7. Once the Storage Kit has been selected, click **Submit**.



8. On the Event Storage Kit window, click **Submit** to confirm Storage Kit selection. Additionally, on this window is where permissioned users may select to **Apply to all Events in this Visit** or **Apply to All Baseline Evaluation Events in this Calendar**.

The associated Storage Kit displays on the Study Calendar Event Resource page:

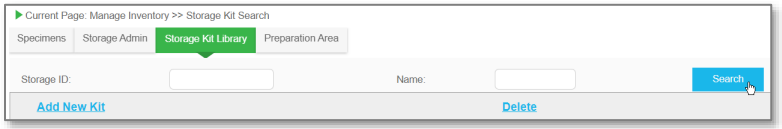


2.5.3 Edit a Storage Kit

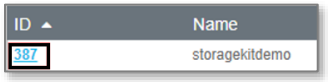
Storage Kits can be edited if a mistake was made or additional information needs to be added. The instructions for this section begin at the Storage Kit Library tab.

To edit a storage kit:

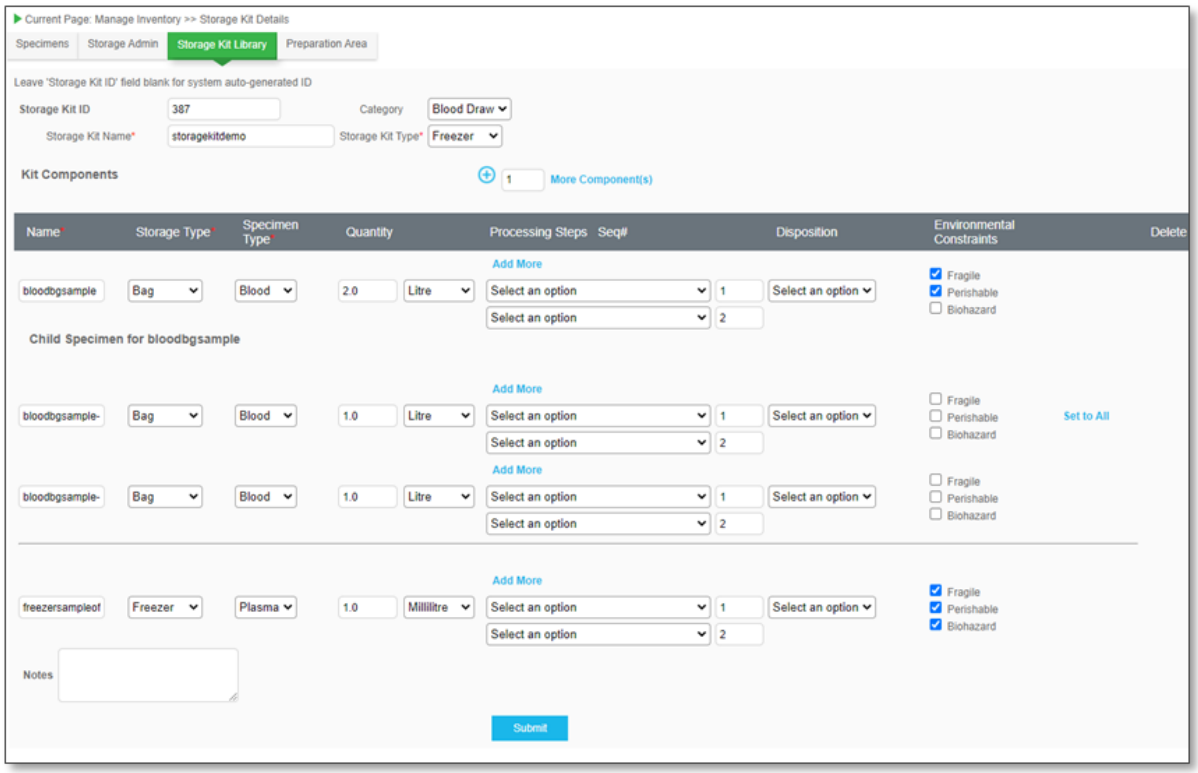
1. From the Storage Kit Library tab, **Search** for the appropriate storage kit.



2. From the search results, select the desired Storage Kit **ID**.

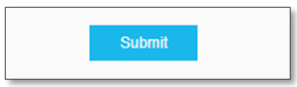


The Storage Kit Details page displays:



Note:
1. Components cannot be deleted.
2. Children cannot be added to existing components.
3. For existing child components, use the **Set to All**. To use the link, the edits must be made for the first child listed, then click the link.

3. Edit information as appropriate and click **Submit** to confirm.

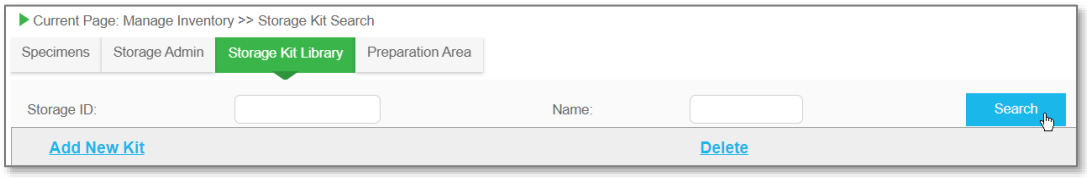


2.5.4 Delete Storage Kit

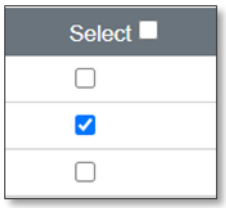
A Storage Kit can be deleted if it was made in error or no longer needed. The instructions for this section begin at the Storage Kit Library tab. Use caution when deleting storage kits.

To edit a storage kit:

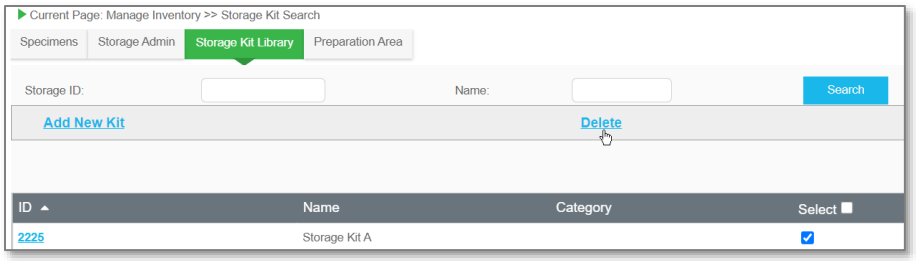
1. From the Storage Kit Library tab, search for the appropriate storage kit.



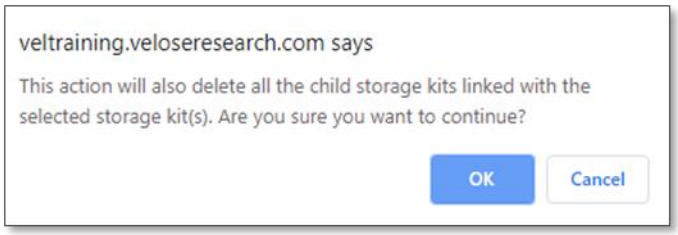
2. From the search results, select the desired Storage Kit **checkbox** in the Select column.



3. Click **Delete**.



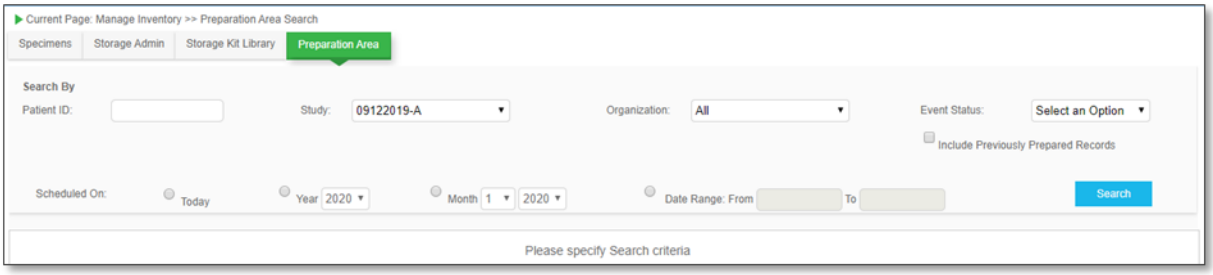
A confirmation pop up will open asking to confirm deletion of the storage kit:



4. Click **OK**.
5. Enter your e-Signature and click **Submit** to confirm.

2.6 Preparing a Sample with a Storage Kit

In eSample, there are two options for preparing samples when using a storage kit: Preparation Area tab and Prepare Sample link from Patient Schedule. For both options, the process to create the storage kit and associate is the same. The difference is how the specimens are prepared.



2.6.1 Preparation Area Tab

The Preparation Area tab is recommended when samples need to be created to prepare labels for an upcoming collection visit in bulk.

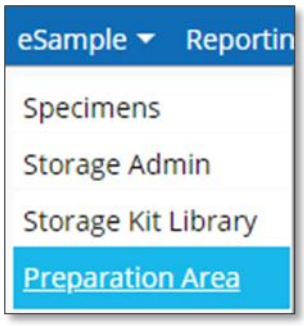
The bulk specimens can be for:

- Collections on a specific date
- Collections for a specific patient
- Bulk sample updates and searching for bulk samples

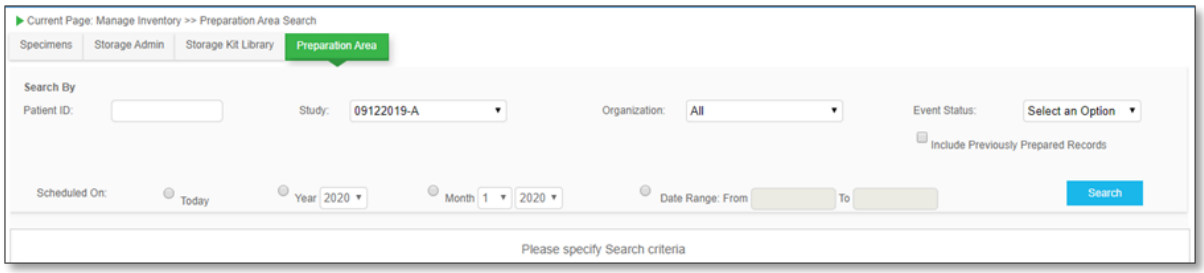
Note: Prior to managing or creating a Specimen here, the patient calendar should have already been created and assigned to the study. If the creation and association has not been completed, ***refer to the Study Management>Study Setup Tab>Associated Calendars section in the eResearch User Guide.*** Additionally, a patient schedule with a storage kit must already be generated for the patient. If not, ***refer to Patient Management>Manage an Existing Patient>Patient Schedules section in the eResearch User Guide.***

To create a sample through the Preparation Area tab:

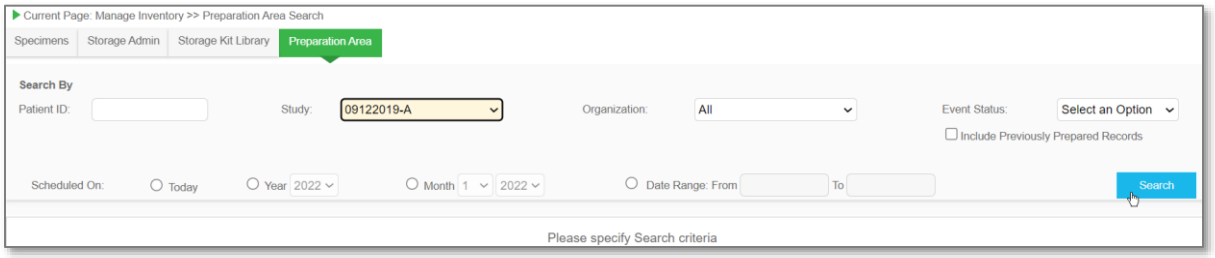
1. In the navigation menu, select **eSample** and click **Preparation Area**.



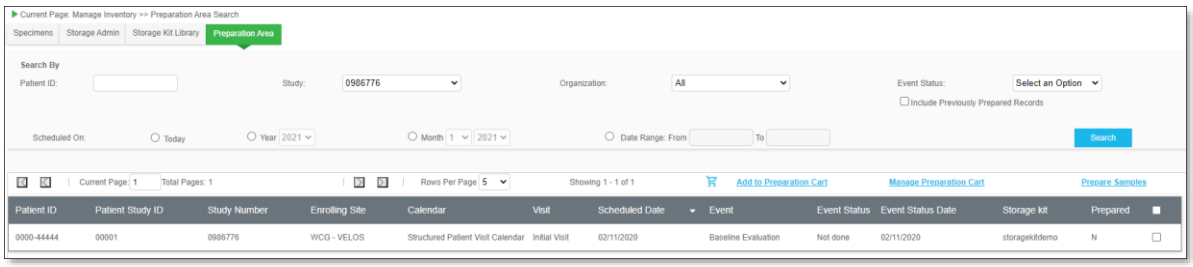
The Preparation Area page displays:



2. Use the filters and click **Search**.

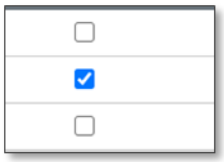


The Search results display:

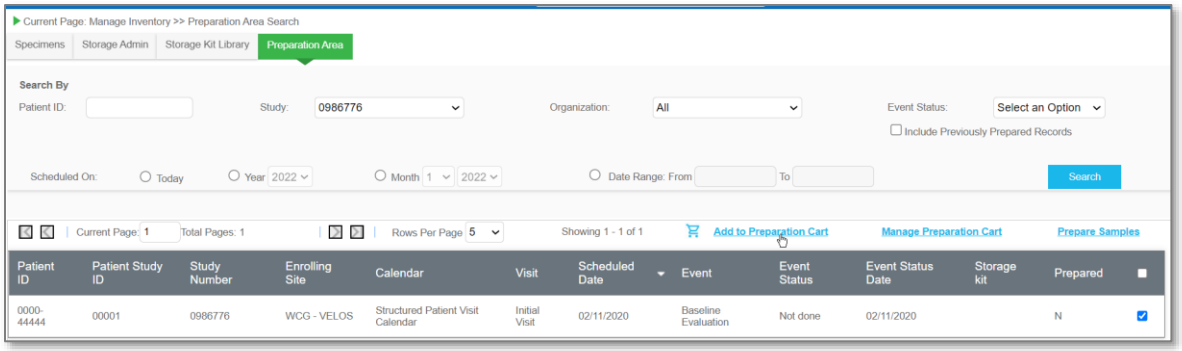


Note: By default, the results only display the event(s) based on the criteria that have not been prepared.

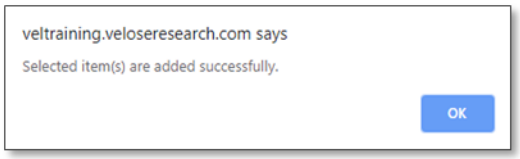
3. Select the appropriate patient and event using the checkbox(es).



4. Click **Add to Preparation Cart**.

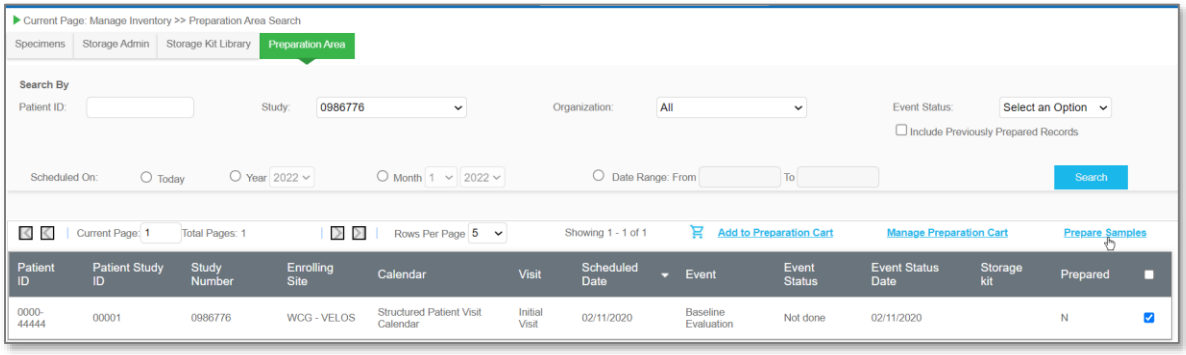


A popup notification displays:

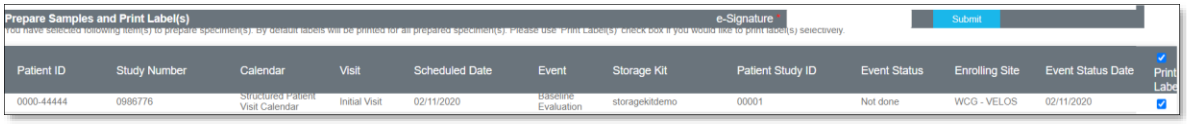


5. Click **OK**.

6. Click **Prepare Samples**.



The Prepare Samples window displays:



Note: The Prepare Specimens window will list all the selected prepared specimens. By default, the prepared specimens will be selected. If a prepared specimen should not be created, then uncheck it, before entering e-Signature and clicking **Submit**.

2.6.2 Prepare Samples from a Patient Schedule

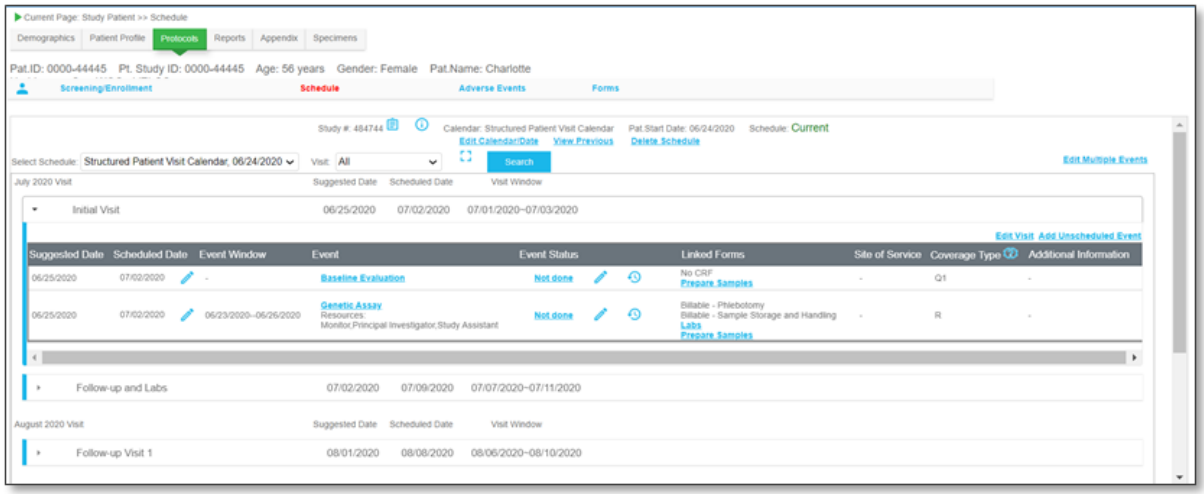
This option is ideal when labels do not need to be created prior to the visit or if users prefer to work with one patient at a time. The samples will be prepared based on a kit after the collection visit. The Prepare Samples link displays a link for the storage kit associated to the event. This link should be used to prepare samples for a specific patient in association with the completion of an event.

This section will cover how to create Specimens from the Prepare Samples link from the Patient Schedule and the instructions for this section begin at the Patient Protocols tab.

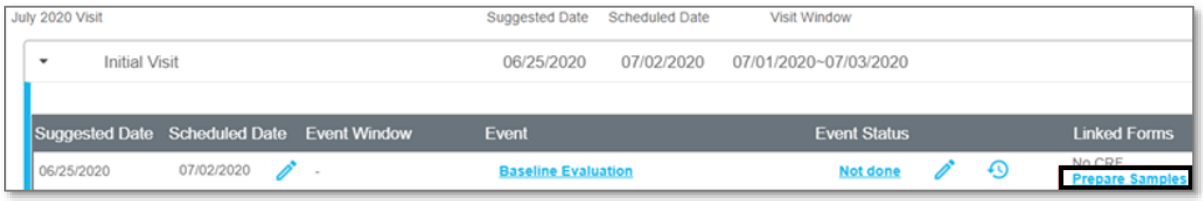
Note: Before managing a specimen through this section, the patient calendar should have already been created and assigned to the study. If the creation and association has not been completed, ***refer to the Study Management>Study Setup Tab>Associated Calendars section in the eResearch User Guide***. Additionally, a patient schedule with a storage kit must be generated for the patient. If not, ***refer to the Patient Management>Manage an Existing Patient>Patient Schedules section in the eResearch User Guide***

To create a sample from a Patient Schedule:

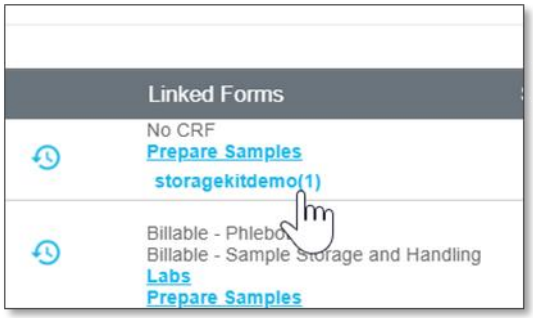
1. From the Protocols tab, use the **arrow** button to expand the desired visit and view associated visit events.



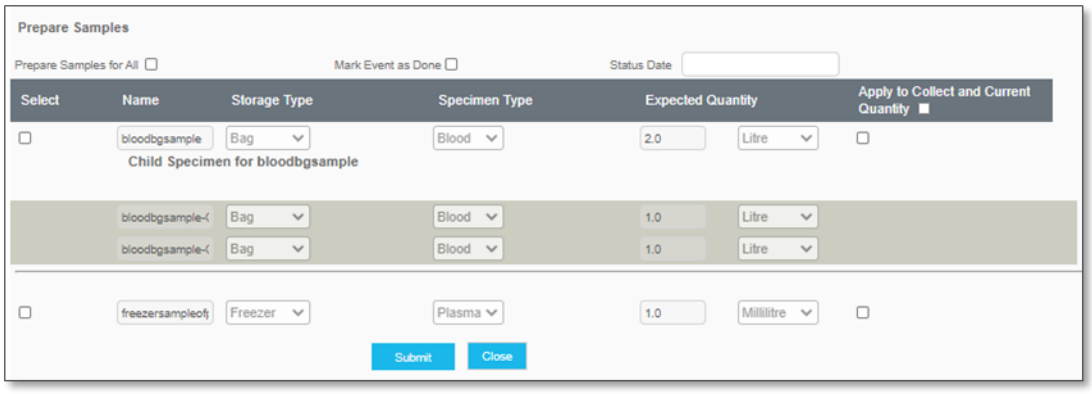
2. On the Event-Visit grid, click **Prepare Samples** to expand the associated Storage Kits.



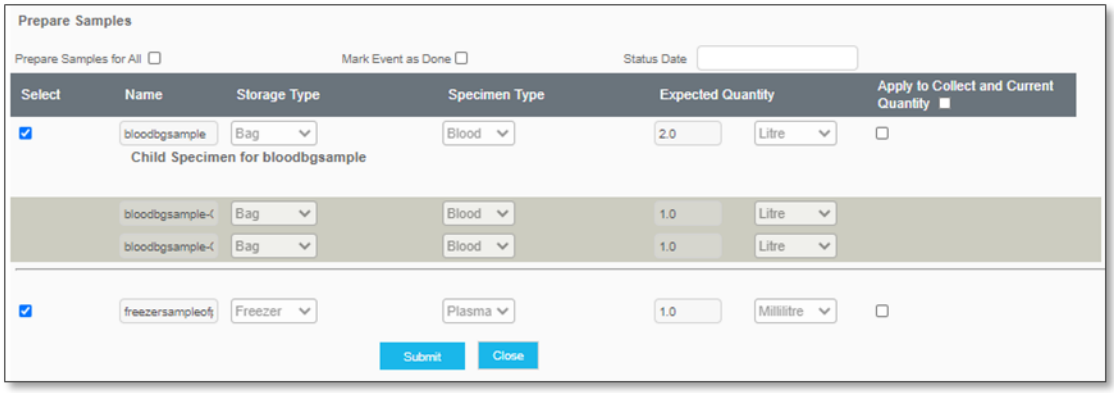
3. Click the **Storage Kit**.



The Manage Inventory window opens:

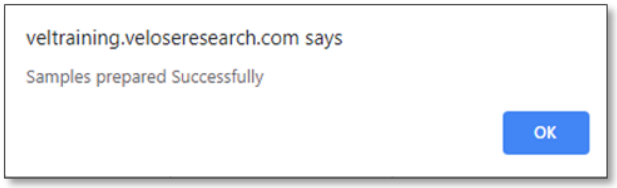


4. Enter a **Status Date**, check the checkbox(es) in the Select column, as applicable, and define the Samples as appropriate before clicking **Submit** to save.



Note: If the sample was not selected in the Select column, a dialogue window will open and prevent Sample submission until at least one Specimen is selected.

A window confirming Sample preparation appears:



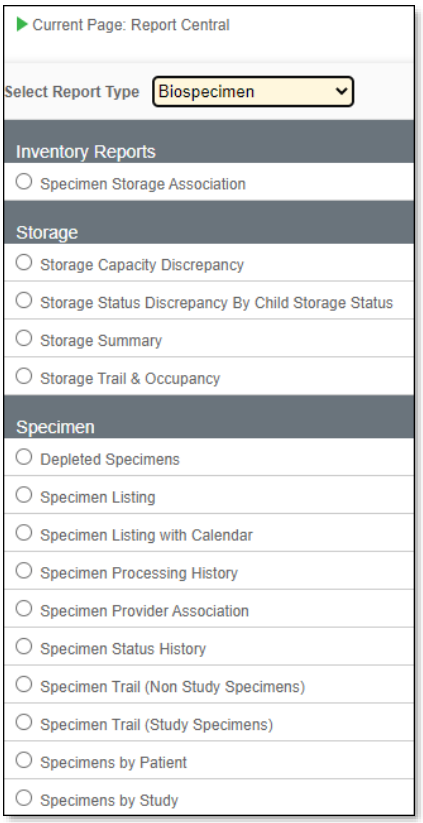
5. Click **OK**.

2.7 eSample Reports and Ad-hoc Queries

In Report Central, there are many reports available which provide information for data managed in this module. These reports are found in the Biospecimen reporting type options**. *Refer to the Reports, Ad-hoc Queries & Dashboard>Report Central section in the eResearch User Guide*,** for more information on these reports. And, refer to the ***Reports, Ad-hoc Queries & Dashboard>Report Central>Access and Run Reports section in the eResearch User Guide*** for steps to generate these reports.

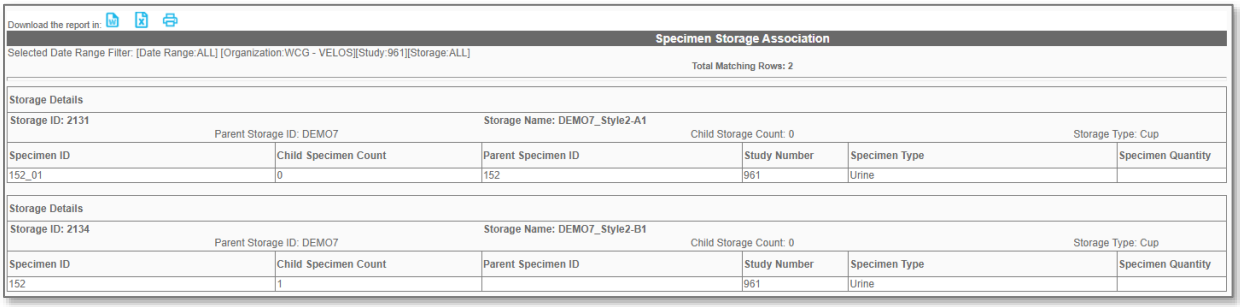
2.7.1 eSample Biospecimen Reports

There are many Biospecimen reports in Report Central for use with eSample.



Examples of the output for some types of Biospecimen reports are as follows:

- **Inventory Report: Specimen Storage Association**
  - Shows the association of the specimens by study or non-study, and can be further filtered by storage location, organization, and dates



Download the report in:

Specimen Storage Association

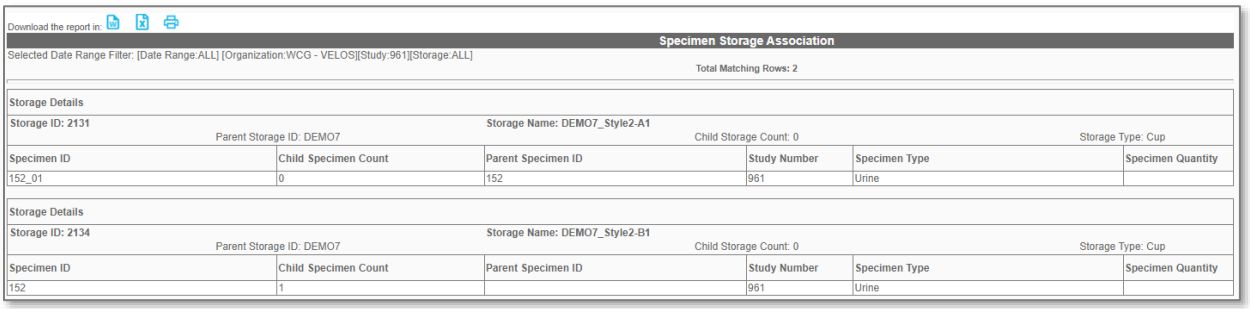
Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961][Storage:ALL]

Total Matching Rows: 2

Storage Details					
Storage ID: 2131	Parent Storage ID: DEMO7	Storage Name: DEMO7_Style2-A1	Child Storage Count: 0		Storage Type: Cup
Specimen ID	**Child Specimen Count**	**Parent Specimen ID**	**Study Number**	**Specimen Type**	**Specimen Quantity**
152_01	0	152	961	Urine	

Storage Details					
Storage ID: 2134	Parent Storage ID: DEMO7	Storage Name: DEMO7_Style2-B1	Child Storage Count: 0		Storage Type: Cup
Specimen ID	**Child Specimen Count**	**Parent Specimen ID**	**Study Number**	**Specimen Type**	**Specimen Quantity**
152	1		961	Urine	

- **Storage: Storage Summary**
  - Shows the percentage by type of storage container and percentage by type of available containers, along with each container's specific storage information, for selected studies or study, and can be further filtered by storage ID



Download the report in:

Specimen Storage Association

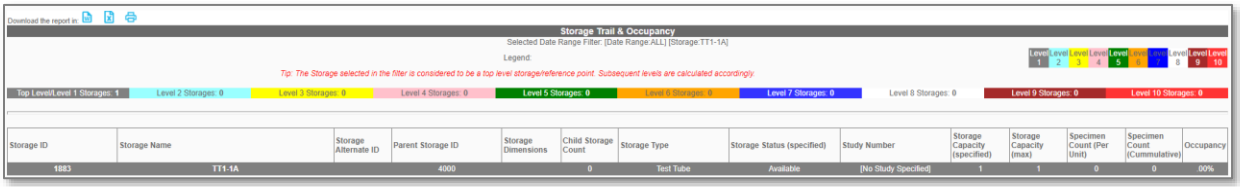
Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961][Storage:ALL]

Total Matching Rows: 2

Storage Details					
Storage ID: 2131	Parent Storage ID: DEMO7	Storage Name: DEMO7_Style2-A1	Child Storage Count: 0		Storage Type: Cup
Specimen ID	**Child Specimen Count**	**Parent Specimen ID**	**Study Number**	**Specimen Type**	**Specimen Quantity**
152_01	0	152	961	Urine	

Storage Details					
Storage ID: 2134	Parent Storage ID: DEMO7	Storage Name: DEMO7_Style2-B1	Child Storage Count: 0		Storage Type: Cup
Specimen ID	**Child Specimen Count**	**Parent Specimen ID**	**Study Number**	**Specimen Type**	**Specimen Quantity**
152	1		961	Urine	

- **Storage: Storage Trail & Occupancy**
  - Shows the level of storage along with details of the storage item(s) selected



Download the report in:

Storage Trail & Occupancy

Selected Date Range Filter: [Date Range:ALL] [Storage:TT1-1A]

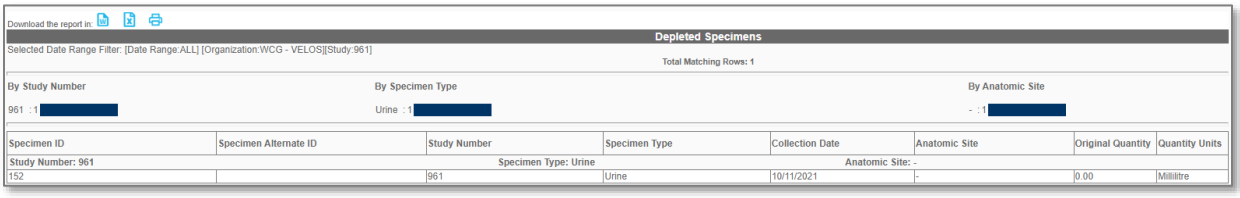
Legend:

Tip: The Storage selected in the filter is considered to be a top level storage/reference point. Subsequent levels are calculated accordingly.

Top Level/Level 1 Storages: 1 | Level 2 Storages: 0 | Level 3 Storages: 0 | Level 4 Storages: 0 | Level 5 Storages: 0 | Level 6 Storages: 0 | Level 7 Storages: 0 | Level 8 Storages: 0 | Level 9 Storages: 0 | Level 10 Storages: 0

Storage ID	Storage Name	Storage Alternate ID	Parent Storage ID	Storage Dimensions	Child Storage Count	Storage Type	Storage Status (specified)	Study Number	Storage Capacity (specified)	Storage Capacity (max)	Specimen Count (Per Unit)	Specimen Count (Cumulative)	Occupancy
1883	TT1-1A		4000		0	Test Tube	Available	[No Study Specified]	1	1	0	0	00%

- **Specimen: Depleted Specimens**
  - Shows a study, studies, or non-study specimens that have been depleted, by specimen type and anatomic site, along with quantity details



Download the report in:

Depleted Specimens

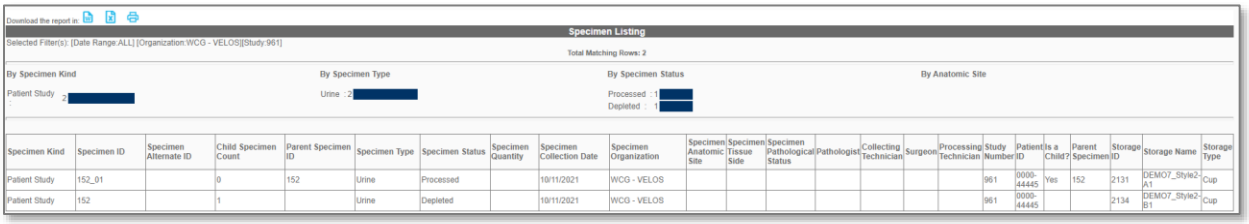
Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

Total Matching Rows: 1

By Study Number	By Specimen Type	By Anatomic Site
961 : 1 [redacted]	Urine : 1 [redacted]	- : 1 [redacted]

Specimen ID	Specimen Alternate ID	Study Number	Specimen Type	Collection Date	Anatomic Site	Original Quantity	Quantity Units
Study Number: 961			Specimen Type: Urine		Anatomic Site: -		
152		961	Urine	10/11/2021	-	0.00	Millilitre

- **Specimen: Specimens Listing**
  - Shows a listing of specimens by Study/Non-Study and details like specimen type, status, anatomic site, along with details for each specimen



Download the report in:

Specimen Listing

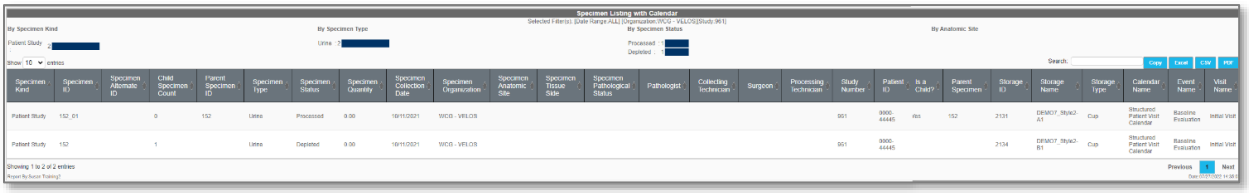
Selected Filter(s): [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

Total Matching Rows: 2

By Specimen Kind	By Specimen Type	By Specimen Status	By Anatomic Site
Patient Study : 2 [redacted]	Urine : 2 [redacted]	Processed : 1 [redacted] Depleted : 1 [redacted]	

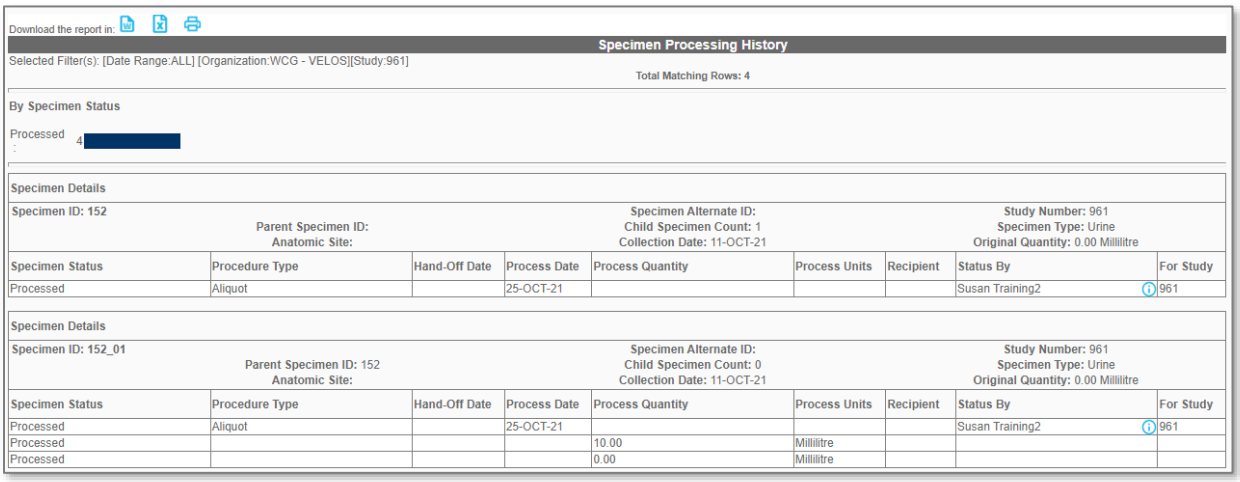
Specimen Kind	Specimen ID	Specimen Alternate ID	Child Specimen Count	Parent Specimen ID	Specimen Type	Specimen Status	Specimen Quantity	Specimen Collection Date	Specimen Organization	Specimen Anatomic Site	Specimen Tissue Side	Specimen Pathological Status	Pathologist	Collecting Technician	Surgeon	Processing Technician	Study Number	Patient ID	Is a Child?	Parent Specimen	Storage ID	Storage Name	Storage Type
Patient Study	152_01		0	152	Urine	Processed		10/11/2021	WCG - VELOS								961	0000-44445	Yes	152	2131	DEMO7_Style2-A1	Cup
Patient Study	152		1		Urine	Depleted		10/11/2021	WCG - VELOS								961	0000-44445			2134	DEMO7_Style2-B1	Cup

- **Specimen: Specimen Listing with Calendar**
  - Shows specimen information along with calendars they are associated to



Specimen Listing with Calendar

- **Specimen: Specimen Processing History**
  - Shows listing of specimens by Study/Non-Study and their respective processing details and history



Download the report in:

Specimen Processing History

Selected Filter(s): [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

Total Matching Rows: 4

By Specimen Status

Processed : 4 [redacted]

Specimen Details

Specimen ID: 152 | Parent Specimen ID: | Anatomic Site: | Specimen Alternate ID: | Child Specimen Count: 1 | Collection Date: 11-OCT-21 | Study Number: 961 | Specimen Type: Urine | Original Quantity: 0.00 Millilitre

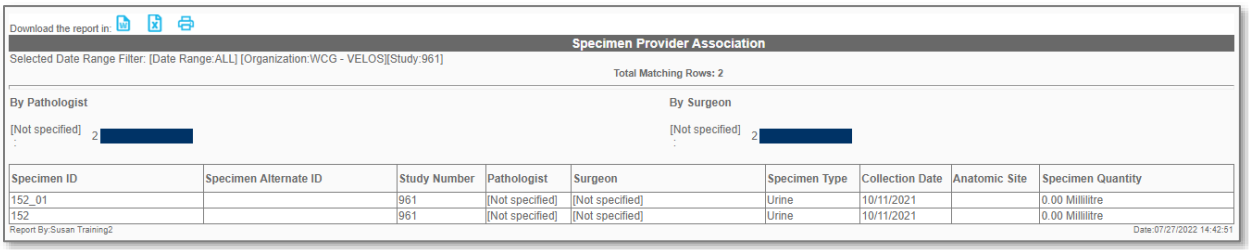
Specimen Status	Procedure Type	Hand-Off Date	Process Date	Process Quantity	Process Units	Recipient	Status By	For Study
Processed	Aliquot		25-OCT-21				Susan Training2	961

Specimen Details

Specimen ID: 152_01 | Parent Specimen ID: 152 | Anatomic Site: | Specimen Alternate ID: | Child Specimen Count: 0 | Collection Date: 11-OCT-21 | Study Number: 961 | Specimen Type: Urine | Original Quantity: 0.00 Millilitre

Specimen Status	Procedure Type	Hand-Off Date	Process Date	Process Quantity	Process Units	Recipient	Status By	For Study
Processed	Aliquot		25-OCT-21				Susan Training2	961
Processed				10.00	Millilitre			
Processed				0.00	Millilitre			

- **Specimen: Specimen Provider Association**
  - Shows listing of specimens by Study/Non-Study by pathologist



Download the report in:

Specimen Provider Association

Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

Total Matching Rows: 2

By Pathologist

[Not specified] : 2 [redacted]

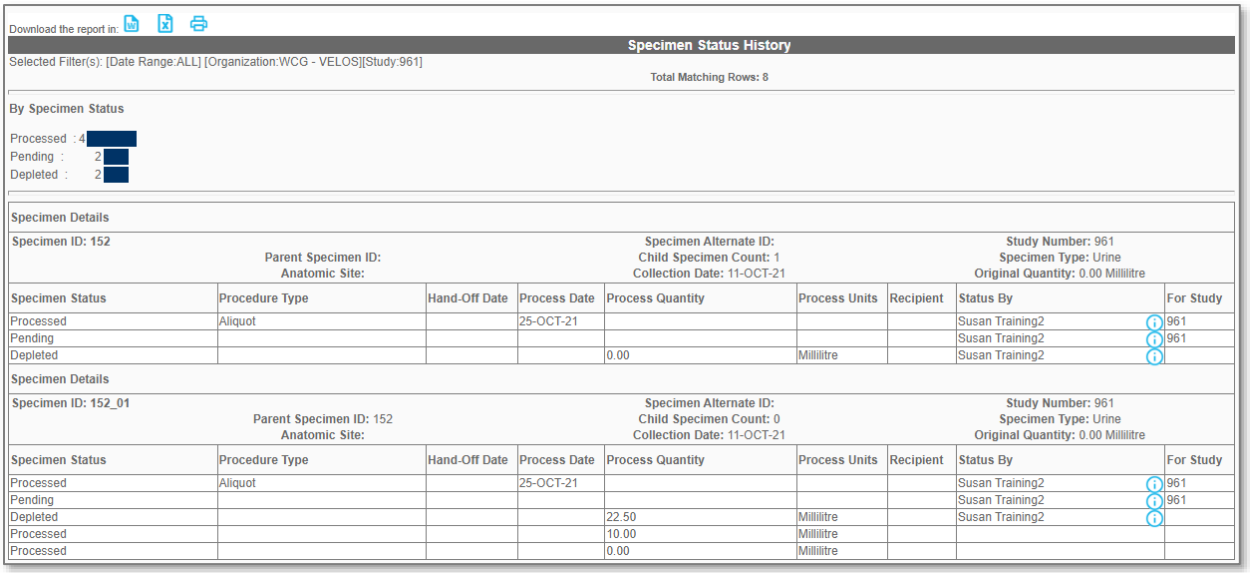
By Surgeon

[Not specified] : 2 [redacted]

Specimen ID	Specimen Alternate ID	Study Number	Pathologist	Surgeon	Specimen Type	Collection Date	Anatomic Site	Specimen Quantity
152_01		961	[Not specified]	[Not specified]	Urine	10/11/2021		0.00 Millilitre
152		961	[Not specified]	[Not specified]	Urine	10/11/2021		0.00 Millilitre

Report By:Susan Training2 Date:07/27/2022 14:42:51

- **Specimen: Specimen Status History**
  - Shows listing of specimens by Study/Non-Study and their respective status history



Download the report in:

Specimen Status History

Selected Filter(s): [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

Total Matching Rows: 8

By Specimen Status

Processed : 4
Pending : 2
Depleted : 2

Specimen Details

Specimen ID: 152 | Parent Specimen ID: | Anatomic Site: | Specimen Alternate ID: | Child Specimen Count: 1 | Collection Date: 11-OCT-21 | Study Number: 961 | Specimen Type: Urine | Original Quantity: 0.00 Millilitre

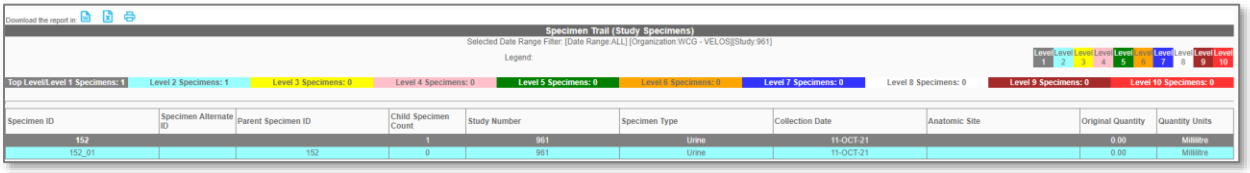
Specimen Status	Procedure Type	Hand-Off Date	Process Date	Process Quantity	Process Units	Recipient	Status By	For Study
Processed	Aliquot		25-OCT-21				Susan Training2	961
Pending							Susan Training2	961
Depleted				0.00	Millilitre		Susan Training2	

Specimen Details

Specimen ID: 152_01 | Parent Specimen ID: 152 | Anatomic Site: | Specimen Alternate ID: | Child Specimen Count: 0 | Collection Date: 11-OCT-21 | Study Number: 961 | Specimen Type: Urine | Original Quantity: 0.00 Millilitre

Specimen Status	Procedure Type	Hand-Off Date	Process Date	Process Quantity	Process Units	Recipient	Status By	For Study
Processed	Aliquot		25-OCT-21				Susan Training2	961
Pending							Susan Training2	961
Depleted				22.50	Millilitre		Susan Training2	
Processed				10.00	Millilitre			
Processed				0.00	Millilitre			

- **Specimen: Specimen Trail (Study Specimens)**
  - Shows a study or studies specimens and the collection and quantity details



Download the report in:

Specimen Trail (Study Specimens)

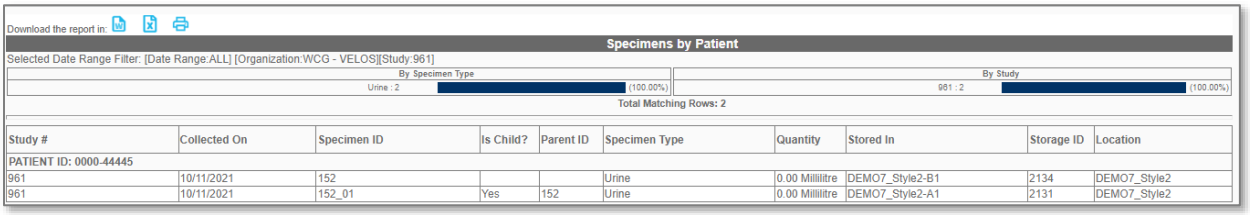
Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

Legend:

Top Level/Level 1 Specimens: 1 | Level 2 Specimens: 1 | Level 3 Specimens: 0 | Level 4 Specimens: 0 | Level 5 Specimens: 0 | Level 6 Specimens: 0 | Level 7 Specimens: 0 | Level 8 Specimens: 0 | Level 9 Specimens: 0 | Level 10 Specimens: 0

Specimen ID	Specimen Alternate ID	Parent Specimen ID	Child Specimen Count	Study Number	Specimen Type	Collection Date	Anatomic Site	Original Quantity	Quantity Units
152			1	961	Urine	11-OCT-21		0.00	Millilitre
152_01		152	0	961	Urine	11-OCT-21		0.00	Millilitre

- **Specimen: Specimens by Patient**
  - Shows listing of specimens by Patient ID



Download the report in:

Specimens by Patient

Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

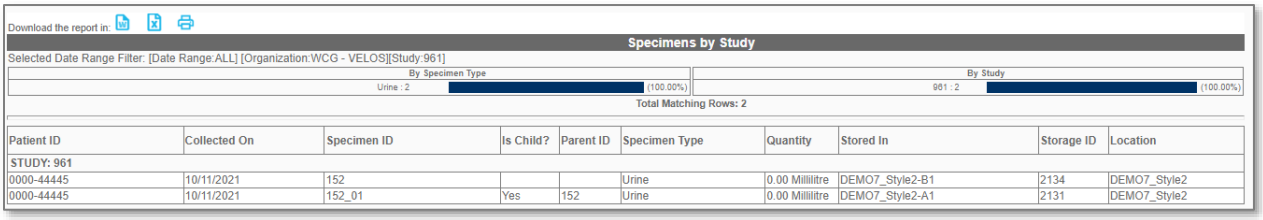
By Specimen Type: Urine : 2 (100.00%)

By Study: 961 : 2 (100.00%)

Total Matching Rows: 2

Study #	Collected On	Specimen ID	Is Child?	Parent ID	Specimen Type	Quantity	Stored In	Storage ID	Location
PATIENT ID: 0000-44445									
961	10/11/2021	152			Urine	0.00 Millilitre	DEMO7_Style2-B1	2134	DEMO7_Style2
961	10/11/2021	152_01	Yes	152	Urine	0.00 Millilitre	DEMO7_Style2-A1	2131	DEMO7_Style2

- **Specimen: Specimens by Study**
  - Shows listing of specimens by Study with details like Patient ID, Storage ID, and Quantity.



Download the report in:

Specimens by Study

Selected Date Range Filter: [Date Range:ALL] [Organization:WCG - VELOS][Study:961]

By Specimen Type		By Study	
Urine : 2	(100.00%)	961 : 2	(100.00%)

Total Matching Rows: 2

Patient ID	Collected On	Specimen ID	Is Child?	Parent ID	Specimen Type	Quantity	Stored In	Storage ID	Location
STUDY: 961									
0000-44445	10/11/2021	152			Urine	0.00 Millilitre	DEMO7_Style2-B1	2134	DEMO7_Style2
0000-44445	10/11/2021	152_01	Yes	152	Urine	0.00 Millilitre	DEMO7_Style2-A1	2131	DEMO7_Style2

2.7.2 eSample Ad-hoc Queries

Ad-Hoc Queries (AHQ) allow permissioned users to create custom reports from:

- Key Velos eResearch datasets (e.g. – Study Status, patient demographics, etc.)
- User-created forms (forms created in Velos eResearch). ***Refer to the Forms Management section in the eResearch User Guide***, for more information about forms.
  - Defined form fields (Fields that are used in forms). ***Refer to the Field Library section in the eResearch User Guide***, for more information about fields.
- ***Refer to the Ad-hoc Queries (AHQ) section in the eResearch User Guide***, for more information on AHQs.

3 Appendix A: Technical Information

3.1 Revision History

Version	Section	Description of Changes
1	N/A, first version	1. This initial version was exported from the eResearch user guide for 12.1. Refer to the eResearch user guide's Revision History for any prior changes to this free-standing user guide.
	Appendix B – Storage Configurations	2. New Section
2	Add Multiple Specimens	New Section
	Edit a Specimen	Added note about Attachments link to be used for results and images.
	eSample Biospecimen Reports	New Section
	eSample Ad-hoc Queries	New Section
	Minimum Workstation Requirements	Internet Explorer is no longer supported, and Microsoft Edge is now a supported browser.

3.2 Related Software

Software	Version
Velos eResearch	13.0

3.3 Minimum Workstation Requirements

Browser	Version	Screen Resolutions
Google Chrome	104	1280x1024 1360x768
Firefox	104	
Edge	104	

4 Appendix B – Storage Configurations

This appendix shows the 46 different configurations that specimens can be arranged in storage units. For more information, refer to Storage Admin.

The configuration options include:

- **Storage Naming Style** (Refers to the order in which the dimensions (Rows and Columns) are listed in the storage name)
  - **Style 1** by Row then Column
  - **Style 2** by Column then Row
- **Dimension** (Appears by Naming Convention then by Positioning in the field)
  - **Dimension 1** by Columns
  - **Dimension 2** by Rows
- **Naming Convention** (Represents preferred sorting positions)
  - From A>ZZ or from ZZ<A
  - From 1 to n or from n to 1
- **Positioning**
  - Left to Right (L-R) or Right to Left (R-L)
  - Back to Front (B-F) or Front to Back (F-B)
- **#of Cells** – may be any amount for Dimension 1 or Dimension 2

The first configuration on the next page will start with the following options, as selected above: Storage Naming Style 1 (Row, Column); Dimension 1 with Naming Convention from 1 to n and Positioning from Left to Right for three cells; Dimension 2 with Naming Convention from A>ZZ and Positioning from Back to Front for two cells.

In the right-hand column will be the same selections except the Storage Naming Style will be Style 2 (Column, Row). This pattern will continue for each example with the change in Naming Convention and Positioning being highlighted in yellow. Additionally, the Naming Conventions will be set for Dimension 1 as 1 to n or n to 1 and Dimension 2 as A>ZZ or ZZ<A for scenarios 1 to 14 and then vice versa for the Naming Conventions for the two dimensions for the remaining scenarios.

Style 1 (Row, Column)

Dimension 1 (1 to n or n to 1) by Dimension 2 (A>ZZ or ZZ<A) Scenarios 1-14

Scenario 1

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	A>ZZ	B-F

Expected Result

Back

		1	2	3	
Left	A	A1	A2	A3	Right
	B	B1	B2	B3	

Front

Scenario 2

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	R-L
Dimension 2	2	A>ZZ	B-F

Expected Result

Back

		1	2	3	
Left	A	A3	A2	A1	Right
	B	B3	B2	B1	

Front

Scenario 3

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	A>ZZ	F-B

Expected Result

Back

		1	2	3	
Left	A	B1	B2	B3	Right
	B	A1	A2	A3	

Front

Scenario 4

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	R-L
Dimension 2	2	A>ZZ	F-B

Expected Result

Back

		1	2	3	
Left	A	B3	B3	B1	Right
	B	A3	A2	A1	

Front

Scenario 5

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	L-R
Dimension 2	2	A>ZZ	B-F

Expected Result

Back

		1	2	3	
Left	A	A3	A2	A1	Right
	B	B3	B2	B1	

Front

Style 2 (Column, Row)

Dimension 1 (1 to n or n to 1) by Dimension 2 (A>ZZ or ZZ<A) Scenarios 1-14

Scenario 1

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	A>ZZ	B-F

Expected Result

Back

		1	2	3	
Left	A	1A	2A	3A	Right
	B	1B	2B	3B	

Front

Scenario 2

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	R-L
Dimension 2	2	A>ZZ	B-F

Expected Result

Back

		1	2	3	
Left	A	3A	2A	1A	Right
	B	3B	2B	1B	

Front

Scenario 3

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	A>ZZ	F-B

Expected Result

Back

		1	2	3	
Left	A	1B	2B	3B	Right
	B	1A	2A	3A	

Front

Scenario 4

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	R-L
Dimension 2	2	A>ZZ	F-B

Expected Result

Back

		1	2	3	
Left	A	3B	2B	1B	Right
	B	3A	2A	1A	

Front

Scenario 5

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	L-R
Dimension 2	2	A>ZZ	B-F

Expected Result

Back

		1	2	3	
Left	A	3A	2A	1A	Right
	B	3B	2B	1B	

Front

Scenario 6

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	ZZ<A	B-F

Expected Result

		Back			
		1	2	3	
Left	A	ZZ1	ZZ2	ZZ3	Right
	B	ZY1	ZY2	ZY3	
		Front			

Scenario 6

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	ZZ<A	B-F

Expected Result

		Back			
		1	2	3	
Left	A	1ZZ	2ZZ	3ZZ	Right
	B	1ZY	2ZY	3ZY	
		Front			

Scenario 7

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	L-R
Dimension 2	2	ZZ<A	B-F

Expected Result

		Back			
		1	2	3	
Left	A	ZZ3	ZZ2	ZZ1	Right
	B	ZY3	ZY2	ZY1	
		Front			

Scenario 7

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	L-R
Dimension 2	2	ZZ<A	B-F

Expected Result

		Back			
		1	2	3	
Left	A	3ZZ	2ZZ	1ZZ	Right
	B	3ZY	2ZY	1ZY	
		Front			

Scenario 8

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	A>ZZ	B-F

Expected Result

		Back			
		1	2	3	
Left	A	A3	A2	A1	Right
	B	B3	B2	B1	
		Front			

Scenario 8

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	A>ZZ	B-F

Expected Result

		Back			
		1	2	3	
Left	A	3A	2A	1A	Right
	B	3B	2B	1B	
		Front			

Scenario 9

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	ZY1	ZY2	ZY3	Right
	B	ZZ1	ZZ2	ZZ3	
		Front			

Scenario 9

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	L-R
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	1ZY	2ZY	3ZY	Right
	B	1ZZ	2ZZ	3ZZ	
		Front			

Scenario 10

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	R-L
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	ZY3	ZY2	ZY1	Right
	B	ZZ3	ZZ2	ZZ1	
		Front			

Scenario 10

	# of cells	Naming Convention	Positioning
Dimension 1	3	1 to n	R-L
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	3ZY	2ZY	1ZY	Right
	B	3ZZ	2ZZ	1ZZ	
		Front			

Scenario 11

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	A>ZZ	F-B

Expected Result

		Back			
		1	2	3	
Left	A	B1	B2	B3	Right
	B	A1	A2	A3	
		Front			

Scenario 11

	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	A>ZZ	F-B

Expected Result

		Back			
		1	2	3	
Left	A	1B	2B	3B	Right
	B	1A	2A	3A	
		Front			

Scenario 12	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	L-R
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	ZY3	ZY2	ZY1	Right
	B	ZZ3	ZZ2	ZZ1	
		Front			

Scenario 12	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	L-R
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	3ZY	2ZY	1ZY	Right
	B	3ZZ	2ZZ	1ZZ	
		Front			

Scenario 13	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	ZZ<A	B-F

Expected Result

		Back			
		1	2	3	
Left	A	ZZ1	ZZ2	ZZ3	Right
	B	ZY1	ZY2	ZY3	
		Front			

Scenario 13	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	ZZ<A	B-F

Expected Result

		Back			
		1	2	3	
Left	A	1ZZ	2ZZ	3ZZ	Right
	B	1ZY	2ZY	3ZY	
		Front			

Scenario 14	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	ZY1	ZY2	ZY3	Right
	B	ZZ1	ZZ2	ZZ3	
		Front			

Scenario 14	# of cells	Naming Convention	Positioning
Dimension 1	3	n to 1	R-L
Dimension 2	2	ZZ<A	F-B

Expected Result

		Back			
		1	2	3	
Left	A	1ZY	2ZY	3ZY	Right
	B	1ZZ	2ZZ	3ZZ	
		Front			

Dimension 1 (A>ZZ or ZZ<A) by Dimension 2 (1 to n or n to 1)Scenarios 15-23

Dimension 1 (A>ZZ or ZZ<A) by Dimension 2 (1 to n or n to 1) Scenarios 15-23

Scenario 15	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	L-R
Dimension 2	2	1 to n	B-F

Expected Result

		Back			
		A	B	C	
Left	1	1A	1B	1C	Right
	2	2A	2B	2C	
		Front			

Scenario 15	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	L-R
Dimension 2	2	1 to n	B-F

Expected Result

		Back			
		A	B	C	
Left	1	A1	B1	C1	Right
	2	A2	B2	C2	
		Front			

Scenario 16	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	R-L
Dimension 2	2	1 to n	B-F

Expected Result

		Back			
		A	B	C	
Left	1	1C	1B	1A	Right
	2	2C	2B	2A	
		Front			

Scenario 16	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	R-L
Dimension 2	2	1 to n	B-F

Expected Result

		Back			
		A	B	C	
Left	1	C1	B1	A1	Right
	2	C2	B2	A2	
		Front			

Scenario 17	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	L-R
Dimension 2	2	1 to n	F-B

Expected Result

		A	B	C	
Left	1	2A	2B	2C	Right
	2	1A	1B	1C	
		Front			

Scenario 17	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	L-R
Dimension 2	2	1 to n	F-B

Expected Result

		A	B	C	
Left	1	A2	B2	C2	Right
	2	A1	B1	C1	
		Front			

Scenario 18			
	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	R-L
Dimension 2	2	1 to n	F-B

Expected Result					
		A	B	C	
Left	1	2C	2B	2A	Right
	2	1C	1B	1A	
			Front		

Scenario 18			
	# of cells	Naming Convention	Positioning
Dimension 1	3	A>ZZ	R-L
Dimension 2	2	1 to n	F-B

Expected Result					
		A	B	C	
Left	1	C2	B2	A2	Right
	2	C1	B1	A1	
			Front		

Scenario 19			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	L-R
Dimension 2	2	1 to n	B-F

Expected Result					
			Back		
		A	B	C	
Left	1	1ZZ	1ZY	1ZX	Right
	2	2ZZ	2ZY	2ZX	
			Front		

Scenario 19			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	L-R
Dimension 2	2	1 to n	B-F

Expected Result					
			Back		
		A	B	C	
Left	1	ZZ1	ZY1	ZX1	Right
	2	ZZ2	ZY2	ZX2	
			Front		

Scenario 20			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	R-L
Dimension 2	2	1 to n	B-F

Expected Result					
			Back		
		A	B	C	
Left	1	1ZX	1ZY	1ZZ	Right
	2	2ZX	2ZY	2ZZ	
			Front		

Scenario 20			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	R-L
Dimension 2	2	1 to n	B-F

Expected Result					
			Back		
		A	B	C	
Left	1	ZX1	ZY1	ZZ1	Right
	2	ZX2	ZY2	ZZ2	
			Front		

Scenario 21			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	L-R
Dimension 2	2	1 to n	F-B

Expected Result					
			Back		
		A	B	C	
Left	1	2ZZ	2ZY	2ZX	Right
	2	1ZZ	1ZY	1ZX	
			Front		

Scenario 21			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	L-R
Dimension 2	2	1 to n	F-B

Expected Result					
			Back		
		A	B	C	
Left	1	ZZ2	ZY2	ZX2	Right
	2	ZZ1	ZY1	ZX1	
			Front		

Scenario 22			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	R-L
Dimension 2	2	1 to n	F-B

Expected Result					
			Back		
		A	B	C	
Left	1	2ZX	2ZY	2ZZ	Right
	2	1ZX	1ZY	1ZZ	
			Front		

Scenario 22			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	R-L
Dimension 2	2	1 to n	F-B

Expected Result					
			Back		
		A	B	C	
Left	1	ZX2	ZY2	ZZ2	Right
	2	ZX1	ZY1	ZZ1	
			Front		

Scenario 23			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	L-R
Dimension 2	2	n to 1	F-B

Expected Result					
			Back		
		A	B	C	
Left	1	1ZZ	1ZY	1ZX	Right
	2	2ZZ	2ZY	2ZX	
			Front		

Scenario 23			
	# of cells	Naming Convention	Positioning
Dimension 1	3	ZZ<A	L-R
Dimension 2	2	n to 1	F-B

Expected Result					
			Back		
		A	B	C	
Left	1	ZZ1	ZY1	ZX1	Right
	2	ZZ2	ZY2	ZX2	
			Front		