Workbook

LDMS Training Workbook

LDMS (Windows)

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Specimen Management

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Exercise 1: ACTG/IMPAACT Single Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

A heparin specimen is drawn from the participant at 08:15 today. The specimen is to be processed into two aliquots of single-spun plasma and one aliquot of viable PBMCs.

In the **Participant Grid**, enter the following information

Group	ACTG/IMPAACT
PID	0789789I
Protocol	A5221
SID	NOSID
Visit Value	0
Visit Units	Scr
Clinic	701

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	09:00
# of Tubes	1
Primary Type	BLD
Specimen Time	08:15
Click Add above the Primary grid.	
Additive Type	HEP
Volume	6
Volume Unit	ML

In the Aliquot Grid, enter the following information

# of Aliquots: 2 **Volume**: 1 **Units**: ML **Derivative**: PL1

Click Add above the Aliquot grid.

# of Aliquots: 1 **Volume**: 3 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid

1. Complete PBMC processing field information in Primary Details and Aliquot Details.

2. Click the **Add**  button on the LDMS toolbar.
3. Click **Enroll** in the message box that appears.
4. Click **OK** in the Saving message. Select a format and label size, and then click **Yes** on the dialog box. **Close** the Crystal Reports window.

Exercise 2: ACTG/IMPAACT Multiple Tube Entry w/Preload Option

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

Specimens were collected from a participant today at 07:25 for a 24 week visit on A5322. The Laboratory Technologist and Laboratory Data Manager on this study have created preloads to assist in specimen entry. The preload is based on the LPC and will make entries for all expected specimens on a particular visit or event. In this example the preload will be triggered when the Visit and Visit unit are entered.

In the **Participant Grid**, enter the following information

Group	ACTG/IMPAACT
PID	0111111C
Protocol	A5322
SID	NOSID
Visit Value	24
Visit Units	Wk

Note: The preload menu will appear. Select the preload in the dropdown menu, click **OK**.

Clinic	201

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	09:00
Specimen Time	07:25

Attention: During collection of the samples, the participant's vein collapsed while drawing **Primary #1** and only 15 mL of this primary was collected. Due to the short volume only 8 of the 12 expected 0.5 mL plasma aliquots were collected. The participant refused a re-stick therefore Primary #2 was not collected. Work through the **Condition Code Training Tools** reference guide to assign all appropriate condition codes to the preloaded information.

1. Review the preload comment and update the **Additive** code per the instructions for **Primary # 1**. Note any messages that appear
2. Change the condition code for **Primary # 1** to the appropriate code, as determined by referencing the **LDMS ACTG IMPAACT Condition code** training tools.

a. New Primary Condition Code = _____
b. Should the aliquot condition code be the same as the primary condition code?

3. Locate the aliquots associated with Primary # 1 and assign the appropriate condition code to the missing aliquots.
   a. New Aliquot Condition Code = _____
4. Locate Primary #2, adjust the Primary & Aliquot condition codes as appropriate.
   a. New Primary Condition Code = _____
   b. New Aliquot Condition Code = _____
   c. Open the Primary #2 Details Box. Enter the comment "Participant refused draw"
   d. Note any messages that appear. When prompted to cascade choose **Yes**.

Click the **Add**  button on the LDMS toolbar. Click **OK** in the **Save** message. Select a format and label size, and then click **Yes** in the dialog box. **Close** the Crystal Reports window.

Exercise 3: ACTG/IMPAACT Co-Enrollment

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

EDTA and heparin blood specimens were obtained from the participant at 08:25 today. The EDTA blood specimen is to be processed into three aliquots of double-spun plasma. Two aliquots will be assigned to study A5025, one aliquot will be assigned to the sub-study A5026S. The heparin blood specimen is to be processed into two aliquots of single-spun plasma and one aliquot of viable PBMCs that are needed for the sub-study, A5026S.

In the **Participant Grid**, enter the following information

Group	ACTG/IMPAACT
PID	0444444L
Protocol	A5025
SID	NOSID
Visit Value	0
Visit Units	Ent
Clinic	401

In the **Participant Grid**, enter the following information on a second line

Group	ACTG/IMPAACT
PID	0444444L
Protocol	A5026S
SID	NOSID
Visit Value	0
Visit Units	Scr

Clinic	401

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	09:25
# of Tubes	2
Primary Type	BLD
Specimen Time	08:15
Click Add above the Primary grid.	
Additive Type, Primary 1	EDT
Additive Type, Primary 2	HEP
Volume, Primary 1	7
Volume Unit, Primary 1	ML
Volume, Primary 2	10
Volume Unit, Primary 2	ML

Highlight Primary #1 and enter the following information in the Aliquot Grid

# of Aliquots: 3 **Volume**: 1 **Units**: ML **Derivative**: PL2

Click **Add** above the Aliquot grid.

Highlight Primary #2 and enter the following information in the Aliquot Grid

# of Aliquots: 2 **Volume**: 1 .5 **Units**: ML **Derivative**: PL1

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 3 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid.

1. In the aliquot grid, click in the Group ID field. Use the drop-down arrow to select the desired Group/ID for each aliquot. Assign two double-spun plasma aliquots to ACTG/IMPAACT/A5025 and one double-spun plasma aliquot to ACTG/IMPAACT/A5026S
2. Complete PBMC processing field information in Primary Details and Aliquot Details.
3. Click the **Add**  button on the LDMS toolbar. Click **OK** in the Saving message. Select a format and label size, and then click **Yes** in the dialog box. **Close** the Crystal Reports window.

Exercise 4: ACTG/IMPAACT Intensive PK Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

Five heparin specimens were drawn from a participant for an intensive PK visit. The specimens were drawn at various time points. Each heparin specimen was to be processed into one aliquot of single-spun plasma.

In the **Participant Grid**, enter the following information

Group	ACTG/IMPAACT
PID	0123456B
Protocol	A5095
SID	NOSID
Visit Value	0
Visit Units	Ent
Clinic	1001

In the **Primary Grid**, enter the following information

Specimen Date	One Day prior to Current Date
Received Date	Current Date
Received Time	09:00

Primary #1:

Primary: BLD Additive: HEP **Volume**: 5 **Units**: ML Spec Time: 18:00 Time Unit: 0 Hours

TIP: Utilize the Fill down this column feature to complete the primary information. Adjust as necessary.

Primary #2

Primary: BLD Additive: HEP **Volume**: 5 **Units**: ML Spec Time: 19:10 Time Unit: 1 Hours

Primary #3

Primary: BLD Additive: HEP **Volume**: 5 **Units**: ML Spec Time: 21:00 Time Unit: 3 Hours

Primary #4

Primary: BLD Additive: HEP **Volume**: 5 **Units**: ML Spec Time: 23:05 Time Unit: 5 Hours

Primary #5

Primary: BLD Additive: HEP **Volume**: 5 **Units**: ML Spec Time: 01:00 Time Unit: 7 Hours

Note: Primary tube #5, the 7-hour specimen draw, was collected on the Current Date.

Highlight Primary #1 and enter the following information in the Aliquot Grid

# of Aliquots: 1 **Volume**: 1.5 **Units**: ML **Derivative**: PL1

Click **Add** above the Aliquot grid.

Repeat for primaries 2–5.

1. Click the **Add**  button on the LDMS toolbar. Click **OK** in the Saving message. Select a format and label size, and then click **Yes** in the dialog box. **Close** the Crystal Reports window.
2. Locate primary #5 in your lab database and change the specimen date to the Current Date.
3. Click the **Save**  button on the LDMS toolbar.

Exercise 5: VTN Single Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

An SST blood sample was collected from a participant this morning and it was received in your lab for processing at 10:00. The sample is to be processed into four aliquots of serum.

In the **Participant Grid**, enter the following information

Group	VTN
PID	999561232
Protocol	097.0
Visit Value	1
Visit Units	Vst
Clinic	Auto-populates

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	10:00
# of Tubes	1
Primary Type	BLD
Specimen Time	09:00
Click Add above the Primary grid.	
Additive Type	SST
Volume	10
Volume Unit	ML

In the Aliquot Grid, enter the following information

# of Aliquots: 4 **Volume**: 1 **Units**: ML **Derivative**: SER

Click **Add** above the Aliquot grid.

1. Click the **Add**  button on the LDMS toolbar.
2. Click **OK** in the Saving message.
3. Select a format and label size, and then click **Yes** in the dialog box.
4. **Close** the Crystal Reports window.

Exercise 6: VTN Multiple Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

An ACD blood specimen was drawn from the participant today. The specimen was processed into two aliquots of double-spun plasma and one aliquot of viable PBMCs. A cervical specimen was also obtained from the participant today. All samples arrived in your laboratory for processing at 10:15.

In the **Participant Grid**, enter the following information

Group	VTN
PID	999561232
Protocol	097.0
Visit Value	1
Visit Units	Vst
Clinic	Auto-populates

In the **Primary Grid**, enter the following information

Specimen Date	Current Date		
Received Date	Current Date		
Received Time	10:15		
# of Tubes	2		
Primary Type	BLD		
Specimen Time	09:00		

Click Add above the Primary grid.

Change Primary #2 to CER

Additive Type, Primary 1	ACD		
Additive Type, Primary 2	NON		
Volume, Primary 1	7	Volume Unit, Primary 1	ML
Volume, Primary 2	1	Volume Unit, Primary 2	EA

Highlight Primary #1 and enter the following information in the Aliquot Grid

# of Aliquots: 2 **Volume**: 1 **Units**: ML **Derivative**: PL2

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 3 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid.

Highlight Primary #2 and enter the following information in the Aliquot Grid

# of Aliquots: 1 **Volume**: 1 **Units**: EA **Derivative**: SPG

Click **Add** above the Aliquot grid.

1. Complete PBMC processing field information in Primary Details and Aliquot Details.
2. Click the **Add**  button on the LDMS toolbar to add the specimen information into your lab database.
3. Click **OK** in the Saving message.

4. Select a format and label size, and then click **Yes** in the dialog box.
5. **Close** the Crystal Reports window.

Exercise 7: HPTN Single Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

A heparin specimen was drawn from a participant at 13:30. The specimen was processed into one aliquot of single-spun plasma and one aliquot of non-viable cells.

In the **Participant Grid**, enter the following information

Group	HPTN
PID	999515640
Protocol	024.0
Visit Value	1
Visit Units	Vst

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	14:30
# of Tubes	1
Primary Type	BLD
Specimen Time	13:30
Click Add above the Primary grid.	
Additive Type	HEP
Volume	5
Volume Unit	ML

In the Aliquot Grid, enter the following information

# of Aliquots: 2 **Volume**: 1 **Units**: ML **Derivative**: PL1

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 3 **Units**: CEL **Derivative**: PEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid

1. Complete PBMC processing field information in Primary Details and Aliquot Details.
2. Click the **Add**  button on the LDMS toolbar to add the specimen information into your lab database.
3. Click **OK** in the Saving message.
4. Select a format and label size, and then click **Yes** on the dialog box.
5. **Close** the Crystal Reports window.

Exercise 8: HPTN Multiple Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

An EDTA blood specimen was drawn from the participant at 07:20 today. The specimen is to be processed into two aliquots of viable PBMCs and two aliquots of double-spun plasma. In addition, a urine specimen was obtained from the participant at 07:45.

In the **Participant Grid**, enter the following information

Group	HPTN
PID	999515640
Protocol	024.0
Visit Value	2
Visit Units	Vst

In the **Primary Grid**, enter the following information

Specimen Date	Current Date		
Received Date	Current Date		
Received Time	09:15		
# of Tubes	2		
Primary Type	BLD		
Specimen Time	07:20		

Click Add above the Primary grid.

Change Primary #2 to URN

Additive Type, Primary 1	EDT		
Additive Type, Primary 2	NON		
Volume, Primary 1	10	Volume Unit, Primary 1	ML
Volume, Primary 2	10	Volume Unit, Primary 2	ML

Change **Specimen Time** for Primary #2 to 07:45

Highlight Primary #1 and enter the following information in the Aliquot Grid

# of Aliquots: 2 **Volume**: 1 **Units**: ML **Derivative**: PL2

Click **Add** above the Aliquot grid.

# of Aliquots: 2 **Volume**: 1 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid.

Highlight Primary #2 and enter the following information in the Aliquot Grid

# of Aliquots: 1 **Volume**: 10 **Units**: ML **Derivative**: URN

Click **Add** above the Aliquot grid.

1. Complete PBMC processing field information in Primary Details and Aliquot Details.
2. Click the **Add**  button on the LDMS toolbar to add the specimen information into your lab database.
3. Click **OK** in the Saving message.
4. Select a format and label size, and then click **Yes** in the dialog box.
5. **Close** the Crystal Reports window.

Exercise 9: WIHS Single Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

A fasting EDTA blood specimen was drawn from a participant at 14:00. The specimen was processed into one aliquot of single-spun plasma, one aliquot of viable PBMCs and one aliquot of non-viable PBMCs.

In the **Participant Grid**, enter the following information

Group	WIHS
PID	70900010
Protocol	HHV8
Visit Value	Auto-sets
Visit Units	Auto-sets

In the **Primary Grid**, enter the following information

Specimen Date	Auto-sets
Received Date	Auto-sets
Received Time	15:00
# of Tubes	1
Primary Type	BLD
Specimen Time	14:00
Click Add above the Primary grid.	
Additive Type	EDT
Volume	10
Volume Unit	ML

In the Aliquot Grid, enter the following information

# of Aliquots: 1 **Volume**: 2 **Units**: ML **Derivative**: PL1

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 3 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 2 **Units**: CEL **Derivative**: PEL

Click **Add** above the Aliquot grid.

1. Complete PBMC processing field information in Primary Details and Aliquot Details.
2. Click the **Add**  button on the LDMS toolbar to add the specimen information into your lab database.
3. Click **OK** in the Saving message.
4. Select a format and label size, and then click **Yes** in the dialog box.
5. **Close** the Crystal Reports window.

Exercise 10: WIHS Multiple Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

EDTA and serum specimens were drawn from a participant today at 7:00. The serum specimen is to be processed into five aliquots. The EDTA specimen is to be processed into two aliquots of double-spun plasma.

In the **Participant Grid**, enter the following information

Group	WIHS
PID	70900010
Protocol	HHV8
Visit Value	Auto-sets
Visit Units	Auto-sets

In the **Primary Grid**, enter the following information

Specimen Date	Auto-sets		
Received Date	Auto-sets		
Received Time	08:00		
# of Tubes	2		
Primary Type	BLD		
Specimen Time	07:00		
Click Add above the Primary grid.			
Additive Type, Primary 1	EDT		
Additive Type, Primary 2	NON		
Volume, Primary 1	10	Volume Unit, Primary 1	ML
Volume, Primary 2	10	Volume Unit, Primary 2	ML

Highlight Primary #1 and enter the following information in the Aliquot Grid

# of Aliquots: 2 **Volume**: 1 **Units**: ML **Derivative**: PL2

Click **Add** above the Aliquot grid.

Highlight Primary #2 and enter the following information in the Aliquot Grid

# of Aliquots: 5 **Volume**: 1 **Units**: ML **Derivative**: SER

Click **Add** above the Aliquot grid.

1. Complete PBMC processing field information in Primary Details and Aliquot Details.
2. Click the **Add**  button on the LDMS toolbar to add the specimen information into your lab database.
3. Click **OK** in the Saving message.
4. Select a format and label size, and then click **Yes** in the dialog box.
5. **Close** the Crystal Reports window.

Exercise 11: PHACS Single Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

A fasting heparin specimen was drawn from a participant at 14:00. The specimen was processed into one aliquot of single-spun plasma, one aliquot of non-viable PBMCs, and one aliquot of viable PBMCs.

In the **Participant Grid**, enter the following information

Group	PHACS	
PID	0333333I	
Protocol	PH100	
Visit Value	0	
Visit Units	Ent	
Clinic	3	**Note:** PHACS uses clinic numbers 1–24 only

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	15:00
# of Tubes	1
Primary Type	BLD
Specimen Time	14:00
Click Add above the Primary grid.	
Additive Type	HEP
Volume	15
Volume Unit	ML

In the Aliquot Grid, enter the following information

# of Aliquots: 1 **Volume**: 1 **Units**: ML **Derivative**:PL1

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 3 **Units**: CEL **Derivative**: PEL

Click **Add** above the Aliquot grid.

# of Aliquots: 1 **Volume**: 5 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid.

5. Click the **Add**  button on the LDMS toolbar.
6. Click **OK** in the Saving message.
7. Select a format and label size, and then click **Yes** in the dialog box.
8. **Close** the Crystal Reports window.

Exercise 12: PHACS Multiple Tube Entry

Review LDMS User Manual section **Specimen Management-- Entering a New Specimen**

Two bloods specimen were drawn from the participant at 07:30 today. The EDTA blood specimen is to be processed into two aliquots of viable PBMCs and two aliquots of double-spun plasma. The blood specimen with no additive is to be processed into two aliquots of serum. In addition, a saliva specimen was obtained from the participant at 07:45.

In the **Participant Grid**, enter the following information

Group	PHACS
PID	0333333I
Protocol	PH100
Visit Value	48
Visit Units	Wk
Clinic	3

In the **Primary Grid**, enter the following information

Specimen Date	Current Date		
Received Date	Current Date		
Received Time	09:45		
# of Tubes	3		
Primary Type	BLD		
Specimen Time	07:20		
Click Add above the Primary grid.			
Change Primary #3 to SAL			
Additive Type, Primary 1	EDT		
Additive Type, Primary 2	NON		
Additive Type, Primary 3	ORG		
Volume, Primary 1	10	**Volume Unit, Primary 1**	ML
Volume, Primary 2	10	**Volume Unit, Primary 2**	ML
Volume, Primary 3	6	**Volume Unit, Primary 3**	ML

Change **Specimen Time** for **Primary #3** to 07:45

Highlight Primary #1 and enter the following information in the Aliquot Grid

# of Aliquots: 1 **Volume**: 1 **Units**: ML **Derivative**: PL2

Click **Add** above the Aliquot grid.

# of Aliquots: 2 **Volume**: 5 **Units**: CEL **Derivative**: CEL **Sub Add/Der**: DMS

Click **Add** above the Aliquot grid.

Highlight Primary #2 and enter the following information in the Aliquot Grid

# of Aliquots: 2 **Volume**: 2 **Units**: ML **Derivative**: SER

Click **Add** above the Aliquot grid.

In the Aliquot Grid, highlight Primary #3 and enter the following information

# of Aliquots: 1 **Volume**: 6 **Units**: ML **Derivative**: SAL

Click **Add** above the Aliquot grid.

1. Click the **Add**  button on the LDMS toolbar to add the specimen information into your lab database.
2. Click **OK** in the Saving message.
3. Select a format and label size, and then click **Yes** in the dialog box.
4. **Close** the Crystal Reports window.

Exercise 13: Modifying Primary Information

Review LDMS User Manual section **Specimen Management—Correcting data**

1. Click on a row to highlight a primary in the Primary grid.
2. Change any of the following primary identifiers, except the specimen ID number and unique Global Specimen ID:
    - Primary*
    - Additive*
    - Volume
    - Units
    - Spec Time*
    - Time/Time Unit*
    - Other Spec ID
    - Condition

* *This information automatically cascades to the Aliquot grid.*

Note: If changing a primary that has been shipped, tested, stored or has a test assigned, a warning message will appear.

3. Click **Yes** in the message to continue with the primary change.
4. Click the **Save**  button on the LDMS toolbar to save the primary modifications for the specimen record.

Exercise 14: Modifying Aliquot Information

Review LDMS User Manual section **Specimen Management—Correcting data**

To modify a single aliquot, just click into the desired field and change the information.

To modify multiple aliquots:

1. Click on a row to highlight an aliquot or use the Shift or Ctrl keys on the keyboard to highlight multiple rows in the Aliquot grid.
2. In the fields above the Aliquot grid, enter the information to be modified.
   The following information can be modified for an aliquot:
   - Derivative
   - Sub Add/Der
   - Volume
   - Units
   - Other Spec ID
   - Condition
   - Group/ID
3. Click Modify above the Aliquot grid, or right-click on a highlighted aliquot and select Modify all selected.
4. Click the **Save**  button on the LDMS toolbar to save the aliquot's modifications to the specimen record.

Discussion: Delete Function

Review LDMS User Manual section **Specimen Management—Correcting data**

Deleting Primary Information

1. Click Delete above the Primary grid, or right-click on the highlighted row and select Delete.
2. Click **Yes** in the Confirm Delete message.

Deleting Aliquot Information

Click on a row in the Aliquot grid to highlight the aliquot that you wish to delete. Use the Shift or Ctrl keys on the keyboard to highlight more than one row.

1. Click Delete above the Aliquot grid, or right-click on the highlighted row and select Delete (or Delete all Selected for multiple aliquots).
2. Click **Yes** in the Confirm Delete message.

Notes: You cannot delete a primary or an aliquot if the aliquot has a test ordered, was tested, shipped, or batched for shipping.

Primary and aliquots from preloads should not be deleted. Samples should only be deleted if entered manually by accident.

Clicking the Delete  button on the LDMS toolbar will delete the record from the database.

Question: For members of networks which utilize FSTRF defined preloads. Why should you not delete a specimen from a preload?

Exercise 15: Flagging Specimens in Specimen Management

Part 1: Marking an Aliquot as "Never Store"

Review LDMS User Manual section **Specimen Management-- Doing other things with aliquots-- Using Never Store**

Aliquots that have been marked as "Never Store" will NOT appear in the Bulk Add tab to be stored in the Storage module

1. Click on a row to highlight an aliquot or use the Shift or Ctrl keys on the keyboard to highlight more than one row in the Aliquot grid.
2. Right-click on the highlighted aliquot(s) and select Never Store.

Note: After marking an aliquot as "Never Store," the aliquot Details button will display an "N" and the aliquot will no longer appear in the Bulk Add list.

Part 2: Frozen Date/Time

Frozen Date and Time can be entered via the right-click feature.

1. Click on a row to highlight an aliquot or use the Shift or Ctrl keys on the keyboard to highlight more than one row in the Aliquot grid.
2. Right-click on the highlighted aliquot(s) and select Frozen Date/Time
3. A box will appear, enter the frozen date and/or frozen time

4. Click Ok, then click the **Save**  button on the LDMS toolbar

Part 3: Label Reprint

Review LDMS User Manual section **Specimen Management-- Doing other things with aliquots-- Re-printing Labels**

The user has the ability to reprint labels in Specimen Management. Options to replace one label or all aliquot labels for a primary are available.

1. Right-click on an aliquot in the Aliquot grid
2. Select Print Labels for All Aliquots or Print Labels for Selected Aliquots from the shortcut menu.
    a. If 'Selected Aliquots' is used only a single label for the selected aliquot is printed
3. The Label print menu will appear, clicking yes will open the Crystal Report window

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When highlighting a specimen, double check the Global Specimen ID

Exercise 16: Searching for Specimens

Review LDMS User Manual section **Specimen Management-- Doing other things with aliquots-- Finding Aliquots After Logging Them**

Part 1: Scanning the LDMS-generated Barcode

Scan an LDMS barcode in Specimen Management to locate a specimen's record.

Part 2: Navigation buttons

The Navigation Buttons on the toolbar allow you to scroll through the entire database one record at a time, 10 percent at a time, or you can jump to the first or last record in the database.

 First Record in Database

 Last Record in Database

 Move Backward 10 Percent

 Move Forward 10 Percent

 Previous Record

 Next Record

Part 3: Using the Browse Feature

Click the Browse  button on the toolbar to search for specific specimen information.

1. **Group**: Use group from the specimen entry exercise performed
2. Type 1: PID ID1: Enter PID from specimen entry exercise performed
3. Type 2: Spec Date ID2:Current Date
4. Click Run
5. Click on a specimen, and then click Select.

Discussion: Correcting Specimen Records

Review LDMS User Manual section **Specimen Management—Correcting data**

During the course of a study, a lab may receive a query asking it to correct a specimen record. Common errors are incorrect dates, times, visit values/units, and condition codes. The query will clearly state the error and corrective action. After correcting a record add a comment noting the change. All comments will export back to Frontier Science but only aliquot comments are included in the shipping file and manifest.

Comments need to contain a description of the change, who made it, when, and the reason

Example: Specimen Date changed to 24-APR-2018 by AL on 01-JUN-2018, date error due to rescheduled clinic appointment and clinic paperwork was not updated

To correct a specimen record:

1. Use the steps in Exercise 16 to find the specimen record
2. Use the Primary Details menu to add a Comment noting the data correction.
3. Effective comments will include:
   - Initials
   - Date of change
   - A reason for the change
   - A description of the change
4. Cascade the comment to the aliquots of the primary.

Questions:

True/False: Correcting one record will update all records in the database from that visit.

True/False: For shipped specimens, correcting the specimen records will correct the records in the receiving labs database because all comments export to Frontier Science.

True/False: A specimen record was corrected but the user decided not to cascade the comment from the Primary to the Aliquots. When the specimen is shipped the comment will NOT be on the shipping file or manifest.

Why would the comment need to be on the shipping manifest?

Advanced Exercise 1: Test Setup

Review LDMS User Manual section **Specimen Management-- Doing other things with aliquots-- Assigning an Assay to Aliquots**

The Test Setup window can be used to assign tests to aliquots, censor tests, or delete tests.

1. **Right-click** on a plasma aliquot in the Aliquot grid, and select **Test Setup** from the shortcut menu. The Test Setup dialog box appears.
2. Click on the **[+]** next to **the Viral Load RNA** listing to display the available tests in the category. Double-click on **Abbott Realtime HIV-1** Test Descr.
3. Click **Save** to save the test assignment to your lab database.
4. Click **OK** in the **Save** message. The assigned test will populate in the Test Setup window.
5. **Review** the other options available in the Test Setup dialog box
6. Click **Done** in the Test Setup dialog box.

Note: To assign tests to multiple participants use the Assign Tests module.

After an aliquot has a test assigned to it, the aliquot Details button will display a "T"

Advanced Exercise 2: Marking Aliquots for Shipment

Review LDMS User Manual section **Specimen Management-- Doing other things with aliquots-- Marking Aliquots for Shipment**

Aliquots can be flagged for future shipment in the Specimen Management module. Marked aliquots can be tracked in the Reports module by generating the Pending Specimens Marked for Shipping report and retrieved in the Shipping module by using the search criteria Marked Ships. This function flags individual aliquots, if your network has a set shipping schedule it may be more efficient to track shipments outside of LDMS (ie. Day-planner, calendar, etc.)

1. Click on a row to highlight an aliquot or use the Shift or Ctrl keys on the keyboard to highlight more than one row in the Aliquot grid.
2. Right-click on the aliquot(s) and select the Mark for Shipping or All Selected Mark for Shipping option from the shortcut menu. The Mark Aliquot for Shipping dialog box appears.
3. Select one of the following options from the Shipping Category box:
    - Weekly
    - Monthly
    - Batched
    - Other
4. Select a date that the specimen should be shipped from the Intended Shipping Date box.

5. Select a lab from the Intended Receiving Lab box.
6. Click **OK**.

Note 1: You can only select multiple aliquots if all aliquots have the same specimen ship date and destination.

Note 2: After an aliquot has been marked for shipping, the aliquot Details button will display an "I." Click on the aliquot Details button to change the shipping category, intended ship date, or intended receiving lab.

Advanced Exercise 3: Unprocessed Primary Specimen

Aliquot entry is necessary to work through the various modules available in the LDMS and to generate a label. When storage and shipment is desired for a primary specimen, the user must create an aliquot that duplicates the primary information. A comment can be entered into the Aliquot Details Button, to indicate that it is a primary specimen.

In the **Participant Grid**, enter the following information

Group	ACTG/IMPAACT
PID	0789789I
Protocol	A5221
SID	NOSID
Visit Value	2
Visit Units	Wk
Clinic	701

In the **Primary Grid**, enter the following information

Specimen Date	Current Date
Received Date	Current Date
Received Time	09:00
# of Tubes	1
Primary Type	URN
Specimen Time	08:15
Click Add above the Primary grid.	
Additive Type	NON
Volume	10
Volume Unit	ML

In the Aliquot Grid, enter the following information

# of Aliquots: 1 **Volume**: 10 **Units**: ML **Derivative**: URN

Click Add above the Aliquot grid.

Click the Aliquot Details button and add a comment: “Primary sample”

1. Click the Add  button on the LDMS toolbar.
2. Click **Enroll** in the message box that appears.
3. Click **OK** in the Saving message. Select a format and label size, and then click **Yes** on the dialog box.
4. **Close** the Crystal Reports window.

Advanced Exercise 4: Generating an Aliquot from an Existing Aliquot

1. Locate the record of interest in Specimen Management, by using the Browse feature or Navigation buttons.

2. Add a new Primary to the existing record, containing identical information to the aliquot from which the new aliquot will be generated.

    a. Enter 1 in the **# of Tubes** field.

    b. Select the **Primary Type**.

    c. Enter the Global Specimen ID of the existing aliquot in the Other Spec ID field.

    d. Enter the Spec. Time.

    e. Click Add above the Primary grid.

    f. Complete the Additive, Volume, and Units fields. The additive is the same as the primary. The volume and volume units are the initial volume of the aliquot.

3. Click to highlight the newly added primary in the primary grid. Add the new aliquot information in the fields above the Aliquot grid:

    a. # of Aliquots

    b. Volume

    c. Volume Units

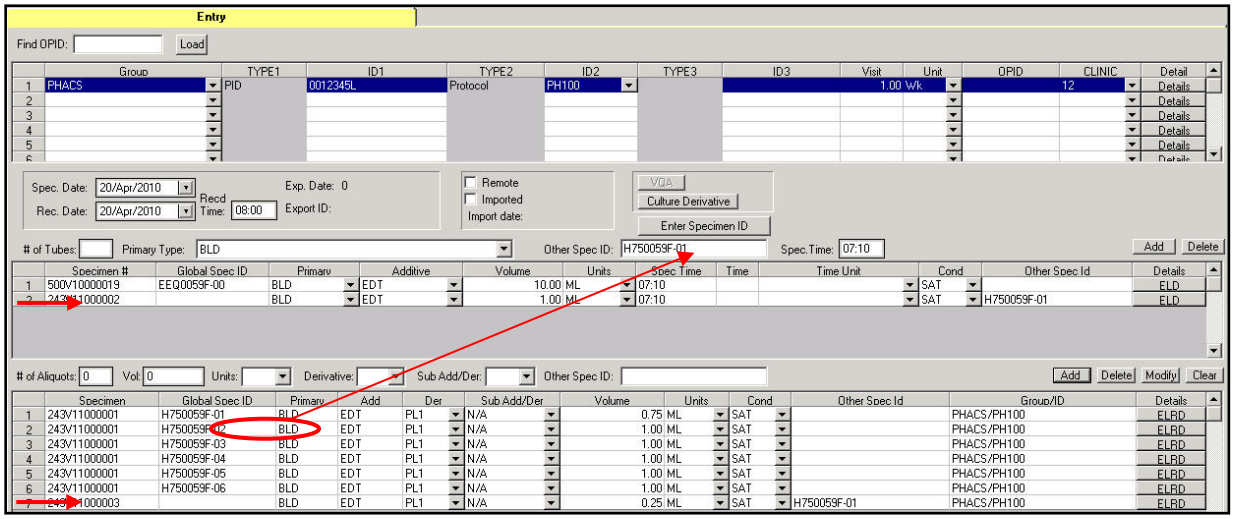
    d. Derivative Type

    e. Sub Add/Der, if applicable.

f. Enter the Global Specimen ID of the existing aliquot in the Other Spec ID field

g. Click the Add button on top of the aliquot grid

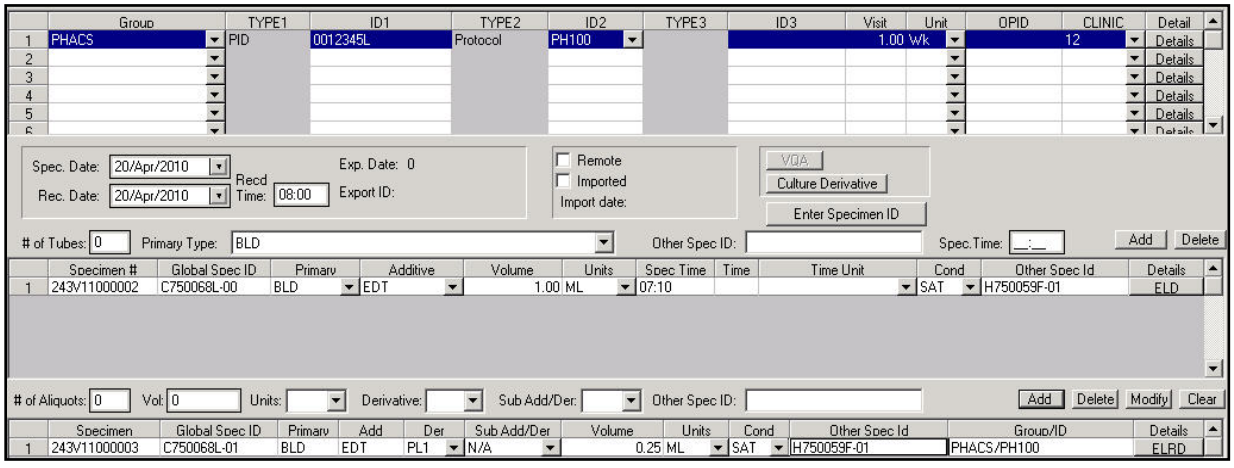
4. Adjust the Volume of the source aliquot to reflect the volume change that will occur when generating the additional aliquot.



5. Click **Save** on the LDMS toolbar. A Success message appears. Click **OK**.

6. The Label Size window opens, asking if you would like to generate labels. Click No.

7. The new primary and its associated aliquot will be saved into a separate record when the screen is refreshed (see below). The new primary and new aliquot will be assigned a Global Specimen ID.



8. Label for new sub-aliquot

   a. Locate the new record by using the **Navigation buttons**  on the LDMS toolbar.

HINT: Clicking on  will display the last record entered into the database.

b. Right Click on the new aliquot and select Print Labels for Selected Aliquots.

c. Select the Barcode label format and indicate the label size. Click **Yes** to generate the label report.

Advanced Exercise 5: Using the Extended Search Feature

Unlike the Browse feature—which displays only one specimen at a time that meets the selected criteria—the Extended Search feature allows access to a range of specimens that meet the criteria in the query statement(s).

When using the Extended Search feature the scope of the VCR buttons is limited to only those records meeting the criteria found in the Extended Search dialog box. Click the Begin/Break  button on the LDMS toolbar to remove the search filter and return to your entire lab database.

Click the Extended Search  button on the LDMS toolbar. The Extended Search dialog box appears

In the Extended Search dialog box, you can:

- Create simple query statements
- Create extended query statements using the logical connectors and/or
- **Save** queries

Enter the following:

Group: Group from exercise above

Field: Group Operator: = Value: Group from exercise above

Click Add to Grid.

Field: Primary Operator: = Value: BLD

Click Add to Grid.

Field: **Derivative** Operator: = Value: PL*

Click Add to Grid.

Field: **Derivative** Operator: = Value: CEL

Click Add to Grid.

Enter the following statement: 1 and 2 and (3 or 4). Click Execute.

Labels

Review LDMS User Manual section **Advanced Label Printing**

When searching for specimens to create labels for, you must:

- Select a Group
- Select a Label format and size
- Select one of the following search criteria: *Received Date, Received Batch Number, LDMS Specimen ID, or Global Specimen ID*

Exercise 1: Searching for specimens accessioned today

1. Select a **Group** from the drop down menu
2. Choose a **label format**. Look at the checked data items. Are you able to select or deselect an item?
3. Select **Barcode Label 16**
4. In **Search Criteria** on the bottom left hand corner of screen , select **Received Date** in the **Field** box
5. Select **=** in the **Operator** box
6. Enter today's date in the **Value** box
7. Click **Add**
8. Click the **Execute** button 
9. **Close** the Crystal Reports window and add additional criteria to limit your search.
    - Search for all of the PBMCs accessioned today. What search criteria should you use?
        i. **Field** _____
        ii. **Operator** _____
        iii. **Value** _____

Exercise 2: Generating Labels from a Text File Listing

Labels can be generated from a text file import. The Global Specimen IDs must match the Group selected in the drop down menu.

1. Select the following:
    a. **Group** = ACTG/IMPAACT
    b. **Format** = ACTG Spec Barcode
    c. **Label size** = Barcode Label 16
2. Click on the **Import File** button and browse to the following file:
   Labels_import_button.txt
3. Click **Open**. The file will be added to the criteria grid
4. Click the **Execute** button 

Advanced Exercise 1: Creating Customized Labels

Review LDMS User Manual section **Creating a New Label Format**

Customized labels can be created for internal groups by using a group-specific template or a blank template. The Length field displays the number of characters in the Data Item. Each row should be limited to 15 characters.

1. Select **Group** = Frontier.
2. Click the **Add** button on the LDMS toolbar. 
3. Select **No** in the New Label Format message to start your customized label from a blank template, or select **Yes** in the New Label Format message to start your customized label using the format that you selected from the Format box.
4. Enter a **Name** for the customized label in the dialog box, and then click **OK**.
5. Select **LDMS Standard** from the **Barcode Content** box.
6. Select the check boxes specified below and enter the specified row and column information:

   Note: Double-click in the Row and Column fields to enter data

Select Check box	Row	Column
PID	1	1
Spec Date	2	1
Spec Time	2	2
Primary	3	1
Additive	3	2
Derivative	3	3
Volume	4	1
Vol Units	4	2

7. Click the **Save** button on the LDMS toolbar. 

Advanced Exercise 2: Printing New Customized Label

1. Exit the Labels module and go to **Specimen Management**
2. Click the **Browse** search button 
3. Select **Frontier** from the **Group** drop down menu
4. Click **Run**
5. Double click on any specimen in the grid
6. In the **Aliquot Grid** use the right click menu and choose **Print Labels for Selected Aliquot**
7. Select the new label in the **Format** menu in the **Label Size** dialog box.
8. Choose a label size and click **Yes**.

Storage

Review LDMS User Manual section **Getting around Storage Management**

Exercise 1: Adding a Container

Review LDMS User Manual section **Maintaining Storage -- Adding Levels and Containers to a Freezer**

1. **Highlight** a level to add the new container to
2. Click the **Add**  button on the LDMS toolbar
3. Click **Container**. The **Storage Add** dialog box appears
4. Click on a **Container Template** and click **OK**
5. In the **Box Add** dialog box, enter the **number** of boxes to add and click **OK**. For this exercise add at least 2.
6. In the **Container Position Selection** dialog box, click **Automatic**.
7. Enter a name for the first container in the **Name** dialog box, and then click **OK**.
8. Click **OK** in the Success message.
9. **Repeat** for the remaining box(es).

Exercise 2: Adding Specimens to Storage Using the Bulk Add Tab

Review LDMS User Manual section **Creating a Storage System - Assigning storage locations using a barcode scanner**

1. Click the **Bulk Add** tab.
2. Expand the Storage tree, **highlight** one of the containers added in Exercise 1
3. **Scan** one of the specimen barcodes created during training.
4. In the **Specimen Position** Selection dialog box, click **Auto All**.
5. In the **Volume** dialog box, click **Don't ask again**.
6. **Repeat** these steps for the remaining barcodes.
7. Click **View Results** at the bottom right of the Bulk Add tab screen. The Storage dialog box appears.
8. Click **Report**.

The alternative method is covered in **Creating a Storage System - Assigning storage locations using Bulk Add**.

Discussion: Bulk Update/Frozen Date and Time

Covered in LDMS User Manual section **Maintaining Storage-- Modifying All the Specimens in a Container**

In the right-click menu the user can select Bulk Update Specimens or Bulk Adjust Volume Frozen Date/Time. The information entered will update the specimen record.

Questions: Why do you think a password is required for the Bulk Update function?

True/False: Permanent delete will remove the record from Specimen Mgmt.

Exercise 3: Moving Specimens or Containers in Storage

Review LDMS User Manual section **Maintaining Storage -- Moving and Re-arranging Stored Items**

1. Click on the **Move** tab.
2. Click the **Options** button, **Automatically Assign Positions** should be **unchecked** for this exercise
3. In the **Destination** window, expand the storage tree to an empty container
4. In the **Storage Structure** window, **expand** the storage tree to the container added in Exercise 1
5. In the **Storage Structure** window, click on the **first specimen** in the list. **Press and hold** the **Control** key and click the **next four** specimens in the list.
6. Click in the middle of the list of highlighted specimens.
7. **Drag** the specimens to the empty container in the Destination window

Exercise 4: Searching for Specimens in Storage

Review LDMS User Manual section **Maintaining Storage -- Finding Specimens in Storage**

Part 1: Barcode

1. Open the **Main View** tab and just **scan** a label with a bar code reader

Part 2: Simple Search

1. Click on the **Main View** tab.
2. Click on **Simple Search**. The Simple Search dialog box appears.
3. Enter a **Global Specimen ID** created during accessioning in Specimen Management.
4. Click **Execute**. The Storage dialog box appears.
5. Click **Yes**. The **Results** dialog box appears.
6. Click **Open Tree**.
7. The Open Tree option will open the storage structure to the selected specimen.

Part 3: Using the Search Tab

1. Enter search criteria in the fields at the top of the screen.
    a. **Group:** Enter group used during this training in Specimen Management
    b. **Type 1:** SPEC DATE **ID1:** Today's date
2. Click the **Execute** button on the LDMS toolbar.
3. Click the **Report** button on the LDMS toolbar.
4. **Close** the Crystal Reports window.

Discussion: Deleting specimens or Containers

Review LDMS User Manual section **Creating a Storage System-- Removing a specimen from storage**

There are two ways to remove specimens from storage. You can remove a specimen from storage and put it back in the list of specimens to be stored, or you can permanently remove it from storage. Before deleting a container (or level) it cannot contain any specimens.

Choosing 'Permanent Delete' activates the Never Store flag

1. **Highlight** specimen ID or an empty container
2. Click the **Delete**  icon on the LDMS toolbar.
3. [Optional] Select the **Permanent Delete** from Storage check box to activate the **Never Store** flag.
4. Click **Yes.**

Exercise 5: Specimen Details button

Use the Details button at the bottom of the Storage Structure to modify specimen volume, adjust the thaw counter, or add a comment.

1. Click to **select a specimen** added in Exercise 1
2. Click **Details**
3. Adjust any of the following **volume, thaw counter** or **comment**
4. **Save** changes by clicking **Modify**

Note: The **Delete** button in the center performs the same function as the  icon

Exercise 6: Container Details button

Use the Details button at the bottom of the Storage Structure to rename storage units, create reports, and mark containers to ship.

Note: The **Delete** button in the center performs the same function as the  icon

Part 1: Rename container

Review LDMS User Manual section **Maintaining Storage -- The Storage Structure List Explained**

1. Click to **select** the box added in Exercise 1
2. Click **Details**
3. Enter a new name for the container/box in the **Name** field
4. Click **Modify**

Part 2: Storage Reports

Review LDMS User Manual section **Maintaining Storage –Storage Reports**

1. **Highlight** a container with specimens
2. Click **Details**
3. Click **Spec Report**
4. **Close** the Specimen Report
5. Click **Details**
6. Click **Box Report**
7. **Close** the Container Report
8. Click **Details**
9. Click **Empty Storage Location Report**
10. **Close** the Empty Storage Location Report

Part 3: Marking a Storage Item for Shipping

Review LDMS User Manual section **Maintaining Storage -- Shipping a Storage Unit**

1. **Highlight** a container with specimens
2. Click **Details**
3. Click **Mark to Ship**. An envelope icon appears next to the storage container that has been marked for shipping.

Notes on Marking to Ship:

The LDMS will not allow a storage item that has both internal and government specimens to be marked for shipment.

The LDMS will not allow a storage item that has samples flagged for shipment as part of a shipping batch (blue B), or that contains shipped sample records (green S), to be marked for shipment.

When marking a level or a freezer for shipping, you will be prompted to contact LDMS User Support.

Advanced Exercise 1: Configuring a Container (Box)

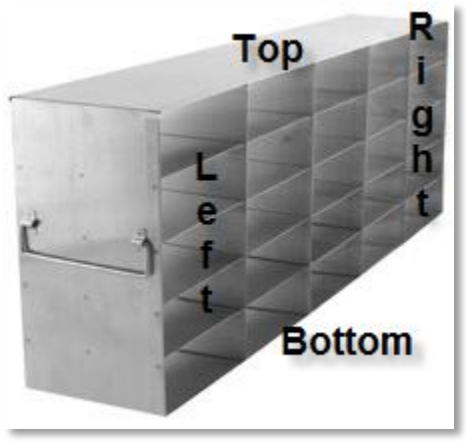
Review LDMS User Manual section **Defining a storage system -- Defining Containers and Levels**

1. In the **Configuration** tab, click on the **Container** radio button.
2. Enter the following information:
    a. **Label:** Generic name for this configuration; example manufacturer part number or catalog number
    b. **Dimensions:** # of columns: 9 # of rows: 9
    c. **Labeling Method:** Positions Only (positions will be labeled 1, 2, 3,…81)
    d. **Fill Order:** Left to Right, Top to Bottom
    e. **Coordinates:** Not an option (greyed-out because of Positions Only in Labeling Method)
    f. **Exclusion Type:** Corner **Selection:** Lower Right

    Click the **Add**  button on the LDMS toolbar

Advanced Exercise 2: Configuring a Rack (Sub-level)

Review LDMS User Manual section **Defining a storage system -- Defining Containers and Levels**



1. In the **Configuration** tab, click on the **Level** radio button.
2. Enter the following information:
    a. **Label:** Generic name for this configuration, ex SS 5x5 Rack (stainless steel)
    b. **Dimensions:** # of columns: 5 **# of rows:** 5
    c. **Labeling Method:** Alphabetic Rows and Numeric Columns
    d. **Fill Order:** Top to Bottom, Right to Left

e. **Coordinates:** Row, Column (positions will be labeled A,1 A,2 , etc.)
f. **Container for Level:** Leave Blank

Note on Container for Level: When defining a Container for Level, this rack will only accept the box configuration designated. If your box size changes in the future, this rack configuration will not accept the new box configuration.

Click the **Add**  button on the LDMS toolbar

Advanced Exercise 3: Configuring a Shelf (Level)

Review LDMS User Manual section **Defining a storage system -- Defining Containers and Levels**

In this example we are going to create a template for a shelf in the Frontier Science Upright Large Capacity -86 °C Ultra Low Freezer (Model number FS-2086). This shelf can hold 6 of the 5x5 stainless steel racks.

1. Click the **Refresh**  button on the LDMS toolbar, to clear the settings from the previous exercise
2. In the **Configuration** tab, click on the **Level** radio button
3. Enter the following information:
    a. **Label:** Generic name for this configuration, example FS-2086-shelf
    b. **# of columns:** 6 **# of rows:** 1
    c. **Labeling Method:** Alphabetic Rows and Numeric Columns
    d. **Fill Order:** Left to Right, Top to Bottom
    e. **Coordinates:** Row, Column (positions will be labeled A,1 A,2 , etc.)
    f. **Container for Level:** Leave Blank

    Click the **Add**  button on the LDMS toolbar

Advanced Exercise 4: Freezer Configuration

Review LDMS User Manual section **Defining a storage system -- Defining a Freezer Configuration**

In this example we are going to create a template for the Frontier Science Upright Large Capacity -86 °C Ultra Low Freezer (Model number FS-2086). The freezer has 4 shelves, you previously configured the shelves to hold 6 racks in Advanced Exercise 3.

1. Click on the **Freezer Cfg** tab.
2. Enter the following information:
    a. **Label:** FS-2086
    b. **Type:** Freezer **Temperature:** –80 C
3. Click and **drag** the **Shelf** from **Level Types** list to the **Configuration Design** list. The Level dialog box appears.
4. Enter **4** in the **Number** field and click **OK**.
5. Click and **drag** the ex **SS 5x5 Rack** from the **Level Types** list to the **Configuration Design** list. The **Level** dialog box appears.
6. Select **Shelf 1** from the **Sub Level** of box.
7. Enter **6** in the **Number** field and click **OK**.
8. **Repeat** these steps for shelves 2–4. Take care that you are adding racks to a shelf in this menu.
9. Click the **Add**  button on the LDMS toolbar.

Advance Exercise 5: Adding a Freezer

Review LDMS User Manual section **Creating a storage system -- Adding and removing Freezers**

We have two Frontier Science Upright Freezers at our laboratory. Add these into the Main View tab of Storage Management.

1. Click in the **Storage Structure** hierarchy on the **Main View** tab.
2. Click the **Add** button on the LDMS toolbar.
3. Click **Freezer**. The **Storage Add** dialog box appears.
4. Click to highlight the FS-2086 template created in the above exercise and click **OK**.
5. Enter a unique name for the freezer in the **Name** field of the dialog box, and then click **OK**.
   Discussion: How does your lab name your freezers?
6. Click **OK** in the Success message.

Reports

Review LDMS User Manual section **Running LDMS's Built-in Reports**

Use the Reports module to create reports from various categories. You can create query statements and extended query statements to search your lab database for specimens, participants, assays, etc. When searching for data with multiple criteria, it is recommended that the most restrictive criteria are used first. Most of these reports are meant to be produced in print and do not export effectively into Excel. To generate data for Excel, the user should refer to Data Retrieval.

Exercise 1: Specimen Processing and Specimen Log Report

This report provides the user with a specific set of information for each of their logged specimens. The report will provide the user with the participant, primary, and aliquot information for each of their specimens. The report also provides the user with the processing information (if available) for the given specimens, specifically the Total Cell Count, Processing Date(Primary and Aliquot), Processing Time(Primary and Aliquot), Processed By Initials, Frozen Date, and Frozen Time.

1. Click on **Specimen** in the **Category** grid at the top left of the Reports screen
2. Click on **Specimen Processing Report** in the Description window
3. In **Selection Criteria**, for **Field** select **Group**
4. **Operator** is '**=**'
5. In **Value**, select the clinical trial network used today for the Specimen Mgmt exercises
6. Click **Add**
7. Return to **Field** and select **Received Date**
8. **Operator** is '**=**'
9. In **Value**, set the date to today
10. Click **Add**
11. Click the **Execute**  button on the LDMS toolbar
12. **Close** the Crystal Report window.
13. Click on **Specimen Log Report** in the Description window
14. **Repeat** steps 3-11

Discussion: What are the differences and similarities for the two reports

Exercise 2: Specimens Not in Storage

This report displays all specimens in the LDMS that do not have a storage location assigned.

1. Click on **Storage** in the Category grid at the top left of the Reports screen
2. Click on **Specimens Not in Storage** in the Description
3. Click the **Execute**  button on the LDMS toolbar

Note: A warning is issued if no search criteria is entered, this is expected and you can proceed.

Exercise 3: Storage Container Location Report

The Storage Container Location report is useful in identifying the freezer, shelf, rack, and position of a box in the virtual storage and allows laboratory staff to easily identify if boxes are in the correct position on a shelf or rack.

1. Click on **Storage** in the Category grid at the top left of the Reports screen.
2. Click on **Specimen Container Location** in the Description.
3. Click the **Execute**  button on the LDMS toolbar.

Exercise 4: LDMS Primary, Additive, Sub add/der and Derivative Codes Report

1. Click on **Miscellaneous** in the Category grid at the top left of the Reports screen.
2. Select **LDMS Prim, Add, Der, and Sub Add/Der Codes** from the Description list
3. Click the **Execute**  button on the LDMS toolbar

Exercise 5: Reports for Audits available in the LDMS

The LDMS provide several reports that assist in verifying the data is complete and correct. These reports are also useful in providing information if your lab is being audited, specifically the Specimen Log, Storage Detail, Administrative reports, and Data Retrieval (see Data Retrieval section).

Part 1: User permissions report

This report provides the user with a summary of all the users in the LDMS and lists their current permissions within the LDMS.

1. Click on **Admin** in the Category grid at the top left of the Reports screen.
2. Select **User Permissions** from the Description list
3. Click the **Execute**  button on the LDMS toolbar

Part 2: Transaction Log Report

This log is a historical record of all transactions performed by users in your LDMS database. Generating the report as a Comma Separated text file allows the user to easily search the contents in Excel.

1. Click on Admin in the Category grid at the top left of the Reports screen.
2. Select User Permissions from the Description list
3. Select **Transaction Log Report** in the Report box.
4. In **Selection Criteria**, for **Field** select **Start Date**
5. **Operator** is '**=**'
6. In **Value**, enter the current date
7. Click **Add**
8. Click the **Execute**  button on the LDMS toolbar
9. In **Crystal Reports**, export as a **CSV** file

Part 3: Storage Detail report

1. Click on **Storage** in the Category grid at the top left of the Reports screen.
2. Click on **Specimen Detail** in the Description.
3. Return to **Field** and select **Received Date**
4. **Operator** is '**=**'
5. In **Value**, set the date to today
6. Click **Add**
7. Click the **Execute**  button on the LDMS toolbar.

Exercise 6: Creating Extended Query Statements

Review LDMS User Manual section Running LDMS's Built-in Reports- Creating a report query criteria

1. Click on **Storage** in the Category grid at the top left of the Reports screen.
2. Select **Storage Count Report By Freezer** from the Description list.
3. Enter the following information:

Field: Group	**Operator:** =	**Value:** ACTG/IMPAACT	Click the **Add** button
Field: Derivative	**Operator:** =	**Value:** PL*	Click the **Add** button
Field: Derivative	**Operator:** =	**Value:** SER	Click the **Add** button

4. Enter the following statement: 1 and (2 or 3)
5. Click the **Execute**  button on the LDMS toolbar.

Exercise 7: Saving Queries

Queries can be saved for reports that are created repeatedly throughout a protocol.

To save a query currently displayed on the screen:

1. Enter a name for the query in the **Previous Queries** field.
2. Click the **Add**  button on the LDMS toolbar.

Exercise 8: Running and Modifying a Saved Query

Part 1: Running a Saved Query

1. Click on a query in the **Previous Queries** list. The query statements load in the grid
2. Click the **Execute**  button on the LDMS toolbar to run the report

Part 2: Modifying a Saved Query

1. Click on a query in the **Previous Queries** list. The query statements load in the grid
2. Select a query statement from the query statement grid to load the Field, Operator and Value fields
3. **Change** the information, as needed, and click **Modify**. The modified query statement loads in the query statement grid
4. **Revise** the extended query statement, if needed, to reflect the modified statement's new row number in the query statement grid.
5. Click the **Execute**  button on the LDMS toolbar.
6. To save this modification, click the **Save**  button

Note: When a saved query is no longer needed it can be removed by clicking the Delete  button on the LDMS toolbar. A message appears to confirm.

Shipping

Use the Shipping module to batch specimens for shipping, prepare shipping files, view shipping history and print shipping related reports.

Exercise 1: New Batch of Marked Storage Items

Review LDMS User Manual section **Preparing Shipments- Finding Containers to Ship**

1. On the **View Shipments** tab, select the bottom, blank row from the batch listing
2. Change to the **Setup Shipment** tab. At the prompt box, select **Storage Items**
   Note: If you click the wrong button, use the **Refresh** button to return to the prompt box
3. To add a storage item to the batch, click to highlight the marked storage item in the **Items Marked in Storage** listing and click **Add to Batch**. One or more containers may be highlighted at one time. Add boxes that today's specimens were added to in Storage Management.
4. Change to the **Shipment Destination** tab.

Review LDMS User Manual section **Preparing Shipments- Selecting a Shipment Destination**

5. For this example, keep the **Lab Number** radio button highlighted and select lab **999**
6. Select a contact at the laboratory.
7. Set a contact at sending lab.
   Note: The dimensions for the shipping containers are greyed out. Why can you not adjust these settings?
8. Click the **Add**  button on the LDMS toolbar.

Exercise 2: New Batch of Individual Specimens

Review LDMS User Manual section **Preparing Shipments- Finding Specimens to Ship**

1. On the View Shipments tab, select the bottom, blank row from the batch listing
2. Change to the Setup Shipment tab. At the prompt box, select Specimens
   Note: If you click the wrong button, use the Refresh button to return to the prompt box
3. Leave the Government radio button highlighted
   Note: You cannot ship government and custom-group specimens together in the same shipping
   file.
4. Enter the following:
   Group: Clinical trial network used in Spec Management

Type: Received Date	**ID:** Yesterday's Date	**Click the right arrow**
Type: Derivative	**ID:** PL*	**Click the right arrow**

5. Click the **Execute** button 
6. Highlight specimens to include in the batch
7. Click the **Refresh Grid** button
8. The highlighted specimens will remain. **Scan** a few of the barcodes from today's training.
   --OR--
   Modify the search criteria and execute another search. **Tip:** Remove items from the search grid by highlighting and clicking **Clear Criteria**.
9. **Highlight** the additional specimens to include in the batch. **Note:** When scanning the barcode the specimens must also be highlighted or they will not be included in the shipment.

Review LDMS User Manual section **Preparing Shipments- Selecting a Shipment Destination**

10. For this example, keep the **Lab Number** radio button highlighted and select lab **999000** or **0**
    Discussion: What is the difference between the two choices?
11. Enter in laboratory address information:
    Lab name: Frontier Laboratories
    Address: 4033 Maple Rd, Amherst, NY 14226 USA
    Contact Person: John Smith
    Phone: 716-834-0900
12. Set a contact at sending lab.
13. Click the **Add**  button on the LDMS toolbar.

Exercise 3: New Batch Using the Import Specimens Button

Use the Import Specimens button if a list specimens to be added to a shipping batch is available. The list must be created in text file format and must contain one number per line. The specimen list may contain the LDMS Specimen IDs, the Global Specimen IDs, or a combination of these identifiers for the specimens of interest.

1. Click the **Setup Shipment** tab.
2. Click **Import Specimens**. The Open input file dialog box appears.
3. Open the appropriate drive or folder to display the specimen text file: Shipping_import_button.txt
4. Double-click on the text file, or select the file and click **Open**. The grid at the bottom of the Setup Shipment screen loads with the specimens from the text file.
5. The specimens must be highlighted in black before proceeding to the **Shipment Destination tab**.

Review LDMS User Manual section **Preparing Shipments- Selecting a Shipment Destination**

6. For this example, keep the **Lab Number** radio button highlighted and select lab **999**
7. Select a contact at the laboratory
8. Set a contact at sending lab
9. Click the **Add**  button on the LDMS toolbar

Exercise 4: Perform QA/QC on Batched Specimens

Review LDMS User Manual section **Preparing Shipments- Performing Quality Control on a Shipment**

The module allows users to QA/QC:

- Newly-created batches prior to shipment;
- Received batches prior to completion of the import process; and
- Received batches after completion of the import process.

The QA/QC process can be completed manually or by using a supported barcode scanner (preferred)

The Global Specimen ID on each barcode label is inspected to verify that it matches the Global Spec ID listed in the electronic shipping file. In addition, the position of the specimen in the shipping container should match the position of the specimen in the electronic shipping file.

1. From the **View Shipment** tab, click on a recently batched shipment to select it
2. If the batch contains individual specimens choose a sort order
    a. Select a **Primary Sort Order**
    b. Select a **Secondary Sort Order**, if needed
3. Click **Manifest Report**. The Shipping Manifest appears
4. **Close** the Crystal Reports window
5. Click **Storage Report**. The Batch Storage Report appears
6. **Close** the Crystal Reports window
7. Perform Shipment QA/QC
    a. Click the **Shipment QA/QC** tab. The Shipment QA/QC screen loads with a diagram of the selected box on the left, and detailed specimen information for each aliquot included in the shipping box on the right.
    b. Enter your initials in the **Tech Initials** field. This information will be associated with the QA/QC performed for the entire batch.
    c. Click the position of an aliquot marked with a question mark  , which denotes that the aliquot is pending QA/QC. The fields on the right of the screen load with specimen information drawn from the manifest.
    d. Scan the aliquot barcode (preferred method) - or alternatively visually match the specimen id on the barcode with the item on the screen and click Pass Aliquot

e. Enter any comments you have in the Specimen Management Comments field
f. Repeat steps 6–8 for each aliquot on the grid
g. When all containers are completed, click the **Save**  button on the LDMS toolbar

8. QA/QC all remaining batches created during the LDMS training using the steps above.

If the scanned global specimen id of the sample does not match the manifest information on the screen the position in the box will show an exclamation point  Select the position and scan the correct item to complete the QA/QC process. The QA/QC column on the View Shipment tab displays one of the following to indicate the status of the batch:

- Complete – All specimens passed QA/QC
- Complete with Errors – Some specimens passed and some failed QA/QC
- Not performed – QA/QC has not yet been performed
- In Progress – QA/QC has been started, but is incomplete

Exercise 5: Generating a LDMS Shipping file

Review LDMS User Manual section **Sending a Shipment**

1. Select **LDMS** from the **Shipment Type** box.
2. Click **Ship**. The Attention message appears.
3. Click **OK**. A message appears asking you to verify that you wish to ship the batch.
4. Click **Yes** to create the shipment, or click No.
5. Select the appropriate temperature from the **Select Temperature** menu and click **OK**. The Select Drive dialog box appears.
6. Click **C:** (or the appropriate drive) and click **OK**.
7. At the success message click **OK**.
8. Generate the required paperwork
    a. Highlight the batch. Click **Manifest Report**. The Shipping Manifest appears.
    b. **Close** the Crystal Reports window.
    c. Click **Shipping Container Report**. The Shipping Box Report appears.
    d. **Close** the Crystal Reports window.

Exercise 6: Creating an Excel or Comma Separated Text Shipping File (Optional)

Review LDMS User Manual section **Sending a Shipment**

For WIHS and MAC shipments to Precision BioServices: Lab 512 review **Sending a Shipment -- Creating SeraCare shipping files**

Note: In most cases, the default shipment type format is the LDMS Shipping Batch. If the shipment is comprised of specimens from an internal, non-government group, then the default shipment type format will be Excel or Comma Separated Text (.csv) format.

1. Select **Excel** or **Comma Separated Text** in the **Shipment Type** field.
2. Click **Ship**. The Attention message appears.
3. Click **OK**. A message appears asking you to verify that you wish to ship the batch.
4. Click **Yes** to create the shipment, or click **No** to cancel. The **Select Temperature** for Shipping Box dialog box appears.
5. Select the desired shipment temperature and click **OK**.
6. Select the desired drive for placement of the generated shipping file. Click **OK**.
7. Select the desired shipping file format. Click **OK**.
8. A success message appears. The shipping file will be placed in the drive indicated during creation of the file.

Exercise 7: Creating a Cross-LIMS Manifest Shipping File (Optional)

Review LDMS User Manual section **Sending a Shipment**

The Cross-LIMS Manifest shipping file format in the shipping module is a selectable option for **VTN** or Internal Group shipments. The LDMS can export and import this file type.

For **VTN***: This shipping file type should be used when shipping to* **Precision Bioservices, Lab 512***, Standard Manifest Report is to be included.*

1. Select **CrossLIMS** from the **Shipment Type** box.
2. Click **Ship**. The Attention message appears.
3. Click **OK**. A message appears asking you to verify that you wish to ship the batch.
4. Click **Yes** to create the shipment, or click **No** to cancel. The **Select Temperature** for Shipping Box dialog box appears.
5. Select the desired shipping temperature from the drop-down menu and click **OK**. The LDMS Data Exchange message box appears.
6. Click **Configure** to select the drive on which you want to place the generated shipping file. Utilize **Browse**, as needed. Click **OK**, then click **Exchange Data**.
7. The data exchange progress window appears.
8. A success message appears when the shipping file has been created.
9. Locate the shipping file on the drive indicated during creation.

Exercise 8: Importing an LDMS Shipping File

Review LDMS User Manual section **Importing received shipment**

1. Click on the **Import tab**.
2. Select **LDMS Shipping Batch** from the **Shipment Type** box.
3. Enter the batch number in the **Shipment No.** field.
4. Click **Import**.
5. Browse to the shipping file you wish to import. Click to select the file and click **Open**.
6. Verify that the specimen information in the grid is correct, and perform **QA/QC**.
7. Return to **Import** tab and click **Continue**.
8. Click **Yes** to continue the import process. (Or, click No if you would like to abort the import process and perform QA/QC on the shipment.)
9. If you clicked **Yes**, an Import Options message box appears.
10. Indicate desired selections for **Condition Code, Importing Associated Test Setup Information, Shipment Temperature, and Never Store**. Click **OK**.
    Note: Selecting the **Mark specimens to never store** expands the Import Options window, allowing for specimen selection. Use the arrows to populate the Never store window with the desired specimens.
11. Once the shipping file has been imported completely, a Success message appears.
12. Click **OK**.
13. The **View Shipment** tab will display the imported batch in the grid.

Exercise 9: Importing a CrossLIMS or Text Shipping File (Optional)

1. Click on the **Import** tab.
2. Select **CrossLims Manifest** or **Text** from the **Shipment Type** box. Click **Import**.
3. To enter a new source location, click **Configure** and enter the new location in the File field, or click on the **Browse** button to browse for a new location. Click **OK** to continue.
4. Click **Exchange Data** to continue importing the file.
5. Verify that the specimen information in the grid is correct, and click **Continue**. A message will appear asking if you wish to import the batch. Click **Yes**.
6. (Cross Lims only) An **Import Options** message appears.
7. (Cross Lims only) Indicate desired selections for **Condition Code, Importing Associated Test Setup Information, Shipment Temperature, and Automatically Import Boxes into Storage**. Click **OK**.
8. Once the shipping file has been imported completely, a success message appears. Click **OK**.
9. The **View Shipment** tab will display the imported batch in the grid.

Note: The text import feature allows labs to import specimen data into the LDMS using a defined data format set by Frontier Science. For more information concerning this feature, refer to **Importing received shipment—Text Shipping File**

Exercise 10: Removing Shipped Specimen Storage Records

Review LDMS User Manual section **Maintaining Storage -- How LDMS Storage Handles Shipped Specimens**

Once a specimen record has been included on a shipping disk, the storage records for those specimens display an “S” in the Storage Structure. As long as the “S” is located on a container, that position is considered occupied.

1. In **Storage**, click the **Search** tab.
2. Click **Shipped Check**. The Ship Check dialog box appears.
3. Set the **date range**, create a range of dates that will incorporate the shipping file(s) created during this training
4. Click **OK**
5. Click **OK**. The Storage dialog box appears notifying you that there are currently specimens in storage that have been shipped within the specified range of dates, and confirming if you wish to remove the specimens from storage.
6. Click **Yes**.

Assign Tests

Review LDMS User Manual section **Assays-- Managing assay runs-- Assigning assays to specimens**

The Assign Tests module can be accessed via Tools on the LDMS toolbar. This module allows for bulk assigning of tests to specimens, outside of the Specimen Management module.

Exercise 1: Searching for Aliquots

1. Click Tools, select Assign Tests from the listing.
2. Click to select the Specimen Display Field.
3. Click to highlight Data Item in the listing of data items and drag it into the Selection Criteria grid. Enter a value in the Value field:
    a. Group = ACTG/IMPAACT
4. Repeat steps 2 – 3 to define additional Selection Criteria:
    a. Primary = BLD
    b. Additive = EDT
    c. Derivative = PL2
5. Click the  button.
6. Highlight the desired specimens in the Select Samples listing.
7. Click on the + next to the desired Category.
8. Click to highlight the desired Test Description.
9. Click Assign Selected Test. A message box appears. Click Yes.

Exercise 2: Importing a Text File Listing

A text file listing of Global Specimen IDs can also be loaded to populate the Select Samples listing.

1. Click Load From File and browse to the desired text file:
   Assign_Test_import_button.txt
2. Highlight the desired specimens in the Select Samples listing.
3. Click on the + next to the desired Category.
4. Click to highlight the desired Test Description.
5. Click Assign Selected Test. A message box appears. Click Yes.

Data Retrieval

Review LDMS User Manual section **Reports-Running Custom Data Retrieval Reports**

The Data Retrieval module is used to create customized reports. This module allows you to select fields to appear on a report and to sort results by various data items. Data retrieved using this module can be exported into Excel, text, HTML, or XML format.

Exercise 1: Customized Specimen Report

1. Deselect Shipping and Storage in Display Categories
2. Select **Prot/ID2** from the **Selectable Fields** list and drag it into the **Fields to Display** section

   Note: The order of the items in the Fields to Display section is the order they will appear on the report. You are able to change the order displayed, by clicking on a data item and moving it up or down.

3. Repeat the above steps to add the following fields:
   - Global Specimen ID
   - PID/ID1
   - Specimen Date
   - Specimen Time
   - Primary
   - Additive
   - Derivative
4. Select **PROT/ID2** in the **Fields to Display** list, and drag it into the **Sort Results By** list
5. Select **Group** from the **Selectable Fields** list and drag it into **Selection Criteria** section
6. Select the following information **Group = ACTG/IMPAACT**
7. Select **Derivative** from the **Selectable Fields** list box and drag it into **Selection Criteria** section
8. Enter the following information **Derivative = SER**
9. Select **Derivative** from the **Selectable Fields** list and drag it into **Selection Criteria** section
10. Enter the following information **Derivative = CEL**
11. Select **Derivative** from the **Selectable Fields** list and drag it into **Selection Criteria** section
12. Enter the following information **Derivative = PL***
13. Enter 1 and (2 or 3 or 4) in the **Criteria Sentence** field
14. Click the **Execute**  button on the toolbar
15. To Export your results, select a format from the **Export As** box, and then click **Export**

Exercise 2: Customized Shipping Report

1. Deselect Specimen and Storage in Display Categories
2. Select **Batch Number** from the **Selectable Fields** list and drag it into the **Fields to Display** section
3. Repeat the above steps to add the following fields:
    - Setup Date
    - Ship Date
    - Shipped Flag
4. Select **Shipped Flag** from the **Selectable Fields** list and drag it into **Selection Criteria** section
5. Enter **Shipped Flag = Yes**
6. Select **Shipment Type** from the **Selectable Fields** list and drag it into **Selection Criteria** section
7. Enter **Type = Outgoing**
8. Click the **Execute**  button on the toolbar

Question: Observe the repeating data. Why is this occurring?

9. Click the **Distinct** checkbox. Click **Execute** 
10. Enter a name in the **Previous Queries** field
11. Click the **Add**  button on the LDMS toolbar

Advanced Exercise 1: Inventory Report

1. Go to Tools → Data Retrieval
2. Deselect **Shipping** and **Storage** in **Display Categories**
3. From **Selectable Fields** choose **Prot/ID2** and place in **Fields to Display**
4. In **Fields to Display** add:
    - PID/ID1
    - Specimen Date (also add to Sort by)
    - Primary
    - Additive
    - Derivative
    - Volume
    - Volume Unit
5. Deselect **Specimen** and select **Storage**
6. In **Fields to Display** add:

- Stored
- Freezer
- Level
- Sub-level
- Container
- Position

7. Deselect **Storage** and select **Shipping**
8. In **Fields to Display** add:
    - Shipped Flag
    - Batch Number
    - Ship Date
9. Click the **Execute** button.
10. Set **Export As** to Excel. Click **Export**.

Advanced Exercise 2: PBMC processing

1. Go to Tools → Data Retrieval
2. Deselect **Shipping** and **Storage** in **Display Categories**
3. From **Selectable Fields** choose **Group** and place in **Selection Criteria = ACTG/IMPAACT**
4. In **Fields to Display** add:
    - Protocol
    - PID
    - Specimen Date
    - Global Specimen ID
    - Derivative (Add to Selection Criteria = CEL)
    - Processing Date
    - Processing Tech Initials
    - Processing Time
    - Fozen Date
    - Frozen Time
5. Deselect **Specimen** and select **Storage**
6. In **Fields to Display** add:
    - Stored
    - Freezer
    - Level
    - Sub-level
    - Container
    - Position
7. Click the **Execute** button.
8. Set **Export As** to Excel. Click **Export**.