

# UCD IMPROVE Technical Information #251K

## Quality Check Station

*Interagency Monitoring of Protected Visual Environments  
Air Quality Research Center  
University of California, Davis*

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## 1. PURPOSE AND APPLICABILITY

The purpose of this TI is to describe in detail the procedures used at the Quality Check station in the sample handling laboratory. It is applicable to all routine filters in the IMPROVE network.

## 2. SUMMARY OF THE METHOD

Once all cartridges of a bin have been loaded with new filters, the bin goes through a final check to make sure that all filters and cartridges are suitable to be shipped out. Log sheets are examined for mistakes and the flashcard number is confirmed. Any issues are remedied. Shipping labels are printed out and placed in the bins. The bins are placed onto a rack and eventually transferred to the designated shipping/receiving area for the sample handling lab in the IMPROVE shop to be packed and shipped out.

## 3. CAUTIONS

Many site names look similar. It is important to make sure to print out the correct UPS label for each site so that they are sent to the correct place.

Remember that United States Postal Service (USPS) sites have a white site label on their bins.

Remember to staple the return label to the Week 3 log sheet and place the outgoing label in the bin. Sometimes these labels are accidentally swapped, and the box ultimately ends up back at the lab instead of its proper destination. This can cause loss of sample out in the field and is to be avoided.

Double-check each cassette in every 1A, 3C, and 4D cartridge to make sure that a single loose screen has been loaded in each cassette. Multiple screens or no screen can affect the flow rate of the sample out in the field.

## 4. EQUIPMENT AND SUPPLIES

- Computer with Internet access and lab application
- Barcode scanner
- Thermal printer
- UPS label rolls and pouches
- Highlighters
- Stapler
- IMPROVE Calendar
- UPS Outbound View Zones

## 5. PROCEDURAL STEPS

The Quality Check station is located near the door closest to the shop. Bins ready to be checked are located in the cabinet near the QC station. Before starting this station, print out the UPS labels for the bin that is going to be checked.

### 5.1 Procedures for Regular UPS Shipping

1. Some sites cannot receive boxes via UPS for various reasons (remoteness, delivery issues, etc.). The bins for those sites have white site code labels. UPS labels will not be generated for those bins unless authorized by a lead lab tech. All other bins will need UPS labels.
2. Use the computer at the QC Check station to go to the UPS web site (<http://www.ups.com>).
3. Click the Log-in option at the top of the web page.
  - a. Ask the lead lab techs for the username and password.
4. When the shipping information page loads, choose a site code from the “Address Book” pull-down menu located at the top middle of the page (e.g., CABI1). The page will refresh with the address information for that site. If the site is one of the international destinations (BYIS1, VIIS1, EGBE1), continue to the International Shipping Procedures in Section F.
5. Leave the “Ship From” and “Return” addresses as default. It should be the Drew Avenue address.
6. For the question, “What are you shipping?” 5X module sites are referred to as X in the UPS website.
  - a. Number of Packages: Leave as default (1)
  - b. Packaging Type: Select appropriate box size — Regular (Standard), Larger (5X Module), Smaller (Single-Module)
  - c. Weight: 4 lbs. for standard blue boxes, 6 lbs. for 5X module boxes, and 3 lbs. for single-module boxes (used for ATLA1, DETR1, PITT1).
  - d. Package Dimensions:
    - Regular (Standard) boxes: 9” x 10” x 6”
    - Larger (5X Module) boxes: 13” x 10” x 7”
      - 2-3-2: EVER1, FRRE1, MACA1, MELA1, SWAN1, WICA1, SAGA1
      - 3-2-2: BYIS1, HEGL1, MEVE1, PMRF1, SAMA1, YOSE1
    - Smaller (Single-Module) boxes (DETR1): 9” x 8” x 6”
7. For “How Would You Like to Ship?” Click the “Compare Time and Cost” link. Choose the cheapest service that will get the box two business days before installation (the Friday before the first week installation date for the

- box). Keep in mind any holidays or weather delays when choosing a shipping option. When in doubt, it is always safer to choose 2<sup>nd</sup> Day Air.
8. References: Fill in Reference #1 with the four letters of the site code (omit the # that follows the site code) and add the date of first install, which can be found on the week 1 bag sticker. Do not put any slashes, dashes, commas, etc. For example, SAPE1 with a start date of 11/03 would be SAPE1103. For Reference #2, enter user three letter initials.
  9. For “How Would You Like to Pay?” make sure that the default option is selected: (XXXXXX) – Air Quality Research Center.
  10. Leave “Would you Like to Schedule a Pickup?” blank then click the **Next** button.
  11. The UPS label will then print from the thermal printer at the QC Check station. There will be a confirmation box when the web page refreshes. Scroll down the refreshed webpage and choose the “Create a Return Shipment” option.
  12. The page should refresh, and the site code should have already been chosen from the drop- down Address Book menu. Confirm that it is the correct site code. Leave the second box as default — it should provide Drew Avenue’s address.
  13. For Box #3, “What are you returning?” leave the Packaging type as default. The proper weight should already be filled in, along with the package dimensions. There will be a new field in the box that asks for a “Merchandise Description.” Type in “Air Filters.”
  14. For Box #4, “How would you like to return?” leave the service and delivery method as default. The service should always be 2<sup>nd</sup> Day Air, unless the site is within 2 days ground shipping (refer to UPS Outbound View Zones). The “Label Delivery Method” should be “Print Return Label.” When in doubt, it is always safer to choose 2<sup>nd</sup> Day Air.
  15. Box #5 should have fields already entered. Leave them as they are.
  16. Box #6 should have “Bill Shipping Charges to (XXXXXX)-Air Quality Research Center.” Make sure this is selected, and then click “Next.”
  17. Retrieve both labels from the thermal printer. Highlight the site name and place the outgoing label in the bin. Put the return label aside as it will be used during the Final Check.
  18. If the bin is not immediately going through the QC Check station, highlight the site code on the outgoing label and place both labels in the bin. Do not make labels for a bin that will not be QC’d and sent out that same day.

## 5.2 Outgoing International Shipments

1. If BYIS1, VIIS1, or EGBE1 is selected from the “Address Book” drop-down menu, the international shipment page will come up. It is very similar to the

normal page but with a few unique boxes.

2. Leave “Ship From” and “Return” addresses as default.
3. Differences that all three sites will ask for:
  - a. BYIS1 and EGBE1 will have an extra field at the top asking for Customs Value. Type in “100.”
  - b. Description of Goods: Type in “Air Filters.”
  - c. Weight: 4 lbs. Regular (Standard) sites, and 5 lbs. for Larger (5X Module) sites.
4. Select Service: Select UPS Worldwide Saver (Express).
5. Reference Section:
  - a. Reference #1: SITEMMDD (4 letter side code plus month and date of first Tuesday install).
  - b. Reference #2: 3 letter user initials
6. Bill shipping charges and bill duties and taxes: Make sure both are set to (XXXXXX) — Air Quality Research Center.
7. Make sure that the box saying “Review shipping details” is checked. Click **Next**. Review shipping information and then click **Ship now**.
8. A new page will come up with different form options available. Make sure to select “Complete Selected Export Forms Online” — it should be default checked. Also, make sure that Commercial Invoice is checked. This should also be set as default. At the bottom, make sure the box saying “Preview Shipment before completing shipment” is checked.
9. On the next page, click **Add Product**. Add “Air Filters” from the Product List drop-down menu. The product description and Tariff Code should automatically fill in. Type “1” for Number of units. Price per unit should be defaulted to 100.00 and the currency should be “USD US Dollars.” For Unit of Measure, choose “Pieces.” Then click **Submit**, followed by **Next**.
10. Leave everything as it is on the next page. Click **Next**.
11. Leave the “Form Description” blank and click **Next**.
12. On this page, choose “Print All Online Forms.” Then click **Open** if the browser asks to open or save the forms.
13. Go to **File** in Adobe and choose **Print**. Make sure the aqrc-lab-copier on aqrc-print is selected and press **Print**. Three copies of the invoice should print out. *Do not print to the thermal printer.*
14. Retrieve the commercial invoices from the printer. Sign and date each one in the appropriate fields at the bottom of the page.
15. Go back to the UPS webpage and click **Next**.

16. Leave everything as default in the Select Export Forms and click **Next**.
17. Review all details (paying special attention to the payment information in Box 4) and choose **Ship Now**. Two labels should print. One will look like a regular outgoing label and the other will have a paragraph printed on it and a section for a signature. Sign and date the label. Retrieve a UPS pouch by QC Check station and place the commercial invoices in it. Make sure that the barcode on the first commercial invoice is visible through the pouch.

### 5.3 International Return Shipping

1. To create an International Return, choose **Create Import** from the list of options on the left-hand side of the screen.
2. Box #1: “Where is this shipment coming from?” Select site: BYIS1, EGBE1, or VIIS1
3. Box #2: Leave as default; it should be the Drew Avenue address.
4. Box #3: What Are You Returning?
  - a. Description of Goods: “Used Air Filters for Testing”
  - b. Number of packages: Default should be 1
  - c. Weight: 4 lbs. for Regular (Standard) sites and 5 lbs. for Larger (5X Module) sites
  - d. Merchandise description: Type in “Used Air Filters for Testing.”
5. Box #4: “How Would You Like to Return?”
  - a. Service: Select **UPS Express Saver**.
  - b. Label Delivery Method: Select **Print Return Label**.
  - c. Make sure “Send E-mail notifications” is checked.
6. Box #5: “Would you like to add reference numbers to this return shipment?”
  - a. Reference #1: SITEMMDD (4 letter site code plus month and date of first Tuesday install).
  - b. Reference #2: Enter user initials.
7. Box #6: “How Would You Like to Pay?”
  - a. Bill shipping charges to: (XXXXXX)-Air Quality Research Center.
  - b. Bill duties and taxes to: (XXXXXX)-Air Quality Research Center.
  - c. Make sure “Review shipping details, including price, before completing the shipment” is checked.
8. Box #1 in “Enter Additional Import Control Information”:
  - a. If “electronic label” was selected, make sure “Send Electronic Label to:” is filled in with a lead lab assistant’s email. (e.g.



takawamoto@ucdavis.edu)

9. Review your return details and press **Next**.
10. Leave everything as default. “Complete selected export forms online” and “Commercial invoice” should be checked. Press “Add product.”
11. “Enter Product Information”:
  - a. Choose Air Filter Return from the Product List drop-down menu. The Product Description will automatically fill in.
  - b. Make sure that the Product Country of Origin is set to the default, “United States - US.”
  - c. Number of units: 1
  - d. Price per unit: 100
  - e. Unit of Measurement: Pieces
12. Press **Next**. Leave everything as default on the next page and click **Next** again.
13. Leave the “Forms Description” blank and press **Next**.
14. Review Export forms—leave everything default and do not print. The click **Next**.
15. Leave everything on this page as default.
16. Click **Ship now**. Put all of them into a UPS pouch after signing and dating all forms and place it in the bin. It will be shipped out in the blue box with the filters.
17. A hard copy of these instructions with pictures can be found at the QC station, and an electronic copy can be found here:  
U:\IMPROVE\_Lab\Lab\_Gravimetric\Sample Handling Laboratory  
SOP\Shipping Label Instructions

#### 5.4 Quality Check Procedure

1. Highlight the site code present on the outgoing label and make sure to place it in front of the bin. Set the return label aside. Note that bins with white labels are USPS sites. Refer to the USPS Instructions at the QC Check station to print these labels. An electronic copy can be found here:  
U:\IMPROVE\_Lab\Lab\_Gravimetric\Sample Handling Laboratory SOP\Shipping Label Instructions\USPS\2020
2. Open the lab application. Navigate to Pre-Sampling, and then QC Check, entering three-letter initials.
3. Scan the bin barcode (type in the 5-character site code if the bin is unlabeled).
4. Check the week bag labels to make sure that they match the dates on the screen and have the correct installation dates on them.
5. Starting with Week 1, remove the log sheet and all the cartridges. Starting with

the 1A cartridge, make sure that the dates and sequence numbers written on the labels are correct and in the right order. Then remove all the red caps on the cassette bottoms. Make sure that there is a filter in all of the sampling positions and dummy sets in the non-sampling positions. Also check for any specks, holes, etc. on the filter. Continue this process with the 2B, 3C, 4D and 5X cartridges. If any specks are found, try gently tapping the cartridge on the counter. If the speck comes off and it is an A or D filter, set the filter in the 'To be reweighed' bin at the Pre-Sample Weigh-in station. Select a new filter that has already been weighed from the corresponding chamber. Notify a lead lab tech so that the barcode and pre-mass can be updated. If there are any other filter integrity issues with an A or D filter follow the same procedure. If there is a filter integrity issue with a B or C filter, discard the current filter and place a new clean filter in the corresponding cassette.

6. Make sure all 1A, 3C, and 4D cartridges have loose screens in each cassette. Do this by looking through the hole in the cassette tops. Also, check carefully for double screens. Double screens will normally create a "honeycomb" pattern when viewed from the top of the cassette. If in doubt about whether a screen is a single or a double, it is best to check to make sure.
7. Pay special attention to the 3C filters. They have a smooth side and a rough side. The smooth side should be visible when the red cap is removed from the cassette bottom. Make sure all sides of the filter are completely inside the cup as well.
8. Now, look at the log sheet. Fold the log lengthwise and then widthwise and place it into its corresponding bag. The site and installation date are typed in the top center of the page. Make sure that the site on the log sheet corresponds to the site label on the bin and that the installation date matches the week bag's sticker and the date on the lab application. Highlight this information so that it draws the operator's attention. To the right of this information is the eight-digit flashcard number. This number corresponds to the flashcard that can be found in the Week 1 bag in its own small, plastic case. Retrieve the flashcard and check to see that the number matches what is written on the log sheet. Make sure that the flashcard goes back into the Week 1 bag.
9. The 1A and 4D filters are weighed before being installed and the weights are recorded at the bottom left hand corner of each log sheet. From top to bottom, the numbers on the left are for the weights of the 1A filters and the numbers on the right are the weights of the 4D filters. If there is a 5<sup>th</sup> module A or D, the weights will appear to the right of the 4D column.
10. Put the cartridges back in the bag, and then slide the log sheet and flashcard into the bag. Repeat this process for weeks 2 and 3. Make sure to highlight the site name and installation date for each log sheet. Ensure that the cartridges are in the bag neatly and flat so that the bags close and all three will fit into the shipping box.
11. For Week 3, staple the backing of the UPS return label (if applicable) to the front

of the log sheet. Scan the UPS tracking number to the appropriate text box. If it is a USPS site, change the dropdown to USPS and scan the USPS tracking number. Replace the contents of the last week's bag. Check the boxes for "Screens," "Field blank" (if applicable), 5<sup>th</sup> module (if applicable), and "Flashcard Numbers", then hit **Submit**. Place the bin into the rack under the bench.

12. Occasionally, there will be an extra step at the Quality Check station. There will be notes or signs displayed next to the computer or on a specific bin with instructions. Some examples are putting a newsletter in the bin, changing an address label, or giving the bin to a lead lab tech before shipping out.