

Th: Jefferson
MONTICELLO
ARCHAEOLOGY

LAB PROCEDURES MANUAL

PART 1

Logging Bags, Initial Processing, Washing, Sorting, Bagging,
Flotation, Labeling, and Storage

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I. OVERVIEW

This manual covers the first part of standard laboratory procedures for the Monticello Department of Archaeology. The following sections describe the tasks for initial artifact processing and typically undertaken by field crew, lab interns, volunteers, and field school students.

Tips while completing these tasks:

- Work with only one context at time to avoid mixing contexts and losing critical provenience information.
- Write legibly. You can always print tags and slips if needed.
- Anyone should be able to take over your work at any time. Therefore, document your progress, update your colleagues on the status of your work, follow the guidelines laid out in this manual, and suggest changes when you find necessary edits to the procedures.

This manual is a living document and will be reviewed annually by the Curator of Archaeological Collections, with input from Lab Analysts.

II. LOGGING BAGS

Field Supervisors, crew, and field school students are responsible for logging their artifact bags and flotation samples at the end of each day. Artifact bags collected in the field will be entered into the **Artifact Tracking Log**, which is saved to the department drive and can be accessed via any computer in the lab: <P:\LabAdmin\ArtifactTrackingLog.xlsx>.

Please ask a lab staff for assistance logging onto the computer. The spreadsheet includes the log-in date, context, and bag count. It is important to record the bag count information exactly as it is noted on the original artifact bag. Note that each project has its own color-coordinated worksheet tab at the bottom of the spreadsheet. Note that some projects have multiple tabs, determined by year of processing. Consult the lab staff if you are not sure which tab to log incoming bags into. Never make a copy of this spreadsheet as that will create multiple versions.

III. INITIAL ARTIFACT PROCESSING

Artifacts need to be cleaned as soon as possible, and preferably in alphanumerical order by context (this will assist in tracking what can be analyzed for distribution maps). Clean one bag of artifacts at a time and always make sure that the context information is never separated from the artifacts being washed.

The steps below describe the process of creating processing tags and the initial cleaning of artifacts, bag by bag.

A. Processing Tag

Record each bag on a line on the **Wash Log** located on the kitchen counter. Make sure that all information matches exactly what is on the original bag tag. Ask a lab member if unsure what information goes where.

Every context must have an original brown context tag and a **Temporary Processing Tag** (Figure 1) before washing begins. The Temporary Processing Tag must be kept with the original brown context tag and must be filled out when each task is completed. Note that there are three types of processing tags used in the lab. For current projects, use type A. For floats, use type B. For legacy collections that do not need to be washed, use type C.

1. Cut the original context information from the brown paper field bag and place the paper label in a 3" x 5" polyethylene zipper bag along with a Temporary Processing Tag (use a 3" x 4" bag for the shorter type C processing tag).
2. Fill out the Temporary Processing Tag by copying the Project, Context, and Bag Number information from the excavation bag and placing your initials and date next to the "Washed" heading.
3. Place the Temporary Processing Tag in the same polyethylene bag with the original brown paper field tag so that the information from both tags are visible on either side.
4. The bag with both tags **MUST** follow the associated artifacts throughout processing. Eventually, these processing tags will be replaced by a new, acid-free Bag Tag (Figure 6) before the artifacts are boxed for storage.

A) NORMAL PROCESSING TAG FOR CURRENT PROJECTS			B) PROCESSING TAG FOR FLOATS			C) PROCESSING TAG FOR LEGACY COLLECTIONS THAT DO NOT NEED WASHING		
Project: Site 30			Project: Site 30			Project: North Yard		
Context: 072A Bag no: 1/2			Context: 028D - s - 01			Context: 1301A Bag no: 1/2		
	Date	Initials		Date	Initials		Date	Initials
Washed	07/31/24	CAC	Bagged/ Tagged	07/31/24	CAS	Inspected for labeling	08/02/24	JOC
Bagged/ Tagged	08/02/24	CDL	Picked	08/02/24	CAS	Artifacts pulled for labeling	Y or N	JOC
Inspected for labeling	08/02/24	JOC	Inspected for labeling	08/02/24	JOC	Re-Integrated		
Artifacts pulled for labeling	Y or N	JOC	Artifacts pulled for labeling	Y or N	JOC	Catalogued	12/03/24	CSD
Re-Integrated	08/08/24	CTS	Re-Integrated					
Catalogued	12/03/24	CSD	Catalogued	12/03/24	CSD			

FIGURE 1. COMPLETED TEMPORARY PROCESSING TAGS

B. Artifact Cleaning

Once you have completed the Wash Log and set up the Processing Tag with original brown paper tag, you can prepare to clean.

1. Empty the contents of the artifacts onto a sorting tray.
2. Cut open the bottom of the paper artifact bag to double-check for small artifacts possibly caught under the seam and/or between layers of bags. You can then throw away the brown paper bag.
3. Check for small, fragile, or metal objects that should not be washed or that need gentle treatment (e.g., fragile bone, straight pins, overglazed painted ceramics) and set these to the side to avoid damaging. Any artifact that appears to be particularly fragile or those that could disintegrate in water should not be washed. Typically, fragile artifacts such as these are placed in a film canister or other protective container in the field. **See section below for tips on cleaning different artifact types.**
4. Separate out all metal (iron, copper, lead, etc.) artifacts for dry brushing.
5. Take a drying screen from one of the shelves and place it next to the sink. **Make sure you place the bag with the Temporary Processing Tag and Brown Context Tag in this screen.**
6. Carefully place artifacts that can be washed into one of the small, wooden screens that sit on a plastic basin in the sink.
7. Only use the brushes intended for artifact washing. **Do not use the brushes in the sink caddies for dish washing.**
8. Use a small, slow stream of water to wash the artifacts, with all dirty water going into the basin. Take note of the small holes drilled through the sides of the basins. You will need to empty the bucket of water before it reaches these holes.
 - **Do not empty the basins into the sink. Empty them outside.**
9. Carefully and thoroughly wash all other artifacts, **especially the edges**. A soft-bristled toothbrush will handle almost all of your washing needs.
10. Place clean artifacts onto the drying screen you have next to you. Group the artifacts by type, i.e., ceramics, buttons, beads, buckles, utensils, tobacco pipes, container glass, nails, bricks, etc.
11. Once all the artifacts from a single context are washed and sorted on the drying tray, place them on the wire shelves left of the sinks. Stack the trays on the shelves from top to bottom, so that wet artifacts do not drip down onto a tray of dried or drying artifacts. You may need to move trays that have been drying to the upper shelves to make room for new trays.
12. Tape a small piece of masking tape to the outside of the screen so it is visible. Write clearly in sharpie: the project ID, the context, and Bag #/#
13. Clean your work area/sink; but **do not empty the basins into the sink**. Instead, empty the water in grass or gravel near the float tank outside. Wipe out any residual sediment with a paper towel before putting the basin away, upside down, to dry.
14. Wipe any sediment out of the sinks with a paper towel and use the sink sprayer to rinse.

Different contexts from the same project can be placed in the same drying screen. Wooden dividers, which are stored in the kitchen island, should be used to separate contexts within a tray. Keep artifacts away from dividers and **do not put more than 2 contexts** in any given tray.

If your context takes up more than 1 drying screen, label all additional screens appropriately with the context and as trays 1 of 3, 2 of 3, etc. using masking tape and place on the outside of the screen. Make it obvious that it is Tray #/#, as opposed to Bag #/#.

If you do not finish washing a context, place a plastic tray of unwashed artifacts *inside* the corresponding drying rack and label it as “in progress” with masking tape.

Tips for Cleaning Artifacts

The following are some tips on how to handle certain artifacts. **If you are unsure how to treat an object, please ask the lab staff.**

Ceramics

Edges of ceramic sherds.

Clean edges make it easier to mend sherds together and ensure accurate form and paste identification.

Overglazed painting (e.g., reds, greens, yellows and gilding) on ceramics easily rub off.

- **Do not** use a brush on a surface with overglazed decoration; instead, rub gently with fingers and rinse with a gentle stream of water.
- If the overglaze appears to be lifting from the surface of the sherd, ***stop washing***.

Low-fired ceramics (i.e., Native American pottery, tin-enameled refined earthenwares like Delft) have soft clays that are easily scored

- Lightly brush with a wet toothbrush
- If marking on the surface occurs or tin-enameled glaze separates, ***stop washing***.

Tobacco Pipes

- Brush the edges and surfaces carefully.
- Use dissecting needles to remove all dirt from the bore.

Metal artifacts

- Metal artifacts such as nails, tacks, and buttons should be dry brushed to remove as much dirt as possible.
 - If selected for conservation, artifact should be transferred to a polyethylene bag without any cleaning.
- Do not try to remove any corrosion.

Bricks

- Use the large scrub brushes.

- Be aware that daub looks similar to brick, but should be dry-brushed. If anything feels crumbly and fragile, ask one of the lab staff.

Glass

- Use a bottle brush to help clean bottle necks and interiors of whole containers.
- Do not try to remove patination, the iridescent or golden flaky material that often forms on the surface of glass.

Bone

- Dampen a toothbrush with water and lightly brush the bone. If the bone begins to crumble, ***stop washing***.
- Do not submerge the bone into water.

IV. SORTING AND BAGGING ARTIFACTS

It takes artifacts approximately **24 hours to dry**. More porous artifacts, such as brick and mortar, can take several days to dry thoroughly and **should not be bagged until completely dry**. Wet bricks are cool to the touch.

At this point, you can combine multiple bags from the same context, **only if they are in the same stage in their processing**. Check with the lab staff for confirmation before doing so. When this is done, we keep all processing tags and original bag tags. Place all of them in the same 3"x5" polyethylene bag, and make sure to record initials and date on each of them when doing processing tasks. Artifacts from different original bags can be combined by artifact type; the only exception to this rule is if these artifacts are cataloged on different days and/or by different analysts, in which case they will be bagged separately.

1. Once dry, separate artifacts by broad type (i.e., ceramics, brick, mortar, iron, etc.) and put them in the smallest possible plastic bag. When choosing the appropriately sized bag, make sure to find the smallest size from which you can still comfortably remove the artifact. **See tips for sorting and bagging below.**
 - Make sure fragile artifacts are protected and use film canisters or another protective container to secure these artifacts.
2. Hole punch each bag. If the contained artifacts are small enough to fit through that hole, use a dental pick to poke three small holes. **If this is still too big, put these artifacts in a non-perforated bag.**
3. For each individual bag of artifacts, create an **Artifact Tag** (Figure 2). This is a small acid-free label that includes project and site information as well as a Context Sample ID number.
 - Fill in the Context Sample ID number which consists of the project number, the context number, and the abbreviated recovery method (e.g., 108-2324U-DRS). Check with the lab staff to make sure you have the correct recovery method.
 - Chemical = CHEM

- Dry Screen = DRS
 - Flotation = FLT
 - Not Recorded = NRD (this indicates we do not know how something was recovered, which can happen with UNPROV or legacy contexts)
 - Not Screened = NOS (typically, legacy contexts)
 - Phytolith = PHY
 - Pollen = PLN
 - Pre-Sample Recovery = PSR (this is not used much anymore and refers to cases like when a large ceramic was spotted during a flotation sample collection and was bagged separately to ensure it would not break further)
 - UnprocSedSample = UPS
 - Water Screen = WTS
- For residue-heavy artifacts (e.g., brick, mortar, iron), place the artifact tag in a non-perforated 2x3 polyethylene bag. This bag can then go into the artifact bag.
4. Put all bags from the same context into a larger plastic bag and hole punch it. This bag should be no smaller than 4"x6".
 5. Place the bag with the original brown paper context tag and Temporary Processing Tag at the front of this context bag so it is clearly visible from the exterior.
 6. Upon completion of these tasks, add your initials and the date under "Bagged/Tagged" on the Temporary Processing Tag.

Project:
Home Farm Qtr. Site 30
State Site Number:
44AB712
Context Sample ID:
130-072A-DRS;

FIGURE 2. ARTIFACT TAG

Tips for Sorting and Bagging Artifacts

With few exceptions, artifacts should be sorted and bagged according to the artifact type listed below (Table 1). Items listed under a bold heading can be bagged together, while items listed individually must be bagged separately.

For example, all stone from the same context can be bagged together. Likewise, all ceramic sherds from the same context can be bagged together. However, all straight pins should be bagged separate from other copper alloy items.

Consult the lab staff if you encounter any artifact not represented in the list below.

Blue: Artifact types bagged together

Green: Artifact types bagged separately by material (i.e., copper buttons and iron buttons in two separate bags)

Mortar	Charcoal	Slag	Coal and Cinder
Ceramics	Tobacco Pipes	Projectile Points	Beads
Coins	Buckles	Utensils	Buttons
Stone -Flakes/shatter -Gunflint -Mica -Slate, phyllite, and all architectural stone -Misc Stone	Modern -Aluminum foil -Paint chips -Plastic wrappers -Misc plastic -Pull tabs -All other moderns	Flat Glass -Window glass -Mirror glass	Vessel Glass -Container glass All colors
Shell (Modified)	Bone (Modified)	Iron	Lead/Lead Alloys
Shell (Unmodified) *Separate bags for aquatic shells vs. land snail shells	Bone (Unmodified)	Copper Alloys (unidentified items or sheeting/scrap)	Other Metal
Brick -Chinking -Daub	Organics -Wood -Seeds/Beans/Pits -Corn cobs -Nutshell -Seed pods	Straight Pins and Hook-and-Eyes (If same metal)	

TABLE 1. ARTIFACT BAGGING GUIDE

Items to discard: BandAids, Gum, or any other health hazards. We also discard corrosion/rust and sometimes architectural materials on a project-by-project basis.

For discarded items, write out an Artifact Tag (Figure 2) with the correct information on the front and write on the back what was discarded (Ex: "Corrosion/rust discarded, 10g"). Place the tag in an empty 2"x 3" bag and add to the context bag (See also Lab Manual Part 2, Section V).

V. FLOTATION SAMPLES: BAGGING, PICKING, AND SORTING

Each sample collected for flotation is given a unique sample number and recorded in the field sample log (i.e., S-02). Once brought to the lab, it is then entered into the **Flotation Tracking Log** prior to processing: <P:\LabAdmin\FloatTrackingLog.xlsx>.

For instructions on how to conduct flotation using the float tank and Flote-Tech system, see Appendix 1.

A. Bagging

Flotation samples are separated by light and heavy fractions. When the flotation samples are dry, bag the light fraction and heavy fraction in separate, appropriately sized polyethylene bags. **Do not pierce these bags with the hole punch or dental pick**, as the small size of recovered material will fall through any holes in the bags.

Each context bag should receive a Temporary Processing Tag specific to flotation (Figure 1B) and placed inside a 3x5 polyethylene bag, pending a permanent printed tag. This tag should include the Project Name, Context ID, and Sample Number. The sample number should be written after the letter S (include a 0 [zero] in front of single digits) as seen in the following example:

2293C-S-02

Place the light and heavy fraction bags for each sample into an appropriately sized hole-punched polyethylene bag so that light and heavy fraction for a given sample are bagged/stored together. Complete a **Float Tag** (Figure 3) for the light fraction bag. These should be printed on white, acid-free cardstock, and are typically created and saved in a specific Project folder within the label folder: <P:\LabAdmin\Labels and Forms-New\Label>

FLOTATION
Project: Hm Fm Qtr Site 30
Fraction type: Light Heavy<2mm Heavy>2mm
Context Sample ID: 130-

FIGURE 3. FLOAT TAG

Templates\FloatTags_blank.docx.

Fill out the Context Sample ID so that it contains the context, sample number, and recovery method (e.g., -2293C-FLT-S-02). Circle the Fraction Type: “Light.” Do not create tags for heavy fraction yet (that will be done in the picking step next). Place this tag in an un-punched 2x3 polyethylene bag, and put this in the light fraction bag.

Record your initials and date next to “Bagged/Tagged” on the Temporary Processing Tag.

B. Picking

All heavy fraction is picked to identify artifacts to be removed for cataloging. Any botanical remains (charred wood, seed pods, etc.) found **are not removed unless they are extremely fragile**, but rather left in the heavy fraction residuals for later analysis by an ethnobotanist.

1. Run the heavy fraction sample through a ¼" and 2 mm sieve.
2. Pick out all artifacts, including brick and mortar, from the ¼" screen.
 - a. Limestone, slate, phyllite, alaskite, architectural stone, and modified stone should be picked out. All unmodified stone larger than 25mm can be discarded.
3. Pick all artifacts **except brick and mortar** from the 2 mm screen.
4. All artifacts are sorted and bagged following the protocol outline above and then cataloged. Place an Artifact Tag (Figure 2) in each individual artifact type bag, filling out the context sample ID (e.g., 2293C-S-02-FLT).
5. Bag all the remaining rock and coarse granules from these two screens together. Create a Float Tag (Figure 3) for this bag, writing the Context Sample ID and circling "Heavy > 2mm." Place the Float Tag in an un-punched 2x3 polyethylene bag and place in the larger bag with the Heavy > 2mm fraction sample.
6. Do not pick anything that goes through the 2 mm screens. Put these residuals (including unmodified stone) in a separate bag. Create a Float Tag, fill in the Context Sample ID and circle "Heavy < 2mm." Place the Float Tag in an un-punched 2x3 polyethylene bag and place in the larger bag with the Heavy < 2mm fraction sample.
7. Record your initials and date next to "Picked" on the Temporary Processing Tag (Figure 1B).

C. Storing

After picking, all artifacts will be cataloged. Artifacts are stored with their appropriate float sample. Light fraction, heavy fraction artifacts, and heavy fraction residuals should all remain in the same parent bag for each sample and then be boxed for storage.

Place the Temporary Processing Tag (Figure 1B) in each sample bag so that it is visible from the front. Final bag tags will eventually replace these tags (Figure 6).

The process for sending flotation samples for external analysis is outlined in the Lab Manual, Part 2, Section VIII.E.

VI. LABELING

A. Pulling for Labeling

Most diagnostic artifacts (those that have established manufacturing date ranges or most useful in analysis) are individually labeled (see Table 2). The remaining non-diagnostic artifacts, such as slag, nails, mortar, brick, flakes, or window glass, are not labeled. Make sure they have been fully sorted as described in Section IV.

When	What	Condition
Almost Always:	Ceramics	Label if bigger than 15 mm. Consult the lab staff before labeling unglazed coarsewares (Native American, colonoware, etc)
	Bone	Label if it is worked (e.g., bone handle, toothbrush)
	Utensils	
	Tobacco Pipes	
	Container glass	Label if bigger than 15 mm.
	Buttons	Use an artifact tag with string.
	Buckles	Use an artifact tag with string.
	Beads	Use an artifact tag with string.
	Window glass	Label only if it has a finished edge or evidence of manufacturing technique.
	Lithic tools	Consult lab staff before labeling so as to avoid diagnostic attributes.
Almost Never:	Slag	
	Shell	
	Rocks	
	Mortar	
	Coal	
	Modern Bottle Glass	
	Window glass	Exception described above.
	Flower pot sherds	
	Flakes/shatter/core	Exception for tools described above.
	Ferrous Objects	Use an artifact tag with string for unique iron objects.
	Nails	

TABLE 2. WHAT TO LABEL

1. Grab a new labeling tray and record the context information on the **Labeling Tray Template** (Figure 4). Cross out any old information on that sheet from past labeling.
2. More templates can be found here for printing on regular white printer paper:
<P:\LabAdmin\Labels and Forms-New\Label Templates\Label Tray Template.xlsx>.
 - a. **Context ID:** This should include the quadrat and the layer (e.g., 072A)

- b. **Quadrant No.:** This only refers to legacy collections (like North Yard) that bagged artifacts by quadrant. Ask a lab team member before recording those contexts. If not applicable, write “N/A” or cross out.
- c. **Tray No.:** Refers to how many trays from one bag were created. If there are a lot of artifacts needing labeling, you may need to use multiple trays. The **Tray No. field is very important for keeping track of contexts when reintegrating artifacts that are labeled.**
- d. **Labeled By:** Leave blank. You do not need to put your initials on the labeling tray. Only the person who labels the artifacts will do that.

Project	North Yard	
Context ID	1303B	
Quadrant No. (if appl.)	1	
Tray No.	1 / 2	
	Date	Initial
Labeled by:	12/06/24	CAC

FIGURE 4. LABEL TRAY TEMPLATE

3. Grab a maximum **Artifact Size Template** and a **Label Count Form** from the lab forms box. Additional Label Count Forms for printing on regular copy paper:
<P:\LabAdmin\Labels and Forms-New\Label Templates\LabelCountForm.xlsx>.
4. Using the conditions listed in Table 2, go through the context bag and remove any artifacts that meet the conditions for adhesive or string-tagged labels
5. Estimate how many artifacts were pulled for each context and record on the Label Count Form. Record the Project Name, Context ID, and estimated count.
6. If nothing requires labeling, you don’t need to do anything except enter the date and your initials next to “Inspected for Labeling,” circle “N” next to “Artifacts Pulled for Labeling,” and record your initials. Cross out the boxes next to “Reintegrated”.
7. If you pull for labeling, place one of the small, brightly colored **Artifacts Pulled for Labeling** tags into the original context bag from which you pulled artifacts, being sure it is easily visible.
8. **At most, you can place two contexts on one labeling tray, separated by a wooden divider.** Do not put more than this.
9. Add your initials and date under the “Artifacts pulled for labeling” heading on the Temporary Processing Tag (Figure 1). Circle “Y” and put your initials.
10. Give the Label Count Form to the lab team member supervising that day. They should print off the necessary labels before the end of the day.
11. Once an entire box has been pulled for labeling, check off the line “All Artifacts Pulled for Labeling” on the **Temporary Box Label** (Figure 5).

B. Label Formats

The label written on the artifact itself consists of the State Site Number (without the state designation 44 and without the zeros) and the context. For example, an artifact recovered from the Monticello Home Farm Quarter (AB442) in context 133A would be labeled **AB442-133A**.

Float Samples

If the artifact being labeled was recovered from a float sample, then the sample number is included in the label as: **AB442-220G-S-05**.

Projects without State Site Numbers

In this case, labels include an alphabetical project code followed by the context information, such as **NDV-01A** from the North Dependency Vault project.

Because **Plantation Survey** has multiple projects (Monticello versus Tufton), artifacts recovered would include the alphabetical project code, project ID, area #, and STP. For example, an artifact recovered from Plantation Survey (Project 6) would be labeled: **PS6-19-P06**.

For all projects without State Site Numbers, refer to the following to see what the labeling code is: <P:\LabAdmin\ProjectList.xlsx>. Refer to a lab staff member if a code has not been assigned yet.

Unprovenienced Contexts

For unprovenienced artifacts from an existing project that cannot be assigned to a specific quad, label the artifact with the site number followed by “UNPROV.” For example, **AB712-UNPROV**.

For mountaintop projects, we opt for greater spatial resolution even if the UNPROV falls within an assigned State Site Number. Because there are multiple UNPROV from the same site number but different projects, simply recording the site number would confuse multiple projects. Therefore, we use the site number, an alphabetical code assigned to the project, followed by “UNPROV.” For example, **AB89WKY-UNPROV** would indicate an unprovenienced artifact from the West Kitchen Yard. **These project-specific labeling assignments should be noted in the Project Table on DAACS and on the Project List spreadsheet:** <P:\LabAdmin\ProjectList.xlsx>.

C. Labeling Artifacts

1. Label one bag or context at a time.
2. If not already done so, ask a lab team member to print off labels for the contexts you will be labeling, using the **Label Count Form** that should have been created when the artifacts were pulled. These labels should be printed in Times New Roman, size 5 font, and on regular acid-free paper (not cardstock): <P:\LabAdmin\Labels and Forms-New\Label Templates\Artifact Paper Label Template>.
3. If an area is particularly small, labels can be printed in size 3 or 4 font. Just make sure all the components of the label are easily read.

- a. **When in doubt, don't label.**
4. Cut out the labels as close to the lettering as possible, making the label as small as possible.
5. Put a small amount of Liquitex into a film canister top (dime size or smaller) or palette. The glue will dry out if left too long, so start with a small amount and add more as needed.
6. Choose an inconspicuous and non-decorated area to label.
 - a. ***Make sure to check for evidence of overglazed decoration (ghosting).***
 - b. ***Do not write on the broken edge (profile) or painted areas of an artifact.***
 - c. Place the label alongside the edge avoiding central or prominent areas.
 - d. For glass, choose an area with minimal patination.
 - e. For hollow glass and ceramics, prioritize the exterior of the sherd if you can.
 - f. For flat-vessel glass and ceramics, prioritize the interior of the sherd if you can.
 - g. If you are unsure what area is best, ask the lab staff.
7. Once you have chosen an appropriate spot for the label, use a stiff paint brush to dab a small amount of Liquitex onto the chosen spot. Then use the wet paintbrush to pick up the label and place it onto the applied glue. Cover the entire paper label with a thin layer of Liquitex.
8. Do NOT swipe the label with the Liquitex paintbrush. This can dislodge the label and drag it out of place, or it can smudge the printed label. Instead, gently dab the Liquitex onto the surface of the label, making sure to cover the whole paper.
9. Make sure the whole paper label is on the artifact!
10. If any mistakes are made (e.g., wrong label applied), simply wash the artifact under water and gently remove the label and Liquitex before starting over. Do NOT put artifacts with overglaze/ghosting under water. Instead use a wet Q-tip or paper towel to dampen the surface and remove the label and glue.
11. The artifacts must dry on trays for a minimum of two (2) hours.
12. Record your initials and date on the Labeling Tray Template.
13. Rinse all equipment under water to remove Liquitex. Make sure to properly clean the brushes so they do not harden over time.

Note: Sometimes, it will still be preferable to use the paraloid and ink system for labeling certain artifacts (hard-to-apply surfaces, artifacts in humid/un-controlled exhibit spaces, matching labeling procedures for a mended artifact, etc.). If so, refer to an older version of the lab manual on how to complete this process: <P:\LabAdmin\Manuals\Old manuals>.

D. Reintegrating Labeled Artifacts

1. Once the labels are dried, reintegrate the artifacts into their original bags and add your initials and the date next to "Reintegrated" on the Temporary Processing Tag (Figure 1).

2. Make sure you have the right bag and all trays associated to that bag! Pay attention to quadrat number and tray number.
3. Remove the “Artifacts pulled for labeling” tag.
4. Replace the artifact bag into the appropriate project box.
5. Once an entire box has been labeled and the artifacts reintegrated, check off the line “Labeling Completed for Box” on the Temporary Box Label (Figure 5).

VII. STORAGE

All protocol related to storage are fully described in the Lab Manual, Part 2, Section VI. A few tasks are also summarized here as they pertain to artifact processing and steps typically undertaken by volunteers, interns, and field school students.

Artifacts are stored in polyethylene, zip-lock bags with their appropriate labels and tags and placed into acid-free Hollinger boxes. When choosing the appropriately sized bag, make sure to find the smallest size from which you can still comfortably remove the artifact.

Hollinger boxes should weigh no more than 25 to 30 lbs. They should be organized by Project, year of excavation, Context, and Recovery Method. An exception to this may be the grouping of all soil samples or flotation samples into one box or when an old quad is re-opened and cleaned (in which case, the newly collected artifacts are added to the older bag).

A. Temporary Box Label

At the creation of each box, tape a **Temporary Box Label** to the exterior side with the handle holes (Figure 5): <P:\LabAdmin\Labels and Forms-New\Label Templates\TemporaryBoxLabels.docx>.

Write the Project Name next to “Site” and highlight the top box with a color that is not used (or infrequently used) by the other projects on the shelves in the main Monticello lab. Use the Notes field as needed. This tag will stay on the boxes until all contexts from that project’s season have been fully processed and cataloged.

Site:	Home Farm Qtr Site 30
	All Artifacts pulled for Labeling
	Labeling Completed for Box
	Catalogued
	Weighed and bags organized
Notes:	2024 Floats

Figure 5. TEMPORARY BOX LABEL

B. Final Bag Tags

Once all artifacts from a Project's season are cataloged, each context is given an official, acid-free cardstock **Final Bag Tag** (Figure 6).

1. Pull all boxes from that season's excavations, and organize all contained contexts so that they fit comfortably, are in order by context, and maintain the box weight limit of 25 to 30 lbs.
2. Write down a list of which contexts are contained in each box, noting whether any contexts are spread across more than one bag. Hand this list to a lab team member to print tags (instructions for this found in the Lab Manual, Part 2, Section VI.B and Appendix 6).
 - a. At this step, the lab analyst will likely also create Box records in DAACS (Lab Manual, Part 2, Section VI.C).
3. Check off "Weighed and bags organized" on the Temporary Box Tag (Figure 5).
4. Cut out the tags and organize alphanumerically.
5. Double-check that everything on the Temporary Processing Tag has been completed.
6. Remove that tag (leave the original brown paper tag), and insert the Final Bag Tag into the 3"x5" polyethylene bag.
7. Replace the 3"x5" bag so that the new final bag tag is visible from the exterior.


			
Project:	Weaver's Cottage/Building E		44AB0465
Context:	45-2370E		
Sample ID:	45-2370E-PSR-;		
Excavated By:	DSF, KMC	Recorded By:	DSF, KMC
Date Opened:	3/27/2014	Date Closed:	3/27/2014

Figure 6. Final Bag Tag

C. Final Box Tags

A lab team member will likely undertake the steps to create the Box records in DAACS and print **Final Box Tags** (Figure 7) when given the final list of contexts contained in each box (Section VII.B above). The steps for that process are outlined in Lab Manual, Part 2, Section VI.C.

Once the Box Tags have been printed on white, acid-free cardstock:

1. Cut out the tags.
2. Make sure all steps have been checked off on the Temporary Box Label (Figure 5).

3. Remove the Temporary Box Label (Figure 5).
4. Stick an adhesive shipping sleeve to the front under the handle opening.
5. Slide the Final Box Label into this sleeve.
6. Consult a lab team member for where to store this box.


		
Building C (Joiner's Shop).001		
ProjectID	109	ProjectYear 1979, 1980, 1994
BoxLocation	Montalto-Grainery	
Quadrats 105-109, 117-119		

FIGURE 7. FINAL BOX LABEL

VIII. DATA MANAGEMENT

A. Inventory

Given the upcoming Collections move, we will likely be establishing an inventory protocol at a regular frequency (e.g., annually). These procedures are forthcoming.

B. Manuals and Protocol

All manuals will be reviewed by the Curator of Archaeological Collections annually. This will soon include the Collections Policy (forthcoming). Any changes will be disseminated to all team members. A digital copy of this manual will be saved here: <P:\LabAdmin\Manuals>

APPENDIX 1: FLOTATION PROTOCOLS

Operating Instructions for Model A Flote-Tech Flotation Machine

A. Setting Up

1. Before you begin operating the tank, log in your float samples in the **Float Tracking Log**: <P:\LabAdmin\FloatTrackingLog.xlsx>. Enter your initials and the date.
2. Grab the **Flotation Binder** located in the Archaeology Lab. Complete a Flotation Description entry for each bag you process, writing the bag information. You will complete the content description after floating. The template for these sheets live here: <P:\LabAdmin\Labels and Forms-New\Flotation Description Log.docx>.
3. Locate the float box in the lab that contains cheesecloths and clips.
4. The float tank consists of two separate compartments. The compartment containing a large, removal bin with a fine mesh screen on the bottom is where you put your running water source and dump your sample. The other compartment is a reservoir tank that contains a shallow pan used to collect the light fraction. Heavy materials will stay on the bottom of the large bin while lighter materials such as charcoal and burned macrobotanicals will float and eventually end up in a light fraction tray. In order to collect both the light and heavy fraction, place a cheese cloth in the fine fraction pan and another in a drying tray from the lab. Secure both cloths to the sides of their respective trays with large binder clips. Put the light fraction pan into the reservoir tank. It should sit level in the tank. Place the heavy fraction tray on the work table attached to the reservoir tank.

B. Manual Operation

Flotation can be conducted with or without the use of the electronic water pump for mechanical agitation. If the pump is not functional or is otherwise not used for flotation, follow the set-up and operation instructions with the following exceptions:

1. Do not turn on the water pump at any time. No electrical hook-up is necessary.
2. Close the drain valves in the fill tank and the reservoir tank. The drain valves are located at the bottom of the flotation unit and reservoir and have hoses attached to them in order to drain the tank when finished.
3. Fill the reservoir until the water is 1" below the fine fraction pan and then fill the flotation unit until the water overflows into the reservoir.
4. Once there is water in each tank, partially open the reservoir drain valve to allow a slow but steady outflow of water. Keep the main flotation tank valve closed until you finish floating. If you do not open the reservoir valve, water will drain from the flotation unit into the reservoir, causing the water level to rise and light fraction residuals to float away. Leave the reservoir drain valve partially open so that the water level in the reservoir does not rise above the level of the fine fraction screen. The rate of water leaving the float tank can be altered by adjusting the valve to achieve the desired water level in the reservoir.

5. Remove the under-flow baffle from the coarse fraction screen box.
6. Each sample should come with two metal tags that have the unit, context, and sample number written on them. If this is not the case, you should take a blank tag and write the information on it. Place one tag in the heavy fraction tray and the other in the light fraction tray.
7. For dense clay samples, pour the sample into a 10-gallon paint bucket. Add $\frac{1}{4}$ to $\frac{1}{2}$ cup baking soda and enough water to create a slurry mix. Stir together in order to break up clay.
8. Pour the sample into the flotation tank. Light fraction such as charcoal will begin floating to the surface and will pass over into the fine fraction screen. You can use your hands to stir up light fraction items from the bottom of the flotation tank and rise to the surface to flow over the weir into the fine fraction screen.
9. If the sample contains larger artifacts such as ceramic sherds, glass, etc., use a toothbrush to remove excess dirt from the artifacts and place in heavy fraction tray.
10. When all the sediment has been removed and the sample is completely floated, any heavy fraction residuals at the bottom of the flotation unit screen should be deposited in the heavy fraction tray, along with its metal tag. This may require using a hose sprayer and gently spraying the residuals from the unit into the heavy fraction tray. The light fraction should also be removed from the fine fraction pan and placed separately in the same lab drying tray with its tag. All floated samples should be put in the lab drying racks until completely dry.
11. After the samples are floated, write a brief description of any diagnostic artifacts or macrobotanicals that can be identified in the heavy and light fractions in the Flotation Description Log.

C. Mechanical Operation Using the Water Pump

1. Place the fine fraction screen in the support pan.
2. Plug in the water pump and turn the pump on. Make sure the water flow control valve is closed.
 - a. Never start the water pump unless the water discharge nozzles are completely submerged.
 - b. CAUTION: The machine is to be operated only with 115 volts, 60 hertz single-phase electric power. Operation with 50 hertz may damage electric motor.
3. If diffused air is desired, open the air flow needle valve until the desired air flow rate is achieved.
4. Swing the two coarse fraction hold-down brackets over the side of the coarse fraction box and tighten down the brackets with the wing nuts. These brackets hold the box from floating up off the rubber seal on the box support shelf when the water is flowing through the system. If this is not done water will flow around the box rather than through it.

5. After making sure the water pump is circulating water in the machine and the under-flow baffle has been removed, place the soil sample into the machine and float off the fine fraction and pass all the sediment into the sediment trap.
6. Never place the soil sample into the machine when the water is not flowing. Subsequent sample contamination and or loss of objects to the sediment trap may occur if this is done.
7. After all the sediment has been removed, insert the under-flow baffle (Baffle A-see image to left) and open the water flow control valve until the desired water flow rate for near-flotables removal has been achieved. Remove the near-flotables by moving the coarse fraction over near the bottom edge of the under-flow baffle. The high velocity water in this area will sweep the near-flotables up and over the discharge weir and onto the fine fraction screen. The higher the water flow rate the heavier the objects will be that are swept over the weir.
8. Turn off the water pump and remove the fine fraction screen and replace it with a clean screen. Loosen the hold-down brackets and remove the coarse fraction screen box from the flotation tank and invert it over the work table. Remove the coarse fraction using the spray hose to wash the material from the screen and the sides of the box. When doing this make sure that a fine fraction screen is in the support pan to collect any material that may be washed over the edge of the work table. The water pump must be running to use the spray hose attached to the flotation unit.
9. Close the flow control valve and remove the under-flow baffle.
10. Put the coarse fraction screen box back in the flotation tank and the machine will be ready for processing the next sample.
11. Write a brief description of any diagnostic artifacts or macrobotanicals identifiable in the heavy and light fractions. These descriptions are kept in the red binder labeled "Flotation Log and Information" located in the kitchen annex.

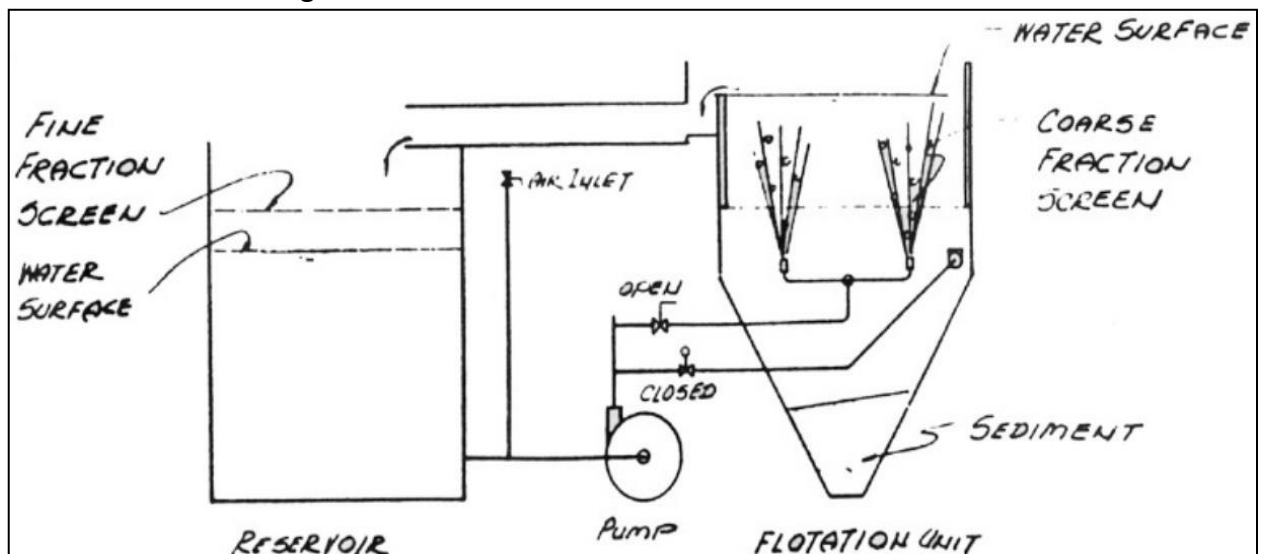


FIGURE 100: OBJECT LOAN SLIP

D. Cleaning and Removing Sediment from Flote-Tech

1. Sediment in the sediment trap must be removed on a continuing basis. The hand-operated bilge pump mounted on the flotation tank is used for this purpose. Pump the water-sediment mixture into a suitable container such as a 5-gallon bucket and then allow the sediment to settle to the bottom of the bucket and the clean water to collect over the sediment.
2. Pour the clean water back into the water reservoir and discard the sediment. Do this as often as necessary to prevent the level of sediment in the trap from reaching the level of the discharge nozzles in the flotation portion of the flotation tank.
3. Occasionally, the water reservoir has to be examined for sediment build-up. When deemed necessary, the reservoir can be drained and cleaned by use of the water outlet provided and by pumping the water into the flotation tank through the spray nozzle where it can be removed by the hand pump.
4. A small submersible pump can also be used to drain the machine. Do not let the level of sediment in the reservoir reach the level of the hose connecting the reservoir to the intake of the water pump.

Things to keep in mind

- Turn the water pump off when not processing samples to prolong its life.
- Remove the fine fraction screen with any light fraction floatables if you temporarily stop the flotation process.
- When operating the sediment pump, never apply excessive force to the handle. If the pump does not operate when the handle is pulled with moderate force, it may mean the sediment has been allowed to compact in the sediment trap. If this occurs, probe the sediment with your hand to loosen the soil compaction. To prevent damage to the rubber diaphragm in the hand pump, always be gentle.
- Do not run the pump without pumping water.
- Do not attempt to roll or move the unit when it is full of water.
- During cold weather operations, do not let water freeze in the pipes or pump. Always drain the water from the water pump when not in use.

APPENDIX 2: LABORATORY ETIQUETTE

1. Typically, the lab is open to volunteers from 9am to 3pm on given days established by the Curator. Please let the lab team know at least one week in advance whether there is a change to your schedule.
2. During Field School Lab Rotations, lab work will begin at 8:30am or after any/all morning class lectures. Work will continue until the end of the day (4:30pm) or will end prior to any afternoon lectures/workshops.
3. Volunteers should be sure to record their hours on the lab sign-in sheet during their visits. Interns are responsible for keeping track of their own hours.
4. Typical field clothes are not required in the lab. However, keep in mind that some laboratory tasks, such as washing or floating, can damage clothing. Plan your apparel accordingly. As in the field, out of respect for your colleagues and visiting members of the public, please remember that we are representatives of the Foundation and the profession of archaeology. Revealing clothing or shirts with sayings or images that may be offensive to others should be avoided.
5. Please refrain from texting, personal phone calls, or the use of headphones that may distract from your learning experience or others' work. Please keep phones on silent; if you have a special circumstance, please discuss this with the Curator. Headphones are permitted while you are working through longer tasks, such as labeling or washing. However, be mindful of your colleagues and participate in conversation/collaboration.
6. Please be mindful that the lab is a shared space with colleagues who are working on a variety of projects. Keep voice levels to a minimum and knock before opening doors that have been closed between bays.
7. The wet lab area doubles as the staff kitchen. When washing, keep your area tidy. Clean or put away equipment as much as possible since staff will make use of the kitchen at lunchtime and throughout the day. Volunteers, interns, and students are welcome to make use of the kitchen (refrigerator, microwave, dishes, etc.) during their days in the lab. Please be sure to take any food in the refrigerator with you at the end of the day and to clean any dishes that you have used.
8. After washing artifacts, please empty all wash tub water and sediment outdoors and dry and replace the wash tubs. Do not stack wet tubs! Alternate the stacking or leave out on drying racks to prevent mold growth. Wipe out any remaining sediment in the sink prior to leaving the kitchen.

APPENDIX 3: FREQUENTLY USED WEB AND DOCUMENT LINKS

Artifact Tracking Log: P:\LabAdmin\ArtifactTrackingLog.xlsx.

Flotation Tracking Log: P:\LabAdmin\FloatTrackingLog.xlsx.

Label Templates: P:\LabAdmin\Labels and Forms-New\Label Templates

Project List: P:\LabAdmin\ProjectList.xlsx

Volunteer and Intern Administrative Files: P:\LabAdmin\Volunteers and Interns

APPENDIX 4: FIELD SCHOOL LAB TASKS CHECK LIST

During lab rotations, we expect each student to accomplish specific laboratory tasks. These jobs are designed to give each student an introduction to the different aspects of lab work typical to most research institutions. We will assign and distribute these tasks during the course of each student's three lab visits; however, it is up to each individual to keep track of what they have accomplished and to call any undone tasks to the attention of the lab TA or lab staff during their last lab rotation. Typically, these tasks will be organized as follows:

Rotation 1: Flotation

Rotation 2: Washing, sorting, bagging, and labeling

Rotation 3: DAACS overview, cataloging, study collection and ware type review

Task	Date	Lab Initials
<input type="checkbox"/> Washing artifacts	_____	_____
<input type="checkbox"/> Sorting and bagging artifacts	_____	_____
<input type="checkbox"/> Labeling artifacts	_____	_____
<input type="checkbox"/> Overview of DAACS website and catalog system	_____	_____
<input type="checkbox"/> Cataloging artifacts	_____	_____
<input type="checkbox"/> Review Study Collection	_____	_____
<input type="checkbox"/> Ware type identification	_____	_____
<input type="checkbox"/> Flotation	_____	_____

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