QAR Fall 2011 Field Artifact Conservation & Documentation Operations Plan

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I. Personnel:

At least two members of the QAR team will be designated to the Conservation & Documentation (C&D) team for each day of field operations.

QAR Lab Based Team:

Sarah Watkins-Kenney (SWK)	UAB Chief Conservator/QAR Lab Director
Wendy Welsh (WMW)	QAR Conservator/Lab Manager
Shanna Daniel (SLD)	QAR Conservator
Terry Williams (TEW)	QAR Conservation Assistant
Erin Burnette (EKB)	QAR Lab Graduate Assistant/ECU PMS
Ellen Promise (EDP)	QAR Lab Graduate Intern / Winterthur
Bartek Dajnowski (BAD)	QAR Lab Graduate Intern/Winterthur

UAB Field Team

Mark Wilde-Ramsing (MWR)	UAB Director/QAR Project Director
Nathan Henry (NCH)	UAB Archaeologist
Chris Southerly (JCWS)	UAB Archaeologist
Julep Gillman-Bryan (JGB)	Captain (R/V *Snap Dragon*) & UAB DSO
Madeline Spencer (MPS)	UAB Admin
Karen Browning (KKB)	QAR Digital/Graphic/Internet
Lauren Hermley (LSH)	DCR Maritime Heritage Development Officer

ECU Participants

Lynn Harris (LBH)	QAR Intern and Ind. Studies Instructor, ECU PMS
Mark Keusenkothen (M K)	Director, ECU Dive and Water Safety
Eric Diadorrio (E D)	Captain, (ECU Barge, R/V *Cutting Edge*)
Kevin Flanagan (K F)	ECU Dive Safety
Matt Thompson (MHT)	Student Volunteer
Kate Schnitzer (LKS)	Student Volunteer
Rob Minford (R M)	Student Volunteer
Josh Marano (JLM)	Student Volunteer
Dan Bera (DJB)	Student Volunteer
Laurel Seaborn (RLS)	Student Intern
Tom Horn (TWH)	Independent Study student
Charles Bowdoin (CSB)	Independent Study student
Lindsay Scott (LSS)	Independent Study student
Robin Croskery (RPC)	Independent Study student
Angus McKelter (AJM)	Independent Study student

Others

Tom Piner (T P)	Captain, (R/V *Shell Point*), NC Marine Fisheries
Dave Moore (DDM)	Archaeologist, NC Maritime Museum
Rick Allen (FLA)	Videographer, Nautilus Productions

II. ON SITE Documentation

A. Artifact Labels/Tags

1. Mylar or Tyvek tags are available from C&D team.
2. QAR# marked in industrial permanent black marker on both sides of the tag.
3. A tag with the QAR# is attached to each artifact with cable ties before it is brought to the surface. The tag/cable tie head will be positioned on the top surface of the artifact as *in situ*.
4. For ballast, one tag with QAR# should be placed inside the bag and an identical tag tied to the outside of the bag. The tag should also indicate which bag it is of the total number of bags within the QAR# *i.e*. 1 of 3.
5. For dredge/sluice material – one tag with QAR#, Unit# & E/N coordinates should be placed inside the bucket and two tags(QAR# tag & duplicate of inside tag) are placed on the out outside of the bucket with cable ties.

B. Bag and Container Labels

1. Each bag should have a tyvek tag with the QAR# marked inside the bag with the artifact.
   - If gold is recovered from dredge spoil then gold is placed in 2x3 bag and placed into another 3x5 or 4x6 bag with tyvek tag inside outer bag, not in 2x3 bag with gold.
2. Each container should have a tyvek tag inside and another attached to the outside with the QAR# and contents (i.e Dredge Spoil).

C. Lists Associated with Artifact Processing

1. ARTIFACT INVENTORY
   - QAR# & Unit #
   - Short description of artifact & if needed no. of containers/bags per QAR#.
   - X-ray Priority
     - 1 = Anything with the possibility of markings, ie plates, copper alloys.
     - 2 = Concretions with ceramics, glass, copper alloys or anything special or unusual on the outside of the concretion.
     - 3 = Anything that we think looks interesting and want to x-ray before the other mundane stuff.
     - 4 = Plain ‘ol concretions, ie fasteners, cannon shot,
   - Deposition (shore, transferred to QAR lab, etc).
   - To be completed by C&D team during artifact recovery and artifact transfer situations to keep track of all artifact locations.
2. INVENTORY OF UNITS & QAR #s
   - Main field record of:
     - Unit #, E & N provenience, QAR#s associated with each unit
   - Unit # & coordinates are logged when units are assigned, QAR#s are filled in as time allows.
3. UNIT FORM
   - Main field record of:

        - Unit #, E & N provenience, initials for sluice box & triage.
        - Diver initials for setup, excavation, documentation & recovery.
        - Miniature map for rough sketches.
    - Divers/Archaeologists complete this form as the unit is worked.
        - One person will be assigned the daily task of making sure the unit form is being filled out.
    - Conservators use the form to record any information associated with artifacts (noting QAR#s) during excavation.
    - If multiple boats are in use during excavation then ALL boats associated with working units need to have a unit form onboard.
4. ARTIFACT LOG
    - Main field record of:
        - QAR#, Unit #, E & N exact provenience, diver initials, basic object information, count, photography, dimensions, weight, conservator initials.
    - Exact East & North provenience taken to center of object or a range is obtained for large objects.
        - Proveniences are obtained as soon as possible.
    - The UNIT FORM is referenced for recording initials against tasks associated with artifacts.
    - To be completed by C&D team as work done.
5. BALLAST PROCESSING FORM
    - Main field record of:
        - QAR#, count of stones/bags, weight, location, comments & initials.
    - To be completed by C&D team during ballast processing.
6. DREDGE SPOIL PROCESSING FORM
    - Main field record of:
        - QAR#, location, step (i.e. transfer, panning or sorting lead shot), object/material type, bag count, & initials.
    - To be completed by C&D team during dredge spoil processing.

III. Lab Documentation

A. Artifact Labels/Tags

1. Additional information to be put on tag:
    - Unit number in circle, E & N provenience, diver initials, and date recovered.
2. Make sure tag is attached securely before placed in storage.

B. Bag and Container Labels

1. Verify bag/container is labeled properly before placed in storage.

C. Lists Associated with Artifact Processing

1. ARTIFACT INVENTORY
    - Used during receiving at lab to keep track of all artifact locations.
2. INVENTORY OF UNITS & QAR #s
    - Consulted in documentation for Unit #s & Unit E & N coordinates.
3. UNIT FORM
    - Consulted in documentation for recording initials against tasks associated with artifacts that are not listed in ARTIFACT LOG.
4. ARTIFACT LOG
    - Used to record dimensions, weight and conservator initials.
    - Consulted in documentation for LAB SHEETS.
5. BALLAST PROCESSING FORM
    - Consulted in documentation for LAB SHEETS.
6. DREDGE SPOIL PROCESSING FORM
    - Used to verify bag count during receiving.
    - If necessary to assign sub numbers to artifacts a different dredge spoil processing form will be used in the lab.
    - Consulted in documentation for LAB SHEETS.

D. Permanent Record

1. ARTIFACT LAB SHEETS
    - Record basic dimensions and sketch drawing for each artifact recovered as appropriate.
    - Record any conservation steps taken.
    - Record deposition – location and dates of artifacts as moved from ship to shore to QAR lab.
2. CONSERVATION DATABASE
    - LAB SHEET records to be entered on master artifact database after artifacts processing and storage.
        - On site conservator will have latest version of artifact database for reference.

IV. Conservation and Documentation – Numbering:

The following applies to all artifacts studied & recorded in situ and those for which recovery –i.e. removal from site is deemed to be the most appropriate step -see QAR Full Recovery Plan Fall 2007 (Southerly et al). For consistency the QAR Field Conservator (Welsh) will be responsible for assigning QAR# s and for maintaining inventory of artifacts transferred from boat to shore and then shore to QAR lab.

A. In situ

1. Artifacts/concretions being recorded in situ may be assigned **a general number** if tagging archaeologist is not available (e.g. Cannon – C1 etc; Anchors- A1 etc; Hoops - H1 etc).
2. Cannon/Large concretions to be staged at the south will be assigned a **QAR #** whilst in situ before moved from original position.
3. The concretion/artifact will be **tagged in situ** with a **MYLAR or TYVEK** tag, with **QAR#** written on both sides with industrial permanent black marker. Tag to be tied to artifact/concretion with cable ties or line so that tag lies on top surface of object.
    - Objects that cannot be tagged with cable ties or line will be placed in a plastic bag with the tag.

B. Dredge/Sluice

1. Retrieving and documenting artifacts recovered from dredge/sluice responsibility of C&D team.
2. Diver/archaeologist must let C&D team know provenience (Unit # and E &N) of area being dredged before start and when changed. Large unit labels with coordinates are placed on the top of each sluice box to clearly indicate which dredge hose corresponds to each sluice box.
3. Each unit will have a QAR# assigned to the dredge spoil recovered from the sluice. Artifacts will be assigned sequential sub numbers (e.g. QAR601.001; 601.002; 601.003) once transferred to the QAR lab. If artifacts from same dredge area are separated, e.g. by material type for storage and transport, at site, each group will have the same QAR#. The Field Conservator will be responsible for maintaining record of number of containers per QAR# and their deposition.
4. TAGS – each artifact or group of artifacts to have a TYVEK tag with: QAR#, Provenance (Unit #, E, N) and date.

C. Ballast Stones

1. Each unit will have a QAR # assigned to all ballast stones.
2. Individual ballast stones will not normally be given an individual QAR#. If they are unique they will be assigned a sequential sub number by the Field Conservator (e.g. QAR601.001; 601.002; 601.003).

V. Artifact and Concretion Processing—Recovery to Lab

A. Diver/Archaeologist Responsibility

1. Dredging around artifacts and mapping each artifact in all units.
2. The mapping archaeologist is the **ONLY** person who gives the ok to remove an object from a unit.
3. Recovery of artifacts (bringing them to the surface) is the responsibility of diver/conservator/archaeologist.
4. Artifacts should be recovered from site in lift containers of appropriate size, material and strength for the item being recovered. C&D team will provide a range of options.
5. Mapping diver/archaeologist will correspond with the C&D team to provide exact provenience.

B. C&D Team Responsibilities

1. Documentation – including assigning QAR #, and logging all information including provenience, recovery date, diver initials.
2. First Aid Conservation Treatment.
3. Photograph of each concretion with QAR#.
4. Wet storage of finds.
5. Transfer of finds.
    - From boat to shore storage at end of each day.
    - From shore storage to QAR Conservation Lab in Greenville at the end of the week.
6. Keeping a Daily Log of conservation activities during field operation.

VI. Artifact Sequence of Events

A. Preliminary Documentation & First Aid Conservation—At Dive Platform:

1. Check that tag (marked with QAR#) securely attached to artifact.
2. Check off artifact QAR#s on the ARTIFACT INVENTORY and write down short description.
3. All artifacts (except ballast stones) to be kept wet at all times.
4. Place artifact in seawater, in container appropriate to size and fragility of the object.
    - Plastic bag, plastic ex-food container, plastic bucket.
5. Concretions that fit into containers—Line container with foam, cover the object with wet cloths and pad with foam between other objects
    - Keep object wet at all times.
6. Large concretions—Cover with wet cloths, pad with foam and wrap in plastic
    - Keep object wet at all times.
    - Ensure that long and/or large concretions/artifacts are appropriately supported – if necessary, have a rigid support underneath when being lifted or transferred (i.e. from ship to dockside).

7. Artifacts should be kept covered, and as cool as possible—(i.e. not in direct sun if possible).
8. As far as practical keep metals, organics, and in-organics (ceramics, glass, bone) in separate overall containers.
9. Avoid any cleaning of artifacts. Any cleaning should be limited to gentle rinsing to remove loose sand or other non-artifact debris.
10. Record information about recovery on unit form.
11. Check with recovery divers that all QAR#s assigned are accounted for before moving on to next unit or leaving for the day.

B. Transfer of Artifacts from Boat to Shore Storage

1. At the end of each day finds recovered will be transferred from boat to shore storage. No finds to be left on boat overnight, with exception of dredge spoil bucket if unit not complete.
2. All finds must have TAGS with QAR# assigned before they leave the boat.
3. Water in transfer containers should be at minimum possible to keep artifacts wet – less water – lighter container. Artifacts should be padded as appropriate to minimize physical damage during transfer from boat to dockside.
4. C&D team to note on ARTIFACT INVENTORY deposition of artifacts
5. Digital field photos will be taken of each object in its *in situ* position (as close to it as possible) and the opposite side of artifact. Features (such as glass, ceramic, gun flint, etc…) on concretions will also be photographed close up. All artifacts will be photographed with a scale and QAR#, and different views will be photographed as appropriate.
6. Conservators and archaeologists will designate an x-ray priority for each artifact before going into wet storage.
7. At storage venue: seawater in containers to be replaced with 50/50 seawater/tap water, if possible or tap water. Metal artifacts to be placed in c. 2.5% sodium carbonate solution in tap water if deemed appropriate by conservator.
8. All containers to be kept sealed, covered, as cool and as dark as possible.
9. Record provenience (Unit #, exact E&N, recovery date, diver initials) information into ARTIFACT LOG.
10. The photo column of the ARTIFACT LOG will be marked after confirming photos of each artifact are satisfactory.

✓ Although more accurate, detailed information will be recorded once the artifact is at the QAR Lab. It is critical to record as much as possible on site, as a means of identifying the artifact in case it becomes separated from its label.

C. Transfer of Artifacts to QAR Conservation Lab in Greenville

1. At the end of each field week C&D team will transfer all finds (unless otherwise instructed by QAR Project Director) to the QAR Lab in Greenville.
2. Conservators and/or other project member will transport the artifacts. State vehicle to be used.

3. Artifacts should be padded in containers with wet foam as appropriate to minimize physical damage during transfer.
4. Water in transfer containers should be at minimum possible to keep artifacts wet – less water – lighter container. Artifacts should be padded as appropriate to minimize physical damage during transfer from dockside to lab.
5. All conservation documentation to be completed before artifacts are transferred.
6. Each batch of artifacts transferred to the QAR Lab MUST have a copy of the appropriate pages of the ARTIFACT INVENTORY, ARTIFACT LOG, UNIT FORM, UNIT & QAR# INVENTORY and copies of the Unit drawings, if available.
7. At the QAR Lab the ARTIFACT LOG (dimensions, weights, photos as needed), LAB SHEETS and other post recovery documentation will be completed – as described in Appendix I – Artifact Field to Lab Protocol Fall 2011.
8. At end of Field Operations copies of appropriate paperwork to be given to QAR Project Director (MWR).

Appendix I

QAR Lab – Post Recovery Artifact Documentation Protocol—Fall 2011

Artifacts Arriving at Lab

- Check security of tag and any artifacts NOT labeled set aside for query.
- Place a date in the **RECEIVED** box once object has reached storage at the lab.
- Try to determine any missing tag situations with what is not checked, if still questions ask field conservators.

Artifact Processing

*Tank Inventories will be made by writing down each number on a separate list; if you use the field list then there is too much room for ERROR!

Tag Information

*Get info from Field Log—Write in Pencil on Tag.

- Put Unit # in circle and E&N Coordinates in **right** top corner of tag.
- Put Diver Initials in bottom **right.**
- Put Recovery Date in bottom **left** corner.

Weighing and Measuring

*Record this information initially in Field Log to make Lab Sheets easier.

- Record all weights as kilograms (Kg) unless too small, then record in grams(g).
- Measurements are taken in tenths of inches, usually to the nearest ¼ inch (0.25”).

Photographing

- Objects that DO NOT have a field photograph need to be photographed.
- Photograph objects on black background with cm/inches scale.
- Put the images in a folder on server and label it by QAR #.
- Record that the object was photographed in the Field Log (Along with Green Activity Sheet).
- Each week the photos taken in the field will be removed from the laptop and put on file at lab to consult if any number mix-ups occur.

Folders in Filing Cabinet

- Create folder for each new 000#.
- Create an ‘Artifact Lab Sheet Location’ form for each folder.
- Record on ‘Artifact Lab Sheet Location’ form which binder contains the lab sheet.

Lab Sheets

- Complete lab sheet for all new 000#s—Put ‘Y’ in Field Log table when lab sheet is completed.
- File the lab sheet in the binder marked ‘Field Fall 2011’.

Database

- Go into number on database and write accession # on lab sheet if not there.
- Complete all fields in the database for each record.
    - In *General Provenience* use this form— Unit 10/11 #208 E80 N90.
    - In *Exact Provenience* put artifact’s precise coordinates—otherwise use unit coordinates.
    - In *Conservation Material*—if concretion with glass and ceramic visible on outside—in 1st field put concretion and which ever is more visible put glass and ceramics in the 2nd and 3rd consmat fields.
- Complete conservation steps/details for each record.