DAACS Cataloging Manual: Lithics

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VERSION 1.0: 2021

The DAACS Lithics Manual documents how lithic (stone) artifacts are cataloged in the DAACS PostgreSQL database. This manual is one of sixteen DAACS Cataloging Manuals. Each manual documents a specific module of the DAACS database, and they provide protocols for using each module. In addition to defining each data field (meta data), the manuals describe how data should be entered into data fields, provide guidance on artifact identification, and give examples of how artifacts should be cataloged.

The DAACS database was developed in 2000 by Jillian Galle and Fraser Neiman, in collaboration with members of the DAACS Steering Committee. Jillian Galle, Fraser Neiman, and DAACS Staff, including Leslie Cooper, Lynsey Bates, Lindsay Bloch, Elizabeth Bollwerk, Jesse Sawyer, and Beatrix Arendt, led the development of cataloging protocols. In addition to DAACS staff and steering committee members, Monticello current and former Archaeology Department staff, Jennifer Aultman, Sara Bon-Harper, Derek Wheeler, Donald Gaylord, Karen Smith, and Nick Bon-Harper also contributed to the development of cataloging protocols. Jennifer Aultman and Katherine Grillo produced the initial versions of these DAACS manuals in 2003. They have been continuously revised by DAACS staff in the intervening years.

The Lithics Manual was developed by Elizabeth Bollwerk with contributions from Charlie Cobb of the University of Florida's Museum of Natural History in 2020 and 2021, in conjunction with the creation of a dedicated Lithics Module in the DAACS database. This manual was substantially revised in preparation for the new website launch in 2024. These revisions were made by Galle, Bloch, Bollwerk, and by DAACS analysts Iris Puryear, Allison Mueller, and Catherine Garcia.

Convoy, a web design and graphic design company based in Charlottesville, Virginia, initially programmed the DAACS database in SQLServer (2001-2013). The University of Virginia's Institute for Advanced Technology in the Humanities (IATH) built and currently maintains the PostgreSQL version of the DAACS database (2014-present). Convoy also designed the original DAACS website (2004), and has since redesigned the website twice (2014, 2024).

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1. THE DAACS DATABASE

The DAACS database was designed by Galle and Neiman in 2001, with direct input from the DAACS Steering Committee and collaborating institutions. The large relational database is programmed in PostgreSQL and comprises over 200 related tables. This structure instantiates the protocols and standards outlined in the DAACS manuals. The database is linked to a Ruby-on-Rails web-based interface, which allows DAACS Research Consortium (DRC) members to access the database through a web browser with a login from anywhere with an internet connection. For a detailed summary of the DAACS database and history of DAACS, please see Galle, Bollwerk, and Neiman 2019.

In 2018, a major grant from the National Endowment for the Humanities' Digital Humanities Division provided funds to develop a tiered cataloging interface that would allow DRC users to engage with the database on a variety of levels while retaining the data standards and integrity built into the original system. This new interface, with its Bronze, Silver, and Gold tiers, went live in March 2022. This project was a collaboration between DAACS, The University of Virginia's Institute for Advanced Technology in the Humanities, and Convoy.

2. ABOUT THE LITHICS MODULE

The DAACS Lithics Module was developed in conjunction with Dr. Charlie Cobb of the University of Florida's Museum of Natural History to facilitate a specialist-level analysis of objects made of stone. The Lithics Module and its associated database tables are designed to collect information about knapped, ground, and carved stone objects and the debitage that results from their production. This includes objects made during pre-contact, contact, and historic periods.

Prior to September 2016, lithic data were captured in basic form, material, and manufacturing fields located in the General Artifacts Module, which were not specific to lithic objects. The fields that are now in the Lithics Module were initially added to the General Artifacts Module of the DAACS database in September of 2016 to accommodate data generated by the University of Florida's Natural History Museum's NEH-funded project, *Cataloging Spanish Missions of La Florida*. In 2020 and 2021, the lithics fields were reassessed in collaboration with Cobb, Dennis Blanton, and Karen Smith, as part of the Flowerdew Hundred and Expanding DRC projects. A dedicated Lithics Module was launched in 2021.

The Lithics Module does not include all objects made of stone in the DAACS database. In some cases, other modules are better suited to capture an object's relevant attributes. For example, stone tobacco pipes should be entered into the Tobacco Pipes Module so

that additional relevant details specific to that form can be recorded. Additionally, stone materials that show evidence of modification for architectural use should be entered into the General Artifacts Module. This includes objects like slate roofing tiles, marble elements, sandstone or limestone blocks, and architectural debitage. The Lithics Module also does not include stones with no obvious evidence of human use or modification, even if they are made of non-local (i.e., quarried) material. These stones should be entered into the General Artifacts table using size classifications (granule, pebble, cobble, or boulder). This allows all architectural and potentially architectural materials to be captured in one place. Finally, writing slate and slate pencils are cataloged in the General Artifacts Module.

Additionally, catalogers should be aware that some forms are found in both the General Artifacts and Lithics Modules. Objects should be cataloged in the appropriate module based on their material. For example, shell gorgets and lead fishing weights are cataloged into the General Artifacts Module, while gorgets and weights made of stone are cataloged into the Lithics Module.

2.1. Comparison of Non-Specialist and Specialist Interfaces

The Lithics Module has two interfaces designed for catalogers with varying levels of training in lithics analysis. The **Non-Specialist** interface is designed for catalogers who have basic or no prior training in lithic analysis. This interface allows catalogers to record basic information about lithic artifacts using categories that are broad but still analytically useful. The Non-Specialist interface also expedites the sorting and cataloging process by allowing for more batching of artifacts. The **Specialist** interface is designed for use by trained lithic analysts, and it includes data fields that capture more detailed information about lithic artifacts, such as flake type, core form, and point type. Performing lithic analysis at this level of detail is more time-consuming and requires extensive training.

The majority of DAACS-certified catalogers will use the Non-Specialist interface to catalog lithic artifacts. As of June 2024, the only DAACS catalogers using the Specialist interface are located at the Florida Museum of Natural History, the South Carolina Department of Natural Resources, and DAACS, where catalogers have worked with prehistoric and contact-period lithics for prolonged periods of time. Catalogers will discuss with the DAACS Project Director their cataloging level before beginning work. The following table shows the fields included in the two interfaces:

Tab	Non-Specialist	Specialist
General	Artifact Count	Artifact Count
	Lithic Category	Lithic Category
	Form	Form
	Completeness	Completeness
	Material	Material
	Regional Material	Regional Material
	Manufacturing Technique	Manufacturing Technique
	Decoration?	Decoration?
	Notes	Notes
Flake Information		Flake Type
		Cortex Type
	Screen Size	Screen Size
Tool Information		Core Form
		Regional Point Type
Measurements	Weight	Weight
	Length	Length
	Width	Width
		Height
		Diameter
		Point Thickness
Condition	Mended?	Mended?
		Post-Manufacturing Modification?
		Burned?

3. Non-Specialist Lithic Cataloging Protocols

3.1. Non-Specialist Sorting Protocols

Certain lithic artifacts may be batched and cataloged together if they share certain attributes. The following are recommended protocols for sorting lithic artifacts into batches:

1. Begin by sorting all lithic artifacts from a given context into the following categories:
    - Debitage (flakes, blades, and shatter)
    - Fire-cracked rock (FCR)
    - Flaked cores
    - All other artifacts (points, flaked tools, ground stone tools, etc.)

2. Sort the debitage by the following steps:
    a. Identify and remove any flakes or blades that have been modified or retouched. These should be cataloged individually as flake tools (see Section 5.15) or retouched blades (see Section 5.7), respectively.
    b. Sort all remaining fragments of debitage by material type.
    c. Sort each group by form: Blades, Flakes, and Shatter.
    d. Sort the blades and flakes by completeness: Complete or Incomplete. Note that all shatter is cataloged as Incomplete, so shatter does not need to be sorted at this stage.
    e. Sort all groups into size classes using a set of graduated screens in the following sizes: ¼, ½, ¾, 1, and 2 inches.
    f. Each group can now be entered into DAACS as a batch using the appropriate cataloging protocols.

3. Sort the fire-cracked rock into groups by material type. Each group can be entered into DAACS as a batch (see Section 5.13).

4. Sort flaked cores by the following steps:
    a. Sort cores into groups by material type.
    b. Sort each group by category: Debitage or Indeterminate (see Section 4.3.12).
    c. Sort each group by completeness: Complete or Incomplete.
    d. Each group can now be entered in DAACS as a batch using the appropriate cataloging protocols.

5. The rest of the artifacts should be cataloged individually according to their respective protocols.

3.2. Descriptions of Non-Specialist Fields

3.2.1. Artifact Count

Numeric Field

Record the number of individual artifacts being cataloged.

3.2.2. Lithic Category

Controlled Vocabulary Field

The two primary categories of lithic artifact are "Tool" and "Debitage." Tools are stone artifacts manufactured for a specific purpose, and debitage is any byproduct of tool manufacture.

Choose "Indeterminate" if an object has diagnostic attributes of being modified by human processes (e.g., obvious flake scars) but you cannot discern whether it is a tool or debitage. For example, some bifacial and unidentifiable cores may have been used as tools themselves, but it is often impossible to determine this with certainty. See Section 5 for specific information on how to catalog each form.

3.2.3. Form

Controlled Vocabulary Field

This field refers to the specific form of the lithic artifact. See Section 5 for a comprehensive list of lithic forms in DAACS.

3.2.4. Completeness

Controlled Vocabulary Field

This field is "Not Recorded" at the non-specialist level.

3.2.5. Material

Controlled Vocabulary Field

Record the type of stone that the artifact is made of. This field includes options for specific stone types as well as broader categories such as "Stone, unid igneous" if the precise stone type cannot be identified.

Note: The materials "Chert/Flint, grey/black" and "Chert/Flint, honey/brown" are reserved specifically for European gunflints and by-products of gunflint production. Other chert/flint lithic artifacts should be cataloged as "Chert/Flint, light grey/white" or "Chert/Flint, other."

3.2.6. Regional Material

Controlled Vocabulary Field

This field is used in certain cases when a material has been identified to a specific, local source of stone. To add a regional material to this field, images of the material and a description of the source must be sent to DAACS staff to be added to the manual. In most cases, Regional Material is "Not Applicable." Project administrators should decide whether this field will be used. Currently most of the terms apply to South Carolina regional sources.

3.2.7. Manufacturing Technique

Controlled Vocabulary Field

Record the primary manufacturing technique that was used to produce the artifact. The most common manufacturing technique is "Flaked," which is used for both flaked stone tools and debitage from flaked stone tool production. Other typical manufacturing techniques include "Ground" and "Carved."

3.2.8. Decoration?

Controlled Vocabulary Field

Record whether the artifact is decorated. Decoration is not typically found on lithic artifacts, but decorative techniques such as carving may be found occasionally. Choose "Yes" or "No" (do not use "N/A" or "Uni"). If the artifact is decorated, record a detailed description in the Notes field and include an image of the artifact if possible.

3.2.9. Mended?

Controlled Vocabulary Field

Record if an artifact can be or is physically mended to another. The default for this field is "No." If the artifact is physically glued to another fragment, enter "Yes, Physically Mended." In this case, calculate the approximate weight of the individual fragment by dividing the total weight of the mended artifact by the number of mended fragments. If the artifact mends to another but is not physically glued, enter "Yes, Mends But Not Physically." List the Artifact IDs of the fragments that mend together in the Notes field.

3.2.10. Weight

Numeric Field

Record the weight of the artifact or batch of artifacts in grams. Weight is always recorded, regardless of the artifact's completeness.

3.2.11. Length and Width

Numeric Field

Record the length and width of the artifact in millimeters. Only record length and width if they are complete measurements. Keep in mind that an incomplete artifact may still have at least one complete measurement that can be recorded. When the locations at which to measure the artifact are not obvious, record the longest measurement as length, and take the width measurement perpendicular to the length. Note that length and width are not recorded for all artifact types; see Section 5 for form-specific protocols.

3.2.12. Screen Size

Controlled Vocabulary Field

This field is used only for flakes, blades, and shatter. For all other artifacts, select "Not Applicable." In DAACS, the size of lithic debitage is recorded by dropping the artifacts through a set of graduated screens. The size of the largest screen through which the artifact *does not pass* is recorded in this field.

The screen size options are ¼, ½, ¾, 1, and 2 inches. Project administrators may choose to use only a subset of these screen sizes for expediency based on the needs of their particular project.

3.2.13. Notes

Open Text Field

Use the Notes field to record any additional or notable information about an artifact. If the protocols call for specific notes to be added for an artifact type, enter them here.

4. Specialist Lithic Cataloging Protocols

4.1. Specialist Sorting Protocols

Some types of lithic artifacts may be batched together if they share certain attributes. The following are protocols for sorting lithic artifacts into batches at the Specialist Level:

1. Begin by sorting all lithic artifacts from a given context into the following categories:
    - Debitage (flakes, blades, and shatter)
    - Fire-cracked rock (FCR)
    - Flaked cores
    - All other artifacts (points, flaked tools, ground stone tools, etc.)

2. Sort the debitage by the following steps:
    a. Identify and remove any flakes or blades that have been modified or retouched. These should be cataloged individually as flake tools (see Section 5.15) or retouched blades (see Section 5.7), respectively.
    b. Sort all remaining fragments of debitage by material type.
    c. Sort each group by form: Blades, Flakes, and Shatter.
    d. Sort the blades and flakes by completeness: Complete or Incomplete. Note that all shatter is cataloged as Incomplete, so shatter does not need to be sorted at this stage.
    e. Sort the incomplete flakes by flake type: Broken Flake or Flake Fragment (see Section 4.3.9).
    f. Only for complete and broken flakes, further sort each group by number of platform facets: 1 or 2+ (see Section 4.3.9).
    g. Sort each group of flakes and blades by cortex type: Completely Covered, Partially Covered, or No Cortex (see Section 4.3.10). Cortex type is not recorded for shatter, so shatter does not need to be sorted at this stage.
    h. Sort each group into size classes using a set of graduated screens in the following sizes: ¼, ½, ¾, 1, and 2 inches.
    i. Each group can now be entered into DAACS as a batch using the appropriate cataloging protocols.

3. Sort the fire-cracked rock into groups by material type. Each group can be entered into DAACS as a batch (see Section 5.13).

4. Sort flaked cores by the following steps:
    a. Sort cores into groups by material type.
    b. Sort each group by core form (see Section 4.3.12).

c. Sort each group by completeness: Complete or Incomplete.
d. Each group can now be entered in DAACS as a batch using the appropriate cataloging protocols.

5. The rest of the artifacts should be cataloged individually according to their respective protocols.

4.2. Descriptions of Specialist fields

4.2.1. Artifact Count

Numeric Field

Record the number of individual artifacts being cataloged.

4.2.2. Lithic Category

Controlled Vocabulary Field

The two primary categories of lithic artifact are "Tool" and "Debitage." Tools are stone artifacts manufactured for a specific purpose, and debitage is any byproduct of tool manufacture.

Choose "Indeterminate" if an object has diagnostic attributes of being modified by human processes (e.g., obvious flake scars) but you cannot discern whether it is a tool or debitage. For example, some bifacial and unidentifiable cores may have been used as tools themselves, but it is often impossible to determine this with certainty. See Section 5 for specific information on how to catalog each form.

4.2.3. Form

Controlled Vocabulary Field

This field refers to the specific form of the lithic artifact. See Section 5 for a comprehensive list of lithic forms in DAACS.

4.2.4. Completeness

Controlled Vocabulary Field

Specify whether the lithic artifact is "Complete" or "Incomplete." Completeness can be difficult to identify in the case of flaked stone artifacts, as stones are intentionally broken and reduced during flaked tool production. Generally, a lithic artifact is considered "Incomplete" only if there is clear evidence that it was unintentionally broken, either during production, use, or in a post-depositional environment. If completeness cannot be determined, select "Unidentifiable."

Note: A flake is only considered "Complete" if it displays a striking platform and a successful termination, usually exhibiting a feathered distal end. Completeness is always "Incomplete" for shatter and "Not Recorded" for fire-cracked rock.

4.2.5. Material

Controlled Vocabulary Field

Record the type of stone that the artifact is made of. This field includes options for specific stone types as well as broader categories such as "Stone, unid igneous" if the precise stone type cannot be identified.

Note: The materials "Chert/Flint, grey/black" and "Chert/Flint, honey/brown" are reserved specifically for European gunflints and by-products of gunflint production. Other chert/flint lithic artifacts should be cataloged as "Chert/Flint, light grey/white" or "Chert/Flint, other."

4.2.6. Regional Material

Controlled Vocabulary Field

This field is used in certain cases when a material has been identified to a specific, local source of stone. To add a regional material to this field, images of the material and a description of the source must be sent to DAACS staff to be added to the manual. In most cases, Regional Material is "Not Applicable." See Section 7 for descriptions of the regional materials in DAACS.

4.2.7. Manufacturing Technique

Controlled Vocabulary Field

Record the primary manufacturing technique that was used to produce the artifact. The most common manufacturing technique is "Flaked," which is used for both flaked stone tools and debitage from flaked stone tool production. Other typical manufacturing techniques include "Ground" and "Carved."

4.2.8. Decoration?

Controlled Vocabulary Field

Record whether the artifact is decorated. Decoration is not typically found on lithic artifacts, but decorative techniques such as carving may be found occasionally. Choose "Yes" or "No" (do not use "N/A" or "Uni"). If the artifact is decorated, record a detailed description in the Notes field and include an image of the artifact if possible.

4.2.9. Flake Type

Controlled Vocabulary Field

This field is only used for flakes, shatter, and blades. For all other artifacts, select "Not Applicable."

The Flake Type field records detailed information about debitage. Lithic research has demonstrated that several flake attributes are sensitive to relative point in the reduction sequence and type of technological tradition. The key attributes captured in DAACS are ones that have been shown to display the most inter-observer consistency in measurement and recording. The Flake Type field records flake type and, when applicable, number of platform facets. The following section describes how to identify flake type:

4.2.9.1. Complete Flake

A complete flake displays a striking platform and a successful termination, usually exhibiting a feathered distal end.

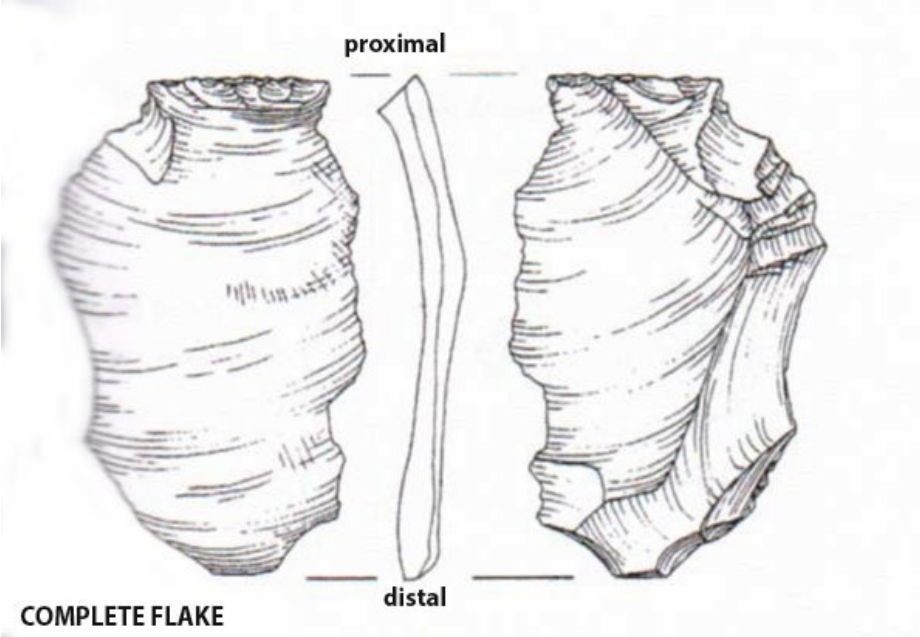


Figure 1. Complete flake with striking platform at proximal end and feathered termination at distal end. Image adapted from Andrefsky 2005.

Complete flakes are further categorized by the number of facets on their striking platform, either 1 facet or 2+ facets. Multiple facets are the result of the removal of other flakes from the core prior to the current flake. You may need to use magnification to identify the number of platform facets.

For a complete flake with a single platform facet, select “Complete-1 platform facet.” For a complete flake with multiple platform facets, select “Complete-2+ platform facets.” In some cases, the facets cannot be counted because the platform was crushed when it was struck. In these cases, select “Complete - crushed platform.”

Example of a complete stone flake with a single (1) platform facet:

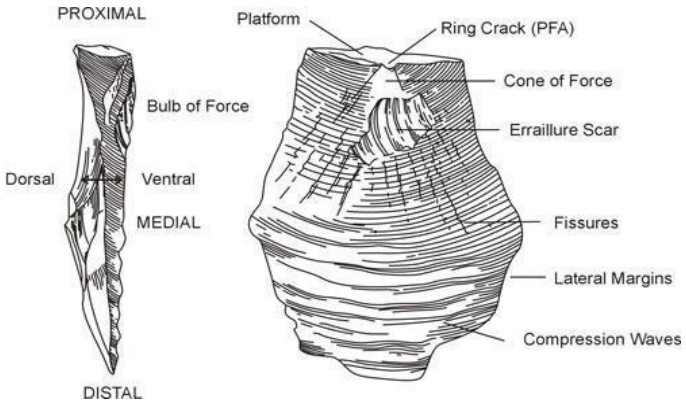


Figure 2. Image source: Clarkson 2007.

Example of a complete flake with multiple (2+) platform facets:

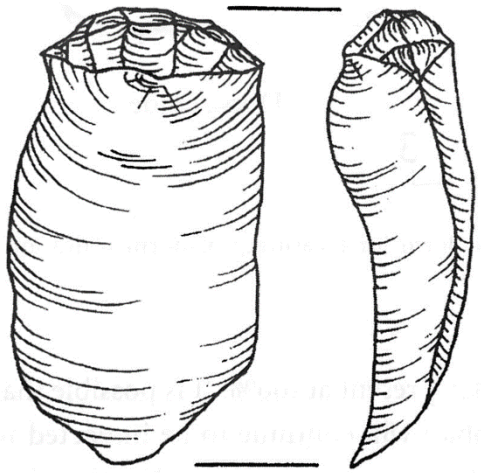


Figure 3. Image source: Andrefsky 2005.

4.2.9.2. Broken Flake

A broken flake has a striking platform, but the distal end displays a sharp break rather than a feathered termination. Typically, the break is perpendicular to the length of the flake.

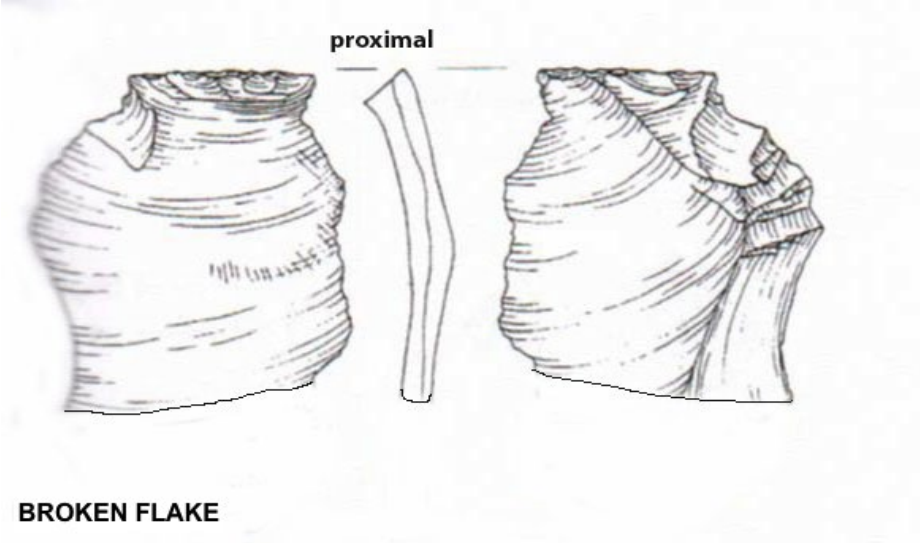


Figure 4. Broken flake with striking platform at proximal end and abrupt fracture at distal end. Image adapted from Andrefsky 2005.

Broken flakes are further categorized by their number of platform facets in the same way as complete flakes. Select either “Broken-1 platform facet,” “Broken-2+ platform facets,” or “Broken-crushed platform.”

4.2.9.3. Flake Fragment

A flake fragment is an incomplete flake that displays some diagnostic attributes of a flake, such as rippling, a bulb of percussion, or a feathered termination, but lacks a platform. Select flake type “Fragments.”

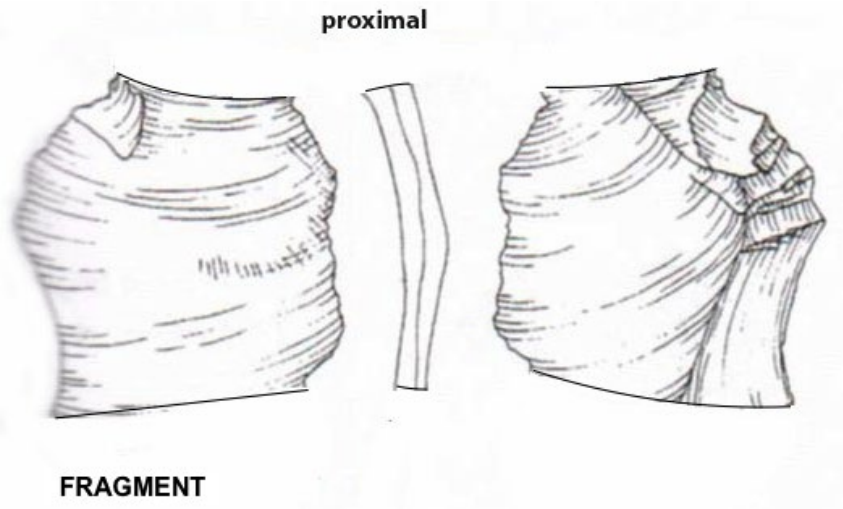


Figure 5. Flake fragment with fractures at distal and proximal ends. Image adapted from Andrefsky 2005.

4.2.9.4. BLADE

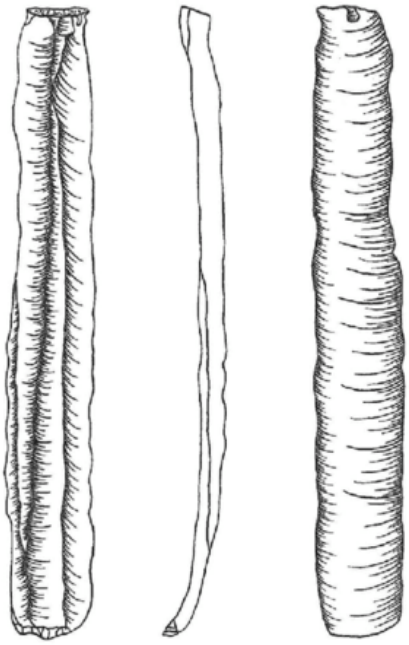


Figure 6. Complete blade. Image source: Walton 2017.

A blade is specific type of flake that is long and narrow with two parallel margins. Blades must display a length to width ratio of at least 2:1. Typically, one to two ridges run the length of the blade. Note that both Form and Flake Type for a blade are “Blade.”

4.2.9.5. DEBRIS

Figure 7. Example of chert/flint debris. Image source: FLMNH.

Debris includes any irregularly shaped pieces of stone that are incidentally removed during the knapping process. Debris is typically blocky and angular and lacks attributes of a flake, such as a bulb of percussion, obvious striking platform, or feathering. Form should be recorded as “Shatter” and Flake Type as “Debris.”

4.2.10. Cortex Type

Controlled Vocabulary Field

This field is recorded only for flakes and blades. For all other artifacts, select "Not Applicable." Cortex is the outer layer formed on the exterior of a stone by chemical and mechanical weathering processes. The cortex field captures the presence and extent of this outer layer on the dorsal surface of flakes. If the entire dorsal surface of a flake is covered with cortex, select 'Completely Covered." If only a portion of the flake's surface, or only the striking platform, have cortex, select "Partially Covered." If no part of the flake has cortex, select "No Cortex."

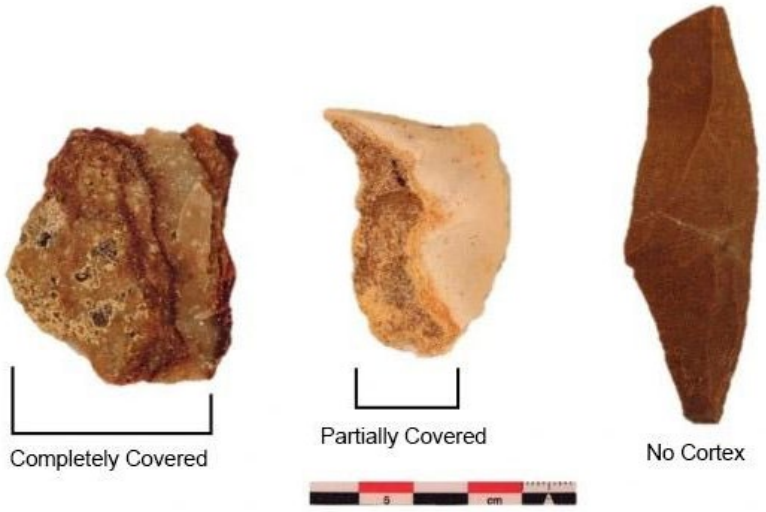


Figure 8. Source: C.A.R.T. Archaeology.

4.2.11. Screen Size

Controlled Vocabulary Field

This field is recorded only for flakes, blades, and shatter. For all other artifacts, select "Not Applicable." In DAACS, the size of lithic debitage is recorded by dropping the artifacts through a set of graduated screens. The size of the largest screen through which the artifact *does not pass* is recorded in this field.

The screen size options are ¼, ½, ¾, 1, and 2 inches. Project administrators may choose to use only a subset of these screen sizes for expediency based on the particular needs of their project.

4.2.12. Core Form

Controlled Vocabulary Field

This field is recorded only for cores. For all other artifacts, select “Not Applicable.” Cores may be by-products of tool manufacture, or they may be shaped and modified to serve as tools themselves. For this reason, bifacial and unidentified cores should be cataloged with lithic category “Indeterminate” rather than “Debitage.” Core form provides more specific information about the potential use life of the core, as well as the technological tradition it belongs to. This section includes information about how to identify core forms; see Section 5.11 for cataloging protocols.

4.2.12.1. BIFACIAL CORE

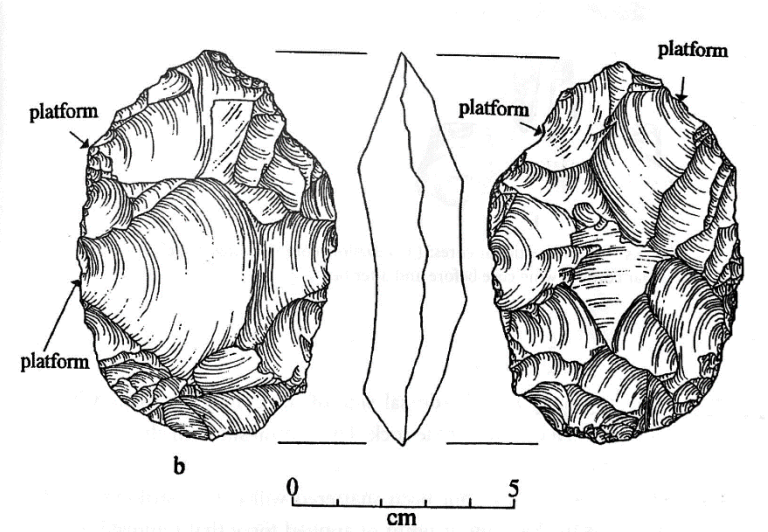


Figure 9. Example of a bifacial core. Image source: Andrefsky 2005.

A bifacial core is a nucleus that has been flaked on opposing sides into a relatively symmetrical shape that is elliptical or teardrop-shaped in planview and lenticular in cross-section. Bifacial cores typically represent an early stage of bifacial tool production (this is why they are often called preforms or blanks), but some may have been utilized as tools themselves. For this reason, lithic category should be “Indeterminate” for bifacial cores.

4.2.12.2. Bipolar Core

Figure 10. Example of a bipolar core with flake scars emanating from top and bottom. Image source: Andrefsky 2005.

A bipolar core is a blocky nucleus that has been used to expediently produce flakes through bipolar percussion. In bipolar percussion, a bipolar core is placed onto a stone anvil and the top is repeatedly struck with a hammerstone to detach large flakes. The core is often rotated from end to end between strikes; it thus exhibits flake scars emanating from both ends.

4.2.12.3. Multi-Directional Core

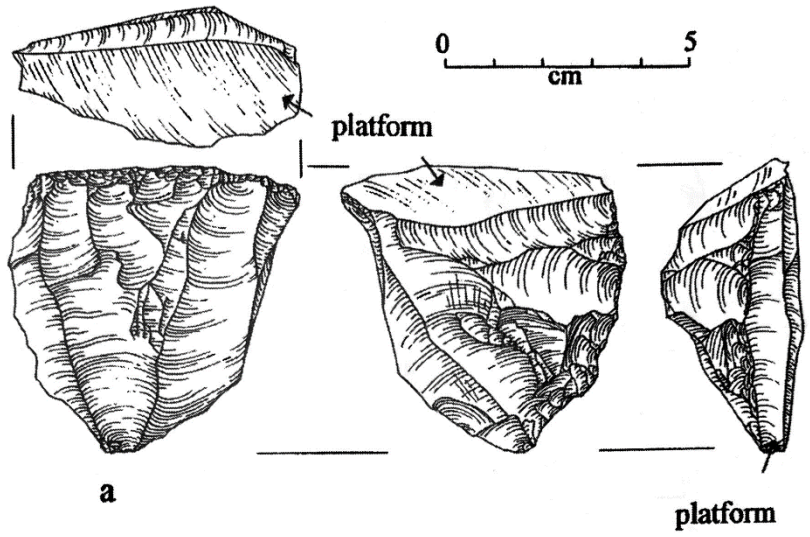


Figure 11. Example of a multi-directional core with flakes removed from multiple angles. Image source: Andrefsky 2005.

A multi-directional core is a nucleus exhibiting the seemingly random removal of flakes from multiple different angles. Multi-directional cores have several surfaces that were used as striking platforms, indicating that the core was rotated between flake removals.

4.2.12.4. NODULE

Figure 12. Nodule with large flakes removed from one end.
Image source: FLMNH.

A nodule is a stone, typically a cobble, with only a few flakes removed from one area of the stone. A nodule lacks sufficient flake detachment to ascertain whether it was intended for a particular purpose or technological tradition.

4.2.12.5. PRISMATIC CORE

Figure 13. Typical prismatic core.
Image source: FLMNH.

A prismatic core, also called a polyhedral core, is a stone nucleus that was specifically prepared and used for producing blades. The core has a cylindrical shape due to the systematic detachment of blades, as evidenced by multiple thin, parallel flake scars around the sides. The top of the core (where platforms are established for flake removal) is flat, and the core usually tapers inwards toward the bottom.

4.2.12.6. Unidentifiable

Use this term when an artifact is identifiable as a core by the presence of flake scars, but the specific core form cannot be identified. Unidentifiable cores may be byproducts of tool production or may have been used as expedient tools themselves. For this reason, they are cataloged with lithic category "Indeterminate."

4.2.13. Regional Point Type

Controlled Vocabulary

This field is recorded only for points. For all other artifact types, select "Not Applicable." Use this field when a point can be identified as a particular regional type. For points that cannot be identified to a particular type, record Unidentifiable. See Section 6 for descriptions of the regional point types in DAACS.

4.2.14. Notes

Open Text Field

Use the Notes field to record any additional or notable information about an artifact. If the protocols call for specific notes to be added for an artifact type, enter them here.

4.2.15. Weight

Numeric Field

Record the weight of the artifact or batch of artifacts in grams. Weight is always recorded, regardless of the artifact's completeness.

4.2.16. Length, Width, and Height

Numeric Field

Record the dimensions of the artifact in millimeters. Only record each dimension if the measurement is complete. Keep in mind that an incomplete artifact may still have at least one complete measurement that can be recorded. When the locations at which to measure the artifact are not obvious, record the longest measurement as length and record width and height at 90 degree angles from the length. Note that dimensions are not recorded for all artifact types; see Section 5 for form-specific protocols.

4.2.17. Diameter

Numeric Field

Use this field to capture the diameter of round lithic artifacts, such as hammerstones, gorgets, or chunkey stones. Only record diameter if the measurement is complete.

4.2.18. Point Thickness

Numeric Field

Use this field to record the thickness of a point instead of the height field. Only record if the measurement is complete and the point can be measured at its thickest point.

4.2.19. MENDED?

Controlled Vocabulary Field

Record if an artifact is or can be physically mended to another. The default for this field is "No." If the artifact is physically glued to another fragment, enter "Yes, Physically Mended." In this case, calculate the approximate weight of the individual fragment by dividing the total weight of the mended artifact by the number of mended fragments. If the artifact mends to another but is not physically glued, enter "Yes, Mends But Not Physically." List the Artifact IDs of the fragments that mend together in the Notes field.

4.2.20. BURNED?

Controlled Vocabulary Field

The default for this field is "No." If any part of an object is burned, select "Yes." Always select "Yes" for fire-cracked rock.

4.2.21. POST-MANUFACTURING MODIFICATION?

Controlled Vocabulary Field

The default for this field is "No." Select "Yes" only when an artifact appears to have been physically modified in order to change its original function. Examples include perforations for suspension or hand-etched marks that are not decoration or repair marks.

5. Descriptions and Cataloging Protocols For Lithic Forms

This section includes definitions and cataloging protocols for all artifact forms included in the Lithics module.

5.1. Abrader

Figure 14. Sandstone abrader. Image source: Mississippi Valley Archaeology Center.

A stone with a coarse texture that is used to remove material from the surfaces of other objects, such as when straightening a wooden shaft or grinding the base of a projectile point. Stone abraders are typically hand-held in size and have evidence of wear, such as a linear groove or a worn, flattened area. Catalog as follows:

Artifact Count:	Catalog all abraders individually.
Lithic Category:	**“**Tool”
Form:	**“**Abrader”
Completeness:	As appropriate
Manu Tech:	**“**Ground”
Measurements:	Record Weight and any complete measurements.

5.2. Adze

A hafted tool similar to an axe, but with the blade hafted perpendicular, rather than parallel, to the shaft. The blade is typically ground stone, although some are flaked stone, with a beveled edge and a grooved notch fully or mostly encircling the blade for hafting. Adzes can be used for certain woodworking applications, as well as digging. Catalog as follows:

Artifact Count:	Catalog all adzes individually.
Lithic Category:	**“**Tool”
Form:	**“**Adze”
Completeness:	As appropriate
Manu Tech:	Typically “Ground,” may be “Flaked”
Measurements:	Record Weight and any complete measurements.

5.3. AWL

A conical or cylindrical piece of stone that has been sharpened, usually by grinding, to a point. Used for poking holes in leather or basketry, or for use in weaving textiles. Catalog as follows:

Artifact Count:	Catalog all awls individually.
Lithic Category:	“Tool”
Form:	**“**Awl”
Completeness:	As appropriate
Manu Tech:	“Ground”.
Measurements:	Record Weight and any complete measurements.

5.4. AXE

Figure 15. Ground axe head. Image source: Lissa Herzing, National Park Service.

A large percussion tool with a stone head used for chopping or pounding, hafted with the working edge parallel to the shaft. Ground stone axes were produced throughout the Archaic period and can be identified by a groove that mostly or fully encircles the head for hafting. Flaked stone axes may be difficult to distinguish from other bifacial flake tools, but they typically have a broad working edge and are notched or waisted for hafting. Catalog as follows:

Artifact Count:	Catalog all axes individually.
Lithic Category:	**“**Tool”
Form:	**“**Axe”
Completeness:	As appropriate
Manu Tech:	Typically “Ground,” may be “Flaked”
Measurements:	Record Weight and any complete measurements.

5.5. BANNERSTONE

Figure 16. Image source: Anna Blume, American Museum of Natural History.

A large stone artifact that is carved and ground into a symmetrical shape (common shapes include butterfly, crescent, hinge or tube), with a hole drilled completely through the center. Bannerstones were produced in eastern North America exclusively during the Archaic period. There is currently no consensus about their exact function, although one commonly accepted theory is that they functioned as atlatl weights. They are laboriously crafted, often highly polished, and lack use-wear from use as a percussive tool. Catalog as follows:

Artifact Count:	Catalog all bannerstones individually.
Lithic Category:	**“**Tool”
Form:	**“**Bannerstone”
Completeness:	As appropriate
Manu Tech:	**“**Ground”
Measurements:	Record Weight and any complete measurements.

5.6. BLADE

A long, narrow flake with two parallel margins, displaying a length to width ratio of at least 2:1. Typically, one to two ridges run the length of the blade. Blades are intentionally produced with this shape using prismatic core technology. Catalog as follows:

Artifact Count:	Blades can be batched by Completeness, Cortex Type, and Screen Size.
Lithic Category:	**“**Debitage”
Form:	**“**Blade”
Completeness:	As appropriate
Manu Tech:	**“**Flaked”
Flake Type:	**“**Blade”
Cortex Type:	As appropriate
Screen Size:	As appropriate
Measurements:	Only record Weight.

5.7. BLADE, RETOUCHED

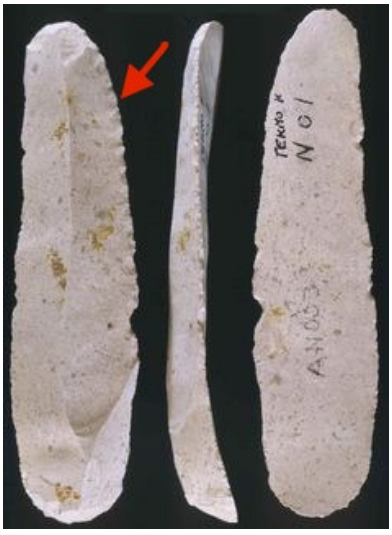


Figure 17. Example of retouched blade.
Image source: FLMNH.

A blade (see above definition) that exhibits evidence of retouch along one or more edges. Catalog as follows:

Artifact Count:	Catalog all retouched blades individually.
Lithic Category:	**“**Tool”
Form:	**“**Blade, retouched”
Completeness:	As appropriate
Manu Tech:	**“**Flaked”
Flake Information:	All fields “Not Applicable.”
Measurements:	Record Weight and any complete measurements.

5.8. CELT

Figure 18. Greenstone celt. Image source: Flowerdew Hundred (44PG64), Artifact ID: 1057-179Q_01_WM-NRD—00004, DAACS Image ID: 3081749.

A particular type of ground stone chopping tool produced during the Woodland and Mississippian periods in eastern North America. Celt heads are designed to be driven through a slot in a wooden handle and are therefore not grooved or notched like earlier ground stone axe or adze heads. Celt heads taper slightly from the blade to the poll end and may exhibit use-wear on the working edge. Catalog as follows:

Artifact Count:	Catalog all celts individually.
Lithic Category:	**“**Tool”
Form:	**“**Celt”
Completeness:	As appropriate
Material:	As appropriate, often “Greenstone”
Manu Tech:	**“**Ground”
Measurements Tab:	Record Weight and any complete measurements.

5.9. CHOPPER

Figure 19. Oldowan stone chopper. Image source: Wikipedia Commons.

A stone tool that has been expediently modified by removing large flakes from one side to create an informal working edge. The non-working side of the stone is typically left unmodified, often with cortex present. Catalog as follows:

Artifact Count:	Catalog all choppers individually.
Lithic Category:	"Tool"
Form:	"Chopper"
Completeness:	As appropriate
Manu Tech:	"Flaked"
Measurements:	Record Weight and any complete measurements.

5.10. CHUNKEY STONE

Figure 20. Chunkey stones from Frederick and Montgomery Counties, Maryland. Image source: Maryland Archaeological Conservation Laboratory.

A stone disc used in the game of chunkey, a Native American game played throughout the present-day Southeast and Midwest from the 7th century CE through the contact period. Chunkey stones are typically concave on one or both faces and may or may not have a perforation through the center. They can range up to approximately 15 centimeters in diameter. Catalog as follows:

Artifact Count:	Catalog all chunkey stones individually.
Lithic Category:	"Tool"
Form:	"Chunkey Stone"
Completeness:	As appropriate
Manu Tech:	"Ground"
Measurements:	Record Weight, Height, and Diameter if complete.
Notes:	Record in the Notes field if the chunkey stone has a perforation through the center.

5.11. CORE

A piece of stone from which flakes or blades have been removed by toolmakers. Protocols for cataloging cores differ based on the type of core (see Section 4.3.12 for descriptions of core types).

Catalog bipolar, multi-directional, nodule, and prismatic cores as follows:

Artifact Count:	Cores of the same type can be batched by Material and Completeness.
Lithic Category:	"Debitage"
Form:	"Core"
Completeness:	Catalog as "Complete" unless there is clear evidence of a major break that did not occur intentionally during production of the core.
Manu Tech:	"Flaked"
Core Form:	"Bipolar," "Multi-directional," "Nodule," or "Prismatic" as appropriate.
Measurements:	Only record Weight.

Catalog bifacial and unidentifiable cores as follows:

Artifact Count:	Cores of the same type can be batched by Material and Completeness.*
Lithic Category:	"Indeterminate"
Form:	"Core"
Completeness:	Catalog as "Complete" unless there is clear evidence of a break that did not occur intentionally during production of the core.
Manu Tech:	"Flaked"
Core Form:	"Bifacial" or "Unidentifiable" as appropriate.
Measurements:	Only record Weight.

*Note: Some projects have chosen to catalog bifacial and/or unidentifiable cores individually in order to capture all measurements. Project administrators and analysts may decide this on a project-specific basis.

5.12. Drill

Figure 21. Flaked stone drill.
Image source: FLMNH.

A flaked stone tool with a long, thin projection or barrel. The barrel is three- to four-sided, appears somewhat round in cross-section, and shows steep retouch. Drills typically have a hafting element at the base. Catalog as follows:

Artifact Count:	Catalog all drills individually.
Lithic Category:	"Tool"
Form:	"Drill"
Completeness:	As appropriate
Manu Tech:	"Flaked"
Measurements:	Record Weight and any other complete measurements.

5.13. FCR (Fire-Cracked Rock)

Fragments of rock that have fractured due to direct exposure to heat. FCR fragments can sometimes appear similar to flakes, but they may be distinguished by their irregular, undulating surfaces, fine crazing, and in many cases, reddening and discoloration. Fire-cracked rocks may be a product of human activities, such as pit cooking and stone boiling, or of natural events such as forest fires. Due to this ambiguity, there are specific protocols for cataloging FCR:

Artifact Count:	FCR can be batched by material.

Lithic Category: "Not Applicable"
Form: "FCR"
Completeness: "Not Recorded"
Manu Tech: "Indeterminate"
Measurements: Only record Weight.
Burned? "Yes"

5.14. FLAKE

A detached fragment of stone that was intentionally removed during the process of knapping. Flakes are generally thin and exhibit characteristic signs of knapping, such as a striking platform, bulb of percussion, conchoidal fracture, and/or a feathering termination. This term applies to flakes that do not show any evidence of retouch or use as a flake tool. See Sections 4.3.9, 4.3.10, and 4.3.11 for specific information on identifying Flake Type, Cortex Type, and Screen Size. Catalog as follows:

Artifact Count: Flakes with the same Completeness, Material, Flake Type, Cortex Type, and Screen Size can be batched.
Lithic Category: "Debitage"
Form: "Flake"
Completeness: As appropriate
Manu Tech: "Flaked"
Flake Type: As appropriate
Cortex Type: As appropriate
Screen Size: As appropriate
Measurements: Only record Weight.

5.15. FLAKE TOOLS

Flake tools are characterized by an expedient manufacturing process in which a generalized flake is modified for use as a tool while still retaining the overall appearance of a flake. These informal tools display one or more working edges that are altered by intentional retouch, use-wear, or a combination of both. Because flake tools are informal, they may vary in appearance and degree of modification. The following section outlines the diagnostic features of each type of flake tool and how to enter them in DAACS.

General protocols for cataloging flake tools:

Artifact Count: Catalog all flake tools individually.
Lithic Category: "Tool"
Form: "Flake, denticulate," "Flake, perforator," "Flake, retouched," "Flake, scraper," or "Flake, spokeshave"
Completeness: As appropriate

Manu Tech:	"Flaked"
Flake Information:	All fields "Not Applicable."
Measurements:	Record Weight and any other complete measurements.
Notes:	For "Flake, retouched," describe evidence of edge modification (i.e. number of consecutive flake removals) in the Notes field.

5.15.1. Flake, Denticulate

Figure 22. Denticulate flake tool. Image source: FLMNH.

A cutting tool made from a flake that has been worked to create one or more serrated edges resembling sawteeth. The serrations range from fine, closely-spaced points to coarse, intermittent projections.

5.15.2. Flake, Perforator

Source: Watt, Emma, 2022, "Retouched Flake," Museum of Stone Tools.

A flake tool with a pointed projection, produced by retouching a flake to achieve a narrow, sharpened tip. A perforator flake is roughly bifacial in cross-section, not three- or four-sided like a drill.

5.15.3. Flake, Retouched

A flake that has been modified by retouching but does not show evidence of working to become a specific tool type. This term most commonly applies to expedient flake tools with a single modified edge. Retouched flakes may also display additional evidence of use-wear on the modified edge. Note that in DAACS, a flake must have five or more consecutive removals along a single edge to be considered retouched. Record this information in the Notes field.

5.15.4. Flake, Scraper

A flake tool produced by the removal of small flakes along one or more margins to create a very steep working edge. Generally, the scraping edge must have an angle of 60 degrees or more to be diagnostic. Scrapers are traditionally interpreted as tools for working animal hides, although more recent research shows they could be used to work a much wider variety of materials.

5.15.5. Flake, Spokeshave

Source: Ember Archaeology

A modified flake tool with a pronounced, semi-circular notch with steep retouch. Spokeshaves are typically thought to be woodworking tools used for straightening and smoothing wooden shafts.

5.16. GORGET

Source: National Museum of the American Indian, Smithsonian Institution (8/4674)

A relatively small, flat ground stone object with one or more perforations drilled through it. Stone gorgets are most commonly found in Late Archaic and Woodland period contexts in eastern North America, and are generally thought to be a type of pendant or other adornment. Catalog as follows:

Artifact Count:	Catalog all gorgets individually.
Lithic Category:	"Tool"
Form:	"Gorget"
Completeness:	As appropriate
Material:	As appropriate, typically "Slate"
Manu Tech:	"Ground"
Measurements:	Record Weight and any other complete measurements.
Notes:	Record the number of perforations, if any, in the Notes field.

5.17. GRIDDLE

A flat piece of stone that can be placed over a fireplace or hearth and used as a cooking surface. Griddles typically have a tabular shape and can be recognized by the presence of sooting or oxidation from repeated use over a fire. Catalog as follows:

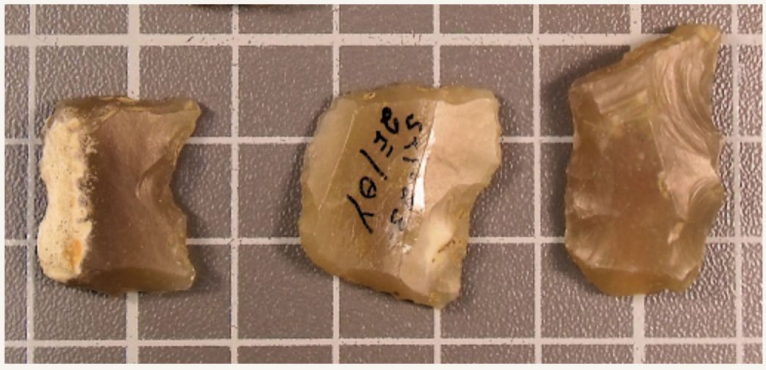
Artifact Count:	Catalog all griddles individually.
Lithic Category:	"Tool"
Form:	"Griddle"
Completeness:	As appropriate
Manu Tech:	"Ground"
Measurements:	Record Weight and any other complete measurements.
Burned?:	"Yes" if there is evidence of sooting or oxidation.

5.18. GRINDING STONE

A roughly tabular slab that was used as a platform for producing tools or processing foods by grinding them on the slab. The working area of the slab may be worn into a shallow concavity or trough from repeated activity. Catalog as follows:

Artifact Count:	Catalog all grinding stones individually.
Lithic Category:	"Tool"
Form:	"Grinding Stone"
Completeness:	As appropriate
Manu Tech:	"Ground"
Measurements:	Record Weight and any other complete measurements.

5.19. GUNFLINT



French Blade Flints from the St. John's Site

A piece of flint or chert that is used to strike the igniting spark in a flintlock-type gun. Gunflints were first implemented in snaphaunce guns in the early 17th century and used until the introduction of repeating rifles in the late 19th century. Gunflints are subrectangular in shape, wedge-shaped in cross-section, and may exhibit use-wear in the form of small flaking on the working edge. Catalog as follows:

Artifact Count:	Catalog all gunflints individually.
Lithic Category:	“Tool”
Form:	“Gunflint”
Completeness:	As appropriate
Material:	As appropriate, typically “Chert/Flint, grey/black” or “Chert/Flint, honey/brown”
Manu Tech:	“Flaked”
Measurements:	Record Weight and any other complete measurements.

5.20. HAMMERSTONE

A roughly spherical, hand-held stone used to remove flakes from a stone nodule or core. Significant scarring or pitting is usually visible on the surface of the hammerstone from repeated battering. Catalog as follows:

Artifact Count:	Catalog all hammerstones individually.
Lithic Category:	“Tool”
Form:	“Hammerstone”
Completeness:	As appropriate
Manu Tech:	“Ground” or “Flaked” if there is obvious evidence that the stone’s shape was modified for use as a hammerstone. Otherwise, “Indeterminate”
Measurements:	Record Weight and any other complete measurements.

5.21. HOE

A hafted implement with a large, ground stone head, used for digging or tilling soil. Like axe heads, stone hoe blades are grooved or notched for hafting, but they typically have a blunt, rounded edge that would not be suitable for cutting. Catalog as follows:

Artifact Count:	Catalog all hoes individually.
Lithic Category:	“Tool”

Form:	"Hoe"
Completeness:	As appropriate
Manu Tech:	"Ground"
Measurements:	Record Weight and any other complete measurements.

5.22. MORTAR

A ground stone tool with a distinct, concave basin for holding a substance that is subjected to crushing, battering, and/or stirring with a pestle. Use-wear from these activities (pitting, striations, etc.) is often visible on the interior of the basin.

Artifact Count:	Catalog all mortars individually.
Lithic Category:	"Tool"
Form:	"Mortar"
Completeness:	As appropriate
Manu Tech:	"Ground"
Measurements:	Record Weight and any other complete measurements.
Notes:	Note the presence of any use-wear on the interior.

5.23. MULTIFUNCTIONAL TOOL

Corner-notched point reworked into a scraper. Source: Flowerdew Hundred (44PG65), DAACS ID: 1058-260G_02-NRD--00010

A multifunctional tool is a stone tool that has had more than one specific, identifiable purpose during its use life. This would include, for example, a cobble with use-wear that indicates use as both a hammerstone and an abrader, or a broken point that has been reworked into a spokeshave. This term is not used for informal stone tools with multiple potential functions, such as expedient flake tools. Catalog as follows:

Artifact Count:	Catalog all multifunctional tools individually.
Lithic Category:	"Tool"
Form:	"Multifunctional Tool"
Completeness:	As appropriate
Manu Tech:	As appropriate. If multiple manufacturing techniques are evident, choose the one that seems to be the most recent.
Regional Point Type:	If the tool was a projectile point at any point during its use life, identify the regional point type if possible.
Measurements:	Record Weight and any other complete measurements.
Notes:	Describe the multiple uses of the tool using as much detail as possible.

5.24. PESTLE

Source: Flowerdew Hundred (44PG64), DAACS ID: 1057-388L_01_UCB-NRD--00005

A handheld stone used to crush or grind a material, typically used in conjunction with a mortar. The most easily identifiable pestles are ground into a cylindrical, ergonomic shape, although pestles may also be expediently selected rocks with little modification. Use-wear from crushing and grinding activities is often visible on one or both ends of the pestle. Catalog as follows:

Artifact Count:	Catalog all pestles individually.
Lithic Category:	"Tool"
Form:	"Pestle"
Completeness:	As appropriate
Manu Tech:	"Ground"
Measurements:	Record Weight and any other complete measurements.
Notes:	Note the presence of any use-wear.

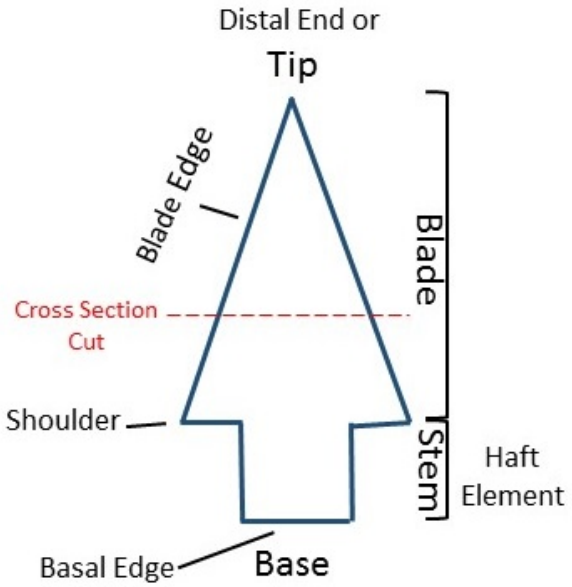
5.25. PIÈCE ESQUILLÉ

A flaked stone tool that is produced using bipolar percussion and used as a percussive tool, such as a wedge or chisel. Pièce esquillées are typically subrectangular in shape and lenticular in cross-section, and they can be identified by the presence of two, opposed striking platforms and heavy use wear on most or all sides. Catalog as follows:

Artifact Count:	Catalog all pièce esquillées individually.
Lithic Category:	"Tool"
Form:	"Pièce Esquillé"
Completeness:	As appropriate

Manu Tech:	"Flaked"
Measurements:	Record Weight and any other complete measurements.
Notes:	Note the presence of any use-wear.

5.26. POINTS



Source: C.A.R.T. Archaeology

A point is a bifacial flaked stone tool with a sharp, penetrating distal tip. Points are symmetrical in shape and are designed to be hafted to a spear, dart, or arrow shaft. Points are one of the most significant lithic artifacts found archaeologically due to their temporal sensitivity. In DAACS, points are cataloged according to their overall shape and may be further categorized into specific regional point types. The following section outlines the diagnostic features of each general point form and how to catalog them in DAACS. See Section 6 for information about regional point types.

General protocols for cataloging points:

Artifact Count:	Catalog all points individually.
Lithic Category:	"Tool"
Form:	"Point, ___" as appropriate
Completeness:	As appropriate
Manu Tech:	"Flaked"
Regional Point Type:	As appropriate or "Unidentifiable"

Measurements: Record Weight and any other complete measurements. Use the Point Thickness field to record the measurement at the thickest part of the point. Do not use the Height field.

5.26.1. Point, Base Notched

A base notched point has a flaked U or V-shaped indentation in the center of the base. Notching facilitated hafting the point or blade to a shaft. This category includes bifurcated points.

5.26.2. Point, Corner Notched

Source: Flowerdew Hundred (44PG64/65), DAACS ID: 1059-393C-NR-NRD--00097

A corner notched point has flaked U or V-shaped indentations at the lower corners where the sides of the blade and the base meet. Notching facilitated hafting the point or blade to a shaft.

5.26.3. Point, Lanceolate

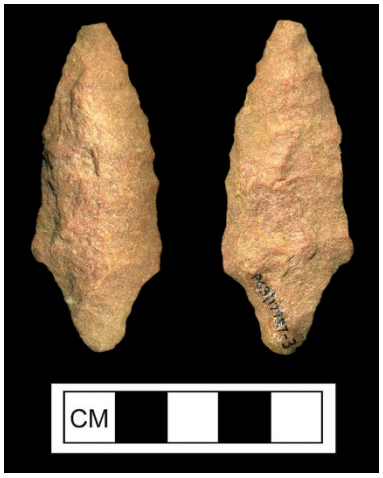
A lanceolate point lacks any notching or indentations on the sides of the blade or base. Generally, the blade expands from the tip into a broad, curved form and narrows slightly towards the base.

5.26.4. Point, Side Notched

Source: Flowerdew Hundred (44PG65), DAACS ID: 1058-193K_02-NRD--00003

A side notched point has flaked U or V-shaped indentations on both sides of the blade, just above the base. Notching facilitated hafting the point or blade to a shaft. Side notched points are formed in a similar way to non-notched, stemmed points, and the difference is often subtle. As a general rule, the stem of a side notched point flares out below the notches, while the stem of a stemmed point remains straight or contracts.

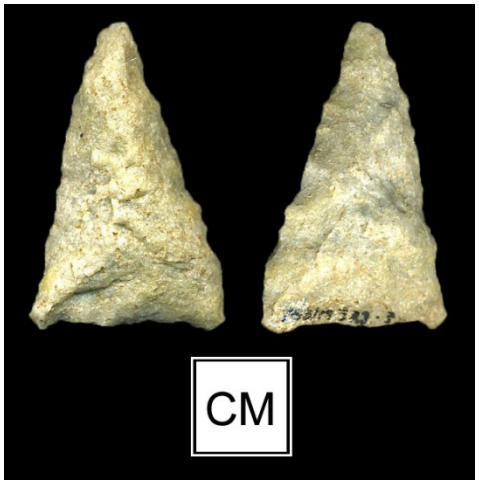
5.26.5. Point, Stemmed



Source: Flowerdew Hundred (44PG64), DAACS ID: 1057-179R_07_WM-NRD--00004

A stemmed point has a straight-sided stem projecting below the blade, generally used for hafting. Stemmed points may be difficult to distinguish from side or corner notched points, as notching also forms a stem. As a general rule, a point is considered stemmed only if the sides of the stem are straight or contracting and do not flare back out at the base.

5.26.6. Point, Triangular



Source: Flowerdew Hundred (44PG64), DAACS ID: 1057-316R_03_UCB-WTS--00013

A triangular point has a triangle-shaped blade with no stem. Triangular points may be equilateral or isosceles in shape, with a straight or slightly concave base. They are relatively small, as they are typically associated with bow and arrow technology. Triangular points were produced during the Late Woodland and Contact periods.

5.26.7. Point, Unidentified

This term is used for points that can be identified as points due to their bifacially worked, symmetrical shape but lack diagnostic attributes of a particular type of point, typically because they are incomplete.

5.28. SHATTER

Shatter refers to any irregularly shaped fragments of stone that reflect the incidental removal of material during knapping. Shatter is typically blocky and angular, and does not have attributes of a flake such as a striking platform or bulb of percussion. Note that DAACS has defined shatter as lithic material that is definitively associated with knapping since 2017. Prior to 2017, DAACS defined shatter as material that is likely, but not definitely, cultural in origin. Catalog as follows:

Artifact Count:	Shatter can be batched by Material and Screen Size.
Lithic Category:	"Debitage"
Form:	"Shatter"
Completeness:	"Incomplete"
Manu Tech:	"Indeterminate"
Flake Type:	"Debris"
Cortex Type:	"Not Applicable"
Screen Size:	As appropriate
Measurements:	Only record Weight.

5.29. STONE, BURNISHING

A stone (usually pebble-sized) with one or more smoothed surfaces that was rubbed against the surface of an unfired ceramic vessel. The burnishing process makes a vessel's surface more compact to lessen porosity and imparts an aesthetically pleasing sheen. The clearest evidence for a stone's use in burnishing is clay build-up on its surface or faceted surfaces that develop through prolonged use. Catalog as follows:

Artifact Count:	Catalog all burnishing stones individually.
Lithic Category:	"Tool"
Form:	"Stone, burnishing"
Completeness:	As appropriate
Manu Tech:	"Indeterminate"
Measurements:	Record Weight and any other complete measurements.
Notes:	Note the presence of any clay residue or faceted surfaces.

5.30. TINDERFLINT

A piece of chert or flint designed to be struck with another metal or stone implement to generate a spark. Stone tinderflints in the historic period are often difficult to distinguish from gunflints, but they may be identified by the presence of use-wear on several or all sides, rather than only one. Note that this form was changed from “Strike-a-Light'' to “Tinderflint” in September 2023 to avoid confusion with metal strike-a-lights. Catalog as follows:

Artifact Count:	Catalog all tinderflints individually.
Lithic Category:	“Tool”
Form:	“Tinderflint”
Completeness:	As appropriate
Material:	As appropriate, always a type of chert/flint.
Manu Tech:	“Flaked”
Measurements:	Record Weight and any other complete measurements.

5.31. TOOL, UNIDENTIFIED

Any stone object that was clearly modified by a human to be used for a certain purpose, but which cannot be identified as a specific type of tool. Catalog as follows:

Artifact Count:	Catalog all unidentified tools individually.
Lithic Category:	“Tool”
Form:	“Tool, unidentified”
Completeness:	As appropriate
Manu Tech:	As appropriate
Measurements:	Record Weight and any other complete measurements.

5.32. UNIDENTIFIED

This term is used for any culturally modified stone that cannot be identified as a particular type of artifact, likely due to fragmentation or weathering. Catalog as follows:

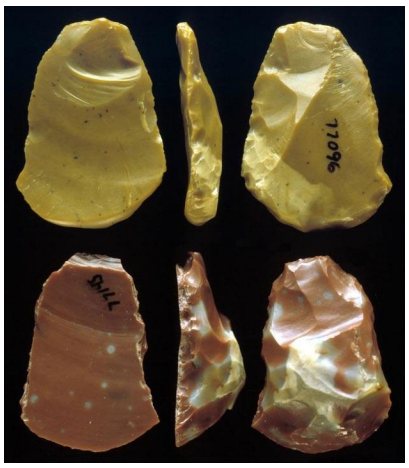
Artifact Count:	Unidentified artifacts can be batched by Material and Manufacturing Technique.
Lithic Category:	“Unidentifiable”
Form:	“Unidentified”
Completeness:	“Not Recorded”
Manu Tech:	As appropriate or “Unidentified”
Measurements:	Only record Weight.

5.33. UNIFACE

A flaked stone tool characterized by flake removal and/or retouch on only one surface, in contrast to a biface that is worked on both surfaces. A uniface is typically plano-convex in cross-section, with the unworked face being flat. A wide variety of tools may be unifacial, ranging from backed knives to scrapers (although note that unifacial endscrapers should be cataloged as "Uniface, endscraper"). Catalog as follows:

Artifact Count:	Catalog all unifaces individually.
Lithic Category:	"Tool"
Form:	"Uniface"
Completeness:	As appropriate
Manu Tech:	"Flaked"
Measurements:	Record Weight and any other complete measurements.

5.34. UNIFACE, ENDSCRAPER



Source: Lithic Casting Lab

A flake tool that has been unifacially retouched on the distal end to create a steep working edge, typically with an angle of 60 to 90 degrees. End scrapers are rectangular to triangular in plan view and plano-convex in cross-section. They are traditionally interpreted as tools for working animal hides, although more recent research shows they can be used to work a variety of materials. Catalog as follows:

Artifact Count:	Catalog all endscrapers individually.
Lithic Category:	"Tool"
Form:	"Uniface, endscraper"
Completeness:	As appropriate
Manu Tech:	"Flaked"
Measurements:	Record Weight and any other complete measurements.

5.35. VESSEL

A hollow container such as a basin or bowl, made from carved and/or ground stone and used to hold some material. Primarily, this term refers to large steatite bowls produced during the Late Archaic and Early Woodland periods, although other stone vessels may be cataloged with this form. Note that most stone vessels are produced through a combination of carving/gouging and grinding. As a general rule, carving is considered the primary manufacturing technique. Catalog as follows:

Artifact Count:	Catalog all vessels and vessel fragments individually.
Lithic Category:	"Tool"
Form:	"Vessel"

Completeness:	As appropriate
Material:	As appropriate, most commonly “Steatite”
Manu Tech:	“Carved”
Measurements:	Record Weight and any other complete measurements. Record thickness in the Height field.
Notes:	If the orifice diameter of the vessel is estimable, record this in the Notes field. If any evidence of lug handles is present, record this detail as well.

5.36. Weight, Fishing

A stone used as a sinker for a fishing net or line to anchor it in the water at the desired depth. Fishing weights are typically rounded stones with carved notches or grooves to keep a line of cordage secure. Catalog as follows:

Artifact Count:	Catalog all fishing weights individually.
Lithic Category:	“Tool”
Form:	“Weight, fishing”
Completeness:	As appropriate
Manu Tech:	“Carved” or “Ground” as appropriate.
Measurements:	Record Weight and any other complete measurements.

5.37. Weight, Unidentified

A modified stone intended to weigh down or counterbalance an object. Stone weights take a wide range of forms and may be difficult to specifically identify. They typically have notches or perforations for attachment to another object.

Artifact Count:	Catalog all weights individually.
Lithic Category:	“Tool”
Form:	“Weight, unid.”
Completeness:	As appropriate
Manu Tech:	“Carved” or “Ground” as appropriate
Measurements:	Record Weight and any other complete measurements.

5.38. Whetstone

A hard, fine-grained stone with at least one flat surface, used for sharpening metal, edged tools by grinding and honing. The effectiveness of the stone is determined by the grit sizer and use of cutting fluid.

Artifact Count:	Catalog all whetstones individually.
Lithic Category:	“Tool”
Form:	“Whetstone”

Completeness:	As appropriate
Manu Tech:	"Carved" or "Ground" if there is evidence that the stone's shape was significantly modified prior to use. Otherwise, "Indeterminate"
Measurements:	Record Weight and any other complete measurements.

6. Regional Point Types

Regional point types are designations for geographically and temporally limited types of points. Identifying the regional point type of an artifact provides useful temporal information and may give some indication of the cultural identity of the toolmaker.

However, identifying regional point types presents challenges. Since points are handmade by individuals and are often reworked and reused throughout their use lives, there can be significant variation within a given point type. Additionally, archaeologists' definitions of a point type may vary widely, especially across different regions. In some cases, the same or similar point types may be called by different names in different states. As a result, catalogers should be conservative when identifying regional point types. Catalogers are encouraged to only identify regional point type if a point is complete or mostly complete, and if the point's size and diagnostic attributes are highly consistent with the regional point type definition.

The following list of regional point types is not exhaustive. Users who wish to add regional point types to the database should contact DAACS staff with a description and images of the requested type.

6.1. Florida

There are three commonly occurring regional point types found in Florida during the late Pre-Contact to early Colonial periods: the Pinellas point, the Ichetucknee point, and the Tampa point. If you come across recognizable point types that do not fit into these categories, contact Dr. Charlie Cobb to add the appropriate terms.

6.1.1. Pinellas Point

A small triangular point with a flattened to elliptical cross-section. The blade edge is primarily straight, but may have an excurvate or, even less frequently, an incurvate margin. Occasionally the edge is finely serrated. The point dimensions approximate an

isosceles triangle (about half as wide as the height). The base is primarily straight to slightly concave and commonly has basal thinning.

6.1.2. Ichetucknee Point

A small, thin lanceolate point with a thin elliptical cross-section. The blade is excurvate, curving in at the tip and curving back in towards the base. The base ranges from straight to concave. Most often the base is rounded.

6.1.3. Tampa Point

A small, relatively broad and ovoid shaped point with an elliptical cross-section. The blade is excurvate with a convex base giving the point a leaf appearance. Bases are often bulbous in appearance.

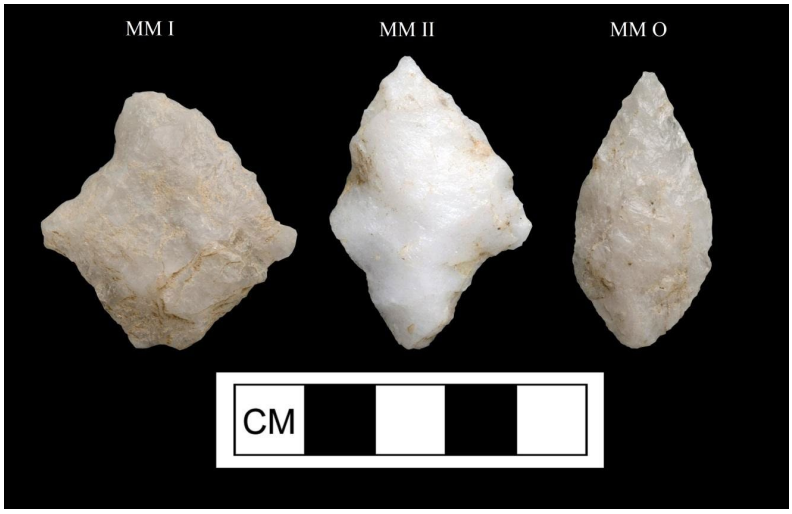
6.2. South Carolina

The regional point types listed below were identified by archaeologists at the South Carolina Institute of Archaeology and Anthropology. If you come across recognizable point types that do not fit into these categories, ask Dr. Karen Smith to add the appropriate terms.

6.2.1. Kirk Corner Notched Point

Kirk corner notched hafted bifaces are an Early Archaic point type. Stratigraphic evidence places them in the middle of the Early Archaic period following side notched varieties here in South Carolina (Coe 1964). They differ from side notched varieties primarily in the angle of the notch, which originates lower on the preform. Preform shapes for Kirk points are ideally triangular, with intentional basal thinning which facilitates often deep corner notches (Coe 1964). In South Carolina Kirk points are often made of high quality lithic raw materials such as Allendale Coastal Plains chert, or of various metavolcanic rhyolites. Examples do exist on lesser quality materials such as quartz as well. Kirk corner notched blades are not often beveled or serrated, but are on occasion. This hafted biface type functioned both has knives and as projectile points.

6.2.2. Morrow Mountain Point



A point from the Middle Archaic period that has a tapered stem to ovate basal configuration. The blade is biconvex in cross-section. Blade margins range from convex to straight, and occasionally incurvate. Blade is bifacially resharpened. Variations of this type have been identified by Coe (1964), and attempts at refining it have also been made (Carl Steen, personal communication 2017). Morrow Mountain I (left) has a tapered/contracting stem that is short and broad, often with a rounded basal shape, and a distinct shoulder or separation between the blade and haft. Morrow Mountain II (center) has an elongated and narrow tapered/contracting stem, often with a pointed or slightly rounded basal shape, and also has a distinct shoulder or separation between the blade and haft. Morrow Mountain Ovate (right) is oval in shape with a tapered haft with a round or slightly pointed basal shape but has no distinct shoulder or separation between the blade and haft. Because it is often difficult to differentiate among these

variants, and temporal separations have not been identified, all of the above Morrow Mountain variants are to be cataloged as Morrow Mountain Point.

Coe, Joffrey Lanning
1964 The Formative Cultures of the Carolina Piedmont. Transactions of the American Philosophical Society Vol. 54, Part 5. The American Philosophical Society, Independence Square, Philadelphia.

6.2.3. Savannah River Stemmed Point

The Savannah River Stemmed point is medium to large in overall size. It is a part of a stemmed point technology that often has a wide range of ambiguity in form, leading to the use of generic type names such as Late Archaic Stemmed. The stem is often square or slightly tapered, with a basal shape ranging from concave (far left), to straight (middle left and middle), to slightly convex (middle right). The blade often has an excurvate or straight edge, and is bifacially resharpened. On rare occasions the blade is serrated. Because it is often difficult to differentiate among these variants, and temporal separations have not meaningfully been identified, all of the above Savannah River Stemmed variants are to be cataloged as Savannah River Stemmed Point.

6.2.4. Bifurcate Point

Bifurcates are a cluster of basally notched points from the latter portion of the Early Archaic time period (Broyles 1971). A variety of subtypes often have a great deal of overlap and similarities in shape and size, which makes them difficult to tell apart. They have been consolidated for this reason. The LeCroy variety (top row, far left) has a deep basal notch and straight vertical basal ears and in general are small in size. MacCorkles (bottom row, far right) are larger in size with rounded basal ears. Similar in size and morphology to the MacCorkle type is the St. Albans subtype (not pictured), which is also larger with rounded ears. One last subtype that is a part of this cluster, Kanawha stemmed (not pictured), is usually small in size, has shallow basal notches on distinct straight-sided stems, and closely resembles LeCroy points. Overall this cluster of points share attributes such as: basal notching, side or corner notches, and thin blades that often contain bifacially created serrations.

Broyles, Bettye J.
1971 Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia. Report of Archaeological Investigations No. 3. West Virginia Geological and Economic Survey, Morgantown, West Virginia.

6.2.5. Woodland Stemmed Point

Woodland Stemmed Point refers to the wide range of ambiguous stemmed points from the Woodland Period. The styles, sizes, and conditions of these stemmed points are widely variable, and are often difficult to differentiate from each other. Separation of these varieties through time has not adequately been established, though stemmed

varieties are primarily from the Early and Middle Woodland periods. Many of these points are crudely made and are often knapped on salvaged flakes of lithic raw material, sometimes from previous cultural occupations on sites. Stem shapes vary widely, and can often be confused with other types if context and overall size are not considered carefully.

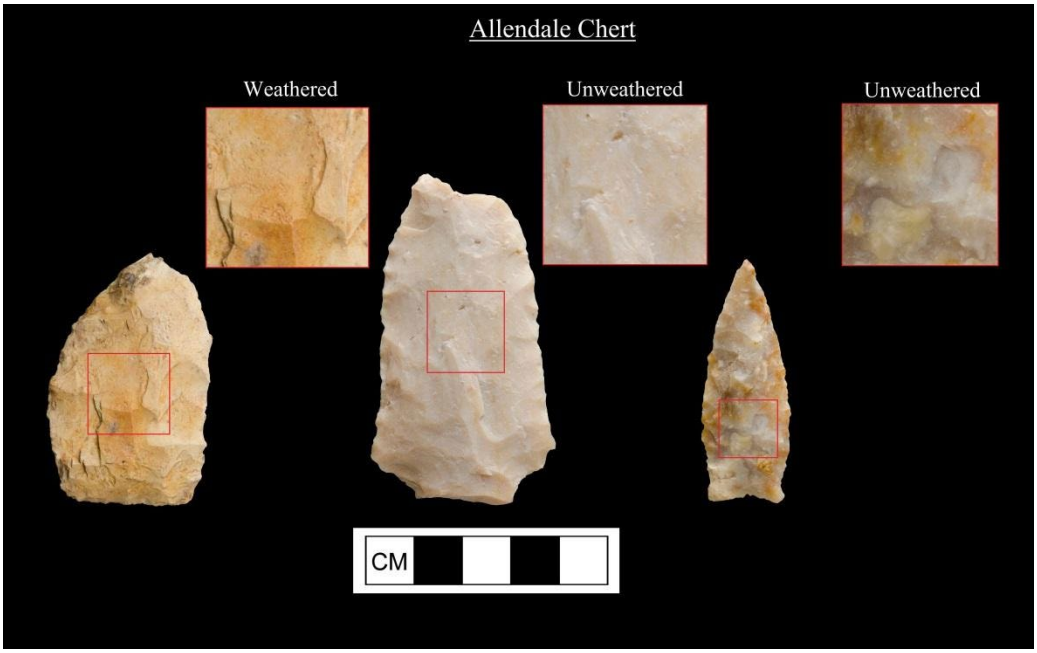
7. Regional Materials

Regional materials include types of stone that have been identified to a specific geographical source. The following list of materials is not exhaustive. To add a regional material to this field, the source must be described and images sent to DAACS staff to be added to the manual.

7.1. South Carolina

The following material types were added for the South Carolina Institute of Archaeology and Anthropology and are isolated to the southeastern region of the United States.

7.1.1. Allendale Chert



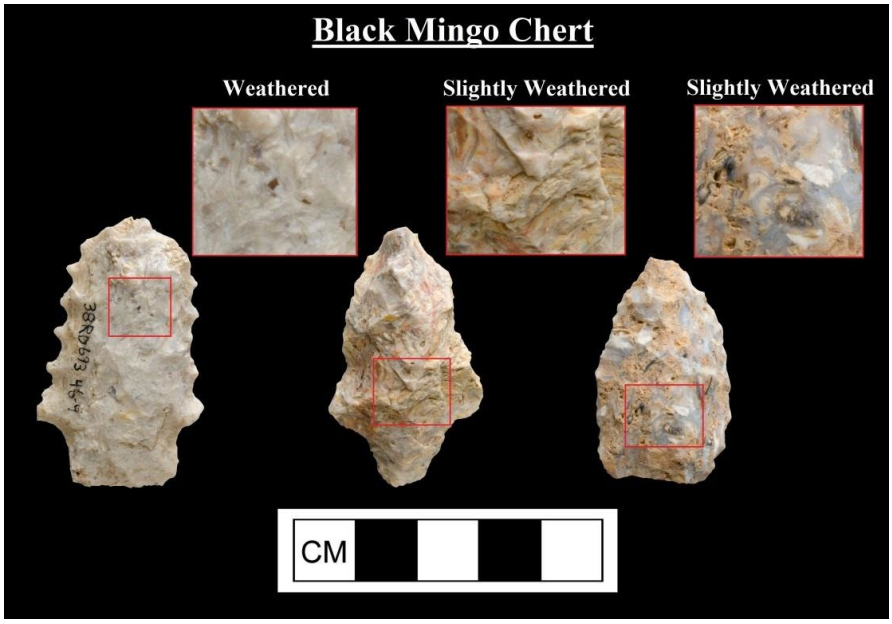
Allendale Chert is a sedimentary material that formed in marine deposits of limestone on the Coastal Plain of the southeastern U.S. It is a part of a large formation that has many surface exposures in South Carolina, Georgia, Florida, and Alabama. The northeasternmost exposure is in Allendale County, South Carolina, where locally it is referred to as Allendale Chert. Because this exposure is isolated and the only major source of this material in the state, and because major quarries of this material have been identified archaeologically in the vicinity of Allendale and Hampton counties (Goodyear and Charles 1984), the majority of this material found in South Carolina can be confidently identified as Allendale Chert.

Some varieties of this material have been found further south, having been fluvially transported by the Savannah River, as well as possible minor exposures in Jasper and Beaufort Counties. This material is often generically called Coastal Plains Chert, as visually it is very difficult to differentiate from other exposures in Georgia for example, especially when it is weathered. The material chemically begins to break down with age, and turns a tan to yellow color that is very distinctive. It is fossil bearing, but macroscopically it is often difficult to distinguish fossils. In the Middle and Late Archaic periods, this material was also extensively heat treated, which made the material more homogeneous and glass-like, and made the sometimes brown colors of the fresh chert interior turn bright pinks and reds. This visual change also co-occurs with a physical change to the texture of the chert, making it more brittle and easier to shape into tools.

Goodyear, Albert C., and Tommy Charles

1984 *An Archeological Survey of Chert Quarries in Western Allendale County, South Carolina*. Research Manuscript Series 195. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

7.1.2. Black Mingo Chert

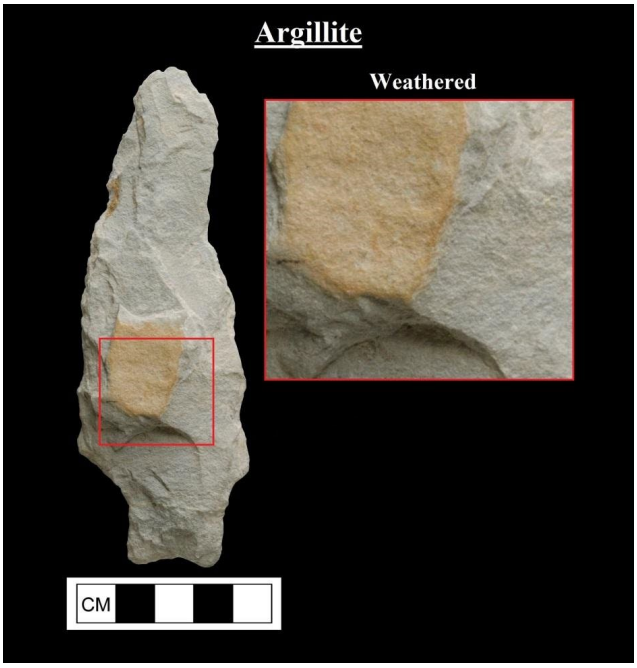


Black Mingo Chert is a sedimentary material found in the Black Mingo formation in the central Coastal Plain of South Carolina. This formation is very fossiliferous, and is comprised of the marine shell hash found in marine shoreline processes and deposition. This shell rich layer often has solid pockets of silica, or chert, that when homogeneous is good for tool stone. A quarry of this material has been identified and investigated archaeologically in Calhoun County (Goodyear and Wilkinson 2014). Other exposures

are known in Sumter and Clarendon counties. The chert ranges in color from dark blue and black, to white, and even amber colored when freshly broken. This material is more susceptible to weathering than most coastal plains cherts, and will weather to a bleached white color on the exterior. This material is easily identifiable by the macroscopically visible shell fragments in the matrix that often resemble fingernails stacked on top of each other. This chert type can be heat treated, and when treated turns some of the matrix to different shades of red and pink. The physical makeup of the chert changes with heat treatment, making it more homogeneous and glass-like, which made it easier to shape into tools.

Goodyear, Albert C., and Joseph E. Wilkinson
2014 Prehistory at High Creek Plantation: A Black Mingo Chert Source and Quarry in Calhoun County, South Carolina. *South Carolina Antiquities* 46:35-46.

7.1.3. ARGILLITE

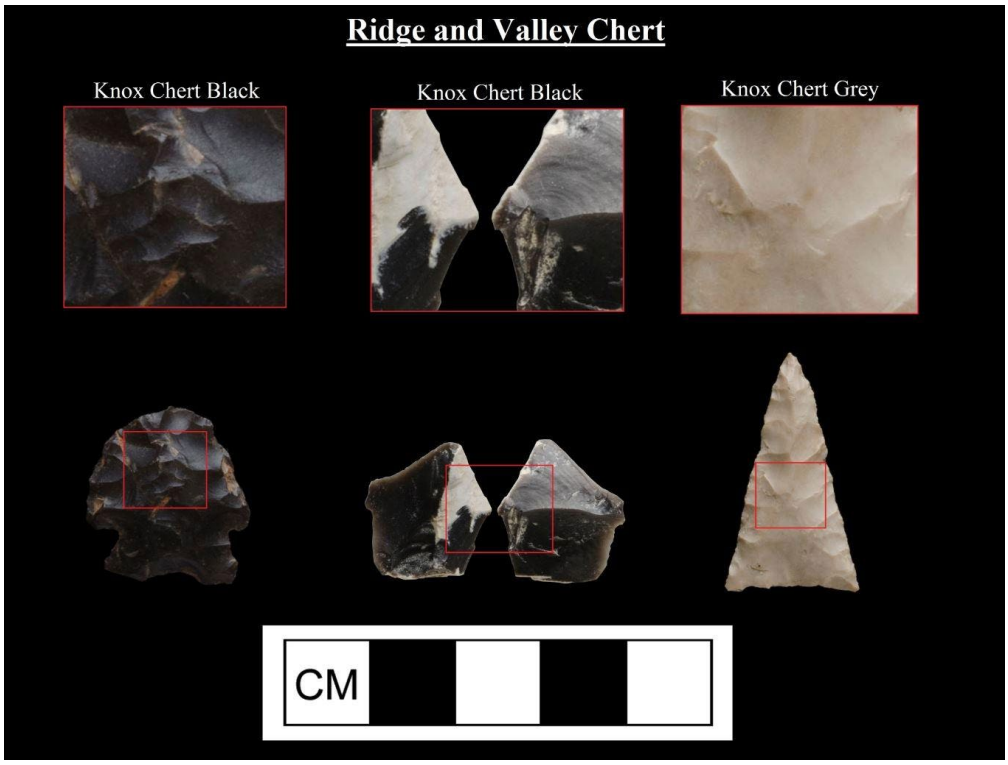


Argillite, sometimes called Volcanic Argillite, is a metavolcanic material found throughout the lower Piedmont and Fall Line of South Carolina. It is a material found within the Carolina Slate Belt, a geologic entity that stretches from Virginia to Georgia, passing through western North Carolina and western South Carolina (Horton and Zullo 1991). It is platy and soft in appearance, which often results in poorly shaped tools. It weathers with age, and appears lighter in color and softer. When freshly broken it is typically dark in color. This material was used extensively in later periods of prehistory in

South Carolina, as it represented a local, though low quality, source of toolstone for expedient use.

Horton, J. Wright, Jr., and Victor Zullo (editors)
1991 *The Geology of the Carolinas: Carolina Geological Society Fiftieth Anniversary Volume*. University of Tennessee Press, Knoxville.

7.1.4. Chert/Flint, Ridge and Valley



Naturally occurring cherts in the Ridge and Valley locality of Tennessee often made their way into archaeological assemblages in South Carolina. In the local literature, varieties of chert from this locality have been collectively identified as Ridge and Valley Chert. This encompasses several visually distinctive cherts such as Knox Chert, which occurs in colors of blacks and greys. Other materials from the Ridge and Valley locality often have more distinctive labels such as Chalcedony or Jasper, but these materials also occur in other localities. The most locality-specific material to the Ridge and Valley locality is the varieties of Knox Chert. Sweat (2009) gives detailed descriptions of the range of variability in which this material and others local to the Ridge and Valley occur, with photographic examples of each.

8. BIBLIOGRAPHY

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Miss Valley Arch Center https://www.uwlax.edu/mvac/past-cultures/specific-sites/trempealeau/

NPS https://www.nps.gov/articles/000/grooved-axes.htm

Bannerstones https://bannerstone.fitnyc.edu/items/show/79

Chunkey stones:https://jefpat.maryland.gov/Pages/mac-lab/curators-choice/2011-curators-choice/2011-01-native-american-gaming-stones.aspx