DAACS Cataloging Manual: Tobacco Pipes

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The DAACS Tobacco Pipe Manual documents how tobacco pipes 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 field, 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.

This manual was substantially revised for the introduction of the Bronze, Silver, and Gold cataloging tiers in 2022, and 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 TOBACCO PIPE MODULE

The **Tobacco Pipe Module** captures detailed information about tobacco smoking pipe fragments made from any material. All other material culture items related to the smoking (e.g. cigarette filters, cigarette holders) or cleaning and using smoking pipes (e.g. pipe tampers, smoker's companions) should be cataloged into the General Artifacts module.

This manual is divided into three sections. The first section provides details on the fields recorded for the DAACS Gold, Silver and Bronze interfaces and the cataloging protocols. The second section explains what information is recorded in each field. The third section provides instructions on how to catalog specific artifact types.

2.1 Comparison and Location of Tobacco Pipe Attributes recorded for Bronze, Silver, and Gold Cataloging Levels

Section	Bronze	Silver	Gold
Main Tab	Artifact Count	Artifact Count	Artifact Count
	Completeness	Completeness	Completeness
	Material	Material	Material
	Manufacturing Technique	Manufacturing Technique	Manufacturing Technique
	Paste Color	Paste Color	Paste Color
			Non-Plastic Paste Inclusion
			Mended?
	Decoration?	Decoration?	Decoration?
	Text Mark?	Text Mark?	Text Mark?
Measurements			Stem Length
			Exterior Stem Diameter
	Metric Bore Diameter	Metric Bore Diameter	Metric Bore Diameter
	64ths Bore Diameter	64ths Bore Diameter	64ths Bore Diameter
	Weight	Weight	Weight
			Bowl Height
			Maximum Bowl Diameter
			Bowl Rim Diameter
			Bowl Volume
			Maximum Sherd Measurement
Bowl/Mouthpiece		Bowl Form	Bowl Form
		Bowl Base Type	Bowl Base Type
		Mouthpiece Form	Mouthpiece Form
Decoration		Decorative Motif	Decorative Motif
		Motif Manufacturing Method	Motif Manufacturing Method
		Motif Location	Motif Location
		Notes	Notes
Text Marks		Mark Description	Mark Description
		Type of Marks	Type of Marks
		Text Location	Text Location
		Text Frame Motif	Text Frame Motif
		First Name	First Name
		Last Name	Last Name
		Place Name	Place Name
		Slogan/Other	Slogan/Other
		Mark Notes	Mark Notes

Manufacturing			Pipe Maker
			Production Dates
			Manufacture Location
Condition			Post-Manufacturing Modification?
			Conservation?
Images	Link to Images	Link to Images	Link to Images
Objects	Link to Objects	Link to Objects	Link to Objects

3. BRONZE LEVEL CATALOGING PROTOCOLS

3.1 BRONZE OVERVIEW

Bronze Level cataloging is the fastest, most efficient form of cataloging in the DAACS database. It allows users to batch artifacts using only a small number of diagnostic attributes. The result is the ability to catalog more artifacts at a faster pace. However, think carefully about the analytical tradeoffs. The choice of cataloging level should reflect the research goals, as well as time and/or budgetary considerations, specific to a given project.

If you catalog at the Bronze level, you will not record potentially important pieces of information, such detailed measurements and information on decoration. We also strongly recommend *against* using the Notes field to record further details on decoration or measurements. Adding unstandardized discursive details in an open text field will negate the time and resources you are attempting to save by using the Bronze level interface and create data that are harder to use. If you find additional detail decoration or measurements are important to your research, consider using the Silver or Gold interface.

The fields recorded at the Bronze level are:

- Artifact Count
- Completeness
- Material
- Manufacturing Technique
- Decoration? (Y/N)
- Text Mark? (Y/N)
-
- Metric Bore Diameter
- 64ths Bore Diameter
- Weight
- Links to Images
- Links to Objects

3.2 BRONZE BATCHING PROTOCOLS

Batch all fragments that share the following attributes:

- Completeness
- Material
- Manufacturing Technique
- Presence of text marks
- Presence of decoration
- Stem metric bore diameter (if applicable)

- Stem 64ths bore diameter (if applicable)

Record total count of batch as Artifact Count.
Do not record bore diameters of split stems.

Record Artifact Weight as total weight of batch in grams.

3.3 Bronze Cataloging Recommendations

We recommend the following steps for sorting artifacts prior to cataloging. This sorting process will expedite cataloging at the Bronze level.

1. Sort fragments by completeness.
2. Sort completeness groups into smaller groups by material.
3. Sort your ompleteness/aterial groups into two more groups by decorated/marked and undecorated/marked sherds.
4. Sort any stem fragments within these groups by bore diameter. Remember that bore diameter is not recorded for split stems.
5. At this point, you should have many small piles of sorted pipe fragments on your desk. For example: undecorated bowl fragments of white ball clay, undecorated stem fragments with 3.5mm bore diameters and 9/64th bore diameters, marked stem fragments with 3.4mm bore diameters and 9/64th bore diameters.
6. Note that at the end of this process you could have a “batch” of one fragment. A batch of one is still a batch and should be recorded using the prescribed guidelines.
7. All attributes must match within a group of fragments to create a batch.

4. Silver Level Cataloging Protocols

4.1 Silver Overview

The main benefit of cataloging at the Silver level is the ability to record more diagnostic attribute data than is available at the Bronze level. This includes data on bowl forms, decoration, and marks. The Silver Level also allows catalogers to work at a faster pace by removing the Gold level requirement to record detailed decoration and measurement data. However, think carefully about the analytical tradeoffs. If you catalog at the Silver level, you will not capture potentially important pieces of information, such as detailed bowl and stem measurements . The choice of cataloging level should reflect the research goals, as well as time and/or budgetary considerations, specific to a given project.

The fields recorded at the Silver level are:

- Artifact Count
- Completeness
- Material
- Manufacturing Technique
- Paste Color
- Decoration?
- Text Mark?
- Post-Manufacturing Modification?
- Bowl Form
- Bowl Base Type
- Mouthpiece Form
- Metric Bore Diameter
- 64ths Bore Diameter
- Weight
- Decorative Motif
- Motif Manufacturing Method
- Motif Location
- Decoration Notes
- Mark Description
- Type of Marks
- Text Location
- Text Frame Motif
- First Name
- Last Name
- Place Name
- Slogan/Other
- Mark Notes
- Links to Images
- Links to Objects

4.2 Silver Batching Protocols

4.2.1. Fragments to Catalog Individually (i.e. no batching)

Diagnostic fragments *cannot* be batched.
Diagnostic fragments have at least one of the following attributes:

- Decoration or Marks
- Fragments with a completeness of “Base,” “Base, Bowl,” “Base, Bowl, Rim,” “Bowl, Complete,” “Bowl Fragment,” or “Bowl, Rim” with identifiable bowl and/or base types
- “Stem, Mouthpiece” and “Mouthpiece” fragments with identifiable mouthpiece types
- Stems with measurable bore diameters

Additionally, a complete or nearly complete pipe (e.g. where incomplete bowl includes some combination of rim, body, base and stem is broken) is always considered diagnostic.

4.2.2 Non-Diagnostic Fragments

Batch all non-diagnostic “Bowl Fragment”, “Bowl, Base” and “Bowl, Rim” fragments that share the following attributes:

- Completeness
- Material
- Manufacturing Technique

- Paste Color

Batch all non-diagnostic "Stem" fragments that share the following attributes:

- Completeness
- Material
- Manufacturing Technique
- Paste Color
- Unmeasurable bore diameters (i.e., split stems)

Artifact Count should record the total number of fragments in the batch. Weight should be recorded as the total weight of the batch.

Here is a batching example for non-diagnostic bowl fragments:
If you had 5 pipe bowl fragments:

Artifact Count: 5
Completeness: "Bowl Fragment"
Material: "Earthenware, ball clay"
Paste Color: "5Y9/1, 10Y9/1"
Manu Tech: "Molded"
Text mark? "No"
Decoration? "No"
Bowl Form: "'Unidentifiable"
Weight: Enter weight of the batch in grams

Here is a batching example for non-diagnostic stems:
If you had 3 split stem fragments:

Count: 3
Completeness: "Stem"
Material: "Earthenware, ball clay"
Paste Color: "5Y9/1, 10Y9/1"
Manu Tech: "Molded"
Text mark? "No"
Decoration? "No"
Weight: Enter weight of the batch in grams
Notes: "Split stems."

5. GOLD LEVEL CATALOGING PROTOCOLS

5.1 GOLD OVERVIEW

The main benefit of cataloging at the Gold level is the ability to record the maximum amount of individualized measurements and attribute data for every artifact. Cataloging at the Gold level also allows you to capture formal characteristics and measurements for individual tobacco pipe attributes that may be temporally diagnostic. However, think carefully about the analytical tradeoffs. Recording more detailed measurements for tobacco pipes can be time consuming and requires a high level of cataloger expertise. The choice of cataloging level should reflect the research goals, as well as time and/or budgetary considerations specific to a given project.

Please note that Gold Level standards represent the original Tobacco Pipe attribute fields that have been part of DAACS since 2001. These original fields were chosen by DAACS staff and material culture scholars. Silver and Bronze Levels are stream-lined versions of the original DAACS Tobacco Pipe module.

The fields recorded at the Gold level are:

- Artifact Count
- Completeness
- Material
- Manufacturing Technique
- Paste Color
- Non-Plastic Paste Inclusion
- Mended?
- Decoration?
- Text Mark?
- Glaze Type
- Glaze Color
- Stem Length
- Exterior Stem Diameter
- Metric Bore Diameter
- 64ths Bore Diameter
- Weight
- Bowl Height
- Maximum Bowl Diameter
- Bowl Rim Diameter
- Bowl Volume
- Maximum Sherd Measurement
- Bowl Form
- Bowl Base Type
- Mouthpiece Form
- Decorative Motif
- Motif Manufacturing Method
- Motif Location
- Decoration Notes
- Mark Description
- Type of Marks
- Text Location
- Text Frame Motif
- First Name
- Last Name
- Place Name
- Slogan/Other
- Mark Notes
- Pipe Maker
- Production Dates
- Manufacture Location
- Post-Manufacturing Modification?
- Conservation?
- Links to Images
- Links to Objects

5.2 Gold Batching Protocols[1]

5.2.1 Fragments to Catalog Individually (i.e. no batching):

Diagnostic fragments *cannot* be batched.

Diagnostic fragments have at least one of the following attributes:

- Decoration or Marks
- Fragments with a completeness of "Base" "Bowl, Complete," or "Bowl Fragment" with identifiable bowl and/or base types
- "Stem, Mouthpiece" and "Mouthpiece" fragments with identifiable mouthpiece types
- Stems with measurable bore diameters
- All fragments with multiple completeness entries (e.g., "Base, bowl," "Bowl, rim," "Stem, bowl," etc.)

5.2.2 Batching Rules for Non-diagnostic fragments:

Non-diagnostic fragments include:

- Split stems where no measurements other than weight and maximum sherd size can be recorded
- Pipe bowl fragments with no decoration or marks

Batch non-diagnostic tobacco pipe fragments by completeness and size.

Here is a batching example for bowl fragments: If you had 5 pipe bowl fragments with a maximum sherd size of 35 mm:

Count:	5
Completeness:	"Bowl Fragment"
Material:	"Earthenware, ball clay"
Paste Color:	"5Y9/1, 10Y9/1"
Inclusions:	"None"
Manu Tech:	"Molded"
Mended?:	"No"
Decoration?:	"No"

[1] Please note that new batching rules for all non-diagnostic tobacco pipes were implemented on February 8, 2012. Prior to implementation, all non-diagnostic pipe fragments that had a maximum sherd measurement greater than 15 mm were individually recorded, measured, and weighed.

Glaze Type: "No Glaze"
Glaze Color: "Not Applicable"
Mended?: "No"
Decoration?: No
Sherd Weight: Enter weight of the batch in grams (Measurements tab)
Max. Sherd Measurement: 35 (Measurements tab)
Bowl Form: "Unidentifiable" (Bowl/Mouthpiece tab)

Here is a batching example for non-diagnostic stems: If you had 3 split stem fragments, each with a max. sherd size of 20 mm:

Count: 3
Completeness: "Stem"
Material: "Earthenware, ball clay"
Paste Color: "5Y9/1, 10Y9/1"
Inclusions: "None"
Manu Tech: "Molded"
Glaze Type: "No Glaze"
Glaze Color: "Not Applicable"
Mended?: "No"
Decoration?: "No"
Notes: "Split stems."
Sherd Weight: Enter weight of the batch in grams (Measurements tab)
Max. Sherd Measurement: 20 (Measurements tab)

6. DAACS Tobacco Pipe Field Definitions and Protocols

6.1 Main Pipe Table

6.1.1 Artifact Count

Numeric

This field documents the number of artifacts in that record.

6.1.2 Completeness

Controlled Vocabulary

This field records which part(s) of the tobacco pipe you have. For Reed/Stub stem pipes, select one of the Completeness entries with "Mouthpiece" if you have the end of the stem of the pipe intact.

6.1.3 Material

Controlled Vocabulary

This field records the material type of the artifact being cataloged.

The default is “Earthenware, ball clay.” The other options are:

- “Earthenware, agatized” (Used when the paste was formed by wedging two or more clays together, usually red and white/yellow)
- “Earthenware, other”
- “Ivory”
- “Metal”
- “Plastic”
- “Porcelain”
- “Steatite” (Steatite, also known as soapstone, is a type of metamorphic rock that is composed primarily of talc. It is soft and has a soapy feel. It is typically gray, bluish, green, or brown in color)
- “Stone” (Use for any stone that is not steatite)
- “Stoneware”
- “Unidentifiable”

Distinguishing ball clay pipes imported from the UK and the European continent from locally made pipes produced in the Southeastern US (pre-Contact or Colonial period) can be difficult, especially for pipes found at early to mid-17th century sites in the British Atlantic. In DAACS, any molded, finely made white pipe with few visible inclusions is cataloged as “Earthenware, ball clay.” Earthenware pipes with darker paste colors (buff, pink, brown) and visible inclusions that vary in size and material should be called “Earthenware, other.”

6.1.4 Manufacturing Technique

Controlled Vocabulary

The manufacturing technique field indicates how the pipe was produced. The default is “Molded.”

Select either:

> **“Carved”:** Use only for stone and ivory pipes. Carving is a reductive technique – i.e., it removes material. It is used primarily to shape the overall form for a pipe or pipe bowl.
>
> **“Molded”**: Technique where material (most often clay) is shaped by a mold. Imported ball clay pipes should always be “Molded.” Earthenware, other, Earthenware, agatized, Porcelain, and Stoneware pipes are typically molded. Key diagnostic attributes of molded pipes are mold seams that run down the front or back of the bowl and along the length of the stem or facets in the same areas created from seam removal. Molded decoration (generally raised from the surface and very regular in application, like ribs or other repeating elements) can also be an indicator of molding. ”Molded” is also used for metal pipes if they look to be cast.

Close up of mold seam integrating into a botanical element (Image ID 1891, Utopia III, Artifact ID 1013-061-8B-DRS—00041).

"Handmade": Used for pipes made by human hands without the use of molds or carving. "Earthenware, other" and "Earthenware, agatized" pipes are the most common varieties. Look for a lack of mold seams and irregularities in the shape of the bowl and stem.

"Unidentifiable": Used most often for "Earthenware, other" ceramic pipes that lack diagnostic molded attributes but demonstrate regularity in shape that makes it difficult to identify whether it is fully handmade.

6.1.5 Paste Color

Controlled Vocabulary

This field records the primary paste color of the pipe fragment in the record.

The default for ball clay pipes is currently "5Y 9/1, 10Y 9/1." For porcelain pipes, select "5Y 9/1, 10Y 9/1." For "Earthenware, other" and "Earthenware, agatized" pipes, use the **Paste Color Groups** section of the DAACS Color Book to identify the primary paste color.

For all other types of pipes (including "Stoneware"), enter "Not Applicable."

6.1.6 Non-Plastic Paste Inclusion

Controlled Vocabulary

This field records inclusions found in the paste of "Earthenware, other" and "Earthenware, agatized" pipes, if present. If multiple inclusion types are present, select the most prominent one and note any others in the Notes field. The default is "None."

- "Black, Unid."
- "Grog"
- "Hematite"
- "Limestone"

- “Mica”
- “None”
- “Quartz <=0.5mm”
- “Quartz >=0.5mm < 4.0mm”
- “Quartz >4.0mm”
- “Quartz, size n/r”
- “Red, unid.”
- “Rock, other”
- “Rock, uid <=0.5mm”
- “Rock, uid >=0.5mm < 4.0mm”
- “Rock, uid >4.0mm”
- “Rock, uid size n/r”
- “Rock, white”
- “Shell”
- “Voids, fiber”
- “Voids, shell”
- “Voids, uid”

6.1.7 Mended?

Controlled Vocabulary

The default for this field is “No.” If the mended sherd is physically glued to another sherd, enter “Yes, Physically Mended.” If sherds mend together but are not physically glued, enter “Yes, Mends But Not Physically” in this field. Record the Artifact IDs of the mended sherds in the Notes field.

6.1.8 Text Mark?

Controlled Vocabulary

This field records in a simple Yes/No fashion if the fragment has a text mark. Choose “Yes” or “No” depending on whether a text mark is present. Be sure to fill out information about Marks under the Marks tab (as opposed to decoration) and additional observations in the Notes field.

6.1.9 Decoration?

Controlled Vocabulary

This field records in a simple Yes/No fashion if the fragment is decorated. Choose “Yes” or “No” depending on whether decoration is present. Be sure to fill out information about Decoration under the Decoration tab and additional observations in the Notes field. Also, be sure to consider whether a potential decoration could be a frame for a text mark. If it is a frame, it should be entered on the Text Marks tab, even if the text mark itself is not present.

Clay pipe with frame around maker's mark that could be mistaken for decoration (Image ID 2101, Utopia III, Artifact ID 1013-058D-DRS—00005)

6.1.10 Glaze Type

Controlled Vocabulary

- The default for this field is "No Glaze." If glaze is present, record the glaze type as appropriate. Most commonly, this will be lead glaze found on the stem of a ball clay pipe."Lead Glaze"
- "No Glaze"
- "Non-Lead Glaze"
- "Salt Glaze"
- "Unidentifiable"

6.1.11 Glaze Color

Controlled Vocabulary

Record the glaze color using the **Detailed Color Groups** section of the DAACS Color Book.

Lead glazed tobacco pipe fragment, Image ID 2355182, Trents Early Settlement, Artifact ID 1231-4.2-DRS--00005

6.1.12 Note about Burning

Unlike most other artifact types, there is no specific field in DAACS to indicate whether a tobacco pipe has been burned. It is assumed that most tobacco pipes will be burned on their interior surfaces. If a tobacco pipe has particularly extensive or otherwise noteworthy burning or residue, enter this information into the Notes.

6.2 Measurements

6.2.1 Metric Bore Diameter

Numeric

Measure the metric bore diameter using millimeter drill bits. Enter the size of the **largest** drill bit that fits entirely through the pipe stem.

6.2.2 64ths Bore Diameter

Numeric

Measure the 64ths bore diameter using 64thinch drill bits. Enter the size of the **largest** drill bit that fits entirely through the pipe stem. You do not have to enter the "64" in the field. If you have, for example, a bore diameter of 4/64ths, only enter "4" (instead of "4/64").

6.2.3 Artifact Weight

*Numeric*Record weight of the individual fragment or batch in grams.

6.3 Bowl/Mouthpiece Information

6.3.1 Bowl Form

Controlled Vocabulary

The numbers in this field are based on a tobacco pipe classifying system developed by Atkinson and Oswald for imported ball clay pipes, with additional terms added for locally made pipes.

See Appendix 1 for the complete list of figures and numbers for ball clay pipes. If you have a complete or nearly complete pipe bowl, try to find a matching figure in Atkinson and Oswald and record the corresponding number. If you have a bowl fragment that is similar to but does not exactly match one of the figures, list the Bowl Form as "Variant," and record the corresponding figure in the Notes field.

The additional terms are used for "Earthenware, other" pipes with faceted bowls. If you have a faceted bowl, try to find a matching figure using the three examples pictured in the Appendix.

For all bowl fragments with unidentifiable form, Bowl Form should be recorded as "Unidentifiable" (not "Missing Information").

6.3.2 Bowl Base Type

Controlled Vocabulary

Record base type for any fragment that includes the pipe's base.

> **"Spur"**: Thin, pointed "spur" to rest the bowl on. Generally, a spur is longer than it is wide. See Bowl Type 6 as an example.
>
> **"Heel"**: Raised, flattened pedestal to rest the bowl on. Generally, a heel is wider than it is long. See Bowl Types 5, 7, and 13 as examples.
>
> **"Flat"**: Flattened surface to rest the bowl on. These can be similar to heeled pipes , but flat-based pipes do not have a raised, pronounced heel. See Bowl Types 2, 3, 11, and 12 as examples.
>
> **"Heel-less"**: The pipe has no spur, heel, or flattened surface to rest the bowl on. See Bowl Types 24 and 30 as examples.
>
> **"Unidentifiable"**: For every unidentifiable base fragment, Bowl Base Type should be recorded as "Unidentifiable" (not "Missing Information").

6.3.3 Mouthpiece Form

Controlled Vocabulary

Record mouthpiece form for any fragment that includes the pipe's mouthpiece. The following descriptions are from Higgins 2000:488 and Higgins 2017: Section 6.5.

> **"Cut"**: The mouthpiece is formed by running a trimming knife around the end of the stem to trim off the surplus clay. The pipe is usually held at a slight angle. Higgins notes key diagnostics as:
>
> - Beveled end
> - The presence of a slight ridge immediately around the stem bore from where the molding wire was withdrawn and drew a bit of clay out with it, or

- Otherwise unfinished and no other molded alteration is present

Higgins (2017: Section 6.5) notes this is the most common mouthpiece form for all pipes dating from before c. 1840 and on many of the types produced after that date.

Cut mouthpiece shape (Image ID 2356334, Trents Early Settlement, Artifact ID 1231-18.8-DRS--00036)

"Rounded": The mouthpiece is formed in the mold as a simple rounded end. Higgins (2017:Section 6.5) notes that mold seams can usually be seen right up to the stem bore and there is no cut stem facet. He also notes that these generally occur on pipes dating to the late 19th century or later.

Rounded mouthpiece (Image ID 1694475, Mount Vernon South Grove Midden)

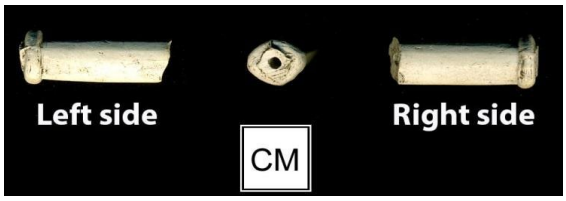
"Nipple": A circular sectioned stem that terminates with a molded nipple.

Nipple mouthpiece shape (Image ID 2355425, Trents Early Settlement,

Artifact ID 1231-7.2-DRS—00016)

"Diamond Shape": The stem ends with a diamond-shaped cross section but without a nipple.

"Diamond Nipple":The stem takes on a lozenge or sharply oval section in shape directly before the nipple. Higgins (2017: Section 6.5) notes that this occurs only from the mid-19th century onwards.



Diamond Nipple Mouthpiece (Image ID 193075, Morne Patate Village, Artifact ID 1243-5231-DRS—00046)

"Flattened Oval": The stem takes on a flat, oval, section at the tip, without a nipple.

"Reed/Stub Stem": A stem that ends very near the bowl, with an opening for a long reed to be inserted and used as the pipe stem. See Section 8.3 for a cataloging example of this Form.

Reed/Stub stem pipe (Image ID: 1965175, First Hermitage, West Cabin, Artifact ID 1412-97-03-084-DRS—00013)

"Unidentifiable": For every unidentifiable mouthpiece fragment, Mouthpiece Type should be recorded as "Unidentifiable" (not "Missing Information").

6.4 Decoration

6.4.1 Decorative Motif

Controlled Vocabulary

Select from the following list. If you have a molded flower, for instance, choose "Botanical" as the Decorative Motif. An incised decoration on a locally made pipe might be "Geometric." All decoration should also be thoroughly described in the Decoration Notes field.

Note: Any decorative motif that is a component of a maker's mark (such as a crown or floral cartouche) should be cataloged in the Text Mark tab, not the Decoration tab.

See Appendix 2 for example images of decorative motifs.

Decorative Motif	Description
"Anthropomorphic"	Any image showing a human figure or any part of the human body. Examples include a hand/gauntlet, bust, and arm/leg.
"Botanical"	Any botanical, floral, or plant element or elements.
"Coat of Arms"	Includes personal, city, or royal coat of arms.
"Geometric"	Any abstract geometric design. Examples include scallops, dogtooth bands, plain bands, and diamonds. Most often seen on locally made pipes.
"Other, pictorial"	Graphic representation not covered by any other category. Examples include a fleur-de-lis, heart, cross, and castle.
"Unidentifiable"	Used whenever a decoration is too small or fragmentary to identify.
"Zoomorphic"	Any image showing an animal, either real or mythological.

6.4.2 Motif Manufacturing Method

Controlled Vocabulary

Select one from the following list:

"Agatized": Paste formed by wedging two or more clays together (usually red and white/yellow). This term can be used for material if agatized paste is used for the entire pipe.

"Carved": Only to be used for stone or ivory tobacco pipes. Use to capture decoration that broadly shapes a portion of the pipe, rather than decoration that cuts into a surface (i.e. engraving or incising). For example, use this term for a stone tobacco pipe bowl carved into the figure of an animal or a bowl that has carved facets.

"Incised": Incising is defined as a cut decoration made using a pointed tool to mark or alter the surface of the pipe, as opposed to changing its overall shape.

"Molded": Decorations produced by using the designs carved into the walls of molds.

“Punctate”: Punctation is defined as decoration made with a small tool that produces a single mark with each impression. Possible tools include: bone, shell, stick, reed, fingernail, and many other items. Punctation may be shallow or deep, and impressions may be direct or beveled. Punctates may be arranged in a variety of configurations.

“Roulette”: A particular type of stamping that takes the form of a singular shape or series of shapes repeated over a surface. Rouletting is generally understood to be executed by rolling a wheel with a repeated stamp over the surface. Higgins notes that from around 1600 to the early eighteenth century, the “milled” decoration commonly seen on the exterior rim of ball clay tobacco pipes was done using a serrated blade. This should be recorded as “Roulette”.

“**Slipped/Painted**”: Added layer of transparent/translucent decoration. Be careful not to confuse this for glazing or added wax. Wax is typically opaque and tends to appear on the stem near the mouthpiece of ball clay pipes. ”Slipped/Painted” is also used to record white inlay found within stamped decorations on locally made pipes (see Figure below).

“**Stamped**”: Use for stamping that does not look to have been executed by rolling a wheel with a repeated stamp over the surface (i.e., a regularly spaced repeating shape or series of shapes). Stamping differs from punctation in that each stamp covers a larger surface area, producing multiple marks with a single impression (see Figure below).

Example of stamping with white inlay (Image ID 2778341, 44PG92, Artifact ID 1055-F12_NW_L03-NOS—00003)

6.4.3 Motif Location

Controlled Vocabulary

Select one from the following list (Higgins 2000):

“BA”: On bowl, facing away from the smoker.

"BB": Beneath the bowl when a pipe has neither heel nor spur.

"BC": On bowl, circumference of bowl rim.

"BF": On bowl, facing smoker.

"BI": On bowl, interior.
Note: this is a rare occurrence. See http://scpr.co/PDFs/Resources/White%20BAR%20Appendix%204.pdf for more information.

"BL": On bowl, on left hand side as smoked.

"BO": On bowl, covering entire bowl.

"BR": On bowl, on right hand side as smoked.

"BU": On bowl, unidentified location.

"H": On base of heel.

"RS": Rouletted stem, a continuous band or zone around the stem.

"SA": On top of the stem, reading along the length of the stem.

"SB": Decoration located at the juncture of the bowl and stem, most often a continuous roulette band around the stem directly at the stem's juncture with the bowl.

"SH": On sides of heel.

"SL": Stamp or decoration along the length of stem, on left hand side as smoked.

"SM": Multiple individual stamps tight around the stem, as a band or pattern.

"SP": On base of spur.

"SR": Stamp or decoration along the length of stem, on right hand side as smoked.

"SS": On sides of spur.

"ST": Stem twist, a specific form of roll stamp forming a spiral of shallow grooves

around the stem.

"SX: On top of the stem, reading across the stem (text encircling the stem).

6.4.4 Notes

Open Text Field

Provide a brief description of the decoration. Be sure to capture any aspects not described by controlled authority terms.

6.5 Text Marks

Any lettering or maker's mark on a tobacco pipe should be recorded in the Text Mark tab. Similarly, any decorative motif that is a component of a maker's mark (such as a crown or floral cartouche) should be cataloged in the Text Mark tab, not the Decoration tab.

6.5.1 Mark Description

Open Text Field

Use this field to describe the spatial relationship between multiple marks or between marks and decoration on a single pipe.

Any other information that is not captured by Name, Place Name, or Slogan should be noted in Mark Description. For example, any specific description of a frame motifassociated with the maker's mark (such as a crown or floral design) should be included here, rather than in the Decoration tab. Any references to specific designs or manufacturers should also be included here.

6.5.2 Mark Specifics

This is a related table which allows each part of the text mark to be recorded separately. If a pipe has multiple types of marks, and/or if the marks occur in multiple locations, record each instance individually.

6.5.2.1 Type of Marks

Controlled Vocabulary

This is the Manufacturing Technique of the text mark. Choose one from the following list:

- "Incised"
- "Ink/Rubber Stamped"
- "Molded"
- "Stamped" (use when a mark is impressed into the clay rather than nk/Rubber Stamped)
- "Transfer Printed"

Note on molding vs. stamping: It can sometimes be difficult to determine if a mark was created by molding or stamping. Molded marks are formed as part of the initial molding process, while stamped marks are impressed into the pipe after it is removed from the mold. If possible, look for the relationship between the mark and any molded elements; stamped marks will be impressed on top of the mold seam or molded decoration. Higgins (2017: 6.11) notes that molded marks may have slightly blurred lettering or small gaps in the characters while stamped marks will be more crisp.

19th century marks, left – stamped, right – molded (Higgins 2017: 5.0)

6.5.2.2 Text Location

Controlled Vocabulary

See the Motif Location description (Section 6.21) for the complete listing of abbreviations used in this field. Again, if marks have multiple text locations, create separate entries for each instance.

6.5.2.3 Text Frame Motif

Controlled Vocabulary

This is the shape of the border surrounding the lettering. If there is no border, enter as "Un-Bordered lettering (any arrangement)." Choose others from the following list:

- "Circular or sub-circular"
- "Crescent"
- "Four Lobes"
- "Heart-shaped"
- "Irregular Border"
- "Octagonal"
- "Rectangular"
- "Shield"
- "Square"

6.5.2.4 First Name

Open Text Field

Record any lettering on the tobacco pipe exactly as it appears, including partial lettering. If the pipe only has the maker's initials, enter these into First or Last Name field as appropriate. If the cataloger is unsure of a letter or word, a question mark in brackets should be used to denote

this uncertainty:[?]. The question mark can follow a letter or word or stand on its own if the mark is entirely illegible. If the full name is known based on an initial or partial letter, enter this into Mark Notes.

6.5.2.5 Last Name

Open Text Field
See Section 6.5.2.4 (above).

6.5.2.6 Place Name

Open Text Field
Record any lettering on the tobacco pipe exactly as it appears, including partial lettering. Add other known information to the Mark Notes field (e.g., “Glasgow” as Place Name on the pipe, with “Scotland” in Mark Notes).

6.5.2.7 Slogan/Other

Open Text Field
Any additional text that is not a manufacturer or place name. Record exactly as it appears.

6.5.2.8 Mark Notes

Open Text Field
If the full name based on an initial or abbreviation is known, this information should be recorded in the Mark Notes field (e.g., “W stands for William” or “LON was likely LONDON”). If Maker or Manufacturer Location is included in the pipe mark, also record this information in the Manufacturing tab (see below).

6.6 Manufacturing Information

Use these fields to record information about individual pipe makers and manufacturing locations if they can be determined from the maker’s mark. Record this information in the Manufacturing tab even if it has already been noted in the Text Marks tab.

6.6.1 Pipe Maker

Open Text Field
Record the name of the pipe maker if known.

6.6.2 Production Dates

Open Text Field
Record the date range that the manufacturing was producing pipes.

6.6.3 Manufacture Location

Open Text Field
Record the location or locations in which the manufacturer worked.

6.7 Condition

6.7.1 Post-Manufacturing Modification?

Controlled Vocabulary

Choose "Yes" or "No." Disregard the "N/A" option.

Post-Manufacturing Modification should be "Yes" when an artifact appears to have been physically modified. For example, if a pipe exhibits indentations in the form of teeth marks near the mouthpiece or grinding/polishing that suggests the mouthpiece was re-formed after the stem breaking, enter "Yes" and describe the modification in the Notes field.

6.7.2 Conservation

Open Text Field

The default is "No Conservation." If the tobacco pipe has been conserved, enter "Yes" into this field and describe the conservation in the Notes (Main tab).

6.8 Images

Please see the manual on Image capture and entry into the database.

6.9 Objects

Please see the manual on Object entry into the database.

7. Specific Cataloging Examples

7.1 Imported Kaolin Pipes

Material: "Earthenware, ball clay"
Paste Color: "5Y 9/1, 10Y 9/1"
Inclusions: "None"
Manu Tech: "Molded"
Glaze Type: Usually "No Glaze"
Glaze Color: For unglazed pipes, enter "Not Applicable." For glazed pipes, identify the glaze color using the **Detailed Color Groups** section.

7.2 Locally Made Pipes

Material: "Earthenware, other"
Paste Color: Identify the paste color according to the **Paste Color Groups**.
Inclusions: Identify the primary inclusion; any other significant inclusions can

be recorded in the Notes field.

Manu Tech: Usually "Molded," but can be "Handmade."

Glaze Type: No Glaze

Glaze Color: Not Applicable

7.3 Reed/Stub Stem Pipes

Completeness: Choose appropriate completeness for artifact. Reed pipes are not listed as "Complete Pipe" unless the reed stem is intact. ~~However, do select an option with "Mouthpiece" if the end of the stub stem is intact.~~

Material: Usually "Earthenware, other"

Paste Color: Identify the paste color using the **Paste Color Groups** if material is Earthenware. Stone pipes should be "Not Applicable."

Inclusions: Identify the primary inclusion; any other significant inclusions can be recorded in the Notes field.

Manu Tech: Usually "Molded"

Glaze Type: "Lead Glaze," "Non-Lead Glaze," "No Glaze," "Unidentifiable." Most reed pipes are either "No Glaze" or "Lead Glaze."

Glaze Color: "Not Applicable" or, if present, identify the glaze color using the **Detailed Color Groups** section.

Measurements Tab

Stem Length: As appropriate for the pipe

Exterior Stem Diameter: As appropriate for the pipe

Metric Bore Diameter: Do not record

64ths Bore Diameter: Do not record

Record all applicable bowl measurements.

Always record weight.

Bowl/Mouthpiece Tab

Bowl Form: "Not Applicable"

Bowl Base Type: Usually "Heel-less." Also "Unidentifiable," Only fill out if base is present.

Mouthpiece Form: "Reed/Stub Stem." This should be recorded even when the reed stem is not present.

8. BIBLIOGRAPHY

Atkinson, David and Adrian Oswald
1969 "London Clay Tobacco Pipes." *Journal of the Archaeological Association*. Third Series vol. XXXII.

Higgins, David A.
2000 A Catalogue of the Clay Tobacco Pipe Stamps Found in England. NPA home (pipearchive.co.uk)

2017 Guidelines for the Recovery and Processing of Clay Tobacco Pipes from Archaeological Projects. National Pipe Archive, NPA home (pipearchive.co.uk).

9. APPENDIX 1: TOBACCO PIPE BOWL FORMS

Figures 1 and 2 have been reprinted from:
Atkinson, David and Adrian Oswald.
1969 "London Clay Tobacco Pipes." *Journal of the Archaeological Association*. Third Series vol. XXXII.

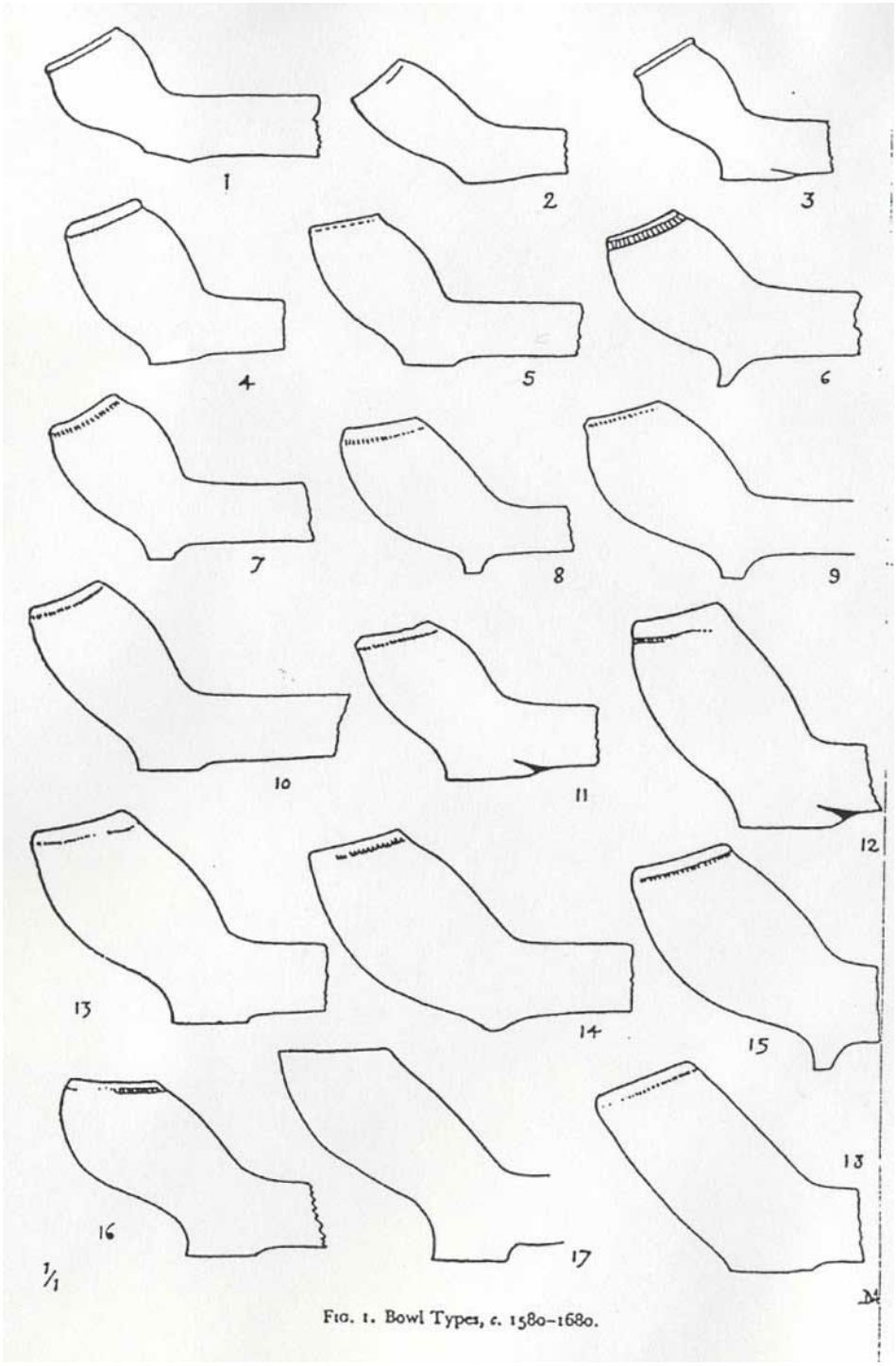


FIG. 1. Bowl Types, c. 1580–1680.

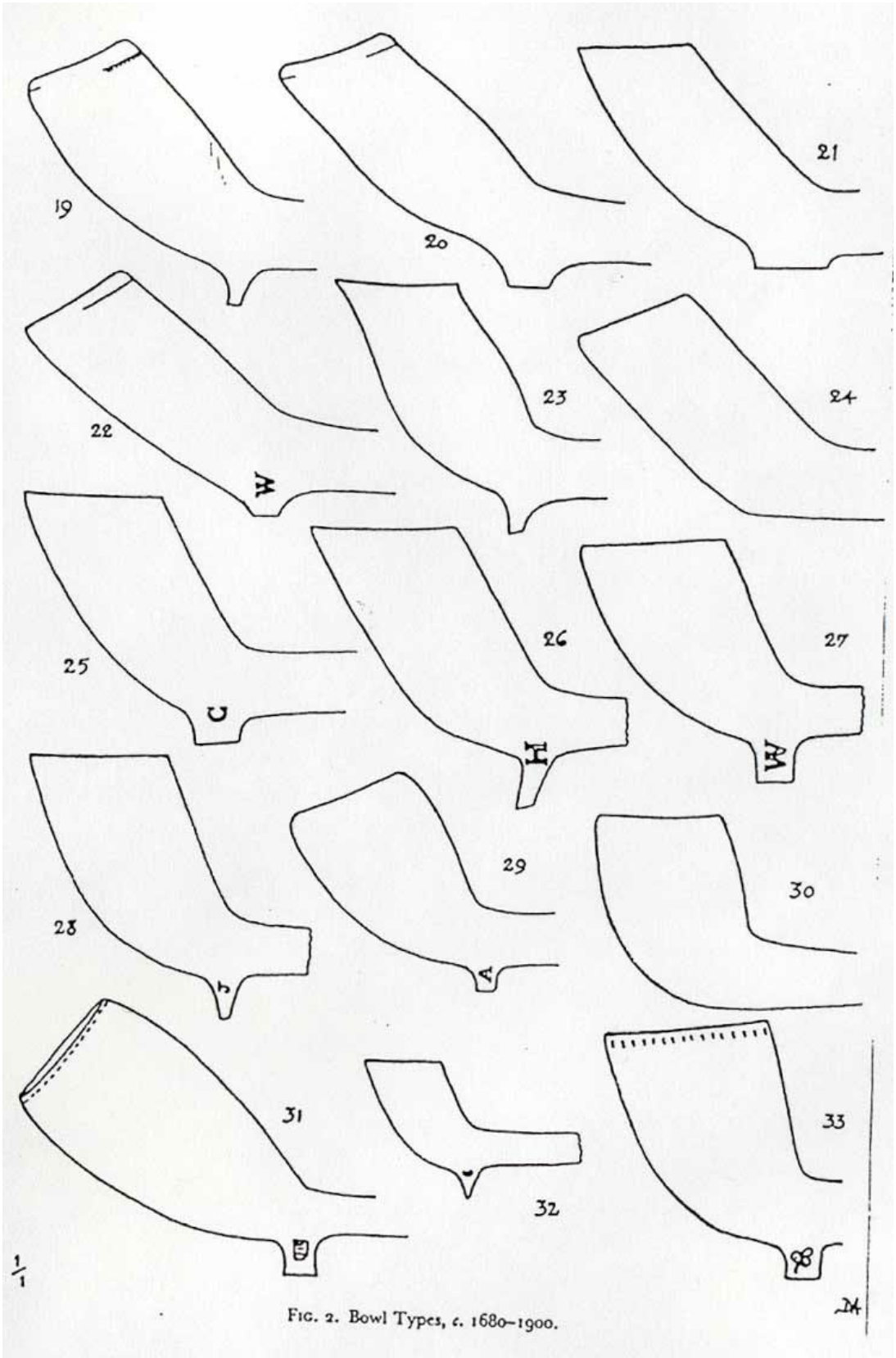


FIG. 2. Bowl Types, *c.* 1680–1900.

FIG. 1

1. Handmade. c.1580-1610.
2. c.1580-1610.
3. c.1580-1610. Heart-shaped base. Milling on the rim of these early types is rare.
4-8. c. 1610-1640. In this period the two main types of the seventeenth century develop; flat bases and spurs. Milling usual.
9-10. c. 1640-1660. Increase in size.
11-12. c. 1640-70. Heart-shaped bases.
13-15. c. 1660-1680. No. 14 with degenerate spur occurs in large and small bowl sizes.
16-17. West Country style with overhanging bowl and the line of the mouth parallel or nearly so with the line of the stem. Copied by some London makers.
18. c. 1660-1680. A new type with straight sides, developing into types 20 and 22.

FIG. 2

19. c. 1690-1710. Late spur type.
20-22. c. 1680-1710. Long bowls some molded initials on sides of base.
23. c. 1690-1720. West Country style, thin brittle bowls.
24. c. 1700-40. American export style occasionally found in London.
25. c. 1700-70. Common standard southeastern type for the eighteenth century. The lip of the bowl parallel to the stem, a change that occurred about 1700. Bowl sizes vary, the earlier are longer and narrower, the thickness of stem and bowl decreases as the century wears on. No milling.
26. c. 1740-1800. New type with forward spur, thin bowls, sometimes decorated.
27. c. 1780-1820. Thin brittle bowl, flat based spur.
28. c. 1820-40. Pointed spur, small initials.
29. c. 1840-80. Forward drooping bowl, small spur.
30. c. 1850-1910. Copy of the briar.
31. c. 1850-1910. Copy of Dutch type.
32. c. 1840. Occasionally found in London. Miniature.
33. Post 1840. Irish type. Although often stamped Dublin these were made at several centers in Britain from a type mold supplied to several makers.

FIG. 3

Three terms have been added to capture bowl shapes found on earthenware, other pipe bowls:

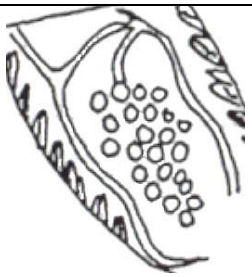
- "Faceted, part:" Bowls where the facets only cover part of the bowl
- "Faceted, fully:"Bowls where the facets run the entire length of the bowl, i.e. extend from the rim to the base of the bowl
- "Faceted, unid.:" Bowl fragments where it is difficult to determine whether the facets ran the entire length of the bowl

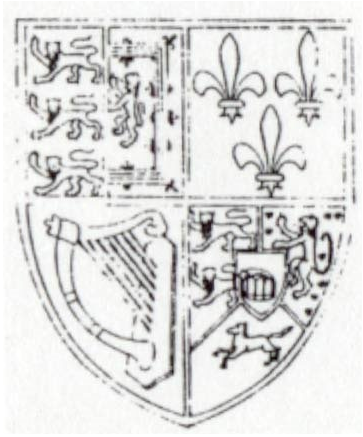
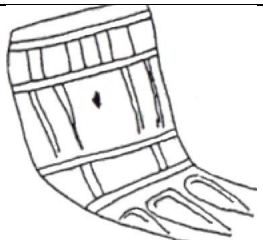
Partially faceted bowl, ID 286518, 44PG92, Artifact ID 1055-F03_N_CU-NOS—00009

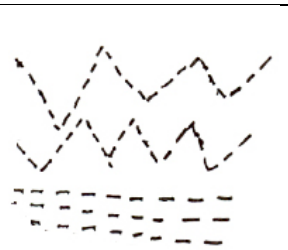
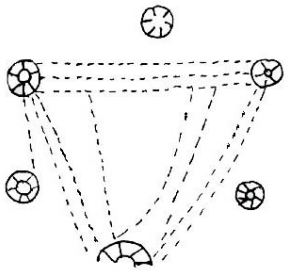
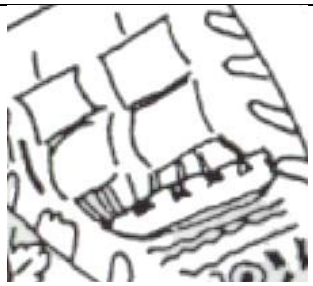
Fully faceted bowl, Image ID 2921135, 44PG65, Artifact ID 1058-194H_08B-NRD--00025

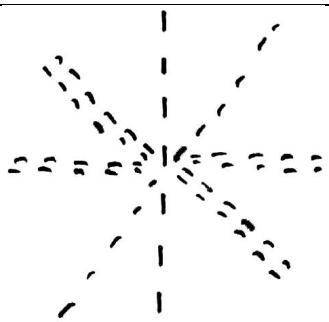
Bowl fragment where it is not possible to determine whether bowl is fully faceted or partially faceted, Image ID 2868587, 44PG92, Artifact ID 1055-F12_NE_L01-NOS--00304

10. APPENDIX 2: TOBACCO PIPE DECORATIVE MOTIF

Decorative Motif	Description	Image
Anthropomorphic	Any image showing a human figure or any part of the human body. Examples include a hand/gauntlet, bust, and arm/leg.	 
Botanical	Any botanical, floral, or plant element or elements.	 

		
Coat of Arms	Includes personal, city, or royal coat of arms.	 
Geometric	Any abstract geometric design. Examples include scallops, dogtooth band, plain band, and diamonds. Most often seen on locally made pipes.	

		 
Symbolic	Any design having a commonly understood symbolic function. Examples include a fleur-de-lys, heart, cross, castle, and star.	 

		 
Unidentifiable	Used whenever a decoration is too small or fragmentary to identify.	
Zoomorphic	Any image showing an animal, either real or mythological.