CLAY SMOKING PIPES RECOVERED FROM THE SUNKEN CITY
OF FORT ROYAL: OCTOBER 1, 1967 - MARCH 31, 1968
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A. White Clay Pipes with markings
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Much has been written on tobacco pipes but it is only in the last twenty years that they have become a vital tool in the hands of the archaeologist wishing to date sites post 1600 A.D. This statement applies to white clay pipes of British origin (1). Prior to the last war regional studies of these pipes had been made for Hull, Broseley, Bristol and London, but these suffered from the lack of a general typology and in some cases from faulty identification of pipemarkers with makers. The evolution of a typology by the writer arose from post war excavations in the seventeenth City of London. Here the discovery of vast quantities of artifacts which at first time were difficult to date by themselves, failing coin evidence, called for an easily used reliable dating tool. It seemed possible that clay tobacco pipes which were found in almost every context might, by reason of their short life, due to fragility, supply such a need. These had an additional advantage that a proportion, very small in the 17th century, were signed with makers' initials. Unfortunately the records of the Pipemakers Company had disappeared in the mid nineteenth century and there was no comprehensive list of makers available. Neverthelesy by 1951 the writer was able to publish a typology, based in the main on London pipes. This typology with three revisions and stood the test in its essentials and provides basic dating to within about 30 years over the past three centuries. Naturally there have been additions and improvements by others. One may instance the study of Broseley pipes by the writer and R.B. James (2), and the methods of dating from the box of the stems evolved by Harrington and Binfold (3), which when used with caution have proved useful. In 1960 the writer was able to publish a list of makers (4) which Parsons has supplemented for North Eastern England (5) and Atkinson for Sussex and Marlborough. Regional developments and styles are at present the subject of much fieldwork in Britain. American studies have been pioneered by Osteen, Hume and Walker (6).

Such is the outline of archaeological development in this field which has particular value in the study of New World sites. Not the discoveries at Fort Royal open from horizons. By reason of the earthquake of 1692 much of the material recovered must be earlier in date than the disaster. From an archaeologist's standpoint it is unfortunate that there was continued occupation after this date. It will be seen that from the point of view of pipe identification the intensity of deposit before and after 1692 is much the same. The greatest interest provided by the pipes is the picture they give of trade from Europe to Fort Royal.

A note of caution must be sounded here. In Britain the records of the pipemakers of Bristol are probably ninety per cent correct, by virtue of the survival of Freemasons admissions and apprenticeship rolls, over a period from the early 17th century to the mid nineteenth. For the other centres records provide only partial coverage. Hence the identification of marks on pipes with makers is much easier and more correct for Bristol than anywhere else. Even so such identification, lacking other factors is always liable to error by reason of the numbers of identical initials. Fortunately in the case of Port Royal the style of the pipes and the marks is of considerable assistance in identification. First the pipe with no spur or heel is a considerable rarity in Britain outside those discovered in the excavation of Bristol kiln sites (7). Similarly the relief mark on the side of the bowl is a Bristol characteristic and to a lesser extent the initials impressed separately on the back. The crowned mark on the heel seems to have been mainly of London origin (8). Clearly Bristol had the bulk of the trade with some loss of ground as time passed. The London position may well be underestimated (9).
II. PREFACE

The following is a preliminary report on the clay smoking pipes recovered from the Sunken City of Port Royal in Jamaica during the period of October 1, 1967 and March 31, 1968, when the programme of excavation came to a halt for an indefinite period of time. The excavation of the site began on May 1, 1966, and I have published an earlier report on the clay pipes recovered from the site during the period of May 1, 1966 and September 30, 1967.

I make no claims of being an expert of clay smoking pipes and my only objective in publishing this report is to provide those who are experts in this field, with all of the information I have obtained during the course of our excavation, with the hope that it will prove useful to them in their future studies of the clay smoking pipes.

Without the assistance of Mr. Adrian Oswald of England, I would not have been able to write this or my previous report on the clay smoking pipes. For more than two years he has assisted me in dating and identifying the makers' marks of the numerous pipes recovered on the site. I also owe a great deal of thanks to Dr. Ivor Noel Hume, Director of the Department of Archaeology of Colonial Williamsburg, in Virginia for the valuable information he has provided on the red clay smoking pipes. Also I would like to thank Miss Louise Judge and Mr. Walter McFarlane for their assistance in making the drawings of the pipe shapes and their markings.

III. HISTORY OF THE SITE

Port Royal and the large harbour it protects, although one of the finest in the West Indies, had little importance in the history of Spanish Jamaica, since the Spanish Colonists had scarcely any commerce to speak of. They had a small port, called Puerto de Caguyas, at the mouth of the Rio Cobre on the north-western shore of the harbour. Port Royal itself was called Cayo no Carena (Careening Cay) by the Spaniards, and used only, as the name suggests, as a place for careening and refitting the occasional ship that visited the virtually forgotten colony. (10).

After the English had captured Jamaica in 1655, they immediately recognized the commercial and strategic value of Port Royal. The Royal Navy first made use of Port Royal for the invading fleet, and after the successful invasion, the Navy was soon followed by the Army, which stationed troops there and quickly began to fortify the site. Port Royal played a vital role in the early history of English Jamaica as a base for a series of naval operations that contributed so heavily to England's ultimate success in establishing a permanent colony in Jamaica. In the years 1655-1660, the Royal Navy carried out a number of successful attacks on nearby Spanish Colonies, which prevented the Spaniards from organizing any effective force to recapture the island. Then, when the monarchy was restored in England in 1660, all the naval forces and most of the military in Jamaica were recalled, and the task of defending the struggling colony - by intimidating the Spaniards - fell to the pirates, or privateers, since most of them did, in fact, hold royal commissions.

During the next decade (1660-1670) Port Royal served as the most important war-mongering base in the West Indies. Henry Morgan was only the most successful of a long list of privateers who brought immense riches in plunder from their raids on Spanish settlements and shipping. Then in 1670 Spain and England signed a peace treaty in which England's claim to Jamaica was formally recognized, and in return the English Crown ordered the withdrawal of all privateering commissions and the
and no more than ten acres of land remained out of the water by the end of the day; Port Royal was once again a bay, separated from the Palisades. More than 2,000 lives were lost that day, and within a month an additional 3,000 persons died in epidemics that followed the disaster.

Except for a number of men who immediately began carrying out salvage operations on the submerged buildings in hopes of recovering some of the great amount of wealth which went down with the buildings, the majority of the survivors moved across the harbour and found the town of Kingston. However, within a few months after the disaster, some of Port Royal's former inhabitants moved back to the bay again and began to rebuild the town, but it was never again to regain a degree of its former glory. In 1702 when the town was just starting to flourish somewhat, a fire consumed the whole town. In 1712 and again in 1722 the town was levelled to the ground by disastrous hurricanes. Throughout the eighteenth and nineteenth centuries Port Royal mainly served as an important base for the British Navy and, during periods of war, for privateers.

IV. EXCAVATION OF THE SITE

The site itself is far from being an archaeologist's dream. Over the centuries since the initial disaster, the site has been seriously disturbed by both nature and man. Subsequent earthquakes as well as many different hurricanes, have greatly altered the sea floor. Probably the most serious disturbance has been caused by the hundreds of ships which have anchored over the site and, in dragging their anchors, have plowed up a great part of the sea floor. During the course of a preliminary survey of the site (January - April 1966) and subsequent excavations we have discovered that the stratigraphical context of the site left a great deal to be desired. On many occasions twentieth century man and twentieth century man have found underneath artifacts dating from period of the 1692 disaster. Furthermore, the site has been used, and is still being used, as a refuse dump, which has made dating of the artifacts recovered more difficult. Except in cases where artifacts are found under fallen walls of the buildings which sank in the 1692 disaster - and this is not always foolproof either, since many walls of the old buildings were still collapsing as late as the 1907 earthquake - we have had to rely almost entirely on ballistics and touchmarks on silver and pewterware and cross reference with already dated artifacts from other sites, for dating and identifying artifacts recovered on our site. This also applies to clay smoking pipes, which, with the exception of ceramic shreds and bones, constitute the largest number of any single type of artifacts found on the site. (12).

Other factors which make dating artifacts recovered on the site difficult are the almost total lack of underwater visibility and the manner in which the site has to be excavated. At the best, the underwater visibility at the beginning of each day's excavations is rarely more than three or four feet, and once the excavation is in progress, visibility is either nil, or only a few inches. The sediment on the site consists of the average of one to three feet of fine silt below which there is between three to five feet of very hard-packed mud, which is almost impossible to penetrate with our excavation tools - an airlift - unless it is first broken up in small pieces. Below the mud we find loose black sand and gravel, which like the silt, is easy to pump to the surface up the airlift tube. We have found from long experience that the best method of excavation on our site is to pump in the levels of the sand and gravel, which underlines the more-packed strata of mud and causes it to fall deeper in the hole, which also results in the mud breaking apart and making it possible to excavate. Naturally this causes artifacts lying at higher levels in the sediment to fall deeper, making stratigraphical dating of these artifacts an impossibility. However, unless another more practical method of excavation can be developed we have no other choice but to excavate in this manner. If we were first to pump the silt to the surface and
The total number of pipes recovered during the period covered in this report was: 377 unmarked white clay pipes, 201 marked white clay pipes, and 191 red clay pipes or a total of 869 pipes. The total number covered in my previous report was 6,264 and the total for both reports is 7,133.

In neither of these reports have I included drawings or information concerning the unmarked white clay pipes. I intend to write a report on these pipes in the near future.

Since my previous reports on clay pipes has been published, Mr. Adrian Oswald and I have been contacted by various experts who have furnished us with additional information and several obvious errors that should be corrected. All of these corrections concern the marked white clay pipes:

#23. Date should be 1690-1730
#24. Date should be 1680-1710
#26. Pipe made in Hull, probably by William Best who was apprenticed to Francis Wood in 1691.
#40. London red pipe
#41. Should be changed to a London red pipe, maker unknown.
#50-53. Lucretia Evans was still working in looey, as these pipes could have been made by her.
#60. Hume suggests a much later dated pipe, perhaps Joseph Riddards, Bristol, Freeman 1774.
#66. Date should read 1650-1700
#67. Date should read 1680-1720
#70. Date should read 1680-1760
#79. Correct to English, c. 1680-1720
#82. Date should read 1680-1730
#87. This pipe may also have been made in London.
#95 & 96. Change to Devereux Jones I, Bristol, Freeman 1691.
#98. There are a number of different possible makers with surnames beginning with 'K'.
#102. Probably made in London
#107. Change to Thomas Ains, Bristol, Freeman 1696
#117. Should read: NP incised on R. & L.H.S. of heel
#118. Should read: PP incised on center of bowl
#132. Change to a Dutch pipe

Since my previous report was published, Dr. Ivor Noel Hume has been in contact with Mr. Adrian Oswald concerning the origin of the red clay pipes and Mr. Oswald now agrees with Dr. Hume that these pipes were probably made in the Caribbean, and most likely right at Port Royal. Mr. Michael Powson of Jamaica has turned up additional evidence which suggests that these pipes were made on Jamaica. He and the Jamaican Geological Survey Department make an analysis of the clay used in these pipes. The analysis revealed that the clay has a typical Montmorillonite composition in its major constituents of silicates and alumina, and that the ratio of alumina to iron oxide suggests that it could possible be the parent clay from which Jamaica bauxite was derived. Dr. Hume has also pointed out an oversight on my part, as on page 504 of the Taylor document (16) there is a mention of a woman with "a red tobacco pipe" in her mouth at Port Royal several years before the 1692 disaster. The hand-writing of this manuscript is not very legible and the typist I had copy this document misread the word 'red' and thus the reason for this oversight.

Appendix A contains 150 drawings of white clay pipes with different maker's marks, or with distinct shapes though similar makers' marks, and pipe bowls of special designs or markings. The information below each pipe bowl, such as the date range when each pipe was most commonly in use, the maker's identity and place of manufacture, has all been obtained from Mr. Adrian Oswald. The first set of numerals in the parenthesis is the stem bore diameter and the second numeral or numerals indicate the number of pipe bowls of this particular type recovered during the period covered in this report. The stem bore of each pipe was measured, and whenever examples of the same type of bowl have
VI. REFERENCES

(1) Similar work is proceeding in Holland. For a general Dutch bibliography see Bronners, G.A. *Nicotiana Tobacum*. Amsterdam 1964.


(6) See the bibliography of (4) above.

(7) These kilns have been excavated by Messrs. Bocc and Marochan and await publication.


(11) John Taylor, 'Maltum in Farvo or Farvum in Multo. Taylor's second part of the history of his life and Travels in America...'. 1688.


(16) See: John Taylor, 'Maltum in Farvo.......' 1688.
APPENDIX A: WHITE CLAY PIPES WITH MARKINGS.

1. IA Embossed - R.H.S. of Bowl  
   c. 1700-40. Many different possible Bristol makers.  
   (5/64" - 6)

2. IA Incised - center of bowl.  
   c. 1700-40. Many different possible Bristol makers.  
   (5/64" - 2 and 3/32" - 1)

3. IA Embossed on R. and L. side of heel.  
   c. 1700-40. Many different possible Bristol makers.  
   (5/64" - 1).

4. IA Incised on center of bowl.  
   IA Embossed on R.H.S. of bowl.  
   c. 1700-40. Many different possible Bristol makers.  
   (5/64" - 3)

5. CB Incised on center of bowl.  
   C. 1680-1730. Charles Buckley, Bristol, Freeman, 1713, Polls 1722 (5/64" - 1)
6. EB

EB embossed on base of heel.
C.1700. Many different possibilities. (7/64" - 1)

7. IB

IB embossed on R.H.S. of bowl.
C.1690. Many different possible Bristol makers. This shape of pipe very common in America. (5/64" - 1)

8. IB

IB incised on center of bowl.
C.1680-1710. Many different possible Bristol makers. (3/32" - 1)

9. IB

IB embossed on R.H.S. of bowl.
C.1690-1740. Many different possible Bristol makers. (5/64" - 1)

10. ER

IB embossed on R.H. S. of bowl. Er incised on center of bowl. C.1700-1740. Many different possible Bristol makers. (3/32" - 1)

11. KB

KB embossed on base of heel.
C.1680-1720. Maker unknown. Probably Dutch. (3/32" - 1)
12. DC embossed R.H.S. of bowl. c. 1700-50. Daniel Chilton, Bristol, Polls 1722. (5/64" - 1)


14. RC

RC incised on center of bowl. c. 1680 - 1740. Several different possible Bristol makers. (1/16" - 1 and 5/64" - 2)

15. RC

RC incised on center of bowl. c. 1700 - 1740. Several different possible Bristol makers. (5/64" - 2)

16. TD


17. TD

TD embossed in center of bowl. c. Post 1820. See number #16. (5/64" - 1)
19. 

TD incised on center of bowl.  
C. ? Possibly Thomas Dennis,  
Bristol, Freeman 1734.  
(5/64" - 1)

20. 

TD incised on center of bowl.  
C. Possibly Thomas Dennis,  
Bristol, Freeman 1734.  
(5/64" - 1)

21. 

Mark incised on center of bowl.  
C. 1730-60. See number #16.  
(5/64" - 1)

22. 

Mark incised on center of bowl.  
C. Possibly Thomas Dennis,  
Bristol, Freeman 1734.  
(5/64" - 1)

23. 

IE incised on base of heel.  
C. 1690-1740. Either Isaac Evans,  
Bristol, Freeman 1699; or John  
Eavens, Bristol, Freeman 1722.  
(5/32" - 2)
24. **IE**

IE incised on center of bowl.  
C. 1690-1740.  Probably Isaac Evans, Bristol, Freeman 1699.  
( 3/32" - 3 )

25. **IE**

IE incised on center of bowl.  
C. 1680-1720.  Probably Isaac Evans, Bristol, Freeman 1699.  
( 3/32" - 1 )

26. **IE**

LE incised on center of bowl.  
C. 1660-1760.  Lluellin Evans, Bristol, Freeman 1661.  
( 1/6" - 1 )

27. **LE**

LE incised on center of bowl.  
C. 1690-1700.  Lluellin Evans; Bristol, Freeman 1661.  He was still known to be making pipes in 1689.  
( 7/64" - 4 )

28. **LE**

LE incised on center of bowl.  
C. 1660-1690.  Lluellin Evans, Bristol, Freeman 1661.  
( 7/64" - 1 )

29. **LE**

LE incised on center of bowl.  
C. 1680-1730.  Lluellin Evans, Bristol, Freeman 1661.  ( 7/64" - 5 and 1/6" - 4 )
30. \( \text{LE} \)

**LE incised on center of bowl.**
- c. 1700-40. Lluellin Evans, Bristol, Freeman 1661.
  - (3/32" - 5 and 7/64" - 9)

31. \( \text{EL} \)

**Mark incised on center of bowl.**
- c. 1680-1720. Lluellin Evans, Bristol, Freeman 1661.
  - (7/64" - 1)

32. \( \text{RE} \)

**RE incised on center of bowl.**
  - (7/64" - 1)

33. \( \text{WE} \)

**WE incised on center of bowl.**
- c. 1680-1730. Either Walter Evans, Bristol, apprenticed 1660; or William Evans, Bristol, Freeman 1660.
  - (1/8" - 9)

34. \( \text{WE} \)

**WE incised on center of bowl.**
- c. 1700-90. William Evans, Bristol, Freeman 1699.
  - (7/64" - 1)

35. \( \text{WE} \)

**WE incised on center of bowl.**
- c. 1680-1730. Either Walter Evans, Bristol, apprenticed 1660; or William Evans, Bristol, Freeman 1660.
  - (7/64" - 1)
WE incised on center of bowl.
c. 1680-1710. Either Walter Evans, Bristol, apprentice 1660; or William Evans, Bristol, Freeman 1660. (7/64" - 2)

WE incised on center of bowl.
c. 1680-1710. Either Walter Evans, Bristol, apprentice 1660; or William Evans, Bristol, Freeman 1660. (7/64" - 2 and 1/8" - 3)

WE incised on center of bowl.
c. 1700-40. Either Walter Evans, Bristol, apprentice 1660; or William Evans, Bristol, Freeman 1660. (7/64" - 1)

WE incised on center of bowl.
c. 1680-1730. Either Walter Evans, Bristol, apprentice 1660; or William Evans, Bristol, Freeman 1660. (7/64" - 1)

H. Edwards espoused on R.H.S.
of bowl. c. 1660-1720. Henry Edwards, Bristol, Freeman 1699, Falls 1715. (5/64" - 3 and 3/32" - 2)

ER incised on center of bowl.
H. Edwards espoused on R.H.S.
of bowl. c. 1700-40. Henry Edwards, Bristol, Freeman 1699, Falls 1715. Probably in partnership with either Edward Rundell, Bristol, Freeman 1660; or Ezra Reed, Bristol, Freeman 1700, Falls 1722. (5/64" - 3)
42. **H. Edwards engraved on R.H.S. of bowl. c. 1660-1730. Henry Edwards, Bristol, Freeman 1699, Pollis 1715.** (5/64" - 1)

43. **H. Edwards engraved on R.H.S. of bowl. c. 1660-1730. Henry Edwards, Bristol, Freeman 1699, Pollis 1715.** (5/64" - 1)

44. **H. Edwards engraved on R.H.S. of bowl. c. 1660-1730. Henry Edwards, Bristol, Freeman 1699, Pollis 1715.** (5/64" - 1)

45. **H. Edwards engraved on R.H.S. of bowl. c. 1660-1730. Henry Edwards, Bristol, Freeman 1699, Pollis 1715.** (5/64" - 1)

46. Evans engraved on R.H.S. of bowl. c. 1660-1730. Isaac Evans, Bristol, Freeman 1699. (5/64" and 3/32" - 2)

47. Evans engraved on R.H.S. of bowl. c. 1660-1730. Isaac Evans, Bristol, Freeman 1699. (5/64" - 2 and 3/32" - 2)
Evans incised on R.H.S. of bowl. c. 1680-1710. Isaac Evans, Bristol, Freeman 1699 (1/10" - 5 and 5/64" - 3)

Evans incised on R.H.S. of bowl. c. 1670-1730. Isaac Evans, Bristol, Freeman 1699. (5/64" - 1)

ER incised on center of bowl. Evans incised on R.H.S. of bowl. c. 1690-1740. Isaac Evans, Bristol, Freeman 1699; in partnership with either one of two Edward Randalls of Bristol, Freeman in 1691 and 1699; or Edward Bean, Bristol, Freeman 1706. (5/64" - 1)

Evans embossed on R.H.S. of bowl. c. 1670-1730. Isaac Evans, Bristol, Freeman 1699. (5/64" - 1)

RT incised on center of bowl. Evans embossed on R.H.S. of bowl. c. 1690-1730. Isaac Evans, Bristol, Freeman 1699; in partnership with Robert Tippett III, Bristol, Freeman 1713. (5/64" - 1)

RT incised on center of bowl. Evans embossed on R.H.S. of bowl. c. 1690-1720. Same as number #52. (? - 1)
54. **RT** incised on center of bowl. Evans entombed on R.H.S. of bowl. c. 1700-40. Same as number #52. (5/64" - 1)

55. **CF** incised on center of bowl. c. 1700-30. Several different possible makers. (7/64" - 1)

56. **WF** incised on center of bowl. c. 1660-1750. Probably William Foord, Bristol, Freeman 1734. (5/64" - 1)

57. Mark incised on bowl. c. 1660-90. Maker not known. (1/8" - 1)

58. **WG** embossed on R & L side of heel. c. 1660-1700. Many different possible makers. (5/32" - 1)

59. **CH** incised on center of bowl. c. 1690-1740. Christian Hunt, Bristol, Freeman 1685. (5/32" - 1)
IH embossed on R.H.S. of bowl. c. 1690-1740. Many different possible makers. (5/64" - 2)

IH embossed on R.H.S. of bowl. c. 1710-30. Many different possible makers. (5/64" - 1)

TH embossed on R.H.S. of bowl. c. 1700-1740. Several different possible Bristol makers. (5/64" - 1)

TH incised on center of bowl. TH embossed on R.H.S. of bowl. c. 1700-30. Thomas Hill, Bristol, Freeson 1676; or Thomas Harvey, Bristol, Freeson 1700, Polls 1722. Also possible that both were in partnership together. (5/64" - 1)

TH incised on center of bowl. TH embossed on R.H.S. of bowl. c. 1700-40. Possibly Thomas Hill, Bristol, Freeson 1675; in partnership with Thomas Harvey, Bristol, Freeson 1700, Polls 1722. (5/64" - 1)

TH incised on center of bowl. TH embossed on R.H.S. of bowl. c. 1700-40. Possibly Thomas Hill, Bristol, Freeson 1675; in partnership with Thomas Harvey, Bristol, Freeson 1700, Polls 1722. (5/64" - 1)

I.I. embossed on R.H.S. of bowl c. 1700-40. English type, but maker unknown. (5/64" - 1)
66. WI incised on R.H.S. of bowl. c. 1710-1750. William Jones, Bristol, Freeman 1750. (5/64" - 6)


68. I. Jenkins incised on R.H.S. of bowl. c. 1680-1740. Probably James Jenkins, Bristol, Freeman 1707, Polle 1759. (5/64" - 1)

69. IK incised on center of bowl. c. 1680-1740. Either John King, Bristol, Freeman 1759; or John King, Lynn, Freeman 1695. (5/64" - 2)

70. L. L. incised on center of bowl. c. 1680-1700. Perhaps John Lewis, Bristol, Freeman 1699. (5/64" - 1)

71. IM incised on R.H.S. of bowl. c. 1680-1750. John Hare, Bristol, Freeman 1700. (5/64" - 1)
IM embossed on R.H.S. of bowl. c. 1700-40. John Mañé, Bristol, Freeman 1700. (5/64" - 1)

WM embossed on R & L side of bowl. c. 1700-30. Probably a London maker. (1/16" - 1)

WM embossed on L.H.S. of spur. M embossed on R.H.S. of spur. c. 1660-90. Perhaps William Mount of St. Botolph, Aldgate, London, who was married in 1687 at the age of 46. (5/64" - 1)

RN incised on center of bowl. c. 1670-90. Richard Nurney, Bristol, Freeman 1693, Polls 1699. (? - 1)

RN incised on center of bowl. c. 1680-86. Richard Nurney, Bristol, Freeman 1693, Polls 1699. (5/64" - 1)

RN incised on center of bowl. c. 1740-60. Possibly William Nicholas, Bristol, Freeman 1750, Polls 1770. (1/16" - 1)
WN incised on center of bowl, c. 1740-60. William Nichols, Bristol, Fowrer 1730, Fells 1770. ( 5/64" - 1 )

WN incised on center of bowl, c. 1700-40. Either William Nichols, Bristol, Fowrer 1730, Fells 1770; or William Naylor, Bristol, Fowrer 1722. ( 5/64" - 1 )

WN incised on center of bowl, c. 1690-1710. Maker unknown. ( ? - 1 )

Marks on center of bowl, c. 1760-50. Partnership between two Bristol makers, one of which was probably William Nichols, Bristol, Fowrer 1730, Fells 1770. ( ? - 1 )

O incised on center of bowl, c. 1690-1700. Many different possible makers. ( 5/64" - 1 )

TO incised on center of bowl, c. 1700-40. Several different possible Bristol and Chester makers. ( 5/64" - 1, 3/32" - 5 and 7/64" - 1 )
84. TO

TO incised on center of bowl. c. 1680-1710. Possibly Thomas Owen, Bristol, Freeman 1698. (3/32" - 1)

85. TO

TO incised on center of bowl. c. 1700-40. Several different possible Bristol and Chester makers. (3/32" - 1)

86. GP

GP embossed on R.H.S. of bowl. c. 1680-1730. George Pritchard, Bristol, Freeman 1696. (5/64" - 6)

87. IF

IF embossed on R.H.S. of bowl. c. 1700-40. Many possible Bristol makers. (5/64" - 1)

88. IP

IP embossed on R.H.S. of bowl. c. 1690-1720. Several possible Bristol makers. (5/64" - 1)

89. MP

MP incised on center of bowl. c. 1660-1720. ? Morris Phillips, Bristol, Freeman 1721. (? - 1)
43.

TP incised on center of bowl.
c. 1680-1700. A Bristol type.

Thomas Peck, Foyce, or Foyte,
Bristol, Freeman 1656 seems
the only possibility.
(7/64" - 1)

ER incised on center of bowl.
c. 1700-40. Either Edward
Russell II, Bristol, Freeman
1699; or the same of London,
Freeman 1719; or Edward Russ,
Bristol, Freeman 1700, Polia
1722. (5/64" - 2)

FR incised on center of bowl.
FR embossed on R.H.S. of bowl.
c. 1700-40. Partnership between
Francis Russell II, Bristol, Freeman
1698 and Edward Russell II, Bristol,
Freeman 1699. (5/64" - 1)
96. RR incised on L.H.S. of cup. 
R. incised on R.H.S. of spur. 
c. 19th century. Perhaps Ring 
and Company of Bristol 
working 1866, or Richard Ring 
Bristol, working in 1822. 
(2 - 1)

97. RR incised on center of bowl. 
c. 1680-1720. Possibly Richard 
Burges, Bristol, Freeman 1719. 
(5/64" - 1)

98. E. Reed incised on R.H.S. of 
cup, c. 1680-1730. Edward Reed, 
Bristol, Freeman 1706, Pollis 
1722. (5/64" - 1)

99. E. Reed incised on R.H.S. of 
cup, c. 1680-1730. The same maker as no. 
98. (5/64" - 1)

100. ER incised on center of bowl. 
E. Reed incised on R.H.S. 
of bowl, c. 1680-1730. Same 
maker as no. 96. 
(5/64" - 1)

101. ER incised on center of bowl. 
E. Reed incised on R.H.S. of bowl. 
c. 1680-1730. Edward Reed, Bristol, 
Freeman 1706, Pollis 1722. (2 - 1)
102. ER

ER incised on center of bowl. E. Reed embossed on R.H.S. of bowl. c. 1680-1730. Same as number # 101. (5/64" - 1)

103. S

S incised on center of bowl. c. 1670-1710. Probably a Bristol maker. (3/32" - 1)

104. IS

IS incised on center of bowl. c. 1760-40. Many possible Bristol makers. (7/32" - 1)

105. IS embossed on R.H.S. of bowl. c. 1700-40. Many possible Bristol makers. (7/32" - 1)

106. IS embossed on R.H.S. of bowl. c. 1700-30. Several possible Bristol makers. (5/64" - 6 and 7/32" - 4)

107. IS embossed on base of bowl. c. 1690-1720. A Dutch type. (5/64" - 2)
108. IS incised on center of bowl c. ? Many possible makers. ( ? - 1 )

109. IS embossed on L.H.S. of bowl. c. 1690-1720. Many different possible, Bristol makers. ( 5/64" - 1 )

110. IS incised on center of bowl. c. 1700-40. Many possible Bristol makers. ( 5/64" - 1 )

111. MS incised on center of bowl. c. 1640-70. Possibly Michael Simpson, London, Freeman 1694. ( 5/64" - 1 )

112. RT embossed on bottom of bowl. c. 1740. Robert Tippet III, Bristol, Freeman 1713. ( ? - 1 )

113. RT incised on center of bowl. c. 1640-80. Robert Tippet II, Bristol, Freeman 1676. ( 3/32" - 1 )
RT incised on base of heel. c. 1690-1740. Either Robert Tippett II, Bristol, Freeman 1678; or Robert Tippett III, Bristol, Freeman 1713. (3/32" - 3 and 7/64" - 2)

RT incised on center of bowl. c. 1600-1740. Either Robert Tippett II, or III. (3/32" - 1)

RT incised on center of bowl. c. 1660-1720. Same maker as no 116. (3/32" - 4)

RT incised on center of bowl. c. 1650-60. Robert Tippett I, Bristol, Freeman 1660. (5/64" - 1)

RT incised on center of bowl. c. 1700-40. Robert Tippett II, or III. (5/64" - 3, 3/32" - 2 and 7/64" - 4)
RT incised on center of bowl, c. 1700-40. Either Robert Tippett II or III. (5/64" - 1)

HH incised on center of bowl. R. Tippet on R.H.S. of bowl c. 1660-1710. Partnership between Henry Hoare or Hare, Bristol, Freedom 1695, Polls 1724; and Robert Tippett II, Bristol, Freedom 1678. (5/64" - 1)

RT incised on center of bowl. R. Tippet embossed on R.H.S. of bowl c. 1700-40. Either Robert Tippett II or III. (5/64" - 2)

RT incised on center of bowl. R. Tippet embossed on R.H.S. of bowl c. 1680-1730. Robert Tippett II. (5/64" - 4 and 5/32" - 2)

R. Tippet embossed on R.H.S. of bowl c. 1680-1730. Robert Tippett II. (5/64" - 3)
126. W. Taylor embossed on R.H.S. of bowl. c. 1660-1730. William Taylor, Bristol, Freeman 1698. (3/64" - 1)

127. W embossed on bottom of heel. c. ?. Uncertain. (2 - 1)

128. Marks embossed around complete bowl with "W" on R.H.S. of bowl. c. 1856. Maker unknown. (1/16" - 1)

129. IW incised on center of bowl. c. 1760-70. Many different possible English makers. (3/64" - 1)

130. TW incised on center of bowl. c. 1660-1730. Probably Thomas Watts, Bristol, Freeman 1675, Polio 1715. (3/32" - 1)

Marks incised on center of bowl. c. 1690-1730. Maker unknown. (1/16" - 1)

Marks incised on both sides. of both. c. 1850. Maker unknown. (3/32" - 1)

Markings incised on both sides of bowl. c. post 1850. Maker unknown. (5/64" - 2)

Mark incised on center of bowl. c. post 1650. Shamrock indicates an Irish made pipe, but similar ones were also made in England. (1/16" - 1)

Mark incised on base of stem. c. ? Perhaps a Dutch pipe. (2 - 1)

Mark incised on center of bowl. c. 1670-1720. Bristol pipe, but maker unknown. (2 - 1)
138. Marks incised on both sides of bowl. c. 1670-1700. A Dutch pipe. (? - 1)

139. Mark incised on center of bowl. c. 18th century. Several different possible Bristol makers. (5/64" - 1)

140. Marks incised on base of bowl. c. 1690-1710. English pipe. (? - 1)

141. Markings incised on both sides of bowl. c. post 1850. English pipe. (5/64" - 1)

142. Markings incised on both sides of the bowl. c. post 1850. English pipe. (5/64" - 1)

143. Plain circle incised on R.H.S. of bowl. c. 1690-1726. English pipe. (5/64" - 1)
Markings embossed on both sides of bowl. c. post 1850. See number #16. (5/64" - 1)

Markings embossed on base of heel. c. 1700. Probably a Dutch pipe. (5/64" - 1)

Mark embossed on bottom of bowl. c. 1680-1710. Unknown London maker. (? - 1)

Mark embossed at bottom of bowl. c. 1750. Probably a Dutch pipe. (? - 1)

Markings embossed around complete bowl. c. post 1650. (? - 1)

Embossed around complete bowl. A reed pipe. c. post 1850. One example found.
Identical markings on both sides of bowl. Markings not clear on stem, but it should probably read LEACH on L.H.S. of stem and SHOREDITCH on R.H.S. of stem. Jomon Leach of Shoreditch, London working in 1852.

Markings embossed on both sides of stem. c. 1670-90. Probably a Dutch pipe. (5/64" - 1)

Identical mark on both sides of heel. c. 1750-80. London made pipe. (5/64" - 1)

Markings embossed around the complete bowl. c. 19th century. Maker unknown. (5/64" - 1)

Face embossed on both sides of bowl. c. 1650. Face and name of maker unknown. (? - 1)

Face embossed on both sides of bowl. McDougall incised on L.H.S. of stem and Glasgow incised on R.H.S. of stem. c. 1650. (5/64" - 1)
Embosed on L. & R.H.S. of
heel. c. 1700-40. An
English pipe. (5/64" - 2)

Embosed on heel.
c. ? Probably a Dutch pipe.
(7/64" - 1)

Embosed on R. & L.H.S. of
bowl. c. ? An English pipe.
(1/16" - 1)

c. post 1840. A English pipe.
(1/16" - 1)

Embosed on R.H.S. of bowl. Embossed
Embosed on L.H.S. of bowl.
c. 18th century. One of the London armorial pipes. These were made by
various makers and bear the Royal Arms from William III, onwards. These
are the Hanoverian Arms from 1714-1801. (1/16" - 2)
APPENDIX B  STEMS OF WHITE CLAY PIPES

1. LHS  RHS
   Mc DOUGALL  GLASGOW
   Incised on R. & L.H.S. of stem. c. post 1850.
   (1/16" - 1)

2.  Incised on both sides of stem. c. ? (3/32" - 2)
3.  Incised on both sides of stem. c. ? (7/64" - 2)

4.  Incised on both sides of stem. c. ? (1/8" - 1)
5.  Incised on both sides of stem. c. ? (5/64" - 1)

6. RHS
   WHITE
   LHS
   GLASGOW
   Incised on L. & R.H.S. of stem. c. post 1850.
   (5/64" - 8)

7.  Incised on R.H.S. of stem.
    c. 1680-1700. Either Walter Evans, Bristol, apprenticed 1680;
    or Wm. Evans, Bristol, Freeman 1680.
    (1/32" - 3)

8.  Incised on both sides of stem. c. ?. (1/8" - 1)

    c. 1660-1700. Probably Ilueill Wyn Evans, Bristol, Freeman 1661.
    (7/64" - 3)

10. Incised on R.H.S. of stem.
    Probably same as number #7. (1/8" - 2)

11. Incised on both sides of stem.
    c. ? (1/32" - 4)

12. Incised on both sides of stem. Probably same as number #9. (7/64" - 2)
13. Embossed around stem. c. ? 
(3/32" - 1)

14. WE
WE and other markings incised around stem. c. 1680-1700.
Probably same as number #7. 
(1/32" - 2)

15. Incised around stem. 
c. ? (1/8" - 1)

16. Incised around stem. 
c. ? (5/64" - 1)

17. LHS
73 AA WHITE
Incised on L. & R.H.S. of stem. c. post 1650 
(5/64" - 1)

RHS
ASGOW

18. LHS
LIVERPOOL
Incised on L. & R.H.S. of stem. c. post 1600. 
(7/64" - 1)

RHS

19. LHS
T 70 W.WH
Incised on L. & R.H.S. of stem. c. post 1600 
(5/64" - 1)

RHS
GOTLAND.

20. Incised & embossed around stem. c. ? (3/32" - 1)

21. Incised on stem. c. 1630-1710. (5/64"-1)

22. Incised on stem. Mark incised on base of heel. 
c. 1680-1720 (5/64"-1)

23. Incised on stem. c. 1650-1700 
(5/64" - 1)

24. Incised on stem. c. 1680-1730. 
(5/64" - 4)
APPENDIX C RED CLAY PIPES

1. (1/8" - IX - 1)
2. (1/8" - VI - 1)
3. (7/64" - ? - 1)
4. (1/8"-VIII - 1)
5. (1/8" - ? - 1)
6. (1 of 7/64" or 1/8" - VII)
7. (3/32" - VII - 2)
8. (1/8" - V - 1)
9. (1/8" - ? - 1)
10. (1 of 7/64" or 1/8" - III)
11. (1/8" - II - 1)
12. (1/8" - I - 1)
13. (7/64" - IV - 3)
14. (7/64" - III - 1)
15. (7/64" - III - 1)
16. (3/32" - IX - 1)
17. (1/8" - ? - 2)
18. (7/64" - ? - 1)
19. (7/64" - II - 1)
20. (1/8" - IX - 1)
21. (1 of 3/32" or 3 of 1/8"-V)
22. (3/32" - ? - 1)
23. (7/64" - III - 5)
24. (1/8" - III - 3)
25. \( \frac{7}{64}'' - \text{III} - 3 \)
26. \( \frac{1}{8}'' - ? - 1 \)
27. \( \frac{1}{8}'' - \text{III} - 1 \)
28. \( \frac{1}{8}'' - \text{IV} - 2 \)
29. \( \frac{7}{64}'' - \text{IV} - 2 \)
30. \( \frac{7}{64}'' - \text{III} - 3 \)
31. \( \frac{5}{32}'' \div 16 \text{ of } \frac{7}{64}'' - \text{V} \)
32. \( \frac{2}{7} \div 4 \text{ of } \frac{1}{8}'' - \text{II} \)
33. \( \frac{1}{8}'' - \text{IV} - 2 \)
34. \( \frac{7}{64}'' - \text{III} - 1 \)
35. \( 1 \text{ of } \frac{1}{8}'' \div 2 \text{ of } \frac{7}{64}'' - \text{III} \)
36. \( 3 \text{ of } \frac{3}{32}'' \div 3 \text{ of } \frac{7}{64}'' - \text{IV} \)
37. \( \frac{7}{64}'' - 2 \text{ of } \frac{3}{32}'' \div 5 \text{ of } \frac{7}{64}'' - 20 \text{ of } \frac{1}{8}'' - \text{III} \)
38. \( \frac{7}{64}'' - 4 \text{ of } \frac{1}{8}'' - ? \)
39. \( \frac{7}{64}'' - \text{III} - 1 \)
40. \( \frac{7}{64}'' - \text{VI} - 11 \)
41. \( \frac{7}{64}'' - 1 - 3 \)
42. \( \frac{1}{8}'' - 5 - 3 \)
43. \( \frac{1}{8}'' - \text{IV} - 2 \)
44. \( \frac{1}{8}'' - \text{III} - 7 \)
45. \( \frac{7}{64}'' - \text{VI} - 1 \)
38. \( \infty \infty \infty \infty \)
3 marks incised on stem
(\( \frac{7}{64}" - ? - 1 \))

40. 
Mark incised around stem
(\( \frac{7}{64}" - ? - 1 \))

42. 
Marks on stem incised
(\( \frac{3}{32}" - ? - 1 \))

39. 
3 marks incised on stem
(\( \frac{7}{64}" - ? - 1 \))

41. 
3 marks incised on stem
(\( \frac{1}{8}" - ? - 1 \))

I.  
II.  
III.  
IV.  
V.  
VI.
APPENDIX D

ORNAMENTAL REED PIPES

Incised on bowl and stem
Reddish-Brown clay

Incised on stem
Red clay

Incised on bowl and stem
Beige clay pipe

Incised on bowl and stem
Red clay

Two marks on front of stem - incised
Gray clay

Right side

Front
Red clay
Two marks on bowl (incised)

Incised on bowl
Dark Green clay

Incised on bowl
shiny black clay

Incised on N. & L.M.S. of bowl.