Archaeological Investigation
Temporary Works Site
Henry Lawson Reserve, Blues Point
May 2022

VOLUME 2: SPECIALIST REPORTS

Selected artefacts uncovered during archaeological excavation at Blues Point. Top left: glass pharmaceutical bottles DSC_4286. Top right: bone sewing paraphernalia from underfloor deposit (066) DSC_4201. Bottom: examples of transfer printed ceramics DSC_4375.

VOLUME 2: SPECIALIST REPORTS

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

ANIMAL BONE REPORT

MAY 2022

A selection of the fish and cuttlefish remains recovered from an underfloor deposit from House 1 (66)

FINAL REPORT | to **Sydney Metro**

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ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

ANIMAL BONE REPORT

1.0 INTRODUCTION

1.1 BACKGROUND

Excavations conducted by Casey & Lowe at Blues Point site, Sydney, yielded 1129 fragments of animal bone. These bones were cleaned where required, then sent to Dr James Roberts for analysis.

1.2 ARCHAEOLOGICAL PHASES

Table 1.1: The archaeological phases identified by the excavations at Blues Point (from Casey & Lowe 2018).

Phase	Date	Description
1	-	Natural Landscape
2	-	Aboriginal occupation
3	1817-mid-1860s	Early British occupation, wharf construction
4	1867-1890s	Wharfage, maritime industries & residential occupation
5	Early 1900s – 1930s	Vehicular ferry, upgrades, new businesses
6	1940s-1960s	Demolition of ferry wharf and cottages
7	1960s-2018	Public Park

1.3 AIMS OF REPORT

This report presents the data recovered from analysis of the faunal remains from Blues Point. This data is presented with reference to the area of the site and context from which the remains were recovered, in order to aid comparison between the faunal remains and other material remains from the site. These remains are then interpreted, with reference to the history of occupation at the site and zooarchaeological analysis conducted at contemporary sites in the area, and some preliminary hypotheses are put forward regarding the activities represented by these remains and the nature of their deposition.

1.4 METHODOLOGY

All bone fragments were subject to visual examination during which, where possible, each fragment was assigned to a taxa and skeletal element. All bone surface modifications (i.e. butchery,[1] burning patterns and colours,[2] pathology, animal gnawing etc.) were recorded. Taxonomic identification of remains was undertaken with reference to the reference collection kept by the University of New England, Australia, as well as identification manuals for faunal material.[3]

[1] Lauwerier 1988

[2] Lyman 1994

[3] Schmidt 1972; Hillson 1992; Cohen & Serjeantson 1996; Fillios & Blake 2015

Bone that was not identifiable to species or genus was assigned to a size class and more general taxonomic class (e.g., Large Mammal, Small Reptile etc.). These are only discussed. The Number of Identified Specimens (NISP) was quantified for each taxonomic class during identification. This method of quantification includes every bone fragment identified as each individual taxon. and while it does not give insight into the real number of animals deposited at the site in the past, it does provide an accurate depiction of the relative amounts of taxa in the assemblage. In addition to NISP, the Minimum Number of Individual (MNI) was also calculated for the remains from notable contexts. This quantification method estimates the number of individual animals represented based upon the characteristics of the skeletal elements represented in the remains, however it should be noted that this method likely underestimates the actual number of animals deposited at the site in the past.[4] The fusion state of all long bone epiphyses was recorded to gain an insight into the demographic profiles of the animals in the assemblage. Similarly, the wear stage of all teeth, including loose, individual teeth was recorded.[5] Anatomical measurements were taken, where possible, according to von den Driesch.[6] Additional measurements were taken on fragments identified as sheep/goat to distinguish between the remains of sheep and goat.[7] These measurements suggest that sheep were predominant in the assemblage, if any goat were present at all.

1.5 REPORT AUTHORSHIP

This report was written by Dr James Roberts, zooarchaeological analyst and independent researcher.

[4] Lyman 2019

[5] Grant 1982

[6] Von den Driesch 1976

[7] Salvagno & Albarella 2017

2.0 OVERVIEW OF ASSEMBLAGE

2.1 OVERVIEW

The 1129 fragments of animal bone fragments recovered from the excavations at Blue Point were largely recovered from Area A (1084 fragments – 96%), however fragments were also recovered from Area B (45 fragments – 4%; Table 2.1). The vast majority of the remains were in a state of good preservation, with only one fragment from Area A displaying signs of water damage, and another fragment from Area A displaying signs of root etching (Figure 2.1).

Figure 2.1: (*Left*) Sheep rib fragments from (065) displaying evidence of water damage. (*Right*) A sheep humerus fragment from (264) displaying evidence of root etching. 3cm scale.

Sheep (*Ovis ares*) were the predominantly identified taxa in the assemblage, which is common for zooarchaeological assemblages from Sydney and adjacent regions during the period represented by these remains. Cattle (*Bos taurus*) and pig (*Sus scrofa*) are also present, however in relatively small numbers. Rabbit (*Oryctolagus cuniculus*), hare (*Lepus europaeus*) and other fragments of indeterminate lagomorph are also present as are single fragments from dog (*Canis familiaris*) and cat (*Felis catus*). Domestic birds were also represented by chicken (*Gallus domesticus*) and goose (Anatidae indet.), along with fragments of bird eggshell. Notably, fish are abundant in the assemblage. Most of the fragments of fish could not be identified beyond fish, however some genera and species were identifiable in the remains; this included red snapper (*Pagrus auratus*), bream (*Acanthopagrus* sp.) and a ray (Batoidea indet.). Cuttle fish (Sepiida indet.) were also present, however in small numbers. In addition to these taxa, rat (*Rattus rattus)* and indeterminate rodents are abundant, and a single fragment of tooth from a small marsupial is also present. A relatively large proportion of the remains (13.7%) also displayed marks from rodent gnawing and a single fragment displayed marks from dog gnawing.

Table 2.1: The number of fragments identified in every context that yielded faunal remains from the excavation at Blues Point. Values in NISP.

Taxa / Context	Cattle	Sheep	Pig	Dog	Cat	Rabbit	Hare	Lagomorph, indet.	Rat	Rodent, indet.	Marsupial, indet.	Large Mammal, ident.	Medium Mammal, ident.	Small Mammal, indet.	Chicken	Goose	Bird, indet.	Fish*	Cuttlefish	Unidentified	TOTAL NSIP
001	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
007	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
008	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
010	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4
011	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3
013	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
019	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
021	-	6	-	-	1	2	-	-	-	1	-	-	3	1	1	-	-	-	-	-	15
024	6	23	2	-	-	-	-	1	-	-	-	1	2	-	-	-	-	2	-	-	37
025	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
028	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
029	2	3	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	8
030	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
031	9	6	-	-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-	19
032	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
035	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
046	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
058	1	3	-	-	-	-	-	-	2	-	-	-	2	-	-	-	-	2	-	-	10
059	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
062	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
065	1	12	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	16
066	23	266	8	-	-	3	1	8	-	88	1	8	105	-	33	-	9	322	2	2	879
067	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
068	-	1	1	-	-	-	-	-	-	2	-	2	2	-	-	-	-	2	-	-	10
069	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	3
073	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
074	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
079	2	16	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	21
082	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4

Taxa / Context	Cattle	Sheep	Pig	Dog	Cat	Rabbit	Hare	Lagomorph, indet.	Rat	Rodent, indet.	Marsupial, indet.	Large Mammal, ident.	Medium Mammal, ident.	Small Mammal, indet.	Chicken	Goose	Bird, indet.	Fish*	Cuttlefish	Unidentified	TOTAL NSIP
090	-	3	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	5
103	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
301	1	8	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	10
337	9	26	1	-	-	-	-	-	-	-	-	-	2	-	-	1	-	3	-	-	42
Total	71	407	14	1	1	5	1	9	2	92	1	21	122	2	34	1	9	332	2	2	1129

- This includes a number of identified orders, species, genera and families, as outlined above and discussed in further detail below where relevant.

3.0 CONTEXT ANALYSIS

While remains from all contexts excavated at the Blues Point site were analysed (Table 2.1), a number of these remains derive from contexts that were identified by excavators as being disturbed or otherwise stratigraphically insecure (i.e. general cleaning contexts). Remains from these contexts are not included in the discussion below, as the potential of these remains to inform upon the behaviour of the site's occupants is limited.

3.1 AREA A

A total of 1084 fragments of animal bone were recovered from 32 Contexts in Area A. A large number of these fragments provide insight into the lives of the occupants of this site; these are the focus of the following sections.

3.1.1 MODIFIED HISTORICAL TOPSOIL (103)

A total of 13 fragments of animal bone were recovered from the modified historic topsoil of Area A, relating to Phase 3 of the site's occupation. The remains were comprised of eight fragments of cattle bone, representing the lower vertebral column, pelvis and lower forelimb, and five fragments of sheep, representing the lower forelimb. Three of the fragments of cattle bone displayed butchery marks; this included two lumbar vertebrae that displayed marks indicative of carcass halving and pelvis fragments that displayed butchery marks indicative of carcass portioning for commercial resale.[8] A single fragment of sheep displayed rodent gnawing marks.

3.1.2 HOUSE 1

3.1.2.1 PHASE 3 & 4 - LEVELLING AND CONSTRUCTION TRENCH FILLS (031, 035, 046, 074)

A total of 24 bone fragments were recovered from two levelling fills deposited during the construction of House 1 (031, 074). The 19 fragments from (031) consisted of nine fragments of cattle, six fragments of sheep, three fragments of indeterminate large-sized mammal (likely cattle) and a single fragment of indeterminate medium-sized mammal (likely sheep). The remains definitely identified as cattle were from the upper hindlimb and upper forelimb. A fragment of cattle upper hindlimb displayed butchery marks. Lower limbs and teeth were represented in the sheep remains and a single fragment of sheep bone also displayed rodent gnawing.

The five fragments from (074) were comprised of two cattle fragments and three sheep fragments. The cattle remains were from the lower limbs and the sheep remains were from the jaw, upper forelimb and lower vertebral column. Nothing else was observed regarding the fragments from this context. A single fragment of sheep femur was recovered from a post hole fill (046) below the levelling fills for House 1 and a single fragment, identified as indeterminate medium-sized mammal, was recovered from the fill of a wall foundation trench (035).

3.1.2.2 PHASE 5 - ROOM 1 UNDERFLOOR DEPOSIT (021)

The underfloor deposit from Room 1 of House 1 yielded 15 fragments of animal bone. This context was divided into a grid prior to excavation and 100 per cent wet sieved, which allows for some analysis of the spatial distribution of these remains (Figure 3.1). Given the relatively small number of fragments recovered from this context it was difficult to assess any particular concentration of remains and they seemed to be fairly evenly spread throughout the room.

[8] cf. Roberts 2020a: Fig. 15

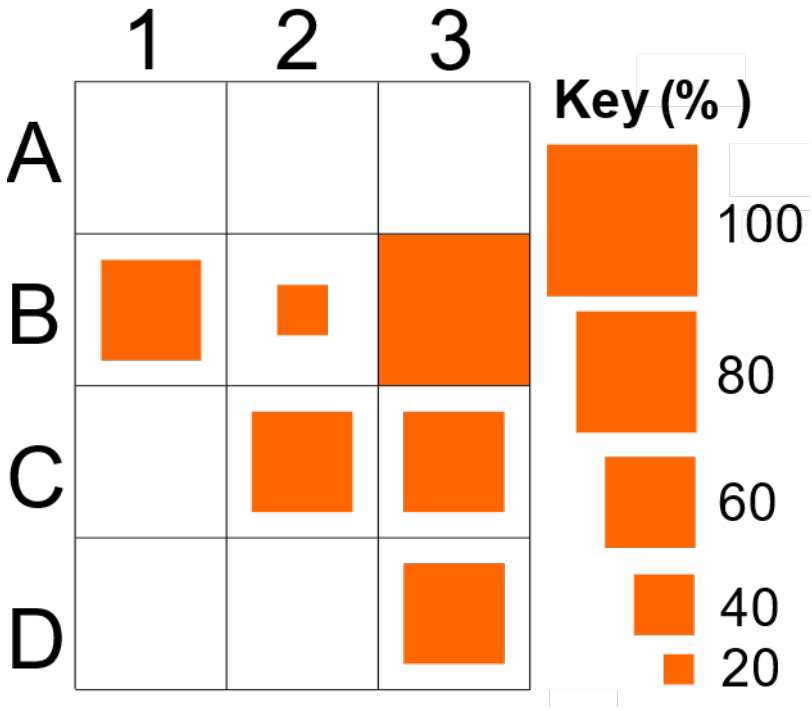

Figure 3.1: A heat map displaying the concentrations of animal bone in (021), based upon the percentage of fragments recovered from the most abundant squares (B1 & B3).

Six of the fragments were from sheep, with elements present from the vertebral column, rib cage pelvis and lower hindlimb. Butchery marks were observed on three of these fragments, with marks indicative of carcass portioning for commercial resale. Two fragments of rabbit, present meat bearing elements, were present, along with a single fragment of cat, representing a deciduous canine, and a single fragment of indeterminate rodent. Additionally, a single fragment of chicken bone was also identified in the remains from this context, representative of the wing. An anthropogenic hole was observed on the shaft of this fragment (Figure 3.2). Finally, three fragments were identified as 'medium-sized' mammal and single fragment was identified as 'small sized' mammal. These are likely sheep and rabbit respectively.

Figure 3.2: A chicken humerus recovered from (066), with a small hole in the posterior surface (Top) and a larger hole in the anterior surface (Bottom). These are likely an entry and exit hole respectively. 3cm scale.

3.1.2.3 PHASE 5 - ROOM 2 UNDERFLOOR DEPOSIT (066)

The vast majority of remains (77.9%) from the entire excavation at Blues Point were recovered from this context, which represented the underfloor deposit from Room 2 of House 1 and can be related to the occupation of this house (Phase 5). As with (021), this context was divided into a grid prior to excavation, which allows for some analysis of the spatial distribution of these remains (Figure 3.3). The heat map demonstrates a clear concertation of remains in the squares C1 and C2 that extends slightly into B2 and C3.

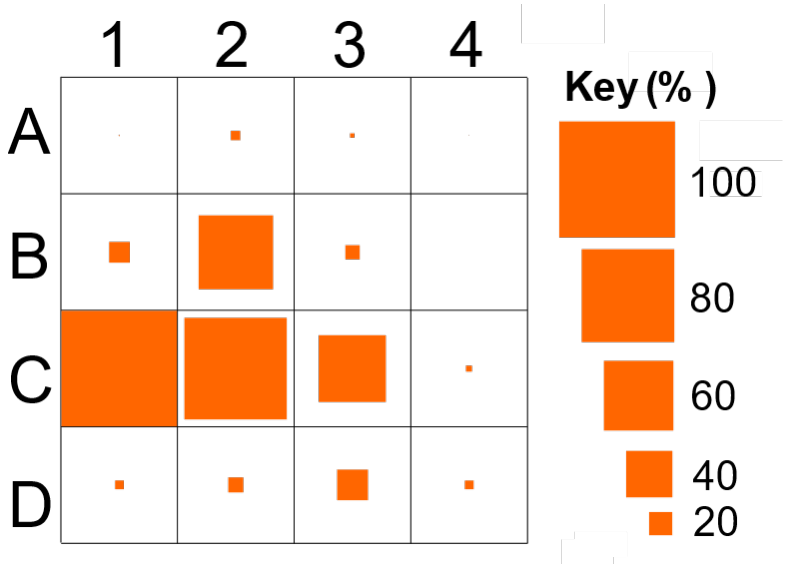

Figure 3.3: A heat map displaying the concentrations of animal bone in (021), based upon the percentage of fragments recovered from the most abundant square (C1)

The most frequent identification (36.2% of context NISP) made in the remains from (066) was indeterminate fish. These remains comprised elements from the vertebral column and the head, suggesting that whole fish were being processed at the site during this period of occupation. In addition to the 318 fragments of indeterminate fish, several fragments could be identified to order, family, genus and species level. This included two tail barbs from rays, a jaw fragment from a sparid and a fragment of crania from a red snapper (Figure 3.4). Two fragments of cuttlebone, from cuttlefish, were also identified, giving further evidence for the utilisation of marine resources. These remains demonstrate the importance of the marine resource at the site, and what variety of species were being utilised by the site's occupants during this phase, as discussed in further detail below (Section 4.0).

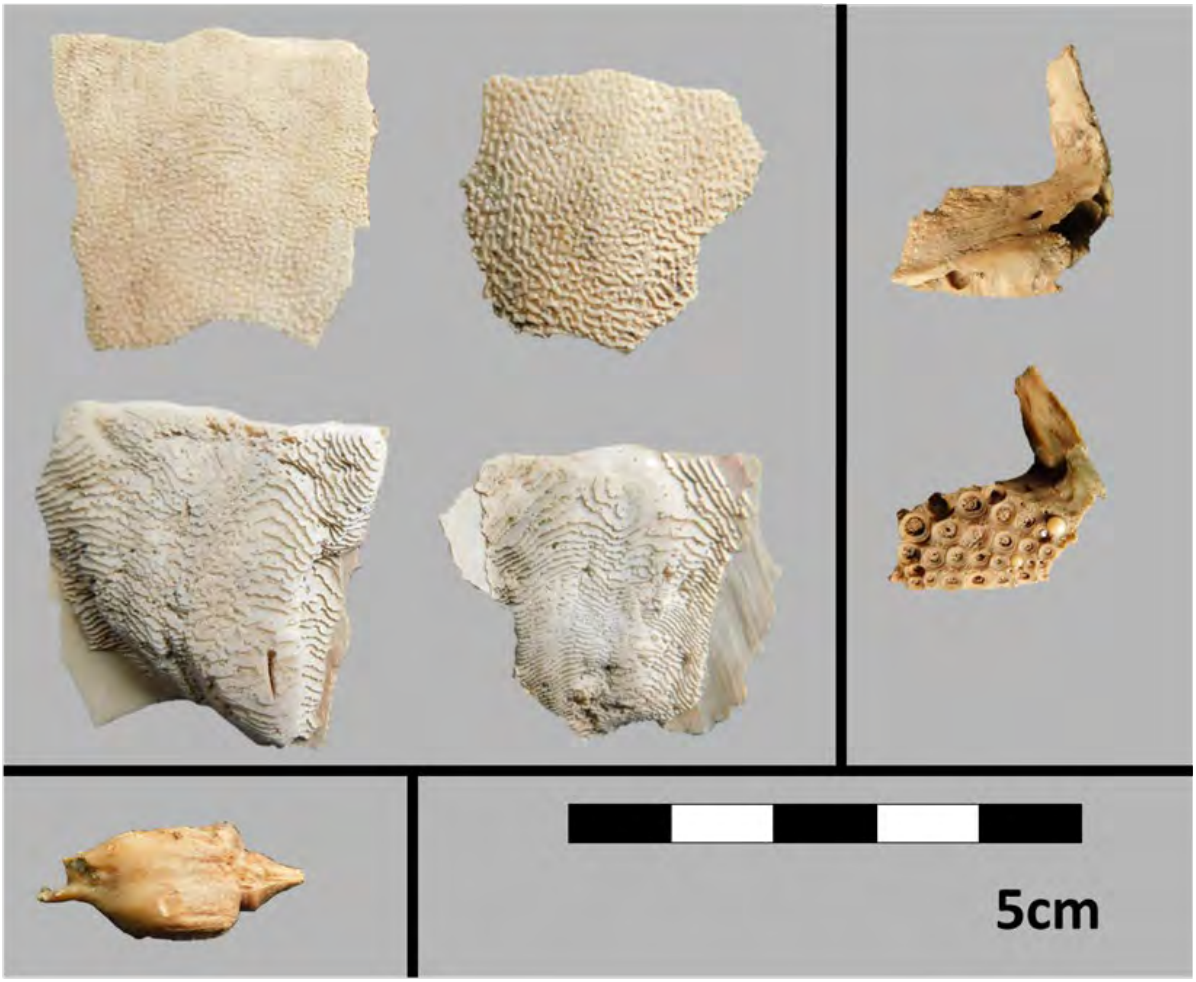

Figure 3.4: (Top Left Section) Two fragments of cuttlebone from (066). (Bottom Left Section) A fragment of crania from a red snapper, from (066). Right Section, Jaw fragment from a bream. 5cm scale.

Sheep were the most frequently identified domestic mammal in the remains from this context (30.3% of the context NISP). Remains from the upper vertebral column were predominant, with remains from the rest of the vertebral column, the ribs and the hindlimb also well represented (Figure 3.5). A relatively high proportion (37.2%) of the sheep remains were butchered; butchery marks were indicative of carcass halving and quartering, however there was a clear predominance of marks indicative of carcass portioning (Figure 3.5). The epiphyseal fusion observed on the sheep remains suggested that the vast majority of the sheep present in the remains were adult (

Table 3.1). Furthermore, seven fragments of sheep bone were burnt to varying degrees of intensity.

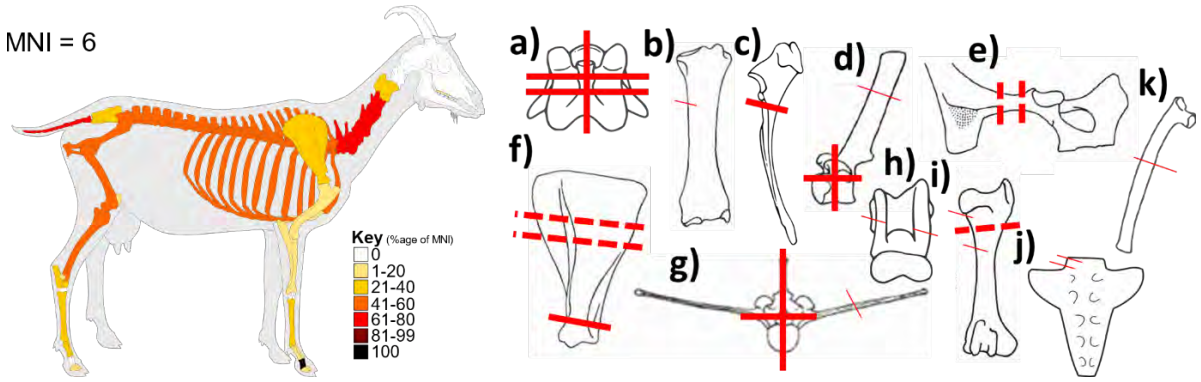

Figure 3.5: (*Left*). The skeletal element representation of the sheep remains from (066). (*Right*). The butchery marks identified on the sheep remains from (066). Thick red lines denote chop marks, thin red lines indicate cut marks, dashed red lines denote saw marks. a) Cervical vertebrae; b) Radius; c) Ulna; d) Thoracic Vertebrae; e) Pelvis; f) Scapula; g) Lumbar Vertebrae; h) Astragalus; i) Femur; j) Sacrum; k) Rib.

Table 3.1: The epiphyseal fusion status of sheep remains analysed from (066). Values are given as the Minimum Number of Elements (MNE). F = Fused, UF = Unfused.

	Number of Fragments		
	F	UF	%F
Scapula	-	-	-
Pelvis	-	-	-
D. Humerus	-	-	-
P. Radius	-	-	-
P. Metapodia	2	-	-
<10 mths.	*2*	-	*100*
D. Tibia	2	-	-
D. Metapodia	2	-	-
Phalanx I	7	2	-
1-2 years	*11*	*2*	*84.6*
Ulna	-	-	-
P. Femur	1	-	-
Calcaneum	1	-	-
D. Radius	-	-	-
2.5-3 years	*2*	-	*100*
P. Humerus	-	-	-
D. Femur	-	-	-
P. Tibia	-	-	-
3-3.5 years	-	-	-

Comparatively few cattle fragments were identified in the remains from this context (2.6% of the context NISP). These remains were from the hindlimb, upper forelimb and vertebral column. Butchery marks were observed on six of these fragments, all ribs, with all marks

indicative of carcass portioning for commercial resale. The only fragment that yielded data regarding epiphyseal fusion was from an animal younger than 2.5 years of age at death. Eight fragments of bone from this context were identified as pig (0.91% of the context NISP). These remains were from the skull and jaw, the upper hindlimb and the foot. A single fragment of pig hindlimb was butchered, however no other observations were made regarding these fragments. Domestic birds were also represented in the remains, with 33 fragments identified as chicken. Full carcasses were represented, and a single fragment was from a juvenile animal. Seven fragments of bird eggshell were also identified, which are likely also chicken.

In addition to domestic animals, the remains from (066) also included three fragments of rabbit bone, representing remains from the upper hindlimb and upper forelimb. A single fragment of hare upper hindlimb was also identified (Figure 3.6). An additional eight fragments were identified as indeterminate lagomorph, representing the vertebral column and ribs. Furthermore, a single fragment was identified as the tooth from an indeterminate marsupial. Finally, 88 fragments of the remains from this context were identified as indeterminate rodent, with full carcasses represented. Rodents were also evidenced by the notably high portion of fragments displaying rodent gnawing (16.2% of the context NISP). Canid gnawing was also observed on the remains.

Figure 3.6: A fragment of hare pelvis, recovered from (066). 3cm scale.

3.1.2.4 PHASE 5 - ROOM 2 FIREPLACE (069)

A total of three fragments of animal bone were recovered from this context. One of these was from the mid-vertebral column of a sheep, the second was identified as an indeterminate medium-sized mammal and the third was identified as an indeterminate small-sized mammal. No other observations were made regarding these three fragments.

3.1.2.5 PHASE 5 - CISTERN FILL (090)

Five fragments of bone were recovered from the cistern fill associated with the occupation of House 1. Three of the fragments were from the same sheep mandible. Tooth wear analysis suggested that this mandible was from an individual between 12 and 24 months old at death (Figure 3.7). Two fragments were identified as indeterminate large-sized mammals.

Figure 3.7: A sheep mandible from (090), displaying tooth wear.

3.1.2.6 PHASE 6 - DEMOLITION FILLS (019)

A single fragment of bone was recovered from this context. It was identified as a sheep rib, with a butchery mark. No other observations were made regarding this fragment.

3.1.2.7 PHASE 6 - REMAINS FROM LATER ARCHAEOLOGLICAL FEATURES (007, 008)

Animal bone was also recovered from later archaeological features. This included a single fragment of cattle foot from (007), and three fragments of sheep, comprised of two fragments of lower hindlimb and one fragment of rib, from (008).

3.1.3 HOUSE 2

3.1.3.1 PHASES 3 & 4 - LEVELLING FILLS, CONSTRUCTION TRENCH FILLS AND MODIFIED

3.1.3.1.1 HISTORIC TOPSOIL (013, 028, 029, 030, 032, 059, 079)

Animal bone fragments were recovered from the modified historic topsoil underlying House 2. Modified sands excavated within a 1m x 1m test trench (TT 04) within Room 3, House 2 were given separate context numbers (029, 030, 032) but were later determined

to be the same deposit as the historic topsoil. This was made up of eight fragments of bone from (029) and two fragments of bone from (030). The remains from (029) were comprised of three fragments of sheep upper vertebral column and lower forelimb, two fragments of cattle rib and vertebral column, a pig tooth and two fragments identified as indeterminate large-sized mammal. A fragment of cattle rib displayed a butchery mark. The remains from (030) were two fragments of sheep forelimb. No further observations were made regarding these remains.

As with House 1, animal bone fragments were recovered from levelling fills deposited during the construction of House 2. This included a single fragment of sheep lower limb that displayed butchery marks from (013), two fragments of sheep lower hindlimb from (059) and a single fragment identified as indeterminate medium-sized mammal from (032). The levelling fill from House 2 that yielded the greatest number of animal bone fragments was (079), with a total of 21 fragments. These were largely fragments of sheep (76.2% of context NISP) with the upper and lower jaw, upper forelimb, hindlimb and upper vertebral column represented. Two fragments of cattle were also present, representing the upper and lower vertebral columns. Additionally, a single fragment was identified as the upper jaw of a pig, the lower forelimb of a dog and a fragment identified as medium-sized mammal.

Finally, two fragments of bone were recovered from the fill (028) of the construction trench for the sandstone footings (Houses 2 and 3). The fragments were from a sheep's upper vertebral column and a fragment of sheep tooth.

3.1.3.2 PHASE 5 - ROOM A UNDERFLOOR DEPOSIT (082)

Four fragments were recovered from the underfloor deposit of Room A in House 2 and can be directly associated with the occupation of this house. Room A was a later brick addition (c.1880s-1890s) to the original stone house. These remains were all identified as sheep with the lower hindlimb, upper vertebral column and lower vertebral column represented. Two of these fragments were butchered, with marks indicative of carcass halving, and three of the fragments from this context had been gnawed by rodents.

3.1.4 HOUSE 3

3.1.4.1 PHASE 4 - LEVELLING FILLS (010, 058, 065, 068, 073, 079)

As with Houses 1 and 2, animal bone was recovered from levelling fills deposited during the construction of the house. This included four fragments of bone from (010), ten fragments of bone from (058), 16 fragments from (065) and three fragments from (073).

The four fragments from (010) were comprised of two fragments of sheep, representing a tooth and a rib, a single fragment of cattle tooth and a fragment of fish fin spine. The ten fragments from (058) were comprised of three fragments of sheep, representing the skull and lower limbs, two fragments of rat, representing the skull and sacrum, two fragments of indeterminate fish, a fragment of cattle tail bone and a fragment of indeterminate medium-sized mammal. Sheep were predominant in the remains from (065), with 12 out of the 16 fragments. These sheep remains were from the hindlimb, lower forelimb, ribs and upper vertebral column. A fragment of rib displayed a butchery mark, but no other observations were made regarding these fragments. A single fragment of butchered cattle rib was also identified, as were two fragments of indeterminate large-sized mammal and a single fragment of indeterminate medium-sized mammal. Additionally, three fragments of cattle mid-vertebral column were recovered from (073); no further observations were made regarding these fragments.

Notably, (079) (Section 3.1.3.1) was also identified under House 3 (068). The ten fragments from (068) were comprised of two fragments of indeterminate fish, two fragments of

indeterminate rodent, a fragment of indeterminate large-sized mammal, a fragment of burnt indeterminate medium-sized mammal and a single fragment of sheep.

3.1.4.2 PHASE 5 - VERANDAH POTENTIAL OCCUPATION (024)

A total of 37 fragments were recovered from (024), a potential occupation deposit associated with the verandah of House 3. The majority of these fragments (62.2% of context NISP) were identified as sheep. Elements from the hindlimb were predominant, with teeth and lower forelimb also present. The single fragment that yielded information regarding epiphyseal fusion was from a sheep older than 2 years of age at death. One of the fragments of upper hindlimb had displayed a butchery mark and a fragment of rib displayed marks indicative of heavy water damage. Two fragments were identified as pig, with a fragment of tooth and a fragment of lower limb present. A single fragment of lagomorph rib was also identified, along with a fragment identified as indeterminate medium-sized mammal and a single fragment of indeterminate large-sized mammal. Finally, two fragments of cartilaginous fish vertebra were also identified in the remains, that were likely from a ray. Only a single fragment of bone from this context displayed gnawing marks.

3.1.4.3 PHASE 6 - DEMOLITION FILL (011)

Three fragments of bone were recovered from this context; two of these fragments from the hindlimb of a sheep and the third was from an indeterminate rodent. One of the sheep fragments displayed marks from rodent gnawing.

3.2 AREA B

The only faunal remains from Area B (45 fragments) were recovered from (301, 337), an area cleaning context and a context comprised of material accumulated through drain run off, respectively. The remains from Area B therefore have limited potential to inform on the lives of the occupants of the site, and are not discussed further in this report.

4.0 REPORT RESULTS & SUMMARY

4.1 OVERVIEW OF RESULTS

The animal remains from the underfloor and occupation deposits identified during excavations at Blues Point provide insight into the diets of the occupants of Houses 1, 2 and 3. The large number of remains from the underfloor deposit from Room 2, House 1 (066), demonstrate the prominent role of fish and other marine species in the diet of the occupants; all of the identified species are known to have been utilised by fishers, including rays.[9] Fish are commonly found in the dietary remains from sites in this region and period, and the fish species represented in the assemblage are evidenced from other, slightly earlier sites.[10]

Making inferences regarding the economic status of the inhabitants must also consider wider economic conditions (meat prices etc.), however it can be stated that the sheep remains from the occupation deposits from House 1 generally present high-quality meat,[11] yet high-quality meat cuts (i.e. upper hindlimb) were not predominant and lower quality cuts of meats were also present. Additionally, while a range of meat cuts are present, full carcasses are not, demonstrating that this site was largely provisioned by pre-butchered cuts of meat. Small amounts of cattle and pig were also incorporated into the diet at the site, but little can be said about this due to the relative paucity of the remains from these species. Chickens are also evidenced to have been a part of the House 1 occupants' diet, with some potential evidence for chickens also being kept at the site. In addition to domestic mammals, rabbit and hare was also being consumed by the site's occupants; given the dates of the is context, the rabbits and hare represented by the remains were likely wild animals.[12] Chickens, rabbits and hare are all frequently identified in zooarchaeological assemblages from the region and period.[13]

The remains from Houses 2 and 3, while fewer in number, still demonstrate a predominance of sheep in these assemblages, further indicating their important role in provisioning this site. Making definitive statements about the quality of meat and nature of provisioning is harder to do with the remains from these houses due to their relative paucity, the sheep remains were comprised of high-quality cuts of meat. Remains from rays are also present in the remains from House 3, reinforcing the hypothesis that they were being consumed at these houses during their occupation.

It is important to note that the remains from the occupation deposits of Houses 1 and 2 display a high incidence of rodent gnawing, which is a clear indication that rodents were active at the site during its occupation. The recovery of a large number of rodents from the underfloor deposit of House 1 is also clear evidence of this. In turn, this provides insight into the living conditions at the site and the nature of waste disposal at the site during this period. This archaeological evidence is mirrored in the historical record, with rats being recorded at the site in a newspaper article regarding the 1909 discovery of plague rats at another location in Sydney.[14] A potentially related observation is the presence of a cat tooth in the underfloor deposit from Room 2 of House 1; this fragment suggests that cats were kept by the occupants of the house during this phase which may redefect a measure to countering the rodent presence at the site. The single fragment that exhibited canid

[9] 'Jeweys in the Harbour', Page 7 – Evening News Sydney, Saturday 1st January 1910.

[10] Colley 2013

[11] Wilby 2010: Tab. 5

[12] Eather & Cottle 2015

[13] Roberts 2020a; 2020b

[14] 'More Infected Rats', Page 7 - The Daily Telegraph, Friday 19th March 1909.

gnawing from House 1 (066) is also important to note. Its presence in an unfloor deposit may indicate that a dog was in the room, also depositing material.

4.2 SUMMARY

The remains from the occupation deposits of Houses 1, 2 and 3 provide insight into the diets of the occupants and the living conditions at the site. The diets in all of the houses featured large amounts of sheep. The remains from House 1 were indicative of a medium quality diet, with a mix of high quality and low-quality meat cuts. The remains from House 3, while fewer in number, were indicative of a high-quality diet. Additionally, the remains from House 1 demonstrate that fish were predominant in the diet of the house's occupants, although fish were also present in the remains from House 3. At House 1, the diet also involved keeping chickens and eating their eggs. The remains clearly demonstrate the presence of rodents at all houses on the site, and cats may have been kept to counter this. Lastly, the remains from House 1 also tentatively suggest that dogs were also kept in House 1.

5.0 REFERENCES

5.1 REFERENCES

Casey & Lowe, 2018. *Excavation Directors Report: Temporary Works Site – Henry Lawson Reserve, Blues Point, Sydney.*

Cohen, A. and Serjeantson, D. 1996 *A Manual for the Identification of Bird Bones from Archaeological Sites: Revised Edition*, Archtype Publications Ltd., London.

Colley, S. 2013 'Fish and fishing in colonial New South Wales: new evidence from the Quadrant site in Sydney, Post-Medieval Archaeology, 47(1), 119-135.

Eather, W. and Cottle, D. 2015 'The rabbit industry in south-east Australia', in P. Deery and J. Kimber (eds.), *Proceedings of the 14th Biennial Labour History Conference. Fighting Against War: Peace Activism in the Twentieth Century.* Australian Society for the Study of Labour History, Melbourne, Pp. 1-20.

Fllios, M. and Blake, N. 2015 *Animal Bones in Australian Archaeology: a field guide to common native and introduced species*, Sydney University Press, Sydney.

Grant, A. 1982 'The use of tooth wear as a guide to the age of domestic animals', in B. Wilson, C., Grigson and S. Payne (eds.) *Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109, Oxford, pp. 91-98.

Hillson, S.W. 1992 *Mammal Bones and Teeth: An Introductory Guide to the Methods of Identification*, the Institute of Archaeology (U.K)., London.

Lauwerier, R.C.G.M., 1988 *Animals in Roman Times in the Dutch Eastern River Area*, ROB, Neaderlandse Oudheden 12.

Lyman, R.L. 1994 *Vertebrate Taphonomy*, Cambridge University Press, Cambridge UK.

Lyman, R.L. 2019 'A Critical Review of Four Efforts to Resurrect MNI in Zooarchaeology', *Journal of Archaeological Method and Theory* Vol 26: 52-87.

Roberts, J. 2020a. The Faunal Remains from 153 Macquarie Street, 3 Parramatta Square (3PS). Report prepared for Casey & Lowe Pty. Ltd.

Roberts, J. 2020b. The Faunal Remains from Church Street, 8 Parramatta Square (8PS). Report prepared for Casey & Lowe Pty. Ltd.

Salvagno, L. and Albarella, U. 2017 'A morphometric system to distinguish sheep and goat postcranial bones', *PLoS ONE*, Vol 12(6): e0178543.

Schmidt, E. 1972 *Atlas of Animal Bones: for Prehistorians, Archaeologists and Quaternary Geologists*, Elsevier Publishing Company, London Simons.

von den Driesch, A. 1976 *The Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin, Volume 1.

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

BUILDING MATERIALS REPORT

MAY 2022

Hand-moulded edging tile from context 301.

FINAL REPORT | to **Sydney Metro**

CASEY & LOWE
ARCHAEOLOGY & HERITAGE

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CONTENTS

Report Status	Date Submitted	Purpose	Author	Reviewed
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ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

BUILDING MATERIALS REPORT

1.0 INTRODUCTION

1.1 BACKGROUND

This report presents the results from the analysis of artefacts excavated by Casey & Lowe between August and November 2018 that relate to the construction, finishing and servicing of buildings at the Blues Point Temporary Work Site, Sydney. For excavation and recording purposes the site was divided into two areas: Area A, and Area B. Building materials were catalogued by Dr Gary Marriner, Senior Archaeologist, Casey & Lowe who also wrote this report. All artefacts were added to a specially designed database in Microsoft Access developed for Casey & Lowe, with each item assigned a three-step functional category. The brief historical timeline in section 2.0 is based upon parts of the Preliminary Results Report written by Rhian Jones and Jill Miskella, both Senior Archaeologists, Casey & Lowe.

This brief report consists of a description of the key types of building materials (BM) catalogued, and their historic context including relevant structural and chronological details. The final section of this report summarises the key findings. When discussing individual BM artefacts within the text they are identified by their context and catalogue number (e.g. 123/#6789). Building materials recovered from specific, targeted contexts were assigned a BM Sample Number (BM#) and the full sample registry Volume 4, Section 12.3. In certain circumstances, such as when useful for dating, building materials were also recovered from fills. As their exact location could not be securely ascertained they were not given a specific sample number.

Most of the Building Materials recovered relate to three houses constructed on the site and their subsequent modification. The first was built pre-1857 and the other two were constructed around 1869 (Figure 1.1). Throughout the excavation and post-excavation process they are referred to as Houses 1, 2 and 3, with each individual room within the houses numbered sequentially from east to west. Additionally multiple retaining walls were encountered, and identified as north and south.

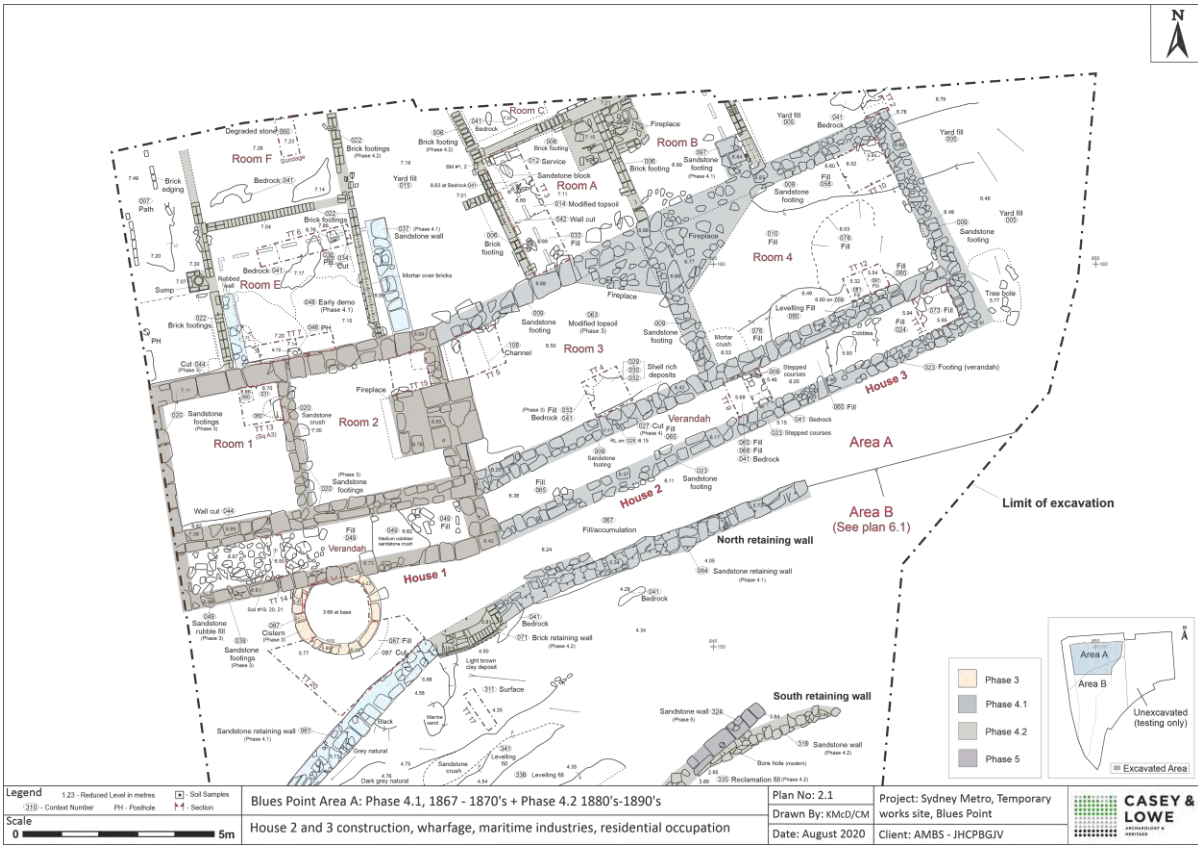

Figure 1.1: Excavation plan of Area A showing the layout of Houses 1, 2 and 3 and the north and south retaining walls.

2.0 BRIEF HISTORICAL TIMELINE & SITE PHASING

2.1 TIMELINE

This timeline is summarised from the preliminary report prepared following the cessation of excavations at the site.[1] The archaeological phases identified are summarised in Table 2.1.

- 1794 – First land grants made by Lieutenant-Governor Francis Grose on the northern shore of Sydney Harbour.
- 1811 - William 'Billy' Blue (c.1767-1834), a convict, settler and ferryman on the north shore was appointed as harbour watchman and constable by Governor Lachlan Macquarie.
- 1817 – Macquarie granted him land on the north shore of the harbour where he continued his ferry service and grew produce for the Sydney market. The location was known as Billy Blue's Point from at least 1823 and sometimes as' Blue's Bay'.
- 1839 - A public wharf was dedicated at Blue's Point offering a reliable link to the city.
- 1840s - An etching of Blues Point dated to c.1840s shows a stone seawall and jetty in the study area.[2]
- 1850s - Much of the land on the north shore peninsula remained in the Blue family until the 1850s, after which it was progressively subdivided and sold.
- 1857 – Crown Plan[3] shows a building was constructed within the study area along the east side of Blues Point Road. It also shows a 'public' wharf or pier and a jetty or slip jutting into the harbour.
- 1864 - A building and fenced enclosures are shown on the east side or Blues Point Road.[4] There were no other buildings in the study area at this time.
- 1867 – 'Shipwright' John Stevens of the City of Sydney purchased the western part of the study area (Lot 10 Section E of the Blue's Estate).
- 1868 - Mariner James Glover purchased the eastern part of Lot 10 Section E, part of which is included in the study area.[5]
- 1869 – Crown Plan showing the extension of Stevens' cottage on the western part of Lot 10.[6] The elongated, multi-occupancy dwelling built by Stevens appears to be divided into two or possibly three residences, with a long verandah facing south.
- 1871 - A boat builder's shed, leased by George Barnett, was constructed on Stevens part of Lot 10. James Glover's part of Lot 10 remained undeveloped.[7]
- c.1880 - Stevens' applications to purchase reclaimed land adjacent to Lot 10 although land reclamation at Blues Point may have started as early as 1866. Stevens' reclamation of 19¾ perches (499 m^2) of land between the high and low water marks was not finalised until 1885.
- 1881 - Crown Plan[8], provides evidence of the residential and commercial development of Stevens' land and the steep topography between the land and the harbour. The survey shows Stevens' house as largely built of stone with brick additions and three outhouses confirming that the building incorporated three residences by this time.

[1] Casey & Lowe 2018, *Sydney Metro City & Southwest – Temporary Works Site, BLUES POINT TEMPORARY WORKS SITE, BLUES POINT, SYDNEY, Preliminary Report*, report to John Holland CPB Ghella JV

[2] Available at http://www.photosau.com.au/StantonPictures/scripts/home.asp (accessed 29/1/18).

[3] Crown Plan 7-1990 LPI

[4] 1 April 1864, DP 8 LPI

[5] LPI Schedule.

[6] CP 11-1990, 20 Oct 1869

[7] CP 130-574, 25 Sep 1871, LPI

[8] Crown Plan 356-2030

- 1891 - By 1891 alterations and changes had been made to the buildings or sheds on Stevens' and Glover's parts of Lot 10.[9] A pile jetty and a timber wharf extended from the shoreline into the harbour. A weighbridge was positioned outside the western boundary of the site adjacent to Blue's Point Road. Fencing separated the commercial and residential parts of the site.
- 1897 - The Minister for Public Works approves for the construction of a vehicular or 'horse ferry' service, including a 'dock and landing' for ferries between Dawes and Blues Points.
- 1902 – The North Shore Ferry Service including a vehicular ferry was in service.
- 1902 - The New South Wales Fresh Food and Ice Company Limited announced the proposed establishment of a North Shore distribution branch on the waterfrontage known as Stevens' Wharf. The company proposed to construct 'a depot, with ice-house and other cool storage premises' at the Blues Point site.
- 1923 - Sydney Harbour Trust commenced plans to improve the docking facilities of the Blue's Point Punt Service. The 1926 Survey plan[10] shows the new vehicular ferry dock to the south of the study area.
- 1932 - Construction of the Sydney Harbour Bridge reduces demand for a vehicular ferry.
- By 1934 the waterfront extending from Blues Point to McMahon's Point ferry jetty had for some years been utilised by Sydney Ferries Ltd 'as a depot for the company's idle ferries'.
- 1937 – Aerial photograph shows the houses originally owned by Stevens were still extant.[11]
- 1943 - Aerial photograph[12] confirms the demolition of Stevens' house and the workshop in the north-eastern corner of the site by this date. Sheds on the reclaimed part of the allotment are still extant but are not the same sheds as those depicted on the 1891 plan. Stevens' wharf remained extant.
- 1960s – Cumberland Council acquire the study area.
- 1971–2018 – Site placed under the control of North Sydney Council for use as a public park, reserve or recreation space.

Table 2.1: Summary of the archaeological phasing for the site, as presented in the preliminary results report.

Phase	Date	Description
1	-	Natural Landscape
2	-	Aboriginal Occupation
3	1817-1850s	Early European Occupation, Wharf Construction
4	1860s-1890s	Wharfage, Maritime Industries & Residential Occupation
5	Early 1900s-1930s	Vehicular ferry, upgrades, new businesses
6	1940s-1960s	Demolition of ferry wharf and cottages
7	1960s-Present	Public Park

[9] PWDS 1544-S901 Sydney Water

[10] McMahons Point Subdivision Plans M2/17 ML SLNSW

[11] LH Ref PF2624, Stanton Library.

[12] Sydney 1943 Imagery, SIXMaps LPI

3.0 ARTEFACT ANALYSIS

A total of 99 examples (frags) of building materials, constituting 42 individual items (MIC) were catalogued from the Blue's Point site. Examples of mortar constituted the majority of the assemblage (13 MIC, 31%) followed by bricks (including bricks with mortar attached) (11 MIC, 26%) and render (including render & set) (8 MIC, 19%). The remainder of the assemblage was made up of plaster (MIC 4, 10%), slate (roofing and decorative - MIC 3, 9%), and tile (garden and finish - MIC 3, 4%) (Figure 3.1,Table 3.1). The building materials catalogue is included in Volume 4, Section 13.3 of the Excavation Report.

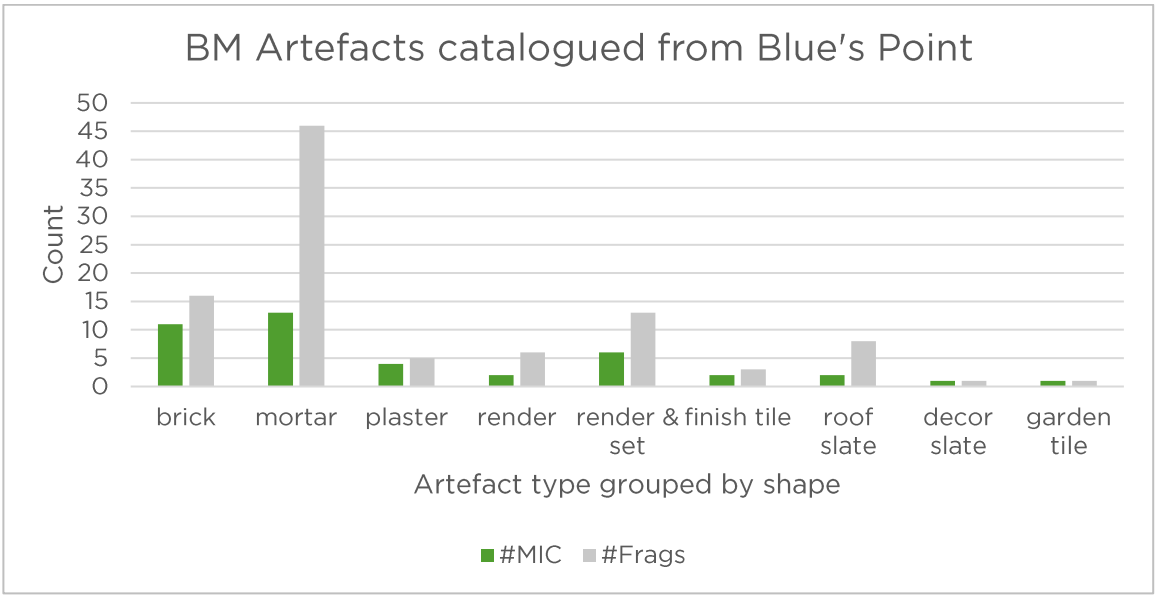

Figure 3.1: Summary of the BM artefacts catalogued from Blues Point categorised and grouped by shape.

Artefacts were sampled from key structural contexts such as walls and footings in order to better understand the construction method and date of construction. Additionally, unusual or unique items were also recovered and catalogued in order to better comprehend the overall nature of the site and its use through time.

Table 3.1: Summary of the BM artefacts catalogued from Blues Point by general function, specific function and shape. Frags refers to the number of individual fragments in the assemblage. MIC (Minimum Item Count) refers to the actual number of items accounting for conjoins.

General Function	Specific Function	Shape	MIC	Frags	MIC
architectural	structural	brick	11	16	*26*
		mortar	13	46	*31*
	finish	plaster	4	5	*10*
		render	2	6	*5*
		render & set	6	13	*14*
		tile	2	3	*5*
	roof	slate	2	8	*5*
	decor	slate	1	1	*2*
yard	garden	tile	1	1	*2*
		TOTAL	49	99	*100*

3.1 BRICKS

3.1.1 INTRODUCTION

Bricks are generally categorised first by production technology and secondarily by the type of frog used. In broad terms, for urban areas of NSW, bricks produced before 1890 tend to be hand-made sandstock and after 1890 machine made either using the dry-pressed or machine-made or extrusion methods. This date is not fixed, and examples exist of earlier machine-made and later stock made bricks, especially in rural areas where sandstock bricks were still produced into the later 20th century.[13]

The introduction of frogged bricks occurs generally in Britain towards the end of the 17th century,[14] and they were in common use by the mid-19th century.[15] In New South Wales early bricks (i.e. 1788-c.1820) were always unfrogged. The introduction of frogs begins with the broad or convict arrow (c.1817) indicating government ownership. The brick industry had expanded by the 1850s with multiple private companies engaged in production, most of who marked their bricks using a variety of different shaped frogs including the diamonds, rectangles, and hearts. Examples exist of more complex and unique frog shapes being used towards the end of the 19th century. The frogs on machine made bricks are more standardised and usually entail an inverted-hipped shape, occasionally with the name of the brickmaker impressed within the frog.

3.1.2 SANDSTOCK BRICKS & TILE

The technology to facilitate sandstock brick production arrived in New South Wales on the First Fleet with brick moulds and 10,000 bricks being brought aboard the Scarborough.[16] By May 1788 bricks were being produced in the colony[17] with kilns operating at an area to the south of the main settlement between present day Central Station and Town Hall. As early as April 1788 the area was referred to as 'Brick field'.[18] The brick making industry grew quickly. By July 1790[19] 40 people were involved in brick production and by November 1790 70,000 bricks and tiles were being produced each month.[20] The end of convict transportation to NSW in 1840 led to the closure of government brickyards and the proliferation of independent brick producers. The industry prospered on Brickfield Hill until the 1840s when the government levelled the surrounding ground and the brick makers relocated to outer suburbs such as Newtown, Redfern and Waterloo.[21]

Of the 11 bricks recovered from the Blues Point site, seven were made using sandstock technology with four different frogs represented in the assemblage. Aside from the Broad Arrow, sandstock bricks start to feature a variety of frogs from around 1830 with a proliferation in shape and sizes from 1850 onwards. They continued to be made until the last years of the 19th century. One piece of sandstock garden edging tile was also recovered from the site which broadly dates from c.1800 to c.1900.

A total of four rectangular frogged and single examples of oval frogged and diamond frogged bricks were recovered in addition to a brick with a maker's mark in a rectangular cartouche as the frog. Some of these came from contexts related to House 1. Two of the

[13] Gemmell 1986 p.15
[14] Varman 1993 p.18
[15] Tomlinson 1854 p.188
[16] HRNSW Vol. 2, Appendix 2 p.388
[17] Varman 1993 p. 58
[18] Fowkes 1789
[19] HRNSW Vol. 1, Pt. 2 p. 363
[20] Tench 1788 p. 153
[21] Gemmell 1986 p.4

rectangular-frogged bricks (072/#1028 BM#08, 072/#1029 BM#08) made up a pad that would have supported the floorboards of House 1 Room 2 (072) (Figure 3.2). This dates the installation of the floorboards to definitively after 1830, and very likely after 1850. Both bricks were similar sized being around 238mm long, 112mm side and 72mm thick. This size indicates that they are likely post-1850. Both were a pale beige orange colour and had mid brownish grey mortar on the strikeface and ends indicating they were reused. One of the bricks (072/#1029) had a dog paw print on one stretcher (Figure 3.3).

Figure 3.2: The rectangular frogged sandstock bricks that formed the floorboard support pad for House 1 Room 2 072/#1028, 072/#1029. 100mm scale. DSC_4077. Russell Workman.

Figure 3.3: Close up of dog paw print on near complete rectangular sandstock brick 072/#1029. DSC_4086. Russell Workman.

Another of the rectangular frogged sandstock bricks came from a bitumen path edging that ran north-south towards House 1 from the northern limit of excavation (007). Given its association with a bitumen path, and that it abutted a later machine-made brick structure, the bricks here are likely reused. The brick examined (007/#1003) (BM#17) had a near inverted-hip frog and was severely overfired to a dark brown colour with frequent exploded ironstone. The frog was in the centre of the stockface and its similarity to that

commonly seen on machine-made bricks indicates that it is likely from the later 19th century but could date from c.1850 to 1900.

The underfloor of House 1 Room 2 (066) contained a near complete diamond-frogged sandstock brick (066/#1019) (Figure 3.4). During excavation it was noted that to the south of the room a rubble-rich deposit had accumulated that may have been deposited as part of renovations to the property. The brick specifically came from this deposit. It was fired to a dark red and the fabric included frequent dark purple ironstone and rare white buff clay inclusions. It measured at least 176mm long, 109mm wide and 71mm thick. The thickness in particular indicates that it was a later 19th-century brick

Figure 3.4: Diamond frogged brick found as part of the underfloor deposit below House 1 Room 2 066/#1019. 100mm scale. DSC_4091. Russell Workman.

A sandstock brick with a clear maker's mark insides a rectangular cartouche frog (Ss initial - 026/#1012) and a rectangular-frogged sandstock (Ss rect - 026/#1013) were recovered from the demolition fill of House 1 Room 2 (Figure 3.5). The Ss initial brick was near complete, had a well-mixed and crushed fabric and was fired to a dark orange colour. It measured 236mm long, 110mm wide and 69mm thick. The frog consisted of a rectangular 139 x 59mm cartouche in which were the letters 'H R' stamped in a serif font. This likely corresponds to maker Henry Russell whose brickworks were located in North Willoughby operating between 1880-1886.[22] Given the construction dates of the building this brick must have come from a later repair or modification. The other brick (026/#1013) had a very badly mixed and crushed fabric and was poorly fired with multiple exploded ironstone within the fabric. Neither frog was complete but both were similar sized being between 100 and 112mm wide and 69mm thick suggesting they may have come from the same maker.

[22] Gemmel 1986

Figure 3.5: Sandstock brick 026/#1012 with the initials H R stamped in the frog. This was likely made by Henry Russell of North Willoughby circa 1880-1886. 100mm scale. DSC_4094. Russell Workman.

The oval-frogged brick (301/#1041) and edging tile (301/#1032) both came from the clean-up of Area B and so may not relate to structures at the site. The brick was fired to dark pinkish red and had a sandy clay fabric with occasional subangular white clay (1-12mm), and occasional slightly exploded ironstone (6-11mm) inclusions. Clear horizontal linear strikemarks were present on the strike face. The brick was 109mm wide and 74mm thick, but as the end was snapped off the total length could not be recorded. The frog was a narrow 'sausage' oval shaped frog measuring 140mm long and 40mm wide. Generally, this brick dates from 1850 to around 1900. The garden edging tile was well made and decorated (301/#1032). It was 72mm wide, 26mm thick and salt glazed with a 3-petal tulip pattern with alternate gothic arched windows. It dates generally from around 1800 to 1900

3.1.3 MACHINE MADE BRICKS

Machine made bricks generally use two different technologies, dry-pressing and extrusion, with both technologies being represented in the assemblage.

The first dry-press machine in Australia was set up in Melbourne in the mid-1850s, imported from the USA. The adoption of dry-press (DP) machines was slow and sporadic in Australia, as well as the UK with hand moulding still being the predominant technology in some British cities in to the 1870s.[23] In Sydney, the lack of excavation machinery inhibited widespread exploitation of deep shales, more suited to the dry-press method.[24] A patent was secured for the production of DP in NSW by Goodlet and Smith around 1873. The first machine-made machine works in Sydney was founded in St Peters by W.G. Collins in 1878, by 1884

[23] Lewis 2009 6.01.9
[24] Ringer 2008 pp. 42

there were twelve DP brickyards in Sydney and a further seven in Melbourne.[25] By the 1890s machine-made bricks dominated construction in urban Sydney.

Brick extrusion machines were invented in 1836 by the Marquis of Tweeddale and were being advertised specifically to emigrants to Australia by 1839. The earliest known extruded brick manufacture in Australia was in Adelaide in 1840 but they weren't generally made until c.1870.[26] Extruded bricks failed to gain popularity in Australia during the 19th century in part as they produced soft, moist bricks that required a long drying time. To counter this, some extruded bricks were pressed after cutting in order to increase uniformity, add a frog, and increase compression. The technology still didn't gain widespread use though and with the introduction of dry-pressing around 1880 it largely ceased to be used for brick manufacture. It was used for other ceramic based items such as roof tiles and sewerage pipes. The same basic technology was reintroduced utilising modernised kiln techniques which sped up the drying process in the 1950s. The technology was quickly adopted at this time and they continue to be made in the present day.[27]

Three examples of machine-made bricks and one extruded brick were recovered from the site all of which date to after 1870. In Area A bricks were sampled from an extension to the rear of Houses 2 and 3 (006) on plan by 1890s and from part of a large retaining wall that was found to the south of the houses (071). In Area B the extruded example came from a repair to another east to west retaining wall (321) built down slope to the south of the retaining wall close to the house (071) (see Figure 1.1). The machine-made example came from a bulk mixed rubbly fill that was found directly beneath the modern land surface (329).

The example from the rear extension (006/#1001) (BM#01) was fired to a dark red colour and had a mixture of red, white, and blue clay in its fabric in addition to occasional small partially exploded ironstone. It measured 231mm long, 108mm wide and 75mm thick. In the middle of the stockface it had an inverted-hip frog which had a circular mark in the centre which measured 156mm long and 64mm wide. Two other circular protuberances were present at each end of the strikeface. All surfaces of the brick had portland cement mortar adhering to them. This mortar was also separately sampled (006/#1002) (BM#02) and is discussed below.

The other example from Area A (071/#1027) (BM#19) was similar to (006/#1001) indicating that this part of the retaining wall construction, which is interpreted as a repair, may have occurred simultaneously with the construction of the rear extensions to the houses (Figure 3.6). Alternatively, the bricks may have been stored on site from either construction and utilised at a later date. This brick was fired to a purplish brown and had rare white clay flecks in the fabric. The brick measured 224mm long, 109mm wide and 76mm thick, very similar to (006/#1001). It also had an inverted-hip frog and had two circular protuberances on both the stockface and strikeface. The frog was slightly smaller than (006/#1001) measuring 144mm long and 47mm wide.

[25] Ringer 2008 pp. 55

[26] Ringer 2008 p. 265

[27] Ringer 2008 p. 55

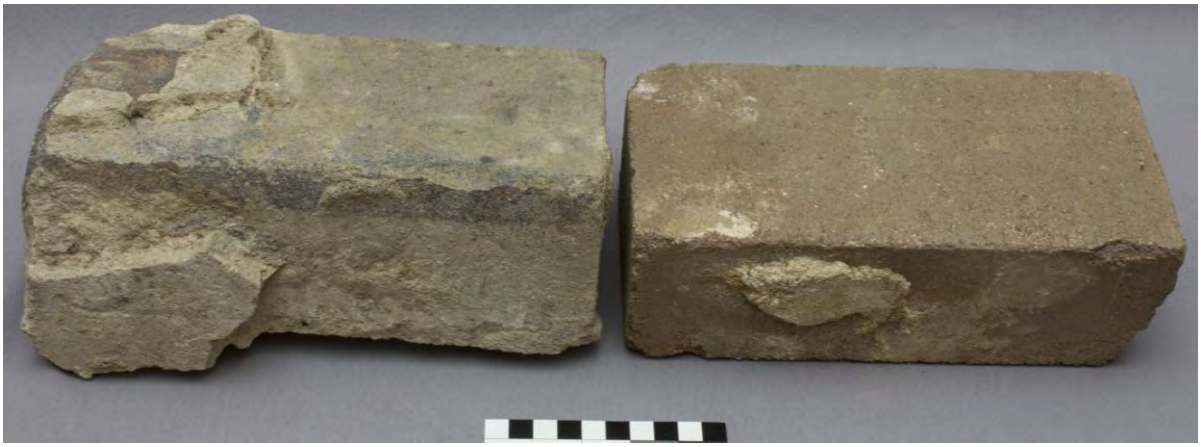

Figure 3.6: Two of the machine-made bricks recovered from Area A. 006/#1001 on the left is from a path to the rear of House 1 and 071/#1027 on the right is from the repair to the retaining wall. Their similarity indicates that these two construction events may have occurred concurrently. 100mm scale. DSC_4097. Russell Workman.

The examples collected from Area B were distinctly different to those in Area A. The example from the southern retaining wall (321/#1034) (BM#10- Figure 3.7) utilised extruded technology and was fired to a pale mustard buff colour and had rare ~1mm subangular ironstone and red clay in its fabric. This brick was 220mm long, 106mm wide and 76mm thick. The frog was rectangular, wide, and shallow, and had concave sides. It was similar to the inverted-hip shape but may have been malformed, measuring 180mm long and 64mm wide with a wider flatter shape. Dark orange patches, caused by uneven firing, were present on both stretchers, further indicating the low overall quality of the brick. The machine-made brick examples from Area B (329/#1037) were fragmentary and came from a bulk fill indicating clearly that they do not relate to any of the structures on the site.

Figure 3.7: Machine-made brick 321/#1034 from the southern retaining wall. The differences between this and those in Figure 3.6 are evident. 100mm scale. DSC_4103. Russell Workman.

3.2 MORTAR, RENDER & PLASTER

Mortar refers to an aggregate-containing paste that is laid wet, but when dry bonds together various other building materials, most commonly bricks and sandstone. Render can often consist of the same material as mortar but refers to its use specifically as a wall covering. Set and plaster both refer to a firm paste without aggregates that is applied as a finish to internal walls and ceilings of a structure. Mortar and render each consist of three basic ingredients: binder, aggregate (almost always sand) and water. Whilst the use of sand and water hasn't changed through time, the type of binder used has and as such, the type of mortar or render can provide an approximate date for a building.

For the majority of the 19th century, two sources of lime (Calcium oxide) were used as the primary mortar and render binder. Lime was initially procured from shells (quicklime) from 1788 onwards. These shells were collected from various riverine sources and from Aboriginal middens. Sporadic supplies of coral lime and limestone were also brought in from Norfolk Island (coral), Newcastle and Tasmania (rock lime) but these were rare. Shell mortar was therefore the dominant binder for the late 18th and early 19th century but was never in bountiful supply. Later rock lime became much more readily available following the introduction of country rail links in the 1870s with shell use dissipating by the 1880s. Mixtures of sandy silty or sandy clay were also occasionally used especially for non-governmental buildings due to the scarcity of lime, especially in the late 18th century.

Portland cement became the dominant binder by the 20th century. Portland cement, named after its apparent resemblance to stones found near Portland, Dorset, UK, was first invented in the early 19th century with a number of related materials being created contemporaneously. Its first known use in Australia was in Melbourne around 1857,[28] with importations steadily increasing throughout the 19th century with the majority of British brands being advertised by 1888,[29] in addition to a large number of German brands. During the 1880s a number of Australian companies attempted to produce portland cement many of which struggled financially to compete with imported cement. The Cullen Bullen Company began to produce portland cement in 1884 with commercial production occurring by 1889. By the start of the 20th century portland cement dominated construction and the use of shell and rock lime mortar was restricted to rural and remote areas only.

A total of 13 individual examples of mortar were catalogued from the site coming from a variety of contexts, although many of the samples came from structures on site (Table 3.2). All three of the main bonding materials – shell, lime, and portland cement– were represented in the assemblage with lime being most represented (MIC 8, 62%), followed by portland cement (MIC 3, 23%) and shell (MIC 2, 15%). Additionally, one combined brick and mortar sample was recovered which is discussed above. Further, eight examples of render including six that had a set-coat were also noted. Of these two utilised lime as the bonder and the remaining six used shell. Finally, five fragments of moulded plaster work, recorded as four items, were recovered from a single context (066).

[28] Lewis 2000 pp7.04.07

[29] Lewis 2000 pp7.04.09

Table 3.2: Summary of the types of mortar and render catalogued and their context.

Context/ Catalogue	BM Sample #	Type	Location
Mortar			
006/#1002	02	Portland cement	Footing House 02 Room C
009/#1004 009/#1005	04 09	Shell Shell	Footing House 01
019/#1008	05	Lime	Demo House 01 Room 01
061/#1016	12	Lime	North Retaining Wall
062/#1017		Portland cement	Clean up
097/#1030	13	Lime	Footing House 02
316/#1033	11	Lime	South Retaining Wall
328/#1035 328/#1036	14 16	Lime Lime	Road wall
330/#1038 330/#1039	18 20	Lime Lime	South Retaining Wall
331/#1040	15	Lime	South Retaining Wall
Render & set			
019/#1006	06	Lime	Demo House 01 Room 01
023/#1011	03	Shell	Footing House 2/3 Verandah
058/#1014 058/#1015	-	Shell Shell	Fill
065/#1018	-	Shell	Fill
066/#1021 066/#1022 066/#1023	-	Shell Shell Shell	Underfloor House 01, Room 02

3.2.1 MORTAR

One example of shell mortar come from a potentially early sandstone footed extension to House 1 (097). Here the mortar (097/#1030) (BM#13) was pale yellowish grey, crumbly and consisted of a coarse sand with rare white shell and charcoal pieces. The other two examples of shell sand mortar (009/#1005) (BM#09) and (009/#1004) (BM#04) came from the footings of the second phase of construction for Houses 2 and 3. It was very firm, brownish yellow and comprised of medium grain sand with rare charcoal flecks and occasional ~1mm white shell pieces. The use of shell sand mortar dates these footings to pre-1880 after which time shell ceased to be used which matches with the history of the site. Lime mortar was recovered from the demolition fill of House 1 Room 1 (019) and here it is characterised as being firm with occasional white flecks and rare charcoal (019/#1008) (BM#05). Figure 3.8 demonstrates these four mortars.

Figure 3.8: Selected mortar examples (l-r). Top row: powdery shell sand 097/#1030, firm shell sand 009/#1005. Bottom row: firm lime sand 009/#1004, 020/#1008. 100mm scale. DSC_4122. Russell Workman.

All other examples of lime sand mortar were recovered from Area B. One example (316/#1033) (BM#11) came from a 16.8m long east-west sandstone retaining wall. The mortar was friable, light grey and was formed of course sand. Examples were also taken from a 22m long north-south retaining wall that ran along the eastern edge of Blues Point Road towards the southern extent of the site. The two examples selected (328/#1035) (BM#14, (328/#1036) (BM#16) were both similar being white with coarse sand and rare white lime flecks present. The difference between the two related to their compaction with (328/#1035) being very hard whereas (328/#1036) was soft and crumbly. This variance is likely caused by preservation conditions and may not reflect a difference in the past. Another area of retaining wall (330) was also encountered on a north to south axis which abutted the east-west wall discussed above (316). This was constructed from a mix of sandstone blocks and machine-made bricks. Two samples of mortar from this wall were analysed (330/#1038) (BM#18), (330/#1039) (BM#20). Both were hard, whiteish grey and included rare subrounded 1-2mm stones. A final example came from a short row of brick work that ran between walls 330 and 316. The mortar from this wall (331/#1040) (BM#15) was very similar to that of wall 330, being hard and whiteish grey. Generally, the use of lime mortar dates the construction of these walls to post-1840. This wall was first evident on plan by 1891.

Portland cement mortar was recovered from three different contexts in Area A. One sample of mortar (006/#1002) (BM#02) came from a machine-made brick structure built to the rear of Houses 2 and 3. This mortar was pale grey to white, and firm consisting of a coarse sand in a portland cement with rare charcoal pieces and rare 1-3mm rounded voids. It was the same mortar seem adhering to the brick from the wall (006/#1001) discussed above. An example also came from the western end of the north retaining wall that was built to the south of the house (061). This portion of the wall was constructed of sandstone.

In this instance the mortar (061/#1016) (BM#12) was grey, firm but friable and consisted of coarse sand with frequent rounded and subrounded voids. This sample (BM sample #12) came from the second course and was likely a repair event. During excavation it was noted that this wall also had areas of shell sand mortar indicating that the analysed example may be a result of later repair. A final example (062/#1017) was collected from the general clean-up of Area A south of House 1 (062). It consisted of a dense grey fine sand in a portland cement. The introduction of portland cement around 1880 dates the use of this material to after that, although in some instances it may have been used to repoint older structures.

3.2.2 RENDER & PLASTER

Of the eight render examples recovered one utilised lime as the bonder with the remaining seven using shell. No examples of portland cement render were found. The use of both shell and lime for render further indicates the mid-century construction date where both materials were used but with lime still in relatively short supply. The examples were found in a variety of contexts.

The single lime example came from the demolition fill of House 1 Room 1 (019) and consisted of a firm grey sand render with rare >1mm voids (019/#1006) (BM#06). The external surface was painted a whiteish beige colour (BSC 381C 367 Manilla[30]) indicating that this may have been the colour the room was painted in the past. Its presence in the demolition fill indicates that it came from that room or another nearby.

Three fragments of shell sand render were recovered from the underfloor deposit of House 1 Room 2 (066). Their presence in the underfloor indicates the shell render may have been stripped off the walls at some point possibly during renovations or that the room was left in a derelict state leading to the render crumbling. All three fragments (066/#1021, 066/#1022, 066/#1023) had the same coarse sand render that contained occasional >1mm white shell fragments, rare 1-2mm charcoal flecks and rare pieces of rounded quartz. Two coats of render were present on each example. Atop the render a thin (~0.5mm) coat of powdery white plaster remained indicating that the samples came from an internal wall and that it had been finished to a fair standard. Two of the fragments also had painted surfaces; (066/#1021) was painted a light-yellow colour (BSC 381C 384 Light Straw) and (066/#1022) was painted a beige pink (BSC 2660 1015 Zephyr[31]). All examples of moulded plaster also came from this underfloor deposit. Each example (066/#1020, 066/#1024, 066/#1025, 066/#1026) consisted of the same beige powdery fabric with fine sand, occasional folding creases and rare ~1mm charcoal fragments. One example (066/#1020) featured two smooth and one rough surface (Figure 3.9).

[30] British Standard Institute BS 381 Colours used in identification, coding and other special purposes

[31] British Standard Institute BS 2660 Colours for building and decorative paints

Figure 3.9: Selected render examples from context 66 (l-r). Top row: shell sand #1021 (2), #1022 (5), #1023. Second row: shell plaster #1020, #1025. Bottom row: shell plaster #1024 (2), #1026. 100mm scale. DSC_4120. Russell Workman.

Two examples were also recovered from (058) which was part of the building fill of House 3. Both examples (058/#1014, 058/#1015) were very similar consisting of a coarse sand shell render with occasional <1mm white shell frags, rare 1-2mm charcoal and rare 1-2mm rounded quartz pieces. Both had a ~1.5mm thick coat of powdery white plaster that contained rare black flecks indicating that they came from an internal wall. On the backside of one example (058/#1014) linear wood impressions were noted. These impressions indicate that the render was laid on wooden formwork. Each example was painted on the interior side; (058/#1014) was painted beige (BSC 381C 366 Light Beige) and (058/#1015) was painted a dark pink (BSC 2660 1020 Daybreak). The deposit they were recovered from is interpreted as being imported to the site as part of the construction of House 3 hence they are unlikely to relate to structures at the site. An example of render (065/#1018) from construction debris relating to the verandah of House 2 and 3 (065) was very similar to (058/#1015) indicating that these two deposits may have come from the same source.

A final example came from the footings of the verandah that ran externally along the southern wall of House 1 (023). This render (023/#1011) (BM#03) was firm but porous and consisted of two layers with a scratch coat and a finish float coat. The first layer was grey and the second yellowish white, but both had the same characteristics including occasional >1mm voids, rare >1mm shell fragments and rare 1-2mm charcoal pieces. The interface between the two layers was indistinct indicating that they may have been laid at a similar time rather than being a later repair. The similarity in fabric between the two samples further supports this.

3.3 SLATE

Slate is a natural occurring fine-grained metamorphic rock that can be easily split into flat sheets. It is most commonly used for roofing but can also be utilised as an early damp coursing at the base of brick or sandstone walls, and for flagging, steps and mantlepieces.

Slate has been used as a building material since at least the 16th century and was perceived as a good roofing material due to its water resistance and durability. It was not included in the materials imported with the First Fleet. It is unclear exactly when the first slate roofs were built in Australia, but it has been suggested that John Piper introduced slate in 1829. By the 1830s a regular (although likely small) supply of roofing slate was imported into Sydney.[32] Vaucluse House, built in stages from 1805 until the 1860s features slate rooves.[33] The north, south and western additions to Argyle Stores in The Rocks, added in 1840 had slate rooves.[34] Numerous suggestions that the original building of Argyle Stores, built in 1829 also had a slate roof including the SHR.[35] In addition to its construction uses, slates for writing were used in the colony from at least 1805 with 'slate and pencils' advertised for sale by E. Wills at this date.[36] Early uses of slate would have utilised material imported from England and Wales, with each quarrying area producing a varied product. Three common sizes of roof slates emerged in the 19th century with the larger tiles being necessarily thicker:[37]

Australian slate primarily comes from two regions of South Australia: Mintaro (near Burra) and Willunga (near Adelaide). Local slate first discovered in SA in 1836[38] with Kangaroo Island slate reported as being suitable for export.[39] By 1838 the Green Hill Stone, Slate and Flag Quarry (Beaumont) was operating[40] although it is unclear whether they were mining slate at this time.

Willunga Slate was discovered in 1840 by Edward Loud adjacent to where the Delabole Quarry was later opened.[41] Loud's attempt to mine this slate didn't last long as it was discovered that the Delabole quarry had better quality. By August 1840, two quarries were in operation in the region and the slate was described as appearing "nearly as good as English slates"[42] By June 1840 slate from Willunga were being exported to Sydney, but the quality wasn't great as it was described as being fragile. In 1841 150,000 roof slates were exported from Willunga to Port Adelaide, Melbourne, and Sydney[43] In the 1850s Port Willunga jetty was built to facilitate trade in slate from SA to the other colonies. By the 1880s better quality slate was found with greater depth and was used.[44] Willunga slate is described as mid grey[45]

[32] Lewis 3.07.17

[33] SHR 00955 Gazette Number 27, p 1546

[34] Clive Lucas, Stapleton & Partners Pty Ltd 2008 *Conservation Management Plan Argyle Stores 12-22 Argyle Street, The Rocks*, prepared for the Sydney Harbour Foreshore Authority

[35] https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053139

[36] *Syd Gaz* 01 Dec 1805 p.1

[37] 1979 Conservation and Restoration of Buildings, Conservation of roofs, Australian Council of National Trusts

[38] Lewis 3.07.12

[39] South Australia, Extracts from the official dispatches of Colonel Light, Surveyor General. P.31

[40] Southern Australian 01/12/1838 p2.

[41] Piddock 2007

[42] Adelaide Chronicle and South Australian Literary Record (SA : 1840 - 1842), Wednesday 26 August 1840, p 3

[43] Piddock 2007

[44] Lewis 2009 3.07.12

[45] Early Roofing, Heritage South Australia.

Slate was recovered from two contexts at the site. A 29mm thick piece with smooth surfaces and one rounded edge (019/#1007) (Figure 3.10) was recovered from the demolition fill of Room 1, House 1 (019). This was likely a mantle or shelf and was likely used in House 1. Slate was also recovered from the underfloor of this room (021). The pieces from this context (021/#1009, 021/#1010) were all small with the largest piece being just 82mm long and each had roughly smoothed surfaces. The three fragments that constitutes (021/#1009) were different colours having both purple and blue grey examples. Whereas the four fragments that make up (021/#1010) were all blue grey. One of these fragments had two ~1mm circular notches which were likely nail holes. These small fragments are likely construction detritus that either fell before the floorboards were laid or accumulated over the use of the room.

Figure 3.10: Slate shelf 019/#1007 from the demolition of House 1 Room 2. This may have been a mantle above a fireplace. 100mm scale. DSC_4109. Russell Workman.

3.4 TILE

The use of tiles for finishing aspects of properties had largely fallen out of fashion in Britain by the 18th century. As part of the Gothic revival in the early 19th century, tile manufacture and use recommenced in the UK and subsequently Australia. Based initially from technology to produce clay buttons, the dry-press method of manufacturing tiles was invented and developed by Herbert Minton in the 1840s following his successful rediscovery of inlaid encaustic tiles in the 1820s-30s. The dust press method allowed mass production of tiles that saw a boom in the later 19th century and established the technology that is still commonplace today.

Three large fragments of glazed dust pressed tiles were recovered from (301) which were recorded collectively as (301/#1031). This context is a general clean-up from across Area B, hence they cannot be ascribed to a particular feature of the site. One of the pieces was

rectangular with a blue glazed surface, sharp corners, and flat sides. On the base were diagonal linear marks and two circular impressions in addition to a maker's mark "18 ENGLAND 00". The other two fragments had a floral design in green and brown with a blue rim on the surface with diagonal linear marks on the base. These all generally date to post 1870 (Figure 3.11).

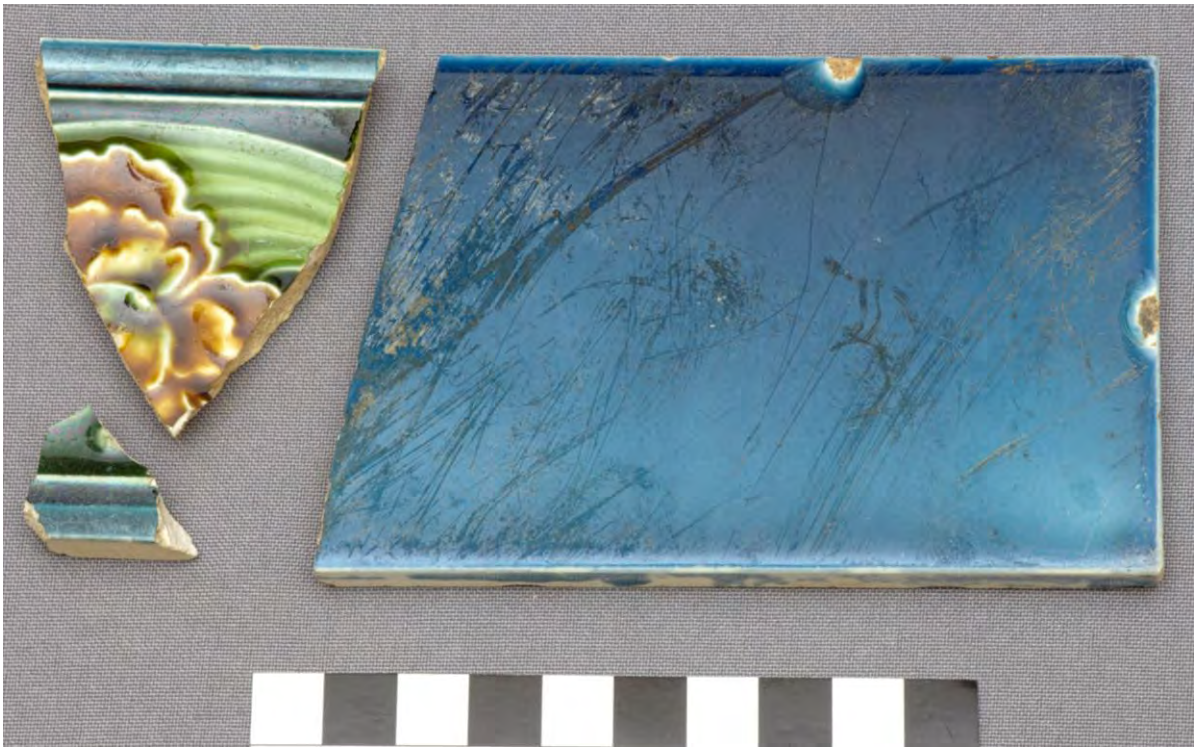

Figure 3.11: The dust pressed glazed tiles recovered at the site 301/#1031. Coming from a bulk fill, they may not relate to the structures at the site. Scale 100mm. DSC_4115. Russell Workman.

4.0 SUMMARY

4.1 SUMMARY

Building materials were categorised from a variety of structural and demolition deposits which provides an indication of the quality of the buildings on the site in the past.

In Area A most of the assemblage comes from House 1. The footings of the house use a combination of shell and lime mortar being used to bond the sandstone indicating a date range of 1840 to 1880 for the initial construction. It is likely to be in the early part of this range due when lime supplies were still irregular. The slate, plaster and render & set fragments from the underfloor deposits of Room 1 (021) and Room 2 (066) indicate that the house had a slate roof and was finished to a high quality with attention paid to decoration. The slate may also have been used for damp proofing of the walls. This is confirmed with similar examples of slate and render coming from the demolition deposits (019, 026). The presence of slate confirms that the structure is likely post-1840. Frogged sandstock bricks were recovered from the demolition also showing that there were possible smaller brick elements to the building such floor pads. Compared to many houses of the date there were relatively few bricks within the demolition deposits indicating they did not play a substantial role in construction. Any sandstock brick elements that were present date to post-1850 and most likely later 19th century. The 'H R' initialled sandstock brick (026/#1012) firmly dates to the 1880s suggesting that a brick feature may have been built at this time or that a repair was undertaken to a pre-existing brick element then. At some point the floorboards within Room 2 were replaced and as the bricks used to support the new floor were both rectangular frogged this happened after 1850. At least two phases of extensions to the house were identified during excavation. The earlier extension (097) used shell mortar so dates to before 1880 and may have been erected contemporaneously with the main house. The later extension (006) used machine-made bricks and Portland cement and so is securely post-1880. The use of portland cement and machine-made bricks on repairs to sandstone retaining walls to the south of the house demonstrate these walls were built by 1880.

The retaining walls in Area B were both showed signs of modification and maintenance. The walls primarily used lime mortar for bonding which places their initial construction to after 1840 with repairs and addition utilising semi-plastic extruded bricks (post-1870) and machine-made bricks (post-1880).

5.0 BIBLIOGRAPHY

5.1 PRIMARY SOURCES

Capper, H. 2018 (1837) South Australia, Extracts from the official dispatches of Colonel Light, Surveyor General. Forgotten Books, P.31

Fowkes, F. (attrib). 1789, sketch & description of the settlement at Sydney Cove. State Library of NSW: London: R. Cribb, 1789. MB2 811.17/1788/1

Historical Records NSW, Vol. 1, Pt. 2 p. 363; Vol. 2, Appendix 2 p.388

Tench, W. 1789, 1793 (1996) A Narrative of the Expedition to Botany Bay, and A Complete Account of the Settlement at Port Jackson, 1996 (ed.) T. Flannery 1788, The Text publishing Company, Melbourne.

5.2 SECONDARY SOURCES

Australian Council of National Trusts 1979 Conservation and Restoration of Buildings, Conservation of roofs

Clive Lucas, Stapleton & Partners Pty Ltd 2008 Conservation Management Plan Argyle Stores 12-22 Argyle Street, The Rocks, prepared for the Sydney Harbour Foreshore Authority

Gemmell, W. 1986, And So We Graft From Six To Six. The Brickmakers of New South Wales, Angus & Robertson, Australia.

Lewis, M., 2009, Australian Building: A Cultural Investigation https://www.mileslewis.net/australian-building/ (accessed 25/02/2020)

Piddock, S. 2007. Slate, slate, everywhere slate: the cultural landscapes of the Willunga slate quarries, South Australia Australasian Historical Archaeology 25

Ringer, R. 2008 The Brickmasters 1788-2008, Dry Press Publishing, Horsley Park

Tomlinson, C., 1854 Cyclopaedia of Useful Arts, Vol 1.

Varman, R.V.J. 1993 Bricks and Nails: Building Materials as Criteria for Dating in Sydney and

Environs from 1788, A Documentary Survey and Assessment of Dating Potential, PhD Thesis, University of Sydney.

SHR 00955 Gazette Number 27, p 1546

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

CERAMIC AND GLASS ARTEFACT REPORT

MAY 2022

Selection of finds from context 337 (L-R): transfer-printed ceramic fragments; two glass bottles.

FINAL REPORT | to **Sydney Metro**

CASEY & LOWE
ARCHAEOLOGY & HERITAGE

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CONTENTS

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Draft Final	11/05/2022	Issue to client	Dr E. Jeanne Harris	Rhian Jones

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

CERAMIC AND GLASS ARTEFACT REPORT

1.0 INTRODUCTION

1.1 BACKGROUND

Ceramic and glass artefacts were recovered as part of the historical archaeological investigation at the Blues Point, Henry Lawson Reserves, Sydney (Figure 1.1). The archaeological investigation was conducted by Casey & Lowe Pty Ltd for AMBS Ecology and Heritage between August and November 2018, as part of the Sydney Metro City & Southwest rail system expansion. The site consisted of two defined areas (Area A and Area B). The site was first occupied by European settlers in the 1810s and different areas of the site were subject to residential, commercial or public use until slated for redevelopment in the 2010s (Section 1.2).

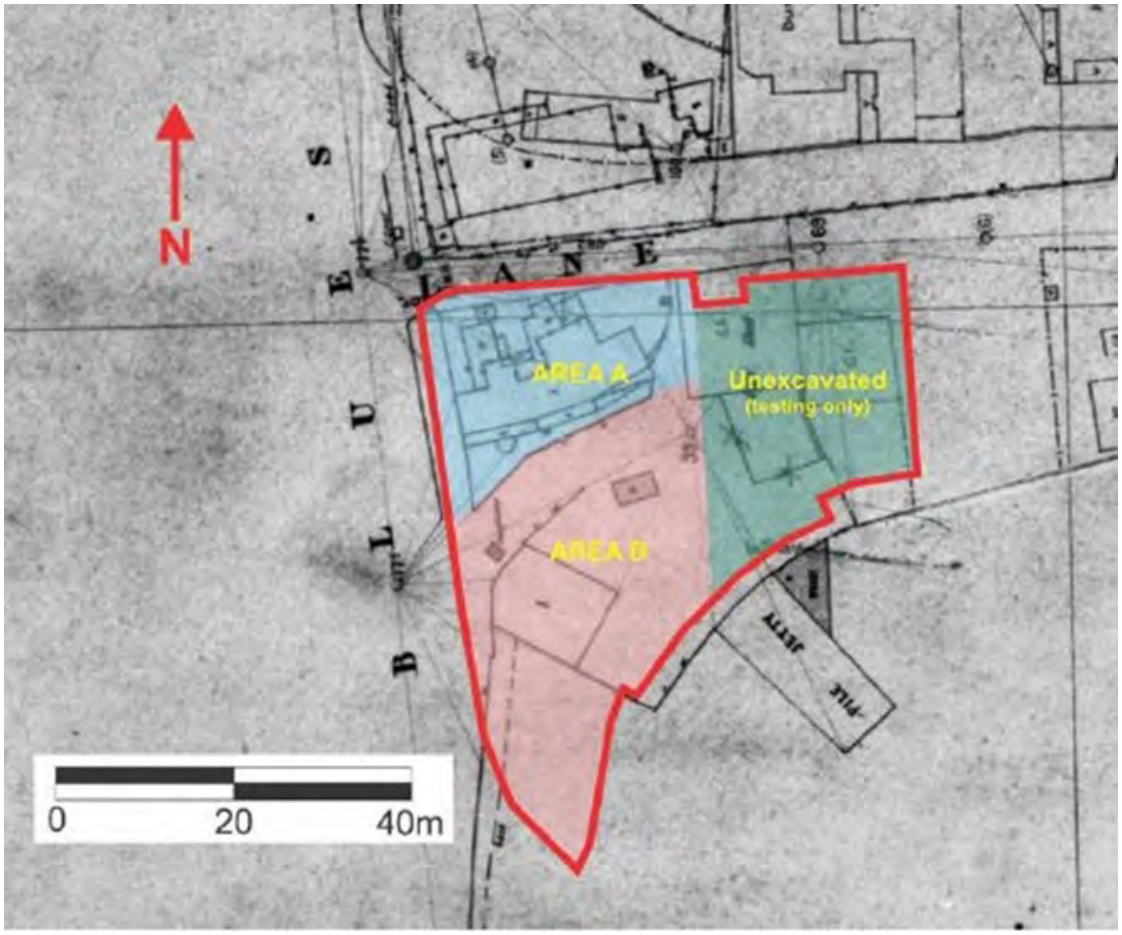

Figure 1.1: The location of the study area outlined in red overlaid onto the North Sydney sewer survey dated 1891. For the archaeological excavation the site was divided into two areas (Area A and Area B). PWDS 1544-S901 Sydney Water. 40m scale.

1.2 ARCHAEOLOGICAL PHASES

Seven phases were identified for the site based on identification of specific structures and historical research (Table 1.1). Temporal analyses of ceramic and glass artefacts are used below to verify the phases as assigned by Casey & Lowe.

Any significant remains associated with Billy Blue's occupation (Phase 3) were assessed as being of potential State significance. The later phases (4–7) of archaeological remains at the site were assessed as being of local heritage significance, including archaeological remains associated with structures relating to the vehicular horse ferry wharf and other wharves, jetties, seawalls, slipways and other boat-building operations.[1]

Table 1.1: Blues Point site phases.

Phase	Date	Description
1	-	Natural landscape
2	-	Aboriginal occupation
3	1817-1860s	Early European occupation, wharf construction
4	1860s-1890s	Wharfage, maritime industries & residential occupation
5	Early 1900s-1930s	Vehicular ferry, upgrades, new businesses
6	1940s-1960s	Demolition of ferry wharf and cottages
7	1960s-2018	Public park

1.3 AIMS OF REPORT

This report analyses ceramic and glass artefacts to provide temporal and functional data to contribute to the interpretation of the Area and Context from which they were recovered. The report is organised by Area and phase of site development (Section 1.2).

1.4 METHODOLOGY

Standard typologies were established for ceramic and glass artefacts as a prelude to chronological reconstruction. Artefacts were then assigned dates based on use-popularity date ranges (merchant records, advertisements and manufacturers' records) and technological advancements (patents and manufacturers' records) (Appendices Table 5.2, Table 5.3). In this manner, artefact types, such as ceramics and glass, provide a wealth of chronological information. Establishing 'standard typologies' relies upon familiarity with the range of material found on many Australian archaeological sites of the past 200 years, most of which are not adequately documented or described; identifying the frequency of different sorts of material that come out of them; and then researching all these different varieties. Artefact type series for bottles and ceramic decorations, developed at Casey & Lowe, include types identified in the collections of numerous excavated sites to assist future research into artefacts. This information contributes data with the potential to further our understanding of their production, market access, the affordability of different items, who was likely to use them, and ultimately how they were used in different time periods and localities. Only then is it possible to work backwards from the artefactual evidence to demonstrate what actually took place in the past.

[1] Casey & Lowe 2021: 12

1.5 REPORT AUTHORSHIP

The analysis results reported in this document were conducted by E. Jeanne Harris.

1.6 OVERVIEW OF ASSEMBLAGE

A total of 23 trenches were excavated across the site. The study area was divided into two excavation areas with the northern third of the site including the houses designated Area A, and the central and southern parts of the site designated Area B. For occupation deposits in Area A, a special excavation methodological approach was taken to recover materials from underfloor deposits within the structures. Where an occupation-related deposit was present, a 1m by 1m grid was set up, and excavated by context in 'spits' of 50mm. For excavation outside occupation underfloor deposits, there was not 100 per cent collection of artefacts, but rather recovery was limited to diagnostic items in for all material types. In this manner temporal information was achieved for 66.1% of the ceramic and glass assemblages and functional classification was established for 65.7% of these assemblages.

A total of 2,031 ceramic and glass artefacts representing 994 minimum items (MIC) were subject to cataloguing and analysis (Appendix Table 5.1). Minimum item counts (MIC) were calculated for fragmented items during cataloguing, and MICs are used throughout this analysis so that counts used in the following discussion represent whole, partial and fragmented items. The methodology used to catalogue artefacts was designed by Dr Mary Casey.[2] A total of 858 ceramic artefacts (474MIC) and 1173 glass artefacts (520MIC) were catalogued by E. Jeanne Harris. Information in the catalogue for these artefacts provided data on shape, function (general and specific), material, description, completeness, joins, manufacturers (Appendix Table 5.1), producer/distributor (Appendix Table 1.1), reuse, and date range. Statistical data entered into the database consisted of a fragment count, minimum item count (MIC), dimensions and weight.

A total of 51 contexts contained ceramic and glass artefacts: 43 contexts from Area A and 8 from Area B. Selected for artefact analysis are contexts that meet select criteria. The first factor considered was assemblage size. Approximately 45 per cent of contexts (n=23) contained five or fewer artefacts (MIC), which is an insufficient count to accurately establish either temporal placement or site use (function). These contexts are not discussed in the context analysis in Section 2.0, but data for these contexts are represented in Appendix Table 5.3. Also excluded from the analysis discussion are contexts that represent general clean-up activities as datable artefacts represent all phases of site occupation, Area A (001, 085) and Area B (301). Clean-up contexts in specific regions of the site are summarised within the Area and Phase discussions.

For all contexts, the relative frequencies of functional groups by Area and Phase are shown in Appendix Table 5.4. The graphic overviews of functional groups for ceramics (Figure 1.2) and glass (Figure 1.3) show that the majority of ceramic artefacts (66.03%) are food-related, while for glass artefacts, beverage bottles represent the highest relative frequency (34.23%). A quantitative and chronological summary of each context is shown in Appendix Table 5.5.

[2] Casey 2004

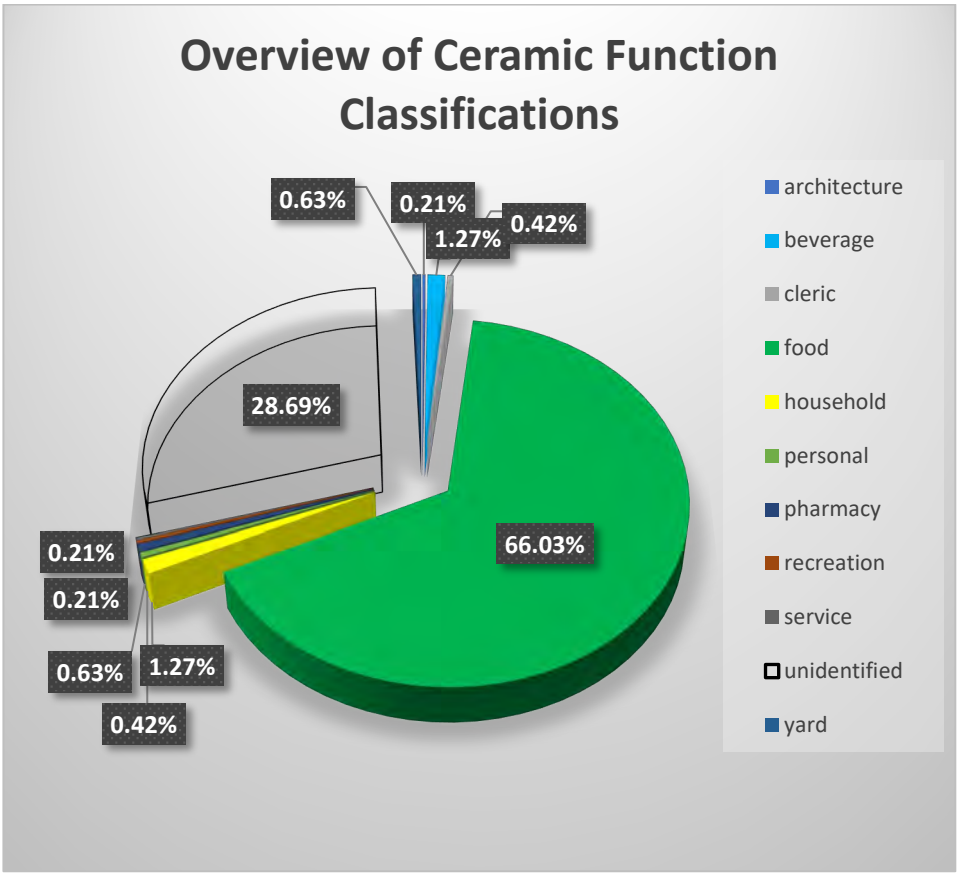

Figure 1.2: An overview of ceramic functional group relative frequencies for the entire Blues Point Site.

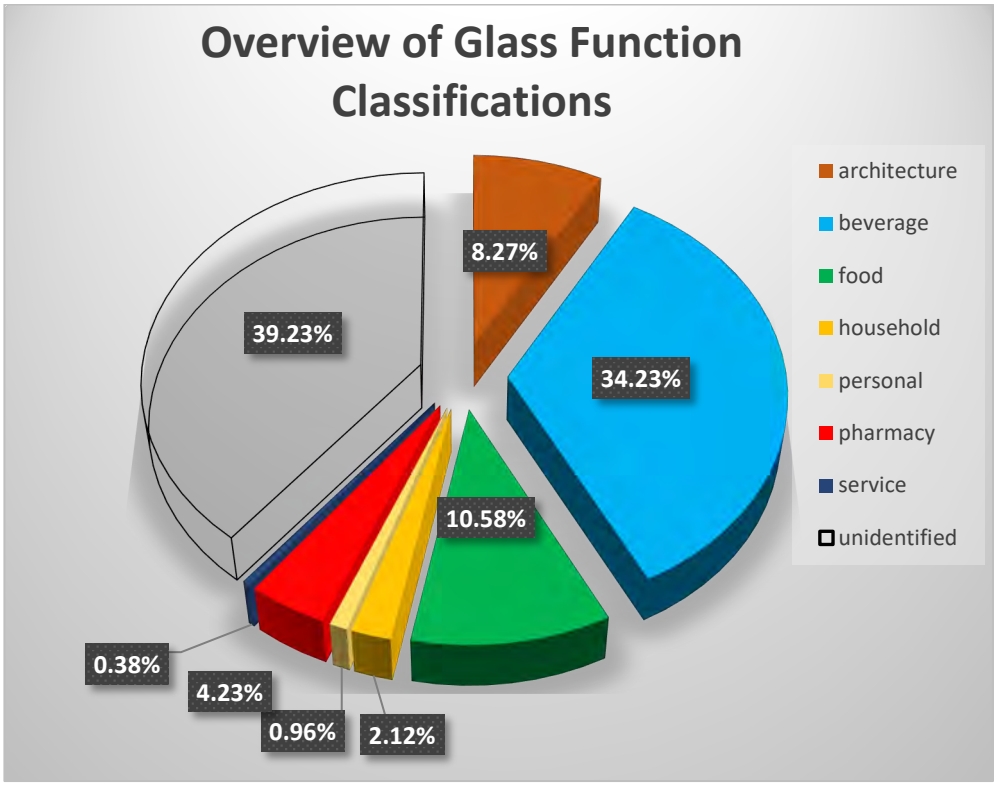

Figure 1.3: An overview of glass functional group relative frequencies for the entire Blues Point Site.

2.0 CONTEXT ANALYSIS

2.1 ANALYSIS RESULTS METHODS

The establishment of typologies, chronologies and function for ceramic and glass artefact are background for analysing the artefact collection. The overview of ceramic and glass artefacts is not intended as an analysis of the collection, for the collection is composed of a series of depositional layers, representing the site development over time. Artefacts cannot be lumped together in one mega-assemblage that provides any substantive analysis that will contribute to the reconstruction and understanding of the site's history.

Standard context analysis generally involves examining contexts for both functional and temporal data that contribute to the site's interpretation. For clarity of presentation, the following conventions have been observed while writing analysis results:

- Artefact quantities represent minimum item counts (MIC).
- All artefact quantities are represented as numerals.
- All relative frequencies are designated by "%".
- Context numbers are represented in brackets "( )".
- Throughout this report, the term "artefacts" or "MIC" refers to ceramic and glass artefacts only.

The context analysis's primary focus is to assess the temporal data to determine deposits' consistency with site development phases. The contexts represent a range of deposits from those associated with structures, such as houses, wharves and wall, to work surfaces and potential levelling fill. Area, Phase and Context organise the following discussion. Deposit contexts are grouped in temporal phases that were determined by excavation results. A calculated date range was established for each context. However, temporal data for of ceramics and glass may differ from excavation results.

2.1.1 ADDRESSING RESEARCH QUESTIONS

The research design included themes and questions that were proposed to address each theme. The themes address residential housing and material culture, ship and boat building, maritime infrastructure, industrial archaeology and landscape archaeology.[3]

Analysis of ceramic and glass artefacts contributes to the overall analysis of the artefact collection to assist in addressing research questions associated with these themes. The principle analytical approaches are:

- Temporal data analysis where possible to identify an association with specific phases of site development.
- Functional analysis was conducted for each phase of site formation to develop patterns of site use that may contribute to the identification of activities on or around the site.

Fifty context deposits contained ceramic and/or glass artefacts. The paucity of artefacts for 26 contexts with five or fewer MIC precluded analysis. A summary table with temporal and quantitative data for these contexts is presented in Appendix Table 5.4. The analysis results for 24 contexts are presented in two sub-sections. The first sub-section is the analysis of temporal data for each context and is grouped by Area and Phase. The second sub-section considers the functional interpretation of artefacts.

[3] Casey & Lowe 2021, pp. 13–19.

2.2 TEMPORAL ANALYSIS

Temporal analysis uses data for ceramic and glass artefacts to calculate a hypothetical date range. For comparative purposes, Table 2.1 presents the phase date range that each context was assigned based on field excavation results, and the hypothetical date range calculated for each based on ceramic and glass artefacts.

Table 2.1: Comparison of phase date ranges with calculated date ranges for ceramics and glass artefacts.

Area	Phase	Phase Date Range	Context	Calculated Date Range
A	3	1817-1860s	029	1848–1853
		1817-1860s	031	1845–1870
		1817-1860s	032	1848–1853
		1817-1860s	033	1830 *TPQ*
	4.1	1880s-1890s	005	1845–1870
		1880s-1890s	010	1845–1870
		1880s-1890s	058	1830–1870
		1880s-1890s	065	1842–1870
		1880s-1890s	078	1820–1930
		1880s-1890s	079	1830–1890
		1880s-1890s	081	1830–1850
	4.2	1860S-1870S	024	1810–1890
		1860S-1870S	059	1842–1870
	5	1900s-1930s	021	1840–1930
		1900s-1930s	066	1870–1900
		1900s-1930s	069	1850–1930
		1900s-1930s	090	1889–1932
	6	1940s-1960s	008	1950 *TPQ*
		1940s-1960s	011	1920 *TPQ*
		1940s-1960s	025	1845–1870
		1940s-1960s	038	1830 *TPQ*
	7	1960s-2018	062	1830TPQ
B	4.2	1860S-1870S	330	1845–1890
	5	1900s-1930s	323	1820–1900
		1900s-1930s	337	1820–1900
	7	1960s-2018	317	1830–1950
		1960s-2018	329	1930–1970

2.3 AREA A

Area A is the northern third of the site that included houses once owned by John Stevens (Figure 1.1).

2.3.1 PHASE 3 – 1817-1860S – EARLY EUROPEAN OCCUPATION, WHARF CONSTRUCTION

Context (031), a fill deposit below footings of Room E, and Room 1 in House 1 that contained 10 MIC. The 1845–1870 date range, which is consistent with Phase 3 site occupation, is based on key temporal indicators: pearlware (1780–1870) and flow blue transfer-printed fine earthenware (1845–1930). Also, there is the top portion of a stoneware bottle that is similar in shape and paste to those manufacture by Jonathan Leak (1822–1838) (Figure 2.1).

Figure 2.1: Early 19th-century stoneware bottle from 031/#5347. 100mm scale. DSC_4290. Russell Workman.

Contexts (029, 032), these two contexts were located in House 2, Room 3. Context (029) was black sandy fill deposit that contained four artefacts. Context (032) was historic A-horizon fill deposit that contained two MIC. Joins were achieved for sherds of a Chinese Export ginger jar recovered from each context that indicate the deposits were contemporaneous (Figure 2.2). While the paucity of artefacts precludes in depth analysis, the temporal data for these artefacts suggests an 1848–1853 date range that is consistent with Phase 3 site occupation. The Chinese Export porcelain jar was decorated with Canton Pavilion type pattern (1785–1853). Furthermore, from Context (032) there was a Udolpho Wolfe's Aromatic Schnapps bottle (1848 *TPQ*).

Figure 2.2: A hand-painted Chinese Export ginger jar from modified historic sands (029, 032). 100mm scale. DSC_4381. Russell Workman.

Context (033), bulk rubble fill (033) in drainage channel (108), located in House 2, Room 3, predates the construction of House 2. All artefacts (6 MIC) have a post-date 1830, which is consistent with a Phase 3 deposition.

2.3.2 PHASE 4.2 – 1860S-1870S, CONSTRUCTION AND EARLY OCCUPATION OF TWO HOUSES BUILT BY STEVENS C.1869

Context (024), a black silty sand deposit at east end of the verandah of House 3 contained 132 MIC. Approximately 64% of the artefacts (85) provided temporal data. Key temporal indicators include three dip-moulded beer/wine bottles (1820–1870), a dipped and rouletted pearlware (1770–1870), edge-decorated pearlware plate (1802–1832), a dipped/dendritic mocha vessel (1810 *TPQ*), 15 flow blue/black tableware items (1845 *TPQ*) and one decalcomania decorated tableware item (1890 *TPQ*). While several of these items have *TPQ*s in the late 18th or early 19th century, their date ranges are consistent with Phase 4.2 site occupation.

Context (059), a yellowish silty sand deposit in Houses 1, Room E was located under demolition rubble (011). It contained 12 MIC. A key temporal indicator is a *Holloway's* ointment pot that has an 1842–1860 date range (Figure 2.3). Other artefacts that contributed to an 1842–1870 calculated date range are crown window glass (1870 *TAQ)* and a club-sauce type stopper (1840s *TPQ*).

Figure 2.3: Patent Holloway ointment pot 059/#5089. 100mm scale. DSC_4393. Russell Workman.

2.3.3 PHASE 4.1 – 1880S-1890S, ADDITIONS TO THE HOUSES, LAND RECLAMATION, WITH REPAIRS AND MODIFICATIONS TO THE RETAINING WALLS AND THE CONSTRUCTION OF STEVENS' JETTY AND MARITIME INFRASTRUCUTURE.

Context (005), black silty land fill that is the same as House 3, verandah (024) and Room 4 (058) and contained 17 MIC. An 1845–1870 date range is indicated based on key temporal indicators: pearlware (1780–1870), edgeware (unscalloped rim, impressed curved lines) (1840–1857) and blue/black flow blue transfer-printed fine earthenware (1845 *TPQ*). Results of temporal analysis suggest that the artefacts from this deposit predate Phase 4.1 site occupation.

Context (010), a black silty sand deposit inside House 1 contained 27 MIC. A calculated 1845–1870 date range was based on key temporal data: pearlware (1780–1870), purple and brown transfer-printed tableware (1840–1930) and flow purple, blue and black transfer-printed tableware (1845TPQ). Results of temporal analysis suggest that the artefacts from this deposit predate Phase 4.1 site occupation.

Context (058), this context is an underfloor deposit in House 3, Room 4 that was excavated in grid squares. It contained 35 MIC. A calculated 1830–1870 date range is based on key temporal indicators, including a dip-moulded beer/wine bottle (1780–1830), a pearlware plate (1780–1870) and flow-blue transfer-printed tableware vessels (1845TPQ). Joins were achieved for sherds of a blue transfer-printed fine earthenware can/tankard from Square A6, Spit 4, and Square A7, Spit 3. Results of temporal analysis suggest that the artefacts from this deposit predate Phase 4.1 site occupation.

Context (065), a grey sand deposit in House 3, east verandah contained 24 MIC. A calculated date range 1842–1930 is based key temporal indicators: a Minton & Co maker's mark (1842–1930) and a purple transfer-printed pearlware tableware item (1840–1870). This date range is consistent with Phase 4.1 site occupation.

Context (078), upper deposit in the southern portion of House 3, Room 4 contained 12 MIC. The majority of artefacts (6) have wide 1830–1930 date range. There is one dip-moulded

beer/wine bottle (1780–1820) and one flow blue transfer-printed sherd (1845TPQ) Results of temporal analysis suggest deposit (078) may be a mixed deposit which is only partially consistent with Phase 4.1 site occupation.

Context (079), lower deposit in House 3, Room 4 contained 59 MIC. The majority of artefacts provided temporal data. (43MIC). Key temporal indicators include a dip mould beer/wine bottle (1780–1830), a dipped mocha pearlware cup/bowl (1786–1870), a ceramic tableware item made by *E. & C. Challinor* (1842–1891), seven flow blue transfer-printed tableware items (1845TPQ). While these date ranges span the entire 19th century, with the exception of the beer/wine bottle all have date ranges that are consistent with Phase 4.1 site occupation.

Context (081), grey sand and rubble deposit in House 3, Room 4 contained 9 MIC. The 1830–1850 calculated date range is based on key temporal indicators: an 'old blue' transfer-printed vessel (180–1830), a dip-moulded beer/wine bottle (1820–1850) and red transfer-printed tableware item (1840–1930).

2.3.4 PHASE 5 – EARLY 1900S-1930S – VEHICULAR FERRY, UPGRADES, NEW BUSINESSES

Context (021), a thin lens of brown silt underfloor deposit in House 1, Room 1 that was excavated in grid squares. It contained 16 MIC. The 1840–1930 calculated date range is based on gilded porcelain saucers (1820TPQ) and a green transfer-printed cup (1840–1930).

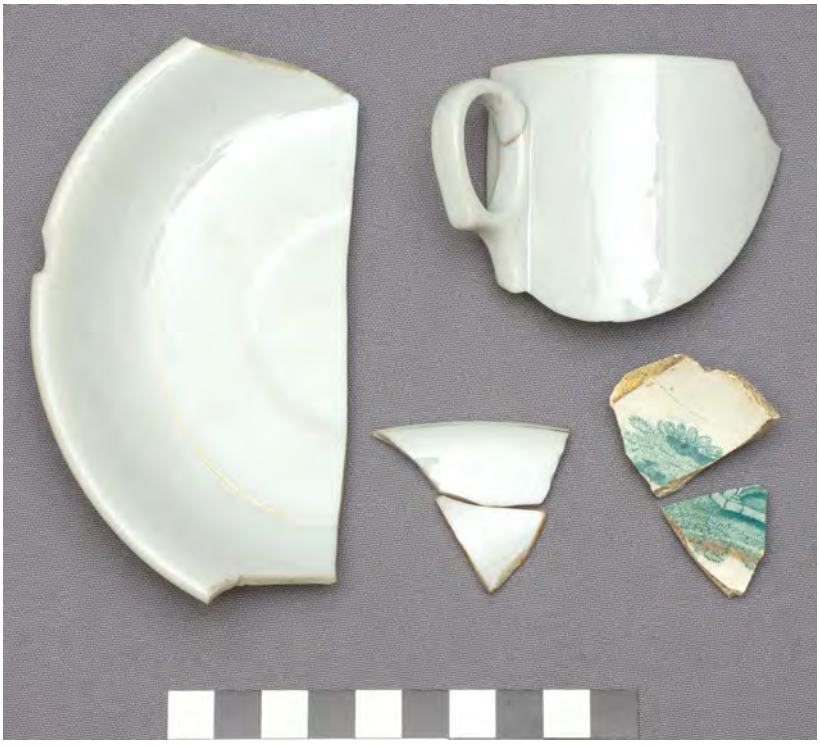

Figure 2.4: Ceramics from context 21 (l-r). Top row: saucer #5363, mug #5365. Bottom row: saucer #5364 (2), green transfer-printed cup #5362 (2). 100mm scale. DSC_4377. Russell Workman.

Context (066), was an underfloor deposit in House 1, Room 2 that was excavated in grid squares. It contained 176 MIC. The fragmentary state of ceramic and glass artefacts from this underfloor deposit prevented the temporal placement for approximately 64% of these artefacts. The ceramic sub-assemblage includes a temporal range of items from a smear-glazed relief moulded vessel (1800 *TPQ*) to a hard paste relief painted ornamental vessel

that probably dates from the early 20th century (Figure 2.5). However, the calculated 1848–1900 date range occupation is based on key temporal indicators for from the glass sub-assemblage, including:

- *Drake & Co Irish Moss* bottle 1870 *TPQ*
- *Bristol's Pills* bottle 1870–1920
- *George Whybrow* stopper 1840–1899
- *Wolfe's Aromatic Schnapps* bottle 1848 *TPQ*

This date range is consistent with Phase 5 site.

Joins were achieved for fragments of a light green bottle from Square C3, Spit 3 and Square C/D 4, Spit 3. Also joins were achieved for an unidentified pink and white flashed ornamental object from several grid squares within House 1, Room 2 (A2, Spit 1; B1, Spit 3; B2, Spit 1; C2, Spit 4; C3, Spit 3; and D1, Spit 2), which suggest that the fragmented artefacts from this deposit were scattered throughout the room.

Figure 2.5: Selected ceramic finds from context 66 (l-r). Smear glazed vessel #5277, pie vent #5261, ornamental dish #5259. 100mm scale. DSC_4292. Russell Workman.

Context (069), the fill of fireplace (020) in House 1, Room 2 is considered to be the same as underfloor deposit (066). However, artefacts from this deposit have a calculated 1850 –1930 date range. Key temporal indicators include a dip-mould beer/wine bottle (down tooled lip shape and down tooled string rim) (1820–1850) and flow blue transfer-printed fine earthenware vessel (1845 *TPQ*).

Context (090), fill of cistern (087) contained 22 MIC. A calculated 1889–1932 date range was based on key temporal indicators: *Botany Glassworks* bottle (1889–1906) and fine earthenware saucer made by *W. Baker & Co* (1839–1932) (Figure 2.6).

Figure 2.6: Selected glass and ceramic from context 90 (l-r). Cordelia green saucer #5322, Botany Glass Works Codd patent neck and base #101, post bottom mould neck and base #100. 100mm scale. DSC_4404. Russell Workman.

2.3.5 PHASE 6 – 1940S-1960S – DEMOLITION OF FERRY WHARF AND COTTAGES

Context (008), black sandy silt below yard fill (015) contained 10 MIC. A 1950 *TPQ* for the deposit is based on two machine-made *Australian Glass Manufacturers* bottles, one with an embossed 1950 date on base.

Context (011), demolition fill in Houses 2 & 3, Rooms A & B contained 22 MIC. While the deposit included early artefacts, such as pearlware (1780–1870) it also contained a machine-made brown beer bottle (1920 *TPQ*).

Joins were accomplished between sherds of a child's moralising plate from this deposit and general clean-up (085). Other joins were achieved between sherds of a small hand painted hard paste porcelain jug (possibly for cream) from this deposit and Trench 18 deposit (082), House 2, Room 8.

Context (025), general clean-up in front of the verandah for House 2/3 contained 11 MIC. A calculated 1845–1870 date range was based on key temporal indictors: a flow blue fine earthenware vessel (1845TPQ) and a dip-mould beer/wine bottle (1870TAQ).

Context (038), the clean-up at the west end of the verandah contained 17 MIC. Clean-up activities produce artefacts that date from the early 19th century. Key temporal indicators are an edge decorated plate fine earthenware plate (1813–1834), a Bristol glaze bottle (1835 *TPQ*) and flow blue transfer-printed fine earthenware vessel (1845 *TPQ).*

2.3.6 PHASE 7 – 1960S-2018 – PUBLIC PARK

Context (062), general clean-up from south of House 1 exterior to retaining wall (061) contained 19 MIC. Artefacts collected during clean-up activities date from the early-to mid 19th century and include 'Old Blue' transfer-printed pearlware (1780–1830) to flow purple and flow blue transfer-printed vessels (1845 *TPQ*).

2.4 AREA B

Area B represents the central and southern portion of the site (Figure 1.1). It contained retaining walls, roads and reclamation fills.

2.4.1 PHASE 4.2 – 1860S-1870S, CONSTRUCTION AND EARLY OCCUPATION OF TWO HOUSES BUILT BY STEVENS C.1869

Context (330), this deposit is associated with the southern retaining wall. It contained 10 MIC. A calculated 1845–1890 date range based on key temporal indictors: pearlware (1780–1870), a semivitreous earthenware vessel (1845–1890) and a decalcomania decorated fine earthenware saucer (1890 *TPQ*).

2.4.2 PHASE 5 – EARLY 1900S-1930S – VEHICULAR FERRY, UPGRADES, NEW BUSINESSES

Context (323), clean-up artefacts recovered after the removal of the bitumen surface (307). It contained 8 MIC. A calculated 1820–1900 date range is based on key temporal information: a *Josephson's Ointment* pot (1866–1900) and a *Port Dundas* stoneware stout bottle (1850–1932) (Figure 2.7).

Figure 2.7: Selected ceramics from context 323 (l-r). Bristol glazed stout bottle #5043, patent pharmaceutical lid #5040. 100mm scale. DSC_4409. Russell Workman.

Context (337), the black silty sand with charcoal from Trench 21 contained 59 MIC. A calculated 1820–1880 date range is based on dip-moulded beer/wine bottles (1780–1820), press-moulded glass tableware (1820 *TPQ*), *Barry's Tricopherous for Hair and Skin* bottle (1845 *TPQ*), a *J. Ross* glass bottle (1867-1893), an *E. Breffit & Co* bottle (1863–1913) a *Lamont* patented bottle (1876-1900s) and an *Eno's Fruit Salts* bottle (1880 *T*PQ) (Figure 2.8).

Figure 2.8: Selected glass bottles from context 337 (l-r). Barry's *Tricopherous for Hair and Skin* bottle #70, Eno's *Fruit Salts* bottle #73. 100mm scale. DSC_4287. Russell Workman.

2.4.3 PHASE 7 – 1960S-2018 – PUBLIC PARK

Context (301), this is a clean-up context across Area B that yielded 84MIC. Artefacts represent a temporal mix of items including a pearlware plate (1780–1830), dip moulded beer/wine bottles (1820–1870), an *H.* Kennedy stoneware bottle (1866–1929), *N.S.W Bottle Company* beer bottle (1909–1980), and a *Shelley* soft drink bottle (1930–1978).

Context (317), lower leveling fill under leveling fill (315). It contained 10 MIC. This deposit most likely represents mixed secondary deposit that was redeposited as leveling fill. Datable artefacts range from creamware (1760–1830) and pearlware (1780–1870) to a 1950s *Goulburn Cordials* bottle.

Context (329), rubble fill abutting and partially covering wall (333). It contained 20 MIC. The majority of artefacts are bottles (18) that post-date 1920 and most exhibit marks (16) for datable manufacturers or products that have *TPQ*s between 1930 and 1970.

2.5 FUNCTIONAL ANALYSIS

The paucity of ceramic and glass artefacts from nearly half of the deposits precluded functional analysis of those contexts. Relative frequencies of functional groups for each context are shown in Appendix Table 5.5. Therefore, functional analysis results are presented in such a way as to look for trends in areas and phases of site development. Two artefact types, in particular, are analysed here: bottles and tableware.

2.5.1 BOTTLE ANALYSIS

Bottles represent approximately 39% of the site's artefact collection (389MIC). Approximately 57% of bottles are functionally classified. Bottles were categorised into five identified functional groups (Figure 2.10). All personal-related bottles are for perfume, and beyond being evidence of personal hygiene activities, not much can be noted.

2.5.1.1 FOOD-RELATED BOTTLES

Until the late 19th-century, commercially package-preserved foods in glass containers were not viable due to the lack of technology to seal bottles sufficiently to prevent bacteria's growth.[4] Therefore, it is common to find that commercially packaged glass containers recovered during archaeological investigations are limited to food bottles for condiments, such as oil and vinegar (5MIC) and 'pickled' products and chutneys (3MIC).

2.5.1.2 BEVERAGE BOTTLES

Beverage containers represent 22.6% of the site's ceramic and glass assemblages. Figure 2.10 and Table 2.2 shows the 12 identified types of beverage bottles in the collection. Alcohol-related beverage bottles represent the majority of beverage containers (87%). Bottles classified as 'alcohol' generally represent dark green glass bottles for which specific form could not be identified amongst the options of beer/wine, champagne, schnapps and wine. The majority of beer/wine bottles (32MIC) are dip moulded forms (24MIC), and 3-part shoulder hinge moulded forms (5MIC).

[4] Milner 2004:30

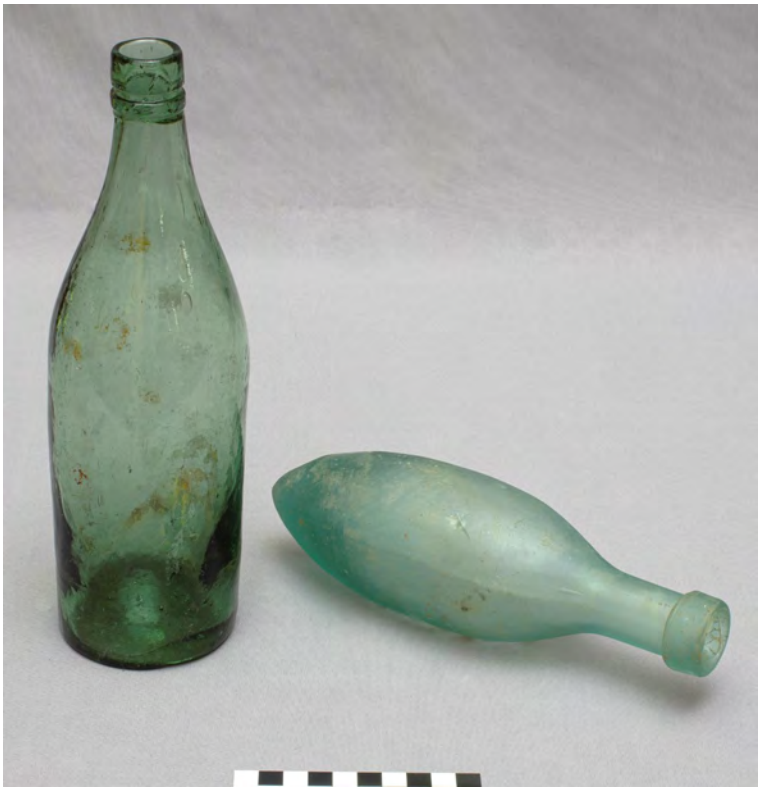

Figure 2.9: Whole bottles (l-r). Alcohol bottle 301/#1, torpedo type bottle 067/#408. 100mm scale. DSC_4408. Russell Workman.

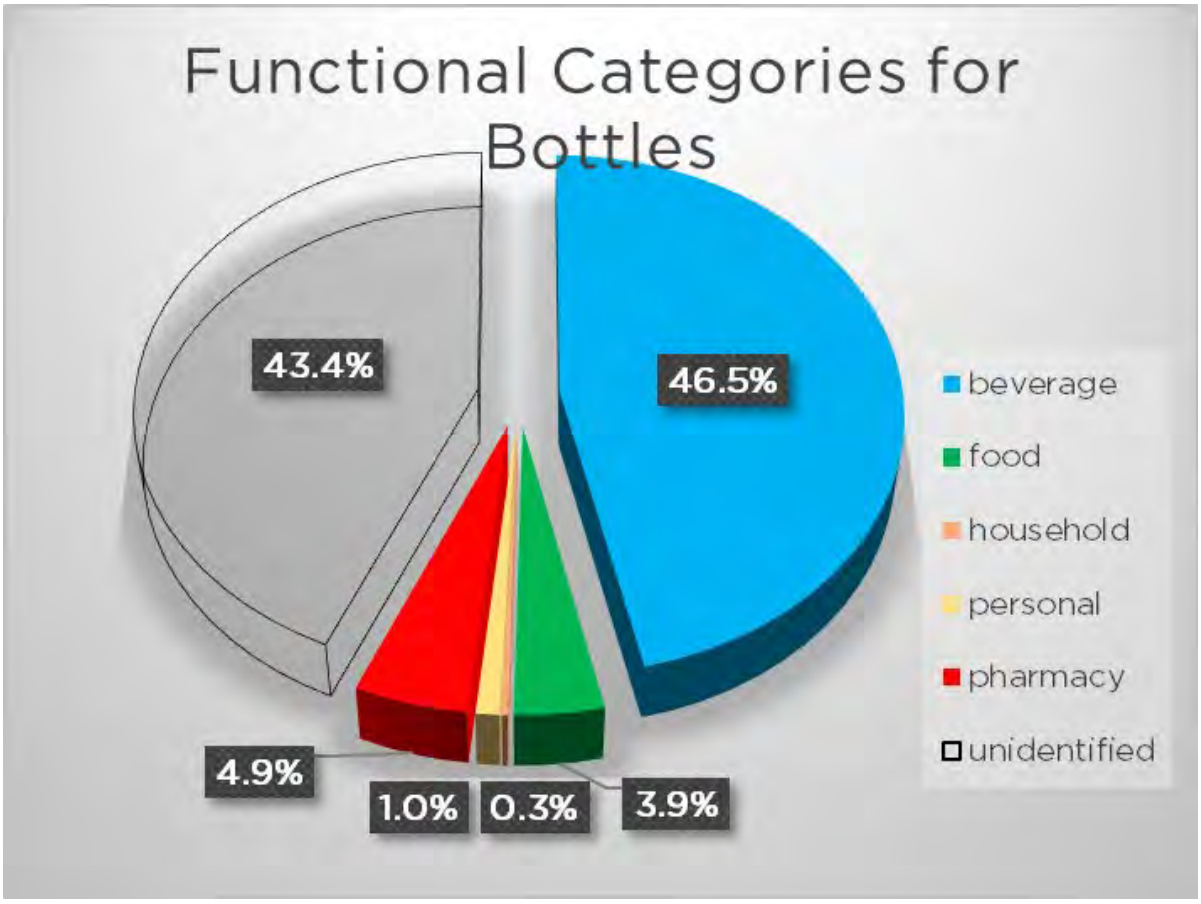

Figure 2.10: Functional Classification of Bottles from Blues Point Site.

Table 2.2: Quantitative data for beverage bottles.

Beverage Type	%	Total
alcohol	37.0%	67
beer	8.3%	15
beer/wine	17.7%	32
champagne	7.2%	13
cordial	0.6%	1
schnapps	11.6%	21
stout	1.1%	2
wine	1.7%	3
ginger beer	2.2%	4
milk	2.8%	5
aerated water	7.2%	13
soft drink	2.8%	5
	TOTAL	181

By the mid-19th century, aerated water had become increasingly popular throughout New South Wales.[5] During the 19th century, Jones (2009) recorded over 600 aerated water manufactures in Sydney and surrounding suburbs and approximately 80% of these firms (480) were established after 1860.[6] This change in beverage consumption patterns was due in part to technological advancements in manufacturing the product and the bottles that contained them and the increased influences of the temperance movement in 19th-century Australia.[7] However, as Table 2.3 shows, the increased market for aerated waters had little effect on the beverage consumption patterns until the 20th century.

Table 2.3: Comparison of relative frequencies for alcoholic beverages versus non-alcoholic beverages by area and phase.

Area	Phase	Date Range	Spirits & Beer/Wine	Aerated Water /Soft Drink	Total MIC
A	3	1817-1860s	90.0%	10.0%	10
	4.2	1860s-1870s	89.7%	10.3%	29
	4.1	1880s-1890s	92.9%	7.1%	42
	5	Early 1900s-1930s	95.7%	4.3%	23
	6	1940s-1960s	100.0%	-	9
	7	1960s-2018	81.8%	18.2%	11
B	4.2	1860s-1870s	100.0%	-	3
	5	Early 1900s-1930s	75.0%	25.0%	12
	7	1960s-2018	73.5%	26.5%	34

2.5.1.3 PHARMACY BOTTLES

Pharmacy bottles (25MIC) represent the second-highest percentage of functionally classified bottles (4.9%). There are four basic types of pharmacy bottles (Figure 2.11). Patent medicine bottles represent the highest relative frequency of classified pharmacy bottles (48%) and represent treatments for several ailments (Table 2.4). Observation on these medicines include:

[5] Emmins 1991:8–10

[6] Jones 2009

[7] Blocker et al. 2003b:570

- Royal Infant Preservative contained opiates that were more likely to subdue the infant than treating any ailments.
- Barry's hair restorative contained a capsicum derivative that increasing the blood supply to the dermal papillae. The increased blood flow was thought to restore hair follicles.
- California Fig Syrup was 25% senna, a tropical herb with well-recognized laxative effects
- During the 19th century, Irish Moss cough remedies also contained opiates which are known cough suppressants.
- Eno's Fruit Salts were marketed during the 19th century as a laxative; however, the ingredients (sodium carbonate, Sodium bicarbonate and citric acid) are more akin to a digestive aide than a purgative.
- Holloway's ointment was an herbal remedy with no apparent medicinal properties to treat the ailments it claimed to cure.

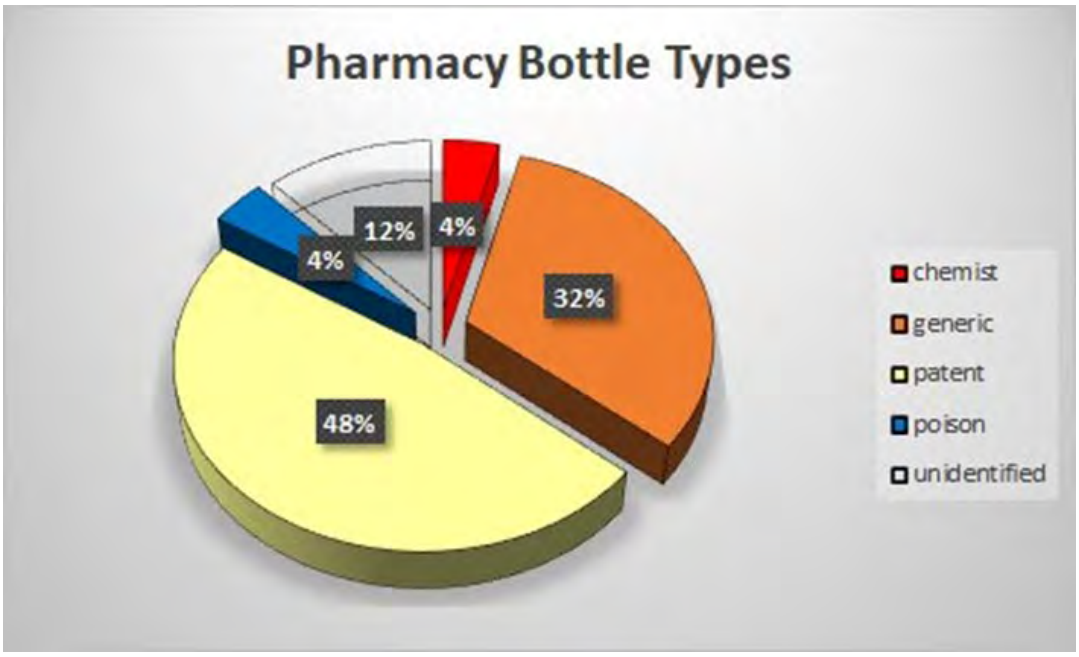

Figure 2.11: Functional Classification of Pharmacy Bottles from Blues Point Site.

Table 2.4: Branded patent medicines

Patent Medicine Brand Name	Product Type
Atikenson & Barker - Royal Infant Preservative	cure-all
BARRYS TRICOPHEROUS FOR THE SKIN AND HAIR	hair restorative
California Fig Syrup Co	laxative
Vaseline (Chesebrough MFG Co.)	burn and chaffing ointment
Drake's Irish Moss	cough remedy
Eno's Fruit Salts	laxative
Holloway's for the cure of gout and rheumatism	pain ointment
Josephson's Ointment	antiseptic ointment

2.5.2 FOOD-RELATED CERAMICS

Approximately 66% (311MIC) of ceramic artefacts are food-related artefacts. As food storage containers are detailed above, they are omitted from this discussion. Within that

functional group there are sub-categories of food-service, tableware and teaware and 80% of food-related artefacts (249MIC) were identified in one of these sub-categories. Food-service items consist primarily of bowls, platters, jugs and miscellaneous serving items. Tableware consists of plates, individual-sized bowls, slop bowls, mugs, cans, tankards and egg cups. Teaware is mostly cup and saucer but also includes teapots, creamers and sugar bowls (Table 2.5).

Table 2.5: Relative frequencies of food-related ceramics by area, phase and context.

Area	Phase	Context	Service	Tableware	Tea	Unidentified	Total MIC
A	-	085	-	100.0%	-	-	6
	3	013	-	100.0%	-	-	3
		014	100.0%	-	-	-	1
		031	-	75.0%	25.0%	-	4
		033	33.3%	66.7%	-	-	3
		103	-	50.0%	50.0%	-	2
	4	330	-	71.4%	14.3%	14.3%	7
	4.1	005	-	81.8%	9.1%	9.1%	11
		010	-	54.5%	9.1%	36.4%	11
		058	25.0%	75.0%	-	-	8
		065	10.0%	40.0%	40.0%	10.0%	10
		068	-	33.3%	-	66.7%	3
		073	-	50.0%	-	50.0%	2
		078	-	42.9%	-	57.1%	7
		079	28.6%	52.4%	14.3%	4.8%	21
		081	-	100.0%	-	-	2
	4.2	007	-	-	-	100.0%	2
		024	**4.0%**	**40.0%**	**22.0%**	**34.0%**	**50**
		035	50.0%	50.0%	-	-	2
		043	-	50.0%	50.0%	-	2
		059	-	100.0%	-	-	3
		067	-	-	-	100.0%	1
	5	021	-	25.0%	75.0%	-	4
		066	18.2%	45.5%	9.1%	27.3%	11
		090	25.0%	37.5%	37.5%	-	8
	6	008	-	100.0%	-	-	1
		011	28.6%	71.4%	-	-	7
		015	-	-	-	100.0%	1
		016	-	-	-	100.0%	1
		019	-	100.0%	-	-	1
		025	-	83.3%	16.7%	-	6
		038	-	80.0%	-	20.0%	5
	7	**001**	**18.5%**	**55.6%**	**18.5%**	**7.4%**	**27**
		062	20.0%	40.0%	-	40.0%	5
B	5	311	-	50.0%	-	50.0%	2
		323	-	-	50.0%	50.0%	2
		337	**25.0%**	**38.9%**	**8.3%**	**27.8%**	**36**
	7	**301**	**13.8%**	**62.1%**	**10.3%**	**13.8%**	**29**
		317	50.0%	25.0%	-	25.0%	4
						TOTAL	311

TEAWARE

Cups and saucers are classified as food, teaware (44MIC). The majority of teaware is fine earthenware (33MIC) and the majority (66%) are decorated with transfer-print patterns (20MIC). Approximately 27% of teaware (12MIC) was recovered from the verandah that

spanned the front of Houses 2-3. All teaware from the verandah (024, 065) are fine earthenware that are decorated in blue, green and flow-blue transfer-print patterns. Identified patterns are Chantilly and Gem.

There are also bone china (9MIC) and hard-paste porcelain (2MIC) tea wares. Gilding (bands) is the only decoration evidenced on these wares. There are teaware and tableware bone china with gild bands in the charcoal deposit (337) in Area B, Trench 21, including a cup, saucer, egg cup, bowl and a jug (Figure 2.12). Bone china tea (2MIC) and tableware (2MIC) were also recovered from clean-up activities across Area B.

Figure 2.12: Gilded porcelain tableware and teaware from context 337 (l-r). Top row: eggcup #5981, bowl #5485. Bottom row: tea leaf jug #5484 (2), cup #5486 (2). 100mm scale. DSC_4304. Russell Workman.

2.6 PATTERN ANALYSIS

Transfer-printed patterns potentially provide information about households and can also assist in distinguishing households. Fourteen patterns were identified across the site (Table 2.6). Willow, Rhine and Asiatic Pheasant are three of the most commonly found transfer-print patterns recovered from Australian archaeological sites; therefore, it is not unexpected that half of the identified transfer-printed ceramics are Willow pattern. Sherds exhibiting Willow patterns were recovered in both Area A and Area B. Willow, the oldest and the most commonly found pattern, was recovered from deposits associated with Area A, Houses 1–3 and a charcoal deposit (337) in Area B, Trench 21. All Willow-patterned tableware from House deposits are plates, while only a platter was recovered from the charcoal deposit.

After Willow, Chantilly pattern (11MIC) was the most common pattern. Recovered exclusively in Area A, Chantilly patterned cups, plates, and a platter were recovered only from House 3, Room 4 (025, 078, 079) and the verandah (024, 073), which suggests residents of House 3 set their table with this pattern.

Sherds of other patterns were recovered from specific locations. Rhine pattern was recovered from Area A, House 1 (010), House 3, Room 4 (058, 079), the verandah that fronts Houses 2-3 (024) and Trench 21 (005) in Area B. Sherds of bowls in the Corsina pattern (3) were also recovered from House 3, Room 4 (079) and the verandah (065). Other transfer-print patterns represented by one or two examples: in Area A are Cordelia, Fibre and Maltese, and Area B single examples of patterns Clyde, Fallow Dear and Floral Garden (Figure 2.13).

Figure 2.13: Examples of the identified transfer-printed patterns (337): (Left) Chain and Asiatic Pheasant, (Right) Chantilly, Gem and Fallow Deer. 100mm scale. DSC_4375. Russell Workman.

Table 2.6: Quantitative data for identified transfer print patterns by area, phase and context.

Area	Phase	Context	Albion	Chain	Chantilly	Clyde	Cordella	Corsina	Fallow Dear	Fibre	Floral Garden	Gem	Maltese	Rhine	Willow
A	-	085	-	-	-	-	-	-	-	-	-	-	-	-	1
	3	032	-	-	-	-	-	-	-	-	-	-	-	-	-
		033	-	-	-	-	-	-	-	-	-	-	-	-	2
	4	330	-	-	-	-	-	-	-	-	-	-	-	-	-
	4.1	005	1	-	-	-	-	-	-	1	-	-	-	-	-
		010	-	-	-	-	-	-	-	-	-	-	-	2	4-
		058	-	-	-	-	-	-	-	-	-	-	-	1	1
		065	-	-	-	-	-	1	-	-	-	1	1	-	2
		073	-	-	1	-	-	-	-	-	-	-	-	-	-
		078	-	-	1	-	-	-	-	-	-	-	-	-	2
		079	1	-	2	-	-	1	-	-	-	-	-	1	9
	4.2	024	2	-	4	-	-	-	-	1	-	-	-	1	7
		035	1	-	-	-	-	-	-	-	-	-	-	-	-
	5	066	1	-	-	-	-	-	-	-	-	-	-	-	1
		090	-	-	-	-	1	-	-	-	-	-	-	-	-
		099	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	011	-	-	-	-	-	-	-	-	-	-	-	-	1
		025	-	-	1	-	-	-	-	2	-	-	-	-	1
		038	-	-	1	-	-	-	-	-	-	-	-	-	1
	7	001	1	-	1	-	-	-	-	-	-	-	-	-	5
B	5	311	-	-	-	-	-	-	-	-	-	1	-	-	-
		337	-	1	-	1	-	-	1	-	-	-	-	1	1
	7	301	-	-	-	-	-	-	-	2	-	-	-	-	2
		317	-	-	-	-	-	-	-	-	1	-	-	-	-
TOTAL			7	1	11	1	1	2	1	6	1	2	1	6	40

3.0 SUMMARY OF RESULTS

3.1 SUMMARY

Temporal analysis results for ceramic and glass artefacts are consistent with the in-field assessment for phases of site development except for House 3 in Area A. The temporal data for House 3 contexts pre-date the Phase 4.1 association they were assigned (Table 2.1). These differing findings are for the black sandy landfill deposit (005), the black sandy silt deposit (010) and grey sandy deposit (065) inside of House 3, an underfloor deposit (058) and grey sandy rubble deposit in Room 4.

Functional analysis was conducted to look for trends within the site, but individual contexts were not functionally analysed. The analysis focused on two artefact types found in sufficient numbers across the site: bottles and tableware. For bottles, the majority were beverage bottles, and a comparative study of alcohol versus non-alcohol found that despite the increased availability of non-alcoholic beverages during the 19th century, noticeable changes in drinking patterns were evident until the mid 20th century. The majority of identified pharmaceutical bottles are for patent medicines, and these medicines indicate the ailments that were typically treated by self-medication during the 19th century.[8] Similarly, food-storage bottles are the types of condiment bottles typically recovered from archaeological sites.

Analysis of food-related ceramic vessels focused on tea wares. Results indicate that the majority of teaware is transfer-printed fine earthenware. The teaware from House 3 includes some cups that are decorated in the Chantilly pattern. These cups are probably part of a table service set for the household, as plates and bowls in this pattern were also recovered from House 3 contexts. Bone china and porcelain teaware from the site are limited, and the most notable concentration is from Trench 21 in Area B. This trench not only contained gilded bone china tea ware, but also contained a similarly decorated bowl and jug.

A study of the identified transfer-print patterns found that Willow was the most common pattern like most Australian archaeological sites. Other common patterns recovered from the site are Albion, Fibre, Rhine and Chantilly. There were 14 identified transfer-print patterns in total; however, for eight of these patterns only one or two vessels were identified.

To summarise the analysis results succinctly, the temporal data is, for the most part, consistent with the in-field assessment, except for Area A, House 3, Phase 4.1. Bottles represent typical patterns of beverage consumption and self-medication practices. Households set their tables with transfer-printed vessels in patterns typical of the day.

[8] Harris 2019

4.0 REFERENCES

4.1 REFERENCES

Blocker, J. S, D. M. Fahey, I. R. Tyrrel 2003 *Alcohol and Temperance in Modern History: an international encyclopedia*, Volumes 1 & 2, ABC-CLIO, Santa Barbara, CA.

Casey & Lowe 2021 *Archaeological Investigation, Temporary Works Site, Henry Lawson Reserve, Blues Point, Sydney*, submitted to Sydney Metro

Emmins, C. 1991 *Soft Drinks and Their Origins*, Shire Publications Ltd.

Harris, E. Jeanne 2019 "Health concerns and remedies in 19th-century Parramatta: a look at patent and proprietary medicine", *Australasian Historical Archaeology,* 37:26-36.

Jones, D. 2009 *Thirsty Work, The Story of Sydney's Soft Drink Manufacturers*, David V Jones publisher.

Milner, M. 2004 "Fruit Jars...A History Worth Remembering" *Bottles and Extras*, Winter 2004 pp. 30–33, The Federation of Historical Bottle Collectors.

5.0 APPENDICES – TABLES

Table 5.1: Summary counts of MIC for ceramic and glass artefacts by area and context

Area	Context	Ceramic		Glass			
		#	MIC	#	MIC	Total Frags	Total MIC
A	001	65	38	40	29	105	67
	005	23	18	12	9	35	27
	007	7	3	-	-	7	3
	008	2	2	13	8	15	10
	010	25	18	15	11	40	29
	011	27	11	18	11	45	22
	013	3	3	2	2	5	5
	014	1	1	-	-	1	1
	015	3	2	3	3	6	5
	016	1	1	1	1	2	2
	019	1	1	-	-	1	1
	021	6	4	21	12	27	16
	024	**132**	**77**	**91**	**55**	**223**	**132**
	025	14	10	1	1	15	11
	028	1	1	1	1	2	2
	029	11	2	2	2	13	4
	031	16	7	33	3	49	10
	032	15	1	1	1	16	2
	033	14	5	11	1	25	6
	035	3	2	-	-	3	2
	038	16	9	11	8	27	17
	043	3	2	1	1	4	3
	048	-	-	5	3	5	3
	058	25	11	53	24	78	35
	059	7	5	8	7	15	12
	061	-	-	1	1	1	1
	062	20	12	13	7	33	19
	063	-	-	3	1	3	1
	065	19	11	21	13	40	24
	066	**25**	**21**	**364**	**155**	**389**	**176**
	067	2	1	4	3	6	4
	068	7	5	-	-	7	5
	069	4	4	24	5	28	9
	073	2	2	-	-	2	2
	078	11	9	8	3	19	12
	079	76	41	187	18	263	59
	081	3	3	13	6	16	9
	082	8	2	1	1	9	3
	085	12	6	5	4	17	10
	090	24	11	35	11	59	22
	099	2	1	9	1	11	2
	103	7	4	3	1	10	5
	330	10	10	-	-	10	10
B	301	87	42	68	44	155	86
	311	5	4	3	1	8	5
	317	19	6	4	4	23	10
	323	11	5	3	3	14	8
	326	1	1	-	-	1	1
	329	1	1	19	19	20	20
	330	-	-	9	5	9	5
	337	81	38	33	21	114	59
	TOTAL	**858**	**474**	**1173**	**520**	**2031**	**994**

Table 5.2: Chronological and locational data for documented manufacturers

Manufacturer	Fabric	Country of Manufacture	TPQ	TAQ	Total MIC
Australian Glass Manufacturers	glass	Australia	1930	1974	25
W. Baker & Co	ceramic	England	1839	1932	1
Bottany Glass Works	glass	Australia	1889	1906	1
E. Breffit & Co	glass	England	1863	1913	1
E. & C. Challinor	ceramic	England	1862	1891	1
T. Field & Sons	ceramic	Australia	1873	1887	1
Port Dundas Pottery Co. Ltd	ceramic	Scotland	1850	1932	1
Hope and Carter	ceramic	England	1862	1880	1
H. Kennedy	ceramic	Scotland	1866	1929	1
John Lamont	glass	Australia	1876	1900	2
Minton & Co	ceramic	England	1842	1930	1
J. Ross	glass	Australia	1868	1893	1

Table 5.3: Chronological and locational data for documented products

Product Name	Description	Country of Production	TPQ	TAQ	Total MIC
4711 Cologne	perfume	Germany	1872	-	1
Barclay & Sons Areca Nut Toothpaste	toothpaste	England	1888	1915	1
BARRYS Tricopherous for the Skin And Hair	hair restorative	USA	1851	1920	1
Blue Bow (Tooth & Co)	soft drink	Australia	1937	-	2
California Fig Syrup Co	laxative	USA	1920	1970	1
Champion & Slee	vinegar	England	1961	1974	1
Chesebrough MFG Co., Vaseline	ointment	USA	1920	-	1
Coca Cola	soft drink	Australia	1950	-	1
Dairy Farmers Co-op	dairy	Australia	1925	1947	5
Drake & Co (Chemists) Irish Moss	patent medicine - cough remedy	Australia	1870	-	1
E Rimmel Perfumer	perfume	England	1850	-	1
Eno's Fruit Salts	patent medicine - laxative	England	1880	1920	1
George Whybrow	oil	England	1825	1899	3
Hillier & Co Newtown	aerated water	Australia	1965	-	1
Holloway's for the cure of gout and rheumatism	patent medicine	England	1842	1860	1
Josephson's Ointment	patent medicine	Australia	1866	1900	1
Lea & Perrin's Worcestershire Sauce	sauce	UK	1930	-	1
Long & Barden	ginger beer	Australia	1930	1978	1
NSW Bottle Company	beer	Australia	1966	-	6
Orbells	soft drink	Australia	1930	-	1
Penfolds	wine	Australia	1930	-	1
Pepsi Cola	soft drink	Australia	1950	-	1
Resch's Pilsner	beer	Australia	1952	-	1
Udolpho Wolfe's Aromatic Schnapps	schnapps	Netherlands	1848	-	2

Product Name	Description	Country of Production	TPQ	TAQ	Total MIC
Wellcome (or) Burroughs & Wellcome	patent medicine	UK	1940	-	1

Table 5.4: Quantitative and chronological data for contexts with five or less MIC

Area	Phase	Context	Frags	MIC	TPQ	TAQ
A	3	013	5	5	1840	1857
		014	1	1	1830	1930
		029	13	4	1830	1930
		032	16	2	1848	1853
		033	23	5	1830	-
		063	3	1	-	-
		103	10	5	1780	1830
	4.1	028	2	2	1830	1930
		061	1	1	-	-
		068	7	5	1845	1930
		073	2	2	1830	1930
	4.2	007	7	3	1830	1930
		035	3	2	1830	1930
		043	4	3	1862	1891
		048	5	3	1920	-
		067	6	4	1840	1920
	5	082	9	3	1830	1930
		099	11	2	1820	1850
	6	015	6	5	1830	1930
		016	2	2	1850	1920
		019	1	1	-	-
B	4.2	330	9	5	1820	1920
	5	311	8	5	1845	1870
		326	1	1	-	-

Table 5.5: Relative frequencies of functional groups by area, phase and context

Area	Phase	Context	architecture	beverage	clerical	food	household	personal	pharmacy	recreation	service	unidentified	yard	TOTAL MIC
A	-	085	-	20.00%	-	60.00%	-	-	-	-	-	20.00%	-	**10**
A	3	013	-	40.00%	-	60.00%	-	-	-	-	-	-	-	**5**
A	3	014	-	-	-	100.00%	-	-	-	-	-	-	-	**1**
A	3	029	-	50.00%	-	-	-	-	-	-	-	50.00%	-	**4**
A	3	031	-	30.00%	-	40.00%	-	-	-	-	-	30.00%	-	**10**
A	3	032	-	50.00%	-	-	-	-	-	-	-	50.00%	-	**2**
A	3	033	-	-	-	50.00%	-	-	-	-	-	50.00%	-	**6**
A	3	063	-	100.00%	-	-	-	-	-	-	-	-	-	**1**
A	3	103	-	20.00%	-	40.00%	20.00%	-	-	-	-	20.00%	-	**5**
A	4	330	-	-	-	70.00%	-	-	-	-	-	30.00%	-	**10**
A	4.1	005	-	11.11%	-	44.44%	-	-	-	-	-	44.44%	-	**27**
A	4.1	010	3.57%	14.29%	-	39.29%	-	3.57%	-	-	-	42.86%	-	**28**
A	4.1	028	-	50.00%	-	-	-	-	-	-	-	50.00%	-	**2**
A	4.1	058	2.86%	37.14%	-	25.71%	-	-	-	-	-	34.29%	-	**35**
A	4.1	061	-	-	-	-	-	-	-	-	-	100.00%	-	**1**
A	4.1	065	-	25.00%	-	50.00%	-	-	-	-	-	25.00%	-	**24**
A	4.1	068	-	-	-	60.00%	-	-	-	-	-	40.00%	-	**5**
A	4.1	073	-	-	-	100.00%	-	-	-	-	-	-	-	**2**
A	4.1	078	8.33%	16.67%	-	58.33%	-	-	-	-	-	16.67%	-	**12**
A	4.1	079	-	16.95%	-	38.98%	-	-	1.69%	-	-	42.37%	-	**59**
A	4.1	081	-	33.33%	-	33.33%	-	-	-	-	-	33.33%	-	**9**
A	4.2	007	-	-	-	66.67%	-	-	-	-	-	33.33%	-	**3**
A	**4.2**	**024**	**-**	**16.67%**	**-**	**40.91%**	**-**	**-**	**-**	**-**	**-**	**42.42%**	**-**	**132**
A	4.2	035	-	-	-	100.00%	-	-	-	-	-	-	-	**2**
A	4.2	043	-	-	-	66.67%	-	-	-	-	-	33.33%	-	**3**
A	4.2	048	-	66.67%	-	-	-	-	-	-	-	33.33%	-	**3**
A	4.2	059	8.33%	25.00%	-	41.67%	-	-	8.33%	-	-	16.67%	-	**12**
A	4.2	067	-	50.00%	-	25.00%	-	-	-	-	-	25.00%	-	**4**
A	5	021	25.00%	18.75%	-	25.00%	6.25%	-	-	-	-	25.00%	-	**16**
A	**5**	**066**	**14.53%**	**8.14%**	**-**	**18.60%**	**4.07%**	**2.33%**	**1.74%**	**-**	**-**	**52.91%**	**-**	**172**

Area	Phase	Context	architecture	beverage	clerical	food	household	personal	pharmacy	recreation	service	unidentified	yard	TOTAL MIC
A	5	069	-	11.11%	-	-	-	-	-	-	-	88.89%	-	**9**
A	5	082	-	33.33%	-	-	-	-	-	-	-	66.67%	-	**3**
A	5	090	4.55%	13.64%	-	50.00%	4.55%	-	-	-	-	27.27%	-	**22**
A	5	099	-	50.00%	-	-	-	-	-	-	-	50.00%	-	**2**
A	6	008	-	20.00%	-	30.00%	-	-	10.00%	-	-	40.00%	-	**10**
A	6	011	22.73%	18.18%	-	36.36%	4.55%	-	-	-	-	18.18%	-	**22**
A	6	015	-	-	-	20.00%	-	-	-	-	-	80.00%	-	**5**
A	6	016	-	50.00%	-	50.00%	-	-	-	-	-	-	-	**2**
A	6	019	-	-	-	100.00%	-	-	-	-	-	-	-	**1**
A	6	025	-	-	-	54.55%	-	-	-	-	-	45.45%	-	**11**
A	6	038	5.88%	11.76%	-	35.29%	-	-	-	-	-	47.06%	-	**17**
A	7	001	4.48%	14.93%	-	46.27%	1.49%	-	8.96%	-	2.99%	20.90%	-	**67**
A	7	062	-	10.53%	-	31.58%	-	-	-	5.26%	-	42.11%	10.53%	**19**
B	4.2	330	-	60.00%	-	-	20.00%	-	-	-	-	20.00%	-	**5**
B	5	311	-	20.00%	-	40.00%	-	-	-	-	-	40.00%	-	**5**
B	5	323	-	25.00%	-	25.00%	-	-	12.50%	-	12.50%	25.00%	-	**8**
B	5	326	-	-	-	-	-	-	-	-	-	100.00%	-	**1**
B	5	337	-	15.25%	1.69%	69.49%	-	-	6.78%	-	-	6.78%	-	**59**
B	7	301	-	27.38%	1.19%	40.48%	3.57%	2.38%	7.14%	-	-	19.05%	-	**84**
B	7	317	-	10.00%	-	50.00%	10.00%	-	20.00%	-	-	10.00%	-	**10**
B	7	329	-	90.00%	-	-	-	-	-	-	-	5.00%	5.00%	**20**

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

METAL ARTEFACT REPORT

MAY 2022

Assorted copper alloy shipbuilding artefacts from various contexts at Blues Point.

FINAL REPORT | to **Sydney Metro**

CASEY & LOWE
ARCHAEOLOGY & HERITAGE

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Report Status	Date Submitted	Purpose	Author	Reviewed
Draft 1	31.07.21	Review	Catherine Munro	Jill Miskella/ Jane Rooke
Final Report	11/05/2022	Issue client	Catherine Munro	Rhian Jones/ Jane Rooke

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

METAL ARTEFACT REPORT

1.0 INTRODUCTION

1.1 BACKGROUND

Casey & Lowe were commissioned by AMBS Ecology and Heritage on behalf of John Holland CPB Ghella Joint Venture (JHCPBG) to undertake historical archaeological investigations at the Temporary Works Site, Blues Point and Henry Lawson Reserves, Blues Point Sydney. The excavation and monitoring of the site occurred between August and November 2018 by Casey & Lowe. This report presents the analysis of the metal artefacts excavated from the site. The study area was divided into two excavation areas with the northern third of the site designated Area A, and the central and southern parts of the site designated Area B (Figure 1.1). Full scale excavation was not necessary on the eastern side of the lot boundary as the proposed works had minimal impact to the ground levels and testing revealed no archaeological remains.

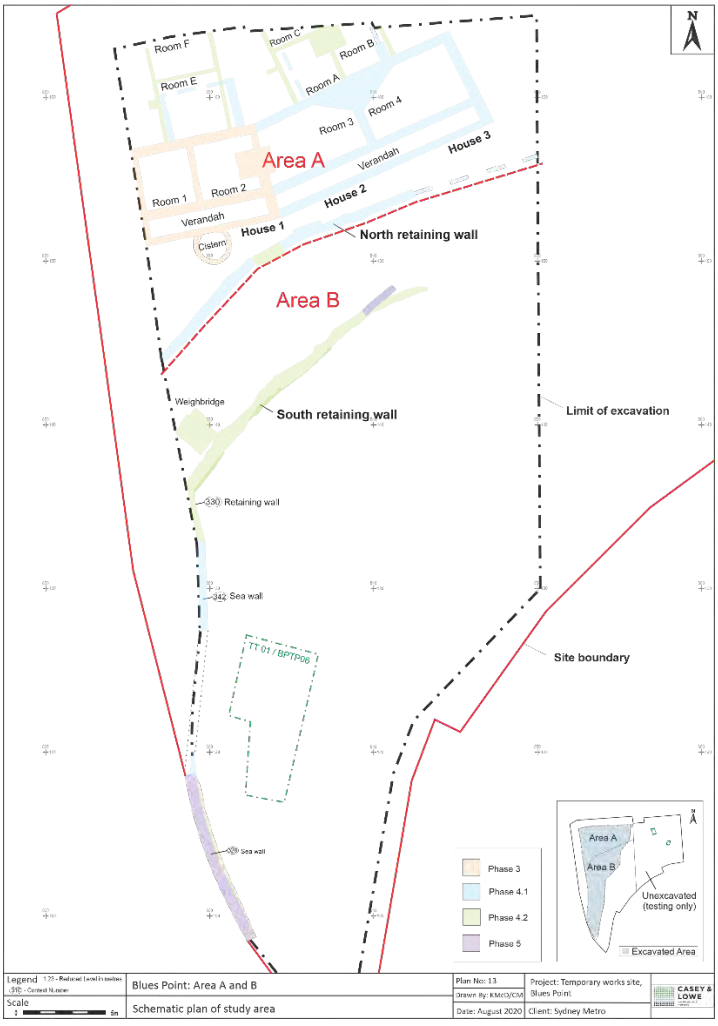

Figure 1.1: Schematic plan (Plan 13) of the archaeological remains within the study area. The houses are all located in Area A in the north. The colours reflect the different phases of construction and occupation. Schematic plan. Appendix 11.2.

1.2 ARCHAEOLOGICAL PHASES

Seven phases of construction and habitation were identified throughout the study area (Table 1.1). Most of the phases were concerned with the residential and industrial development of the site between the 1850s and 1930s. The archaeological remains included footings, retaining walls, seawalls, a cistern, postholes and pits, occupation deposits, yard surfaces, levelling fills and reclamation fills. A total of 150 contexts were assigned to the remains; context numbers (001) to (108) were assigned to Area A and context numbers (301) to (349) to Area B.

Table 1.1: Summary of archaeological phases identified at Blues Point.

Phase	Date	Description
1	-	Natural landscape
2	-	Aboriginal occupation
3	1817-mid 1860s	Early British occupation, land clearance and modification, first phase of wharves, jetties and seawalls, as well as first phase of cottages and subdivision of Blues estate
4	1867-1890s	Wharfage, maritime industries & residential occupation
4.1	1860s-1870s	Construction and early occupation of the two houses built by Stevens c.1869. Early land reclamation, levelling, surfaces and retaining walls
4.2	1880s-1890	Additions to the houses, land reclamation, repairs, modifications to the retaining walls and the construction of Stevens' jetty and maritime infrastructure
5	Early 1900s-1930s	Vehicular ferry, upgrades, new businesses
6	1940s-1960s	Demolition of ferry wharf and cottages
7	1960s-2018	Public Park

1.3 METHODOLOGY

The metal artefacts recovered from Blues Point have been catalogued according to the methodology developed by Casey & Lowe Pty Ltd.[1] All artefacts were entered into a database developed by Dr Mary Casey for Casey & Lowe. This report includes tables extracted from the artefact catalogue to inform discussion. The catalogue numbers used for metals salvaged from Blues Point are #10001-10740.

The metal artefacts were sorted by area and context prior to cataloguing. The catalogue records the:

- catalogue number
- context number and other information specifying where the item was found
- shape of the item (i.e., nail)
- general function (i.e., architecture)
- specific function (i.e., structural)
- fabric (i.e., iron)
- portion (i.e., head/shank)
- country of manufacture
- manufacturer
- producer or retailer
- makers marks
- dimensions (in millimetres)
- joins (context/#catalogue number)
- weight (in grams)
- brief description (includes mark description)
- from and to dates (of manufacture)
- number of fragments
- minimum item count (MIC)
- storage box number

[1] Casey 2004.

Where the function of an item is unclear, or could possibly be used in multiple situations, two functions can be assigned, i.e., structural/non-structural. Where the portion of an artefact was recorded as whole or near whole, the item was listed as having no fragments. Joining fragments recorded separately by context were considered one item and the largest or first catalogued entry contains the item count and the other entry was listed with zero items. For the purpose of consistency in cataloguing, tacks, nails, and spikes have been differentiated by length. Tacks have been defined when the length is less than 30mm, nails from 30mm to 99mm, and spikes are greater than 100mm. The function of items was also determined and separated by length. For example, copper alloy tacks (where less than 29mm) are catalogued as household/transport (furniture/fitting/vessel superstructure) the same type and shape (when greater than 30mm and less than 59mm) are catalogued as transport (v-superstructure), as it is more likely that that is the intended use of the artefact.

Metal artefacts are extremely vulnerable to their environment, and often found to be highly degraded or corroded. The extent of which this occurs depends on the environment the artefact is deposited in, and whether this environment is high or low in water, salt, and oxygen.[2] This level of decay is noted in the brief description as fabric decay (FD), high fabric decay (HFD) or very high fabric decay (VHFD), and low encrustation (LE), moderate encrustation (ME), heavy encrustation (HE), or very heavy encrustation (VHE).

1.3.1 NAIL TYPES

Casey and Lowe have developed a type series predominately based on the work of Varman, who created a comprehensive comparative typology of nail types.[3] The types that are relevant to artefacts recovered from Blues Point are summarised below (Table 1.2). This type series has informed how the nails were catalogued, through identifying features such as the length, the shape of the head, shank, point, the fabric used, and if there are any other signs of manufacturing processes (i.e., brackets on the underside of the head) to indicate the period of manufacture and potential use. The abbreviations for these types will be used throughout this report (Table 1.2).

Table 1.2: Summary of types of metal nails and tacks and screws catalogued from Blues Point.

Type	Abbreviation	Date of Manufacture	Common use	MIC	Fragments
Hand-forged nails	HF	c.1788-c.1890	c.1788-c.1850	27	19
Hand-forged spikes		c.1788-c.1950	c.1788-	8	5
Cut	Cut	c.1805-	c.1809	3	3
Cut-wrought (iron)	CW	c.1815-c.1870	c.1820-c.1870	23	7
Machine-wrought	MW	c.1840-c.1870	c.1840-c.1870	7	2
Screw (machine made)	-	c.1850-	c.1850-	17	3
Screw (galvanised)	-	c.1860-	c.1860-	11	2
Wire-drawn (iron)	WD	c.1853-c.1890	c.1853-c.1890	207	101
Wire-drawn (steel)		c.1875-	c.1880/1890's	7	2
Wire-drawn square (copper alloy)	WD sq	c.1835-	c.1835-	349	23
Wire-drawn type 2	WD2	c.1860-	c.1860-	60	2

[2] Turner-Walker 2008.

[3] Varman 1993.

1.4 REPORT AUTHORSHIP

The metal artefacts were catalogued in 2021 by Catherine Munro, Archaeologist, Casey & Lowe, who also wrote this report. It was reviewed by Jill Miskella and Jane Rooke.

2.0 OVERVIEW OF ASSEMBLAGE

A total of 979 MIC and 337 fragments were recovered during the excavation of Blues Point from Areas A and B. Area A salvaged a total of 928 MIC, 310 fragments and Area B a total of 51 MIC, 27 fragments. Area A contained all of the housing structures and surrounding yard features, levelling fills and surfacing, while Area B contained multiple phases of construction and repair of seawalls and retaining walls, fill and surfacing events, and land reclamation.

From Area A, 35 contexts contained metal artefacts and four contexts from Area B (Table 2.1). The vast majority of metal artefacts came from the underfloor deposit of House 1 Room 2 (066) which contained 743 MIC, 217 fragments (80% of the total assemblage). The most common general function was architectural (33%), relating to the construction and demolition of the houses (
Table 2.2). Household/transport items were the second most frequently identified (32%), where items could be used in either a household or transport context. Transport items (19%) followed and less again were household items (7%). All other function types were either unidentified (6%) or made up between 0% and 1% of the metal artefact assemblage.

Table 2.1: Sum of metal artefacts by area, context and phase.

Area	Context	Phase	MIC	Fragments
A	001	7	9	5
	005	4.1	3	1
	008	6	4	5
	011	6	16	5
	013	3	6	0
	014	3	1	0
	016	6	2	0
	019	6	52	0
	021	5	21	15
	024	4.2	5	5
	025	6	3	1
	026	6	7	2
	029	3	5	0
	030	3	1	1
	031	3	6	2
	032	3	4	0
	033	3	1	0
	038	6	6	0
	043	4.2	1	0
	049	3	3	2
	050	4.1	2	1
	058	4.1	8	7
	059	4.2	4	2
	062	7	8	1
	063	3	1	1
	065	4.1	5	1
	066	5	743	217
	068	4.1	9	5
	069	5	4	1
	074	3	5	3
	078	4.1	3	3
	079	4.1	4	5
	081	4.1	2	4
	082	5	3	3

Area	Context	Phase	MIC	Fragments
	090	5	21	12
			TOTAL AREA A	928
B	301	7	22	10
	323	5	1	1
	329	7	2	0
	337	5	26	16
			TOTAL AREA B	51
			TOTAL	979

Table 2.2: Totals of metal artefacts by general function from all areas.

General function	MIC	%	Fragments	%
architectural	324	*33*	176	*52*
architectural/household	11	*1*	10	*3*
architectural/industrial	7	*1*	6	*2*
architectural/transport	4	*0*	0	*0*
food	5	*1*	4	*1*
food/beverage	1	*0*	1	*0*
household	64	*7*	21	*6*
household/transport	312	*32*	20	*6*
industrial	3	*0*	2	*1*
industrial/work	1	*0*	1	*0*
service	1	*0*	0	*0*
store	2	*0*	2	*1*
transport	184	*19*	25	*7*
transport/industrial	1	*0*	0	*0*
unidentified	56	*6*	64	*19*
work	2	*0*	4	*1*
yard	1	*0*	1	*0*
TOTAL	979	*100*	337	*100*

2.1.1 SHAPES AND FUNCTIONS

Tacks are the most frequent shape (342 MIC, 26 fragments) making up 35% of the Blues Points assemblage. These are predominately copper alloy with a general function of household/transport and specific function of furniture/fitting/vessel-superstructure. The tacks could have been used for a number of applications including; structural or non-structural elements in the superstructure of a vessel; securing floor coverings such as lino or carpet; furniture i.e., cabinets or upholstery; fittings or fastenings such as hanging lights, mirrors, hooks or escutcheon plates or other non-permanent household or transport items. A number of types were identified including, HF, CW, WD sq, WD circ, and WD2 (Table 1.2). Copper alloy was the most common fabric for the tacks followed by iron, and few steel and galvanised tacks.

Nails were the second most common shape from Blues Point (321 MIC, 140 fragments) making up 32% of the entire assemblage. The most common general function of the nails was architectural (230 MIC, 134 fragments). Architectural nails would have been used for elements such as bearers or joists, floorboards, windows and door frames, roof beams and rafters, as well as roof coverings such as corrugated iron, slate and timber shingles. Transport was the second most common general function identified (110 MIC, ten fragments), which are used in the structural and non-structural elements of shipbuilding such as internal framing, hull planking and construction, sheathing, internal and external fittings or furniture.

There was a similar distribution of copper alloy and iron nails at Blues Point, and a small number of steel or galvanised nails. Generally, iron, steel and galvanised items were used in terrestrial applications and copper alloy was used for maritime transport/shipbuilding functions. Iron is too susceptible to the elements to use in shipbuilding due to its sensitivity to water and salt, whereas copper alloy is much more resilient in the same maritime conditions. Furthermore, a number of reasons that copper alloy is not as successful in terrestrial applications include: the higher cost per nail than iron, the softness of copper alloy results in a more laborious application that requires a pre-drilled hole in order to be sunken, and a less secure application that need to be clinched or riveted to remain in place.[4] Because of this, copper alloy nails and tacks can be uncommon on archaeological sites, the exception being copper alloy household tacks used in furniture/fittings, which are not structurally significant and are generally rare.

2.1.2 SHIPBUILDING

By the 1860s when Blues Point began to be permanently occupied, the shipbuilding industry in Sydney, with ancillary industries employing a large number is skilled and unskilled labour. At this point in time the industry had expanded, feeding and being fed by a number of coastal settlements, the Goldrush, and competition from American shipyards.[5] Multiple occupants of the site were employed in various maritime related industries including: John Stevens (1842-1896) - a shipwright and pearl shell fisherman amongst other occupations, James Glover (1823-1874) – whom trained for a short time as ship's carpenter and was later a shipwright, and George Barnett – a boat builder.[6] A number of items from Blues Point indicate shipbuilding or repair occurring in the area, these were catalogued as transport items and included copper nails and tacks, roves, and sheathing (Figure 2.2). Within the assemblage there was 141 MIC and 17 fragments of transport nails and tacks. Additionally, 288 MIC, 15 fragments were identified as household/transport and could have been used in either application.

Copper alloy WD sq nails were the most common type of transport artefacts, which were used in Australia from c.1835 onwards.[7] Similar techniques were used for producing copper alloy wire drawn nails to that of iron or steel.[8] The wire was produced by drawing it through a machine to the required thickness which was then was cut to size, and the points and ends shaped by cutting or hammering in a clamp or die.[9] Only one transport item has been identified as possibly being HF.

Copper alloy sheathing was used in shipbuilding as a deterrent to shipworm, marine growth or fouling while also increasing the sailing speed of ships.[10] This was a process generally reserved for large ships that would be required to spend great amounts of time at sea. Only two pieces of sheathing found at Blues Point (031/#10076, 078/#10675). These were both significantly smaller than the sizes generally used in shipbuilding and so not conclusive that such practices were present at the site, however 27 MIC copper alloy sheathing nails were recovered that were necessary to secure sheathing to ship hulls.

[4] McCarthy 2005, p. 109

[5] Casey & Lowe 2021, pp.13-15

[6] Casey & Lowe 2018, pp. 20-25

[7] Hebert 1836, pp. 187-188; Varman 1993, p. 196

[8] Herbert 1836, pp. 187-188

[9] Herbert 1836, pp. 187-188

[10] McCarthy 2005, p. 104; Staniforth 1985, pp. 29-30

A rove is a small metal plate with a central hole used to secure a nail, primarily in shipbuilding.[11] As copper alloy nails have less grip strength and holding power than iron or steel, additional methods are needed to ensure they remain in place and not work their way out of the timber.[12] Such methods include: riveting, where the point is snipped off and the end hammered in, or clenching, where the point of the nail is bent to a right angle against the board, or bent twice and the point sunken back into the timber towards the head (Figure 2.1). Both methods can be done with or without roves. Multiple examples of each of these techniques were present at Blues Point. Forty-four roves were identified from across Blues Point, of which 11 were fixed to a nail or tack. Three of the roves were diamond shaped, all others small circular conical roves. They ranged in size from 7mm to 17mm in diameter, predominately less than 13mm.

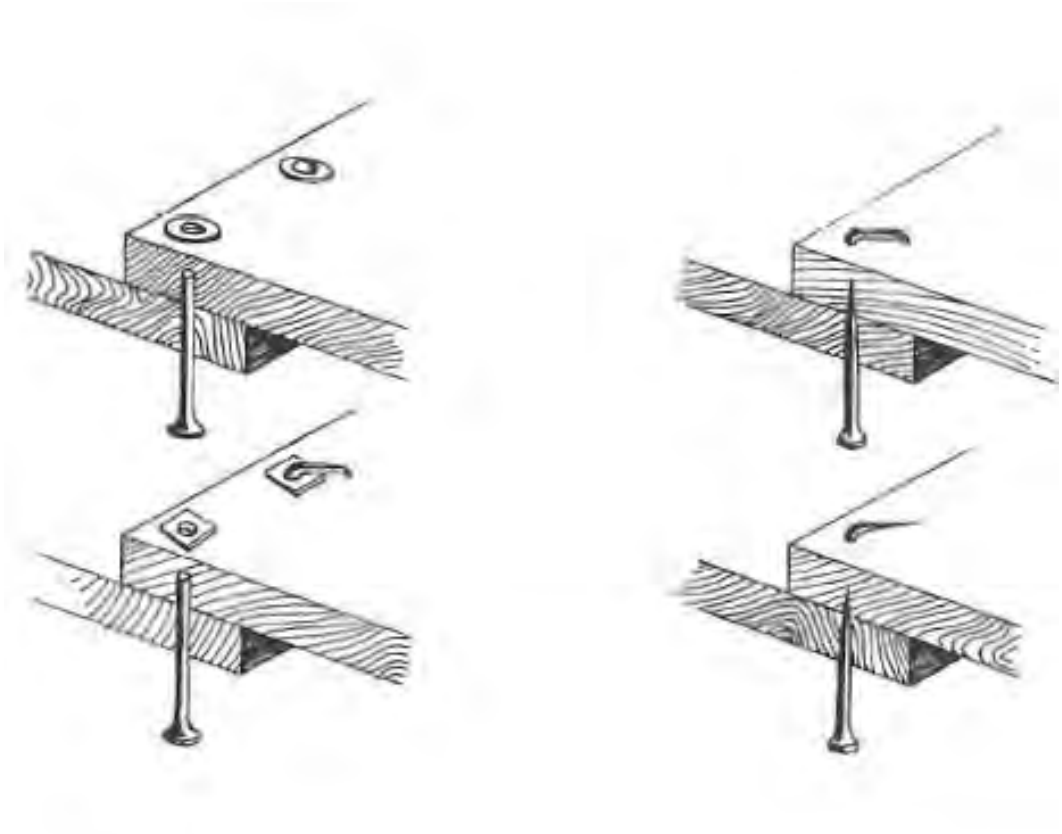

Figure 2.1: Types of nail fastenings. Top left: riveted nails. Top right: clinched and re-inserted. Bottom left: clinched over a rove. Bottom right: clinched flat. Source: McCarthy 2005, Figure 34. p. 54.

[11] Varman 1993, p. 192

[12] McCarthy 2005, p. 54

Figure 2.2: Selected metal shipbuilding related items (l-r). Top row: sheathing 078/#10675, 329/#10723, nail 301/#10706. Second row: nails 337/#10726, 062/#10108 above 062/#10109. Third row: nails 038/#10083, 337/#10736. Fourth row: nails 337/#10727, 038/#10081. Bottom row: nails 337/#10725, 038/#10082. 100mm scale. DSC_4354. Russell Workman.

3.0 CONTEXT ANALYSIS

3.1 AREA A

Area A was the northern most area of the Blues Point site, bordering Henry Lawson Avenue to the north, and Blues Point Road to the west (Figure 1.1). Multiple phases of occupation were identified within this area. The earliest house within the site boundary was House 1, a pre-1857 structure that survived with modifications until the 1940s. This house relates to Phase 3, though most of the deposits are phased as later features due to the structure's longevity. Houses 2 & 3 were built to the east of House 1, c.1869 (Phase 4.1), and the back-room additions to each house were added c.1881 (Phase 4.2). Some additional features within Area A were a natural and modified drainage channel, a cistern, fence-lines, fills, levelling, pathways, and modified and natural sands. The northernmost seawall is the boundary between Area A and Area B.

A total of 928 MIC and 310 fragments were recovered from 34 contexts within Area A. Architectural items were most common with 313 MIC and 164 fragments, followed by household/transport with 304 MIC, 20 fragments (Table 3.1).

Table 3.1: Metal artefacts from Area A by general function.

General function	MIC	%	Fragments	%
architectural	313	34	164	53
architectural/household	11	1	10	3
architectural/industrial	6	1	6	2
architectural/transport	4	0	0	0
food	3	0	2	1
food/beverage	1	0	1	0
household	61	7	20	6
household/transport	304	33	20	6
industrial	3	0	2	1
industrial/work	1	0	1	0
service	1	0	0	0
store	2	0	2	1
transport	163	18	18	6
transport/industrial	1	0	0	0
unidentified	52	6	60	19
work	2	0	4	1
TOTAL	928	100%	310	100%

3.1.1 MODIFIED SANDS

The modified historic topsoil/A1 horizon was loosely compacted dark brownish grey to black silty sand; though numbered separately in different test trenches (014, 029, 030, 032, 098, 103) it was the same stratigraphic unit and will be discussed together. This deposit contained 12 MIC and two fragments of metal artefacts which were a mix of architectural and transport tacks, nails and spikes (Figure 3.1). Two architectural HF iron nails (#10078) are dated 1788-c.1890. Four copper alloy WD sq nails/sheathing tacks can be dated from c.1835, two of which are attached to stamped out circular roves, indicative of use on a vessel or ship. A large HF copper alloy boat spike (029/#10069) was possibly used for securing timber frames within the hull of a vessel. This particular nail is notable as it is one of the few HF copper alloy artefacts that were uncovered from Blues Point and is also significantly larger than most other transport related items in the assemblage. It is one of only few items from Blues Point that could be used on a large ship or vessel, unlike the majority of other transport items which are small, and more appropriate to be used on small

vessels, such as seen in various historical images at the foreshore of the site (Figure 3.2). Any of these items could have been deposited during or before the construction of House 1, 2 or 3, and are indicators of ship building or repair occurring in the area.

Figure 3.1: Metal artefacts from the historic topsoil (103, 029, 030, 031). (l-r) Top: HF copper alloy boat spike 029/#10069. Second row: HF iron nails 032/#10078, copper alloy WD sq nail and circ stamped out rove 029/#10067, copper alloy WD sq tack and diamond rove (032/#10079). Third row: copper alloy WD square tacks 029/#10068, 029/#10070. Bottom row: nail/spike 030/#10072. Scale 100mm. IMG_0492. Russell Workman.

Figure 3.2: An undated (c.1858-59) photograph of Blues Point by Robert Hunt providing evidence of the sandy shoreline of the study area on the right-hand side of the image. SPF/799 ML SLNSW.

3.1.2 DRAINAGE CHANNEL

A pre-house channel funnelled water down slope through the path of least resistance. Once House 1 was built, the channel (108) was redirected to the east, away from the footprint of the house. The channel was then backfilled with large sandstone rubble (033) potentially as ground preparation prior to the construction of the later Houses 2 & 3. This fill was only excavated in Test Trenches 04 and 05 where it contained a single metal artefact, one WD sq copper alloy nail (#10080), appropriate for use on the hull of a vessel, datable from c.1835 (Figure 3.9).

3.1.3 LEVELLING FILLS

3.1.3.1 PHASE 3 LEVELLING FILLS (1817-MID 1860S)

A pre-House 1 levelling fill (031) was the only Phase 3 levelling fill to contain any metal artefacts. A total of six MIC and two fragments of nails or tacks were within this fill (Figure 3.3). One possible HF iron nail (#10077), is dated 1788-c.1890. Two copper alloy WD sq sheathing tacks (#10075) date from c.1835. A small fragment of copper alloy sheathing (#10076) was found that had a number of sq nail holes and was torn on all edges, indicating that it had been used and removed. This was one of only two pieces of sheathing found at Blues Point (031/#10076, 078/#10675). Copper alloy sheathing was used in shipbuilding as a deterrent to shipworm, marine growth or fouling while increasing the sailing speed of ships, although generally much larger pieces are used than the two small fragments found

at Blues Point.[13] Two steel WD circ nails (#10073, #10074) were also found, however the earliest shipment of steel nails in Australia is 1875 and the common usage of these nails isn't until c.1890.[14] It is likely that the steel nails were deposited as part of a later repair event below the floor of the house, or other intrusion into the earlier fill.

Figure 3.3: Metal artefacts from Phase 3 levelling fill (031). (l-r) Top row: two copper alloy WD sq sheathing tacks #10075, bent steel nail #10074, steel nail #10073, iron nail #10077. Bottom row: fragment of copper alloy sheathing showing four square nail holes #10076. Scale 100mm. DSCN_3047. Russell Workman.

A levelling fill of large sandstone rubble (049) was used as a deliberate fill to stabilise the verandah footings of House 1 (Phase 3). This fill contained one CW nail c.1815-c.1870 (#10090), one WD circ nail c.1853-1890 (#10089), and one fragment of a possibly galvanised bolt c.1860 (#10088) (Table 2.1). All were structural items that could be associated with the construction of the verandah or otherwise fell through the gaps in the verandah during the lifespan of the house.

[13] McCarthy 2005, p. 104; Staniforth 1985, pp. 29-30

[14] Varman 1993, p. 167

3.1.3.2 PHASE 4.1 LEVELLING FILLS (1860S-1870S)

Within the eastern half of Room 4 was a black sandy fill (058) that was the same as the levelling event (05) which continued beyond the House 3 footings into the yard. These fills were imported to the site, and contained 11 MIC and eight fragments (Figure 3.4). Two small fragments of iron lacework (#10096, #10098) were the only fragments of lacework found at Blues Point and were probably imported to the site with the fill (Figure 3.4). Iron lacework is decorative wrought iron designs and filigree that adorned the fronts of houses (predominately terraced houses). The other artefacts were consistent with the items found from other contexts at Blues Point including three household/transport copper alloy WD sq nails/tacks (#10011, #10071, #10010) dating from c.1835, and one architectural HF nail, 1788-c.1890.

Figure 3.4: Selected metal items from levelling fills, phase 4.1 (l-r). Top row: nail 058/#10099 (2). Second row: nail/tack 058/#10093 above nail 058/#10094, curtain ring 058/#10095. Third row: wire 058/#10097 (4), tack 058/#10100. Bottom row: iron lacework 058/#10098 joins 058/#10096, nail 005/#10011 above 005/#1071. 100mm scale. DSC_4357. Russell Workman.

Within the eastern end of House 3 verandah was a loose black silty sand (024) and although was not an underfloor deposit, the artefacts are probably associated with the occupation of the house. A total of five MIC and five fragments were recovered, including a fragmentary tool handle possibly for a shovel (#10055) (Figure 3.5). This was one of only two tools identified across the site, the other was a rectangular file (#10007) from general clean-up (001). The other four items were nails or tacks, that had a range of functions

including household, architectural, transport and unidentified. One copper alloy WD sq nail (#10054) can be dated from c.1835, and one possibly MW tack (#10056) can be dated possibly from c.1840-1870. Machine wrought (MW) nails was a process invented to mechanise the production of nails. The machine forged both the head and the shank at the same time, both simplifying the production as well as reducing brittleness of the iron that occurred through the Cut nail process.[15] Also within the verandah footings of House 3 was black sandy fills (065, 068). These two fills contained 14 MIC and six fragments (Figure 3.6). Three of the nails in this context were architectural CW nails dating from c.1820-1870, and one Cut nail with a possible sprig head (#10665).

Figure 3.5: Metal artefacts from verandah fill (024). (l-r). Left: fragment of tool handle #10055. Right: Top to bottom: copper alloy WD sq nail #10054, metal fragment #10057, nails #10056, #10058. Scale 100mm. DSCN_3345. Russell Workman.

[15] Varman 1993, pp.155-156

Figure 3.6: Selected items from contexts 065 and 068 (l-r). Top row: nail 065/#10112, tack 068/#10660, washer 068/#10659. Second row: nail 065/#10116, tack 068/#10662 above nail 068/#10661. Third row: nail/spike 065/#10114. Bottom row: bolt 065/#10113, slag 065/#10115. 100mm scale. DSC_4335. Russell Workman.

3.1.3.3 PHASE 4.2 LEVELLING FILLS (1880S-1890S)

A levelling fill within House 2 Room A (059) was a part of the Phase 4.2 occupation and expansion. The fill contained four MIC and two fragments, including two possibly HF nail/tacks dating to 1788-c.1890 (#10101, #10102), one copper alloy sheathing nail (#10104) dating from c.1835, and one possibly galvanised domed head architectural screw, c.1860 (#10103) (Table 2.1). This fill was above an earlier rubble fill (013) that contained six MIC including two galvanised domed slot head screws and four lead washers (#10126-10128) (Table 2.1). Galvanising is the process of zinc plating on ferrous metal and though was first patented in 1837, the common usage was not until c.1860s.[16] Zinc is resistant to corrosion and 'and will corrode preferentially to the iron substrate, thus protecting it'.[17] The screws from both fills would have been used on corrugated iron roofing or sheeting alongside lead washers that create a protective seal around the fastening hole that can withstand the elements and prevent rust.

3.1.4 OCCUPATION DEPOSITS

Four occupation deposits were identified within House 1, 2, and 3 (021, 066, 069, 082), all of which relate to the Phase 5 occupation of the site (Table 3.2, Figure 3.7). Underfloor deposits are formed through the accumulation of items and debris falling between the cracks in timber butt-boarded floorboards before the common usage of tongue-and-groove flooring in c1870-80s.[18] These deposits occurred throughout the lifespan of the house (pre-1857-c.1940), and so are dated to Phase 5, the latest use of the spaces. The high proportion of artefacts within these deposits reflect the high traffic spaces, and relates directly to the occupation and daily lives of the inhabitants. The number of items is also a

[16] Light 2000, p. 10; Hunt 1863, p. 559

[17] Light 2000, p. 11

[18] Casey 2004, p. 34

product of 100% wet sieving occurring to retrieve all of the artefacts within the fill that would otherwise not have been found due to their small size.

Table 3.2: Summary of metal artefacts from occupation deposits identified at Blues Point.

Context	House	Room	General function	MIC	Fragments
021	1	1	architectural	7	3
			architectural/industrial	1	0
			household	2	0
			household/transport	1	0
			unidentified	3	6
	2	A	household	1	0
			unidentified	6	6
			Context 021 TOTAL	**21**	**15**
066	1	2	architectural	234	127
			architectural/household	8	7
			architectural/industrial	1	3
			household	50	17
			household/transport	285	16
			industrial	2	2
			transport	136	15
			unidentified	27	30
			Context 066 TOTAL	**743**	**217**
069	1	2	architectural	2	1
			household/transport	1	0
			transport	1	0
			Context 069 TOTAL	**4**	**1**
082	2	A	architectural/household	2	3
			household	1	0
			Context 082 TOTAL	**3**	**3**
			TOTAL	**771**	**236**

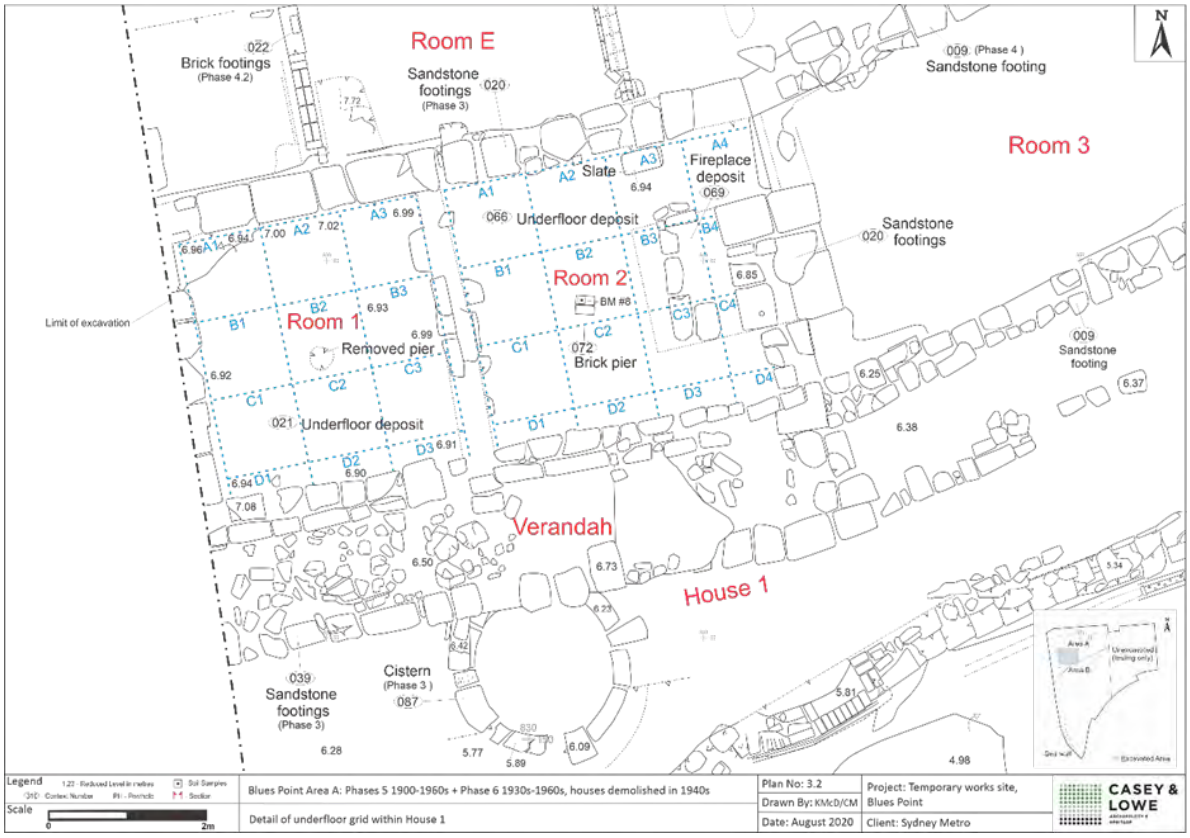

Figure 3.7: Detail of the underfloor grid used to excavate (021, 066, 069) within House 1, Room 1 and 2. Extract from Plan 3.2, Appendix 11.2.

3.1.4.1 UNDERFLOOR DEPOSIT (021)

The underfloor deposit within House 1 Room 1 contained only 21 MIC and 15 fragments, from the 12 squares that were gridded (Figure 3.7, Figure 3.8). This made up (2%) of the site assemblage, which is lower than expected from such a deposit, and significantly lower than in the room next door. The metal artefacts within (021) were few, though consistently spread throughout the room (Table 3.3). The lack of items within this deposit evidences the replacement of the timber floor and potential disturbance to the context, as well as the presence of floor coverings, particularly non-permanent in nature i.e., rugs that do not require being fixed in place though still cover a large surface area inhibiting items from falling through the gaps between the floor.

Table 3.3 Spatial plot of metal artefacts within underfloor deposit (021).

SQ	1	2	3
A	0	1	4
B	2	1	1
C	2	3	0
D	2	4	1

The items were primarily unidentified fragmentary artefacts (nine MIC and 12 fragments) (Table 3.2). The second most frequent function was architectural (eight MIC and three

fragments) which included a roofing screw (#10042) and washer (#10048), structural nails, and a large iron washer (#10044) that could have either been used architecturally or perhaps as part of a machine. There was also a small number (four MIC zero fragments) of household related nuts and tacks, one of which could have possibly been used with a household or transport setting. The largest of these items was an unidentified hook (#10051), measuring 116mm in length, followed by a structural nail (#10039), measuring 70mm long. This confirms the nature of the deposit retaining smaller items that can be swept or fall between gaps in floorboards. The only items that could be typed were iron WD nails (c.1853-c.1890), and the galvanised Domed Slot roofing head screw (c.1860-).

Figure 3.8: Metal artefacts from underfloor deposit (021). (l-r) Top row: metal fragment #10036, iron nail #10037, iron nail #10039, iron nail #10040, steel nail #10041, galvanised iron nail #10042, thin twisted copper wire #10043. Second row: iron hook #10051, four iron straps #10045. Bottom row: iron washer #10044, lead roofing washer #10048, hexagonal nut #10038, WD sq nail #10077, iron tack #10052, galvanised iron tack #10053. Scale 100mm. DSCN_3053. Russell Workman.

3.1.4.2 UNDERFLOOR DEPOSIT (066)

The underfloor deposit (066) within House 1 Room 2 contained 743 MIC and 217 fragments (80% of the total site assemblage) within a similar sized space to Room 1 (Figure 3.7). The

most common functions identified within this context were: household/transport items (285 MIC, 16 fragments), architectural (234 MIC, 127 fragments), and transport (136 MIC, 15 fragments) (Table 3.2). The items were mostly whole, measuring generally between 8mm and 100mm. They were concentrated in the centre of the western side of the room and towards the fireplace in squares B1, B2, C1, C2, and C3 (Table 3.4). Though no threshold between Room 1 and 2 was identified during excavation, the distribution of artefacts indicates the potential location of one at squares B1 and C1 where the floorboards were more worn with larger gaps where people walked more frequently.

Table 3.4 Spatial distribution plot of metal artefacts within underfloor deposit (066).

SQ	1	2	3	4
A	7	16	5	1
B	98	120	7	n/a
C	168	178	58	n/a
D	17	34	19	2

Key	
	0-20
	21-50
	51-100
	101+

HOUSEHOLD

Tacks were the most frequent item (43%), followed by nails (34%) (Figure 3.9). A number of these items would have been used for securing floor coverings like lino or carpet at some stage during the occupation of House 1, as the deposit is within the kitchen, lino flooring is more likely. The high proportion within this context and the presence of two different types (WD sq c.1835 and WD2 c.1860) indicates that the flooring was likely changed a number of times throughout the span of occupation. The tacks would have made their way into the underfloor deposit overtime as they were accidentally pulled up through general wear and tear, or as the floor coverings or entire floorboards were replaced. There were eight MIC copper alloy escutcheon tacks, identifiable by the narrow shank and very small domed head. These are more speciality hardware that would have been used to secure escutcheon plates which are metal fixtures secured around non-structural fittings such as keyholes, light switches, or door handles. Two small key-hole escutcheon plates (#10234, #10450) were also found, and two small iron keys were of similar size that may have paired with them (#10495). The size of these items indicate they would have been a part of a cabinet or perhaps small box. Five hooks were found of different sizes, fabrics and shapes, four of which were nails repurposed and bent into a hook shape, and one (#10209) was a purposefully cast copper hook. Of the nail hooks one was CW (#10285, c.1815-c.1870), one WD sq (#10469, c.1835), one WD circ (#10610, c.1853-1890), and one (#10299) was not able to be typed.

ARCHITECTUAL

Architectural items make up approximately 31% of the items from this underfloor deposit, including 168 MIC and 91 fragments of nails (Figure 3.10). There were many types of architectural nails including: 126 MIC WD iron (c.1853-1890), ten MIC HF (1788-c.1890), 15 MIC CW (c.1820-1870), two MIC Cut (c.1805-), and six possibly MW (c.1840-1870). The range of types reflects the wide time range that items were being deposited in the underfloor, while high number of nails confirms the possible replacement of the floor or other internal modifications and renovations occurring during the occupation. Other architectural items include screws and spikes and washers that also would have made their way into the underfloor deposit during potential repairs or modifications.

TRANSPORT

Transport items made up 18% of the underfloor deposit (066) (Figure 3.11). Of the 136 transport items, a specific function of vessel superstructure was identified for 111 MIC. These included WD sq nails (66 MIC), WD sq tacks (12 MIC), and conical roves (33 MIC). The WD sq nails date from c.183, whilst the roves are not datable. The copper alloy nails or tacks that are fixed to roves are one of the more substantial indicators of shipbuilding or maritime transport activities occurring across the site as roves are not commonly used in terrestrial applications as iron has a greater holding power than copper alloy and does not need additional reinforcement to remain secure.[19] These transport items evidence works occurring on or close to the site, perhaps on the smaller row boats visible in the historic images, or were potentially introduced by the various occupants employed in maritime related industries.

Figure 3.9: Selected household items from context 066 (l-r). Top row: tacks #10524 (4), #10746 (3), #10475. Second row: nails #10532 (3), tack #10250, #10249, #10345. Third row: tacks #10272 (3), #10462 (2), #10254 (3), #10525 (2). Fourth row: tacks #10220 (4), #10273, #10274, #10275, #10248, #10247. Fifth row: screw #10278, #10522, #10547, tacks #10221, #10526, #10251, #10253, #10252. Sith row: hook #10209, curtain ring #10350, eyebolt #10255, tacks #10222, #10298, #10523. Bottom row: handle #10496, key #10495 (2), escutcheon #10450, key #10290. 100mm scale. DSC_4359. Russell Workman.

[19] McCarthy 2005, p. 109

Figure 3.10: Selected architectural items from context 066 (l-r). Top row: nail #10492, bolt #10454, #10494 (2), screw #10257. Second row: nails #10225, #10281 above nail/spike #10493, tube #10277. Third row: offcut #10330, screw and washer #10358, nails #10227, #10260, screw #10258, nails #10230, #10229 (3). Fourth row: hook #10610, washers #10356, #10140, #10331, #10315, #10520, offcut #10266. Fifth row: nail #10466, spike #10256, nail #10599, spike #10158. Sixth row: nail/spike #10301, spike #10157. Seventh row: spikes #10637, #10654. Bottom row: tack #10554, spikes #10548, #10549. 100mm scale. DSC_4362. Russell Workman.

Figure 3.11: Selected transport items from context 066 (l-r). Top row: nail #10470, tacks #10180 (2), #10426 (3), #10344 (3). Second row: nails #10242, #10200, #10244, sheathing tack #10269. Third row: nail #10243, roves #10516, #10517, tack and rove #10434, strip #10622, roves #10235 (3). Fourth row: nail #10202, tack #10199, #10246, nail #10203. Fifth row: nails #10411 (3), roves #10519 (3). Sixth row: screw #10471, sheathing nail #10316, hook #10469. Seventh row: tacks and roves #10346, #10433, #10435, nails #10605, #10245. Bottom row: nail/spike #10317, nail #10611, sheathing tack #10240. 100mm scale. DSC_4360. Russell Workman.

3.1.4.3 FIREPLACE DEPOSIT CONTEXT (069)

The underfloor (069) within the fireplace was gridded in the same overlay grid as Room 2, and although it measured only 1.4m by 540mm in size, was within grid squares B3 and B4 (Figure 3.7, Table 3.2). This deposit contained only four MIC and one fragment: one HF architectural nail (#10669) is dated to 1788-c.1890, one household/transport WD sq tack (#10668) c.1835, one transport sheathing nail (#10667), and one possibly galvanised screw (#10670) c.1860 (Figure 3.12). These items may have been attached to the timber that was burnt in the fireplace, or made their way into this deposit by other means.

Figure 3.12: Assorted nails and tacks from fireplace deposit (069). (l-r): Galvanised iron screw #10670, iron nail #10669, flat tack #10668, sheathing nail #10667. Scale 100mm. DSCN_3073. Russell Workman.

3.1.4.4 UNDERFLOOR DEPOSIT CONTEXT (082)

The underfloor deposit within House 2 Room A was (082), and was the only underfloor deposit identified within House 2 or 3 (Table 3.2). This is likely due to the later construction of the two later houses and probable use of tongue and groove flooring or other floor coverings such as lino or carpet. The deposit was a small localised patch of fill, and contained three MIC, three fragments of nail and tacks, one of which was possibly HF (#10682), the others untyped. The lack of items from this deposit is due to the small size of the deposit, the shorter occupation period compared to House 1, and the likelihood that as it was associated with the latest construction additions (Phase 4.2) tongue and groove flooring was likely used.

3.1.5 HOUSE 1 CISTERN

The cistern (087) was constructed at the same time as House 1 and backfilled when no longer in use in the early 20th century after the houses were connected to the water mains. Four layers of backfill were identified, however only one, the uppermost fill (090), contained any metal artefacts. The artefacts would have been placed in this deposit opportunistically to discard broken or unnecessary belongings. Though only 21 MIC and 12 fragments were identified, the range of functions is much greater than other contexts throughout the site, and included: architectural, food, food/beverage, household, industrial, work, transport and unidentified (

Table 3.5). These items are indicative of personal activities occurring in the area such as cooking and preparing food over the stove or hearth, laundry, transportation, and lighting. This sheds light on the day-to-day activities and practices of the inhabitants of the site as well as revealing personal preferences and cultural trends such as seen with the graniteware kettle (#10701) discussed below and other household decoration.

Table 3.5: Summary of metal artefacts from fill (090) within the cistern (087).

General function	Shape	MIC	Fragments
architectural	bolt & nut & washer	3	0
	nail	1	0
food	pot	1	1
food/beverage	kettle	1	1
household	hook	1	0
	knob	1	0
	lamp	1	1
	tub	1	1
household/transport	nail/spike	1	0
	screw	1	0
	sheet/sheathing	1	1
	tack	1	1
industrial	slag	1	0
industrial/work	handle	1	1
transport	ring	1	1
unidentified	can	1	1
	cap	1	1
	pail	1	1
	unidentified	1	1
	TOTAL	21	12

Two food preparation items were found; one enamel kettle (#10701), and one cast iron cooking pot (#10702) (Figure 3.13). Enamelware was a technique where a thin layer of porcelain enamel was adhered to the surface of thin sheet iron or steel.[20] Enamelware created even heat distribution, a non-stick surface, and was lighter to use and cheaper to make than other materials.[21] This particular kettle was graniteware – a type of enamelware

[20] Wilkness, K. 2014, Retrieved from https://www.mysoulfulhome.com/my-soulful-home/enamelware-collectors-guide

[21] Monet, D. 2021, Retrieved from https://delishably.com/cooking-equipment/Enamelware-Vintage-Collectible-and-Popular-Modern-Retro

where the surface design attempted to imitate real marble.[22] This was a later form of decorative enamelware developed c.1880s. A maker's mark on the base has the image of a standing lion and ewer with a capital "B" (Figure 3.3). This mark is potentially attributed to Manning, Bowman & Co. (1849-1945) a predominate graniteware producer of the period.

Figure 3.13: Food preparation items from cistern fill (090). (l-r) grey graniteware kettle (#10701), cast iron cooking pot (#10702). Scale 100mm. DSCN_3077. Russell Workman.

Figure 3.14: Base of grey graniteware kettle (#10701) showing makers mark, possibly produced by Manning, Bowman & Co. Scale 100mm. DSCN_3061. Russell Workman.

Household items from the cistern fill (090) included a very heavily decaying simply decorated brass doorknob (#10684), a handle of a laundry tub (#10697), a fragment of the font portion of a kerosene lamp (#10675 c.1860), a hook (#10691), as well as various furniture/fittings (possibly also could have been transport related), screws, nails, sheathing,

[22] Monet, D. 2021, Retrieved from https://delishably.com/cooking-equipment/Enamelware-Vintage-Collectible-and-Popular-Modern-Retro

and tacks (Figure 3.15). A large brass ring (#10685) was probably part of a horse bridle or bit. This was one of only three items found from the entire Blues Point assemblage (066/#10602, 090/#10685, 323/#10723) that are indicative of horse-drawn transportation occurring in the area. Other items have unidentified general and specific functions, including fragments of tin can, pails cap and unidentified metal.

Figure 3.15: Metal artefacts from (090). (l-r) Top row: large u-shaped iron handle for laundry-style tub #10697, iron/tin can fragment #10689, dark-grey slag #10687, (lower) small tack #10693, domed slot head screw #10694, steel nail #10690, clenched hook/nail #10692. Second row: simple spherical door knob #10684, iron bottle/container cap #10688, kerosene lamp font #10695, solid ring for horse accoutrement #10685. Third row: copper alloy sheathing #10686, galvanised iron bolt with square nut and copper alloy washer #10700, WD iron spike/hook #10691. Scale 100mm. DSCN_3065. Russell Workman.

3.1.6 DEMOLITION DEPOSITS

The demolition of Houses 1, 2 & 3 occurred between 1940s and 1960s (Phase 6). Four contexts were identified as demolition deposits across the 3 houses, together containing 27 MIC and seven fragments (Table 3.6). The artefacts were similar between the four contexts though the amounts varied; (011) had the most metal artefacts with 16 MIC, five

fragments, followed by (026) with seven MIC, two fragments, and (016, 019) both only had two MIC, zero fragments (Table 3.6, Figure 3.16, Figure 3.17).

Table 3.6: Summary of items from demolitions deposits across Houses 1, 2 & 3.

Context	House	Room	General function	Type	MIC	Fragments
011	2 & 3	A & B	architectural	Domed Slot	6	0
				HF Rose	2	0
				WD Rhom	3	0
				-	2	4
			architectural/transport	CW Rose	1	0
			household/transport	WD sq	1	0
			unidentified	-	1	1
016	2	C	architectural	WD	1	0
			transport	WD sq	1	0
019	1	1	architectural	-	2	0
026	1	2	architectural	WD	6	2
			service	-	1	0
				TOTAL	27	7

The majority (85%) of the artefacts were architectural with specific functions including structural, roofing, and non-structural items. Nails were the most common shape with ten MIC and two fragments, of which eight MIC were iron WD dating from c.1853-1890. The types of nails varied, including HF (c.1788-1890), CW (c.1820-1870), WD iron (c.1853-1890), WD galvanised (c.1860-), WD steel (c.1875-1940), WD sq (c.1835-), reflecting the longstanding occupation of these houses with multiple phases of repair and modifications. Roofing screws and washers were the second most common shapes (six MIC, zero fragments). These were Domed Slot head galvanised screws and lead washers used to withstand the elements from c.1860. Other shapes included spikes, tacks, strips, sheeting, offcuts, and iron service pipe.

Figure 3.16: Metal artefacts from demolition deposit (011). First column: (top) three iron offcut strips #10024, (bottom) flat galvanised iron sheet #10025. Second column (l-r): (top) narrow WD rhomboid steel nail #10018, small copper alloy tack #10017, iron nail #10020, (bottom) three galvanised iron roofing screws and lead washers #10022. Third column (l-r): (top) iron strip #10021, (bottom) two rhomboid WD steel nails #10019, CW iron spike #10023. Scale 100mm. DSCN_3057. Russell Workman.

Figure 3.17: Selected items from demolition contexts (l-r). Top row: screw and washer 019/#10034, sheathing tack 016/#10032, nail 016/#10033. Second row: bent nail 026/#10065, nails 026/#10066 (3), 026/#10064. Third row: pipe 026/#10062. Bottom row: nail 026/#10063. 100mm scale. DSC_4358. Russell Workman.

4.0 AREA B

4.1 AREA B

Area B was bordered by Blues Point Road to the west, and Blues Bay to the south. The area had multiple retaining and seawalls with different phases of construction and repair. There was also a weighbridge, various fills, levelling, and surfacing events that occurred above the limited natural deposits in the area. Only four contexts contained any metal artefacts, with a total of 51 MIC and 27 fragments (Table 4.1). These were predominately maritime transport items, followed by architectural items. The majority of nails from Area B were copper alloy WD sq nails or tacks (23 MIC and three fragments) datable from c.1835.

Table 4.1: Summary metal artefacts identified in Area B by context and general function.

Context	General function	MIC	Fragments
301	architectural	1	0
	architectural/industrial	1	0
	food	2	2
	household	3	1
	household/transport	3	0
	transport	7	2
	unidentified	4	4
	yard	1	1
Context 301 TOTAL		**22**	**10**
323	transport	1	1
Context 323 TOTAL		**1**	**1**
329	transport	2	0
Context 329 TOTAL		**2**	**0**
337	architectural	10	12
	household/transport	5	0
	transport	11	4
Context 337 TOTAL		**26**	**16**
TOTAL		**51**	**27**

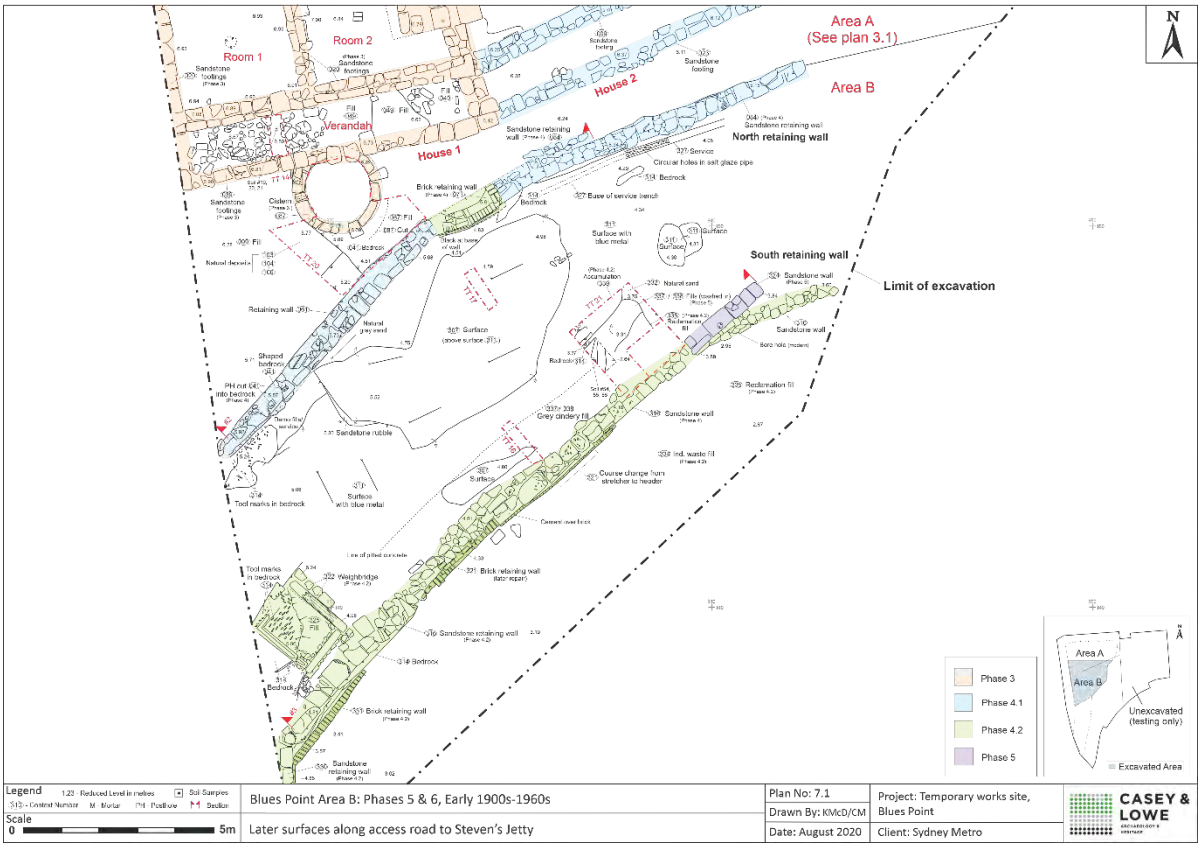

Figure 4.1: Plan of Area B. Appendix 11.2.

4.1.1.1 ACCUMULATED SANDS

A dark grey-black silty sand (337) was excavated within TT21, washed down from higher up in the site, after the construction of the retaining walls, accumulating at the base of the retaining wall. This context had the highest number of metal artefacts from Area B. A small conical rove that was fixed to a nail (#10725), and all other items were nails or tacks (Figure 4.2). Of these items, 10 MIC and 12 fragments were architectural; six MIC and eight fragments were HF, datable from c.1788 to 1890, three MIC and three fragments were iron WD circ nails datable from c.1853 to c.1890. The remaining items from this context were copper alloy WD sq, datable from c.1835. These were all likely related to maritime transport, though the four MIC tacks could either be household or transport related.

Figure 4.2: Metal nails and tacks from accumulated sand deposit (337) showing the difference in preservation between iron and copper alloy from the same archaeological deposit. (l-r) Top left: four nails #10737. Top centre: three iron nails #10739. Top right: iron nail #10738. Middle: two WD sq countersunk sheathing tacks #10736. Bottom row: WD sq nails - nail and conical rove #10725, #10726, #10727, #10728, #10729, #10730, #10731, #10732, #10733, #10734, #10735 (two). Scale 100mm. DSCN_3088. Russell Workman.

4.1.1.2 20TH-CENTURY FILL AND CLEAN-UP CONTEXTS

The other metal artefacts from Area B were from clean-up numbers (301, 323), and one later 20th century fill (329) (Figure 4.3). Clean-up numbers are numbers given out often initially after machining a new area, or after rain etc, they are generally not secure contexts and likely associated with multiple events of which are not clear without further investigation. Within these clean-up contexts was a range of functions, including, architectural, industrial, food, household, transport, yard, and some unidentified finds. A key (#10714) from a key-wind tin can was found within (301), this is datable to post c.1866 was likely a part of a rectangular in shape sardine of meat can. The key would wind to tear away and open the seal from the can. A very small thin iron/possibly tinned pan (#10705) is unusual and probably used as a small melting pot. It had a rounded base so cannot stand by itself, and has a simple strip of metal soldered to the base that is turned twice to create the handle.

Figure 4.3: Metal artefacts from 20th century fill (329) and clean-up contexts in Area B (301, 323). (l-r). Top row: large iron washer 301/#10716, tin can lid 301/#10715, iron hook 301/#10718, copper alloy hook 301/#10703. Second row: rod/spike 301/#10719, small copper alloy curtain ring 301/#10713, clenched WD sq nails 301/#10710 and 301/#10711 (above) copper alloy hook 301/#10704, WD sq nails 301/#10708, 301/#10707, bent nail 301/#10709. Third row: HF iron spike 301/#10720, copper strip 301/#10712, key-wind tin can opener 301/#10714 above 301/#10717. Bottom row: unidentified rods 301/#10721 and 301/#10722, horse bridle part 323/#10723, small metal pot 301/#10705. Scale 100mm. DSCN_3457. Russell Workman.

5.0 REPORT SUMMARY & RESULTS

5.1 SUMMARY & RESULTS

A total of 979 MIC and 337 fragments were recovered during the excavation of Blues Point. From Area A, 35 contexts contained metal artefacts and four contexts from Area B (Table 2.1). The vast majority of metal artefacts came from the underfloor deposit of House 1 Room 2 (066) which contained 743 MIC, 217 fragments (80% of the total assemblage). The most common general function was architectural (33%), relating to the construction, repair and demolition of the houses (Table 2.2). Household/transport items were the second most frequently identified (32%), where items could be used in either a household or transport context. Transport items (19%) followed and less again were household items (7%). All other functions were either unidentified (6%) or made up between 0% and 1% of the metal artefact assemblage.

Architectural items were predominately nails, screws, washers, spikes, and bolts. Multiple types of nails were identified, including: HF (1788-c.1890), Cut (c.1805-), CW (c.1815-1870), MW (c.1840-1870), iron WD (c.1853-1890), galvanised WD (c.1860-), and steel WD (c.1875-present). The range of types identified evidences the changing technologies of nail production and manufacture occurring and available in Sydney throughout the various phases of occupation of the site, as well as shifts in perceived popularity of such technology. The predominance of architectural nails in the assemblage indicates that these items were necessary items that were readily available as well as easily discardable and unlikely to be reused.

The evidence relating to shipbuilding at Blues Point was significant, and was predominately indicated by the presence of copper alloy artefacts. Though the site was mainly residential, it was occupied at various times by skilled ship builders and craftsman. Transport or household/transport items were uncovered from almost all contexts containing metal artefacts across both Area A and Area B. However, different to other shipbuilding sites in Sydney such as Barangaroo South, that contained a large variety of shapes and sizes of ship nails amongst other ship related artefacts, the majority of what was uncovered at Blues Points were smaller nails or tacks.[23] These smaller nails were generally appropriate to be used on the superstructure of a vessel, or on the hull smaller clinker type boats that would move about the harbour but not spend any or long periods of time at sea. The number of small roves, both circular and diamond shaped, found in multiple deposits do furthermore indicate that the maritime works that are evidenced from the assemblage were for the constructions and or repair of these types of vessels. This is again substantiated by inconclusive evidence of copper alloy sheathing, a method shipbuilding method that was becoming more common during the period of occupation on larger ships. The assemblage lacks other ship related artefacts such as rowlocks, thimbles, grommets, or shipbuilding tools, that would be indicative of shipbuilding practices, techniques or trends. Additionally, the variety of smaller transport artefacts is also representative of the nature of underfloor deposits, where the majority of these items came from, which generally do not retain larger items.

[23] Casey & Lowe 2012

6.0 REFERENCES

Casey, M. 2004 'Falling through the cracks: method and practice at the CSR site, Pyrmont', Australasian Historical Archaeology, 21: 27-43.

Casey & Lowe 2012 *Barangaroo South, Archaeological Excavation Preliminary Results,* report to Lend Lease (Millers Point), Casey & Lowe Pty Ltd, October 2012.

Casey & Lowe 2018 *Temporary Works Site Blues Point Reserve, Blues Point Sydney Metro Project, Archaeological Method Statement*, report to JHCPBG JV, June 2018.

Casey & Lowe 2021 *Archaeological Investigation, Temporary Works Site, Henry Lawson Reserve, Blues Point, North Sydney.*

Hebert, L. (ed.) 1836/37 *The Engineers' and Mechanic's Cyclopaedia*, 2 Vols, Thomas Kelly, London.

Light, J.D. 2000 'A Field Guide to the Identification of Metal', reprinted in K. Karklins (ed.) *Studies in Material Culture Research*, pp. 3-19, The Society for Historical Archaeology, California University of Pennsylvania.

McCarthy, M. 2005 *Ships' Fastenings from sewn boat to steamship*, Texas A & M University Press, USA.

Monet, D. 2021, *'An in-depth look at popular vintage/retro enamelware collectibles'*. Retrieved from https://delishably.com/cooking-equipment/Enamelware-Vintage-Collectible-and-Popular-Modern-Retro

Noël Hume, I. 1970 *A Guide to Artifacts in Colonial America*, Alfred Knopf, New York.

Priess, P. J. 2000 'Historic Door Hardware', reprinted in K. Karklins (ed.) *Studies in Material Culture Research*, The Society for Historical Archaeology, pp. 46-95, The Society for Historical Archaeology, California University of Pennsylvania.

Staniforth, M. 1985 '*The introduction and use of copper sheathing – a history',* Australian Institute of Marine Archaeology Bulletin 41.

Turner-Walker G. 2008. *A Practical Guide to the Care and Conservation of Metals,* Headquarters Administration of Cultural Heritage, Council for Cultural Affairs.

Wilkniss, K. 2014, '*Enamelware – a collector's guide'*. Retrieved from https://www.mysoulfulhome.com/my-soulful-home/enamelware-collectors-guide

Varman, R. V. J. 1993. B*ricks and Nails – Building materials as criteria for dating in Sydney and environs from 1788,* thesis, University of Sydney, September.

SYDNEY METRO TEMPORARY WORKS SITE BLUES POINT

MISCELLANEOUS REPORT

MAY 2022

A sample of jewelry from Blues Point

FINAL REPORT | to **Sydney Metro**

CASEY & LOWE
ARCHAEOLOGY & HERITAGE

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CONTENTS

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SYDNEY METRO TEMPORARY WORKS SITE BLUES POINT

MISCELLANEOUS REPORT

1.0 INTRODUCTION

1.1 BACKGROUND

Casey & Lowe were commissioned by AMBS Ecology and Heritage on behalf of John Holland CPB Ghella Joint Venture (JHCPBG) to undertake historical archaeological investigations at the Temporary Works Site, Blues Point and Henry Lawson Reserves, Blues Point Sydney. This report presents the analysis of the miscellaneous artefacts excavated from Blues Point. The excavation and monitoring of the site occurred between August and November 2018. The study area was divided into two excavation areas, Area A, the northern third of the site, and Area B the central and southern parts of the site (Figure 1.1).

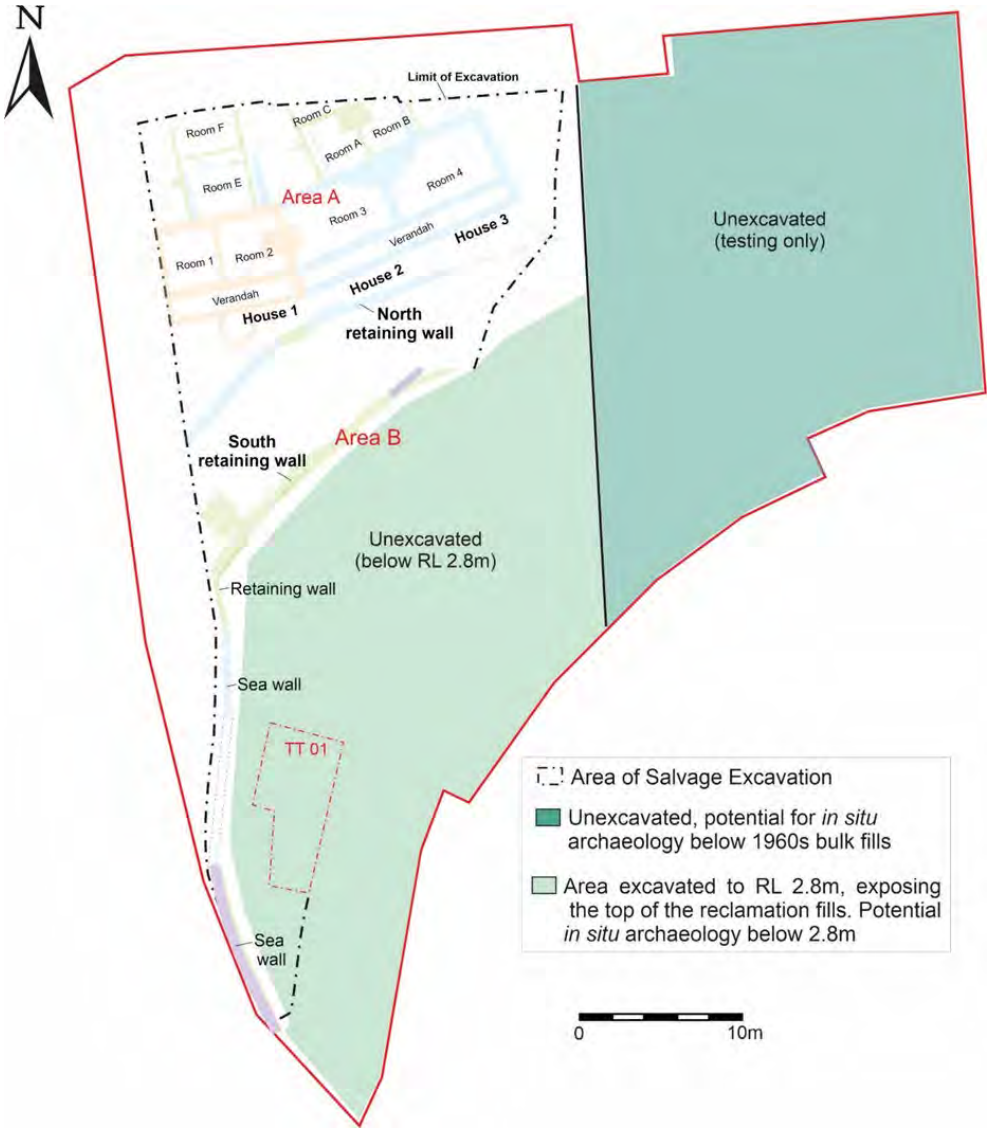


Figure 1.1: Blues Point site showing Area A and Area B and the features and limits of archaeology.

1.2 ARCHAEOLOGICAL PHASES

The archaeological remains are divided into seven main historical phases (Table 1.1). Most of the phases were concerned with the residential and industrial development of the site between the 1850s and 1930s. Phase 4 was subdivided into two sub-phases which helped to clarify the different construction phases and additions to the houses in Area A along with the repairs and modifications to the retaining walls and seawall.

Table 1.1: Summary of the archaeological phases identified.

Phase	Date	Description
1	-	Natural landscape
2	-	Aboriginal occupation
3	1817-mid 1860s	Early British occupation, wharf construction
4	1867-1890s	Wharfage, maritime industries & residential occupation
4.1	1860s-1870s	Construction and early occupation of two houses built by Stevens c.1869. Early land reclamation, levelling, surfaces and retaining wall.
4.2	1880s-1890s	Additions to the houses, land reclamation, with repairs and modifications to the retaining walls and the construction of Stevens' jetty and maritime infrastructure.
5	Early 1900s-1930s	Vehicular ferry, upgrades, new businesses
6	1940s-1960s	Demolition of ferry wharf and cottages
7	1960s-2018	Public Park

Typical remains included footings, retaining walls, seawalls, a cistern, some postholes and pits, occupation deposits, yard surfaces, levelling fills and reclamation fills. In all a total of 150 contexts were assigned to the remains. Context numbers 001 to 108 were assigned to Area A and contexts 301 to 349 to Area.

1.3 METHODOLOGY

The artefact processing for Blues Point happened in several stages. The artefacts were sieved on site and then transported to a processing centre in Rosebery to be cleaned, bagged, and boxed. The artefacts were then transported to a storage facility awaiting analysis. Cataloguing and analysis happened in the Casey & Lowe office.

Jane Rooke, archaeologist and artefact specialist, catalogued the artefacts using the cataloguing system developed by Dr Mary Casey. The basis of this system has been published elsewhere.[1] The main elements of this cataloguing system are the use of minimum item counts (MIC) to quantify the assemblage and the attribution of functional categories for the artefacts. This assists in understanding how artefacts related to the daily lives and activities of the people associated with the study area, as well as identifying items used by other residents and businesses of Sydney and discarded on site.

Artefacts were dated, where possible, providing temporal information for the context. It is noted that the date of use, sometimes reuse, and deposition of an artefact can differ significantly from its manufacture date. A typology developed by Robyn Stocks and Dr Mary Casey was used in conjunction with information available for manufacturers and product manufacturers. All datable artefacts have a *terminus post quem* (TPQ), a date when the item was first manufactured or a *terminus anti quem* (TAQ), an end date for manufacture.

[1] Casey 2004

The category of miscellaneous artefacts for Blues Point has its own numbering sequence of #20001-21613 which form part of the Artefact Catalogue in Volume 4. For the miscellaneous artefacts, the catalogue record includes:

- the catalogue number
- the context number where the item was found
- the shape or morphology of the item (i.e., pipe)
- the general function (i.e., recreation)
- specific function (i.e., smoking)
- fabric (i.e., kaolin)
- portion (i.e., bowl/stem)
- country of manufacture
- manufacturer
- producer or retailer
- mark
- age and gender associations
- dimensions (in mm)
- joins (context/#catalogue number)
- weight (in grams)
- brief description (includes mark description)
- from and to dates (of manufacture)
- number of fragments
- minimum item count (MIC).

The results of the main occupation deposits are discussed in relation to spatial distribution patterns determined by excavation within an arbitrary grid system. The grid refers to alpha-numeric squares overlain over the footprint of a cottage or individual room. A1 represents the north western corner in all gridded areas. The results are presented numerically and emphasised visually using the colour-coded shading shown in Table 1.2.

Table 1.2: Colour coding for spatial grid for underfloor deposit analysis.

KEY	SPATIAL GRIDS
	very high artefact concentration
	high artefact concentration
	medium artefact concentration
	Unexcavated

2.0 OVERVIEW OF ASSEMBLAGE

2.1 OVERVIEW

This section of the report examines the 4164 Minimum Item Count (MIC) and 2093 fragments of miscellaneous artefacts excavated during the historical archaeological investigations at Blues Point.

There are 32 contexts that have miscellaneous artefacts (Table 2.1). The majority of these were in Area A, with only 9 items from the whole of Area B. The breakdown of artefacts within each context shows that the underfloor deposits had by far the highest number of artefacts. Context 066, the underfloor deposit in House 1, Room 2, had 85% of the total amount of artefacts.

Table 2.1: Breakdown of artefacts by Area and Context.

Area name	Context	Context type	MIC	%	Fragments	%
Area A	001	Clean up	10	*0.2*	9	*0.4*
	005	Levelling Fill	1	*0.0*	1	*0.0*
	008	Post Demo Fill	4	*0.1*	1	*0.0*
	010	Levelling Fill	1	*0.0*	1	*0.0*
	011	Demo fill	5	*0.1*	4	*0.2*
	013	Levelling Fill	4	*0.1*	2	*0.1*
	019	Demo fill	2	*0.0*	2	*0.1*
	021	Underfloor Deposit	450	*10.8*	53	*2.5*
	024	Levelling Fill	8	*0.2*	6	*0.3*
	025	Clean up	3	*0.1*	2	*0.1*
	026	Demolition Fill	7	*0.2*	2	*0.1*
	029	Modified historic topsoil	6	*0.1*	5	*0.2*
	031	Levelling Fill	1	*0.0*	1	*0.0*
	032	Modified historic topsoil	3	*0.1*	2	*0.1*
	033	Levelling Fill	1	*0.0*	0	*0.0*
	038	Clean up	6	*0.1*	4	*0.2*
	058	Levelling Fill	3	*0.1*	6	*0.3*
	059	Levelling Fill	1	*0.0*	1	*0.0*
	062	Clean up	4	*0.1*	3	*0.1*
	065	Levelling Fill	55	*1.3*	47	*2.2*
	066	Underfloor Deposit	3545	*85.1*	1917	*91.6*
	069	Underfloor Deposit	10	*0.2*	7	*0.3*
	078	Fill	2	*0.0*	2	*0.1*
	079	Fill	5	*0.1*	5	*0.2*
	082	Underfloor	8	*0.2*	4	*0.2*
	085	Clean Up	6	*0.1*	1	*0.0*
	090	Cistern Fill	3	*0.1*	1	*0.0*
	103	Modified historic topsoil	1	*0.0*	0	*0.0*
Area B	301	Clean up	2	*0.0*	1	*0.0*
	317	Fill	1	*0.0*	0	*0.0*
	323	Clean up	1	*0.0*	0	*0.0*
	337	Deposit	5	*0.1*	3	*0.1*
		Totals	4164	*100.0*	2093	*100.0*

Underfloor deposits, archaeological deposits found under and between floors in buildings, standing or otherwise, have the potential to provide information on human behaviour in

the past, providing insights into households and household activities, consumer patterns and social economic status.

Early timber floorboards in Australia were usually square edged and butted together (shot floorboards) (Figure 2.1). Tongue and groove floorboards were used in government buildings from the early 1860s.[2] However, it was the introduction of specific machinery, in the 1880s, that allowed tongue and groove floors to become more commonly used in housing.[3] Both types of boards continued to be used throughout the nineteenth century.

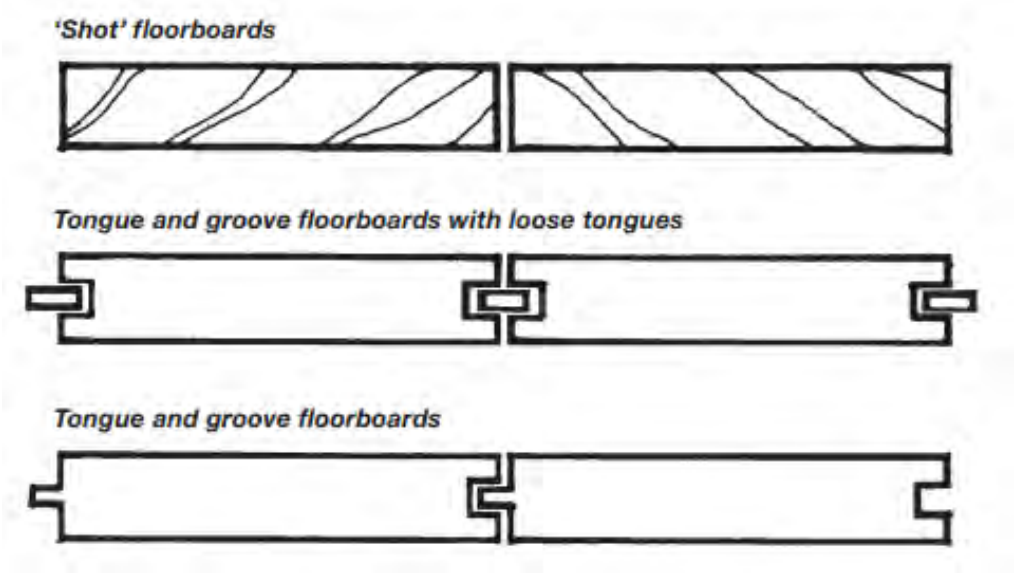


Figure 2.1: Floorboard types.[4]

The condition of the floorboards and skirting (if any) is crucial as to how large and how many items could slip below and become incorporated into the underfloor deposit. The boards would deteriorate over time and the floor could slope down in one direction affecting the pattern of underfloor accumulation. The use of the tongue and groove boards improved the ability of the floor to resist movement caused by moisture change which could lead to warping and gaps in the floorboards as well as between the boards and the walls. The tongues in the boards prevented items falling through to the underfloor. There may be periods when they were covered by furniture, matting or were patched and repaired. Gaps often form between boards in doorways or other high-traffic areas; and beside walls if the skirting boards are damaged or non-existent. The behaviour of the residents in keeping the house clean and tidy had a secondary impact on artefact distribution below the floor. It has often been observed how sweeping tends to work towards a convenient door or a gap in the floor[5]. Many small items or fragments would easily be incorporated in the dust. The underfloor deposits will be discussed in detail in section 3.1.

A further breakdown of the miscellaneous artefacts by general function shows that the artefacts came from three main groups associated with household (45), personal (22), and

[2] Public Works Department, Correspondence, Parramatta Lunatic Asylum 1856-66, SANSW 2/618C

[3] Casey & Lowe 2004. Melbourne Exhibition 1880, Catalogue, p 50.

[4] NSW Heritage Office. 2005. Repair of Tongue and Groove Floorboards Information Sheet 5.4

[5] Casey & Lowe 2004

personal/household (24) activities (Table 2.2). Recreational and clerical artefacts made up three and four per cent respectively. The remaining functional classifications were represented by finds in single or low double figures only.

Table 2.2: Breakdown of artefacts from Blues Point by general function.

General Function	MIC	%	Fragments	%
beverage	1	*0.0*	2	*0.1*
clerical	186	*4.5*	186	*8.9*
economy	15	*0.4*	3	*0.1*
food	6	*0.1*	5	*0.2*
household	1891	*45.4*	1302	*62.2*
household /personal	10	*0.2*	7	*0.3*
household /recreational	12	*0.3*	14	*0.7*
household /unidentified	2	*0.0*	0	*0.0*
personal	898	*21.6*	468	*22.4*
personal /household	994	*23.9*	23	*1.1*
personal /transport	1	*0.0*	0	*0.0*
recreational	131	*3.1*	66	*3.2*
service	2	*0.0*	2	*0.1*
transport	2	*0.0*	2	*0.1*
unidentified	8	*0.2*	7	*0.3*
work	2	*0.0*	2	*0.1*
work/household	3	*0.1*	4	*0.2*
Totals	4164	*100.0*	2093	*100.0*

3.0 CONTEXT ANALYSIS

3.1 AREA A

Area A was the northern most area of the Blues Point site, bordering Henry Lawson Avenue to the north, and Blues Point Road to the west (Figure 3.1). Multiple phases of occupation were identified within this area. The earliest house within the site boundary was House 1, a pre-1857 structure that survived with modifications until the 1940s. This house relates to Phase 3, though most of the deposits are phased later due to the structure's longevity. Houses 2 & 3 were built to the east of House 1, c.1869 (Phase 4.1), and the back-room additions to each house were added c.1881 (Phase 4.2). Some additional features within Area A were a natural and modified drainage channel, a cistern, fence-lines, fills, levelling, pathways, and modified and natural sands. The northernmost seawall is the boundary between Area A and Area B.

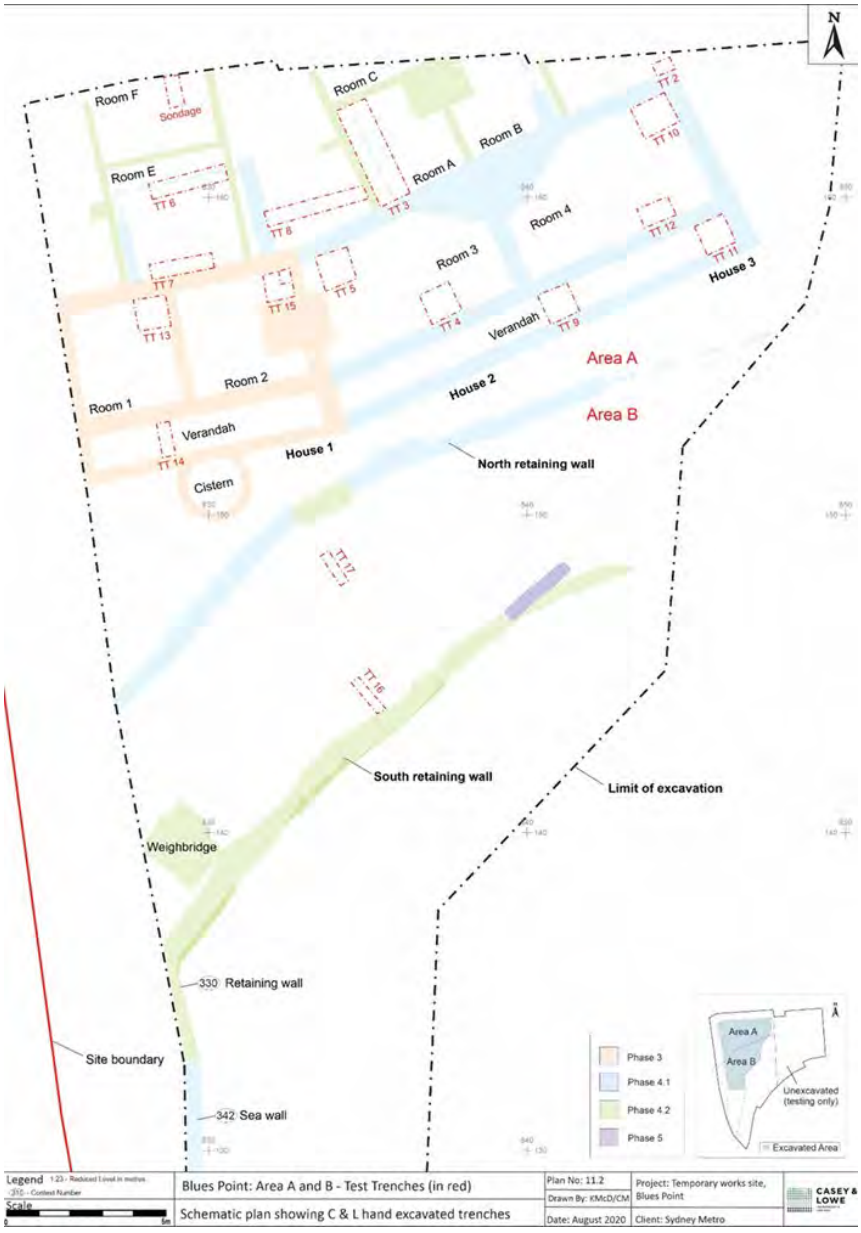


Figure 3.1: Location of hand excavated test trenches through TT 2 to TT 17 during the course of excavation.

Area A had a total of 4155 MIC artefacts (2089 fragments). The majority of the finds were classified as household (45.4%) and came from the underfloor deposits in House 1 Room 1 (context 021) and Room 2 (context 066). Personal and the personal/household category had 21.6% and 23.9% respectively (Table 3.1). The underfloor deposits in this house are phase 5 due to the constant occupation during the lifespan of the house (c.1857-c.1960).

Table 3.1: Breakdown of miscellaneous artefacts in Area A by general function.

General function	MIC	%	Fragments	%
beverage	1	*0.0*	2	*0.1*
clerical	186	*4.5*	186	*8.9*
economy	14	*0.3*	3	*0.1*
food	5	*0.1*	4	*0.2*
household	1888	*45.4*	1301	*62.3*
household /personal	10	*0.2*	7	*0.3*
household /recreational	12	*0.3*	14	*0.7*
household /unidentified	2	*0.0*	0	*0.0*
personal	897	*21.6*	467	*22.4*
personal /household	994	*23.9*	23	*1.1*
recreational	129	*3.1*	65	*3.1*
service	2	*0.0*	2	*0.1*
transport	2	*0.0*	2	*0.1*
unidentified	8	*0.2*	7	*0.3*
work	2	*0.0*	2	*0.1*
work/household	3	*0.1*	4	*0.2*
Totals	4155	*100.0*	2089	*100.0*

3.1.1 PHASE 3 MODIFIED SANDS

The modified historic topsoil/A1 horizon was loosely compacted dark brownish grey to black silty sand. Although numbered separately in different test trenches (contexts 029 and 032 in TT4, 103 in TT22) they are from the same stratigraphic unit (Phase 3), and will be discussed together (Table 3.2). Phase 3, the early British occupation, wharf construction from 1817 to 1860s included:

- Early land clearance and modification, small-scale farming.
- Earliest phase of wharves, jetties and seawalls.
- First phase of cottage and associated fences in northwest of Area A.
- Subdivision of Blues estate.

3.1.1.1 PHASE 3 – MODIFIED SANDS-1817-MID 1860S; EARLY BRITISH OCCUPATION, WHARF CONSTRUCTION

A total of 10 artefacts came from three topsoil contexts (029, 032, 103) representing a range of functions (Table 3.2). Contexts 029 and 032 from TT04 form a pre-house surface layer for house 3. Context 029 had two buckets of soil saved for sieving. Six artefacts were found during this process including a very worn 1870 sixpence (029/#20217). The slate pencil 0(29/#20214), pin (029/#20216), and light blue bead (029/#20218) are items that are often found on archaeological sites in Sydney associated with household activities, within or under a house/building.[6] Multiple examples of these artefacts were found in the underfloor deposits of House 1 and will be discussed further in section 0. A wooden scrubbing brush (029/#20213) and a clear glass button (029/#20220) were also found. The three contexts (029, 032 and 103) contained four tobacco pipes (029/#20215,

[6] Stocks 2015; Stocks 2013 P236

032/#20221, 032/#20222 and 103/#21600). The pipes found in these two trenches were mostly plain pipes, only one bowl fragment had a scalloped rim. The pipe from 103 (#21600), although only the stem, looked very clean, with no sign of tobacco staining or burning and possibly used very little if at all (Figure 3.2, Table 3.2).

Table 3.2: Artefacts from the modified sands by function and shape.

Context	General function	Specific function	Shape	MIC	%	Fragments	%
029	cleric	writing	slate pencil	1	10.0	1	12.5
	economy	currency	coin	1	10.0	0	0.0
	household	sewing	pin	1	10.0	1	12.5
	personal/ household	jewellery/ clothing/ furniture	bead	1	10.0	0	0.0
	recreational	smoking	pipe	1	10.0	1	12.5
	work/household	tool	brush	1	10.0	2	25.0
032	personal	cloth	button	1	10.0	0	0.0
	recreational	smoking	pipe	1	10.0	1	12.5
				1	10.0	1	12.5
103	recreational	smoking	pipe	1	10.0	1	12.5
			Totals	10	100.0	8	100.0

Figure 3.2: All artefacts from modified sands (l-r). Top row: pipe stems 029/#29215, 032/#20221. Second row: pipe stem 103/#21600, EUH pin 029/#20216, barrel drawn bead 029/#20218. Third row: slate pencil 029/#20214. Bottom row: 2-hole concave moulded glass button 032/#20220, partial wooden brush/tool 029/#20213. 100mm scale. DSC_4158. Russell Workman.

3.1.2 PHASE 3 AND 4 LEVELLING FILLS

Throughout the site levelling fills were used to prepare for construction of the cottages and the sea walls. A total of seven levelling fills contained 73 MIC and 64 fragments miscellaneous artefacts from three phases (Table 3.3).

Table 3.3: Levelling fill contexts by phase.

Phase	Context
Phase 3 1817-mid 1860s; early British occupation, wharf construction	013, 031
Phase 4.1 1860s-1870s; construction and early occupation of stevens cottages, c.1869.	005, 010, 058, 065
Phase 4.2 1880-1890s; additions to the houses, land reclamation, with repairs and modifications to the retaining walls and the construction of stevens' jetty and maritime infrastructure	024, 059

3.1.2.1 PHASE 3 1817-MID 1860S; EARLY BRITISH OCCUPATION, WHARF CONSTRUCTION

Phase 3 has two levelling fills (contexts 013 and 031) with a total of five MIC miscellaneous artefacts. Context 013, in TT03, predates the additional room, A, in House 2. All five items found were personal or household related (Table 3.4). If the item could be used for two functions, as is the case for the white glass bead (#20023), which could be used for personal clothing or jewellery, or household accessories such as cushions, then both functions were assigned to the object. The grommet (#20024) used for reinforcing eyelet holes was allocated two functions as it could have been from a shoe or from a bag. The bone button (#20022) found in context 013 has four irregular holes in the centre suggesting they were handmade (Figure 3.3). Bone buttons traditionally fastened underwear but could also have been used on men's shirts and other clothing. Bone began to be replaced by porcelain sew through buttons invented c.1840 but continued to be made until c.1950.[7]

Table 3.4: Breakdown of artefacts in phase 3 levelling fills by function.

Context	General function	Specific function	Shape	MIC	Fragments
013	personal	clothing	button	1	0
		grooming	comb	1	1
	personal /household	clothing/accessories	grommet	1	1
		jewellery/ clothing/furniture	bead	1	0
031	personal	clothing	button	1	1
			Total	**5**	**3**

Figure 3.3: All finds from Phase 3 levelling fills (l-r). Aes grommet 013/#20024, 4-hole bone button 013/#20022, 4-hole porcelain button 011/#20019, white glass bead 013/#20023. 100mm scale. DSC_4160. Russell Workman

[7] Bianchi, Bianco & Mahoney 2006; Houart 1977; Lindbergh 1999; Meredith & Meredith 2000; Newton 2008; Olsen 1963; Peacock 1978; South 1964; Sprague 1985; Stocks 2018:15

3.1.2.2 PHASE 4.1 - 1860S-1870S; CONSTRUCTION AND EARLY OCCUPATION OF STEVENS COTTAGES, C.1869.

There are four levelling fills from Phase 4.1 that contain miscellaneous artefacts (Context 005 continued beyond the House 3 footings into the yard, context 058, was within the eastern half of Room 4 and excavated in TT10, and context 010 was internal to House 1. These contexts had five artefacts between them, all relating to household or recreational activities. Three pipe fragments were found (#20016, #20031, #20032), two bowls, blackened with use and a stem with the name of its place of manufacture (GLASGOW) marked on it (Figure 3.4). The unidentified ring (#20230) is made from bamboo. The material and size of it suggests a household item, possibly a curtain ring or napkin holder. The small porcelain handle (#20011) from a piece of furniture is quite decorative with its twister copper alloy shank (Table 3.5). Context 005, 010 and 058, an imported black silty sand, although numbered differently, were all part of the same fill event. Context 005 continued beyond the House 3 footings into the yard, context 058, was within the eastern half of Room 4 and excavated in TT10, and context 010 was internal to House 1. These contexts had five artefacts between them, all relating to household or recreational activities. Three pipe fragments were found (#20016, #20031, #20032), two bowls, blackened with use and a stem with the name of its place of manufacture (GLASGOW) marked on it (Figure 3.4). The unidentified ring (#20230) is made from bamboo. The material and size of it suggests a household item, possibly a curtain ring or napkin holder. The small porcelain handle (#20011) from a piece of furniture is quite decorative with its twisted copper alloy shank.

Table 3.5: Breakdown of artefacts from Phase 4 levelling fills by functions.

Context	General function	Specific function	Shape	MIC	%	Fragments	%
005	household	furniture /fitting	handle	1	*1.7*	1	*1.8*
010	recreational	smoking	pipe	1	*1.7*	1	*1.8*
058	household	unidentified	ring	1	*1.7*	4	*7.3*
	recreational	smoking	pipe	2	*3.3*	2	*3.6*
065	clerical	writing	slate pencil	1	*1.7*	1	*1.8*
	economy	currency	token	1	*1.7*	1	*1.8*
	household	**sewing**	**pin**	**22**	***36.7***	**30**	***54.5***
	household/ recreational	ornament/toy	figurine/doll	1	*1.7*	1	*1.8*
	personal	clothing	button	8	*13.3*	4	*7.3*
			hook	4	*6.7*	5	*9.1*
			shoe screw	1	*1.7*	0	*0.0*
	personal	groom	comb	3	*5.0*	3	*5.5*
	personal/ household	jewellery/ clothing/ furniture	bead	12	*20.0*	0	*0.0*
	recreational	smoking	pipe	1	*1.7*	1	*1.8*
		toy	doll	1	*1.7*	1	*1.8*
			Totals	60	*100*	55	*100*

Figure 3.4: All finds from Phase 4.1 levelling fills (l-r). Top row: porcelain and aes handle/knob 005/#20011, red bugle drawn glass bead 021/#20031, bamboo ring 058/#20230. Second row: blue bugle drawn glass bead 021/#20032 (2). Bottom row: pipe bowl 058/#20232, pipe stem 010/#20016. 100mm scale. DSC_4164. Russell Workman.

Context 065 is the imported levelling fill for the east end of House 2 verandah. The fill was mixed with construction debris and contained 55 miscellaneous artefacts, of which 12 are datable and discussed below (Table 3.6, Figure 3.5).

Table 3.6: Sum, type and date of artefacts from Context 065 by function.

General function	Specific function	Shape	Type name	From	To	MIC	Frags
clerical	writing	slate pencil	Mach-cylindrical	-	c.1960	1	1
economy	currency	token	-	-	-	1	1
household	sewing	pin	EUH	c.1809	c.1880	17	22
			SWC	c.1840	c.1880	5	8
household /recreational	ornament/toy	figurine/doll	-	-	-	1	1
personal	clothing	button	1-hole	c.1850	-	1	1
			3-fold linen	c.1841	-	1	0
			4-hole	c.1840	c.1930	1	1
			4-hole	c.1850		1	1
			4-hole concave	c.1850	-	2	0
			4-hole concave Bowen	c.1850		1	0
			2-piece dome			1	1
		hook	2-piece dome 3-ridge	-	-	1	0
						3	5
		shoe screw	-			1	0
	groom	comb		c.1851	-	2	2

General function	Specific function	Shape	Type name	From	To	MIC	Frags
				c.1869		1	1
personal /household	jewellery /clothing /furniture	bead	Annular monochrome wound	-	-	1	0
			Barrel bichrome drawn			3	0
			Bugle monochrome drawn cut hexagonal			2	0
			Seed monochrome drawn			4	0
			Spherical monochrome facetted moulded			1	0
			Spherical monochrome wound			1	0
recreational	smoking	pipe				1	1
	toy	doll	-	c.1850	-	1	1
					Total	55	47

There are 22 MIC (30 fragments) brass pins in this context, 17 have early upset heads (EUH) and five have spherical wound wire heads (SW). The manufacture of pins, which were used for sewing as well as securing clothing, was done by hand until the introduction of new technology in the late 19th century. Pins had been made with wound spherical heads since the 16th century, one of the earliest mass production industries in Britain. Before 1700 a single specialized worker could deal with as many as 24,000 pins a day.[8] Early upset head pins were partially machined and produced from c.1809. These changes are noted in the catalogue with the type name and date and contribute to the establishment of a TPQ.

The eight buttons from context 065 are represented by materials including copper alloy (aes), brass, mother of pearl (MoP), porcelain (porc), iron (fe), as well as a mix of fabric with aes and fe. The three MoP buttons (#20244, #20245, #20246) were plain and very worn and broken, the shell delaminating (peeling off in layers). The porcelain button (#20252) was also plain. Two buttons (#20251, #20257) were made in 2 or 3 pieces and had added fabric. The fabric on both has left an imprint or a ghost of the woven material. The brass button (#20242) has a stamped mark of the manufacturer, S. Bowen, from Regent Street. There were many button manufacturers in the UK and unfortunately no more information could be found for Bowen. The latest *TPQ* date provided from the buttons is c.1850.

Personal items used for grooming consisted of three teeth from different combs. Two teeth, both black but different shapes are made from vulcanite (#20253, #20254). One tooth is from a faux tortoiseshell celluloid comb (#20255). Vulcanite was the first early plastic, made up of rubber mixed with sulphur; it could be moulded and did not react to changes in temperature. Celluloid was the second early semi synthetic plastic, patented in 1869 in America and a popular material for hair combs[9].

Items associated with children's activities also provide dates for the fill. Slate pencils, used to write on pieces of slate at school, home and Sunday School, were still used until c. 1960. One other artefact gives us a date, the small porcelain leg from a soft bodied doll (#20258) with a pointed light brown shoe. This was probably imported from Germany or France after c.1850.

[8] Tylecote 1972

[9] Katz 1986:19.

The twelve glass beads (#20259-#20270), pipe fragment (#20238), dress hooks (#20247-#20249), shoe screw (#20250) and possible token (#20271) relate to a range of household or personal items and recreational activities but provide no secure dates for the context. The datable artefacts discussed give an absolute TPQ of 1869 for the context. Combined with the general functions of mostly household (40), personal (31) or personal/recreational (22), with recreational at four percent and clerical, economy and household/recreational each making up two per cent, it suggests the fill came from a contemporary occupation deposit mixed with the fill.

Figure 3.5: Datable artefacts from Phase 4.1, context 065, levelling fill (l-r). Top row: porcelain doll leg #20258, 4-hole porcelain button #20252, 4-hole MoP buttons #20246, #20244, 1-hole MoP button #20245, vulcanite tooth comb #20253. Bottom row: 3-fold linen button #20251, 4-hole brass Bowen button #20242, 2-piece fe button #20257, celluloid comb tooth #20255 above vulcanite comb tooth #20254. 100mm scale. DSC_4165. Russell Workman.

3.1.2.3 PHASE 4.2 - 1880-1890S; ADDITIONS TO THE HOUSES, LAND RECLAMATION, WITH REPAIRS AND MODIFICATIONS TO THE RETAINING WALLS AND THE CONSTRUCTION OF STEVENS' JETTY AND MARITIME INFRASTRUCTURE.

Two fills (024, 059) assigned to Phase 4.2 contained nine miscellaneous artefacts. Context 024 was the uppermost fill in the eastern end of the front verandah, House 3. The fill was loose black fine silty sand containing a number of artefacts in the upper layer which were visible on the surface. Although not an underfloor deposit it contained artefacts which may be associated with the occupation of the house, of which there were eight miscellaneous artefacts (Table 3.7).

Of the three pipes, two were plain stem fragments, the third was a pipe stem (#20202) with the partial mark of 'Thomas White & Co' from Edinburgh. Thomas White manufactured pipes from 1825-1870 but it was not until after he died in 1847, that the '& Co' was added to the mark (Figure 3.6).[10]

A possible military pin or clip (#20195) had a mark stating 'Registered 25 August 1856'. With only the frame intact it is difficult to identify its exact purpose or what was registered on that date, however it provides a TPQ of 1856.

[10] Davey (ed.) 1987; Gojak & Stuart 1999; Jack 1986; Oswald 1975; Walker 1983; Wilson 1999

Levelling fill (059) was a mixed sandy fill within Room A footings. There was one artefact, a MoP button or possible cufflink (#20233).

Table 3.7: Sum of artefacts from levelling fill in Phase 4.2 by function.

Context	General function	Specific function	Shape	MIC	Fragments
024	clerical	writing	slate pencil	2	1
	personal	clothing	button	2	2
		unidentified	clip	1	0
	recreational	smoking	pipe	3	3
059	personal	clothing	button	1	1
			Total	9	7

Figure 3.6: Brass clip/pin 024/#20195, with the mark (Registered 25 August 1856) visible. 100mm scale. Scan Casey & Lowe.

3.1.3 PHASE 4: DRAINAGE CHANNEL

A pre-house channel funnelled water down the steep slope, redirected to the east after the construction of House 1 and backfilled with large sandstone rubble (033) potentially as ground preparation prior to the construction of the later Houses 2 & 3. This fill was only excavated in Test Trenches 04 and 05 where it contained one miscellaneous artefact, an 1857 threepence (#20223). The coin is in good condition, the date is clear and the obverse side depicts the young head of Queen Victoria (Figure 3.7).

Figure 3.7: 1857 British threepence, Victoria, young head 033/#20223. 100mm scale. DSC_4170. Russell Workman.

3.1.4 PHASE 5: CISTERN DEPOSITS

The cistern (087) was constructed at the same time as House 1 and backfilled when no longer in use in the early 20th century after the houses were connected to the water mains in Phase 5. Four layers of backfill were identified, however only one, the uppermost fill (090), contained any miscellaneous artefacts which are discussed below.

3.1.4.1 PHASE 5 - 1900S-1930S: VEHICULAR FERRY, UPGRADES, NEW BUSINESSES

Context 090 had three artefacts (Table 3.8). As well as a lead pencil (#21597) and an aes button (#21599) with the manufacturers mark 'Stewart', the deposit had a small aes suspender buckle (#21598) with the lettering 'PARIS' on its edge (Figure 3.8). The paucity of miscellaneous artefacts show that little household rubbish was included in the backfills.

Table 3.8: Sum of artefacts from Phase 5, Context 90 by function.

Context	General function	Specific function	Shape	MIC	Fragments
090	clerical	writing	lead pencil	1	1
	personal	clothing	buckle	1	0
			button	1	0
			Total	3	1

Figure 3.8: Selected finds from context 090, cistern fill (l-r). Suspender 2-piece waisted buckle #21598, 2-hole aes button #21599. 100mm scale. IMG_4169. Russell Workman.

3.1.5 PHASE 5: OCCUPATION DEPOSITS

Four occupation deposits were identified across the site, all of which relate to the Phase 5 occupation of the site (Table 1.1). Occupation deposits, or underfloor deposits, as noted previously, are deposits consisting of items that have fallen through wooden floors and relate to the daily activities of the occupants. Underfloor deposits were found within House 1 in Room 1 (021) and Room 2 (066, 069). A small area of occupation-related material was also found in the brick addition, Room A within House 2 (082). All of these occupation deposits were found below the demolition debris and sitting above either remnant construction debris, sandy levelling fills or historically modified natural deposits. As these deposits were formed through ongoing occupation during the lifespan of the house (c.1857-c.1960) they are discussed with the later phase of occupation (Phase 5).

The combined underfloor deposits have a total of 4013 MIC miscellaneous artefacts (1981 fragments) with Context 066 (House 1 Room 2) having by far the greatest number of finds (3545 MIC) (Table 3.9). Room 2, also in House 1, has 450 MIC artefacts (53 fragments). In both rooms the household or personal/household functional categories contained the highest number of artefacts due to the very high number of pins and beads.

Table 3.9: Sum of artefacts from occupation deposits across Blues Point archaeological site by function.

Context	House	Room	General function	MIC	%	Fragments	%
021	1	1	clerical	6	*1*	7	*13*
			economy	1	*0*	0	*0*
			household	17	*4*	23	*43*
			household / personal	2	*0*	0	*0*
			household / recreational	1	*0*	1	*2*
			household / unidentified	2	*0*	0	*0*
			personal	21	*5*	11	*21*
			personal / household	**392**	***87***	**6**	***11***
			recreational	5	*1*	3	*6*
			unidentified	1	*0*	0	*0*
			work/household	2	*0*	2	*4*
Context 021 total				**450**	***100***	**53**	***100***
066	1	2	beverage	1	*0*	2	*0*
			cleric	166	*5*	166	*9*
			economy	9	*0*	2	*0*
			food	3	*0*	2	*0*
			household	**1836**	***52***	**1234**	***64***
			household / personal	8	*0*	7	*0*
			household / recreational	10	*0*	12	*1*
			personal	**834**	***24***	**432**	***23***
			personal / household	580	*16*	16	*1*
			recreational	87	*2*	33	*2*
			transport	2	*0*	2	*0*
			unidentified	7	*0*	7	*0*
			work	2	*0*	2	*0*

Context	House	Room	General function	MIC	%	Fragments	%
Context 066 total				3545	*100*	1917	*100*
069	1	2	clerical	2	*20*	3	*43*
			household	2	*20*	2	*29*
			personal	2	*20*	1	*14*
			personal / household	3	*30*	0	*0*
			recreational	1	*10*	1	*14*
Context 069 total				10	*100*	7	*100*
082	2	A	household	3	*38*	3	*75*
			personal	1	*13*	0	*0*
			personal / household	1	*13*	0	*0*
			recreational	3	*38*	1	*25*
Context 082 total				8	*100*	4	*100*
			Grand Total	4013		1961	

All but Context 082 were gridded in 1m x 1m squares (Figure 3.9) and the contents removed in 50mm spits before being wet sieved, including context 082. There was no temporal difference between the artefacts in the different spits. The grid squares enable spatial analysis of the assemblage. Artefact distribution in the underfloor deposits of the houses is discussed in terms of probable primary and secondary activities. Primary household tasks, such as sewing, were often done with the aid of various light sources such as a window or door during the day, and a lamp or fire at night.

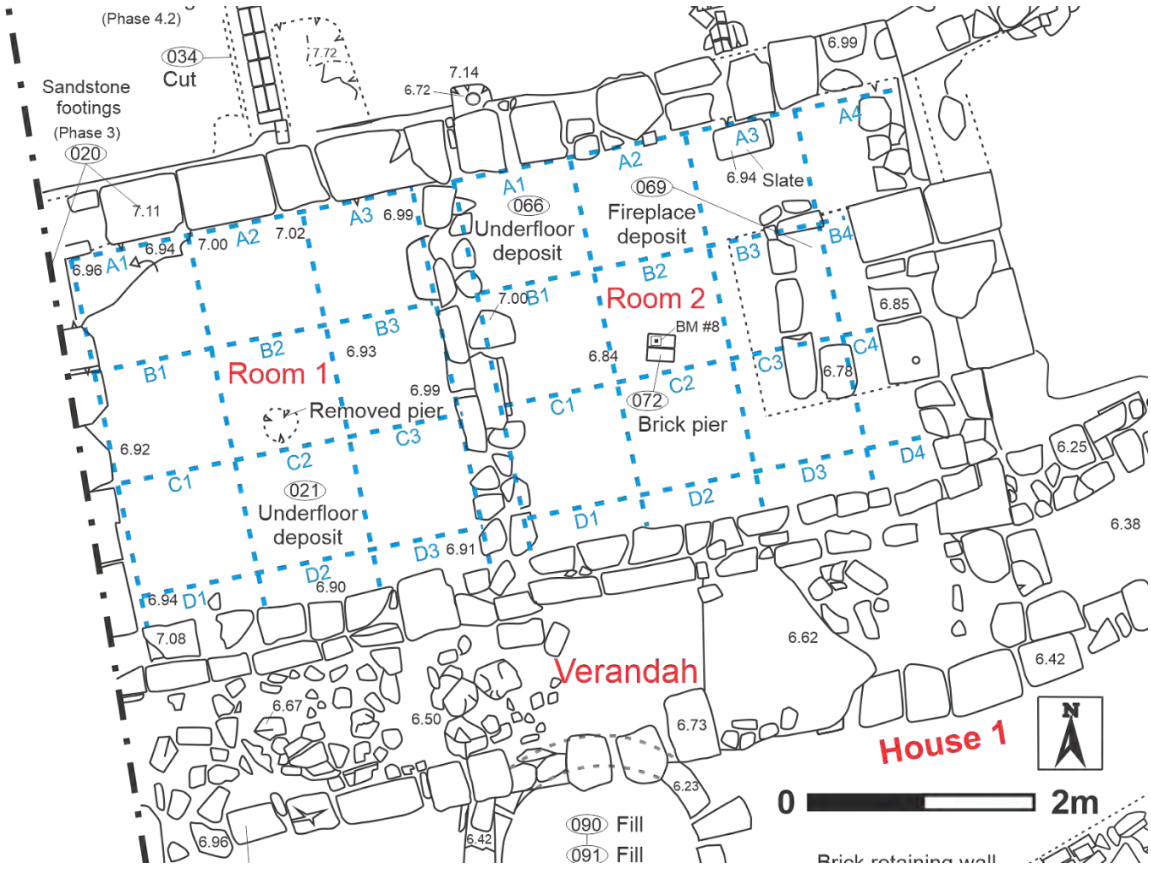


Figure 3.9: Detail plan of the underfloor grid within Rooms 1 and 2, House 1, showing underfloor deposits 021, 066 and 069. Extract from Plan 3.2, Volume 3, Section 11.2.

3.1.5.1 CONTEXT 021 HOUSE 1 ROOM 1

Context 021, the underfloor deposit in House 1, Room 1 contained 450 MIC (53 fragments) and was gridded with 12 squares. As noted above, the majority of artefacts in context 021 were classified as personal/household items (392 MIC). Beads (390 MIC) were the most common artefact found in the deposit (Table 3.10).

Spatial analysis of the miscellaneous artefacts from this context shows square D2 has the majority of items (Table 3.11), with 294 MIC. The 'D' row of squares along and against the southern wall are half the size of the other squares (Figure 3.9). D2 is one of the smaller squares but has the most artefacts. This suggests that there was a gap in between the floor and the wall, possibly where the floor covering, if there was one, ended. It also may suggest that the window was located in that vicinity, with the occupants utilising the light it shed.

Beads were the most frequent shape found in square D2 (Table 3.12). The beads varied in type, with 246 tiny glass seed beads, and in colour, with dark blue being most popular with 81 beads (Figure 3.10). One bead was made from an animal tooth, probably a cat, with a hand drilled hole through the centre (Figure 3.11). Although this is a rare find a similar bead was found in an underfloor deposit at the Darling Walk excavation.[11] The distribution pattern, the size and the shape of the beads and their cohesive colour scheme in the squares in and around D2 also suggests that the beads were dropped in a single event rather than over a long period of time.

Table 3.10: Sum of miscellaneous artefacts from occupation deposit 021 by function.

General function	Specific function	Shape	MIC	%	Fragments	%
clerical	writing	lead pencil	3	*0.7*	4	*7.5*
		pencil	1	*0.2*	1	*1.9*
	writing	slate pencil	2	*0.4*	2	*3.8*
economy	currency	coin	1	*0.2*	0	*0.0*
household	furniture	tack	1	*0.2*	0	*0.0*
	furniture /fitting	tack	1	*0.2*	0	*0.0*
	radio	dial	1	*0.2*	0	*0.0*
	sewing	pin	12	*2.7*	22	*41.5*
		thimble	1	*0.2*	1	*1.9*
	tea	spoon	1	*0.2*	0	*0.0*
household /personal	furniture /cloth	tack	1	*0.2*	0	*0.0*
		washer	1	*0.2*	0	*0.0*
household /recreational	ornament/toy	figurine/doll	1	*0.2*	1	*1.9*
household /unidentified	fitting	washer	1	*0.2*	0	*0.0*
	unidentified	unidentified	1	*0.2*	0	*0.0*
personal	clothing	button	8	*1.8*	1	*1.9*
		button/cuff link	1	*0.2*	1	*1.9*
		button/stud	1	*0.2*	0	*0.0*
		press stud	1	*0.2*	2	*3.8*
		shoe screw	2	*0.4*	0	*0.0*
	groom	hair pin	1	*0.2*	1	*1.9*
	jewellery	bead	1	*0.2*	0	*0.0*
		button/bead	1	*0.2*	0	*0.0*

[11] Stocks 2013:107

General function	Specific function	Shape	MIC	%	Fragments	%
	jewellery /accessory	chain	2	*0.4*	2	*3.8*
		link	1	*0.2*	0	*0.0*
	jewellery /cloth	unidentified	1	*0.2*	3	*5.7*
	time-keeping	watch	1	*0.2*	1	*1.9*
personal /household	jewellery /clothing/furniture	**bead**	**390**	***86.7***	**5**	***9.4***
		unidentified	1	*0.2*	0	*0.0*
	jewellery /ornament		1	*0.2*	1	*1.9*
recreational	smoking	pipe	2	*0.4*	2	*3.8*
	toy	doll	1	*0.2*	1	*1.9*
		marble	2	*0.4*	0	*0.0*
unidentified	unidentified	unidentified	1	*0.2*	0	*0.0*
work/ household	tool/unidentified	ferrule	1	*0.2*	1	*1.9*
		unidentified	1	*0.2*	1	*1.9*
		Total	450	*100.0*	53	*100.0*

Table 3.11: Spatial analysis of all miscellaneous artefacts from context 021.

Squares	1	2	3	Total	*% of Total*
A	2	0	0	2	*0.5*
B	16	2	7	25	*5.9*
C	34	30	2	66	*15.5*
D	23	294	15	332	*78.1*
Total	**75**	**326**	**24**	**425**	*100.0*
% of Total	*17.6*	*76.7*	*5.6*	*100.0*	

Table 3.12: Spatial analysis of beads from context 021.

Squares	1	2	3	Total	% of Total
A	0	0	0	**0**	*0.0*
B	9	1	1	**11**	*3.0*
C	26	23	0	**49**	*13.2*
D	21	277	12	**310**	*83.8*
Total	**56**	**301**	**13**	**370**	**100.0**
% of Total	*15.1*	*81.4*	*3.5*	*100.0*	

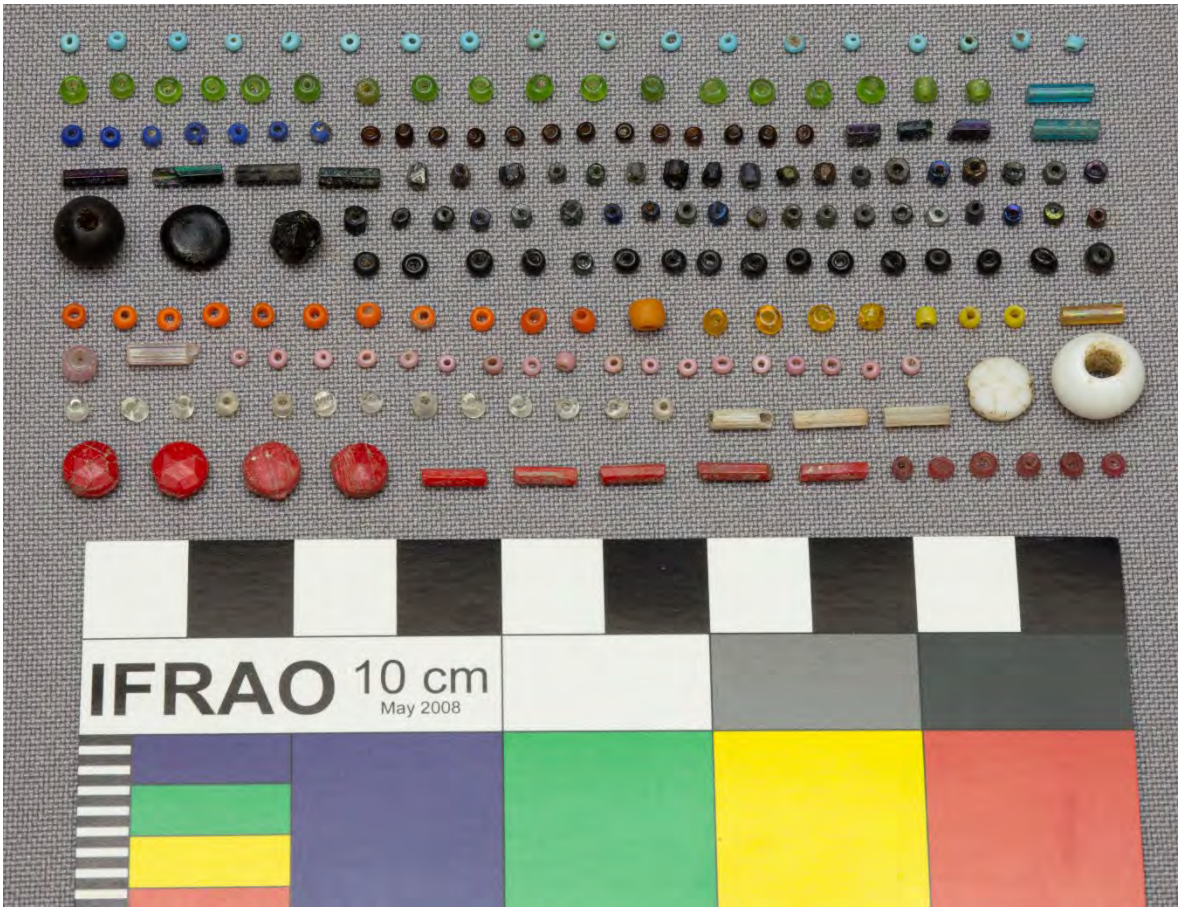


Figure 3.10: Representative sample of types and colours of beads from context 021 (l-r). Top row: blue/aqua seed drawn #20156 (18). Second row: green translucent seed drawn #20159 (18), cylindrical bugle long facetted #20192. Third row: blue seed drawn #20162 (7),Dark amber colour seed #20161 (13), bugle hexagonal long cut drawn #20147 (3), #20106. Fourth row: bugle hexagonal long cut drawn #20148 (1), #20146 (3), bugle cut drawn #20182 (38). Fifth row: spherical moulded #20067, black/amber glass inlay #20183, spherical facetted moulded #20145, seed drawn #20160 (16). Sixth row: seed drawn #20158 (11), bugle drawn #20177, seed drawn #20181 (4), bugle hexagonal cut drawn #20169 (3), bugle cylindrical long cut drawn #20153. Seventh row: bugle facetted cut drawn #20178, bugle cut drawn #20151, seed drawn #20157 (18). Eighth row: seed drawn #20172 (13), seed cut drawn #20150, bugle hexagonal long cut drawn #20149 (2), round tabular moulded facetted #20185, spher wound #20077. Bottom row: ovoid tabular #20048 (2), #20144, #20078, bugle hexagonal long cut drawn #20152 (3), #20105 (2), seed drawn #20164 (6). 100mm scale. DSC_4173. Russell Workman.

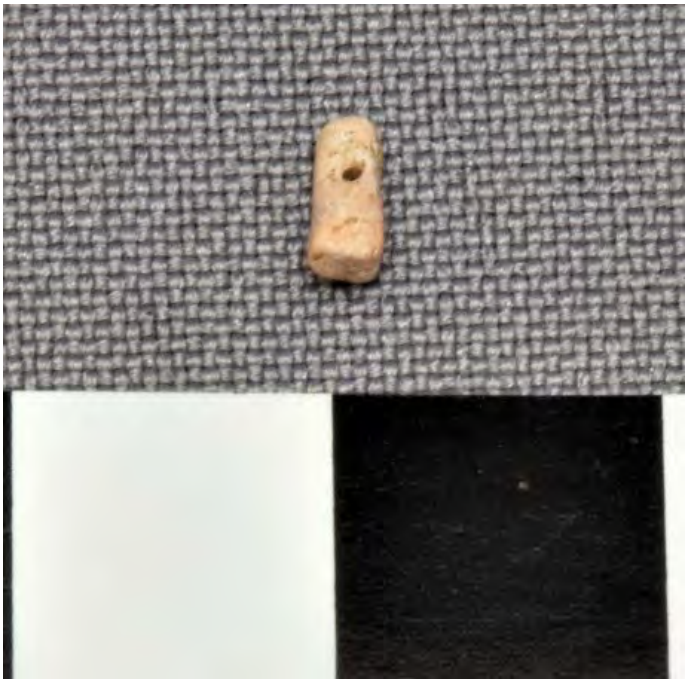


Figure 3.11: Cat tooth bead with drilled hole 021/#20092. 100mm scale. DSC_4174. Russell Workman

After beads, pins were the next most common artefact found, with 12 whole pins, 67% of these are early upset head (EUH), which are manufactured from c.1809, and 17% of the later upset head pins c.1880. Only one Spherical wound pin was found along with one unidentified shank. Other sewing paraphilia included a small thimble, possibly a child's (#20063). This relatively low number of pins, possibly falling off clothes while being worn, or swept into the area, compared to the number of beads, strongly supports the theory of a single event for the deposition of beads rather than a place where the occupants sewed

Personal items including cufflinks, shoe screws, studs, hair pins, jewellery and buttons (Figure 3.12) were found, all recovered from the squares on the northern and western edges of the room (Table 3.13). Of the 12 buttons found five were MoP buttons (#20055, #20075, #20076 (2), #20129). Shell buttons, made from a variety of mollusc shells, often called pearl or mother of pearly (MoP), were mass produced in the UK from the beginning of the 19th century[12]. However, true mother of pearl buttons were manufactured in Australia after pearling began c.1850s.[13] The small inexpensive mass-produced items would have been used on blouses, shirts and undergarments. Only one small square glass button was found (#20186), a black moulded pyramid face with a flat back. The wire loop shank is squashed and corroded but gives the button a manufacture date from c.1850. Three metal buttons were found, a 2-piece bar copper alloy (aes) button (#20054) manufactured from c.1880 and an iron button with remnant, or the ghost/imprint, of its fabric covering (#20114).

[12] Hedge, R. 2019. Worcestershire Archive and Archaeology Service, 'Birmingham Buttons – Find of the month', Available at https://www.explorethepast.co.uk/2019/10/birmingham-buttons/ Accessed 13/7/21

[13] Peacock P62. Australian Button History n.d. Pearl shell button industry. Available at http://www.austbuttonhistory.com/australian-button-history/pearl-shell-button-industry/#Pearl_shell_button_industry Accessed 19/11/21.

Table 3.13 Spatial analysis of personal items from context 021.

Squares	1	2	3	Total	*% of Total*
A	0	0	0	0	*0.0*
B	3	0	2	5	*23.8*
C	6	1	1	8	*38.1*
D	2	4	2	8	*38.1*
Total	11	5	5	21	*100.0*
% of Total	*52.4*	*23.8*	*23.8*	*100.0*	

Figure 3.12: Buttons from context 021 (l-r). Top row: MoP, 4-hole #20075, 2-hole #20129, #20055, #20076 (2). Bottom row: 2-piece domed brass Union Steamship Company jacket #20041, 2-hole copper alloy #20054, 2-piece flat fabric #20114, polished MoP button or stud top #20128. 100mm scale. DSC_4179. Russell Workman.

A brass button (#20041) was found, bearing the flag of the Union Steamship Company and the letters USSCo on its face (Figure 3.13, Figure 3.14, Figure 3.15). It was manufactured by the long-standing company of Firmin in London, as marked on the back of the button.[14] The loop shank has remnant cotton still attached from when it was probably sewn onto the jacket of the Union Steamship Company uniform. The company was established in 1875 and the business continued under several different names until 2000.[15] Firmin was the button manufacturer, operating from 1655 to the present and have been Royal button makers to every monarch since King George II.[16]

[14] Firmin & Sons button makers from 1655-present.

[15] NZ Ship and Marine Society n.d. Available at https://nzshipmarine.com/nodes/view/1305 Accessed on 16/11/21
Company of Master Mariners of Australia n.d. Available at http://www.mastermariners.org.au/stories-from-the-past/2778-the-union-steamship-company-of-new-zealand-ltd Accessed 15/12/21

[16] Firmin House n.d Button Makers. Available at https://www.firminhouse.com/products-services/buttons/. Accessed 17/11/21

Figure 3.13: Example of the Unions flag.

Figure 3.14: Face of Union steamship company button (#20041). 100mm scale. DSC_4176. Russell Workman.

Figure 3.15: Maker's mark-Firmin London on back of button (#20041). 100mm scale. DSC_4177. Russell Workman.

A recognisable personal item is a bobby pin (#20138) also from square D2. Made from the early 20th century they became very popular in the 1920s after the hairstyle known as the 'bob cut' became fashionable and enjoy continued popularity and usefulness today.[17]

Personal jewellery or accessories from context 021, other than the already mentioned beads, consist of different shaped links from broken chains. Small circular aes links (#20109) possibly come from a fob watch or an item attached to a chatelaine. Small aes triangular link was also found (#20193), its size indicating it came from a piece of jewellery. A partial chain bracelet (#20133) has flat segments with a decorative stamped design of leaves or feathers (Figure 3.16).

[17] Durbin 1984: p.29

Figure 3.16: Personal items from context 021 (l-r). Bracelet/watch links #20133, press stud #20136 (2), chain #20109, hair pin #20138, links #20193. 100mm scale. DSC_4186. Russell Workman.

Artefacts representing children are limited in this room (Figure 3.17). Toys found include two fragments of porcelain dolls or perhaps ornaments (#20134, #20135). There were also two marbles found, one hand rolled clay marble (#20194) and one very smooth limestone marble (#20071). Cultural constructs have, in the past, often allowed material culture to provide gendered associations. Where dolls and ornaments were associated with females, marbles were often associated with boys. These constructs are often biased by race and class and this is something that is carefully considered in the artefacts analysis.

Slate pencils are often associated with children as they were commonly used in schools, including Sunday schools, by children until c.1960s.[18] Two such pencils were found in the underfloor deposit (#20065, #20070). Finding these pencils in a domestic setting may indicate their use at home or that the pencils were put in a pocket and brought home, only to be lost.

The few remaining artefacts provide little information about the occupants but include fragments of household fittings An Australian copper penny #20107 was found in square C2 and is noteworthy as it provides a TPQ date of 1932 confirming a long accumulation period for this deposit.

[18] Davies 2005

Figure 3.17: Selected finds from context 021 (l-r). Top row: limestone marble #20071, clay marble #20194, face of a figurine/doll #20134, doll arm #20135. Bottom row: slate pencils #20065, #20070. 100mm scale. DSC_4183. Russell Workman.

3.1.5.2 CONTEXT 066, HOUSE 1 ROOM 2

Context 066, the underfloor deposit in House 1, Room 2 contained the largest assemblage (3545 MIC, 1917 fragments). The area was gridded in 1m x 1m squares, with the fireplace deposit given a separate context number (069).

It is clear from the table below that household (1836 MIC), and personal (834 MIC) items represent the largest functional categories (Table 3.15). For the household category this is due to the large number of pins that were found (1758 MIC, 1187 fragments), and for the personal category buttons (399 MIC) form the majority of items.

The spatial analysis of all artefacts from Context 066 shows the four squares in the western edge of the room with the greatest number of artefacts, C1 with the largest number (1201). The northeast corner square, A3 has the least number of items (17).

Table 3.14: Spatial analysis of all miscellaneous artefacts from Context 066.

Squares	1	2	3	Total	*% of Total*
A	60	46	17	**123**	*3.5*
B	443	671	34	**1148**	*32.6*
C	1201	596	136	**1933**	*55.0*
D	54	162	96	**312**	*8.9*
Total	**1759**	**1475**	**283**	**3545**	*100.0*
% of Total	*50.0*	*41.9*	*8.1*	*100.0*	

Each functional category is discussed below, detailing artefacts that aid the dating of the context, our understanding of the occupants' activities as well as alluding to their social status or preferences.

Table 3.15: Sum of miscellaneous artefacts from the occupation deposit (066).

General function	MIC	%	Fragments	%
beverage	1	0.0	2	0.1
clerical	166	4.7	166	8.7
economy	9	0.3	2	0.1
food	3	0.1	2	0.1
household	1836	51.8	1234	64.4
household /personal	8	0.2	7	0.4
household /recreational	10	0.3	12	0.6
personal	834	23.5	432	22.5
personal /household	580	16.4	16	0.8
recreational	87	2.5	33	1.7
transport	2	0.1	2	0.1
unidentified	7	0.2	7	0.4
work	2	0.1	2	0.1
Total	3545	100.0	1917	100.0

BEVERAGE

A single red seal (#21410, #21446), broken and found in two different squares (D1 & D2) came from a Cognac bottle made in France (#21410, Figure 3.18).

Figure 3.18: Seals from context 066 (l-r). Partial pressed lead Cognac bottle seals #21410, #21446. 100mm scale. DSC_4180. Russell Workman.

CLERICAL

There are 166 MIC clerical artefacts (166 fragments) in the underfloor. Slate pencil fragments make up 72 (MIC) of the clerical artefacts with the majority of them broken or worn stubs. Pencil types were assigned according to their method of manufacture, with or without the use of a machine, and shape in cross-section. Most of the slates were (Table 3.16). Close inspection of the slate pencils revealed that they had been reshaped at the point, to allow reuse, and at the butt end so a small iron cylindrical tube could be attached for easier grip. Only one slate board was found, with three incised lines for the children to practice forming their letters. One slate pencil (#21541) had the mark 'A.W.

Faber', now, a well-known manufacturer of pencils. The company originally manufactured pencils from Germany from 1900 and as their products became more popular their company went global (Figure 3.19)[19].

Cylindrical, hexagonal, rectangular and square section graphite pencil leads were also found. Cylindrical leads were used in lead holders and mechanical propelling pencils from c.1822[20] (Figure 3.20).

Clerical objects were found in all squares but with a clear concentration in C1 and in the centre of the room suggesting work was carried out in these locations or that the floorboards were widely spaced or damaged to accommodate fallen or swept items. Spatially the clerical objects were found along the western edge and in the centre of room 2 (Table 3.17).

Table 3.16: Sum of clerical items by type name.

Shape	Type name	MIC	%	Fragments	%
slate pencil	cut-hexagonal	2	1	1	1
	cut-rectangular	1	1	0	0
Mech pencil	Lead-cylindrical	1	1	1	1
lead pencil	Lead-cylindrical	13	8	17	10
	Lead-hexagonal	1	1	1	1
	Lead-rectangular	4	2	12	7
	Lead-square	1	1	1	1
slate pencil	Machine-cylindrical	120	72	110	66
	Machine-hexagonal	1	1	0	0
	Machine-rectangular	6	4	4	2
Mech pencil	Slider	1	1	4	2
	-	7	4	8	5
pencil holder	-	1	1	1	1
slate board	-	2	1	2	1
slate pencil & holder	-	1	1	1	1
slate pencil holder	-	4	2	3	2
	Totals	166	100	166	100

Table 3.17: Spatial analysis of clerical items in Context 066.

Squares	1	2	3	Total	*% of Total*
A	5	2	0	7	*4.3*
B	14	36	1	51	*31.3*
C	51	29	7	87	*53.4*
D	6	6	6	18	*11.0*
Total	76	73	14	163	*100.0*
% of Total	*46.6*	*44.8*	*8.6*	*100.0*	

[19] EberhardFaber history. N.d. Available at https://www.eberhardfaber.com/Company/heritage/history

[20] Lead pencils, slate pencils and boards: Davies 2005; Early Office Museum 2000-2012; Petroski 1989. Mechanical pencils and leadholders: Crosby 2007; Lead holder history: www.leadholder.com/main-history.html#leadholder_origins

Figure 3.19: Representative sample of clerical items from context 066 (l-r). Top row: Faber slate pencil #21541, Square, cylindrical and rectangular lead pencils #20960 (10). Second row: slate pencils #20489 (2), lead pencils #20962 above square graphite pencil #20794 and cylindrical graphite pencil #20792. Third row: slate pencils, rectangular #20959, #20658, hexagonal cut facetted slate pencil #21569. Fourth row: slate pencils #20488 (3). Fifth row: cylindrical white pencil #20657, hexagonal facetted slate pencil #20652, whole slate pencil #20485, hexagonal facetted slate pencil #20652, slate board #20970. Bottom row: slate pencil holders #20990, #20988 (2). 100mm scale. DSC_4187. Russell Workman.

Figure 3.20: Mechanical pencil parts from context 066 (l-r). Top row: cylindrical plug with ring, squished cap and solid cylindrical component #20987 (3). Bottom row: cylindrical cap #20300, fluted barrel #20987. 100mm scale. DSC_4195. Russell Workman.

ECONOMY

A total of nine coins were found, with dates ranging from 1818-c.1879 (Table 3.18). All the coins were manufactured in England and are of low denomination, when added together they add up to 48 pence and 1/4 pence (a farthing) and would be written as 4s- 1/4d. Six of the coins were in good condition with the type and the date visible (#20429, #20634, #20733, #20788, #21183, #21277, #21384). The remaining two coins were identified by their size and weight and were given the date of the reigning monarch for their minting date (#20635, #21409). One coin was very worn and no marks could be identified, however the diameter (28mm) matches a florin, made from 1849 and worth 2 shillings (24 pennies)[21].

The spatial analysis below shows three of the coins were found in the middle of the room (Table 3.19, Figure 3.21). This could indicate that the coins fell through the floorboards rather than being swept there. It also suggests there were no floor coverings and that the gaps or holes in the floor boards were wide enough to allow items to fall to the surface below.

Table 3.18: All coins from context 066.

Type name	Fabric	From	To	MIC	Fragments
Four Pence (groat)	ag	1846	1846	1	0
Half penny	bronze	1875	1875	1	0
Half penny	bronze	c.1838	c.1860	1	0
Threepence	aes	1870	1870	1	0
Threepence	ag	1874	1874	1	0
Unidentified	ag	1849		1	0
Penny	bronze	1873	1873	1	0
Shilling	ag	1818	1818	1	0
Farthing	bronze	c.1860	c.1879	1	0
			Total	9	0

Table 3.19: Spatial analysis of all coins from context 066.

Squares	1	2	3	Total	*% of Total*
A	0	0	0	**0**	*0.0*
B	1	3	0	**4**	*44.4*
C	1	2	1	**4**	*44.4*
D	1	0	0	**1**	*11.1*
Total	**3**	**5**	**1**	**9**	*100.0*
% of Total	*33.3*	*55.6*	*11.1*	*100.0*	

[21] Johnson 1999; Lobel et al 1991-96; Mira 1981; Myatt & Hanley 1980; Olson 1983; Ritchie & Park 1987; Seaby 198

Figure 3.21: Coins from context 066 (l-r). Top row: 1874 British threepence #20778, #20733, 1846 four pence groat #20429, 1849 very worn #21183, 1818 British silver shilling #21384. Bottom row: 1973 British one penny #21277, British half penny #20635, 1875 British half penny #20634, bronze farthing #21409. 100mm scale. DSC_4193. Russell Workman.

FOOD

Only three items associated with food were found in the room 2 underfloor deposit (066) (Table 3.20). One silver plated spoon (#20822) was found. It was made by William Page, Birmingham identified by the mark showing the initials WP with a diamond shaped border inside an impressed crown shape. Dating information for the company monogram is somewhat contradictory. The mark is thought to date from 1897 however examples from the 1878 *Loch Ard* shipwreck off the Victorian coast carried a large assemblage of spoons already bearing this mark. This spoon could have been made from 1878–1940 during the life of the company. There were also two circular bone nipple guards or possible teething rings (#20996, #21312) (Figure 3.22). The bone rings help identify infants among the household occupants.

Table 3.20 Food artefacts from context 066.

Specific function	Shape	Fabric	Portion	MIC	Frags
tableware	spoon	ag	whole	1	2
baby	feeding bottle	bone	nipple guard	2	0

Figure 3.22: Food related items from context 066 (l-r). Top row: nipple guards #21312, #20996. Bottom row: spoon #20822. 100mm scale. DSC_4191. Russell Workman.

HOUSEHOLD

Household artefacts made up the largest category within Context 066 with 1802 MIC, sewing pins representing 95.8 (1778 MIC, 1196 fragments) of miscellaneous finds (Table 3.21). Apart from thimbles, all other shapes are represented by single digit figures only (between 1 and 4 items).

Table 3.21: Sum of miscellaneous artefacts from the Household category in Context 066.

General function	Specific function	Shape	MIC	%	Fragments	%
Household	crocheting	crochet hook	1	0.1	0	0.0
	fitting	escutcheon	1	0.1	0	0.0
	furniture	handle	2	0.1	1	0.1
	furniture	tack	1	0.1	0	0.0
	furniture /fitting	clasp	1	0.1	0	0.0
		eyescrew	1	0.1	0	0.0
		tack	3	0.2	0	0.0
	furnishing	bead	4	0.2	4	0.3
	lacemaking	awl	1	0.1	0	0.0
		bobbin	1	0.1	3	0.2
	ornament	figurine	1	0.1	1	0.1
		ornament	1	0.1	1	0.1
	sewing	component	1	0.1	1	0.1
		container	1	0.1	4	0.3
		disc	1	0.1	0	0.0
		finial	1	0.1	0	0.0
		lid	1	0.1	1	0.1
		pin	1778	98.7	1196	96.9
		stopper	1	0.1	0	0.0
		thimble	14	0.8	12	1.0
		winder	1	0.1	1	0.1
	unidentified	cap	1	0.1	0	0.0
		clasp	2	0.1	1	0.1
		component	2	0.1	0	0.0
		ferrule	1	0.1	0	0.0
		lid	1	0.1	0	0.0
		ring	2	0.1	5	0.4
		screw	1	0.1	0	0.0
		unidentified	3	0.2	3	0.2
		Total	1802	100.0	1234	100.0

The majority of the pins found (1656) were the type 'Early upset heads' (EUH) (Table 3.22), a name referring to the machinery used from c.1809 on to attach the heads to the shanks as well as sharpening the points.[22] By c.1880 fully automatic pin making machines were capable of cutting, pointing and upset-heading 170 brass pins per minute, these are known as Upset Heads (UH). Only 81 UH types were found in context 066, with the majority found in spit 2 across the square, suggesting a gradual accumulation of the pins as well as constant reuse of the earlier made pins (Figure 3.23).

Table 3.22: Breakdown of pins by type in Context 066.

Type name	From	To	MIC	%	Fragments	%
EUH	1809	1880	1656	94.6	615	51.4
SW	-	1880	11	0.6	9	0.8
SWC	1840	1880	2	0.1	1	0.1
UH	1880	-	81	4.6	32	2.7
Unknown	-	-	0	0.0	539	45.1
		Total	**1750**	**100.0**	**1196**	**100.0**

Figure 3.23: Selected examples of different pin heads and volume of pins within context 066 (l-r). EUH #21306 (42), UH #20334 above SWC #20437, #20434 (17). 100mm scale. DSC_4254. Russell Workman.

Spatial analysis shows square C1 had the most pins (Table 3.23) with 609 MIC. The immediate surrounding squares B1, B2 and C2 also had high numbers of pins with 863 in total. This suggests the majority of the pins were used in this area of the room. The number of pins found, in this single context (066), is large and suggests that it was not only household sewing that was happening but possibly a dressmaking cottage industry. This is strengthened by the presence and quantity of other sewing equipment.

[22] Tylecote 1972

Table 3.23: Spatial analysis of all pins from context 066.

Squares	1	2	3	Total	*% Of Total*
A	39	0	9	48	*2.8*
B	220	327	13	560	*32.1*
C	595	313	65	973	*55.9*
D	20	88	53	161	*9.2*
Total	874	728	140	1742	*100.0*
% Of Total	*50.2*	*41.8*	*8.0*	*100.0*	

Along with the pins there are 23 items related to sewing (Table 3.24), of these 14 are thimbles, and five of them had sentimental slogans. (Figure 3.24). The slogans on the thimbles found in context 066 included: 'EVER DEAR', 'PEACE AND GOODWILL', I WILL REMEMBER THEE' and 'WELCOME THEE'. In Victorian times, thimbles with slogans were often given as gifts to or by a departing loved one.[23] Although no tailors or dressmakers are recorded as living in this house it is possible that one of the occupants was making clothing.

Table 3.24: Sum of artefacts related to sewing in Context 066.

Shape	Type name	MIC	%	Fragments	%
thimble	Dimple dome etched band rim slogan	2	*8.7*	0	*0.0*
	Dimple dome rim	1	*4.3*	0	*0.0*
	Dimple dome	2	*8.7*	0	*0.0*
	Dimple dome slogan	3	*13.0*	1	*4.8*
	Mach dimple	2	*8.7*	7	*33.3*
	-	4	*17.4*	4	*19.0*
component	-	1	*4.3*	1	*4.8*
container	-	1	*4.3*	4	*19.0*
disc	-	1	*4.3*	0	*0.0*
finial	-	1	*4.3*	0	*0.0*
lid	-	1	*4.3*	1	*4.8*
pin	-	2	*8.7*	2	*9.5*
stopper	-	1	*4.3*	0	*0.0*
winder	-	1	*4.3*	1	*4.8*
	Total	23	*100.0*	21	*100.0*

[23] Examples of wide range of thimble slogans: http://thimbleselect.bizland.com/slogan.htm

Figure 3.24: Thimbles from context 066 (l-r). Top row: machine dimpled #21339 (2), #21191 (2), machine-pressed brass #20661, #20969, machine-pressed #20418, machine-pressed brass #20660, #20789. Bottom row: machine-pressed brass #20965, machine-pressed brass with "PEACE AND GOODWILL" relief marks on lower band #20967, large dip dome #20966, machine-pressed brass #20659, machine-pressed brass #20964, dimpled low dome with "I WILL REMEMBER THEE" relief marks on lower band #20968. 100mm scale. DSC_4233. Russell Workman.

The sewing paraphernalia found in Context 066, that are not pins or thimbles, are all bone items (#21311, #21296 #21310, #21314, #21000, #20995, #20998, #20994). They are found in different squares in the gridded underfloor, but when placed together appear to be from one sewing kit (Figure 3.25). During analysis a collection belonging to Fort Vancouver National Historic Site was used as a reference and for comparison. In 1840 a Chinese sewing cabinet was gifted to Marguerite McLoughlin, wife of a Chief Factor at Fort Vancouver. The cabinet was filled with "dainty, delicately carved sewing tools designed to make an everyday task a pleasure." [24] Many of the bone items found in the underfloor deposit of House 1 resemble the items within this collection. Sewing boxes and implements were not manufactured in Australia before the 20th century as they were cheaply manufactured in Asia where they had easy access to materials.[25]

The four fragments of containers are likely from one or possibly two thread barrels, much like the ones owned by Marguerite McLoughlin (Figure 3.26). The thread was wound on the spindle, which fitted inside the barrel, then the top screwed on to keep the thread clean and tidy. A small hole in the side of the barrel allowed the thread to be pulled out for use. A thread winder (#20994), a circular disc with hand carved grooves radiating from the centre for winding thread had a small hollowed out circle in its back. A bone disc with threads on the exterior of the rim is another lid or base of a container, possibly a thread barrel or a needle case (#20995).

[24] National Park Service N.D. Marguerite McLoughlin's Sewing Tools; Fort Vancouver National Historic Site Accessed 22/11/21. Available at https://www.nps.gov/articles/margueritesewing.htm

[25] Smith 1984 p2

Figure 3.25: Bone sewing paraphernalia from context 066 (l-r). Top row: container #21311, finial #21000, container fragment #21310, possible container #21296 (3). Second row: circular disc #21314, large circular lid #20995, stopper #20998, thread winder #20994. Bottom row: crochet hook #20431. 100mm scale. DSC_4201. Russell Workman.

Figure 3.26: Thread barrels owned by Marguerite McLoughlin. National Parks Service.

A crochet hook (#20431), awls and lacemaking bobbins or awls (#21538, #20997) demonstrate that sewing was not the only activity taking place (Figure 3.27).

Other bone items that could also be associated with these activities consisted of a small cap for the end of a tool (#21000), a flat disc with a tiny hole in the centre (#21314), a small stopper or plug for a needle case (#20998) and a tiny finial (#21111, Figure 3.28). Spatially these items follow the same pattern as the pins, with most items in square C1 (Table 3.25).

Figure 3.27: Bone sewing paraphernalia from context 066 (l-r). Top row: lacemaking bobbin #20997. Second row: lacemaking awl #21538. Bottom row: crochet hook #20431. 100mm scale. DSC_4210. Russell Workman.

Figure 3.28: Bone sewing paraphernalia from context 066 (l-r). Thread winder #20994, Lid or base from bone container #21314, stopper #20998, finial #21000. 100mm scale. DSC_4212. Russell Workman.

Table 3.25: Spatial analysis of bone sewing paraphernalia from context 066.

Squares	1	2	3	Total	*% of Total*
A	0	0	0	0	*0.0*
B	1	0	0	1	*9.1*
C	6	3	0	9	*81.8*
D	0	0	1	1	*9.1*
Total	7	3	1	11	*100.0*
% of Total	*63.6*	*27.3*	*9.1*	*100.0*	

PERSONAL

The general function Personal is the second largest category, after household, with 834 MIC (432 fragments), 48 of these are buttons (Table 3.26). Clothing has the highest number of artefacts with the largest range of shapes, providing an insight into the style and tastes of the occupants and help inform us of their social status.

Table 3.26: Breakdown of personal artefacts in Context 066 by specific function and shape.

General function	Specific function	Shape	MIC	%	Fragments	%
personal	accessory	belt	1	*0.1*	1	*0.2*
		buckle	1	*0.1*	1	*0.2*
		fan	1	*0.1*	1	*0.2*
		washer	1	*0.1*	1	*0.2*
	clothing	buckle	3	*0.4*	1	*0.2*
		button	**400**	***48.0***	**109**	***25.2***
		button/bead	1	*0.1*	0	*0.0*
		button/cuff link	2	*0.2*	0	*0.0*
		button/pin	1	*0.1*	0	*0.0*
		button/stud	14	*1.7*	12	*2.8*
		corset	1	*0.1*	1	*0.2*
		cuff link	2	*0.2*	1	*0.2*
		eye	43	*5.2*	35	*8.1*
		eyelet	6	*0.7*	2	*0.5*
		hair clip	1	*0.1*	1	*0.2*
		hook	**132**	***15.8***	**72**	***16.7***
		hook & eye	1	*0.1*	1	*0.2*
		pin	3	*0.4*	5	*1.2*
		press stud	4	*0.5*	4	*0.9*
		safety pin	11	*1.3*	12	*2.8*
		shoe	1	*0.1*	1	*0.2*
		shoe eyelet	8	*1.0*	4	*0.9*
		shoe hook	5	*0.6*	0	*0.0*
		shoe nail	10	*1.2*	1	*0.2*
		split pin	13	*1.6*	0	*0.0*
		stud	8	*1.0*	8	*1.9*
		unidentified	1	*0.1*	0	*0.0*
	clothing/ accessory	buckle	1	*0.1*	0	*0.0*
		fastener	1	*0.1*	0	*0.0*
	clothing/ jewellery	clip	1	*0.1*	1	*0.2*
		inlay	1	*0.1*	0	*0.0*

General function	Specific function	Shape	MIC	%	Fragments	%
		unidentified	1	*0.1*	1	*0.2*
	grooming	**comb**	**64**	***7.7***	**84**	***19.4***
		hair comb	5	*0.6*	7	*1.6*
		pin	1	*0.1*	0	*0.0*
	hygiene	comb	1	*0.1*	1	*0.2*
	jewellery	bead	13	*1.6*	3	*0.7*
		brooch	8	*1.0*	16	*3.7*
		brooch/ pendant	1	*0.1*	0	*0.0*
		button/bead	1	*0.1*	0	*0.0*
		chain	3	*0.4*	12	*2.8*
		clasp	1	*0.1*	1	*0.2*
		earring	6	*0.7*	4	*0.9*
		inlay	13	*1.6*	2	*0.5*
		link	2	*0.2*	0	*0.0*
		locket	1	*0.1*	1	*0.2*
		necklace	2	*0.2*	1	*0.2*
		pendant	9	*1.1*	5	*1.2*
		pin	1	*0.1*	1	*0.2*
		ring	1	*0.1*	1	*0.2*
		unidentified	3	*0.4*	1	*0.2*
	jewellery /accessory	badge	1	*0.1*	1	*0.2*
		bead	1	*0.1*	0	*0.0*
		chain	7	*0.8*	7	*1.6*
		clip	1	*0.1*	1	*0.2*
		component	1	*0.1*	0	*0.0*
		fob watch	1	*0.1*	1	*0.2*
		unidentified	2	*0.2*	3	*0.7*
	jewellery /clothing	pin	1	*0.1*	1	*0.2*
	time-keeping	fob watch	1	*0.1*	1	*0.2*
	unidentified	unidentified	2	*0.2*	1	*0.2*
		Total	**834**	***100.0***	**432**	***100.0***

The predominant shape in the clothing function was buttons (400), made of a limited number of fabrics (Table 3.27) into a variety of types (a total of 108 types were identified and are listed in Appendix 1). Within these types there are two methods of attaching them to clothing: sew-throughs, (buttons with 1-5 holes) made from all materials; or shanked buttons which usually consist of a metal loop or similar on the back of the button, often used on metal and glass but also on MoP, and bone buttons (Figure 3.29).[26] A dome MoP button (#21533) with a split pin through the shank demonstrates another way buttons were attached to clothing. This method allows them to be easily removed for washing, however it also makes it easy for the buttons to fall off and needing to be replaced. Materials and shank construction types can also be useful for providing a *TPQ* date based on technology, however the reuse of buttons can restrict the use of manufacturing dates for analysis.

The buttons found at the site secured and adorned inner and outer garments of adults and children of both genders.[27] Bone buttons traditionally fastened underwear but could also have been used on men's shirts and other clothing. Bone began to be replaced by porcelain sew-through buttons (Prosser), invented in 1840.[28] Mother of pearl (MoP) and porcelain buttons were sewn onto shirts but were also suitable for a variety of female and male outer

[26] Lindbergh 51

[27] Fletcher 1984; Eckstein & Firkins 1987

[28] Sprague 2002:113.

wear. Very small buttons could hold down collars or were worn on clothing of children and dolls.

Table 3.27: Sum of buttons in Context 066 by fabric.

Shape	Fabric	MIC	%	Frags	%
button	**MoP**	**115**	***27.4***	**24**	***19.8***
	MoP/aes	2	*0.5*	0	*0.0*
	aes	**101**	***24.1***	**22**	***18.2***
	aes/fabric	3	*0.7*	3	*2.5*
	aes/fe	15	*3.6*	5	*4.1*
	aes/fe/fabric	1	*0.2*	1	*0.8*
	aes/fe/glass	2	*0.5*	0	*0.0*
	bone	9	*2.1*	2	*1.7*
	bone/aes	1	*0.2*	1	*0.8*
	brass	3	*0.7*	1	*0.8*
	fe	19	*4.5*	13	*10.7*
	fe/aes	1	*0.2*	1	*0.8*
	fe/aes/fabric	1	*0.2*	1	*0.8*
	fe/fabric	23	*5.5*	22	*18.2*
	glass	17	*4.1*	7	*5.8*
	glass/aes	30	*7.2*	3	*2.5*
	glass/aes/fe	1	*0.2*	0	*0.0*
	glass/marble	1	*0.2*	0	*0.0*
	porc	**52**	***12.4***	**1**	***0.8***
	unidentified/aes	2	*0.5*	1	*0.8*
button/bead	bone	1	*0.2*	0	*0.0*
	glass	1	*0.2*	0	*0.0*
	glass/aes	1	*0.2*	1	*0.8*
button/cuff link	MoP/aes	2	*0.5*	0	*0.0*
button/pin	MoP/aes	1	*0.2*	0	*0.0*
button/stud	aes	3	*0.7*	3	*2.5*
	aes/fe	2	*0.5*	2	*1.7*
	au	1	*0.2*	1	*0.8*
	bone	5	*1.2*	4	*3.3*
	brass	2	*0.5*	2	*1.7*
	porcelain	1	*0.2*	0	*0.0*
	Total	**419**	***100.0***	**121**	***100.0***

Figure 3.29: Selected sew through and shank buttons from context 066 (l-r). Top row: dome moulded glass self-shanks #21064 (2), porcelain sunkeneye piecrust #20818, porcelain piecrust #20707. Second row: bone dome #21003, bone sunkeneye #21430, bone sunkeneye dome #20993, MoP fisheye incised #20817, MoP sunkeneye #20703. Bottom row: MoP incised #20718, aes concave loop butterfly #21045, aes flat alpha shank #21554, beaded Best Ring Edge 3 #20348, aes fisheye beaded Howes #20308. 100mm scale. DSC_4348. Russell Workman.

The greatest number of buttons in context 066 were made from mother of pearl (MoP) (117). Plain mother of pearl and small porcelain buttons were used mainly for women's undergarments or lightweight outer clothing and the incised mother of pearl buttons are possibly from blouses or shirts.

Copper alloy (aes) and covered iron (fe) buttons secured male outer clothing such as shirts and trousers with the larger shanked varieties for jackets. Out of the 101 metal buttons found, 20 of them are marked with the manufacturer or tailor/outfitter (Table 3.28, Figure 3.30). They ranged from plain utilitarian 4-hole trouser buttons (16), c.1840, with stamped marks attesting to the qualities of the button rather than the maker: '*BEST.RING.EDGE.'* (#20348), or 'IMPROVED PATENT' (#20275). Two of the marks are illegible, the buttons used and worn as well as degrading under the floorboards of the house. Three of the marked buttons come from England, two from London (#21453, #21136), one from Bristol (#21137). The remaining 15 are marked Australia. Three of these buttons come from department stores in Australia, David Jones[29], Mark Foy's and Peapes & Shaw. The latter establishment is noted as having notable clients such as His Royal Highness the Duke of Edinburgh, who visited in 1869.[30] A small button (#20767) had the makers mark 'Fownes' and a design of a clenched fist holding a bar (Figure 3.31).[31]

29 https://www.davidjones.com/about-us/the-story-of-david-jones

30 https://nla.gov.au/nla.obj-528697171/view?partId=nla.obj-530177488#page/n3/mode/1up

31 http://www.fownesbrothers.com/our-history

Table 3.28: Buttons from context 066 by type name and manufacturer/tailor.

Shape	Type name	Country of Manufacture	From	To	MIC	%	Frags	%
button	4-hole trouser Best Solid Eyelet	-	1840	-	2	*8.3*	0	*0.0*
	4-hole concave Improved patent	-	1850	-	1	*4.2*	0	*0.0*
	4-hole trouser Excelsior	-	1850	-	3	*12.5*	1	*50.0*
	4-hole trouser beaded Best Ring Edge 3	-	1850	-	1	*4.2*	0	*0.0*
	4-hole concave Peapes & Shaw	Australia/ Sydney	1868	-	1	*4.2*	0	*0.0*
	2-hole 2-piece bar Illegible	-	1870	-	1	*4.2*	0	*0.0*
	2-hole concave Gaffney	Australia/ Sydney		-	1	*4.2*	0	*0.0*
	4-hole trouser Mark Foy's	Australia/ Sydney	1885	-	1	*4.2*	0	*0.0*
	4-hole concave incised illegible	-	1840	-	2	*8.3*	0	*0.0*
	4-hole trouser Best Ring Edge 1	-	1850	-	2	*8.3*	0	*0.0*
	4-hole trouser Best Ring Edge 3	-	1850	-	2	*8.3*	0	*0.0*
	Howes	Australia/ Sydney	1870	1877	1	*0.0*	0	*0.0*
	4-hole sunkeneye trouser Moses Levy 1	London, England	1840	1902	1	*4.2*	0	*0.0*
	2-hole sunkeneye trouser Gardiner	Bristol, England	1801	-	1	*4.2*	0	*0.0*
	4-hole concave Farmer & Co	Australia/ Sydney	1869	-	1	*4.2*	0	*0.0*
	4-hole sunkeneye RH&S	London, England	1870	-	1	*4.2*	0	*0.0*
	4-hole trouser beaded Best Ring Edge 3	-	1850	-	4	*16.7*	0	*0.0*
	4-hole concave David Jones	Australia/ Sydney	1906	-	1	*4.2*	0	*0.0*
	2-piece Fownes	UK/USA	1777	-	1	*4.2*	0	*0.0*
button/ stud	Domed McArthur & Co	-	-	-	1	*4.2*	1	*50.0*
				Total	24	*100*	2	*100*

Figure 3.30: Marked buttons from context 066 (l-r). 2-hole sunkeneye trouser with relief mark "H.GARDINER.& Co BRISTOL" #21137, 4-hole concave with incuse marks "D.JONES & Co SYDNEY" #21544, 4-hole trouser with relief mark on border "BEST RING / EDGE" #21028. 100mm scale. DSC_4309. Russell Workman.

Figure 3.31: 2-piece Fownes glove button 066/#20767. 100mm scale. DSC_4330. Russell Workman.

The presence of eight copper alloy 2-piece uniform buttons bearing a fouled anchor is evidence of maritime connections, possibly early Royal Navy or Marines and would have belonged to a male (Figure 3.32). Given the proximity of the house to the wharf, the fouled anchor buttons possibly represent part of a maritime-related uniform and could indicate the occupation of one of the residents. One of the buttons (#20747) had the insignia of a regiment, 'three leaves and the number 28' or '88' on the reverse.

Other metal buttons were more decorative, possibly worn by the females of the house. Designs included a tree with hanging fruit (#20277), a floral motif or butterfly (#20812), and an ornate spherical button (or possible charm) with geometrical leaves around a flower (#21055) (Figure 3.33, Figure 3.34). One story button (#21134)[32] had a depiction of a hawk swooping down on two hares possibly illustrating the fable 'The Eagle and his Captor'. Aesop's Fables, which were particularly popular in the 18th and 19th centuries, were not

[32] Story buttons are discussed in *The Big Book of Buttons 1991* p.348-357

only moral tales for adults but also illustrated children's stories read in nurseries and schools. The fables became popular amongst all age groups, and household and personal items featured subjects from the fables (Figure 3.35).[33]

Figure 3.32: Fouled anchor buttons from context 066 (l-r). Top row: #20768, #21221, #20353, #20276. Bottom row: #20352, #20480, #20747. 100mm scale. DSC_4220. Russell Workman.

Figure 3.33: Decorative aes buttons from context 066 (l-r). fruit tree branch and fruit design #20277, butterfly or flower design#20812, flower or heart shape design #21048. 100mm scale. DSC_4216. Russell Workman.

[33] Aesop's Fable information was gathered from https://www.antiqueanimaljewelry.com/post/aesops-fables-jewelry

Figure 3.34: Spherical button/charm with relief design of flower and leaves 066/#21055. 100mm scale. DSC_4215. Russell Workman.

Figure 3.35: Two-piece story button featuring a hawk and hares 066/#21134. 100mm scale. DSC_4241. Russell Workman.

Scattered across the room, but predominantly in squares A, B, C, 1 and 2, were 32 black glass buttons (Figure 3.36). There are several groups of identical buttons used on the same item of clothing, probably dating from after c.1860 following the Victorian fashion for black clothing and accessories. They may represent mourning buttons purchased to put on mourning clothing by the residents of for clothing they were making for other women. Some garments have larger buttons to fasten the front of the garment, with the same style but smaller for sleeves and collars. This may be the case with the nine (four large, five small) plain flat buttons (Figure 3.36).

Figure 3.36: Groups of black glass button types from context 066 (l-r). Top row: domed facetted face #19809, #20482. Second row: flat face with incised central ring and scalloped borders #20715, #20716, cut and polished pattern of a star or leaf #20713, #20484. Third row: three tired hexagonal decor #20307, #21058, #20870, large flat faced with bevelled rim #21517, #20483, #21056 (2). Bottom row: small flat faced with bevelled borders #20396, #20714, #21057 (3). 100mm scale. DSC_4353. Russell Workman.

Cufflinks and studs are two types of clothing fasteners found in this deposit that are generally associated with men. There were 26 items, 17 of them plain metal, everyday items. Other examples appeared to be for more formal attire made of MoP (# 21566), ivory (#21108) and one was gold plated (#21108). A mixed material stud or cufflink, made of MoP and aes, had a hand etched cat's face on the aes surface (#21067, Figure 3.37, Figure 3.38).

Figure 3.37: Cats face stud or cufflink 066/#21067. DSC_4267. Russell Workman.

Figure 3.38: Selected examples of men's fastenings from context 066 (l-r). Top row: bone button/stud #20820, domed bone button/stud #21109, bone button/stud #21110. Second row: cuff link #20719, MoP button/cuff link #21067, bone button/stud #20876. Bottom row: bone button/stud #21284, slate pencil #20557. 100mm scale. DSC_4311. Russell Workman.

Fasteners were not exclusively attributed to men, with a high number (176 MIC) of wire dress hooks and eye fragments and one corset hook (21288) used for women's clothing or undergarments. The fasteners were either lost from garments during wear or dropped during sewing or mending.

There were 84 teeth from various shaped combs. They were mostly made from vulcanite (54 frags), an early form of plastic, dating from after 1851.[34] Most of the teeth and comb fragments were plain black. One spine, however, had the stamped marks '[U]NBREAKABLE' on the front and "MADE IN GERM[ANY]' on the reverse. Stamping Combs made for brushing or grooming were used by men, women and children, however hair combs and pins are considered accessories for women, keeping their hair contained with a curved comb or a long-pointed pin. The accessories were often ornate with patterns on their spines or made from celluloid, a material developed in 1869, to look like multicoloured tortoise shell. One polished bone hair pin (#20525) was found in the underfloor deposit (Figure 3.39).

Another item, possibly used by a woman in the house, was a polished bone fan stick with pierced or fretted fine decoration, probably made in China (Figure 3.39).

[34] Katz 1986

Figure 3.39: Selected personal items used by females from context 066 (l-r). Top row: partial bone component of hand-held fan #20999, flat dress hook #21340, corset eye #21288, celluloid hair comb teeth/spine #20898. Second row: wire dress eyes #20548 (5), celluloid hair comb spine #20664. Third row: polished bone pin #20525. Bottom row: standard dress hooks #20444 (8). 100mm scale. DSC_4310. Russell Workman.

The jewellery found in the underfloor deposit was categorised by specific function according to shape (Table 3.29). Of the 85 items, 63 were identified as jewellery pieces, including inlays, pendants and beads. The 13 beads in this function were identified as jewellery by their shape and size, and would not have been used in clothing or furnishings as were many of the other beads from this context. Other artefacts, that could not be definitively identified were categorised by two equally possible specific functions, such as jewellery/accessory.

Many black pieces of jewellery were found, either made from jet, or copied in more affordable moulded glass, which became very fashionable when Queen Victoria wore it for several decades while mourning for Prince Albert following his death in 1861. (Figure 3.40). The purple/black glass brooch/pendant (#20840), with the inscription "IN MEMORY OF" was likely an example of personal grieving (Figure 3.43).

Vulcanite was also an option for black jewellery as can be seen in the black oval brooch with a moulded top depicting a floral design (#21278, Figure 3.41). From around 1830s it was popular to express love and friendship with flowers. Each flower held different

meanings and messages, for example pansies said 'Thinking of you'. It is, however, difficult to see the particular type of flower or flowers on this brooch.

There were nine fragments of vulcanite chain, used for chatelaines, a decorative belt hook or clasp worn at the waist with a series of chains suspended from it (Figure 3.42). Each chain was mounted with useful household items such as scissors, thimbles, watches, keys, vinaigrette, and household seals.

Copper alloy was often used as the base material, using coloured glass inlays, MoP and wood to make colourful, delicate pieces of jewellery including earrings, lockets, brooches and pendants (Figure 3.43, Figure 3.44).

A small cameo, probably handmade from shell in the UK or Europe, probably Italy, and shows a lady with a hairband and a low bun (#21197). The size suggests an inlay for a bracelet (Figure 3.44).

Table 3.29: Breakdown of Jewellery by specific function and shape in Context 066.

Specific function	Shape	Fabric	Colour	MIC	%	Frags	%
clothing/ jewellery	clip	fe	-	1	*1.2*	1	*1.5*
	inlay	glass	light blue	1	*1.2*	0	*0.0*
	unidentified	aes/glass/fe	blue	1	*1.2*	1	*1.5*
furniture /jewellery	unidentified	aes	-	2	*2.4*	2	*3.0*
jewellery	bead	jet	black	13	*15.3*	3	*4.5*
	brooch	brass	-	8	*9.4*	16	*23.9*
	brooch/ pendant	aes/glass	purple/black	1	*1.2*	0	*0.0*
	chain	aes	-	3	*3.5*	12	*17.9*
	clasp	brass/au	-	1	*1.2*	1	*1.5*
	earring	aes	-	6	*7.1*	4	*6.0*
	inlay	glass	red	13	*15.3*	2	*3.0*
	locket	aes	-	1	*1.2*	1	*1.5*
	necklace	aes	-	2	*2.4*	1	*1.5*
	pendant	wood/aes	brown	9	*10.6*	5	*7.5*
	pin	aes	-	1	*1.2*	1	*1.5*
	ring	aes	-	1	*1.2*	1	*1.5*
	unidentified	aes	-	3	*3.5*	1	*1.5*
jewellery /accessory	badge	fe/aes	-	1	*1.2*	1	*1.5*
	bead	glass	black	1	*1.2*	0	*0.0*
	chain	vulcanite	black	9	*10.6*	7	*10.4*
	clip	MoP/aes	white	1	*1.2*	1	*1.5*
	component	brass	-	1	*1.2*	0	*0.0*
	fob watch	aes/fe	-	1	*1.2*	1	*1.5*
	unidentified	aes	-	2	*2.4*	3	*4.5*
jewellery /clothing	pin	aes	-	1	*1.2*	1	*1.5*
jewellery /ornament	strap	aes	-	1	*1.2*	1	*1.5*
			Total	85	*100*	67	*100*

Figure 3.40: Black jewellery from context 066 (l-r). Top row: moulded ovoid bead #21260, spherical wound bead #21074, pendant cross #20505, facetted bead #20775 and moulded oval bead with pointed end #20616 above moulded facetted beads #21082 (2), domed facetted pendant with aes frame on back #21281. Bottom row: ovoid tabular facetted bead #20394, tulip shaped bead #20395, glass pendant #21071, leaf shaped inlay #21073, pendant #20729. 100mm scale. DSC_4231. Russell Workman.

Figure 3.41: Black brooch 066/#21278. 100mm scale. DSC_4217. Russell Workman.

Figure 3.42: Vulcanite links/chatelaine from context 066 (l-r). Top row: #21075, #20299, #21328. Bottom row: #20615, #21291, #20614, #20649. 100mm scale. DSC_4221. Russell Workman.

Figure 3.43: Selected jewellery finds from context 066 (l-r). Top row: small linked chain #20514, ball link chain #20602, cable chain #21085 (7). Second row: pressed aes sub-rectangular brooch #21002 (3), brooch pin #21338, tiny aes decoration #21113. Third row: pin for brooch/safety pin #21298, earring hook #20732, pressed circular aes jewellery piece #20724, cone shaped component of chain for necklace/bracelet #20447, aes pendant #20880. Fourth row: necklace clasp #21511, cylindrical end of chain #20727, MoP inlay #21407, circular button/cuff link/necklace part #20312, dome facetted 'gem' #20746, cylindrical Mop disc #21199, necklace/bracelet piece #20881, pendant cap #20730, split pin #21112. Fifth row: locket/pendant frame #21192, 8-pointed star #21084, 5-petal flower earring with blue 'jewel' in centre #21477, near whole ring #21195. Bottom row: pressed aes pendant #21280, oval pendant/brooch with glass inlay #20840, celluloid pendant #20315, MoP clip #20723, teardrop dome pendant #20720. 100mm scale. DSC_4321. Russell Workman.

Figure 3.44: Very small Cameo inlay 066/#21197. 100mm scale. DSC_4308. Russell Workman.

HOUSEHOLD/PERSONAL

Categories combining two functions are assigned to items that could be used for both general or specific functions with the more likely function listed first. It is also used when an item cannot be identified definitively. Eight items were placed into the Household/Personal category (Table 3.30).

Table 3.30: Sum of artefacts in Context 066 by household/personal function.

General function	Specific function	Shape	MIC	Frags
household / personal	furniture /jewellery	unidentified	2	2
	furniture /unidentified	ring	1	0
		unidentified	1	1
	sewing/clothing	pin	2	2
	unidentified	split pin	1	0
	unidentified	unidentified	1	2
		Total	8	7

PERSONAL/HOUSEHOLD

The majority of artefacts in the personal or household specific function are beads (Table 3.31). Most of the 574 beads that had dropped through the floorboards were small glass varieties commonly used in the Victorian period to embroider dresses, accessories and household furnishings, as well as being strung as jewellery.

Black (24) and white (17) beads were the most frequently found coloured beads. The remaining beads include different shades of blue, green, red, orange and pink beads to name a few.

The beads in room 2 were concentrated in four squares (Table 3.32, Table 3.12). C1 had the most, as with all other artefacts in this underfloor deposit. However, the squares B1 and 2 and C2 also had a high number of beads suggesting that area of the room was where the sewing was carried out (Table 3.32, Figure 3.45).

Table 3.31: Sum of artefacts by personal/household function.

General function	Specific Function	Shape	MIC	%	Frags	%
personal / household	jewellery /clothing/ furnishing	bead	574	*99.0*	14	*87.5*
	jewellery /clothing/ furnishing	button/bead	1	*0.2*	1	*6.3*
	jewellery /ornamental	strap	1	*0.2*	1	*6.3*
	unidentified	clip	1	*0.2*	0	*0.0*
		Total	580	*100.0*	16	*100.0*

Table 3.32: Spatial analysis of glass beads in Context 066.

Squares	1	2	3	Total	*% of Total*
A	3	22	7	32	*5.6*
B	49	85	11	145	*25.3*
C	231	101	23	355	*62.0*
D	1	26	14	41	*7.2*
Total	284	234	55	573	*100.0*
% of Total	*49.6*	*40.8*	*9.6*	*100.0*	

Figure 3.45: Sample of beads from context 066 (l-r). Top row: hexagonal bugle beads #20906 (5), seed cut drawn #20589 (3). Second row: hexagonal bugle drawn #20905 (17), barrel drawn #20756. Third row: wire dress hooks #20547 (4), seed drawn #20932 (15), barrel drawn #20755. Fourth row: hexagonal bugle drawn #20902 (10), #20744, #20596. Fifth row: hexagonal bugle drawn #20506, #20581 (8), seed drawn #20915 (8), barrel drawn #20757. Sixth row: spherical wound #21237, #21239, spherical facetted moulded #21238, seed drawn #20582 (10), spherical wound #21081, #20503. Bottom row: spherical facetted moulded black glass bead #20502, #20504, #20745, spherical wound glass #21235, facetted tabular #20775, oval vulcanite tabular #21076, tulip decorated cut #20395. 100mm scale. DSC_4351. Russell Workman.

RECREATIONAL

The artefacts from the category recreational represent activities carried out by adults and children. It is, however, sometimes difficult to distinguish between the ages of the people carrying out activities. Smoking was common in the early 19th century and men, women and children smoked[35]. However, within context 066, what is unusual is the small number of smoking pipes compared to the plethora of other artefacts, such as buttons, beads and marbles (Table 3.33).

Table 3.33: Sum of recreational artefacts from context 066.

General function	Specific function	Shape	MIC	%	Frags	%
recreational	smoking	pipe	20	23.0	21	63.6
	toy	doll	2	2.3	1	3.0
		horse	1	1.1	1	3.0
		marble	55	63.2	1	3.0
		saucer	3	3.4	3	9.1
		soldier	1	1.1	1	3.0
		wheel	4	4.6	5	15.2
		Total	87	100.0	33	100.0

[35] Gojak & Stuart 1999:40.

A total of 21 smoking pipe fragments were found, most of which had plain, unmarked stems Table 3.34). Of the four pipes with marks, two have the manufacturer and the city of origin on either side of the stem (#20665, #20667), one had the name of the manufacturer only (McDougall, a well-known Scottish manufacturer #20982) and one has the city, Glasgow, and pipe type ('BURNS', #20501). Of the nine mouth pieces found, four of them had evidence of use with teeth and mouth wear, the pipes having been held in the mouth while hands were used to carry out other activities. As well as the clay pipes, later 19th-century forms were found, such as bent and composite types with bone or amber mouthpieces, influenced by a more European tradition (Figure 3.46).[36]

Table 3.34: Total of pipes noting their manufacturer and country of manufacturer in Context 066.

Shape	Portion	Manufacturer	Country of Manufacture	From	To	MIC	%	Frags	%
pipe	bowl	-	-	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	0	*0.0*
		-	-	-	-	1	*5.0*	1	*4.8*
	frag	-	-	-	-	1	*5.0*	1	*4.8*
	mouth piece	-	-	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
		Composite	-	1860	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
	mouth piece/ stem	-	-	-	-	1	*5.0*	2	*9.5*
		-	-	-	-	1	*5.0*	1	*4.8*
	stem	C. Crop	England	1856	1923	1	*5.0*	1	*4.8*
		McDougall	Scotland	1846	1987	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	1	*4.8*
	stem/ bowl	Davidson	Scotland	1862	1911	1	*5.0*	1	*4.8*
	stem/ mouth piece	-	Scotland	-	-	1	*5.0*	1	*4.8*
		-	-	-	-	1	*5.0*	2	*9.5*
					Total	20	*100.0*	21	*100.0*

[36] Ayto 1994; Bradley 2000; Gojak & Stuart 1999; Jack 1986; Oswald 1975; Pfeiffer 1986; Scott & Scott 1981; Wilson 1999

Figure 3.46: All pipes from context 066 (l-r). Top row: Fluted bowl with stars around the rim #20779, plain trimmed stems #20666 above #21447, plain bowl fragments #20430, #20986, #20526. Second row: 'DAVIDSON' stem #20665, tapered stem and lenticular mouthpiece #21198 (2). Third row: mouthpiece #20984, stem #20985, mouthpiece #21366, #20983, base of bowl and stem with incuse mark "McDOU[GALL]" #20982. Fourth row: slightly wonky stem #20843, glazed mouthpiece #20524, #21520, stem with incuse marks "C. CROP L[ONDON] / [L]ACHLANDER" #20667. Bottom row: mouthpiece and stem with incuse mark "[G]LASGOW" #20501, amber mouthpiece #21329, mouthpiece with honey brown glaze #20611. 100mm scale. DSC_4317. Russell Workman.

In total, 55 marbles were found in the underfloor deposit, with square C1 having 22. Most of the marbles were made from limestone (44), dating from the 18th century. There were four glass marbles, one of which is a reused Codd patent bottle stopper ('Pop alleys') that cannot date before 1873 (#20798). A lead soldier and horse (#21120, #21515) were found in the underfloor deposit, as well as wheels from toy cars or trucks (Figure 3.47).

The spatial analysis again shows square C1 with a high number of toys, strongly suggesting the sweeping direction, possibly towards the threshold or a door. However, this analysis also shows the items spread out across the whole room, marbles rolling in all directions, dolls dropped, shattering and dropping through gaps (Table 3.35).

There were 12 pieces of porcelain dolls or figurines (Figure 3.48). The dolls were inexpensive and could be bathed, part of Victorian traditional play focussed on training girls for motherhood or child-minding, as were the tea sets. Many of the 'dolls' would have been carefully handled. A few items classified as dolls may have really been figurines and on display in the home as ornaments. For this reason, they are associated with the mixed function of Household/recreational.

Table 3.35: Spatial analysis of toys from Context 066

Squares	1	2	3	Total	*% of Total*
A	1	3	0	4	*5.3*
B	11	10	1	22	*28.9*
C	28	8	3	39	*51.3*
D	4	4	3	11	*14.5*
Total	44	25	7	76	*100.0*
% of Total	*57.9*	*32.9*	*9.2*	*100.0*	

Figure 3.47: Selected examples of toy marbles from context 066 (l-r). Top row: hand-made clay #20422 (3), painted stonie #20977. Second row: painted stonie #20975, stonies #20796, #20974 (2). Third row: hand-made clay #20979, Bennington brown/green #21474, Pop alley #20798, #20980. Bottom row: Glass alley #20981, Bennington brown #20632, Bennington fancy #20535, stonie #20421. 100mm scale. DSC_4313. Russell Workman.

Figure 3.48: Selected doll/figurines from context 066 (l-r). Top row: lower arm and hand #21436, hands #21119, #21116. Bottom row: pink porcelain face with hand painted eyebrows #21115 joins #20842, frozen charlotte missing a foot #20284, head and shoulders of a young lady #21273, foot #21272, small foot #21118, #21383, small foot or paw #21117. 100mm scale. DSC_4253. Russell Workman.

3.1.5.3 CONTEXT 069

The underfloor deposit (069) within the fireplace was gridded using the same overlay grid as Room 2. It measured only 1.4m by 540mm in size, within grid squares B3 and B4. Often fireplaces were the centre of activity, used for heating, eating and a light source. However, the ten miscellaneous artefacts found (Table 3.36, Figure 3.49) represent a similar sample of the artefacts found in the rest of the room's underfloor deposit (context 066). Two pins (#21572, #21573) are EUH, their manufacture is dated from c.1809 to c.1880. The small porcelain button (#21575) was manufactured after c.1840. A small hand rolled clay marble, slightly asymmetrical, is the cheapest form of marble and is dated broadly from c.1788-c.1850.

Table 3.36: Sum of artefacts from context 069.

General function	Specific function	Shape	From	To	MIC	Frags
cleric	writing	slate pencil	-	c.1960	2	3
household	sewing	pin	c.1809	c.1880	2	2
personal	clothing	button	c.1840	c.1930	1	0
		hook	-	-	1	1
personal /household	jewellery /clothing/furnishing	bead	-	-	3	0
recreational	toy	marble	c.1788	c.1850	1	1
				Total	10	7

Figure 3.49: All artefacts from context 069 (l-r). Top row: porcelain button #21575, hexagonal drawn bugle bead #21577, hexagonal drawn barrel bead #21578, EUH pin head shank #21572, dress hook #21574, clay marble #21580. Second row: hexagonal drawn bugle bead #21576, EUH pin #21573. Bottom row: cylindrical slate pencil with facetted ground point #21579 (2), narrow long conical point slate pencil v#21571. 100mm scale. DSC_4250. Russell Workman.

3.1.5.4 CONTEXT 082

Context 082 was the underfloor deposit within House 2 Room A. The deposit was a small localised patch of fill, and contained eight (MIC) artefacts (Table 3.6, Figure 3.50). Apart from the pins, and possibly the beads, the artefacts from this deposit relate to children. Two marbles were found, a painted limestone (stonie) marble (#21586) with brown swirly patterns and was well used with multiple battering marks, and a handmade glass alley type (#21587), again well used, fractured, chipped and many battering marks. The toy dish (#21590) likely came from a child's tea set. The very small, brown button was possibly used on a small child's, or dolls, garment (#21589). The lack of artefacts, compared with context 066, and the association with children may indicate that the room was a child's room with either floor coverings or tongue and groove floorboards.

Table 3.37: Sum of artefacts from underfloor fill 082 in Phase 5 by function.

Context	General function	Specific function	Shape	MIC	Fragments
082	household	sewing	pin	3	3
	personal	clothing	button	1	0
	personal /household	jewellery /clothing/furniture	bead	1	0
	recreational	toy	dish	1	0
			marble	2	1
			Total	8	4

Figure 3.50: All artefacts from context 082 (l-r). Rectangular toy dish #21590, glass alley hand-made swirl marble #21587, stonie painted marble #21586, oblate bone bead #21588 and celluloid button #21589 above EUH pins #21585 (3). 100mm scale. DSC_4251. Russell Workman.

3.1.6 DEMOLITION FILLS

The demolition of Houses 1, 2 & 3 occurred between 1940s and 1960s (Phase 6) and three contexts (011, 019 and 026) contained miscellaneous artefacts. Rubble from the houses was pushed into the sub-floor spaces of a number of rooms and also covered the surrounding footings. Miscellaneous artefacts from the demolition material, although not able to give much of an insight into the finishes used in the houses, can provide additional information on the occupation of the house. Context 011 was in House 2 Room A and B. Context 019 and 026 were the same fill, 019 was in Room 1, and 026 was in Room 2 of House 1. A total of 14 artefacts (MIC) was found across the fills (Table 3.38, Figure 3.51).

The late date (1966) of the 5-cent piece (026/#20208) demonstrates it was probably dropped during the demolition process.

Electricity was turned on in Sydney's streets early 1900s, but was not immediately available to houses, and was connected to the North Shore in 1915.[37] The pull light switch (#20020) from Context 011 was made from Bakelite, the world's first synthetic plastic which was introduced in 1907.[38] This is the only artefact in this context that can give an insight into the modern utilities, and, to a certain extent, the style of the house. The house was built in 1869 and demolished in c.1940. There were additions added to House 2 in 1880 but this was still too early for electricity or Bakelite. This indicates there were more renovations in the early 20th century to make way for the electricity.

The remaining artefacts were related to the occupants' activities. Artefacts attributed to the personal function include two plain sew through buttons (#20018, #20019), a porcelain button (#20212), a celluloid tooth from a comb (#20211) and a translucent glass bangle (#20027).

Recreational items included marbles (#20209), a porcelain saucer from a tea set (#20210) and a partial unglazed porcelain pudding doll (# 20021).

Few items of cutlery have been found and only one in the demolition deposits. The small handle of a fork or knife possibly belonged to a child (#20026).

[37] North Sydney Heritage Review (1993)

[38] https://www.acs.org/content/acs/en/education/whatischemistry/landmarks/bakelite.html

Table 3.38: Sum of artefacts from the demolition fills by function.

Context	General function	Specific function	Shape	From	To	MIC	%	Frags	%
011	personal	clothing	button	1760	1830	1	*7.1*	0	*0.0*
				1840	1930	1	*7.1*	0	*0.0*
	recreational	smoking	pipe	-	-	1	*7.1*	1	*12.5*
		toy	doll	1860	-	1	*7.1*	1	*12.5*
	service	electrical	switch	1910	-	1	*7.1*	2	*25.0*
019	food	tableware	fork/ knife	-	-	1	*7.1*	1	*12.5*
	personal	jewellery	bangle	-	-	1	*7.1*	1	*12.5*
026	economy	currency	coin	1966	-	1	*7.1*	0	*0.0*
	household	sewing	pin	1880	-	2	*14.3*	2	*25.0*
	personal	clothing	button	1840	-	1	*7.1*	0	*0.0*
		grooming	comb	1850	-	1	*7.1*	0	*0.0*
	recreational	toy	marble	1700	1914	1	*7.1*	0	*0.0*
			saucer	1850	-	1	*7.1*	0	*0.0*
					Total	14	*100.0*	8	*100.0*

Figure 3.51: Artefacts from demolition fills (l-r). Top row: Bakelite electrical switch 011/#20020, painted stonie marble 026/#20209. Second row: cobalt blue glass bangle 019/#20027 above porcelain toy saucer 026/#20210. Third row: Australian 5c coin 026/#20208, aes concave 4-hole button 026/#20212, flat cone shank button 011/#20018. Bottom row: pipe mouth piece 011/#20017, bone fork/knife handle 019/#20026, celluloid comb tooth 026/#20211 above brass EU pin head shank 026/#20207 (2), above EU pin 026/#20206, pudding doll 011/#20021. 100mm scale. DSC_4347. Russell Workman.

3.1.1 CLEAN UP

On an archaeological site there are often artefacts on the surface of the site, moved by natural or human disturbance at some stage of their deposition. Clean-up numbers are given out often after machining a new area, or after rain etc. They are generally not secure contexts. As the area is 'cleaned' by the archaeologist, the artefacts are removed. They cannot give an accurate date to the context but can be interesting and inform on general activities of the local vicinity. For this reason, the artefacts are placed in the later phases. Context 001 is in phase 7, when the area was a public park (1860s to 2018), the other contexts (025, 038, 062, and 085) come from phase 6, when the demolition of ferry wharf and cottages were taking place (1840s-1860's).

Table 3.39: Breakdown of miscellaneous artefacts from clean up contexts.

Context	General function	Specific function	Shape	MIC	%	Frags	%
001	clerical	writing	slate pencil	2	6.9	2	10.5
	food	tableware	fork/knife	1	3.4	1	5.3
	personal	cloth	button	1	3.4	0	0.0
		cloth/unidentified	buckle	1	3.4	2	10.5
		grooming	comb	1	3.4	1	5.3
		hygiene	toothbrush	1	3.4	1	5.3
		jewellery /accessory	inlay	1	3.4	0	0.0
	recreational	smoking	pipe	2	6.9	2	10.5
025	household	sewing	pin	1	3.4	0	0.0
	recreational	smoking	pipe	2	6.9	2	10.5
038	clerical	writing	lead pencil	1	3.4	0	0.0
	personal	clothing	button	1	3.4	0	0.0
	recreational	smoking	pipe	4	13.8	4	21.1
062	cleric	writing	slate board	1	3.4	1	5.3
			slate pencil	1	3.4	1	5.3
	recreational	smoking	pipe	1	3.4	1	5.3
		toy	marble	1	3.4	0	0.0
085	cleric	writing	lead pencil	1	3.4	1	5.3
	personal /household	jewellery /clothing/furnishing	bead	3	10.3	0	0.0
	recreational	toy	marble	2	6.9	0	0.0
			Total	29	100.0	19	100.0

3.2 AREA B

Area B was bordered by Blues Point Road to the west, and Blues Bay to the south (Figure 3.52). The area had multiple retaining and sea walls with different phases of construction and repair. There was also a weighbridge, various fills, levelling, and surfacing events that occurred above the limited natural deposits in the area.

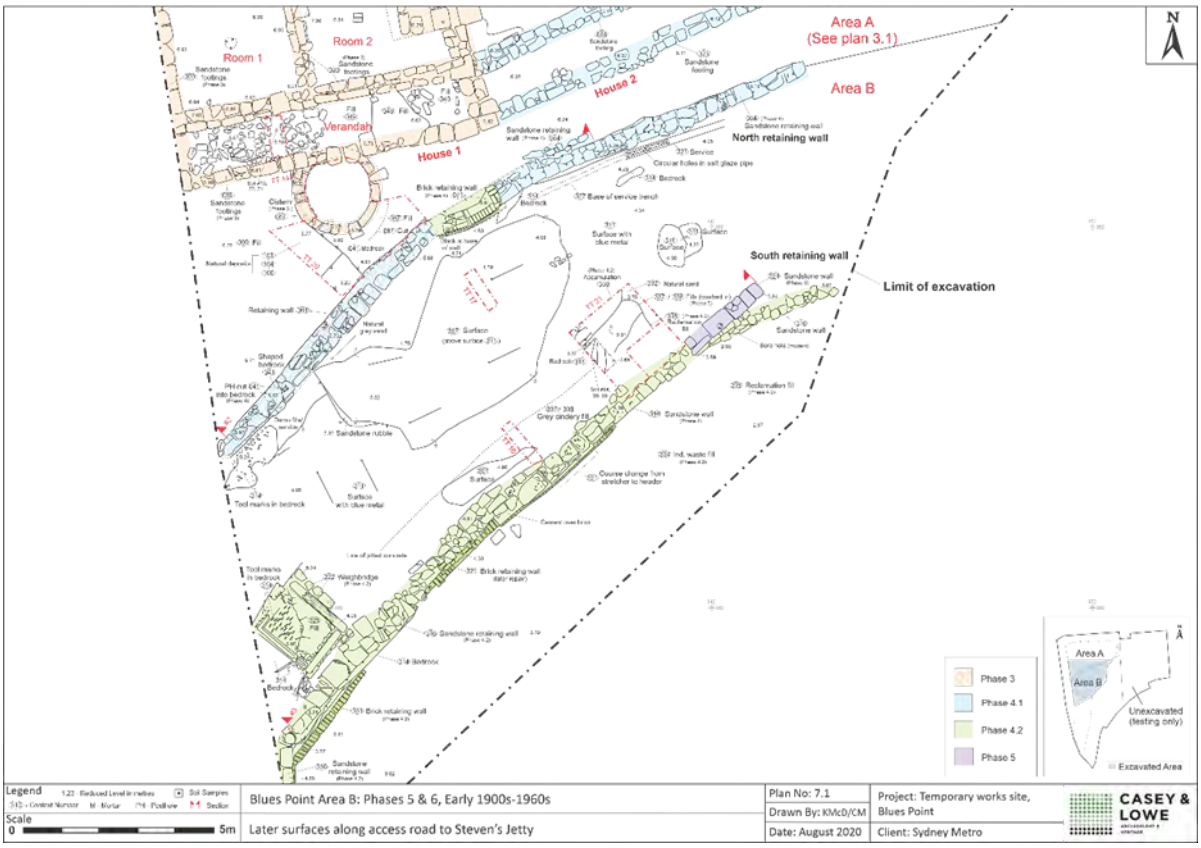


Figure 3.52: Plan of Area B.

The area had a total of nine items found in four contexts (Table 3.40, Figure 3.53). Context 103 and 323 were clean-up contexts. A large, encrusted buckle, possibly from a horse (#21606) was found in Context 103. It also had an unglazed head of a young female ornament (#21605).

The context number 323 was given to any unstratified fill and artefacts collected above the cobbles but below the later levelling event for the next surface. There was only one miscellaneous artefact, an 1868 bronze penny with Queen Victoria depicted (#21608).

Context 317 was a bulk levelling fill, again with only one artefact, a large clock key (#21607).

A dark grey-black silty sand (337), washed down from higher up in the site after the construction of the retaining walls and accumulating at the base of the retaining wall, was excavated within TT21. This context had the most miscellaneous artefacts from Area B with a total of five items. Within the context there were three items that could be associated with children, a machine-made glass marble with a spiral of multicolours through the centre (#21611) dating from after c.1926, a toy saucer, decorated with a floral design, from a tea

set (#21610) and a small thimble best suited for the small fingers of a child (#21612). Although minimal they inform us that the activities carried out by the residents of the local area were similar to the activities occurring in the houses at Blues Point.

Table 3.40: Sum of artefacts from Area B.

Context	General function	Specific function	Shape	From	To	MIC	%	Frags	%
301	household	ornament	figurine	-	-	1	11.1	1	25.0
	personal /transport	clothing/horse	buckle	-	-	1	11.1	0	0.0
317	household	time-keeping	clock	-	-	1	11.1	0	0.0
323	economy	currency	coin	1868	1868	1	11.1	0	0.0
337	food	tableware	spoon/fork	1850	-	1	11.1	1	25.0
	household	sewing	thimble	1850	-	1	11.1	0	0.0
	personal	grooming	comb	1869	-	1	11.1	1	25.0
	recreational	toy	marble	1926	-	1	11.1	0	0.0
			saucer	1850	-	1	11.1	1	25.0
					Total	9	100.0	4	100.0

Figure 3.53: All artefacts from Area B (l-r). Top row: small saucer from tea set 337/#21610, celluloid comb spine and teeth 337/#21609. Second row: ornamental young female head 301/#21605, glass alley modern machined marble 337/#21611, dimple dome thimble 337/#21612, bronze 2868 penny 323/#21608. Bottom row: 317/#21607, fiddle spoon/fork 337/#21613, rectangular buckle 301/#21606. 100mm scale. DSC_4314. Russell Workman.

4.0 REPORT SUMMARY & RESULTS

4.1 INTRODUCTION

Miscellaneous artefact data can provide insight for a number of research questions regarding issues of gender, age and status and will be addressed within the separate themes outlined below. Miscellaneous artefacts are central to the analysis of clothing, jewellery, toys, grooming, health and hygiene. In this section other information will also be presented about the artefacts themselves to expand our knowledge of the resource and provide a general historical and technological context for the site.

4.2 RESEARCH THEMES

4.2.1 CLOTHING AND CONSUMERISM

Each underfloor deposit and some fills from Blues Point contained information about the clothing of residents and visitors. Clothing-related artefacts primarily consist of fastenings, buttons, studs, buckles, dress hooks and eyes, and safety pins

The clothing fasteners found at the site, mostly buttons and studs secured and adorned inner and outer garments of adults, adolescents and children of both genders. As a whole they were typical of those worn in the Victorian period with most being common plain sew-through types. However, there was a proportion of more decorative or unusual examples that allow a glimpse of the wearer's sense of style and wealth. The black buttons, as well as the jewellery, indicate the adherence to fashions of the day.

Three buttons were identified as being bought from Sydney department stores. These stores changed from a smaller and more personal industry, with garments made to order, to a larger less individual based experience, where the garments were ready to wear and at a more affordable price for more people.[39] The few maritime/naval buttons suggest a naval connection, whether merchant or navy, or those fond of the sea.

Dress hook and eyes and pins, discussed below, were also found in abundance. Before the introduction of the sewing machine in the mid-19th century most people made, repaired and altered their own clothing.

4.2.2 SEWING

There were 1825 artefacts specifically associated with sewing and lacemaking: pins, thimbles and sewing and lace making equipment such as thimbles and awls. Almost all sewing items were small, easily lost below the floor or swept out with the dust into the yard. The overwhelming majority were pins (1778 MIC) which were catalogued in a systematic way to best ensure a minimum count allowing site comparisons with other household deposits excavated by Casey & Lowe. One such excavation was the CSR site in Pyrmont.[40] Seven houses were excavated with one house, (15), showing a very different profile to the other houses due to the significantly larger number and range of sewing tools and equipment found. It was for this reason that it was suggested that the occupant or occupants of House 15 were undertaking commercial sewing. House 1 Room 2 (context 066) at Blues Point had a very similar amount of sewing paraphernalia to House 15,

[39] Bianchi, Bianco & Mahoney 2006; Houart 1977; Lindbergh 1999; Meredith & Meredith 2000; Newton 2008; Olsen Smith 1988.

Classification of the items is based on well-known terms and dating used in academic, professional and other reputable literature

[40] Casey 2004 p38

suggesting that the occupants in this house were also undertaking a form of commercial sewing.
The next most frequent number of sewing items were the 16 thimbles. The sizes indicate they were used by women and children. The styles, with slogans of endearment, suggest that they did not belong to professional tailors who would have used different (ring-style) thimbles to those found in the house.[41]

4.2.3 JEWELLERY, BEADS AND ACCESSORIES

An assortment of jewellery and accessories belonging to the residents were found on the site. These items are typical in style and form to those worn by working to middle-class people of the mid to late 19th century. Most of the jewellery was inexpensive but there also were several better-quality pieces. They mainly comprised a wide array of glass (paste) gems and inlays of different materials fallen from rings, pendants, brooches or buttons. Jewellery specifically worn by women and girls included a ring, broken earrings, brooches, pendants and a bangle. Those worn by men had been attached as accessories to fob watch or Leontine chains on swivel rings, such as pendants, seals and a locket. These items were an essential part of male attire in this period.[42] Female apparel was similarly accompanied by certain kinds of buttons, hair accessories and fans. Where men accessorised with Leontine chains, women had chatelaines, and both were also practical.

The most numerous types of 'jewellery' at the site were beads. Most of the 1007 beads, were recovered during sieving of the underfloor deposits in House 1. The majority of bead types were made of glass (986 MIC) with a few other materials including coral (14MIC), MoP (1), jet (1) and bone (3). Beads are usually regarded as jewellery mostly worn by women strung onto necklaces, bracelets and earrings. However, in the Victorian period, when the houses were occupied, the smaller sized beads were commonly used to decorate dresses and other apparel, accessories such as bags, and a range of household furnishings including pillows and lamp shades.[43]

The glass beads were made using different techniques, some of which have been practiced since the Roman era. The earliest were wound around a wire and often had an irregular shape. Many of these are thought to have been made in Venice, Italy and were widely traded across the world especially to indigenous people in Africa, and North America.[44] These larger beads are likely to have been threaded on necklaces but could also have been part of rosaries or perhaps lamp decoration.

Drawn glass beads are the most common type found on the site. Drawn beads were cut from long narrow hollow rods. These rods began as hot blown glass with was then stretched and rolled to be extremely narrow. Each bead was then cut when the rod had cooled leaving irregular ends. Most of these bugle beads were left in this state. Some beads, such as seeds and barrels, were reheated and tumbled (h/t) to achieve a rounded shiny appearance. The monochrome seed (476 MIC) and bugle (379 MIC) beads were the most common types in the assemblage. These and small barrel beads were also the types most likely to have been used in embroidery as well as ladies' jewellery[45].

All beads could be made of a single glass colour or in combination with one or several others. The vast majority of all types of beads from the site were monochrome (965) with

[41] Johnson 1982
[42] Eckstein & Firkins 1987; Fletcher 1984
[43] Clabburn: 1980; Wright 1995.
[44] Francis 1994; Ross 1990; Rumrill 1991.
[45] Neuwirth 2011:53, 578.

only a small number (42) of bichrome beads. Blue (173) and black (185) were the most popular colour, white was common in the monochrome and in the bichrome beads where they were mixed with many different colours, with different shades of pink (7) and blue (18) being common. Glass beads were imported from the major production centres in Europe and only the bichrome varieties can be dated, c.1830 onwards.[46]

4.2.4 RECREATIONAL

4.2.4.1 PIPES

The low number of pipes (48 MIC) across the whole site is surprising. Pipes were the main method of smoking tobacco before cigarettes became more widely available and popular in c.1900.[47] Almost all pipes were moulded from white ball clay (kaolin). Amber was the only other material used for a mouthpiece on a composite pipe. As clay pipes were easily broken, displayed constantly changing styles, decoration and sometimes marks, they are an important resource for archaeological research and stratigraphic dating. Once broken, the small fired clay fragments do not decay in the soil and withstand many types of post depositional movement and pressure. They are best recovered from deposits by wet sieving as was done for the underfloor deposits at Blues Point.

The McKinley Tariff Act of 1890 ensured that most pipes coming to Australia made after that time were marked with the country of origin.[48] Some of the pipes from Blues Point have the cities marked on the stem, but none of them have a country. This indicates all pipes were made and imported, if not local, before 1890.

4.2.4.2 TOYS AND GAMES

Among the 95 toys found across the site, the majority were marbles (67MIC). Marbles were extremely popular children's toys in the 19th and early 20th centuries as they could be carried in pockets and played anywhere there was a flat surface, however, this also made them easy to lose. Cheap marbles were made of plain clay while fancier and more expensive varieties were coloured glass, semi-precious stone and painted porcelain. They were also collected for free from soft drink bottles that used glass marbles as stoppers. Most marbles, and in fact toys, in the early colonial years, were made in Germany until World War One stopped the export of such things.

All of the toys represent formal play, traditionally with girls being trained in socialising behaviour, and preparing them for motherhood and being a household hostess. Boys learning strategy with marbles and other games, and the art of war with toy soldiers in painted national uniforms, and also being encouraged to see this as legitimate employment and or opportunity.[49] While wealthier men, often with a military background acquired considerable collections of entire tiny armies, even poor families were able to afford cheaper single soldiers. Some soldier figures were even regarded as being suitable for "the more intelligent sort of girls". Many porcelain and other dolls continued to be owned by girls as they grew to womanhood, making it difficult to know which member of the family really owned them through their life cycle. They could also be objects placed on display to be admired, like the numerous ornaments and figurines found in the houses. If the traditional view on gender and toys is used in the quantitative analysis it can be noted that 72 of the items were toys associated with boys and 23 associated with girls. Interestingly

[46] See Stocks 2013:125 for examples from Darling Walk. that RS dates as c.1830 from DW 2013:125 and discusses the most likely provenance as Venice or Bohemia based on the historical understanding of the bead industry.

[47] Gojak & Stuart 1999:40.

[48] The Journal of Imperial and Commonwealth History 38(3):395-418

[49] Baxter 2005; Chan 2012; Hillier 1986

most of the 'boy's toys' were cheaply made but robust and easily accessible, whereas the girls toys consisted of finer more delicate items.

4.2.5 CLERICAL

Slate pencils, made up the majority of the clerical artefacts, For the children who lived in the houses at Blues Point, attendance at school may have been more regular once compulsory education was introduced in the 1870s. However, according to historical records only 66 per cent of the juvenile population went to school by 1900. Although this was in part due to children working to help support their families, it resulted in many remaining illiterate. Slate pencils were used by children to write lessons on slate boards in the classroom at school and Sunday school. Many schools guarded their slate pencils and boards, some of which were attached together by string and held in cupboards when not in use.[50] To preserve the boards many were held in wooden frames. Towards the end of the 19th century these writing implements were increasingly seen as unsanitary but they were not generally replaced with more expensive lead pencils and paper until the 1930s, and even as late as 1960 for some schools. Until that time lead pencils were more for use in the home, particularly by adults. Slate pencils and boards were also used by public houses and some businesses as a convenient way to keep notation.

4.2.6 HEALTH AND HYGIENE

The miscellaneous artefacts had only one item that is associated with hygiene. A synthetic toothbrush with the word.'[PRO]PHYLACTIC' stamped on the front of the handle[51]. Being the only toothbrush found is unusual. Toothbrushes, often made of bone, became increasingly common from the mid-19th century and are often found in archaeological assemblages in Sydney.[52] This example adds to our knowledge of early American made toothbrushes and suggests that the users kept up with the trends of the time.

4.2.7 GROOMING

There were 69 fragments of combs, made up of 61 teeth and two pieces of spine. To consolidate these teeth into a minimum number of combs is difficult as combs are likely to have a thin and a thick side to them. Almost all the combs were made from vulcanite (86%), a form of black hard rubber invented in 1844 and used to mould combs from 1851.[53] The other 14% of teeth were made with celluloid which was the second early semi synthetic plastic, patented in 1869 in America and a popular material for hair combs

4.2.8 SPATIAL ANALYSIS

The spatial analysis of Room 2 in particular shows the Square C1 (on the adjoining wall with Room 1) with the greatest number of artefacts. This could suggest that all activities were taking place in that location, however as part of the joining wall the light may not be adequate for the fine beading work that appears to have been done in the house. Another possibility is that C1 was where the adjoining door to Room 1 was located and items were swept in this direction from both rooms. This may also be true for Room 1, with many items found in square D2 could this be a door to the verandah?

The difference in artefact numbers between Room 1 and Room 2 in House 1 was noticeable (Table 4.1, Table 4.2). Both rooms are part of the original building but seemingly used for

[50] Davies 2005; Early Office Museum 2000-2012.

[51]https://medcraveonline.com/JDHODT/the-evolution-of-a-tooth-brush-from-antiquity-to-present--a-mini-review.html

[52] Stocks 2013 p235; Stocks 2020; Rooke 2021;

[53] Couzens & Yarsley 1968; Katz 1986. 'I. R. Comb Co., and Charles Goodyear: Hair comb (2000.561)', inHeilbrunn Timeline of Art History, The Metropolitan Museum of Art, New York, 2000; Katz 1986.

different purposes. Room 2 appeared to be a focus of different activities, with artefacts related to sewing, beading, playing, and writing. Room 1 contained fewer finds, The room may have been used for fewer activities, it may have been cleaned more frequently, the boards may have been in better condition or covered, but the high number of artefacts in D2 is significant compared with the rest of the room and suggests a different use of the space or location of a door or window likely. Although the beads increased the numbers in this room it seems likely that they were part of a one-off event, a spillage of a jar of beads or a broken necklace or bracelet falling off the wearer.

Table 4.1: Spatial analysis of all artefacts from Room 1.

Square	1	2	3	Total	*% of Total*
A	2	0	0	**2**	*0.5*
B	16	2	7	**25**	*5.9*
C	34	30	2	**66**	*15.5*
D	23	294	15	**332**	*78.1*
Total	**75**	**326**	**24**	**425**	*100.0*
% of Total	*17.6*	*76.7*	*5.6*	*100.0*	

Table 4.2: Spatial analysis of all artefacts from Room 2 context 066.

Square	1	2	3	Total	% of Total
A	60	46	17	**123**	*3.5*
B	433	671	34	**1148**	*32.6*
C	1201	596	136	**1933**	*55.0*
D	54	162	96	**312**	*8.9*
Total	**1759**	**1475**	**283**	**3545**	*100.0*
% of Total	*50.0*	*41.9*	*8.1*	*100.0*	

4.3 CONCLUSION

A total of 4164 miscellaneous artefacts were found at Blues Point, the majority of the artefacts in the underfloor deposit under Room 2 of House 1 (Context 066). Domestic activities are evident in the number and variety of small objects that were lost or discarded by adults and children below floors of the houses. Whether artefacts came to be deposited in various areas of the house and yard depended on many factors. These included how conscientious the people were about keeping their homes clean, what methods were used to achieve this and whether certain kinds of rubbish were discarded in different locations on the allotments. The condition of the houses and the floorboards in particular would

have influenced the size of the gaps and thus how large and often an object could fall. Wear near doorways and in other high-traffic areas could have been countered by floor coverings or furniture. The yards had fewer artefacts due to reclamation levelling, which makes it difficult to examine differences between indoor and outdoor activities at this site.

The underfloor deposits in House 1 were given the most attention due to the amount of material recovered in the wet sieving program. Numerous small, and less frequently larger, objects accumulated below the floors among the dust. Many of these had clearly fallen through gaps in the floorboards, either dropped by the user or swept to the edge of the room while cleaning. The high number of beads and pins in this house, particularly in Room 2, suggests more than domestic sewing, possibly a cottage industry, women working from their home to supplement the family income. This room may have been the kitchen, where customarily the whole family would gather at different times of the day and night. For most household tasks as much light as possible is desirable. Advantage would have been taken of windows and doorways during the day, and fireplaces or lamps at night. However, the paucity of artefacts from around the fireplace in Room 2 (069) indicates otherwise.

The toys, as well as the small work tools, thimbles for example, provide evidence that children were present in the house and not just playing but working alongside the adults. Clerical items also indicate the presence of children. However, the large amount of slate and lead pencils (178) would suggest that it was not only the children using them and perhaps they were being used for work purposes. Possibly a tally of beads or pins used in the sewing activities.

What the assemblage does not include, or has low numbers of, is also interesting. The small number of pipes (48, 1%) in comparison to other artefacts, may suggest that the occupants did not smoke in the house, maybe taking it out to the verandah. It may have been that there were few in the household that smoked, or that the men smoked at their place of work. Shot guns were commonly owned in the 19th century, for hunting or self-protection, however no shot was found in the underfloor deposits. Although located on the shore line there is no there is no evidence of fishing. For the most part the room seemed to be inhabited by females. The artefacts in the room were most likely associated with the types of activities carried out by women. It was the opposite for children though as most toys (76%) related to boys.

Combs indicate the residents were concerned with their appearance and could also be used for the removal of nits, another potential hygiene issue. There were only two toothbrushes, either suggesting that hygiene was not a priority, or the opposite and that toothbrushes were important and not dropped or lost.

Overall, the miscellaneous artefacts suggest a Victorian and Edwardian middle-class family, or families, living at Blues Point.

5.0 REFERENCES

5.1 REFERENCES

Antique Animal Jewellery n.d. Available from https://www.antiqueanimaljewelry.com/post/aesops-fables-jewelry

Australian Button History n.d. Pearl shell button industry. Available at

http://www.austbuttonhistory.com/australian-button-history/pearl-shell-button-industry/#Pearl_shell_button_industry

Ayto, E.G. 1994 Clay *Tobacco Pipes*, Shire, England.

Baxter, J. 2005 The *Archaeology of Childhood*, Children, Gender, and Material Culture, Altamira Press, Walnut Creek, California.

Bianchi, L.G., B.A. Bianco & S. Mahoney 2006 'Buttons and fasteners,' in Perry, W.R., J. Howson & B.A. Bianchi (eds.) *New York African Burial Ground Archaeology Final Report*, prepared by Howard University for the United States General Services Administration, Vol. 1 Chapter 12, pp. 306–381.

Bradley, C. 2000 'Smoking Pipes for the Archaeologist', in K. Karklins (ed.) *Studies in Material Cultural Research* pp. 104-133, The Society for Historical Archaeology, California University of Pennsylvania, USA.

Casey, M. 2004 'Falling through the cracks: method and practice at the CSR Site, Pyrmont', *Australasian Historical Archaeology* 21: 27-43.

Chan, H. *2012 Running Wild: A Study of Working Class Childhood in Urban Sydney from the Mid-19th to early 20th Century*, BA hons thesis, Department of Archaeology, The University of Sydney, Australia.

Clabburn, P. *1980 Beadwork*, Shire Album 57, England.

Company of Master Mariners of Australia n.d. Available at http://www.mastermariners.org.au/stories-from-the-past/2778-the-union-steamship-company-of-new-zealand-ltd

Couzens, E. & V.E. Yarsley 1968 Plastics *in the Modern World,* Penguin, UK/Australia.

Crosby 2007; 'Lead holder history': www.leadholder.com/main-history.html#leadholder_origins

Davies, P. 2005 'Writing Slates and Schooling in Victoria', *Australasian Historical Archaeology* 23: 63-69.

Davey, P. (ed.) 1987 The *Archaeology of the Clay Tobacco Pipe, X. Scotland*, BAR British Series 178, London.

Durbin, G. 1984. Wig, Hairdressing and Shaving Bygones. Shire Album 117. Shire Publications, Aylesbury.

Eberhard Faber history. n.d. Available at https://www.eberhardfaber.com/Company/heritage/history

Eckstein, J., J. & G. Firkins 1987 *Gentlemen's Dress Accessories*, Shire Album 205, England.

Fletcher, M. 1984 *Costume in Australia 1788-1901*, Oxford University Press, Melbourne.

Firmin House n.d *Button Makers*. Available at https://www.firminhouse.com/products-services/buttons/

Fownes Brothers n.d. Available at http://www.fownesbrothers.com/our-history

Francis, P. 1994 'Catalogue of the Beads in the Crossroads of Continents Exhibit', in *Anthropology of the North Pacific Rim*, Ed. by W.W. Fitzhugh and V. Chaussonnet, pp. 281-305, Smithsonian Institution Press, Washington, D.C.

Gojak, D. & I. Stuart 1999 'The Potential for the Archaeological Study of Clay, Tobacco Pipes from Australian Sites', *Australasian Historical Archaeology* 17: 38-49.

Hedge, R. 2019. Worcestershire Archive and Archaeology Service, 'Birmingham Buttons – Find of the month', Available at https://www.explorethepast.co.uk/2019/10/birmingham-buttons

Hillier, M. 1968 *Dolls and Dollmakers*, Weidenfeld and Nicolson, London.

Houart, V. 1977 *Buttons a Collector's Guide*, Souvenir Press, London.

'I. R. Comb Co., and Charles Goodyear: Hair comb (2000.561)', in Heilbrunn *Timeline of Art History*, The Metropolitan Museum of Art, New York, 2000;

Jack, R. I. 1986 'Clay tobacco pipes exported from Scotland to Australia in the nineteenth century: some preliminary observations', in B. Sudbury (ed.) *Historic Clay Tobacco Pipe Studies* Vol. 3, pp. 124-134, USA.

Johnson, W. 1999 'Coins, Medals and Tokens Artefact Report', in Godden Mackay Pty Ltd *Cumberland/Gloucester Street Archaeological Investigation*, Volume 4ii–Specialist Reports, pp. 241-284, prepared for the Sydney Cove Authority and the Heritage Council of New South Wales, Sydney.

Katz, S. 1986 *Early Plastics*, Shire Album 168, England

Lindbergh, J. 1999 'Buttoning Down Archaeology', *Australasian Historical Archaeology* 17: 50-57.

Lobel, R., M. Davidson, A. Hailstone & E. Calligas 1991-6 *Coincraft's 1997 Standard Catalogue of English & UK Coins 1066 to Date*, Standard Catalogue Publishers, London.

Mira, W.J.D. 1981 Coinage *and Currency in New South Wales 1788-1829* and An Index of Currency References in The Sydney Gazette 1803-1811, The Metropolitan Coin Club, Sydney.

Meredith, A. & G. Meredith *2000 Buttons*, Shire, England.

Myatt, B. & T. Hanley 1980 *Australian Coins, Notes & Medals*, Castle Books & Horwitz Grahame, Australia.

National Park service N.D. Marguerite McLoughlin's 'Sewing Tools; Fort Vancouver National Historic Site', available at https://www.nps.gov/articles/margueritesewing.htm

Newton, D. 2008 Trademarked. A History of Well-Known Brands - from Aertex to Wright's Coal Tar, Sutton Publishing, London. See also http://www.gracesguide.co.uk/wiki/Reeves_and_Sons

NSW Heritage Office. 2005. Repair of Tongue and Groove Floorboards Information Sheet 5.4

NZ Ship and Marine Society n.d. Available at https://nzshipmarine.com/nodes/view/1305

Olsen, S.J. 1963 'Dating Early Plain Buttons', *American Antiquity* 28 (4): 551-554.

Oswald, A. 1975 Clay *Pipes for the Archaeologist*, BAR 14, Oxford.

Peacock, P. 1978 Discovering Old Buttons, Shire, England.

Peapes & Co. Limited. 1916, After 50 years: 1866-1916, Available at http://nla.gov.au/nla.obj-528697171

Petroski, H. 1989 The *Pencil: A History of Design and Circumstance*, Knopf, New York.

Pfeiffer, M. 1986 'Tobacco Pipes from the Arrowtown Chinese Settlement, Central Otago, New Zealand', in B. Sudbury (ed.) *Historic Clay Tobacco Pipe Studies* Vol.3, pp. 79-88, USA

Public Works Department, Correspondence, Parramatta Lunatic Asylum 1856-66,

SANSW 2/618C

Ritchie, N. & S. Park 1987 'Chinese Coins Down Under: Their Role in the New Zealand Goldfields', *Australasian Historical Archaeology* Vol. 5: 41-48.

Ross, L. 1990 'Trade Beads from Hudson's Bay Company Fort Vancourver (1829-1860), Vancouver, Washington', *Beads* 2: 29-67.

Rumrill, D. 1991 'The Mohawk Glass Trade Bead Chronology: ca. 1580-1785', *Beads* 3: 5-45.

Scott, A. & C. Scott 1981 Smoking *Antiques*, Shire Album 66, England.

South, S. 1964 'Analysis of the Buttons from Brunswick Town and Fort Fisher', Florida Anthropologist Vol. 17, No. 2: 113-33.

Sprague, R. 1985 'Glass Trade Beads: A Progress Report', Historical Archaeology 19: 87-105.

Stocks, R. 2013. 'Miscellaneous, Organics and Non-structural Metals Report, Darling Quarter'. Report prepared for Casey & Lowe.

The Journal of Imperial and Commonwealth History 38(3):395-418

'The Story of David Jones' n.d. Available at https://www.davidjones.com/about-us/the-story-of-david-jones

Tylecote, R.F. 1972 'A Contribution to the Metallurgy of eighteenth- and nineteenth-Century Brass Pins', *Post Medieval Archaeology* 6:183-190

Walker, I.C. 1983 'Nineteenth Century Clay Tobacco-Pipes in Canada', in P. Davey (ed.) *The Archaeology of the Clay Tobacco Pipe VIII America*, BAR International Series 175: 1-87, Oxford.

Wilson, G.C. 1999 'Ceramics and Tobacco Pipes Artefact Report', in Godden Mackay Heritage Consultants Cumberland/Gloucester Streets Site, *The Rocks Archaeological Investigation* Vol. 4i, pp.207-366, Sydney.

Wright, E. 1995 Soft *Furnishings 1830-1930*, Historic Houses Trust of NSW, Glebe.

6.0 APPENDICES

Table 6.1: Button types

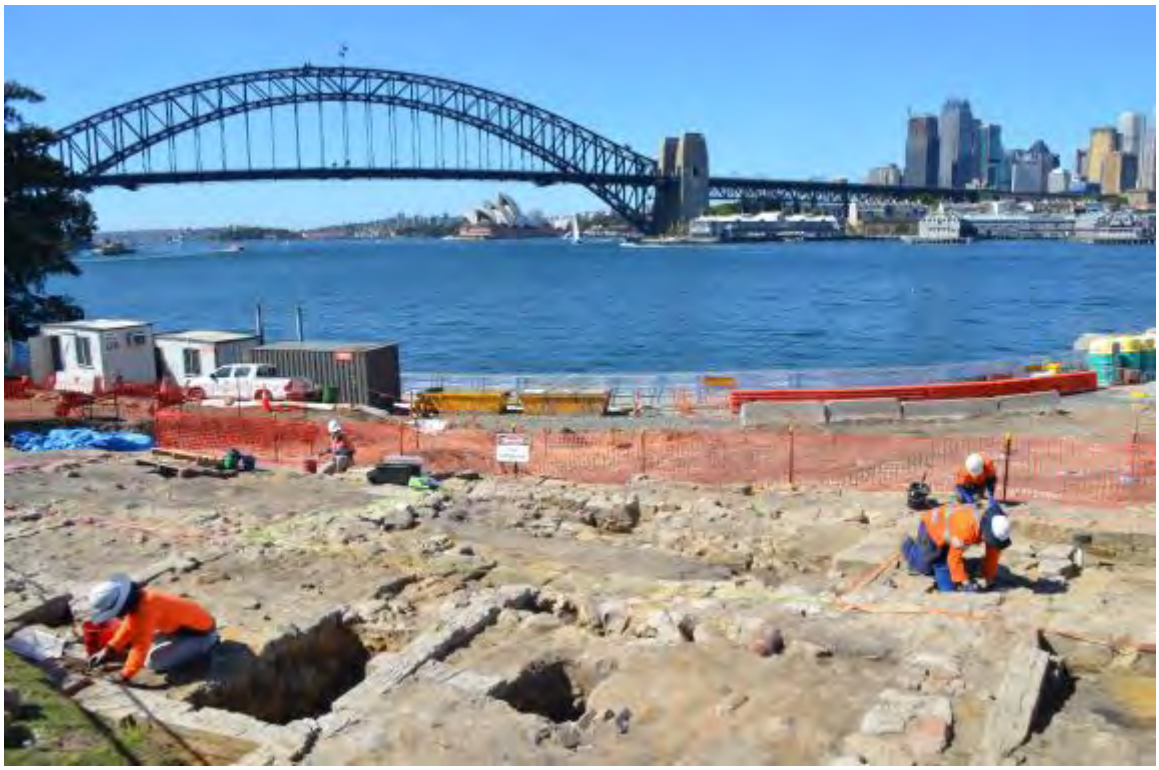
Type name
1-hole sunken eye
2-hole
2-hole 2-piece
2-hole 2-piece bar
2-hole 2-piece bar fabric
2-hole 2-piece beaded fisheye
2-hole 2-piece fabric
2-hole beaded fisheye
2-hole concave
2-hole domed sunkeneye
2-hole fisheye
2-hole fisheye beaded
2-hole fisheye dome
2-hole fisheye incised
2-hole fisheye raised
2-hole incised
2-hole sunkeneye
2-hole sunkeneye incised
2-hole sunkeneye trouser
2-piece
2-piece ball loop shank
2-piece bar fabric
2-piece concave
2-piece concave loop shk
2-piece convex fabric Sanders shank
2-piece convex fabric threadback
2-piece dome
2-piece dome fabric
2-piece dome fabric loop shk
2-piece flat fouled anchor Navy/Marines
2-piece Fownes
2-piece loop shk
2-piece mounted waistcoat
2-piece perforated
2-piece story
2-piece-2-hole
3 fold linen frame
3-hole
3-hole piecrust 1
3-hole sunkeneye
3-piece dome
3-piece dome fabric loop shk
4-hole
4-hole bar
4-hole beaded trouser
4-hole concave
4-hole concave Farmer & Co
4-hole concave incised
4-hole concave Peapes & Shaw
4-hole incised star
4-hole sunkeneye
4-hole sunkeneye beaded
4-hole sunkeneye bev

Type name
4-hole sunkeneye incised
4-hole sunkeneye piecrust 1
4-hole sunkeneye star
4-hole sunkeneye trouser
4-hole sunkeneye trouser Moses Levy 1
4-hole trouser
4-hole trouser beaded
4-hole trouser beaded Best Ring Edge
4-hole trouser beaded Best Ring Edge 3
4-hole trouser Best Ring Edge 1
4-hole trouser Best Ring Edge 3
4-hole trouser Best Solid Eyelet
4-hole trouser Excelsior
4-hole trouser Mark Foy
Concave loop butterfly
Concave moulded
Concave picture
Dome
dome alpha shank
Dome facetted moulded
Dome facetted shk & plate
Dome fouled anchor Navy/Marines alpha shk
Dome moulded
Domed facetted moulded
Domed moulded
Domed moulded self-shank
Facetted moulded
Flat alpha shank
Flat scalloped
Flat self-shank
Howes
Moulded
Moulded facetted
moulded flat
Moulded self-box shank
Mounted waistcoat
Mounted waistcoat loop shk
Spherical alpha shank
Spherical facetted moulded
Star moulded
sunkeneye
unidentified

Pollen analysis of samples from Sydney Metro's TMB retrieval site,

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT, NORTH SYDNEY

Mike Macphail



The view of the Sydney Harbour Bridge and Opera House from the former industrial waterfront of Blues Point. The foundation walls in the foreground include those of the houses built by in 1869 (image supplied by Dr. Mary Casey)

Report prepared 11 May 2022 for *Casey & Lowe Archaeology & Heritage* Pty. Ltd.

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SUMMARY

Seven of the eight samples submitted for pollen analysis yielded sufficient numbers of fossil pollen, spores and other microfossils to infer moderately-confident age limits for the sampled contexts as well as plant communities occupying the study site during the 1790s-late 1800s.

Two samples from Area A (**CTXs 103**, **104**) predate European settlement of Blues Point in the early 1800s and possibly, European settlement of Sydney Cove in 1788.

If so, the prehistoric vegetation on Blues Point in 1788 was casuarina scrub/heath in which other species were rare.

Samples from Room 2 (**CTX 066**) in House 1 pre-date the construction of this cottage in 1857, despite being collected from the underfloor deposits associated with the occupation of the house. Those from Room 3 in House 2 (**CTX 063**) and Room 4 in House 3 (**CTX 040**) predate the construction of the 1869 extension.

It is unclear whether shell fragments in **CTXs 066** and **063** come from Aboriginal middens on the site or were imported from middens elsewhere in order to make lime mortar.

CTX 066 (House 1) represents a casuarina heath community growing on the unoccupied site probably before the 1830s.

CTX 063 (House 2) and **CTX 040** (House 3) also represent casuarina heath and are suggested to date to the 1840s (age limits 1790s-1869).

CTX 094 (sediment infilling the cistern under the verandah of House 1) appears to come from a rubbish heap dating to the 1840s-1850s.

If correct, then either (1) House 1 was built in the 1840s if the verandah is contemporary with this cottage, or (2) the verandah is a latter addition to House 1, e.g. was built at the same time as the verandahs on Houses 2 and 3 in 1869?

CTX 337 from Area B yielded a very sparse assemblage typical of waste ground in an area cleared of all native vegetation and is likely to date to the late 19th or 20th century.

Sawdust (**CTX 303**) from Area B potentially provides evidence of the timber being used in boat-building, or the operation of Steven's timber yard on the site in the 19th -20th century.

1. INTRODUCTION

Archaeological excavations, undertaken by *Casey & Lowe Archaeology & Heritage* Pty Ltd., have exposed the foundations of several Colonial period houses dating to the 1850s-1860s on Blues Point (the southern tip of McMahons Point) on the northern side of Sydney Harbour (Figs. 1-2).

The study site, now *Sydney Metro*'s staging area used to retrieve the TBM machine boring railway tunnels under Sydney Harbour, adds to data from archaeological sites in the Sydney CBD in three ways: (1) The native bushland occupying the northern side of Sydney Harbour at the time of first European settlement was not documented. (2) Although part of an early (1817) land grant on Sydney's lower north shore', the native bushland remained relatively unaltered intact into the mid-1800s. (3) The site provides a contrast between small-scale waterfront activities compared to those occurring in much earlier- and densely-settled foreshore areas of Walsh Bay-Millers Point across the harbour from Blues Point in the mid-late 19th century.

1.1 This report

This report is the second of two analyzing and discussing the implications of plant and animal microfossils on sites associated with the new (2017-2020) *Sydney Metro*'s Harbour Tunnels (cf. Macphail 2020). Eight samples of natural and cultural deposits preserved in the foundations of, and around houses occupied from before 1857 up to *c* 1940 were submitted for pollen analysis by *Casey & Lowe Archaeology & Heritage* Pty. Ltd. (Table 1).

As with previous pollen analyses of Aboriginal and Colonial deposits in Sydney, the study aimed to determine whether fossil pollen and spores (miospores) were preserved in the deposits, and if so, to use the microfossil assemblages (microfloras) to date the samples and reconstruct the environment (including cultural activities) prevailing at the time(s) of deposition.

Table 1: Sample Data [precise locations of the test trenches (TT) are shown in Section 3]

Sample	Area	TT/Room	CTX	Lithology	Archaeological context/inclusions
11	A	TT 10	**040**	black silty sand	Within TT10, NE corner of Room 4
14	A	House 1, Room 2	**066**	mid-brown silty sand	Underfloor deposit (shell fragments)
26	A	House 1 Room 3	**063**	black sand	As above? (shell fragments)
29	A	House 1 Cistern	**094**	black silty sand	Deposit infilling cistern (coke, charcoal)
44	A	TT 20	**103**	black clayey sand	Upper unit of a natural sand (rootlets)
47	A	TT 20	**104**	grey fine sand	Lower unit of a natural sand (rootlets)
53	B	TT01	**303**	wood tissues	Sawdust
85	B	TT 21	**337**	dark grey sandy loam	Charcoal- & artefact sand overlying bedrock

1.2 Ancillary information

Ancillary information provided for this study includes the Preliminary Report prepared by *Casey & Lowe Archaeology & Heritage* (2018), which documents the history of Blues Point during the 19th and 20th centuries as well as preliminary interpretations of the archaeological remains.

The geologic/geomorphic history, reconstructed prehistoric vegetation, and Indigenous and European activities (including boat-building) are briefly reviewed in publications discussing the history of Sydney Harbour, e.g. Benson & Howell (1990), Hoskins (2009) and Karskens (2009). The northern side of the harbour (North Shore) is only cursorily mentioned, including in guides to Sydney published before the late 1800s. The early vegetation of the North Shore (including Blues Point) is depicted in the background of several Colonial views (McCormick 1987) but otherwise is not known to have been formally documented in the early to middle 1800s.

Fig. 1: Map showing Blues Point and surrounding localities on the northern and southern side of Sydney Harbour

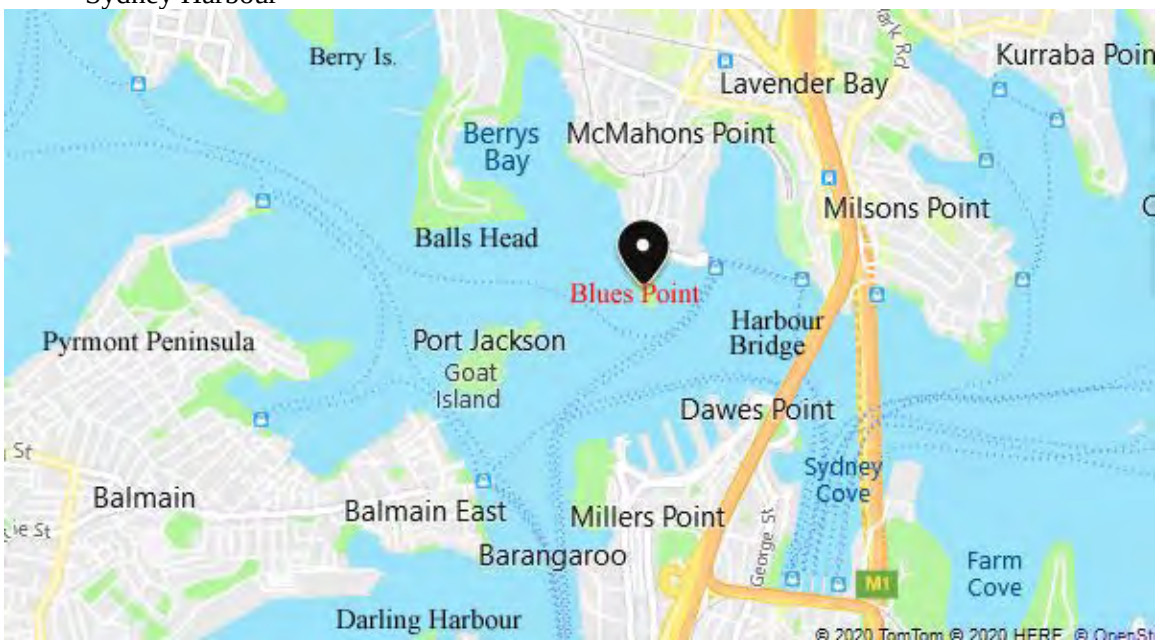


Fig. 2: Map showing the study area (outlined in red) on Blues Point (from Casey & Lowe 2018)

2. SETTING

Blues Point was named after William (Billy) Blue, an American convict transported to Australia for stealing a bag of sugar. By 1803 he was working with boats in Sydney and in 1807 became the first person licensed by Governor Macquarie to operate a ferry across the harbour (eventually running 11 boats). A house was built for him in the grounds of First Government House by 1814 (John Ferguson 1977: 176-177, McCormick 1987: 20). In 1817, Governor Macquarie granted Blue 80 acres (320,000 m^2) on the sandstone peninsula (now McMahons Point) whose terminus became known as 'Billy Blue's Point' or 'Blue's Bay' from *c* 1823. Several branches of his family resided on the 'paternal' estate until the 1850s, after which date it was progressively subdivided and sold-off as industrial and residential allotments (John Ferguson Pty. Ltd. 1977: 177). Foreshore areas continued to be used for boat building and other maritime activity into the 20th centuries. As recently as 1957, much of McMahons Point was gazetted to be rezoned as 'waterfront industrial' but, following the construction of Blues Point Tower (1962), the peninsula has morphed into one of Sydney's most exclusive residential suburbs with 'million dollar' views (see Frontispiece).

Little is known about Blues-McMahons Peninsula landscape before the 1820s but it is reasonable to assume in the 1790s:

- Aborigines (Cammeraygal Clan) had camped on the peninsula ('Warrungareah') for upwards of 7000 years to utilize the marine resources along the foreshore (Hoskins 2009) and any of their shell middens here will have been mined (for lime mortar) following European settlement of Sydney Cove in 1788.
- The native bushland on the Point resembled that described by the seaman (Jacob Nagle) who helped row Governor Phillip's exploratory party from Botany Bay into Port Jackson on 22 January 1788, viz: '*Along shore was all bushes…and large trees but scattering and no underwood worth mentioning*' (Eagan 1999: 9). Surgeon George Worgan also emphasized the wide spacing between [tall] trees and the grassy nature of the ground cover (Library Council of New South Wales 1978: 9).
- The bushland was regularly fired by local Aborigines, e.g. Captain John Hunter recorded in 1793 that '*the natives were burning the grass on the north shore opposite to Sydney [Cove] in order to catch rats and other animal*s [Cited in Benson & Howell 1990: 121).
- The flora included many of the native species still found in remnant bushland on nearby Balls Head and Berry Island (now Berry Island Reserve), e.g. trees such as the native apple (*Angophora costata*), bloodwood (*Eucalyptus gummifera*) and black she-oak (*Allocasuarina littoralis*), as well as small to tall shrubs. Examples are *Banksia integrifolia* on sites exposed to salt spray, with other banksia spp., native hops (*Dodonaea*) and grevilleas (*Grevillea*) in sheltered sites (Benson & Howell ibid: 122).

2.1 Site history

Events that are likely to be reflected by (or relevant to interpreting) microfloras preserved on the Blues Point study site and adjacent areas on McMahons and Milsons Points are (//adb.anu.edu.au/biography/blue-william-billy-12804, Casey & Lowe 2018):

1794 – First land grants made by Lieutenant-Governor Francis Grose on the northern shore of Sydney Harbour. These early land grants are likely to have included Milsons Point across Lavender Bay from Blues Point since the wealthy merchant Robert Campbell is recorded as leasing land there to John Milson *c* 1820.

1811 – William (Billy) Blue (c.1767-1834), a convict, settler and ferryman on the north shore was appointed as harbour watchman and constable by Governor Lachlan Macquarie.

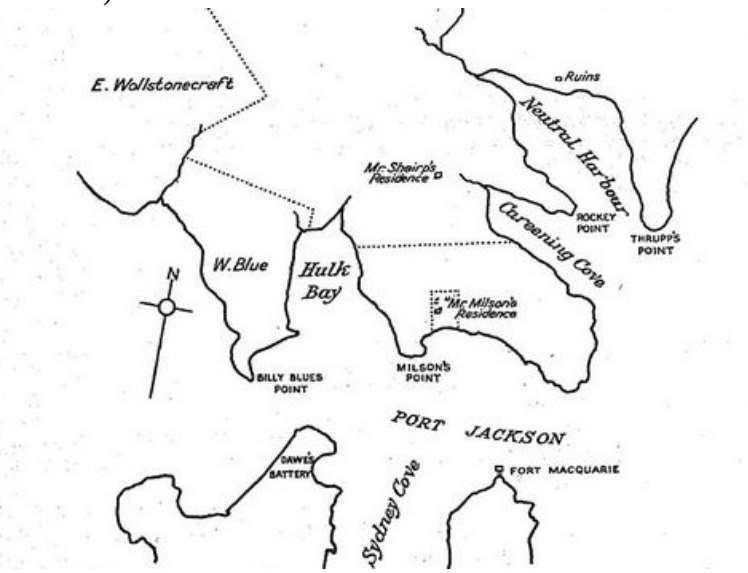
1817 – Macquarie granted Billy Blue 80 acres of land (Fig. 4) on McMahons Point from which he continued ferry service from the terminus on the Blues Point tip of the peninsula (Figs. 1, 3, 4).

c 1820-1830s – John Milson leases 120 acres of land on Milsons Point from Robert Campbell and subsequently is granted an additional 50 acres. His first house (rebuilt *c* 1831), orchard, dairy and farm were destroyed in a bushfire in 1826). In contrast to the areas between Sydney Cove and Millers Point, which were densely urbanized by the 1840s (Fig. 3), the Pyrmont Peninsula, Blues Point and Balls Head remained covered with native bushland into the mid-late 19th century (cf. Plates 125, 165 and 169 in McCormick 1987).

1833 – By this date, Billy Blue and family are recorded as keeping a 'ferryboat and cultivating and supplying vegetables and fruit for the Sydney market'.

Fig. 3: View of Darling Harbour and the North Shore drawn from the ridge above Barangaroo in *c* 1814. Blues Point is just visible in the far LHS middle distance (from McCormick 1987).

Fig. 4: Sketch map showing Billy Blue's land grant (area labelled 'W. Blue') on the tip of McMahons Point across Hulk Bay (renamed Lavender Bay after George Lavender, bosun of the prison hulk *Phoenix*) from John Milson's estate and house (rebuilt *c* 1831) in the 1840s (from Goddard 1955)



1839 – A public wharf, dedicated at Blue's Point, offers a reliable link to Sydney Town, (implying this facility was major point of access for residents of other Colonial estates on the North Shore.
1840s – A *c* 1840s etching shows a stone sea wall and jetty in the study area.
1850s-1860s – All native bushland is likely to have been cleared on the study site by this time.
1857 – Plans of Blues Point shows a building (**House 1**) along the east side of Blues Point Road within the study area (Figs. 2, 5), as well as a 'public' wharf or pier jutting into the harbour.

Fig. 5: Photograph showing the sandstone footings of the earliest house (**House 1**), built before 1857, outlined in red. The dashed yellow line in the background denotes the front wall of the later houses built by Stevens (*c* 1869) which were on a different alignment to the pre-1857 two-roomed cottage but may have shared open front verandahs.

1861 – An engraving of the view from Observatory Hill across the harbour appears to show the North Shore west of Blues Point was still covered with native bushland. (Fig. 6).
1864 – A building and fenced enclosures are shown on the east side of Blues Point Road although no buildings are depicted elsewhere within the study area.
c 1864 – A wealthy manufacturer of brushes and combs, Michael McMahon (arrived in Sydney in 1848), builds his family home on the McMahons Point side of the peninsula ending in Blues Point.
c 1866 – Possible reclamation of land fronting onto Blue's Bay.
1867 – 'Shipwright' John Stevens of the City of Sydney purchases the pre-1857 two-roomed cottage on the western part of the study site.
1868 – 'Mariner' James Glover purchased the eastern part of Blue's Estate, part of which extends across the study area.
1869 – Stevens' cottage is extended in brick/sandstone and subdivided into two or three separate residences, each with their own outhouse and each with its own south-facing verandah (an 1881 survey confirms the multi-occupancy of these residences and the mixed nature of the materials used in their construction).

Fig. 6: View from Observatory Hill across the by then cleared and fenced Pyrmont Peninsula to the bush-covered northern side of the harbour in 1861 (Library of Australian History 1978)

Fig. 7: 1870s photograph showing the view looking eastwards across Milsons Point where scattered houses remained 'embedded' in native bushland (en wikipedia.org/wiki/Milsons Point, New South Wales)

c 1870s – Bushland still covers much of the Milsons Point Peninsula and presumably also McMahons Point except for the foreshore area around Blues Point (Fig. 7).
1871 – A boat builder's shed, leased by George Barnett, was constructed the western (Steven's) part of the study area while the eastern (James Glover's) part remained undeveloped

c.1880 – Stevens' applies to purchase reclaimed land between the high and low water marks within the study site although the reclamation was not finalised until 1885.
1881 – Commercial and residential buildings occupy the slope between Stevens' property and the foreshore although Gibbs, Shallard & Co's map of Sydney numbers only three locations on the lower north shore. A minor road running inland from Blues Point (Fig. 8).

Fig. 8: Map of Sydney Harbour contrasting the densely-urbanized Sydney CBD, with the still sparsely-populated North Shore. Numbered localities on McMahons Point are Berrys Bay (234) and the boroughs of St. Leonards (235) and Victoria (North Sydney) (236). The Blues Point ferry is one of many services connecting the North Shore to Sydney (from the facsimile edition of *Gibbs, Shallard & Co. Guide to Sydney 1882* by Angus & Robertson 1981).

1891 – By 1891, alterations and changes had been made to the buildings or sheds on both Stevens' and Glover's allotments A pile jetty and a timber wharf extended from the shoreline into deep water. Fencing separated the commercial and residential parts on the study site.
1897 –A vehicular or 'horse ferry' service, including a 'dock and landing' for ferries between Dawes and Blues Points, is approved by the NSW Government (cf. Fig. 4).
1923– Sydney Harbour Trust commences plans to improve the docking facilities on Blue's Point.
1932 - Construction of the Sydney Harbour Bridge reduces demand for a vehicular ferry.
1937 – Aerial photograph shows the houses originally owned by Stevens are still extant.

1943 - Aerial photographs confirms Stevens' house(s) and the workshop in the north-eastern corner of the site had been demolished by this date although his wharf is still visible; sheds depicted on the 1891 plan had been replaced by other sheds.
1950s-1960s – The site is converted to a public park/foreshore reserve, with surviving Colonial period remains buried under a thick layer of imported fill.

2.2 Topography:

The study site slopes steeply from the northwest corner at the junction of Blues Point Road and Henry Lawson Avenue, southwards and south-eastwards towards the rock platform lining the foreshore of Sydney Harbour (Fig. 2).

2.3 Archaeological contexts

The study area was divided into two excavation areas: **Area A** on the upslope northwest corner of the site and **Area B** encompassing the downslope central and southern parts.

2.31 *Area A*: Colonial period-built structures on this area included the remains of earliest built (pre-1857) house on the site (**House 1**), the c 1869 single-story extensions to this dwelling (**Houses 2, 3**), verandahs, two retaining walls, a road sloping down to Steven's jetty and a deep circular cistern cut into bedrock.

House 1 comprised two rooms whose sandstone foundations and verandah walls were cut into a natural dark grey sand (Figs. 5-6). The easternmost of the two room (**Room 2**) included the large fireplace and was found to preserve the greatest concentration of artefacts in the subfloor deposits. The majority of these artefacts date to the mid-late 19th century and are associated with cooking or domestic activities e.g. fragments of crockery, glassware and pudding dolls post-dating 1836; other artefacts imply the occupants had had children and were connected with the manufacture and repair of boats moored at nearby jetties and beached on the shoreline. A 1.8 m diameter deep circular **cistern** cut into bedrock is an early feature given its location below the verandah (Fig. 9). More recent features such as machine-made bricks indicate the original floor was replaced by a timber one sometime in, or after the late 19th century.

Fig. 9: Views of the infilled >2.8 m deep cistern below the verandah of **House 1**. The upper wall consists of sandstone blocks, whilst the deeper shaft is cut into bedrock (from Casey & Lowe 2018)

Two additional single-room dwellings (**House 2** and **House 3**) were added to the eastern end of the cottage by 1869 (Fig. 10). Each consisted of singe ground floor room with a triangular fire place and front verandah. Two additional rooms were built in brick onto the northern wall of all three houses by 1891.

Other features identified within this area include postholes, service pipes, bitumen paths and brick edging. The edge of the area is defined by an east-west orientated retaining wall south of the cistern.

Fig. 10: View looking south showing the **Rooms 1** and **2** of the pre-1857 cottage (**House 1**) in the background, with the later (pre-1891) brick addition in the foreground. A bitumen path runs along the outside wall of this addition (from Casey & Lowe 2018).

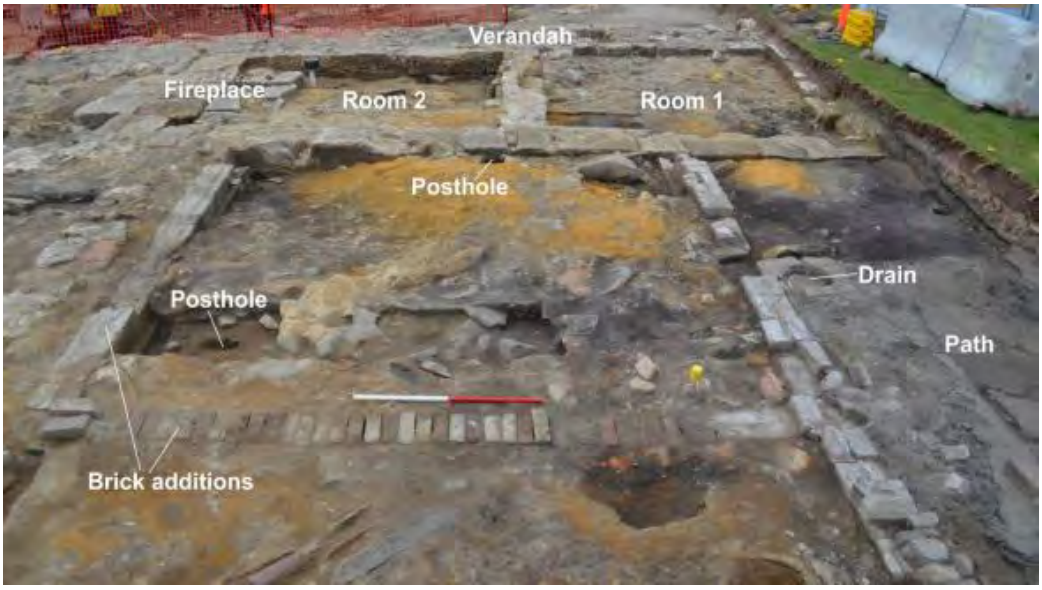
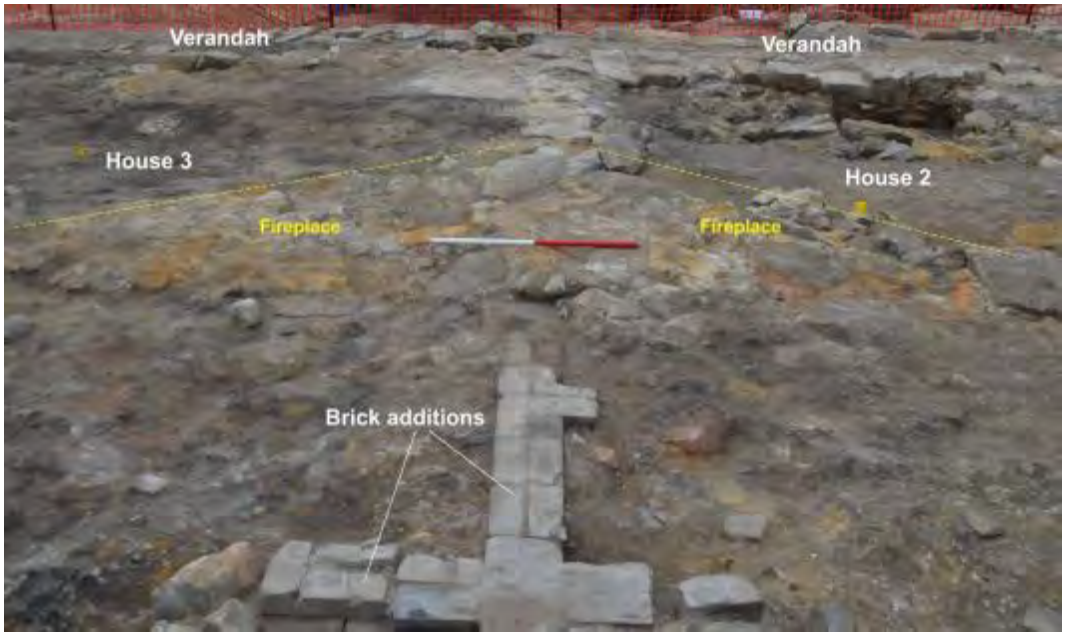


Fig. 11: Sandstone footings and verandah walls of conjoined **Houses 2** and **3** built in 1869 (background) and later brick additions (with brick fireplaces) in the foreground (from Casey & Lowe 2018).



2.32 *Area B*: Remains on the southern (downslope) area include a second retaining wall built over the Steven's *c* 1880s reclamation. This is separated from the northern retaining wall at the edge of Area A by a road sloping down to Stevens' jetty (Fig. 12). One of several earlier road surfaces overlies remnant natural deposits as well as reclamation fills onlapping a cut-back rock shelf.

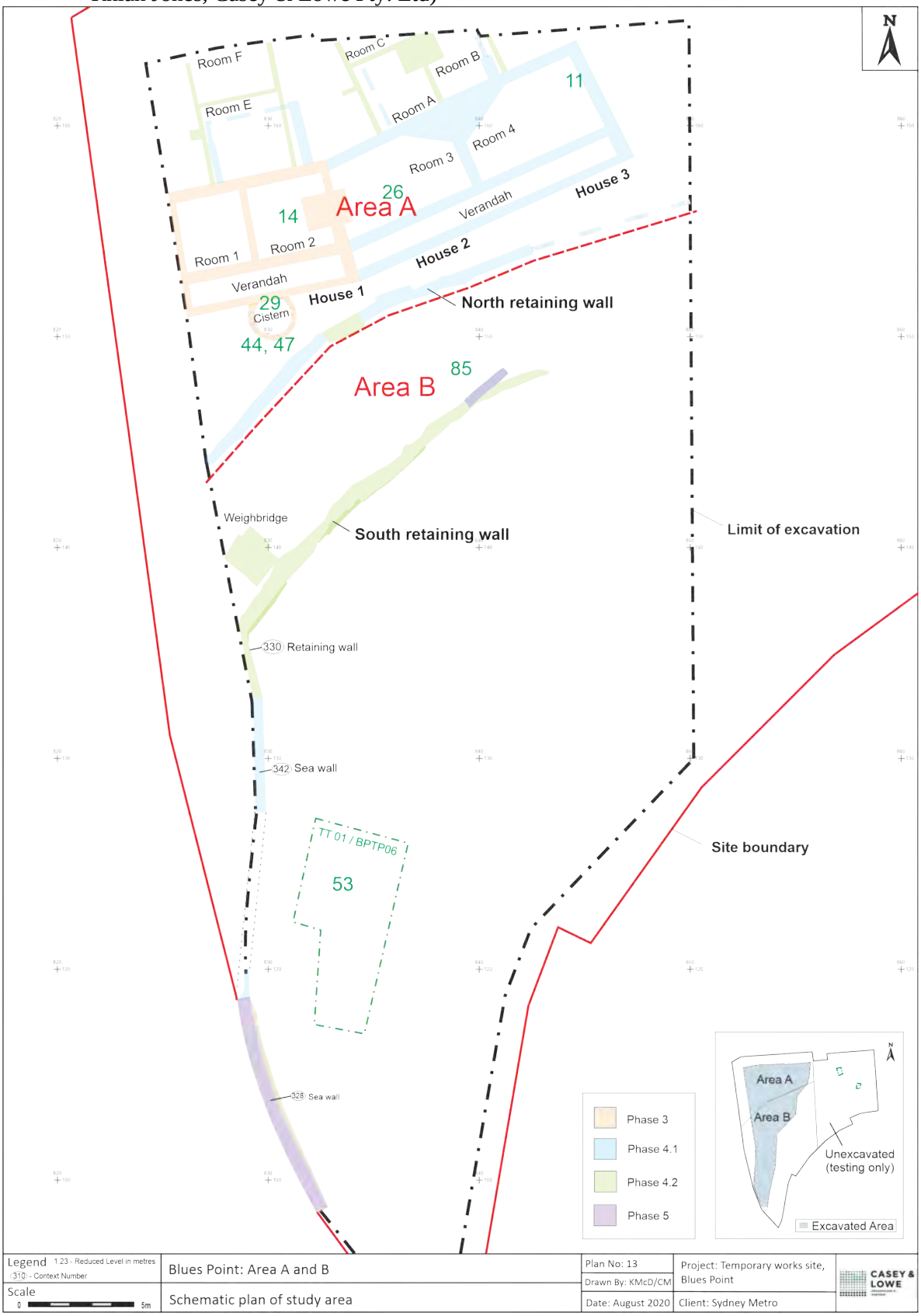
Fig. 12: Cobbled roadway running between the northern (Area A) and southern (Area B) retaining walls. Blues Point Tower is visible in the background (from Casey & Lowe 2018)

2.3 Sample locations

Samples (Table 1) submitted for pollen analysis came from diverse archaeological contexts, ranging from sediments infilling the cistern (**CTX 094**) to sawdust from boat-builder's workshop? (**CTX 303**) and 'natural' and 'artefact-rich' sands overlying bedrock (**CTXs 103**, **104 337**). Other samples come from test trenches dug within the foundations of the pre-1857 cottage (**House 1**) and the 1869 extensions (**Houses 2**, **3**) (**CTXs 040**, **063**, **066**).

The location of the test trenches and other sampled contexts are given in Fig. 13. Archaeological context data mostly provide a maximum age for the deposits but not reliable minimum ages since the houses owned or built by Stevens were occupied from before 1857 into the 1930s. For this reason, alternative interpretations are given for some samples in Section 3 (Pollen analysis).

Fig 13: Location of sampled locations (numbers in green) within study site (diagram provided by Rhian Jones, Casey & Lowe Pty. Ltd)



3. POLLEN ANALYSIS

All samples were processed for pollen spores and other acid-resistant organic microfossils by *Morgan Goodall Palaeo* Pty Ltd., Perth. Estimates of the relative abundance of identifiable microfossils are given in Table 2. Individual samples are discussed and photomicrographs of the acid-resistant organic extracts in Section 3.3). A selection of better-preserved miospores given in Appendix 1.

In this study, the key palynological criteria used to determine the age limits, depositional environment and cultural implication(s) of the samples are:

- The presence or absence of exotic pollen types, in particular cereal grasses (Cerealia), dandelion (Asteraceae subfamily Liguliflorae) and wireweed (*Polygonum aviculare*-type).
- The probable time when native trees, shrubs and herbs forming native heath were finally extirpated from the study site and associated foreshore. Remnant of bushland almost certainly survived elsewhere on McMahons Point into the late 19th century (see Fig. 7).
- The time when pine (*Pinus*) pollen consistently first appears in Colonial period deposits in Sydney
- Inclusions such as coke fragments.

3.1 Constraints on the palynological data

3.11 Taxonomic and ecologic constraints

Most fossil miospores can only be identified to living plant family or genus, although this is helped in some cases by only one or two species occurring in the Sydney flora, e.g. broom spurge (*Amperea xiphoclada*) the native hop (*Dodonaea triquetra*) and rough tree-fern (*Dicksonia antarctica*). The ecological interpretation is helped by many genera and families typically occurring in a narrow range of habitats, e.g. samphires (Amaranthaceae) in salt-marsh or on salinized soils. Some of the unidentified angiosperm pollen types found in Samples 11 (**CTX 040**) and 29 (**CTX 094**) potentially represent exotic plants (see Appendix 1). Cryptogam spores are of limited use on this site since many ferns grow equally well on damp sandstone outcrops as on sandstone foundation walls. Exceptions are spores of swamp selaginella *(Selaginella uliginosa*), which are likely to be carried onto the site in mud, and tree-fern genera *Cyathea* and *Dicksonia*, which are likely to come from Colonial plantings, including those in the grounds of First Government House on Sydney Cove (see Macphail *et al*. 1987).

3.12 Pollen transport constraints

Most of the commonly-occurring native pollen types recorded in this study are produced in very large numbers by the parent plants and transported over long distances by water and wind (*well-represented taxa*): The primary examples are casuarinas (*Allocasuarina/Casuarina*) and eucalypts (*Eucalyptus*), which both of which are common to dominant in sclerophyll forests, woodlands and heath growing on sandstone in the Sydney region. For the same reason, the same miospores dominate the regional pollen rain over Sydney. Accordingly, high relative abundances of these pollen types can indicate local-growing scrub/heath or distant forests and woodland if the pollen influx from other locally-growing plants is low or (cleared or built-on land) non-existent.

In the same 'well-represented category' are the broom heath (*Monotoca* sp.), broom spurge (*Amperea xiphoclada*), the native hops (*Dodonaea* spp.) and raspworts (*Gonocarpus*), all of which are listed as widespread' on old sand dunes and heath growing on soils developed on sandstone in Sydney (Fairley & Moore 1995). Other native sclerophyll shrubs and herbs produce either limited amounts of pollen and/or disperse these only over small distances (*under-represented taxa*) and low (<3%) to trace (< 1%) numbers of their pollen usually are reliable evidence that the parent plants were growing locally. Examples in this study are epacridaceous heath genera (Ericaceae) producing

pollen in obligate tetrads, proteaceae (Proteaceae) e.g. banksia (*Banksia*) spp., and most herbs except native grasses (Poaceae) and raspworts.

3.13 Imprecisely known sources of exotic pollen and other Colonial period indicators

Pollen of the cereal grasses represent a number of crop species and, empirically, are widely dispersed by water, stock and humans, although not usually by wind. Sources in the Colonial period include flour mills, naturalized plants established from spilled seed, and sewage (Macphail 1999, Macphail & Casey 2008, Macphail *et al*. 2012). All dandelions (Asteraceae subfamily Liguliflorae) are under-represented by pollen and sources can include an edible native species, the daisy yam (*Microseris lanceolata*). However, on almost all archaeological sites in Sydney, the sources will be the introduced weed genera *Taraxacum* (European dandelion) or *Sonchus* (sow- or milk-thistles). Like cereals, these 'weed' daisies, silene (*Silene*) and wire-weed (*Polygonum aviculare*) appear to have become widely naturalized by the late 1790s-early 1800s, e.g. by stock and from seeds imported in grain (Macphail 2013). Surprisingly, the Colonial sewage indicator *Cloacasporites sydneyensis* was not recorded despite outhouses occurring behind and (upslope of) the three residences (cf. Macphail 2001, Macphail *et al*. 2012).

3.2 Results

3.21 *Organic yield and preservation*

All samples preserved abundant fungal spores in a matrix of strongly humified (dark brown) to well-preserved (mid-brown) plant detritus, including fragments of leaf cuticle, and semi-carbonized to carbonized (burnt) plant tissues (dark brown to black). Yields of fossil pollen and fern spores were ± low. Colour and preservation were variable, with the former ranging from white to dark brown, the latter from poor (ghosted) to good – phenomena that imply the fossil pollen and spore assemblages (microfloras) had accumulated over a prolonged period.

3.22 *Depositional environment*.

Depositional environments varied from soils identified as 'natural sands', subfloors areas (potentially including pre-settlement soils), an early cistern and a workshop (Table 1).

3.23 *Contamination, reworking and bioturbation*

Unequivocal modern pollen contaminants were not recorded. Trace numbers of the reworked Triassic conifer pollen derived from Wianamatta Shale occur in **CTXs 066** and **094**; the Permian conifer *Protohaploxypinus amplus* occurs in Sample 21 (**CTX 337**). The most probable source of the last is coal. Egg cases of unidentified soil microfauna occur in all productive samples but are uncommon (< 30%) relative other Colonial deposits. Accordingly, it is probable exotic pollen types such as cereal, dandelion and wireweed pollen are *in situ* and represent locally-growing plants.

3.24 *Dominance and diversity*.

Except for the palynologically barren sawdust sample, all samples yielded essentially the same microflora in which *Allocasuarina/Casuarina*, *Eucalyptus* and *Gonocarpus* were common to very abundant, and non-eucalypt Myrtaceae, and Asteraceae subfamily Tubuliflorae consistently frequent. *Calochlaena*, *Banksia*, Ericaceae, *Monotoca* Amaranthaceae, Apiaceae, Brassicaceae and Poaceae were sporadically frequent. The miospores of other shrubs herbs and ferns were rare or absent although the overall diversity is comparable to other historical archaeological sites in Sydney and Parramatta. An important differences in this study (and the complementary Barangaroo site: Macphail 2020) is the overall consistent presence of three genera (*Banksia*, Ericaceae, *Monotoca*) typical of heath communities growing on sandstone soils.

3.25 *Age limits*

Shell fragments in Samples 14 and 26 (**CTXs 066**, **063**) are likely to be derived from Aboriginal middens but could be either *in situ* (i.e. predate European settlement) or from midden material imported to make lime mortar when **Houses 1** and **2** were constructed before 1857 and in 1869, respectively. In this study, the maximum and minimum age limits primarily are based on:

- Archaeological context, supported by the presence (and relative abundance) of exotic pollen types. Pine (*Pinus*) pollen typically is first recorded in mid-19th century deposits in Sydney.
- The estimated time when native trees, shrubs and herbs forming native heath were finally extirpated from the study site, in particular *Banksia* spp. and Ericaceae. Pollen values are insufficient to demonstrate *Monotoca* was growing on the site into the mid-late 1800s although this is considered probable elsewhere on McMahons Point.
- Coke fragments (**CTX 094**), which almost certainly indicate the cistern was infilled after the *Australian Gas Light Company* built gasworks on the foreshores of Millers point between 1837 and 1840 (//www.sydney.com.au/gasworks-millers-point.htm).

Assuming minimal bioturbation and trace numbers of pine pollen in **CTXs 066** and **094** are *in situ*, the fossil pollen data indicate:

- The 'natural sands' (**CTXs 103**, **104**) predate European settlement of the study site and, less certain, the settlement of Sydney Cove in 1788.

- The 'underfloor' (**CTX 066**) deposit (Fig. 14) predates 1857. This is in conflict with the historical records and archaeological evidence, however given the evidence for water and wind movement and erosion across the site, there may be some level of contamination in this context.

- The black sands in Room 3 in **House 2** (**CTX 063**) and Room 4 (**CTX 040**) in **House 3** are no younger than *c* 1869. Shell fragments in the former deposit could have come from an Aboriginal midden or lime mortar used in the construction of the sandstone walls.

- The cistern (**CTX 094**) predates 1857. Coke fragments and the abundance of exotic weed pollen in the infill, however, imply the verandah might be a later addition to **House 1** (see Section 3.3). The analysis and dating of the pollen from the cistern is in conflict with the historical plans and archaeological evidence for the cistern and verandah; given the amount of run-off water from the ground and roof flowing into the cistern it is likely that the cistern fill is not secure.

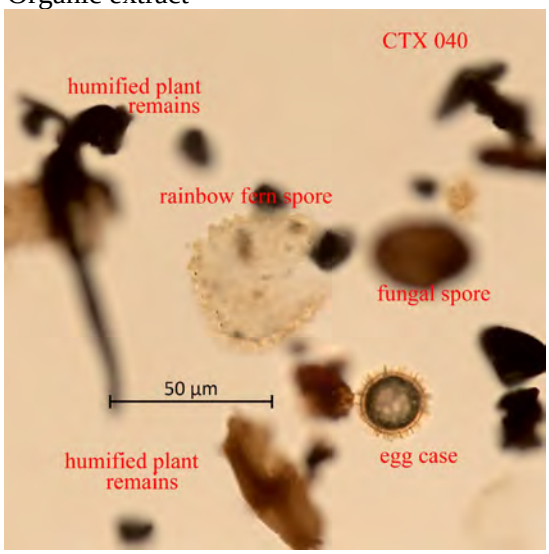
- The sawdust sample (**CTX 303**) from Area B presumably dates to the late 19th or early 20th century when boats were being constructed or repaired at the study site, or during the operation of Steven's timber yard in the late 19th century.

- The 'charcoal and artefact-rich' sand overlying bedrock (**CTX 337**) in Area B also is likely to dates to the late 19th or 20th century when the study site was being heavily impacted by activities including boat-building and maintenance

Fig. 14: Photograph showing the pre-1857 underfloor deposits in **Room 2** of **House 1**. Sample 14 was taken from the (shelly) mid-brown silty sand (**CTX 066**) alongside the lime-mortared? wall (photo provided by Rhian Jones, *Casey & Lowe* Pty. Ltd.)

3.3 Individual results

Fig. 15: Organic extract

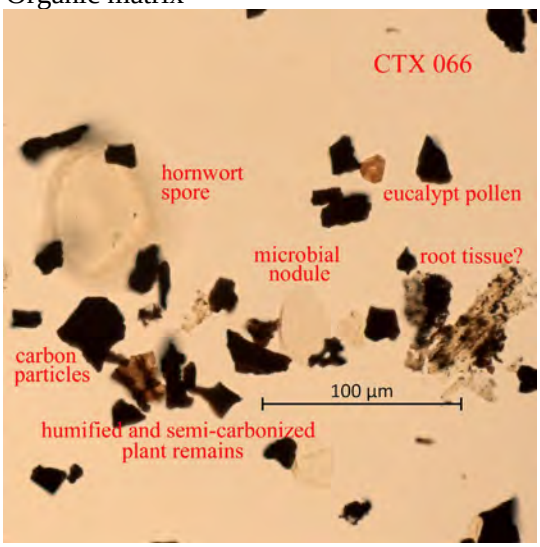


Sample 11 (CTX 040)

Inferred Age:	1790s to *c* 1869 (preferred age pre-1840s)
Archaeological. CTX:	black silty sand within TT10 excavated in the NE corner of **Room 4** in **House 3**
Abundant taxa:	*Allocasuarina/Casuarina*, *Gonocarpus*, fungal spores
Common taxa:	-
Frequent taxa:	Ericaceae (7%), *Eucalyptus* & other Myrtaceae, unassigned Proteaceae, Poaceae, unidentified pollen types
Exotic taxa:	Liguliflorae (trace)
Mediaverrunites:	absent
Egg cases:	common (25%)
Carbonized xylem:	common (17%)

Notes: The sample's location (and lithology) make it likely the black sand pre-dates the construction of the single room addition (**House 2**) to **House 1** in 1869 whilst trace pollen of the highly invasive dandelion (Liguliflorae) puts the maximum age to the 1790s when the first land grants were on the North Shore across the Harbour from Sydney Cove. A date closer to the early 1800s is preferred given the unusually high relative abundance of epacrids (Ericaceae)and Proteaceae — suggesting the site was vegetated by a casuarina-dominated heath prior to construction of **House 1**. The absence of pine pollen is weak negative evidence the sample pre-dates the 1840s-1850s (cf. Samples 26, 29). It is noted that the relative abundance of casuarina pollen is the lowest found in the seven productive sample in this study and a remotely possible alternative explanation is that the epacrid and Proteaceae counts come from discarded wildflowers picked for decoration by the residents of **House 1** before 1869 (cf. Benson & Howell 1990: 33). Ferns and other mesophytes are rare, implying the source of the raspwort count was the dryland species *Gonocarpus teucrioides* growing in sandy soil on the study site before **House 2** was built.

Fig. 16: Organic matrix



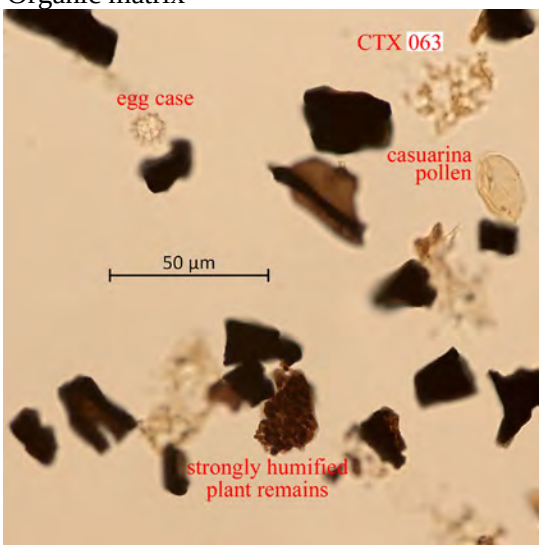
Sample 14 (CTX 066)

Inferred Age:	1790s-1857 (preferred age pre-1840s)
Inferred context:	underfloor, mid-brown silty sand in **Room 2** of **House 1**.
Abundant native taxa:	*Allocasuarina/Casuarina*, fungal spores (1110%)
Common native taxa:	*Eucalyptus*, *Gonocarpus*,
Frequent native taxa:	*Banksia* cf. *serrata*, non-eucalypt Myrtaceae, Amaranthaceae, Asteraceae (Tubuliflorae), Brassicaceae, Poaceae, *Calochlaena*, *Cyathea*, *Microsorium/Davallia*, monolete ferns, hornworts
Exotic taxa:	Liguliflorae, *Polygonum aviculare*-type
Mediaverrunites:	-
Egg cases:	frequent (11%)
Carbonized xylem:	very abundant (380%)

Notes: The location, lithology and? presence of shell fragments is strong circumstantial evidence the mid-brown silty sand (**Fig. 17**) is contemporary with or pre-dates the construction of **House 1**. Dandelion pollen and *Cyathea* spores (2%) confirm a maximum age in the 1790s-early 1800s, especially if the latter come from tree-fern plantings in the grounds of First Government House at Sydney Cove (see Macphail *et al.* 1987). The absence of pine pollen is weak negative evidence the sample pre-dates the 1840s-1850s (cf. Samples 26, 29).

Fungal spores are very abundant and the miospores of eucalypts, herbs and mesophytic cryptogam spp. are relatively more common and diverse than in **CTX 040**. Probable sources of the latter included ferns growing on damp sandstone foundations and colonies of hornworts established on ash-enriched mineral soils around House 1. Unlike Sample 11 (above) it is possible the raspwort count includes pollen of the wetland species *Gonocarpus micranthus* as well as *G. teucrioides*. Unusual records include two possible marine dinocysts (*Protoellipsodinium* spp.)

Fig. 17: Organic matrix



Sample 26 (CTX 063)

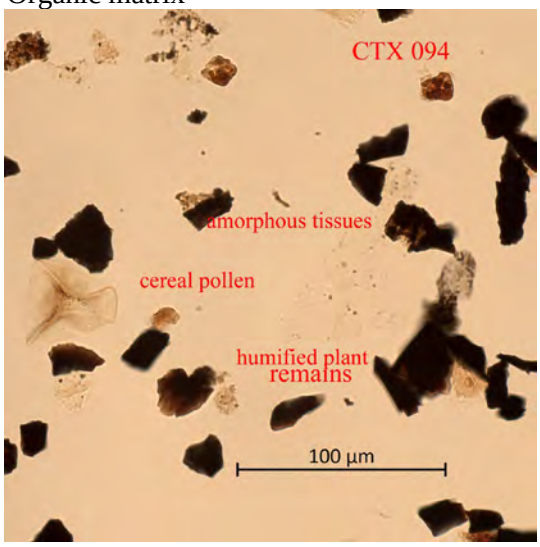
Inferred Age:	*c* 1850s (minimum age 1869)
Inferred context:	black sand deposit with shell fragments from **Room 3** in **House 2**
Abundant native taxa:	*Allocasuarina/Casuarina*, fungal spores (1065%)
Common native taxa:	-
Frequent native taxa:	*Eucalyptus*, *Monotoca*, Asteraceae (Tubuliflorae), Brassicaceae, *Gonocarpus*, *Calochlaena*, monolete and trilete ferns,
Exotic taxa:	*Pinus*, Liguliflorae, *Polygonum aviculare*-type
Mediaverrunites:	frequent (1%)
Egg cases:	common (28%)
Carbonized xylem:	abundant (90%)

Notes:

Despite its lithological similarity to **CTX 040** (Sample 11), the presence of trace pine (*Pinus*) pollen makes it likely the **CTX 063** accumulated sometime in the 1840s-1860s assuming the specimens is *in situ*. The minimum age is 1869 based on archaeological context. If correct, then the shell fragments are likely to come from lime mortar, not an *in situ* midden. Nevertheless, the very abundant casuarina pollen (66%) and the possible local presence of broom heath (*Monotoca*) is perplexing if the mid-1800s age limits are correct since this implies remnants of casuarina heath were still growing on or near to the site.

Both casuarina and broom heath pollen are dispersed over long distances by wind and an equally possible (alternative) explanation is that the high casuarina values indicate the site had been cleared of all native trees (including eucalypts) and shrubs by this time (see **Section 3.12**). As for **CTX 066** (Sample 14), the significant relative abundances of the rainbow fern (*Calochlaena dubia*) and other fern spores are likely to represent naturalized ferns growing on the damp sandstone foundations of **House 1**. Numbers of the fungal spore *Mediaverrunites* are too low to confirm that the deposit includes discarded fat or oil, from Indigenous or Colonial cooking activities.

Fig. 18: Organic matrix



Sample 29 (CTX 094)

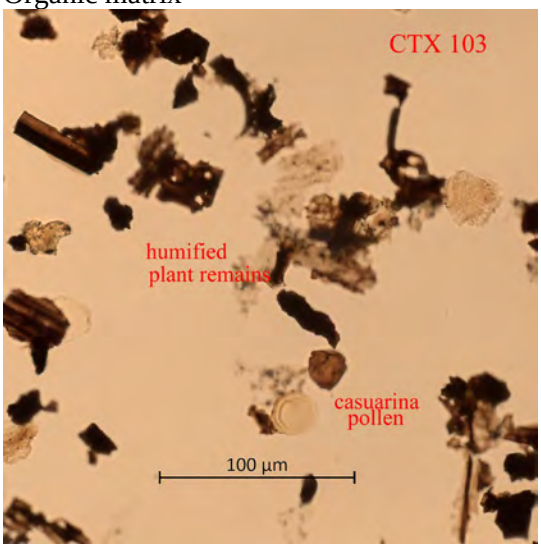
Inferred Age:	1840s to 1860s?
Inferred context:	black coarse silty sand infilling the cistern below verandah of **House 1**
Abundant native taxa:	*Allocasuarina/Casuarina*, fungal spores (345%)
Common native taxa:	-
Frequent native taxa:	*Eucalyptus*, *Banksia* spp., *Dodonaea viscosa*-type, Ericaceae, non-eucalypt Myrtaceae, *Monotoca*, *Gonocarpus*, Poaceae
Exotic taxa:	*Pinus*, Liguliflorae (4%), Cerealia (7%), *Polygonum aviculare*-type (2%), *Silene*-type (unassigned angiosperms?)
Mediaverrunites:	Ericaceae,
Egg cases:	common (18%)
Carbonized xylem:	abundant (225%)

Notes:

Assuming coke fragments in this sample come from the *AGL* gasworks on Millers Point, then minimum age of the infill is *c* 1840. Similarly, if trace numbers of pine pollen are *in situ*, the maximum age of the microflora is 1840s to early 1850s. This indicates either (1) House 1 was constructed between 1840s to 1857 if the verandah is contemporary with its construction, or (2) the verandah postdates the construction of House 1. One possibility is the verandahs attached to Steven's three houses were built at the same time, i.e. in *c* 1869.

The diversity of native shrub and native and exotic herb pollen (including 7% cereal) and abundant carbonized xylem (burnt wood) fragments indicates the infill came from a weed-infested domestic ash heap. If so, then some native shrubs and trees (including casuarinas and eucalypts) survived on Blues Point into the 1850s or these pollen came from flowering branches used as kindling. Despite the context, there is no evidence for wet conditions within the cistern once it was abandoned as a domestic water supply.

Fig. 19 Organic matrix



Sample 44 (CTX 103)

Inferred Age:	pre-settlement of Blues Point (pre-1788?)
Inferred context:	black sand (upper unit of a natural soil in the west section of TT10)
Abundant native taxa:	*Allocasuarina/Casuarina*, fungal spores (395%)
Common native taxa:	-
Frequent native taxa:	*Eucalyptus*, *Monotoca*, Asteraceae (Tubuliflorae), *Gonocarpus*, Poaceae, hornworts (*Phaeoceros*)
Exotic taxa:	none recorded
Mediaverrunites:	absent
Egg cases:	frequent (13%)
Carbonized xylem:	very abundant (1275%)

Notes:

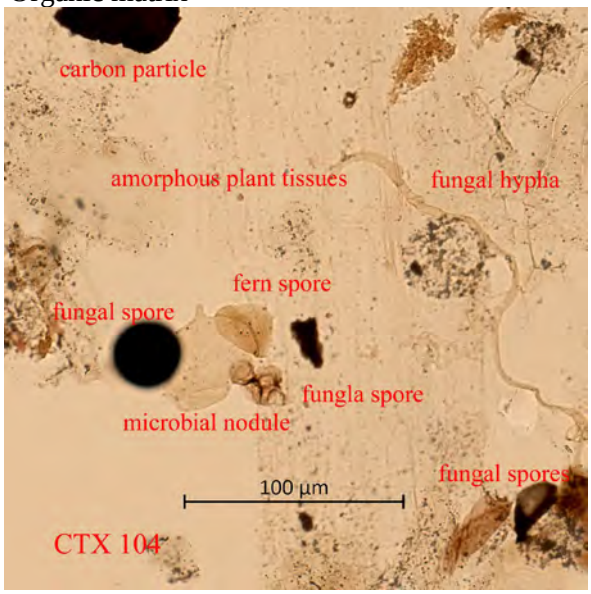
The absence of exotic pollen types dates the sample to the period before Blues Point was settled by Europeans, and possibly before Sydney Cove became a convict settlement in 1788.

The very high (86%) relative abundance of casuarina pollen (including 4% of tetrads and larger pollen masses) is strong evidence the study site was colonized by one or more casuarina spp. Given the exposed nature of the study site, these species are more likely to be shrubs or small tree species such as the scrub she-oak (*Allocasuarina distyla*) and/or *A. nana*, rather than tree-sized species such as the drooping she-oak (*A. verticillata*) or black she-oak *A. littoralis*. (cf. Benson & Howell 1990).

Apart from Poaceae and *Gonocarpus* (*G. teucrioides*?). shrubs and herbs are uncommon or absent, implying the understorey in the casuarina heath or scrub consisted of sparse grasses and raspworts only, with the hornwort *Phaeoceros* colonizing open areas of damp ash-enriched clay soils.

Unusual records include a possible marine dinocysts although the implications of this are unknown.

Fig. 20: Organic matrix

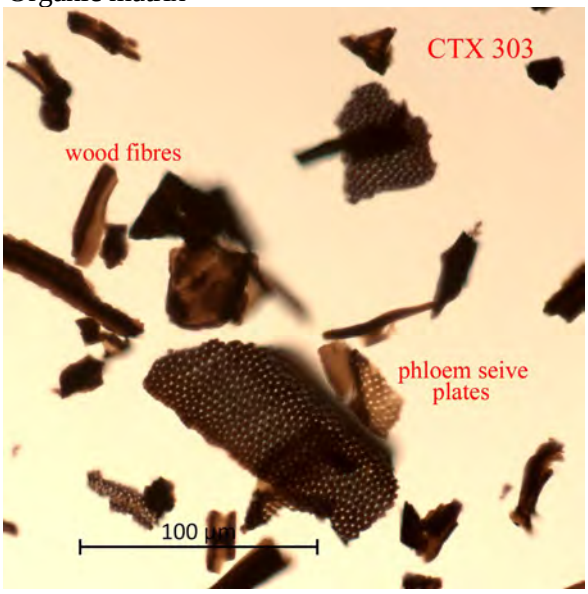


Inferred Age:	pre-settlement of Blues Point (pre-1788?)
Inferred context:	grey-brown sand (lower unit of a natural soil in the west section of TT10)
Abundant native taxa:	*Allocasuarina/Casuarina*, fungal spores (1635%)
Common native taxa:	-
Frequent taxa:	*Eucalyptus*, *Monotoca*, *Calochlaena*, hornworts (*Anthoceros*, P*haeoceros*), soil algae (Zygnemataceae)
Exotic native taxa:	none recorded
Mediaverrunites:	absent
Egg cases:	trace
Carbonized xylem:	abundant (160%)

Notes: The microflora closely resembles that recovered from the upper unit (**CTX 103**) of the natural soil and almost certainly represents the same casuarina scrub/heath community although in this instance its stratigraphic position means the sample is likely to pre-date 1788. Minor differences are (1) eucalypts were more common in the vicinity of the site or the casuarina stand was more open, and (2) damp conditions supported of the local establishment of rainbow ferns and hornworts.

The microflora is significant in that it almost certainly represents the native vegetation growing on exposed promontories in Sydney Harbour at the time of European settlement was being burnt (cf. Section 2.1) and to that extent the composition of the microfloras are evidence of the vegetation created by 'cool' Aboriginal fire regimes.

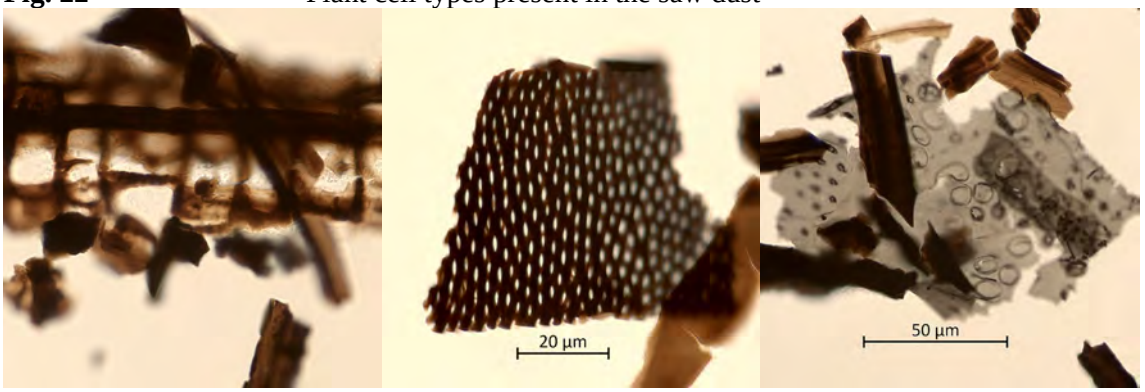
Fig. 21: Organic matrix



Inferred Age:	indeterminate (late 19th/20th century?)
Inferred context:	sawdust fill within TT20
Abundant native taxa:	-
Common native taxa:	fungal spores (80 specimens)
Frequent native taxa:	-
Exotic taxa:	-
Mediaverrunites:	-
Egg cases:	-
Carbonized xylem:	(low)

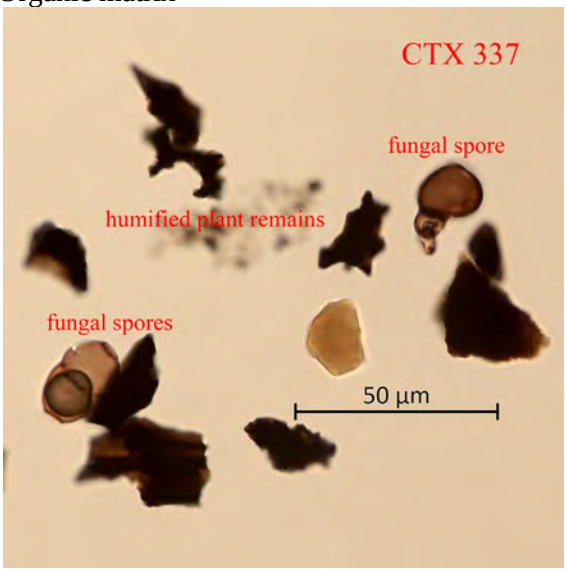
Notes: Apart from fungal spores, the microflora consisted entirely of well-preserved to? partially-darkened phloem wood cells (Fig. 21). The source is assumed to be timber being cut using a hand saw rather than power-driven tool. It is possible the species of timber being worked (a pine?) can be identified by a wood expert.

Fig. 22 Plant cell types present in the saw dust



wood fibres and tracheid | phloem sieve plate | wood fibres and semi-carbonized cuticle

Fig. 22: Organic matrix



Inferred Age:	late 19th or 20th century
Inferred context:	charcoal- and artefact-rich sand overlying bedrock
Abundant native taxa:	fungal spores (1700 specimens)
Common native taxa:	-
Frequent native taxa:	-
Exotic taxa:	*Polygonum aviculare*-type, unidentified (exotic?) Liliaceae
Mediaverrunites:	3 specimens
Egg cases:	16 specimens
Carbonized xylem:	abundant (350 specimens)

Notes: This very sparse microflora from Area B includes trace to multiple (≤4 specimens) of eucalypt and broom heath (but no casuarina), and a diverse range of native herbs (7 taxa), ferns (3 taxa) and hornworts (2 taxa).

All microspore types in this sample occur in contexts dating to the 1800s in Area A and little can be inferred except the assemblage is consistent with weed-infested waste ground. The absence of casuarina and high diversity of herbs (including one exotic species) strongly suggests the deposit dates to the late 19th or 20th century when the study site was devoid of native vegetation and being heavily impacted by activities associated with boat-building and maintenance.

Table 2: Estimates of relative abundance, Blues Point samples, expressed as a percentage of the pollen count excluding reworked pollen, hepatic and fungal spores, algal cysts, and microfaunal remains. '+' indicates values <1%; values in parentheses are raw counts

A: Taxa included in pollen sum

FOSSIL TAXON	**Common Name** (Sample No.) > (Context No.) >	AREA A						AREA B	
		11	**14**	**26**	**29**	**44**	**47**	**01**	**21**
		040	**066**	**063**	**094**	**103**	**104**	**303**	**337**
Probable and definite exotic taxa									
Pinus	pine (contaminant)			+	+				
Asteraceae (Liguliflorae)	dandelion	+	+	+	4%				
Caryophyllaceae	carnation family								+
Cerealia (Poaceae >40µm)	cereal				7%				
Liliaceae	(exotic type?)								+
Polygonum aviculare-type	wireweed		+	+	2%				(1)
Silene-type	silene				+				
Native trees and shrubs									
Acacia	wattle					+			
Allocasuarina/Casuarina	casuarina	32%	43%	66%	51%	82%	80%		
(tetrads & aggregates)	casuarina			+		4%	1%		
Amperea xiphoclada	broom spurge						+		
Banksia cf. *serrata*	old man banksia?	+	1%	+					
Banksia spp.	banksia	+		+	1%				
Dodonaea triquetra	native hops				+				
Dodonaea viscosa-type	Native hops	+			1%				
Ericaceae	heath	7%			1%				
Eucalyptus	eucalypts	5%	15%	3%	11%	4%	10%		(3)
Other Myrtaceae	(non-eucalypts)	2%	4%		3%		+		
Grevillea-type	grevillea, hakea	+							
Lomatia	crinkle bush		?						
Monotoca	broom heath	+		2%	2%	1%	2%		(1)
unassigned Proteaceae	protea family	2%			+				
Native herbs									
Alternanthera	joyweed			+					
Amaranthaceae	samphires		1%	+	+				(4)
Asteraceae (Tubuliflorae)	daisy/daisy-bush		2%	1%		1%			(1)
Brassicaceae	crucifers		1%	3%	+				(1)
Epilobium	willow herbs								
Gonocarpus	raspwort	41%	12%	2%	6%	4%			(3)
Liliaceae	Lily family			+					
Poaceae	grasses	4%	1%		1%	3%			(1)
Stellaria	starwort								Cf.
unassigned pollen types	-	2%	+	+	4%	+	+		(1)
Ferns and other cryptogams									
Calochlaena	rainbow fern	+	3%	4%	+	+	5%		(2)
Cyathea	rough tree-fern	+	2%			+			
Dicksonia antarctica	Smooth tree-fern		+						
Gleichenia	coral fern		+				+		
Histiopteris incisa	bats wing fern	+							
Lycopodium varium-type	Club-moss		+						
Microsorium/Davallia	Incl. kangaroo fern		7%						
Schizaea-type	comb-fern			+					
Selaginella uliginosa	swamp selaginella		+				+		(1)
unassigned monoletes	Incl. fishbone fern	+	4%	2%	+				(2)
unassigned triletes	incl. filmy ferns		2%	1%	+	+			
POLLEN SUM		**322**	**180**	**381**	**261**	**141**	**105**	**0**	**21**

B: Taxa excluded from pollen sum

FOSSIL TAXON	Common Name (Sample No.) > (Context No.) >	AREA A						AREA B	
		11	**14**	**26**	**29**	**44**	**47**	**01**	**21**
		040	**066**	**063**	**094**	**103**	**104**	**303**	**337**
Hornworts & liverworts									
Anthoceros	(hornwort)		2%	+		+	4%		(1)
Phaeoceros	(hornwort)		1%	+	+	7%	3%		(1)
Ricciaceae	(liverwort)		1%				+		
Fungal spores									
Mediaverrunites	(oil/fat)			1%					(3)
Thalloid fungi	(rotten timber)		10%	+					
unassigned spores (est.)		46%	1110%	1065%	345%	395%	1635%	(80)	(1700)
Algae									
dinocysts	dinoflagellates				?				
Zygnemataceae	(soil algae)		+		+	+	5%		(2)
Oher plant microfossils									
Protohaploxypinus amplus	(Permian)								(1)
Palaeozoic gymnosperm	(Triassic?)		+		+				
Coke fragments	(gasworks)				+				
carbonized xylem (burnt wood) (est.)		17%	380%	90%	225%	1275%	160%	(25)	(350)
carbon particles (not counted)		abund.	abund.	abund.	abund.	abund.	abund.	abund.	abund.
Microfaunal microfossils									
Shell fragments	(marine molluscs)		+	+					
dental/feeding apparatus	(jaws)		3%	1%	1%				(2)
egg cases	(soil algae)	25%	11%	28%	18%	13%	+		(16)
other insect parts	-		1%						
dinocysts	(marine algae)					?			

4. REFERENCES

Angus & Robertson Publishers (1981). *Gibbs, Shallard & Co's Illustrated Guide to Sydney in 1882* (Facsimile edition)

Benson, D & Howell, J. (1990). *Taken for Granted: The bushland of Sydney and its suburbs.* Kangaroo Press/Royal Botanic Gardens, Sydney.

Casey & Lower Archaeology & Heritage (2018). *Sydney Metro City & Southwest – Temporary Works Site Blues Point , Sydney. Preliminary Report.*

Eagan, J. (1999). *Buried Alive: Sydney 1788-1792*. Allen & Unwin, Sydney.

Fairley, A. & Moore, P. (1995) *Native Plants of the Sydney Region: an identification guide*. Kangaroo Press, Kenthurst/Society of Growing Australian Plants NSW Ltd.

Goddard, R.H. (1955). *The Life and Times of James Milson*. Melbourne University Press, Melbourne.]

Hoskins, I. (2009). *Sydney Harbour - a history*. UNSW Press Ltd., Sydney

John Ferguson Pty. Ltd. (1977). *James Maclehose's Picture of Sydney and a Strangers' Guide in N.S.W. for 1839* (Facsimile edition)

Karskens, G. (2009). *The Colony: a History of Early Sydney*. Allen & Unwin, Crows Nest.

Library of Australian History (1978). James William Waugh's *The Stranger's Guide to Sydney arranged in a Series of Walks with a Map of the City*. Ambassador Press Ltd., Granville.

Library Council of Australia (1978). *Journal of a First Fleet Surgeon*. Library of Australian History, Sydney.

Macphail, M.K. (1999). A hidden cultural landscape: Colonial Sydney's plant microfossil record. *Australasian Historical Archaeology* 17: 79-103.

Macphail, M.K. (2001). *Pollen analysis of backyard soil samples, 58-60 Gloucester St., The Rocks, Sydney, Palynological report prepared 3 October 2001 for the Susannah Place Museum, 54-64 Gloucester St, The Rocks, Sydney*. Report prepared for *Godden Mackay Logan* Pty. Ltd.

Macphail, M.K. (2013). *'Tares amongst the wheat?': Pollen analysis of carbonized seed and related samples. Barangaroo South archaeological site, Darling Harbour, Sydney.* Report to *Casey & Lowe Archaeology & Heritage* Pty. Ltd.

Macphail, M.K. (2020). The 'Barangaroo Boat': What does the pollen evidence tell us? Report to *Casey & Lowe Archaeology & Heritage* Pty. Ltd.

Macphail, M.K. & Casey, M. (2008). "News from the Interior": what can we tell from plant microfossils preserved on historical archaeological sites in colonial Parramatta. *Australasian Historical Archaeology* **26**: 45-69.

Macphail, M.K., Higginbotham, E. & Davey, B.G. (1988). An Early Colonial Period garden landscape at Sydney Cove: pollen and soil evidence from the Phillip St. Water Police Court site. *Search* **19**: 141-146.

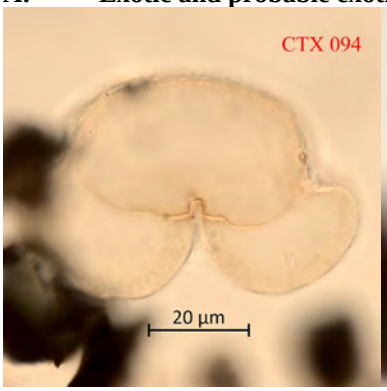
Macphail, M.K., Casey, M. & Kelly, M. (2012). Not for the squeamish: a new fossil indicator for the presence of humans. *Terra Australis* **34**: 193-196.

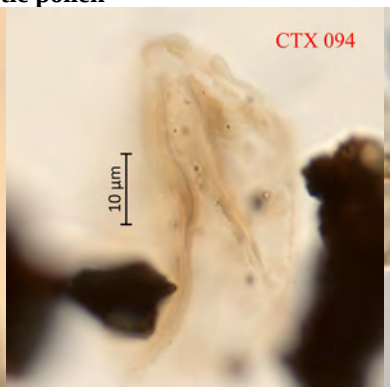
McCormick, T. (1987). *First Views of Sydney a History of early Sydney*. David Ell Press/Longueville Publications, Chippendale:

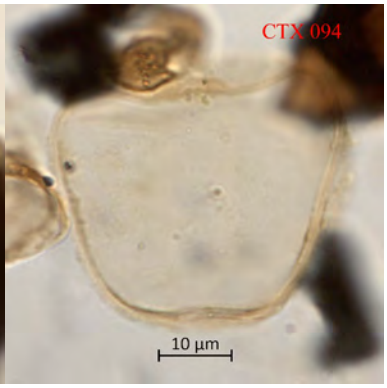
APPENDIX 1

PhotoShop ™ strengthened photomicrographs of plant and animal microfossils (multiple specimens are included to illustrate differences in pollen morphology and the variable preservation of miospores found in most samples)

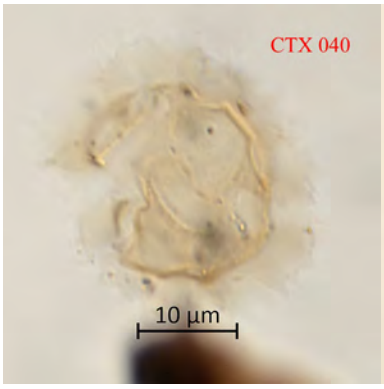
A: Exotic and probable exotic pollen

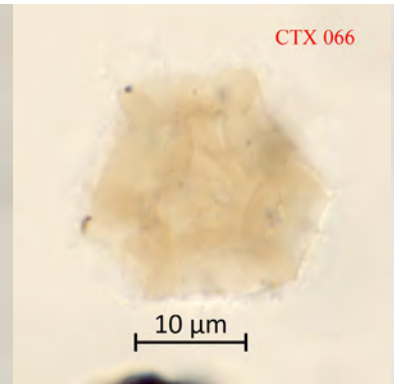


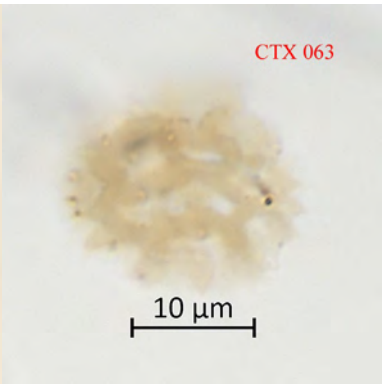




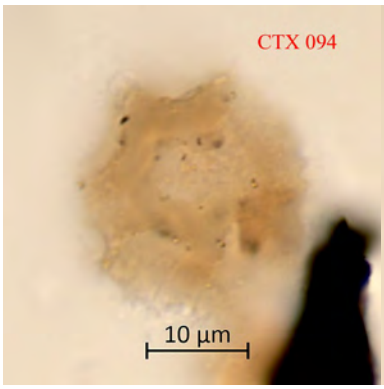
pine (*Pinus*) cereal (Cerealia)

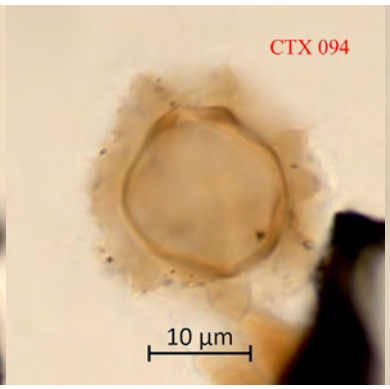


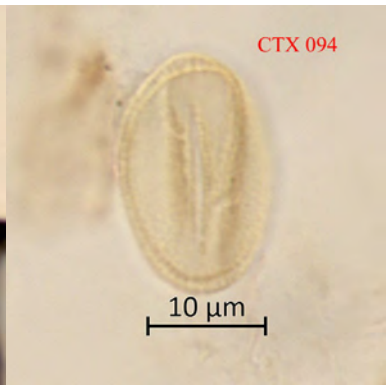




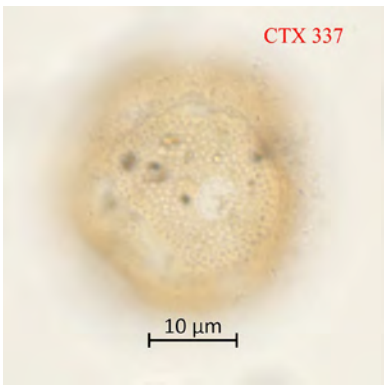
dandelion (Asteraceae subfamily Liguliflorae)

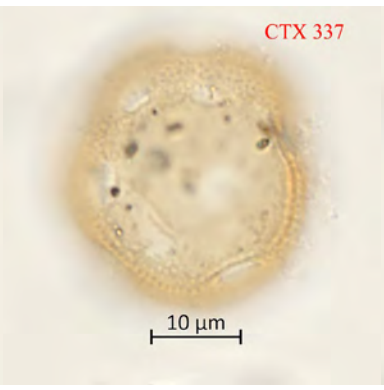






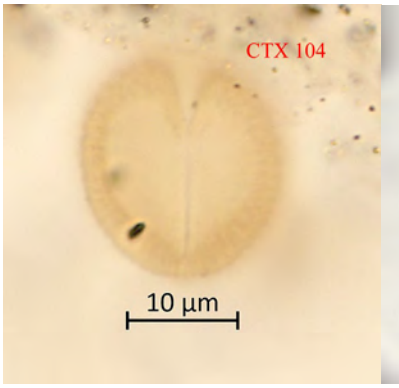
dandelion (Asteraceae subfamily Liguliflorae) wire weed (*Polygonum aviculare*-type)



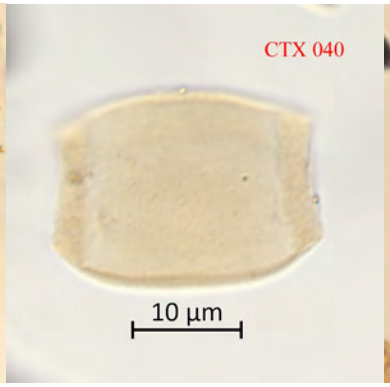


unidentified periporate pollen type (Caryophyllaceae?)

B. Native trees & shrubs



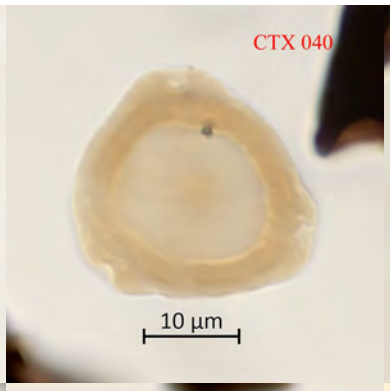
broom spurge (*Amperea xiphoclada*)

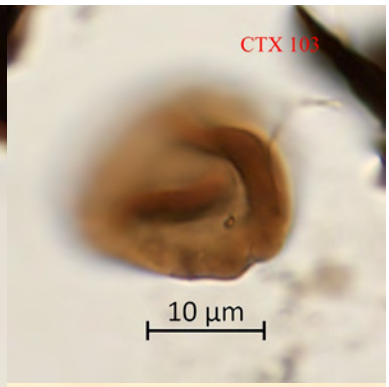


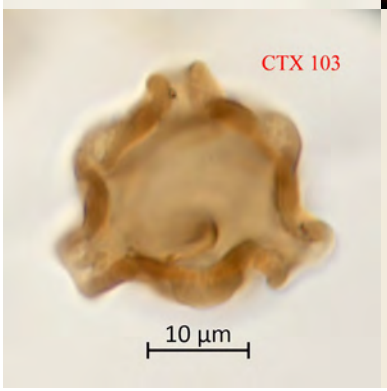
banksia (*Banksia*) sp.

banksia (*Banksia* cf. *serrata*)

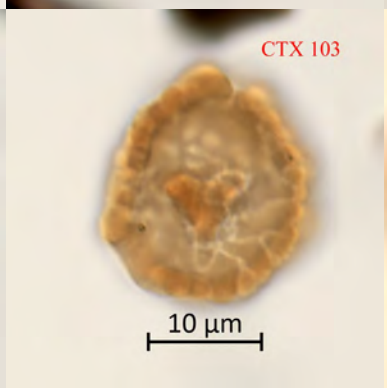
casuarina (*Allocasuarina/Casuarina* morphotypes







(aspidate morphotype)

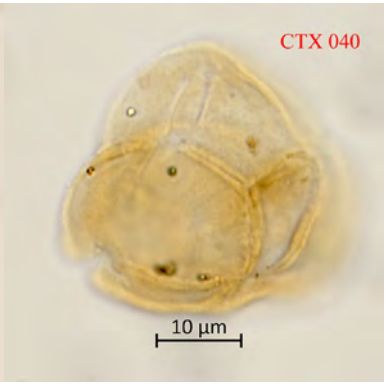


(verrucate morphotype)

(pollen aggregate)

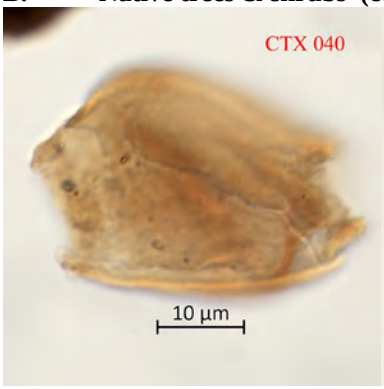
native hops (*Dodonaea viscosa*-type)

eucalypt (*Eucalyptus*)

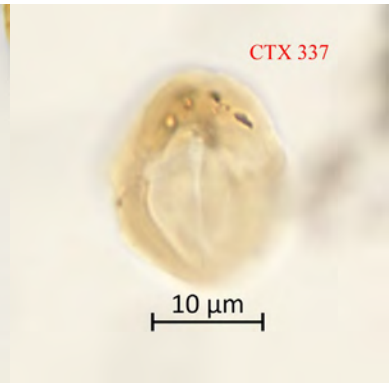


heath (Ericaceae)

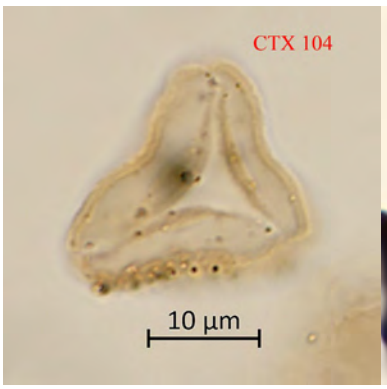
B. Native trees & shrubs (cont.)



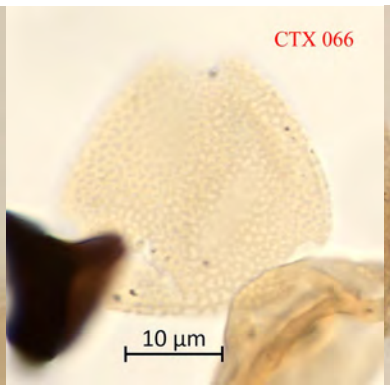
grevillea/hakea (*Grevillea*-type)



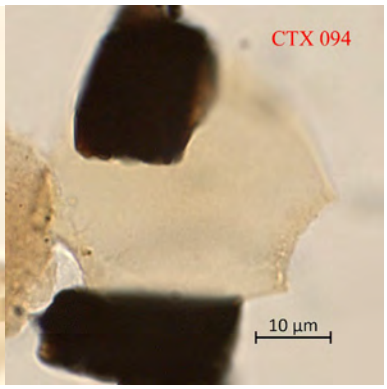
broom heath (*Monotoca*)



non-eucalypt Myrtaceae

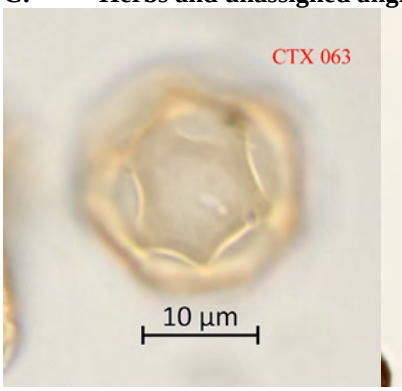


prickly cone-stick (*Petrophile sessilis*)

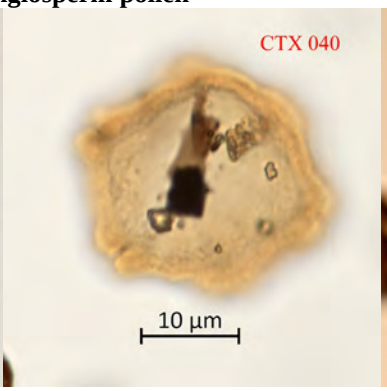


unidentified Proteaceae

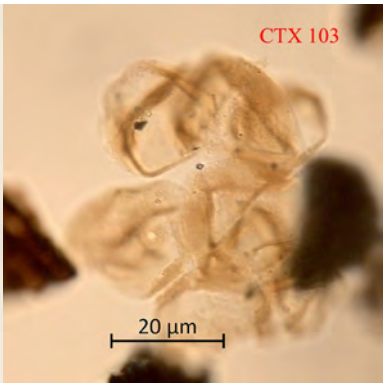
C: Herbs and unassigned angiosperm pollen



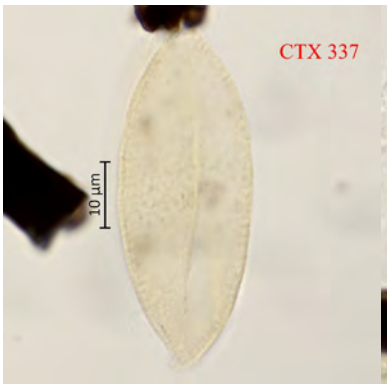
joyweed (*Alternanthera*)



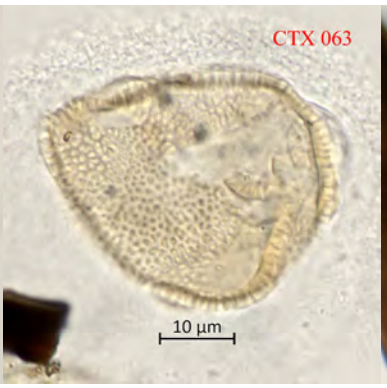
raspwort (*Gonocarpus*)

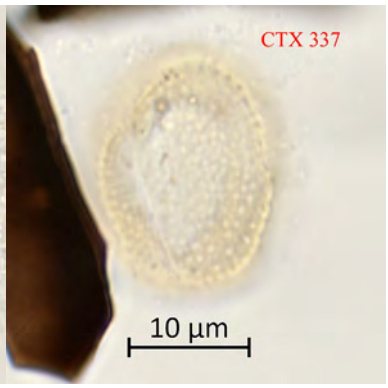


grass (Poaceae) mass



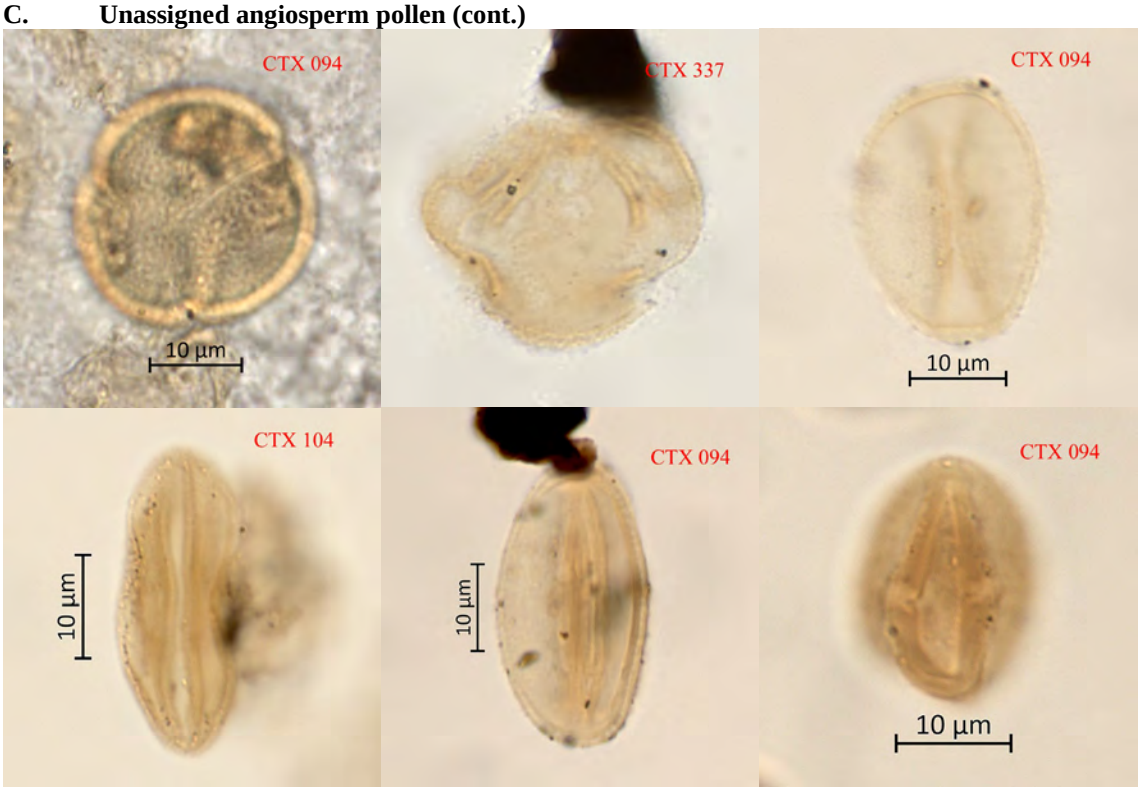
unidentified lily (Liliaceae)





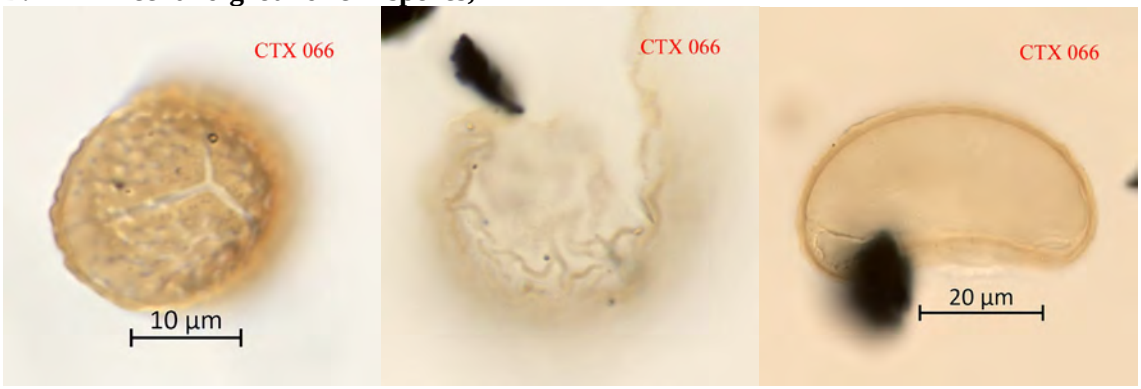
unidentified tricolpate reticulate pollen

C. Unassigned angiosperm pollen (cont.)

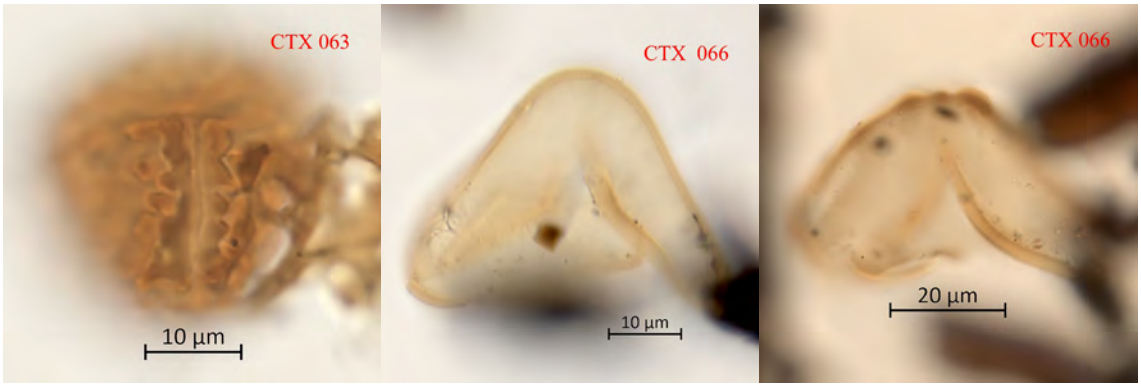


unidentified tricolporate pollen types

D. Tree- and ground fern spores,

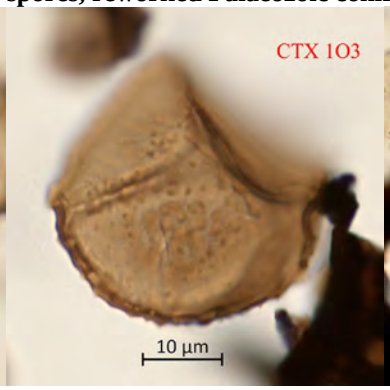


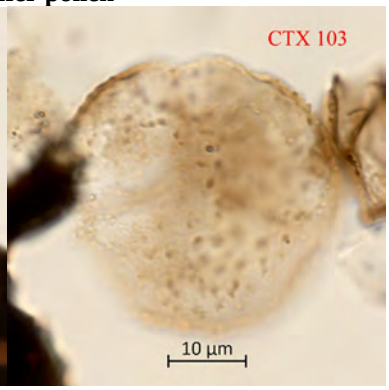
clubmoss (*Lycopodium varium*-type) swamp selaginella (*Selaginella uliginosa*) monolete fern spore



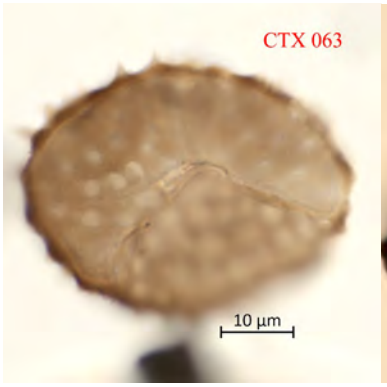
rainbow fern (*Calochlaena dubia*) rough tree-fern (*Cyathea*) smooth tree-fern (*Dicksonia antarctica*)

E. Hornwort and liverwort spores, reworked Palaeozoic conifer pollen

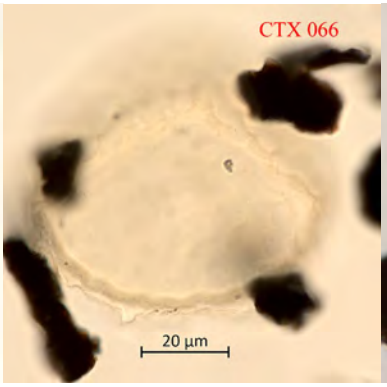




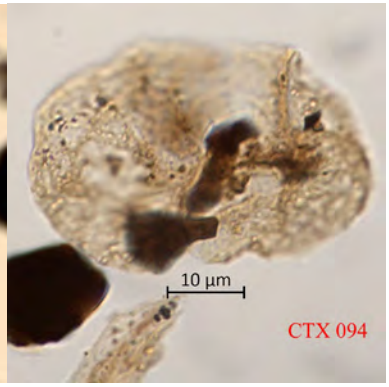
hornwort (*Phaeoceros*) spp.



hornwort (*Anthoceros*) sp.

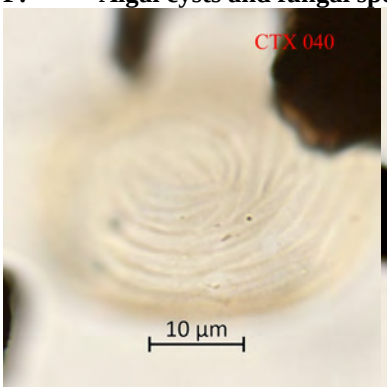


liverwort (Ricciaceae)

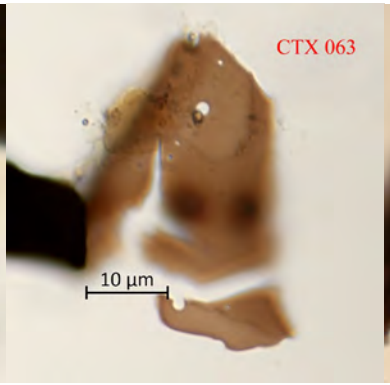


Triassic conifer pollen

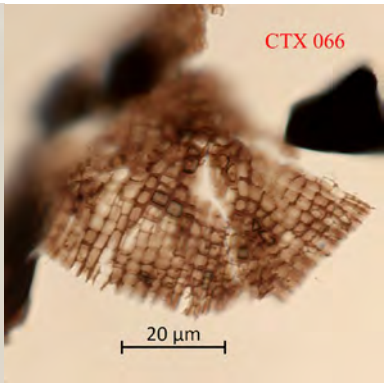
F. Algal cysts and fungal spores



Zygnemataceae (*Debarya* sp.)

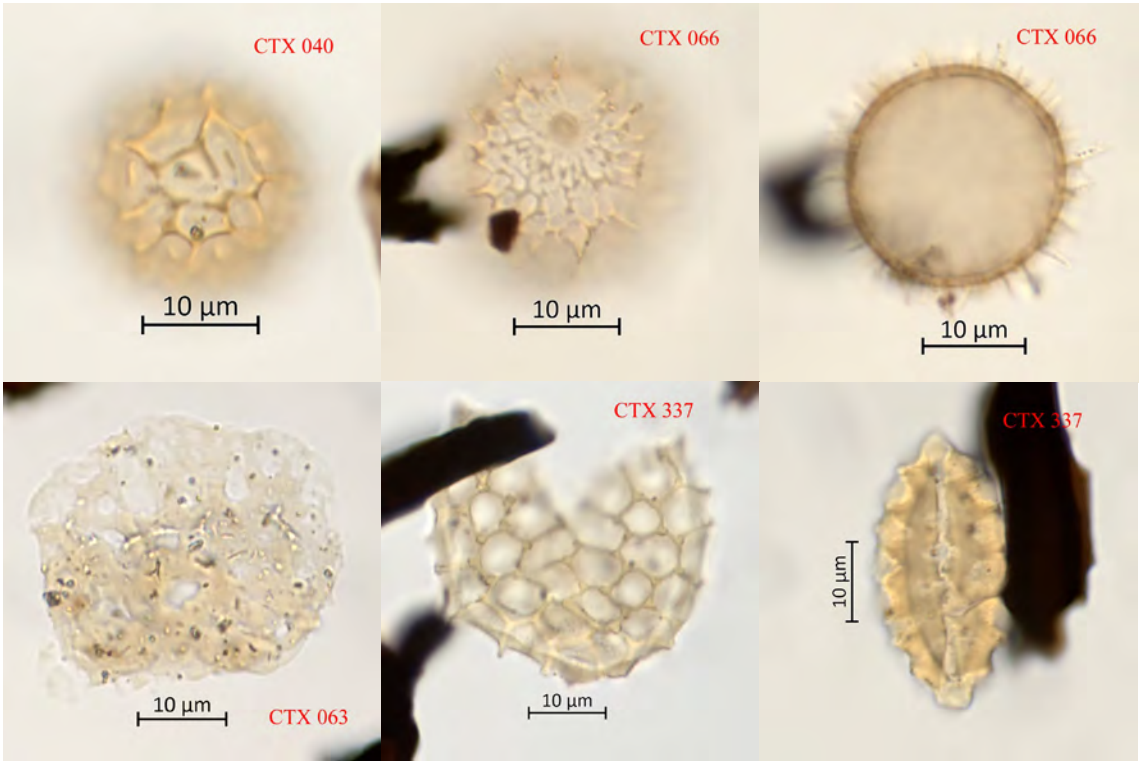


fungal spore (*Mediaverrunites*)



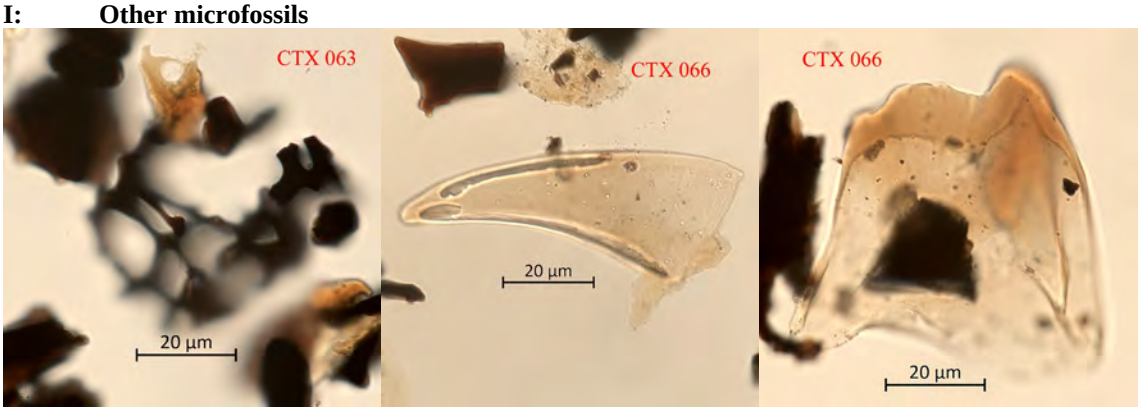
thalloid fungus

G: Microfaunal remains

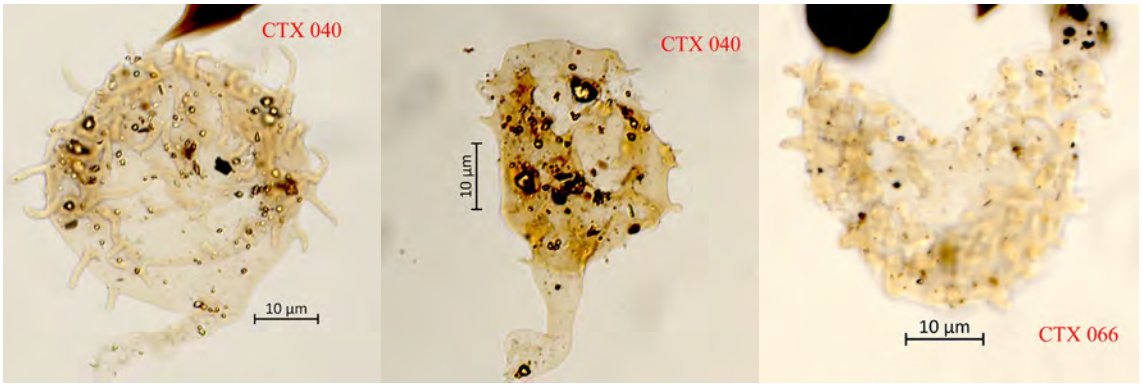


egg cases of unidentified soil microfauna

I: Other microfossils



burnt wood (carbonized xylem) claw? And dental plate of unidentified soil microfauna



unidentified palynomorphs

ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

ANALYSES OF THE HISTORICAL ARCHEAOLOGICAL SHELL ASSEMBLAGE

MAY 2022

Selection of shells from underfloor deposit, House 1, Room 2, context 066.

FINAL REPORT | to **Sydney Metro**

CASEY & LOWE
ARCHAEOLOGY & HERITAGE

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CONTENTS

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ARCHAEOLOGICAL INVESTIGATION TEMPORARY WORKS SITE, HENRY LAWSON RESERVE, BLUES POINT

ANALYSES OF THE HISTORICAL ARCHEAOLOGICAL SHELL ASSEMBLAGE

1.0 INTRODUCTION

This report presents the results of the analyses of excavated historical archaeological shell remains from the Temporary Works Site at Blues Point on the northern side of Sydney Harbour. Archaeological excavations at the site form part of historic heritage investigations conducted by Casey & Lowe for development of the Sydney Metro. Blues Point is one of three excavated Sydney Metro sites where historic archaeological shell remains were recovered. The reports on the Barangaroo Station and Pitt Street North shell assemblages are produced as two separate additional documents.

1.1 BACKGROUND

The archaeological excavations at Blues Point were undertaken in two main areas – Area A and Area B. The subsurface investigations revealed evidence of several structures, including three houses and a road, evidence of land reclamation and several built features (sea walls) related to construction and relocation of maritime infrastructure. Along with archaeological ceramics, glass, building materials, miscellaneous items, and animal bone, shell was recovered as part of the artefact assemblage from Blues Point.

The Blues Point study area comprised part of an 80-acre land grant awarded to harbour watchmen and constable William 'Billy' Blue by Governor Macquarie in 1817. Between the 1830s and the early 20th century the area (which came to be known as Billy Blue's Point) underwent significant modification through ongoing development of maritime infrastructure including a public wharf, sea walls, a jetty, boat builders sheds and associated buildings and a ferry dock. Reclamation of the harbour foreshore first occurred around the mid-19th century after that much of the original land grant was progressively subdivided and sold. Billy Blue constructed a house immediately north of the study area, however, three houses of later (mid-19th century) residents have been identified within the study area. Mid-19th century photographs of Blues Point show a sandy shoreline and a steep, rocky back beach (refer to Casey & Lowe 2021:35, figure 2.6).

1.2 ARCHAEOLOGICAL PHASES

The chronological framework for the site is provided by the identification of archaeological phases. The archaeological phases are based on review of historical developments at the site and are also informed by the outcomes of the archaeological investigations. The archaeological phases for Blues Point are provided in Table 3.1 (after Casey & Lowe 2021:73, Table 1.1).

Table 1.1: Archaeological phases for Blues Point.

Phase/ Sub-Phase	Date	Description
1	-	Natural landscape
2	-	Aboriginal occupation
3	1817-mid-1860s	Early European occupation, wharf construction
4	1867-1890s	Wharfage, maritime industries & residential occupation
4.1 (Area A)	1860s-1870s	Construction and early occupation of two houses built by Stevens c.1869. Early reclamation, levelling, surfaces and retaining wall.
4.2 (Area A)	1880s-1890s	Additions to the houses, reclamation, repairs and modifications to retaining walls, construction of Steven's jetty and maritime infrastructure.
5	Early 1900s-1930s	Vehicular ferry, upgrades, new businesses
6	1940s-1960s	Demolition of ferry wharf and cottages
7	1960s-2018	Public Park

1.3 AIMS OF REPORT

Analyses of the archaeological shell assemblage will provide an insight into the composition and function of marine shell remains deposited at the site. Specifically, it provides an opportunity to address two of the key research questions previously identified by Casey & Lowe (2021, section 1.6).

Residential housing and material culture

In response to specific research questions identified under this subject (Casey & Lowe 2021:12), the shell assemblage has the potential to address questions about diet and subsistence strategies of the site's past occupants, as well as questions about non-dietary use of shell, such use in construction (i.e., fill or shell mortar) and for ornamental purposes.

Landscape archaeology

In response to specific research questions identified under this topic (Casey & Lowe 2021:17), the shell assemblage also has potential to reveal information on past environmental changes at the site. Insights into the impacts of foreshore reclamation, the construction of harbour infrastructure (wharves, jetties, docks) as well as the operation of maritime based industries may be gained from analyses of the marine faunal remains. Specifically, data on the nature and availability of local shellfish species and how these may have changed over time may be forthcoming.

1.4 METHODOLOGY

The shell remains were cleaned and dried by Casey & Lowe as part of post-excavation procedures and bagged according to context and other provenience information. Where possible shell remains were identified to genus and species level. If required, identifications

were made using several shell references books (Abbott and Dance 1998, Lempel and Whitehead 1992 and Short and Potter 1987).

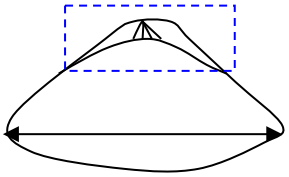
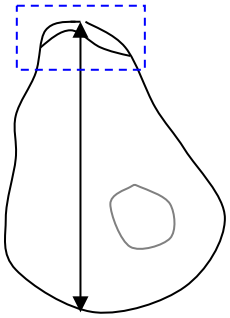
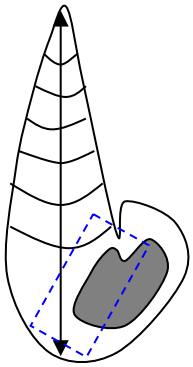
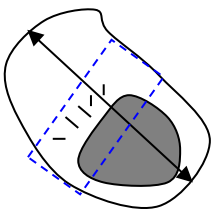
Each shell remain was classified to fragment type based on the degree of fragmentation. For example, Whole shells (W) demonstrate ≥50% of the diagnostic or non-repetitive element (NRE) (i.e., the umbo or hinge of bivalves and the columella of gastropods) and 100% of the maximum dimension used for size class analysis. Shells which demonstrated >50% of the NRE but could not be size-classed due to fragmentation were classified as Half shells (H). Shell remains possessing <50% of the NRE were classified as Fragments (F). An illustrated summary of shell diagnostic features and quantitative elements is provided in Table 1.2.

Number of Identified Specimens (NISPS) per taxon, Minimum number of individuals (MNI) per taxon and weight per taxon were each recorded as part of the quantitative analysis of the shell assemblage. Using the identified specimen as the basic counting unit, the NISPS for any given taxa is the collective total of Whole shells, Half shells and Fragments. The MNI method relies on the frequency of diagnostic morphological features or NRE for each taxon and includes both Whole and Half shells (for bivalves MNI is determined by counting the highest frequency of either left or right valves per taxon). The following presentation of results and interpretation of the shell data utilises all three quantitative measurements. For this report, weight calculations represent the total weight of all shell remains (Whole, Half and Fragments) per taxa.

A size class analysis of the shell assemblage was also undertaken. It is generally agreed that anthropogenic shell deposits will contain a higher proportion of larger shells, which are 'selected for size and food potential' (Bonhomme and Buzer 1994:53). In comparison, natural shell deposits will generally contain a more random selection of shell sizes. It should be noted, however, that both the size and selectivity of species in cultural deposits is variable and is dependent on a range of influences. Among these are the shellfish population(s) available, dietary choice and preferences, and the collection of shells for non-dietary purposes, for example, as ornaments or children's play items (Poiner and Catterall 1987; Coutts 1966:43). The degree of fragmentation of a shell assemblage can also provide insight into the function of shell (for example, use as fill), as well as taphonomic processes which have impacted the assemblage post-deposition.

For this analysis, the size classing of shells involved measuring the maximum dimension of all Whole shells. Half shell remains and fragments could not be sized because the maximum dimension (i.e., shell length) is not discernible due to fragmentation. Size analysis was undertaken using a size chart divided into 2cm increments representing a consecutive numeric category (0-2cm, 2-4cm, 4-6cm, 6-8cm etc). An example of the size chart used for size analysis of shell is provided in Figure 1.1, while a summary of the shell dimensions used for size analysis is included in Table 1.2

Table 1.2: Diagnostic elements or NRE used for quantification of shell types and shell dimensions for size class analysis.

Shell type	Species example	Max. dimension measured	Diagnostic element	Illustrative example (also indicating diagnostic element)
Bivalves (excluding oyster)	*Anadara trapezia,* *Tapes dorsatus*	Length	Umbo or hinge	
Oyster (bases and lids)	*Saccostrea glomerata*, *Ostrea angasi*	Height	Umbo or hinge	
Gastropods (large)	*Pyrazus ebeninus*	Height	Columella	
Gastropods (small)	*Caltholotia fragum*, *Nerita* sp.	Width	Columella	

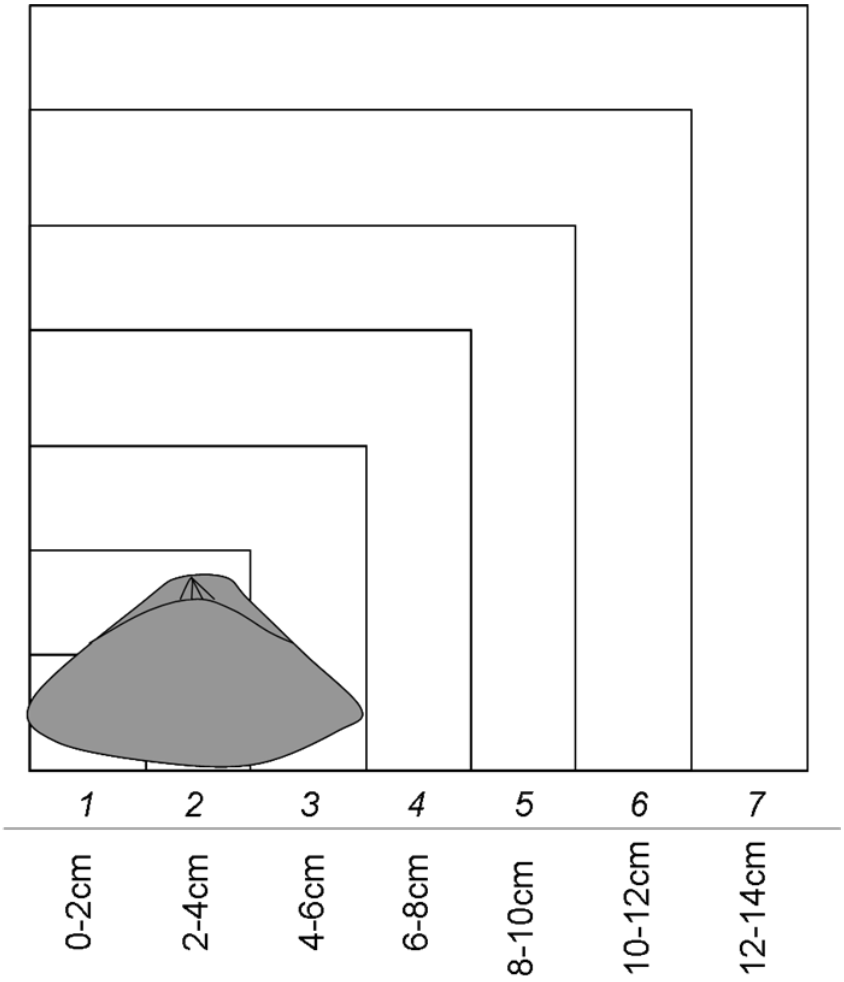


Figure 1.1: Size chart used to measure whole shells. Diagram shows correct placement of a bivalve, which measure 4-6cm (size class 3).

1.5 REPORT AUTHORSHIP

The shell analyses presented here was undertaken by Dr Melissa Gibbs, who also produced this report. It was reviewed by Rhian Jones.

2.0 OVERVIEW OF ASSEMBLAGE

2.1 DISTRIBUTION OF THE ASSEMBLAGE

The details for the distribution and quantities of shell remains from Blues Point are provided in Table 2.1. This excludes the data for coral and terrestrial snail remains but includes the data for a freshwater mussel species. Almost all the assemblage was recovered in Area A, where shell was found in 31 different contexts. A total of two shell fragments were found in two different (unprovenanced) contexts in Area B.

Table 2.1: Summary of total quantitative shell data (NISP, Weight and MNI) for shell bearing contexts in Area A and Area B.

Area	Number of contexts	Total NISPS	Total weight	Total MNI
A	31	541	1626.1	252
B	2	2	70.1	2
Totals	**33**	**543**	**1725.9**	**254**

In Area A the remains/foundations of three separate houses were identified during the excavations. Shell remains were found in several contexts associated with each house, however, most of the shell assemblage was recovered in House 1 (Table 2.2).

Table 2.2: Summary of total quantitative shell data (NISP, Weight and MNI) for shell bearing contexts in Houses in Area A.

Area A	Number of contexts	Total NISPS	Total weight	Total MNI
House 1	15	374	789.9	191
House 2	3	73	298.4	22
House 3	7	75	429.9	32
House 2,3	2	8	62	3
Unprovenanced	4	11	47	4
Totals	**31**	**541**	**1626.1**	**252**

Within the House 1 shell assemblage, shell remains from context 066 contributed 91% of total shell NISPS, 67% of total shell weight and 88% of total shell MNI of shell from House 1 (Table 2.3). For the Blues Point shell assemblage generally, material from context 066 contributed the greatest proportion of both total shell NISPS and MNI (63% each) and 32% of the total shell weight.

Table 2.3: Summary of quantitative shell data (NISPS, Weight and MNI) for context 066 and other contexts (n=14) in House 1, Area A.

Context	Room	Total NISPS	Total weight	Total MNI
066	2	343	527.9	173
N=14	1, 2, verandah, unknown	31	262	18
Totals	-	374	789.9	191

2.2 COMPOSITION OF THE ASSEMBLAGE

Remains from 37 different marine invertebrate taxa (36 marine and one freshwater) were identified in the Blues Point assemblage. The identified taxa include Sea urchin and Cuttlefish, as well as 'unidentified shell' as a single taxa category. Table 2.4 provides a list of identified marine invertebrate taxa, including name and habitat information. The identified species represent a broad range of marine habitats including rocky shores, sandy beaches, mudflats, coral reefs, deep water and freshwater rivers.

Table 2.4: Nomenclature and habitat information of identified shell taxa.

Code	Common Name	Scientific Name	Environment
AnTr	Sydney cockle, Mud Ark	*Anadara trapezia*	Sheltered intertidal areas and shallow mudflats, sand and seagrass
AuCo	Common periwinkle	*Austrocochlea constricta*	Exposed rocky shores to sheltered environments
BeNa	Striped-mouthed periwinkle	*Bembicium nanum*	Semi exposed rocky shores in the upper intertidal
BuAn	Bottled bubble shell	*Bulla angasi*	Sand or coral in intertidal and shallow, subtidal waters
CaFa	Cockle	Cardiidae Family	Sandy sheltered beaches
CaFr	Spotted strawberry top shell	*Cathalotia fragum*	Estuarine seagrass beds
CeSp	Chiton	*Cellana* sp.	Attached to rocks on intertidal rocky shores
Cfish	Cuttlefish cuttlebone	*Sepia* sp.	Cuttlebone often washed up onto shore, live specimens inhabit shallow seas to deep depths
Coral	Branch coral	*Acropora* sp.	Reef, depths undetermined
CoSp	Cone shell	*Conus* sp.	Coral reefs and sandy bottoms
CySp	Triton	*Cymatium* sp.	Coral reefs and sandy bottoms
CyTi	Tiger cowry	*Cypraea tigris*	Coral reefs in shallow water
FaFa	Tulip shell	Fasciolaiidae Family	On sand or coral reefs in intertidal to deep water
GlSp	Dog cockle	*Glycymeris* sp.	Shallow seabeds, sand to fine gravels
HySp	Freshwater mussel	*Hyridella* sp.	Coastal rivers
MoLa	Toothed top shell	*Monodonta labio*	Rocky shores and coral reefs
MoMa	Mulberry whelk	*Morula marginalba*	Intertidally on rocky shores
MuFa	Murex shell	Muricidae family	Among rocks and coral
NaPo	Pearly Nautilus	*Nautilus pompilius*	Deep water
NeSp	Nerite	*Nerita* sp.	Rocky shores
OlFa	Olive shell	Olividae family	Intertidal and subtidal sandy substrates
OP	Operculum	Unknown	Unknown

Code	Common Name	Scientific Name	Environment
OsAn	Mud oyster	*Ostrea angasi*	Silty or sand-bottomed estuaries (depths of 1 to 30m)
PeSp	Scallop	*Pecten* sp.	Sand, silt and mud - intertidal to significant depths
PiSp	Pearl shell	*Pinctada* sp.	From sand, mud, gravel, seagrass beds, deep-water reefs, to near sponges, soft corals or whip corals.
PoSp	Moon shell	*Polinices* sp.	Subtidal to 40m
PyEb	Club mud whelk	*Pyrazus ebeninus*	Estuarine mudflats and mangrove swamps
PyOc	Dove shell	*Pyrene ocellata*	Intertidal to deep water underneath rocks or on sand and mud
SaGl	Sydney rock oyster	*Saccostrea glomerata*	Attached to rocks in subtidal areas
StLe	Silver conch	*Strombus lentiginosus*	Coral and sandy bottoms
Surchin	Sea urchin	Echinoidea	Intertidal to significant depths
TaDo	Venus shell	*Tapes dorsatus*	Littoral sand
TeSp	Auger shell	*Terebra sp.*	Sand/muddy sand dwelling
ToFa	Tun shell	Tonnidae Family	On sand and muddy substrates
TrHi	Hairy mussel	*Trichomya hirsuta*	Exposed rock platform
TuFa	Turrid shell	Turridae Family	Shallow to deep water coral reefs
UnSh	Unidentified shell species	Unknown	Unknown
VeAu	Australian mud whelk	*Velacumantis australis*	Mud flats and estuaries
VoFa	Volute shell	Volutidae family	On sand in intertidal to deep water

The species composition of the Blues Point shell assemblage is summarised in Table 2.5. This data shows that Sydney rock oyster (*Saccostrea glomerata*) is the most commonly occurring shell species, comprising 44% of total shell NISPS, 58% of total shell weight and 33% of total shell MNI. Based on NISPS only, unidentified shell remains comprise the next most commonly occurring shell taxa (14%), followed by common periwinkle (*Austrocochlea constricta*) (7.2%). Although Mud oyster (*Ostrea angasi*) comprises only fractional quantities of the assemblage based on NISP and MNI, the weight of these remains comprises the second heaviest identified taxa (9.7%). Excluding the quantitative data of the four species mentioned here, the remaining 33 shell taxa comprise 33% of the total shell NISPS, 28% of the total shell weight, and 41% of the total shell MNI.

Table 2.5: Total quantitative data (NISPS, Weight and MNI) for all identified shell taxa at Blues Point.

Taxa code	Common species name	Total NISPS	%NISPs	Total weight (gm)	%Weight	Total MNI	%MNI
SaGl	Sydney rock oyster	246	45.3	982.2	57	83	32.6
UnSh	Unidentified shell	78	14.3	33.6	19	27	10.6
AuCo	Common periwinkle	40	7.3	37.8	2	38	14.9
AnTr	Sydney cockle, Mud Ark	26	4.7	74.5	4.3	4	1.5
BeNa	Striped-mouthed periwinkle	16	2.9	43.1	2.5	16	6.3
PyOc	Dove shell	16	2.9	7.6	0.4	16	6.3
TaDo	Venus shell	6	1.1	15.9	9.2	3	1.1
CySp	Triton	12	2.2	35.1	2	11	4.3
PeSp	Scallop	10	1.8	19	1	4	1.5
PoSp	Moon shell	10	1.8	24.3	1.4	8	3.1
PiSp	Pearl shell	8	1.4	11.1	0.6	0	0
Surchin	Sea urchin	7	1.2	3.6	0.2	0	0
CeSp	Chiton	6	1.1	7	0.4	4	1.5
CoSp	Cone shell	6	1.1	11.7	0.6	5	1.9
CyTi	Tiger cowry	6	1.1	70	4	1	0.3
PyEb	Club mud whelk	5	0.9	61.1	3.5	3	1.1
TrHi	Hairy mussel	5	0.9	2.1	0.1	0	0
CaFa	Cockle	4	0.7	11.1	0.6	2	0
OsAn	Mud oyster	4	0.7	165.2	9.5	2	0
VoFa	Volute shell	4	0.7	9.2	0.5	4	1.5
MoLa	Toothed top shell	3	0.5	2.1	0.1	3	1.1
NeSp	Nerite	3	0.5	7.2	0.4	4	1.5
OP	Operculum	3	0.5	8.6	0.5	0	0
Cfish	Cuttlefish cuttlebone	2	0.3	0.8	0.04	0	0
FaFa	Tulip shell	2	0.3	2.7	0.1	2	0.7
GlSp	Dog cockle	2	0.3	10.2	0.6	2	0.7
TuFa	Turrid shell	2	0.3	1.8	0.1	2	0.7
VeAu	Australian mud whelk	2	0.3	3	0.2	2	0.7
BuAn	Bottled bubble shell	1	0.1	2	0.1	1	0.3
HySp	Freshwater mussel	1	0.1	0.9	0.05	1	0.3

Taxa code	Common species name	Total NISPS	%NISPs	Total weight (gm)	%Weight	Total MNI	%MNI
MoMa	Mulberry whelk	1	0.1	0.9	0.05	1	0.3
MuFa	Murex shell	1	0.1	0.8	0.04	1	0.3
NaPo	Pearly Nautilus	1	0.1	5.6	0.3	0	0
OlFa	Olive shell	1	0.1	8	0.4	1	0.3
StLe	Silver conch	1	0.1	9.3	0.5	1	0.3
TeSp	Auger shell	1	0.1	5.1	0.3	1	0.3
ToFa	Tun shell	1	0.1	3.1	0.1	1	0.3

3.0 CONTEXT ANALYSIS

3.1 CONTEXT 066 (HOUSE 1)

The above overview revealed that a significant proportion of the shell assemblage from Blues Point was recovered from a single archaeological context – context 066 in Room 2 of House 1 in Area A (refer to tables 2.2 and 2.3). Context 066 was an underfloor deposit that was excavated within a 1m x 1m grid and 100% wet sieved. This assemblage comprised remains of 34 different taxa (Table 3.1). The data presented here also shows that Sydney rock oyster (*S. glomerata*) comprised the largest proportion of remains based on weight (41%). The greatest quantity of remains based on MNI, however, consists of common periwinkle (*A. constricta*) (20%) and Unidentified shell (15%). Based on all three quantitative measures, these three species comprise approximately 45% to 55% of the total shell assemblage in context 066. The remaining proportion of the assemblage (approximately half) consisted of small quantities of remains from a broad range of species (n=31).

Table 3.1: Quantitative data (NISPS, Weight and MNI) for identified shell taxa in context 066, House 1.

Taxa code	Common species name	Total NISPs	%NISPS	Total weight (gm)	%Weight	Total MNI	%MNI
SaGl	Sydney rock oyster	79	23	216	41	20	11.5
UnSh	Unidentified shell	78	23	33.6	6.3	27	15.6
AuCo	Common periwinkle	37	11	35.7	6.7	35	20
AnTr	Sydney Cockle, Mud Ark	14	4.08	19.6	3.7	1	0.6
BeNa	Striped-mouthed periwinkle	13	3.8	10.6	2	13	7.5
PyOc	PyOc	16	4.6	7.6	1.4	16	9.2
TaDo	Venus shell	6	1.7	15.9	3	3	1.7
CySp	Triton	12	3.5	35.1	6.6	11	6.3
PeSp	Scallop	10	2.9	19	3.6	4	2.3
PoSp	Moon shell	10	2.9	24.3	4.6	8	4.6
PiSp	Pearl shell	8	2.3	11.1	2.1	0	0
Surchin	Sea urchin	7	2.04	3.6	0.6	0	0
CeSp	Chiton	6	1.7	7	1.3	4	2.3
CoSp	Cone shell	6	1.7	11.7	2	5	2.8
CyTi	Tiger cowry	5	1.4	2.6	0.4	0	0
TrHi	Hairy mussel	3	0.9	1	0.1	0	0
CaFa	Cockle	4	1.1	11.1	2.1	2	1.1
VoFa	Volute shell	4	1.1	9.2	1.7	4	2.3
MoLa	Toothed top shell	3	0.8	2.1	0.4	3	1.7
NeSp	Nerite	2	0.5	6.7	1.2	3	1.7
OP	Operculum	3	0.8	8.6	1.6	0	0

Taxa code	Common species name	Total NISPs	%NISPS	Total weight (gm)	%Weight	Total MNI	%MNI
Cfish	Cuttlefish cuttlebone	2	0.5	0.8	0.15	0	0
FaFa	Tulip shell	2	0.5	2.7	0.5	2	1.1
GlSp	Dog cockle	1	0.3	1.1	0.2	1	0.6
TuFa	Turrid shell	2	0.5	1.8	0.3	2	1.1
VeAu	Australian mud whelk	2	0.5	3	0.5	2	1.1
BuAn	Bottled bubble shell	1	0.3	2	0.3	1	0.6
HySp	Freshwater mussel	1	0.3	0.9	0.1	1	0.6
MoMa	Mulberry whelk	1	0.3	0.9	0.1	1	0.6
MuFa	Murex shell	1	0.3	0.8	0.15	1	0.6
NaPo	Pearly Nautilus	1	0.3	5.6	1.06	0	0
OlFa	Olive shell	1	0.3	8	1.5	1	0.6
TeSp	Auger shell	1	0.3	5.1	0.9	1	0.6
ToFa	Tun shell	1	0.3	3.1	0.5	1	0.6

House 1 was constructed during Phase 3 (1817-1860s). It is the first structure to appear on plan (1857) within the study area, however, it may have been built as early as c.1840s (Casey & Lowe 87). The archaeological footings of this early house were found during the archaeological excavations. The house comprised two rooms (room 1 and room 2), a large fireplace (in room 2) and a front verandah. It is likely the house was occupied or leased by members of the blue family until it was sold c. 1850s. C.1869, two years after a portion of the lot (Lot 10) was first sold to Shipwright John Stevens, two Houses (House 2 and House 3) were built to the east and directly abutting House 1. A circular cistern located at the front of House 1 is concluded to be contemporary with the construction of the house. Although the foundations of House 1 were cut into the upper natural sand deposits, the presence of several yellow (mustard) coloured sands demonstrating some variation in colour and both natural (sandstone) and cultural inclusions (bone, ceramic and glass artefacts), were interpreted to be levelling fills. The presence of a natural water channel or gully running through the study area east of House 1 was also identified, as were features (sandstone walls) built to direct water flow away from the house.

Context 066 is described as an underfloor deposit which contained charcoal flecks, brick fragments and degraded metal pieces within a moderately compacted mid brown silty sand. Two additional contexts identified as underfloor deposits were recorded in House 1 – context 021 in room 1 and context 069, the fireplace fill in room 2, while one context (082) in room A of House 2 was defined as a small area of occupation related material. The shell remains in context 021 comprise 1MNI of common top shell (*A. constricta*), while only 1MNI of *Nerita undata* was recovered in context 069. No shell remains were identified in context 021. Although a broad range of historic artefacts, including buttons, marbles and other children's toys, slate pencils and nails comprised the large underfloor deposits recovered from these contexts (particularly the room 2 contexts) (Casey & Lowe 2020: section 5.4.6.2), as shell remains were largely restricted to context 066, discussion of underfloor deposits here will be limited to this context.

During excavation it was concluded that the timber floorboards in rooms 1 and 2 and House 1 were replaced during its lifespan, indicating the possibility that underfloor deposits from this house may represent over 100 years of occupation. Although context 066 has been allocated to Phase 5 (Early 1900s -1930s) (Casey & Lowe context register, dated 30 Nov 2020), it is suspected that due to the nature of the distribution of the deposit observed during excavation (Casey & Lowe 2018:158), the shell remains in context 066 may span the period of occupation dating from initial house construction in Phase 3 (1817-1850s). As no spit information was recorded for the shell remains recovered from context 066, however, it is not possible to distinguish the assemblage chronologically.

Ninety-two percent (92%) of all shell taxa identified in the Blues Point shell assemblage were found in context 066. As mentioned previously, the dominant species based on weight is Sydney rock oyster. The results of the size class analysis revealed that the most common size of whole shells was 4-6cm (size class 3), which comprised 66% of whole bases and lids. Shells measuring 2-4cm (size class 2) comprised the remaining proportion (33%) of whole bases and lids. A total of 61% of oyster shell remains were fragments and contributed 45% of the total weight of oyster shell in context 066. The analysis revealed that almost all other shell remains in context 066 (approximately 50% of the assemblage) comprised small quantities of small (0-1cm, size class 1) or juvenile shells (<1cm) and fragments.

3.2 OTHER SHELL BEARING CONTEXTS (HOUSE 2 AND HOUSE 3)

A total of five other contexts at Blues Point contained a quantity of marine shell remains which provide limited but further scope for discussion of the results. The contexts are from House 2 and House 3 and comprise four fills and one deposit identified as predating the surface preparation for house construction. A very limited range of species was demonstrated by all five contexts, with Sydney rock oyster forming the most commonly occurring taxa. The habitats of each species are broadly consistent with both the rocky shore and sandy beach historically depicted at Blues Point, and the broader estuarine environment in which the site is situated. The details of these contexts are provided in Table 3.2.

Table 3.2: Summary of contextual and phasing information, as well as quantitative and species composition data for notable shell bearing contexts in House 2 and House 3.

Context	House and Room	Description of context	Phase (date range)	Total shell quantities	Taxa present (in order of largest to smallest quantity of NISPs)
058	House 3, Room 4	Imported fill	4.1 (1860s-1870s)	9 NISPS, 53.4g, 3 MNI	SaGl, PyEb
065	House 3, verandah	Infill/ levelling fill (between wall and verandah)	4.1 (1860s-1870s)	21 NISPS, 141.8g, 11 MNI	SaGl, PyEb
030	House 2	Modified sands/topsoil	3 (1817-1850s)	13 NISPS, 48.5g, 6 MNI	SaGl, OsAn, AnTr
024	House 3, verandah	Occupation related fill in verandah	4 (1860s-1890s)	20 NISPS, 124.5g, 6 MNI	SaGl, AnTr, BeNa
029	House 2, Room 3	Modified sands/topsoil (pre-house surface)	3 (1817-1850s)	66 NISPS, 249.1g, 17 MNI	SaGl, AnTr, PyEb

4.0 REPORT SUMMARY & RESULTS

4.1 SUMMARY

The results of analyses revealed that a significant proportion of the shell assemblage excavated from Blues Point was recovered as underfloor (occupation) deposit in room 2 of House 1 in Area A. The assemblage from context 066 is interpreted to provide evidence of the discard of shellfish remains within a domestic setting. Although the phasing of this context associates it with the later period of occupation in the early twentieth century (Phase 5, Early 1900s-1930s), it is considered likely that the shell also represents material from the earliest phase of European occupation of House 1 (Phase 3, 1817-1850s) through to the 20th century. This is supported by the dating of historical glass artefacts in context 066, which indicate an age range of the 1840's to the 1920s. The type of window glass found in the context also indicates that the built structure pre-dates 1870 (pers. Comm. Jeanne Harris, Urban Analyst, 3 December 2020). The shell assemblage in context 066 is therefore interpreted to provide evidence of shell discard spanning the period of approximately 100 years from c.1840s to the early 20th century (Phase 3 to Phase 5).

Both the species diversity and composition of the context 066 shell assemblage indicate that while the remains of Sydney rock oyster were the likely result of subsistence discard, the presence of at least half of the assemblage in context 066 (based on NISP and MNI) was deposited as a result of non-subsistence related behaviour. It is highly likely that the popular Sydney rock oyster was present in considerable quantities on the sandstone outcropping at the site, perhaps offering an obvious dietary choice for the occupants. Extant populations of Sydney rock oyster may have also occurred on semi-submerged built structures, such as wharf pylons and sea walls. The presence of both whole (intact bases and lids) and fragmented oyster shell in context 066 is a likely result of the processing of shells for consumption, discard behaviour as well as post-depositional factors. While in some instances the extraction of the shellfish from the shell resulted in breakage, on other occasions the flesh may have been more easily extracted from a well shucked oyster. Breakage of shells may also occur after deposition of the remains through processes such as treadage, or even deliberate breakage or some other means of preparation of the shell for utilitarian use, such as mortar fill.

Based on physical features such as colour and sculpture, many of the species identified in the shell assemblage from context 066 can be interpreted as aesthetically attractive and in some cases commonly referred to as 'exotic'. Small periwinkles (*A. constricta* and *Bembicium nanum*), Moon shells, and Auger and Turrid shells provide examples of the former, while Tiger cowry (*Cypraea tigris*), Pearl shell, Scallop and Pearly Nautilus shells are often considered 'exotic' due to their distinctive physical features, more restricted distribution patterns and association with reef and tropical habitats. The broad range of species identified in context 066 suggests that a large proportion of the assemblage may have been possible curio items. While some of the taxa, namely the periwinkles, would have occurred locally on the rocky shores at Blues Point, several taxa may have been brought to the site from more distant habitats, such as coral reefs. This evidence suggests the possibility of both the collection of small shell varieties at the site, perhaps by children, as well as the bringing in of larger 'exotic' taxa from elsewhere.

From the time of its construction, the different occupants of House 1 were associated with the maritime industry. Billy Blue was a 'waterman' or ferryman of Sydney Harbour and later became harbour watchman and constable (Casey & Lowe 2021: 29). More significantly, however, later occupant John Stevens was a highly experienced Mariner and, in this capacity, spent time in the Solomon Islands and the Torres Strait in Northeastern Australia (Casey & Lowe 2021: 36). The presence of locally available shells possibly collected by

children of the households, as well as the remains of tropical 'exotic' taxa are perhaps best explained in these contexts. Although the range of exotic taxa may provide a temporal indicator of occupation during Phase 4 (1860s-1890s) during Steven's association with the houses, a more concise examination of this assemblage may provide a more certain temporal provenience for the remains and assist to directly link the shell deposit to Stevens. What is more certain, however, is that the presence of Sydney oyster shells provide evidence for dietary consumption of a commonly available species which the occupants of House 1 may have harvested from the rocks on the foreshore at Blues Point.

The limited use of marine shell for construction purposes at Blues Point was also demonstrated by the results of analyses. The presence of the remains of locally available species – Sydney rock oyster, Club mud whelk, Sydney cockle and Common periwinkle – was identified in several fill contexts in House 3, and date to Phase 4 (1860s-1890s). Given both the small quantity of shell remains recovered in fill contexts and the use of locally available species, it is most likely that these materials were originally part of household refuse and may have originally been discarded dietary remains.

Context 029 in House 2 is defined as modified historic topsoil most likely exposed during the early occupation of House 1 c.1840s-1860s (Phase 3). The presence of Sydney rock oyster, Sydney cockle and Club mud whelk in this context further confirm these as locally extant species during this occupation period. Context 030 in House 3, also dated to Phase 3, is interpreted as modified sand/topsoil pre-dating the house construction and was also most likely modified during the early occupation of House 1. The small quantity of shell in context 030 includes one fragment of Mud oyster (*O. angasi*). This species was identified in two other contexts (067 and 068); both of which are dated to Phase 4 (1860s-1890s). The low numbers of Mud oyster in both occupation and fill deposits indicate that the species may not have occurred in the waters off Blues Point. As Mud oysters enjoy sheltered estuaries, the more exposed nature of the site did not provide a suitable habitat for this species. Although reclamation along the waterfront boundary of the site may have occurred as early as 1866, it is unlikely such activity had any role in the historical presence/deposition of this taxa at Blues Point.

The identification of change over time in species composition of the Blues Point shell assemblage is not feasible for several reasons, namely the relatively small size of the deposit, the absence of contextual information for the excavated remains from the large assemblage in context 066, and the sparse distribution of the remaining assemblage across a considerable number of contexts. These limitations mean that the temporal framework of the shell assemblage cannot accurately or reliably be constructed.

4.2 RESULTS

In response to the two research questions identified above, the following conclusions are drawn from the results of the analyses of the Blues Point historical shell assemblage, and are supported by the information provided in this report:

Residential housing and material culture (shell function and use)

- As demonstrated by the large underfloor deposit in context 066, Sydney rock oyster was the main dietary shellfish species consumed by the occupants of Blues Point, and likely remained the species of choice throughout the entire historic occupation period (Phase 3 to Phase 5); possibly encouraged by extant populations of the species on neighbouring sandstone rock platforms as well as built structures, for example, jetty pylons and sea walls.

- The presence of a single valve of Freshwater mussel (*Hyridella* sp.) in underfloor deposit (context 066) provides limited evidence to suggest this species may have been consumed on sporadic or rare occasions.
- The presence of a range of attractive or 'exotic' shellfish species in underfloor deposit (context 066) were most likely collected curios or ornaments, thus providing evidence for the obtainment of shells outside of Sydney Harbour, and specifically from tropical waters.
- Due to the above, a possible direct association between the composition of the shell assemblage and occupants of Blues Point can be drawn, specifically to well-travelled Mariner John Stevens who owned and leased a range of properties on the site during second half of the 19th century.
- Deposition of large numbers of small gastropod species, namely common periwinkles, which may have been collected by children as curios or play items, further supported by their discard in underfloor deposits that include other children's items, such as marbles, porcelain dolls and doll tea sets.
- Evidence for the association of shell remains within occupation deposits to domestic activities, including processing, consumption, and discard of shellfish, namely Sydney rock oyster. This is best demonstrated by the shell assemblage in context 066 which was recovered in room 2 of House 1, where a large fireplace probably acted as the focal point for meals as well as general household activities, and
- There is limited evidence for use of shell as fill in domestic construction at Blues Point throughout most of the 19th century, with these activities utilising the remains of locally available species.

Landscape archaeology (environment and environmental change)

- Based on the nature of the archaeological shell assemblage there is little evidence for change to or impact on shellfish species throughout the historic occupation period, specifically.
- There is no firm evidence for the impact of mid-19th century reclamation on local shellfish populations at Blues Point.
- The demonstrated absence of evidence for the consumption of Mud oyster (*O. angasi*) is most likely due to the unsuitability of the marine environment at Blues Point for this species, as well as the availability of Sydney rock oyster populations in the immediate vicinity of the site, and
- The presence of Freshwater mussel (*Hyridella* sp.) shell confirms the existence of a freshwater channel which drained through the site and its close spatial association with the domestic structures built at Blues Point, most notably House 1.

5.0 REFERENCES

5.1 REFERENCES

Abbott, R.T. and S.P. Dance 1998 Compendium of Shells. California: Odyssey Publishing.

Bonhomme, T. and S. Buzer 1994 Holocene shell middens on the central coast of New South Wales: An investigation of the management problems concerning coastal shell middens. Unpublished report to the New South Wales National Parks and Wildlife Service.

Casey & Lowe 2018 Excavation Directors Report. Temporary Works Site Henry Lawson Reserve, Blues Point, Sydney. Unpublished report prepared for AMBS Ecology and Heritage.

Casey & Lowe 2021 Archaeological Investigation DRAFT 2. Temporary Works Site Blues Point Reserve, Blues Point, Sydney 12/05/2021. Unpublished report prepared for Sydney Metro.

Coutts, P.J.F. 1996 Features of prehistoric campsites in Australia. *Mankind* 98:338-346.

Lamprell, K. and T. Whitehead 1992 *Bivalves of Australia. Volume 1.* Bathurst: Crawford House Press.

Poiner, I.R. and C.P Catterall 1988 The effects of traditional gathering on population of the marine gastropod *Strombus luhanus Linne* 1758, in southern Papua New Guinea. *Oecologia* 76:191-199.

Short, J.W. and D.G. Potter 1987 *Shells of Queensland and the Great Barrier Reef*. Drummoyne: Golden Press Pty Ltd.