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Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Sorensens Place, Christchurch: report on Archaeological Monitoring

Story: Archaeology

Theme: Programme Management

A report which details the archaeological investigations carried out during the course of SCIRT project 11232, wastewater renewal work in Sorensens Place.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

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SORENSENS PLACE, CHRISTCHURCH (M35/1440): REPORT ON ARCHAEOLOGICAL MONITORING

SCIRT 11232

NZHPT AUTHORITY 2012/321EQ

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UNDERGROUND OVERGROUND ARCHAEOLOGY LTD

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UNPUBLISHED REPORT FOR MCCONNELL DOWELL AND CHRISTCHURCH CITY COUNCIL

INTRODUCTION

Subsequent to the earthquake on 22 February 2011, wastewater pipes on Sorensens Place in Richmond, Christchurch were damaged, necessitating replacement (Figure 1 and Figure 2). On 26 September 2011 New Zealand Historic Places Trust (NZHPT) issued an authority (2012/321eq) under section 11 of the Canterbury Earthquake (Historic Places Act) Order 2011 to the Christchurch City Council. This authority was issued to allow the council, in conjunction with the Stronger Christchurch Infrastructure Rebuild Team (SCIRT), to undertake various earthworks in Christchurch. An authority was required as these works had the potential to affect archaeological sites. As this work took place within the boundaries of a recorded 19th century archaeological site (M35/1440, occupation by the Sorensen family), these works were monitored by an archaeologist. This report details the archaeological investigations that were carried out during the course of this SCIRT project 11232 wastewater renewal work.

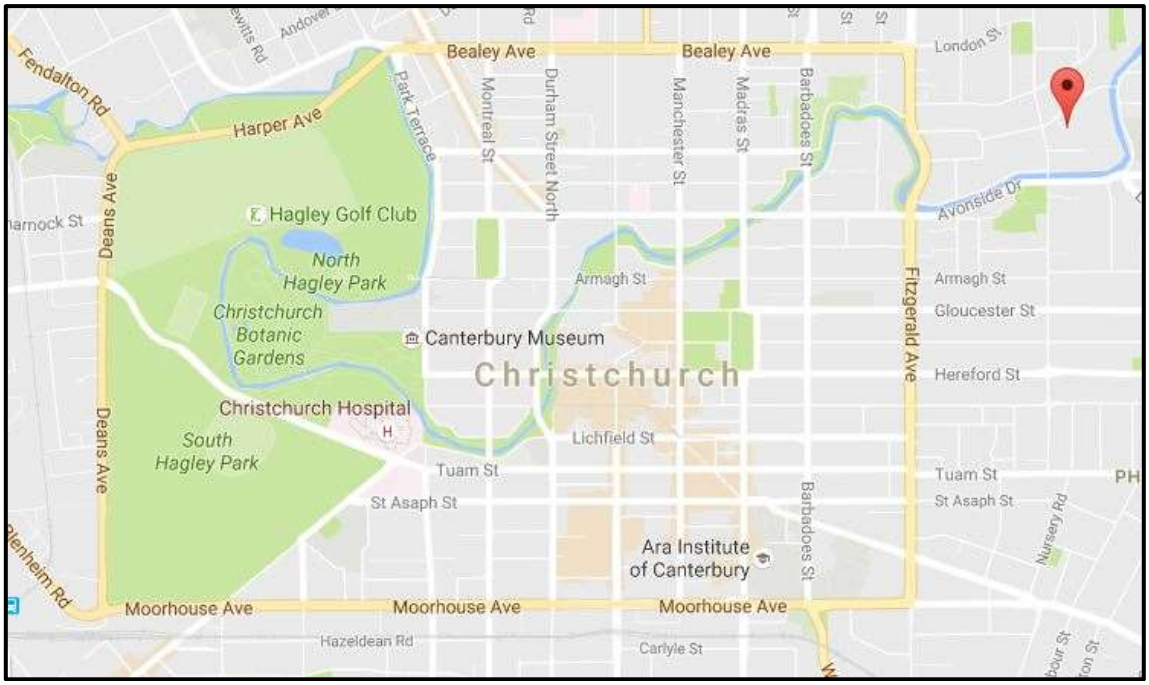

Figure 1. Central Christchurch, showing the location of Sorensens Place. Image: Google Maps.

Figure 2. Satellite view of Sorensens Place. Image: Google Maps.

HISTORICAL BACKGROUND[1]

Sorensens Place was formed from Rural Section 41. The section was conveyed by the Canterbury Association to Fooks in 1851, who took out three mortgages on the section between 1855 and 1860 (LINZ 1853: 41). Between 1861 and 1862 the property changed hands three times. In 1864 the entire section, with the exception of land that was granted to the Queen in 1864 to form Stanmore Road, was conveyed to Buckley, who subdivided it during the 1860s (LINZ 1860: 420). In 1865 he sold 3 acres, 1 rood and 11 perches on the corner of Stanmore Road and Swanns Road to Christchurch clerk Edward Watson Tippetts. Tippetts took out a mortgage at the time of purchasing the property (presumably to finance the purchase), a second one in 1868 and a third one in 1870 (LINZ 1860: 425). A certificate of title was issued to him in 1877 (LINZ 1877). In the electoral rolls for 1870-71 and 1875-76, Tippetts is listed as living at Melcombe, on the land he purchased from Fooks (New Zealand Electoral Rolls [Avon] 18701-71, 1875-76). In 1878 Christchurch gentleman Thomas Acland purchased the property, and he immediately took out a mortgage from Tippetts. In 1879 Acland sold the land to Christchurch hotel keeper William Seago Savage, who also took out a mortgage from Tippetts at the time of the conveyance. When this mortgage was discharged in 1881, Savage took out another (LINZ 1877). In 1880 approximately 6 perches of land were transferred to the Avon Road Board, probably for the widening of Swanns Road, and in February 1882 Savage was issued with a new certificate of title (LINZ 1877 and 1882). Savage was listed in the 1880-81 local directory as an occupant on the east side of Stanmore Road just north of the Avon River, suggesting that a house might have been built on the property by that time (H. Wise and Co. 1880-81: 71).

[1] Prepared by Jill Haley. Online primary source material was consulted in the preparation of this historical background. This included deeds, certificates of title, deposited plans, newspapers, aerial maps and city directories. Primary sources were supplemented by published and unpublished material on Christchurch streets and people.

In May 1882, Danish immigrant Henry Bylove Sorensen purchased the property and took out a mortgage, and in January 1883 he took out a second one (LINZ 1882). In March 1883 the property was transferred to John Guilford and two months later, in May, to Richard Grose. However, in May the newspaper announced the birth of Sorensen's daughter "at Stanmore" (but with no further location details), indicating that the family were probably living on the property at that time (*Star* 11/5/1883: 2). A few months later, in October 1883, ownership was transferred to Henry's wife Margaret Baron Sorensen (LINZ 1882). By 1884 the Sorensen family and a servant were living in a 12-roomed wooden house on the property. In the early hours of 8 April 1884, Henry Sorensen discovered a fire in the kitchen and sitting room. Most of the furniture was moved out and saved, but the fire burned rapidly and the house was lost. The building was insured for £500 (*Press* 9/4/1884: 2). Sometime between 1883 and 1889 Margaret Sorensen took out a new mortgage on the property, possibly for building the house. The information on the certificate of title is nearly illegible, but it possibly reads 1884, which would tie in with the date of the fire. Margaret took out further mortgages in 1889, 1890, 1892, 1906 and 1920 (LINZ 1882).

In 1887 Henry Sorensen was listed in the local directory as an occupant of the site and continued to be listed through the 19th century (H. Wise and Co. 1887-88: 124). The house, possibly known as 'Lingard', had the street address of 220 Stanmore Road (Harper 2016: 80). A plan from 1912 shows the location of the house on the property (Figure 3; LINZ 1912).

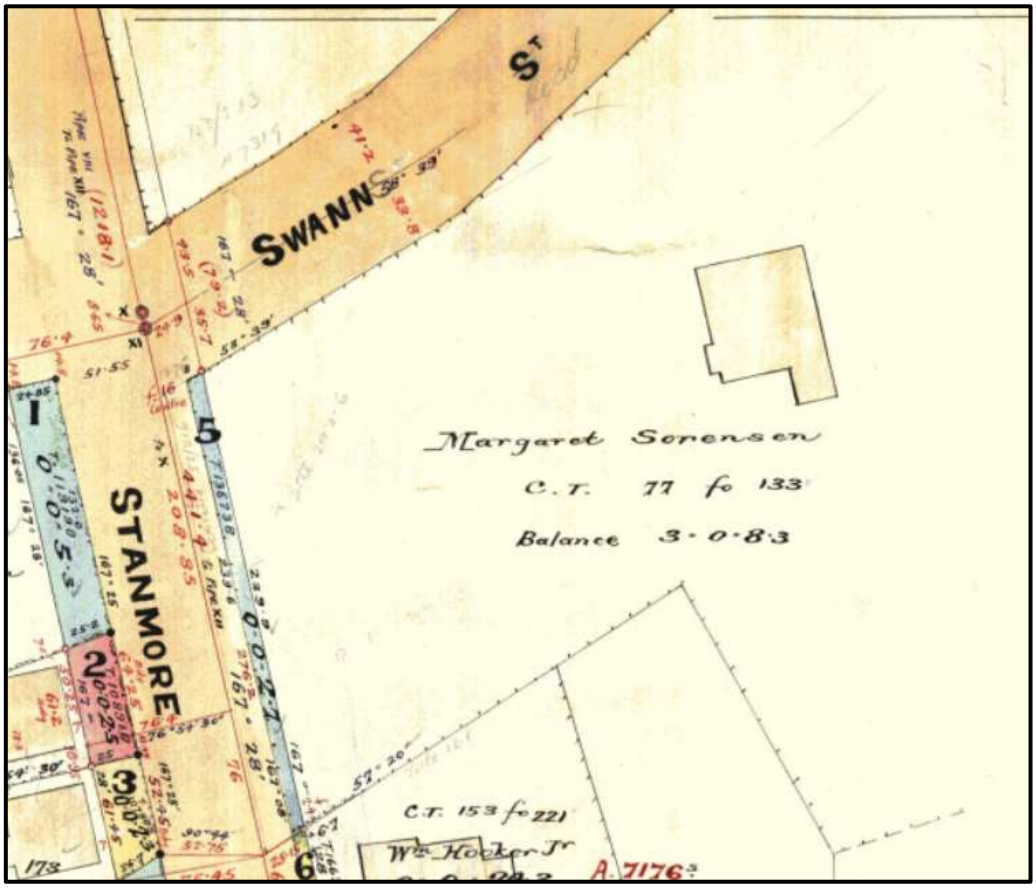

Figure 3. Detail of DP 4207 from 1912 showing the footprint of the Sorensen House. Image: LINZ 1912.

In 1919 and 1920 the property was surveyed into six lots (LINZ 1920). Lot 6, located along the boundary with Stanmore Road, was transferred to the City of Christchurch for road widening (LINZ 1882). Sorensen Place was formed through Lot 4, on which the Sorensen house stood (Figure 4; LINZ 1920).

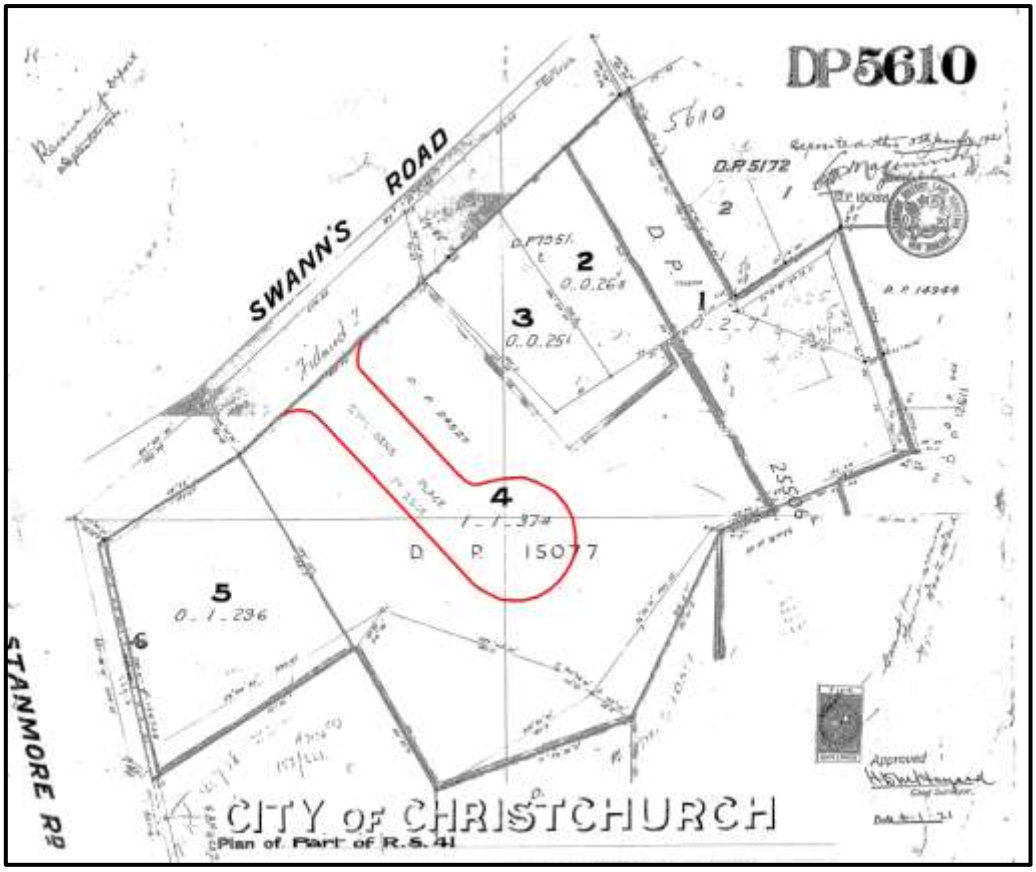

Figure 4. Detail of DP 5610 from 1920. The future location of Sorensens Place is outlined in red. Image: LINZ 1920.

Henry Sorensen was a successful merchant and later auctioneer and manager of the business H.B. Sorensen and Co. (*Press* 14/5/1923: 7; *Star* 17/1/1884: 2, 29/6/1892: 2). He was elected a Christchurch City councillor in 1895, first representing Richmond and then the South-West Ward in 1901, but his bid for mayor in 1915 was unsuccessful (Cyclopedia Company Ltd 1903: 102; *Press* 14/5/1923: 7). He died at his property on Stanmore Road on 13 May 1923 (*Press* 14/5/1923: 7). His widow Margaret continued to live there until her death in June 1940 (*Press* 27/6/1940: 9). Her daughters sold the property to the Government Housing Department soon after her death. The large, old rhododendrons and bushes from the property were moved to Woodham Park and a tender was invited for the demolition and removal of the house (*Press* 9/9/1941: 6, 10/9/1941: 9). In September 1941 Sorensens Place was surveyed and formed through most of the area where the house stood (Figure 5, LINZ 1941).

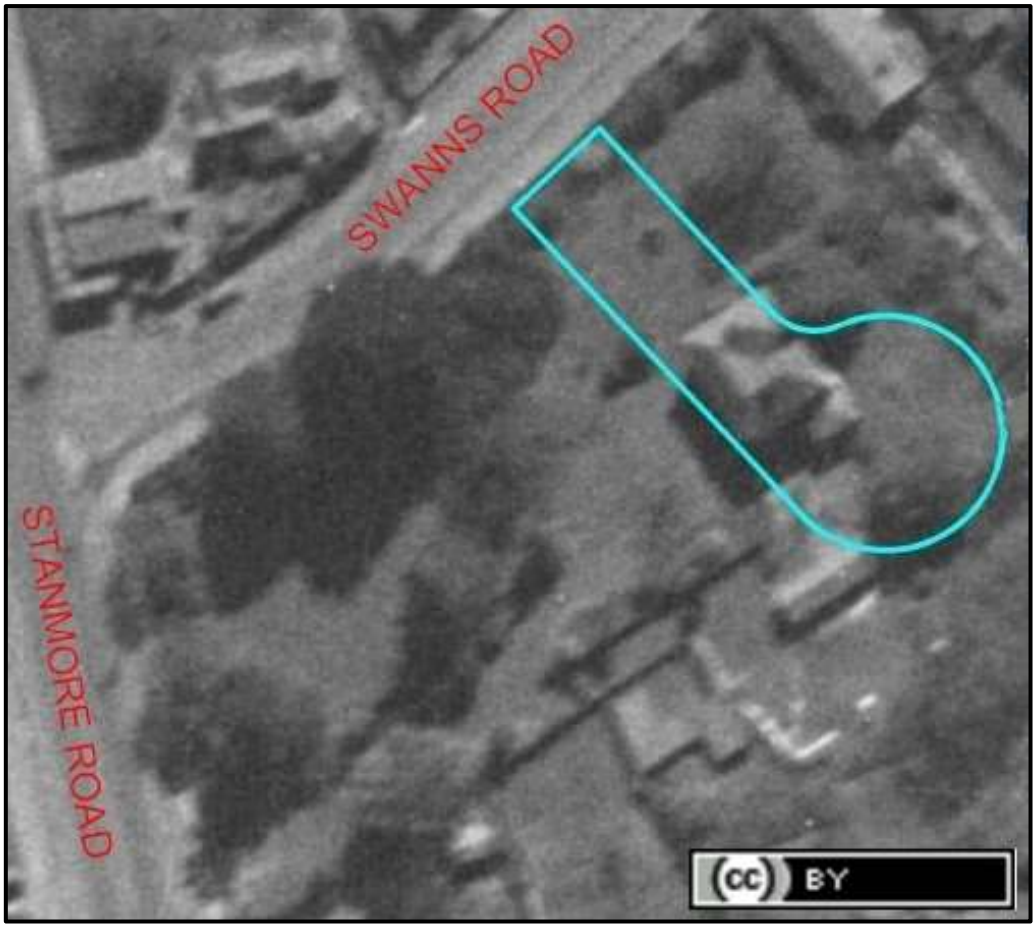

Figure 5. Aerial photograph of Christchurch from 1941 with present-day Sorensens Place outlined in blue. The Sorensen house is visible on the land through which the road was formed. Image: Canterbury Maps.

PREVIOUS ARCHAEOLOGICAL WORK

The removal of foundations of the earthquake damaged dwellings located at 2-16, 18 and 20 Sorensens Place were monitored by Julia Hughes (Underground Overground Archaeology) between 22 July and 5 August 2013, under NZHPT authority 2014/049eq. Excavations for the removal of the foundations at these properties extended to a maximum depth of 350 mm. Earthworks for the removal of foundations at 5-7 and 11-15 Sorensens Place were not monitored, but these sites were inspected subsequent to foundations removal. No archaeological features or artefacts were found during the course of this foundations removal work (Hughes 2013).

ARCHAEOLOGICAL MONITORING OF EARTHWORKS

From late July to early September 2016 earthworks for the installation of a new assisted gravity wastewater system on Sorensens Place were carried out by McConnell Dowell, using a 13 tonne mechanical excavator, with Hamish Williams, Peter Mitchell and Shana Dooley (Underground Overground Archaeology) monitoring the work. This work involved the installation of new pipe sewer mains, manholes, and a lift station within the road reserve by open trenching methods, as well as the installation of six connecting laterals. A plan of the site was prepared showing the location of the earthworks, the archaeological features uncovered, the locations of the adjacent property boundaries and demolished dwellings, as well as the location of the 19th century Sorensen house (Figure 6).

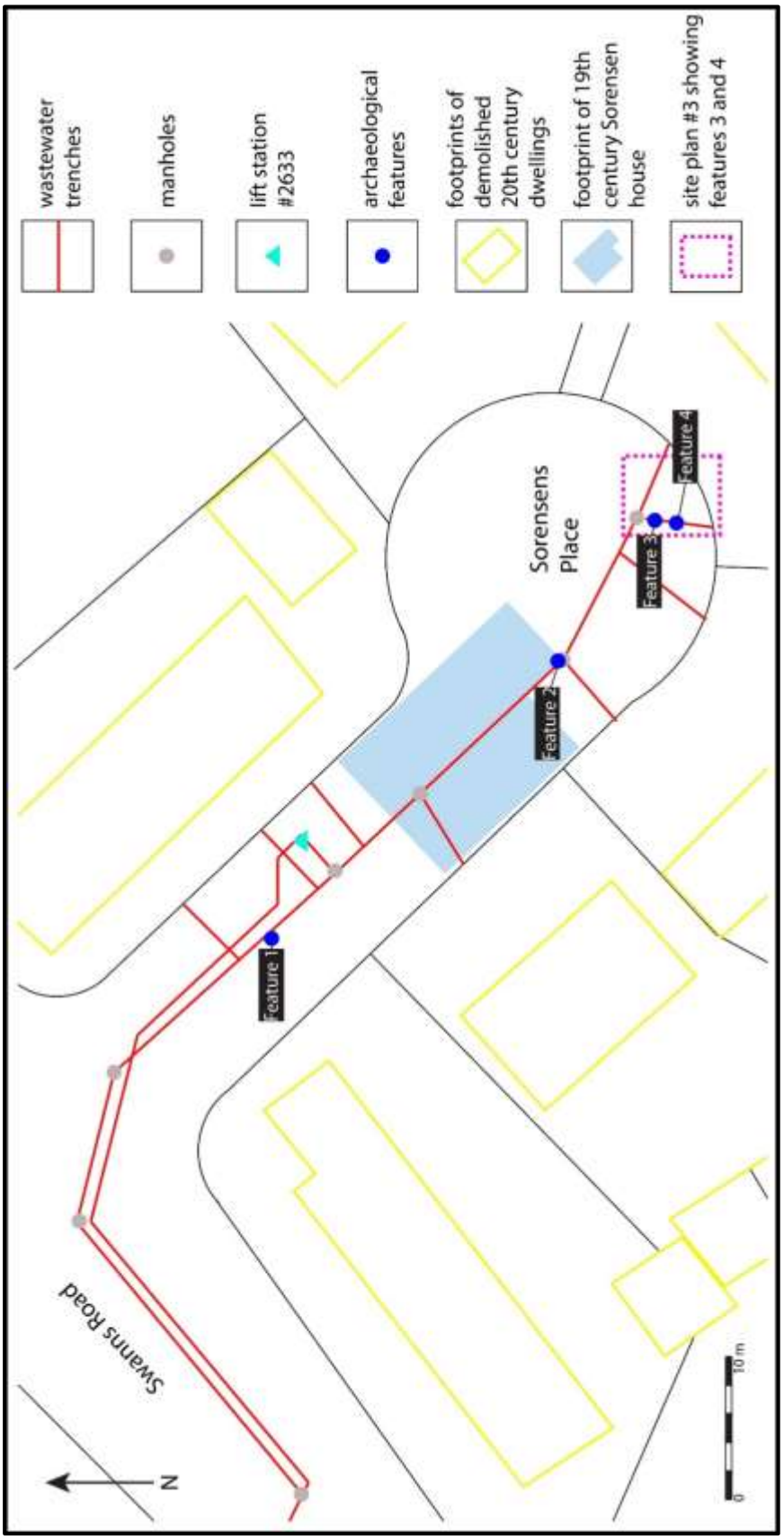

Figure 6. Site plan showing the location of the earthworks, archaeological features, recently demolished buildings and the former location of the Sorensen house. Site Plan #3 is Figure 22. Image based on Canterbury Maps (1941), LINZ (1912) and SCIRT 11232 construction plans.

Earthworks began with test pits to ground truth the location of extant service pipes and ducts picked up during the course of a pre-works ground radar survey. 19th century glass and ceramic artefacts (Feature 1) were exposed in one of these test pits, where an anomaly was detected. Subsequent earthworks involved trenching for the placement of pipes and pits for the installation of manholes. The trenches measured 1.25 m wide and extended to a maximum depth of 2.4 m, with excavations for the manholes along the trench line of a larger size, measuring up to 2.4 m by 2.4 m in size and excavated up to 2.45 m deep. More of Feature 1 was exposed during the course of trenching for the installation of the sewer main below the Sorensens Place roadway, and Feature 2 was exposed during the course of excavating one of the larger pits dug for the installation of a manhole. Features 3 and 4 were exposed during the course of excavations for the installation of connecting laterals. Hydro excavation was mostly employed to excavate these lateral trenches, which crossed the footpath and road berms to the edge of the property boundaries. Where possible, stratigraphic plan and profile drawings of the archaeological features were produced.

Stratigraphy

The general stratigraphy exposed across the excavated areas comprised modern layers of road and footpath asphalt overlying hard fill, with the hard fill laid directly atop bidim cloth (a geotextile), which capped the compact natural grey sandy substrate. This is most clearly demonstrated in Figure 10 below. These modern layers were relatively recent, having been laid down after the 2011 earthquake, which seriously damaged the road. All the archaeological features had been either cut down into, or laid atop of the natural sandy substrate. The stratigraphy recorded around the features is discussed further below.

Features

Feature 1

Feature 1 was a domestic rubbish pit (Butcher and Smith 2010: 55) that was first exposed on 26 July 2016 in a small test pit dug to investigate an anomaly detected by ground radar during a pre-works services location survey (Figure 7 and Figure 8). This test pit measured 560 mm by 500 mm in size, with the top of the feature exposed at a depth of 440 mm. These artefacts were found mixed throughout an ash stained grey sandy matrix that contained charcoal flecks, and a 40 mm thick layer of broken red brick was exposed at a depth of 780 mm. The hand excavation investigation of this feature was terminated at a depth of 900 mm as the limited size of the test pit restricted any further hand excavation beyond this depth (though at this depth the bottom of the feature was not yet reached).

The eastern end of this feature was later uncovered on 9 August as trenching passed by the eastern edge of the test pit, revealing a patch of dark grey and brown ash stained sand – the upper horizon of the fill matrix within the rubbish pit (Figure 9). Cut into the natural grey sandy substrate, the eastern end of this feature extended to within 50 mm of the eastern baulk of the trench, with the rubbish pit continuing into the western baulk. This rubbish pit had maximum dimensions in a north-south direction of 1300 mm, but its maximum dimensions in an east-west direction could not be established, as the western part of this rubbish pit extended in a westerly direction outside the excavated area. Extending to a maximum depth of 1230 mm, a stratigraphic profile through Feature 1 was recorded along the western baulk of the trench, where the feature was transected (Figure 10 and Figure 11). There were four different layers observed in the feature, suspected to be related to different deposition or fill events in the pit. The lowest layer was a black ash stained sand, which may suggest that the primary, or original, function of this rubbish pit was for the disposal of ash and fireplace

sweepings. While that part of the feature exposed in the trench was excavated in entirety, part of this feature remains in situ below the roadway east of the trench.

Figure 7. Looking south east along Sorensens Place prior to the commencement of trenching. The open excavation in the foreground is the test pit in which Feature 1 was first uncovered.

Figure 8. The test pit in which Feature 1 was first uncovered. Some of the ceramic and faunal material that was hand excavated from this test pit is visible at lower right. West is at top of image.

Figure 9. Feature 1, domestic rubbish pit, as exposed in the main trench at a depth of 600 mm. Note the dark colour of the ash stained fill matrix within the pit, compared to the lighter colour of the natural sandy substrate into which the pit was dug. West is at top of image.

Figure 10. Feature 1, domestic rubbish pit, as transected by the trench. Looking west.

The stratigraphy as recorded along the western baulk of the trench where Feature 1 was transected (Figure 11) comprised the following strata:

1. The first stratum was a layer of asphalt and was 100 mm in depth. This layer was laid down subsequent to the 2011 earthquake.

2. The second stratum was a layer of AP 40 aggregates and was 400 mm thick. This hard fill base course layer was laid down subsequent to the 2011 earthquake.

3. The third stratum was a layer of bidim cloth of 2 mm thickness. This geotextile capped the natural sandy substrate and was laid down subsequent to the 2011 earthquake.

4. The fourth stratum was the uppermost fill layer within Feature 1 and was an ash stained grey-brown sand containing charcoal flecks and fine pebbles. Up to 200 mm thick, this fourth stratum did not contain any artefacts and is interpreted as the fill layer that capped the rubbish pit.

5. The fifth stratum was a fill layer within Feature 1 that comprised a brown sand that contained 19th century artefacts and charcoal flecks. This fifth stratum was up to 360 mm thick.

6. The sixth stratum was a fill layer within Feature 1 of grey sand with charcoal flecks and artefacts, and was up to 250 mm thickness.

7. The seventh stratum was the basal fill layer within Feature 1, and was a black ash stained sand. Up to 250 mm thick, this layer represents the first deposition event in the pit. A thin lens of a similar black ash stained sand was observed in the middle of Layer 6 above, which may suggest that the two layers were deposited at much the same time and consequently may have become in part mixed together.

8. The eighth stratum was a layer of compact grey sand, which was the natural substrate and extended to the base of excavation. Feature 1 had been dug down into this natural layer, and the bottom of this layer was not reached.

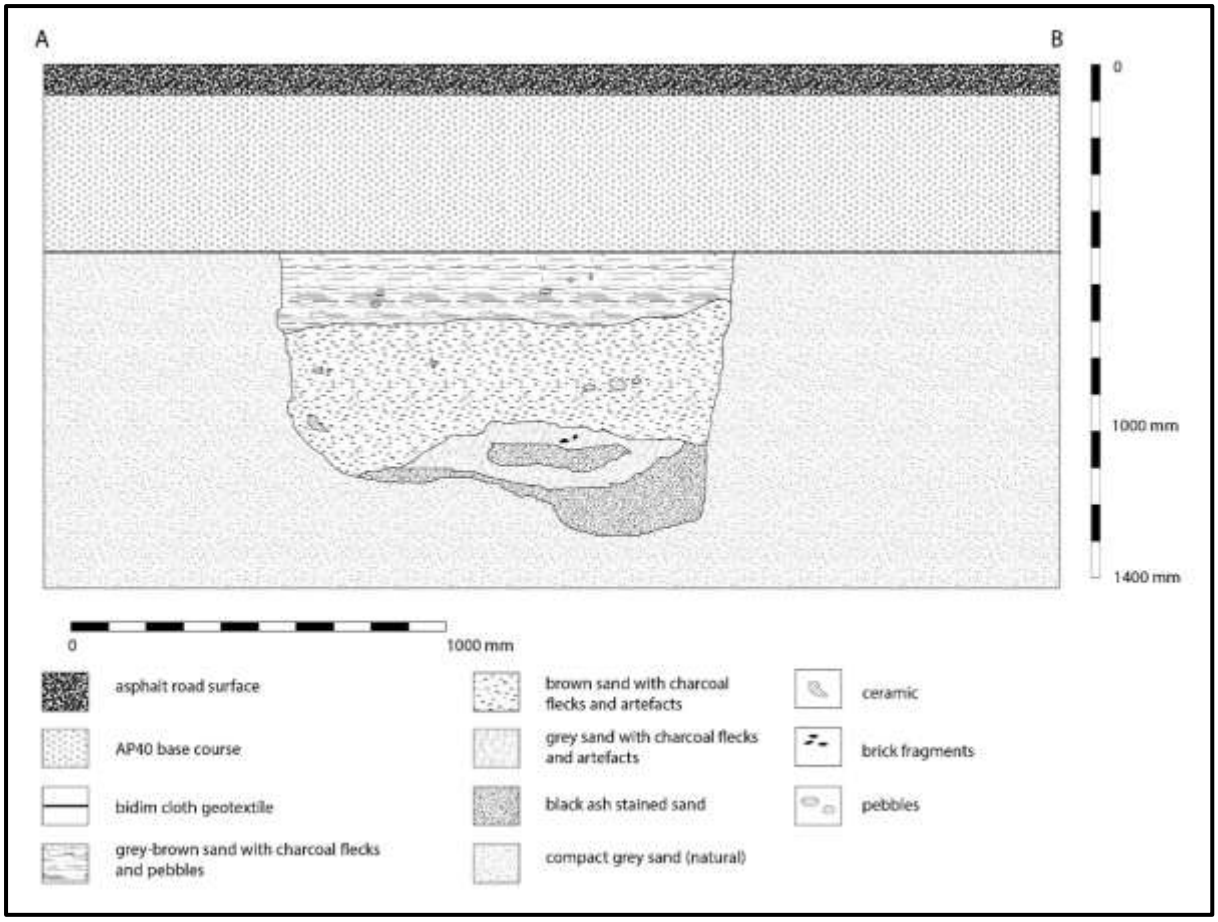

Figure 11. Stratigraphic profile drawing (A-B) of Feature 1, as transected by the west baulk of the excavation.

Feature 2

Feature 2 was the remains of a brick lined well that had been infilled with a large quantity of 19th century rubbish. As such, Feature 2 represents a *well fill* rubbish deposit (Butcher and Smith 2010: 57). Uncovered in the northeast corner of the 2.4 m x 2.4 m pit dug for the installation of manhole # D2248 on 2 August 2016, the top of this feature was exposed at a depth of 440 mm, immediately below the bidim cloth. At this depth the rubbish deposit was spread across an irregular oval shaped area with a maximum dimension of 1700 mm (N-S) by 1360 mm (E-W) in size (Figure 12, Figure 13 and Figure 14).

The feature was excavated in arbitrary 200 mm spits[2], some of this by hand and some by mechanical excavator under supervision. Nineteenth century glass, ceramic, metal, textiles, and faunal material were recovered from within a black charcoal and ash stained sandy fill matrix, which extended to a depth of 1520 mm (Figure 15 and Figure 16). At this depth the spatial extent of the fill deposit had reduced in size to down to a maximum diameter of 940 mm, the first in situ bricks that lined the well were exposed. These bricks (which were all of the plain pallet moulded type with shallow rectangular frogs) had been laid overlapping one another without mortar. Below 1520 mm depth a compact dark grey silt was exposed within this brick lined portion of the well, and only the uppermost 180 mm of this dark grey silt contained artefacts. This dark grey silt was not dissimilar in appearance to intrusive liquefaction silt associated with earthquake activity.

The absence of any in situ brick lining above a depth of 1520 mm suggests that subsequent to abandonment, these more easily accessible bricks that lined the uppermost portion of the well shaft

[2] Spit 1 450-650 mm, Spit 2 650-850 mm, Spit 3 850-1050 mm, Spit 4 1050-1250 mm, Spit 5 1250-1450 mm, Spit 6 1450-1650 mm, and Spit 7 1650-1850 mm.

were salvaged for reuse. Some form of excavation around the top of the well was likely undertaken to facilitate access to salvage these bricks, which explains the larger spatial extent of the rubbish deposit as infilled towards the top of the feature.

The installation of the manhole in this location required excavations to a maximum depth of 2450 mm, with the brick lining of the well continuing to this level (Figure 17, Figure 18, and Figure 19). Scala penetrometer testing at this base depth confirmed that no further excavations were required on geotechnical grounds, meaning that the lower portion of the feature was able to be left in situ and the new manhole installed partly atop of the feature (Figure 20). At this depth the well was confirmed to be of circular with a maximum diameter of 1000 mm. The maximum depth to which this feature extended was not able to be determined. In addition to the brick lined portion of the feature that remains in situ below 2450 mm depth, part of the black ashy stained infill of the feature remains in situ northeast of the excavated area.

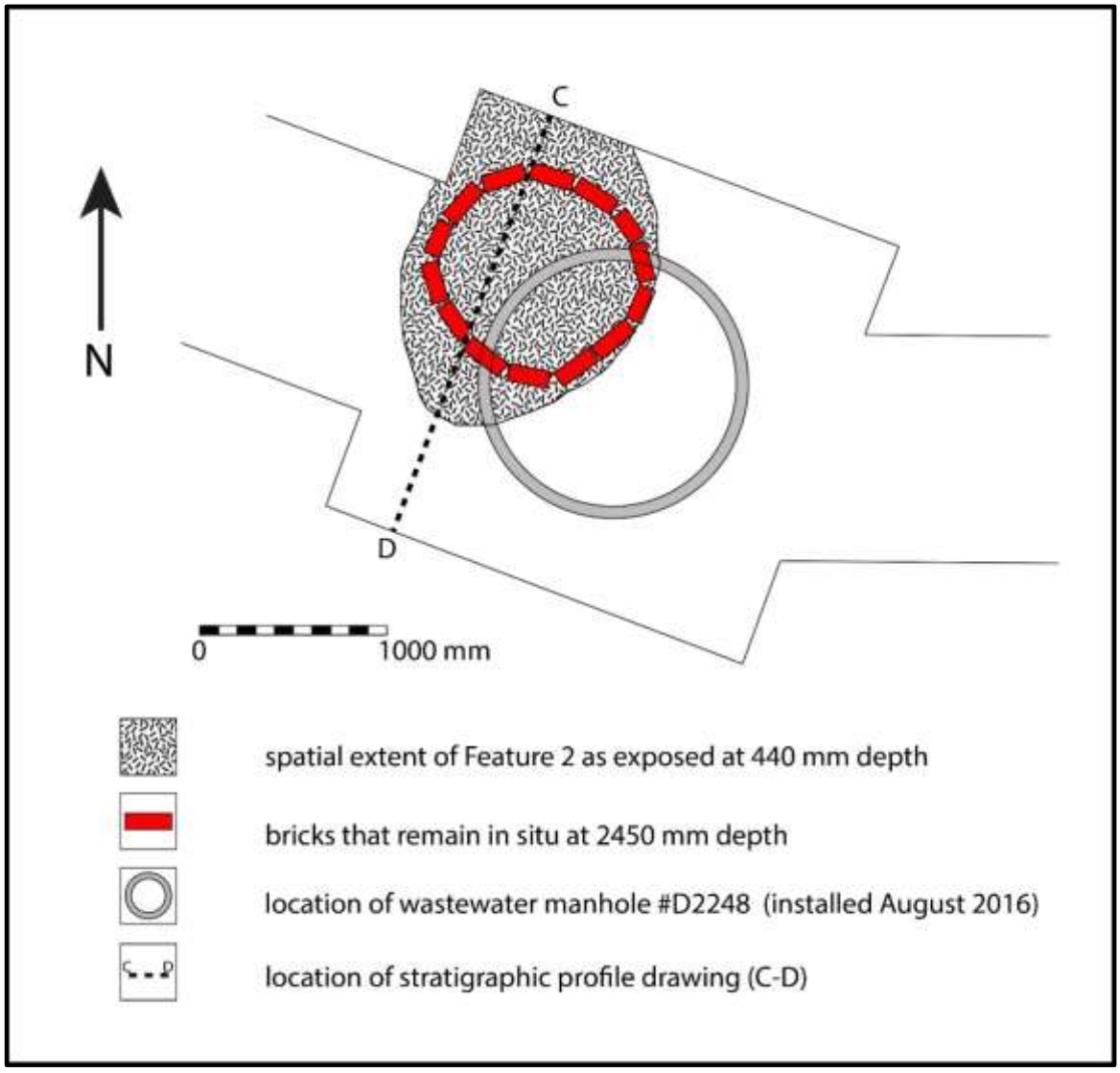

Figure 12. Plan of the 2.4 m x 2.4 m excavated area where Feature 2 was uncovered, showing the spatial extent of the infill rubbish deposit as first exposed at a depth of 440 mm, location of stratigraphic profile drawing and location of the brick lined portion of the well that remains in situ below 2450 mm depth in relation to the installed manhole. Image: Hamish Williams.

Figure 13. The top of Feature 2 (black ashy staining) as exposed immediately below the bidim cloth at a depth of 440 mm, looking southeast.

Figure 14. The upper portion of Feature 2, as exposed at a depth of 500 mm. North is at top of image.

Figure 15. The northern side of Feature 2, in section, looking south. Note the black charcoal and ash stained fill matrix, and the in situ (albeit displaced) bricks from the lining of the well.

Figure 16. The black charcoal and ash stained fill matrix of Feature 2 at a depth of 760 mm. North is at top of image.

Figure 17. The brick lining of the well as first exposed at a depth of 1520 mm. North is at top of image.

Figure 18. Looking northwest across the excavated area showing the first of the bricks that lined the well, exposed at a depth of 1520 mm.

Figure 19. Representative section of the six uppermost remaining courses of bricks that lined the well. These had been laid dry without any mortar.

Figure 20. The brick lining of the well that remains in situ at a depth of 2450 mm. East is at top of image.

The stratigraphy as recorded during the course of the investigation of Feature 2 (Figure 21) comprised the following strata:

1. The first stratum was a layer of asphalt and was 66 mm in depth. This layer was laid down subsequent to the 2011 earthquake.

2. The second stratum was a layer of AP 40 aggregates and 440 mm thick. This hard fill base course layer was laid down subsequent to the 2011 earthquake.

3. The third stratum was a layer of bidim cloth of 2 mm thickness. This capped the natural sandy substrate and the top of the Feature 2 and was laid down subsequent to the 2011 earthquake.

4. The fourth stratum was the 19th century fill deposit from the well, and was of 1100 mm maximum thickness. This fourth stratum comprised mostly a charcoal and ash stained sandy fill containing 19th century artefacts, with smaller deposits off the southern side of the feature comprising charcoal flecked, ash stained, and redeposited natural grey sand (these did not contain artefacts). This fourth stratum was deposited in the 19th century after the well was abandoned and the bricks salvaged.

5. The fifth stratum was a layer of dark grey silt exposed at a depth of 1520 mm within the brick lined lower portion of the well, and was at least 900 mm thick, extending to the base of excavation (2450 mm depth). 19th century artefacts were recovered from the upper 180 mm of this silt layer only. Not dissimilar in appearance to earthquake related liquefaction silt, it is possible that this layer was of natural deposition, possibly representing intrusive liquefaction silt which filled the bottom the well as a result of 19th century earthquake activity. The bottom of this fifth stratum was not reached.

6. The sixth stratum was a layer of compact grey sand, which was the natural substrate and extended to the base of excavation. Feature 2 had been dug down into this natural layer. The bottom of this layer was not reached.

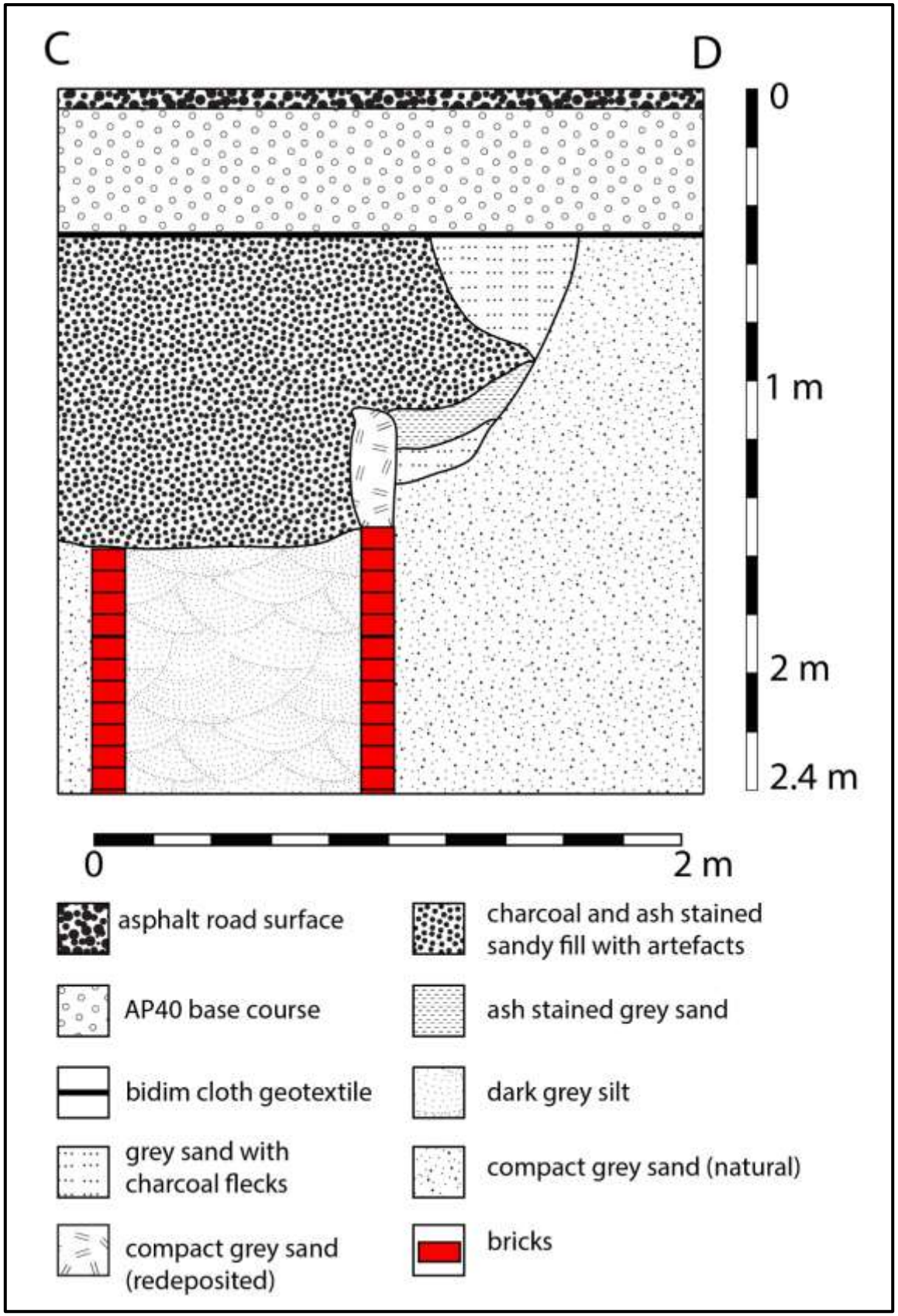

Figure 21. Stratigraphic profile drawing (C-D) through Feature 2, the brick lined well. The location of this stratigraphic drawing is shown on Figure 12.

Feature 3

Feature 3 was a 19th century rubbish deposit of glass, ceramic, and faunal material that was exposed below the southeast end of the roadway on 22 August (Figure 22, Figure 23, and Figure 24). The top of the feature (which extended over a 1.6 m x 1.8 m area) was exposed at a depth of 440 mm, immediately below the bidim cloth, and extended to a depth of 840 mm. The stratigraphy exposed in this location, along with the large size of the feature and the absence of any clearly defined edges to the feature, supported the interpretation that it was a *surface accumulation* (Butcher and Smith 2010: 56), with the artefacts possibly discarded in a shallow gully or similar low spot that had been filled in, possibly as a single deposition event. The fill matrix of the featured was a ferrous stained grey sand that contained ash, charcoal, and 19th century artefacts (Figure 25 and Figure 26). Part of Feature 3 remains in situ immediately west of the excavated area, and thus the maximum spatial extent of this deposit as it was observed to extend in this direction is not known.

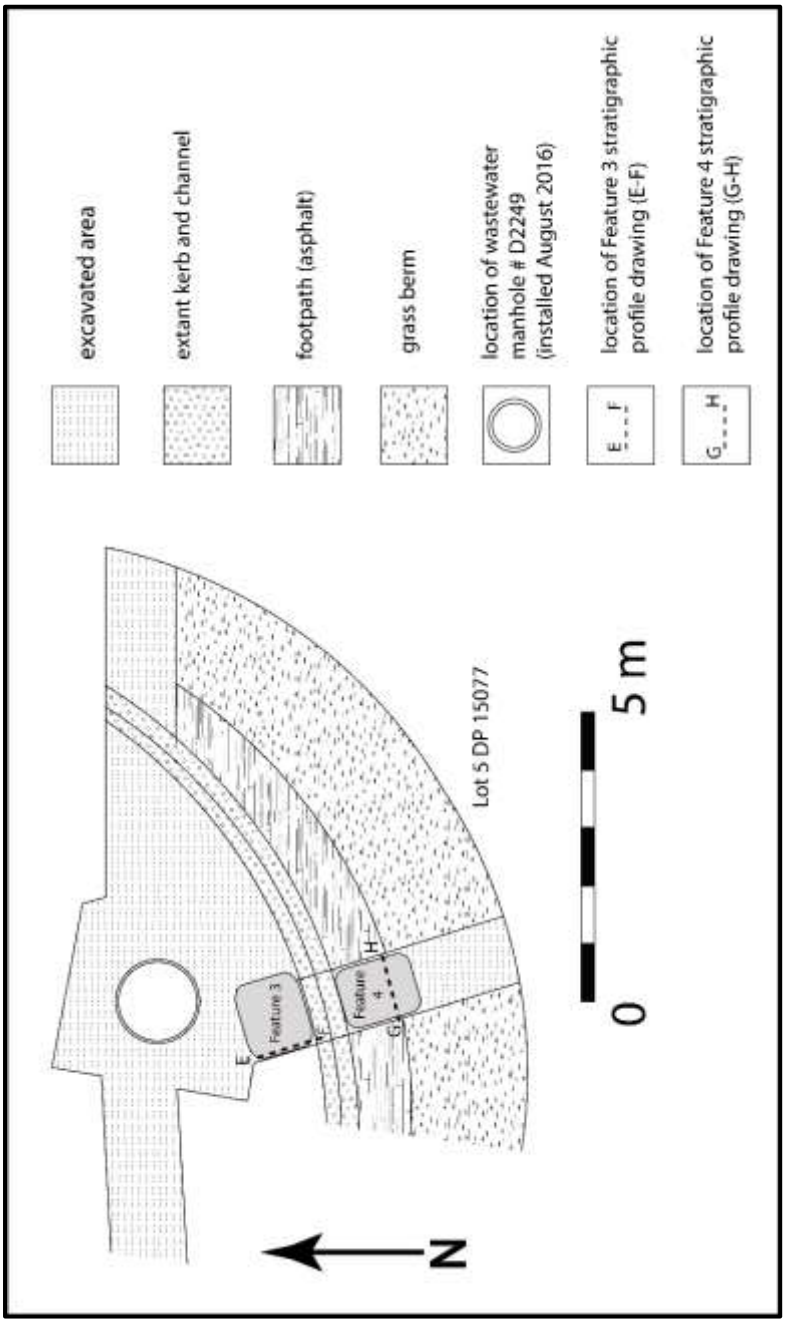

Figure 22. Site plan of the southeast end of the Sorensens Place excavated area, showing the location of Features 3 and 4.

Figure 23. Looking northeast across the Sorensens Place works area, with the location of Feature 3 highlighted.

Figure 24. Feature 3, as first exposed at a depth of 440 mm. West is at top of image.

Figure 25. Feature 3 as excavated to a depth of 700 mm. West is at top of image.

Figure 26. Blue transfer printed tablewares as exposed in Feature 3 at a depth of 600 mm, looking west.

The stratigraphy exposed during the investigation of Feature 3 (Figure 27) comprised the following strata:

1. The first stratum was a layer of asphalt and was 60 mm in depth. This layer was laid down subsequent to the 2011 earthquake.

2. The second stratum was a layer of AP 40 aggregates and was up to 360 mm thick. This hard fill base course layer was laid down subsequent to the 2011 earthquake.

3. The third stratum was a layer of bidim cloth of 2 mm thickness. This capped the natural sandy substrate and the top of Feature 3 and was laid down subsequent to the 2011 earthquake.

4. The fourth stratum was the Feature 3 fill deposit in the suspected gully, comprising a ferrous stained grey sand that contained ash, charcoal, and 19th century artefacts. This layer was up to 500 mm thick.

5. The fifth stratum was a layer of compact grey sand, which was the natural substrate and extended to the base of the excavation. The base of this layer was not reached.

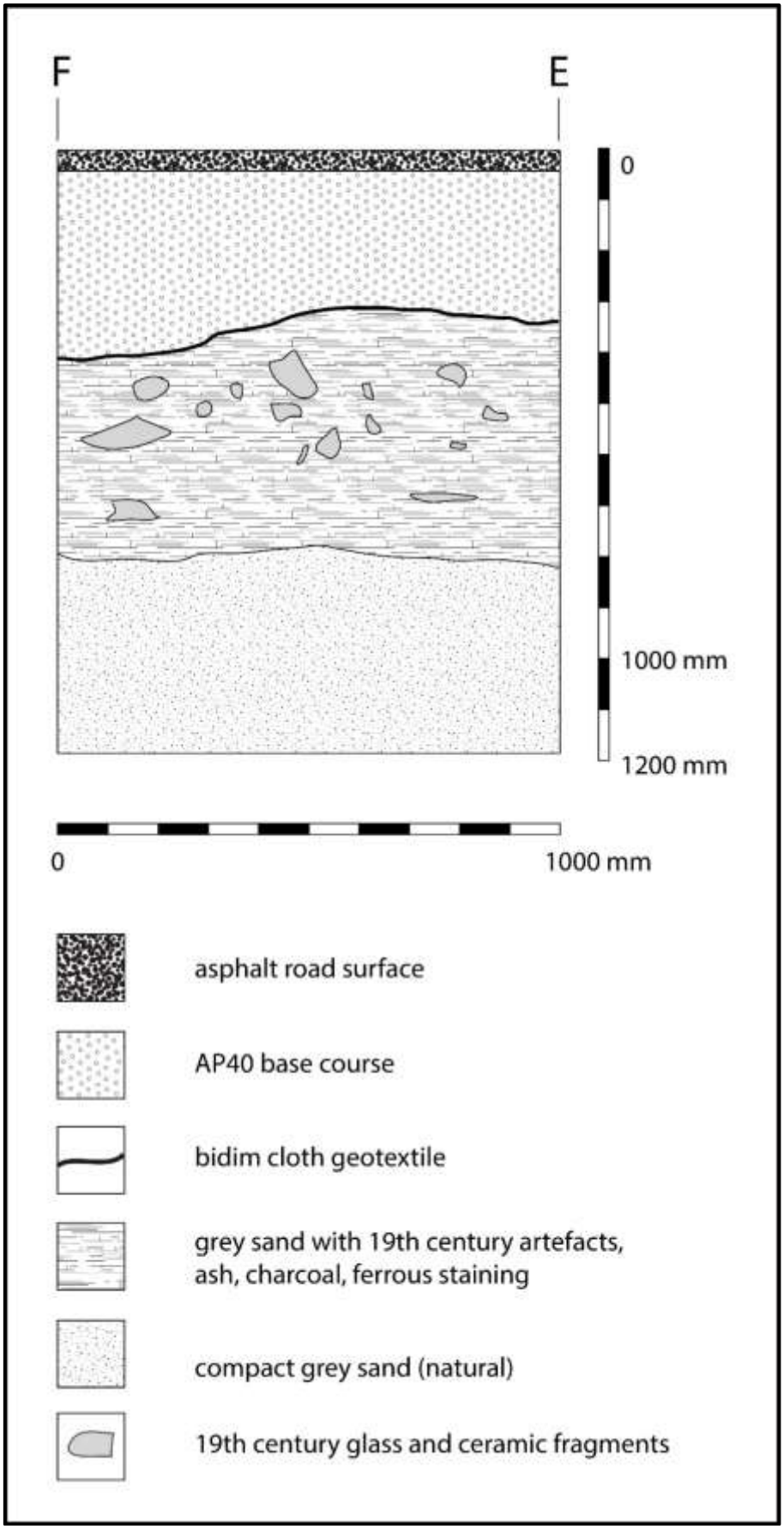

Figure 27. Stratigraphic profile drawing (F-E) through representative section of Feature 3, as exposed in the western baulk of the excavation.

Feature 4

Feature 4 was exposed on 25 August 2017 during the course of hydro excavating a 1.1 m wide lateral connection trench through the footpath and grassed berm at the southeast end of the works area (Figure 28 and Figure 29). Located 1.2 m south of Feature 3, Feature 4 was interpreted as a *surface accumulation* (Butcher and Smith 2010: 56), having seemingly been discarded in a gully or other natural low spot, possibly as a single deposition dumping event. Exposed at a depth of 260 mm and across an area measuring 1.1 m x 1.5 m in size, Feature 4 contained glass, ceramic, metal and textile artefacts as well as faunal material and extended to a maximum depth of 1100 mm (Figure 30 and Figure 31). This refuse had been capped by layers of both ash stained and clean sand. Thin lenses or bands of brown ferrous staining were also observed running through the deposit. This banding may be indicative of degraded ferrous items that had been discarded during the course of this area being filled in (Figure 32). With the exception of fragments of a metal cooking pot exposed at a depth of 980 mm, all the artefact material from along this trench was recovered according to two arbitrary layers, Layer 1 to 600 mm depth and Layer 2 600 to 1200 mm depth. Artefact material that was observed in both the eastern and western baulks of this trench was left in situ, and the maximum spatial extent of this deposit is not known.

Figure 28. The lateral trench where the Feature 4 rubbish deposit was uncovered under hydro excavation, looking southeast.

Figure 29. Chamber pot and black glass bottle as first exposed at the top of Feature 4, looking south.

Figure 30. Brick, bone, and leather shoes exposed in Feature 4 at a depth of 500 mm. South is at top of image.

Figure 31. Brick, black glass bottle, greywacke cobble and metal cooking pot fragment exposed in Feature 4 at a depth of 980 mm. South is at top of image.

Figure 32. Feature 4 as excavated to a depth of 1200 mm, looking south. Note the ferrous banding that runs through the feature. A stratigraphic profile was drawn of this.

The stratigraphy exposed during the investigation of Feature 4 (Figure 32 and Figure 33) comprised the following strata:

1. The first stratum was a layer of footpath asphalt and was 40 mm thick. This layer was laid down subsequent to the 2011 earthquake.

2. The second stratum was a layer of AP 20 aggregates and was up to 220 mm thick. This hard fill base course layer was laid down subsequent to the 2011 earthquake.

3. The third stratum was a layer of redeposited compact natural grey sand that had been deposited in the gully or low spot. Up to 560 mm thick, this fill deposit contained 19th century artefacts (Feature 4).

4. The fourth stratum was a layer of ash stained grey sand that contained 19th century artefacts and ferrous banding (Feature 4). This fill deposit was up to 850 mm thick.

5. The fifth stratum was a layer of compact grey sand, which was the natural substrate and extended to the base of the excavation. The base of this natural layer was not reached.

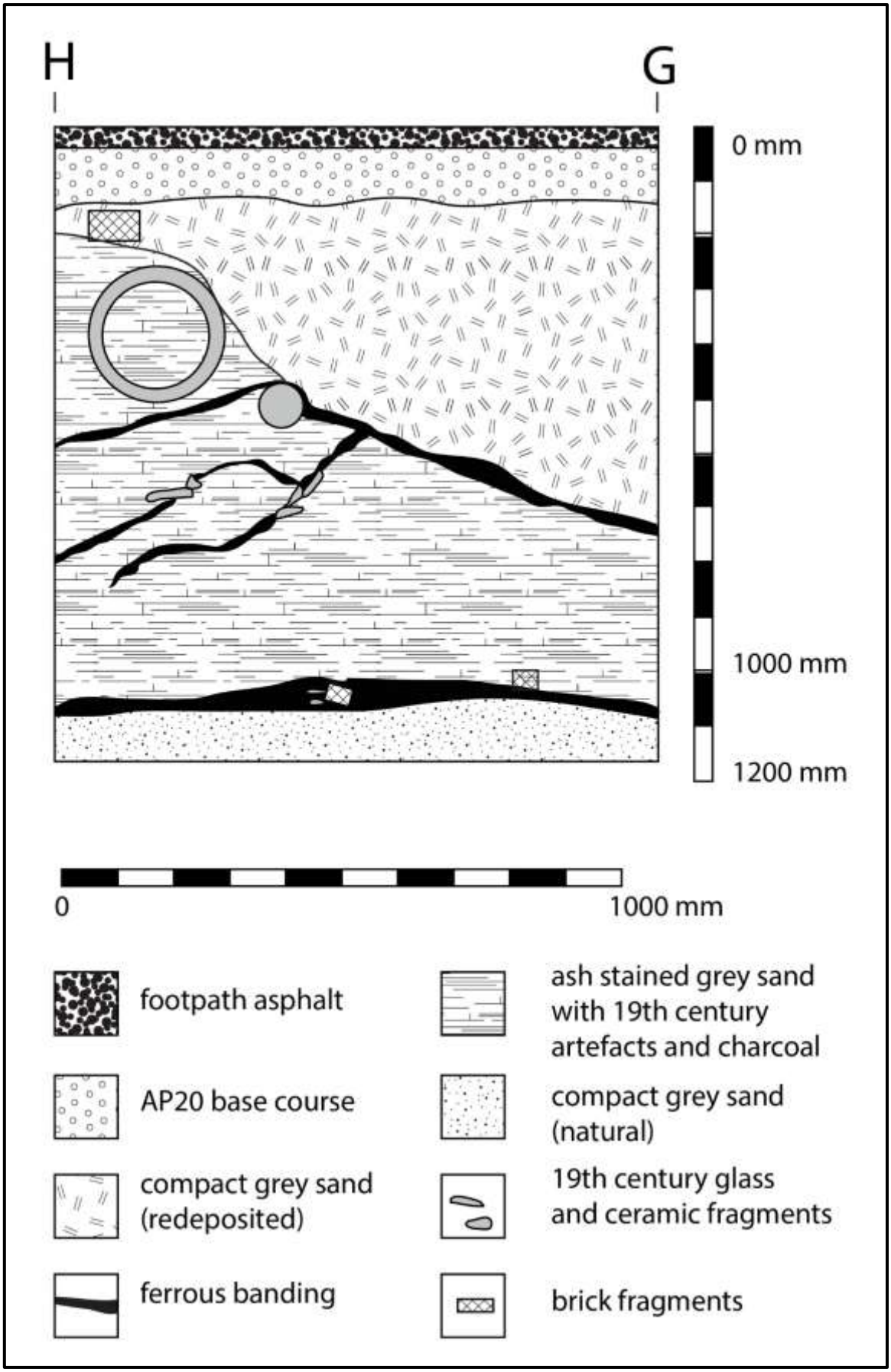

Figure 33. East-west orientated stratigraphic drawing through Feature 4 (G-H). Image: Hamish Williams and Shana Dooley.

ARTEFACT ANALYSIS[3]

A total of 293 artefacts, from 700 fragments, were excavated from Sorensens Place, including ceramic, faunal, glass, metal and other objects (Table 1 and). The number of fragments indicated a high level of fragmentation, particularly among the ceramic artefacts, many of which could be refitted. Items were initially classified according to material class (ceramic, faunal, glass, metal, miscellaneous, shoes, textiles) before being identified to individual types and forms. Details of the analytical methods used during this process are provided in Appendix 1. The assemblage was then quantified by the number of individual specimens present (NISP), from which a minimum number of vessels (MNV) or individuals (MNI) was calculated (there is a full list of the artefacts in Appendix 2).

Table 1. Total NISP and MNI of artefacts from Sorensens Place, listed according to material.

Material	NISP	MN
Ceramic	309	70
Faunal	109	81
Glass	178	94
Metal	6	5
Miscellaneous	39	28
Shoes	58	14
Textiles	1	1
Total	**700**	**293**

Table 2. Total NISP and MNI of artefacts from Sorensens Place, listed according to feature provenance.

Feature	NISP	MN
F1	46	28
F2	252	109
F3	276	91
F4	126	61
Total	**700**	**293**

Feature 1

Feature 1 was a domestic rubbish pit. The nature of the fill was suggestive of fireplace clearance and later rubbish dumping. A total of 28 artefacts were recovered from this feature, represented by 46 fragments. These artefacts included ceramic, faunal, glass, metal and other items (Table 3).

Table 3. Total NISP and MNI of artefacts from Feature 1, listed according to material.

Feature 1	NISP	MN
Ceramic	14	9
Faunal	21	8
Glass	5	5
Metal	2	2
Miscellaneous	2	2
Bricks	2	2
Total	**46**	**28**

Ceramic

Nine ceramic vessels were found in Feature 1, all of which were decorated tea and table wares. These whitewares comprised one saucer, plates in several sizes including one side or small plate and one probably serving bowl and unidentified hollow-wares (Table 4).

[3] Artefact analysis by Maria Lillo Bernabeu.

Table 4. Ceramic artefacts from Feature 1, listed according to body type, ware type, functional class and artefact form.

Body Type	Ware	Function	Form	MNI
ew-r	ww	table ware	plate	4
			plate/serving bowl	1
			side/small plate	1
			unid hollow-ware/small bowl?	1
		tea ware	saucer	1
		tea/table ware	unid hollow-ware/small bowl?/teacup?	1
Total				**9**

Blue underglaze transfer printing was the most common technique used to decorate these vessels, although there was one black and one grey transfer printed teacup and plate respectively (Table 5 and Figure 34). Most of them were Willow patterned vessels. The Willow pattern was a popular chinoiserie pattern based on late 18th Chinese motifs (Samford 1997: 7) and one of the most common found on 19th archaeological sites. Dinner sets in the Willow pattern would have been relatively inexpensive during the 19th century, providing a cheap yet tidy option for the service of meals. The other ceramic vessels displayed floral and foliage motifs across the rim and marly as well as landscapes combined with architecture elements. No marks were noted on these ceramics.

Table 5. Decorated artefacts, listed according to decorative technique, pattern name/motif, artefact form and ware type.

Body Type	Pattern Name/Motif	Form	Ware	MNI
ugtp	unid: floral/foliage	plate	ww	1
		saucer	ww	1
	unid: landscape/architecture	plate	ww	1
		unid hollow-ware/small bowl?/teacup?	ww	1
	Willow	plate	ww	2
		plate/serving bowl	ww	1
		side/small plate	ww	1
		unid hollow-ware/small bowl?	ww	1
Total				**9**

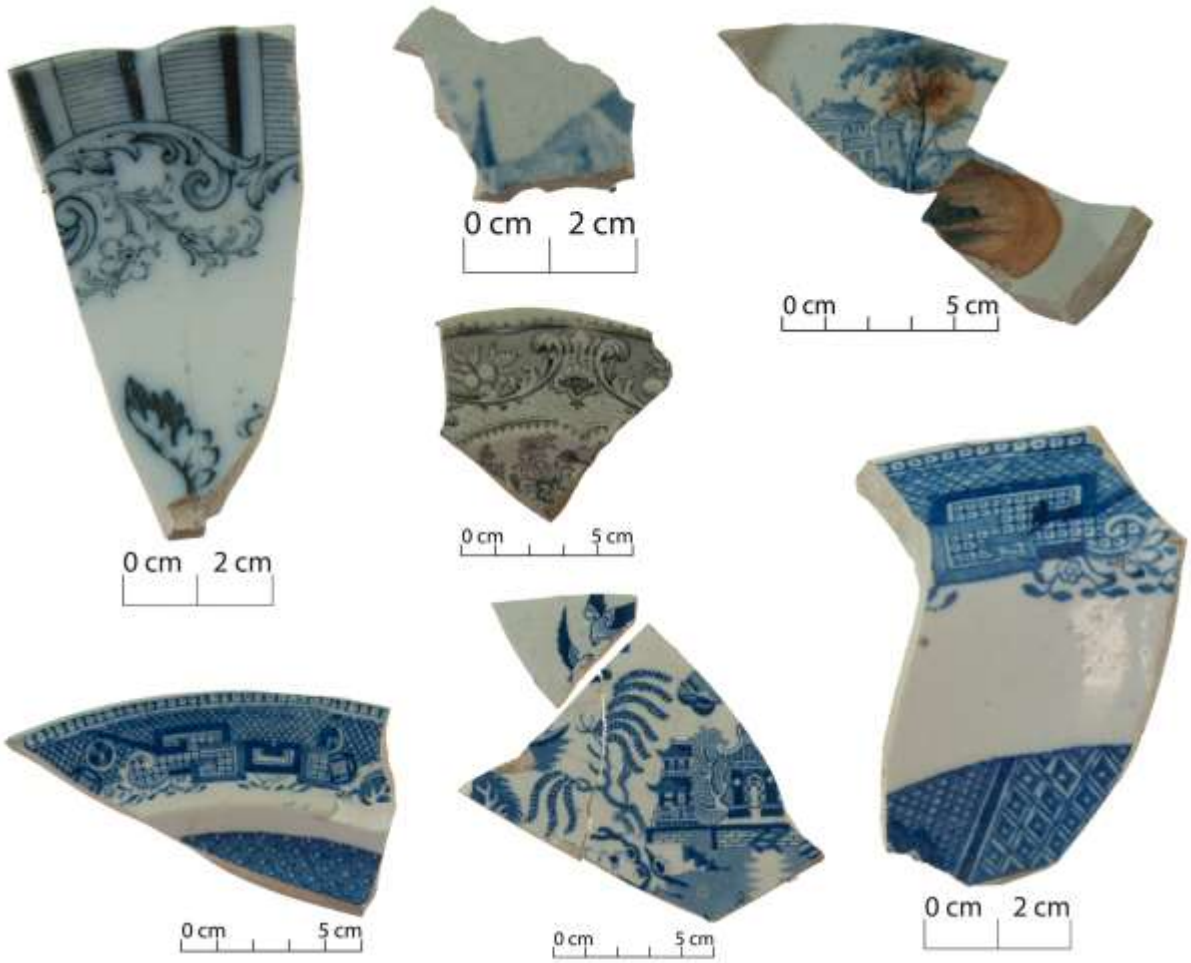

Figure 34. Ceramic artefacts from Feature 1. Top row from left: black transfer printed teacup (SCIRT50-C-14), small blue transfer printed fragment (SCIRT50-C-8), grey decorated plate featuring floral and foliage motifs (SCIRT50-C-15), unidentified hollow-ware decorated with blue tree and buildings (SCIRT50-C-13). Bottom row from left: Willow patterned plates and small bowl (SCIRT50-C-10, C-9 and C-11).

Faunal

A small assemblage of animal bones was recovered from Feature 1, all of which is likely to have been food waste. The species represented were cow, pig, and sheep, with sheep bones the most common (Table 6).

Table 6. Faunal material from Feature 1, listed according to species common name and element.

Species common name	Element	MNE
cow	lumbar vertebra	1
	rib	1
pig	mandibula	1
sheep	humerus	2
	sacrum	1
	tibia	1
	teeth	1
Total		**8**

Seven butchery units were represented, two cow, one pig and four sheep (Table 7). The fore and hindshanks were relatively cheap cuts of meat, typically used for soups, stocks or stew. Most of the cuts of pork were inexpensive cuts, including the leg, the cheek and trotter (Colley 2004). There were

no butchery marks on these animal bones and it was not possible to establish the age of the animals that were eaten.

Table 7. Faunal material, listed according to species common name and butchery units.

Species common name	Butchery unit	MNE	MNBU
cow	chuck/loin	1	1
	loin	1	1
pig	skull	1	1
sheep	foreshank	2	1
	hindshank	1	1
	rump	1	1
	skull	1	1
Total		**8**	**7**

Glass

Five small glass fragments were found in Feature 1 (Table 8 and Figure 35). Two of these were forest green coloured, which might have been part of ring seal wine/beer bottles. One wide mouth jar or bottle was also identified from the light aqua green finish recovered and one cut panelled fragment, likely part of a tumbler. Additionally, one round cross-sectioned aqua green bottle was encountered. The base fragment had a registration diamond embossed on the base. The mark was so faint as to be illegible, although a number was discernible on the right corner, indicating a registration date between 1842 and 1867 (Brooks 2005: 74). This fragment, most of which had a registration diamond embossed on the base, was probably part of a salad oil bottle.

Table 8. Glass artefacts from Feature 1, listed according to material class and common name.

Class	Common name	MNV
alcohol?	ring seal?	1
storage	wide mouth bottle/jar	1
table ware	stemware	1
condiment	salad oil	2
Total		**5**

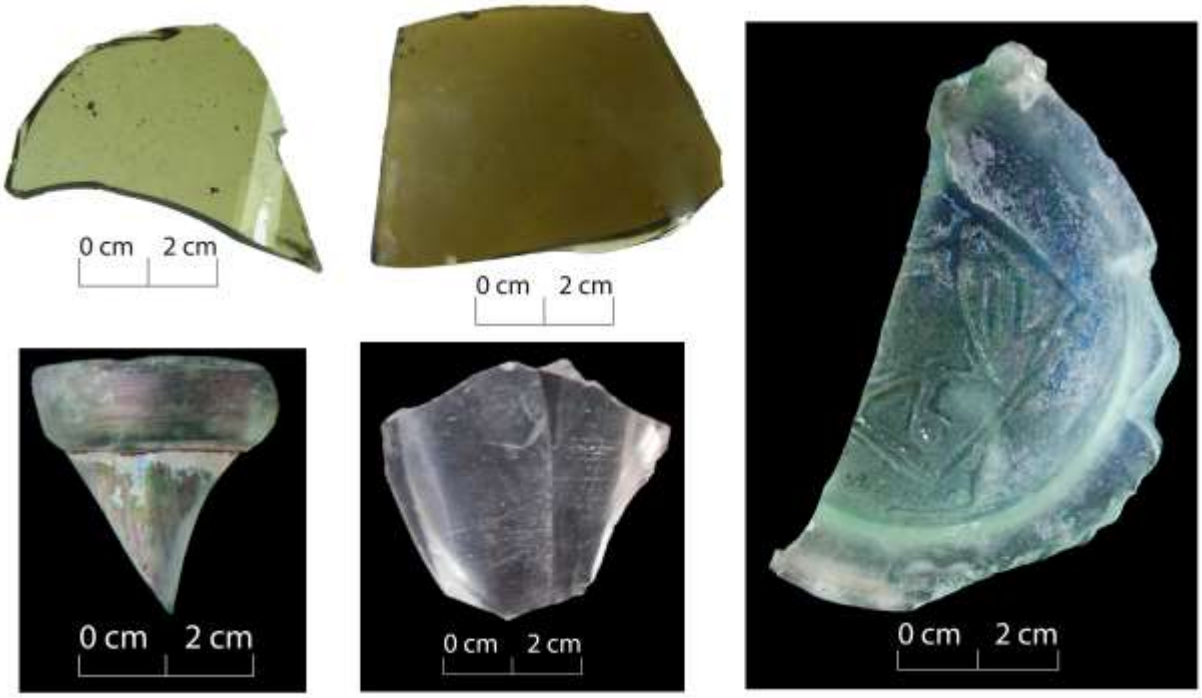

Figure 35. Glass artefacts from Feature 1. Clockwise from left: forest green body fragments (SCIRT50-G-20 and G-22), aqua green light bottle with a registration diamond embossed on the base (SCIRT50-G-21), cut panelled tumbler (SCIRT50-G-18) and wide mouth jar or bottle finish (SCIRT50-G-19).

Metal

Two ferrous artefacts were recovered from Feature 1, both of which were heavily rusted but have been tentatively identified as door hardware (Table 9).

Table 9. Metal artefacts from Feature 1, listed according to material class and artefact form.

Material	Class	Form	MNI
ferrous	door hardware?	handle/thumb latch?	1
		lock or hinge?	1
Total			**2**

One of the artefacts was a fragment of strip metal (Figure 36). The second ferrous artefact was a curved handle, which might have been part of a latch for holding a door closed (Figure 36). However, the handle may also have been part of a piece of furniture, kettle or other metal container. It is difficult to know for certain due to the condition of the fragments.

Figure 36. Ferrous elements from Feature 1: rectangular shaped artefact (SCIRT50-M-1) and handle (SCIRT50-M-2).

Miscellaneous

Other items were exposed within Feature 1, consisting of two small fragments from a hand-pressed bricks, one coal fragment and one unidentified burned fragment that contained stones, coal and metal (Figure 37).

Figure 37. Other items found in Feature 1. Clockwise from left: brick fragments (SCIRT50-B-1), coal (SCIRT50-MC-18) and unidentified burned material (SCIRT50-MC-17).

Feature 2

Feature 2 was a rubbish filled brick lined well, containing a total of 112 artefacts represented by 254 fragments. These artefacts included ceramic, faunal, glass, and other items (Table 10).

Table 10. Total NISP and MNI of artefacts from Feature 2, listed according to material.

Feature 2	NISP	MN
Ceramic	100	28
Faunal	37	28
Glass	72	32
Miscellaneous	21	12
Shoes	21	8
Textiles	1	1
Total	**252**	**109**

Ceramic

A total of 28 ceramic vessels were found in Feature 2, most of which were whitewares, the most common form of refined earthenware found on archaeological sites from the latter half of the 19th century. Other body and ware types were also noted, such as creamware, semi-vitrified whiteware, bone china and stoneware vessels (Table 11).

The ceramic assemblage included a range of forms and functions, including tea and table wares and household and storage items. Most of them consisted of vessels from which food is consumed or served (dinner plates, plates, bowls, hollow-wares). The predominant decorative technique was underglaze transfer printing, although painting and moulding were also present (Table 12).

Table 11. Ceramic artefacts from Feature 2, listed according to body type, ware type, functional class and artefact form.

Body Type	Ware	Function	Form	MNI
ew-r	cw	table ware	unid hollow-ware	1
	yw	tea ware	saucer	1
	sv-ww	table ware	dinner plate	2
	ww	table ware	bowl	1
			jar	1
			plate	9
			plate?	1
			serving bowl	1
			small bowl	1
			unid hollow-ware	1
		tea ware	coffee can	2
			saucer	3
			teacup	1
spp	bc	tea ware	teacup	1
st	pgst	household	spouted syphon finish, ink bottle	1
		household/storage	lid	1
Total				**28**

Table 12. Decorated artefacts, listed according to decorative technique, pattern name/motif, artefact form and ware type.

Decorative Technique	Pattern Name/Motif	Form	Ware	MNI
gilt painting	unid: bnd	teacup	bc	1
moulding/painting	unid: Greek key	unid hollow-ware	cw	1
moulding/ugtp	unid: vine leaves	plate	ww	1
painting	unid: bnd	saucer	ww	1
ugtp	Asiatic Pheasants	plate	ww	2
		teacup	ww	1
	Marble	small bowl	ww	1
	Rhine	plate	ww	2
	Florence	saucer	ww	1
	unid: floral/foliage?	plate?	ww	1
	unid: ribbon floral/foliage	saucer	ww	1
	unid: tree	plate	ww	1
	Willow	plate	ww	3
		serving bowl	ww	1
		unid hollow-ware	ww	1
Total				**19**

Tea wares included one yellow-ware saucer, one gilt banded bone china teacup and one red banded saucer. The other vessels were underglaze transfer printed (Figure 38). Two patterns were identified, in the form of one Asiatic Pheasants teacup and one Florence patterned saucer. The former is one of the most ubiquitous patterns found on 19th century historical sites though New Zealand and elsewhere around the world. It is easily identifiable by its floral border and central scene with one or more pheasants depicted among a floral arrangement. It is usually found in a pale blue colour although it is also transfer printed in black as this example shows. The Florence pattern was a border motif with a small accompanying design in the centre of the base, featuring ribbons and small chevrons on the rim (Transferware Collector's Club 2017). This saucer had ´SCOTT´ impressed on the base, likely referring to A. Scott and Co./Sons, a Staffordshire pottery firm. ´SCOTT´ was used as a mark from 1838 until the 1890s (Godden 1991: 587). Unidentified motifs featured repeating ribbon elements and a floral and foliage pattern were noted on the rim of one of the saucers. Although produced earlier in the century,

these rim-only patterns became increasingly popular towards the end of the 19th century (Samford 1997: 6, 16) and they tend to be predominant on Christchurch sites from the late 1870s onwards.

Figure 38. Tea wares encountered within Feature 2. Top row from left: yellow-ware saucer (SCIRT51-C-17), floral and foliage cable decorated saucer (SCIRT51-C-40) and gilt banded bone china teacup (SCIRT51-C-18). Bottom row: Florence patterned saucer with the Scott impressed mark on the base (SCIRT51-C-32), red banded saucer (SCIRT50-C-2) and Asiatic Pheasants patterned teacup (SCIRT51-C-25).

Several forms and decorations were identified among the table wares from Feature 2 (Figure 39). The assemblage contained a few undecorated hollow-wares and a range of blue transfer printed plates and bowls. One unglazed whiteware vessel was also recovered, which was painted in yellow, green and orange featuring geometric and repetitive Greek key elements. The unidentified blue patterns from the small fragments bore foliage motifs. The assemblage is dominated by the presence of scenic or sheet patterns covering most or all of the vessel, styles which are characteristic of mid-19th century ceramic consumption (Garland et al. 2015, Samford 1997).

A number of recognisable patterns were identified, including the Asiatic Pheasants, Willow, Rhine and Marble patterns (Figure 39). At least one dinner set was noted, including five Willow patterned vessels (three plates, one bowl and one unidentified hollow-ware vessel). Rhine was another particularly common pattern, identified through its distinct stylised rim border and romantic central scenes (Coysh and Henrywood 1983: 300-301). It is most often found in grey, although is it has also been found in archaeological assemblages in blue, black and green. Marble was a sheet pattern so called based on its similarity with marble stone and the veins on its surface.

Figure 39. Table wares from Feature 2. Top row from left: unidentified hollow-ware (SCIRT51-C-22), undecorated bowl (SCIRT51-C-21), small fragments from blue transfer printed plates (SCIRT50-C-1 and SCIRT51-C-39) and unglazed and painted hollow-ware (SCIRT51-C-27). Bottom row: Asiatic Pheasants plate (SCIRT51-C-35), Willow patterned bowl (SCIRT50-C-5) and plate (SCIRT51-C-37), Rhine plate (SCIRT51-C-24) and Marble patterned small bowl (SCIRT51-C-28).

A maker's mark was identified on the base of a semi-vitrified dinner plate (Figure 40). The printed mark read ROYAL VITRIFIED CHINA surrounding a scroll and KERR & CO / WORCESTER / ENGLAND within it, referring to Kerr and Binns Pottery (1852-1862). In 1852, Richard William Binns and William Henry Kerr, both Irish, took over the management of the Chamberlain and Company porcelain works in Worcester. In 1862 Kerr returned to Ireland and under the leadership of Richard Binns, the Worcester Royal Porcelain factory climbed to new heights of success (Antique Marks 2016; Godden 1991: 696).

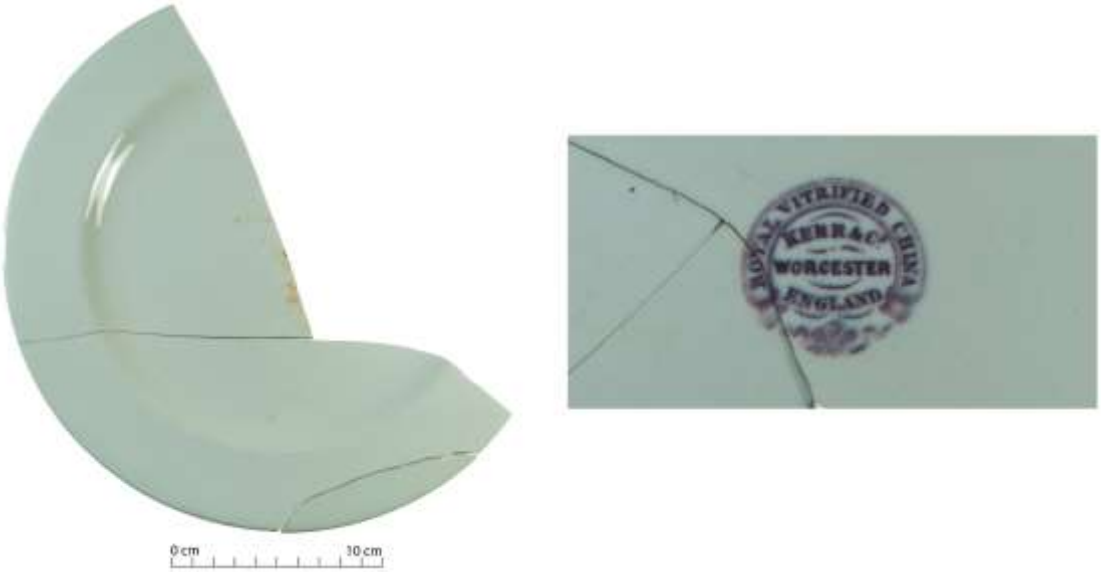

Figure 40. Undecorated dinner plate with the Kerr and Company printed mark on the base (SCIRT51-C-33).

Another maker's mark was impressed on the spouted stoneware ink bottle, which read BLACKWOOD & Co / PATENT / SYPHON on heel (Figure 41). The letters "O" and "Y" were also impressed on the body. Blackwood and Company were well-known ink bottle manufacturers, founded in 1843 (McGuinness 2013). They had premises at 26 Long Acre in London, before moving to 18 Bread Street at an unspecified date. The first mention of Blackwood inks in New Zealand newspapers was in 1861 (*Otago Witness* 25/05/1861: 4). The production of Blackwood inks continued until at least the 1920s (McGuinness 2013). The mark is often found on syphon ink bottles, so named thanks to their distinctive spouted syphon finish, designed to eliminate the need to remove a cork to open the bottle.

Figure 41. Spouted ink bottle (SCIRT50-C-3) and detail of the impressed mark on the body.

Faunal

Chicken, cow and sheep bones were recovered from Feature 2, all of which could have been food waste (Table 13).

These bones represented 11 butchery units (Table 14). The sheep fore and hindshank were the most common cuts, both of which are relatively cheap cuts of meat, typically used for soups, stocks or stew (Colley 2004). Most of the cow bones had marks, as evidence of being sawn and chopped. It was not possible to establish the age of death of any of the animals represented in this assemblage.

Table 13. Faunal material from Feature 2, listed according to species common name and element.

Species common name	Element	MNE
chicken	tarsometatarsus	2
cow	cervical vertebra	1
	radius	1
	rib	3
	sacrum	1
	vertebra	2
sheep	femur	2
	lumbar vertebra	1
	metacarpus	1
	metatarsus	1
	pelvis	4
	radius	2
	rib	2
	scapula	1
	tibia	3
	ulna	1
Total		**28**

Table 14. Faunal material, listed according to species common name and butchery units.

Species common name	Butchery unit	MNE	MNBU
cow	chuck/loin	4	1
	foreshank	1	1
	rump	1	1
	scrag of neck	2	1
sheep	chuck	3	1
	foreshank	4	2
	hindshank	6	3
	loin	5	1
Total		**26**	**11**

Glass

A total of 33 glass artefacts were exposed within Feature 2. A variety of functional classes were identified, such as alcohol, condiment, personal, household, pharmaceutical and table ware vessels. Fragments of window glass were also recovered (Table 15).

The majority of the alcohol bottles consisted of black beer bottles in several shapes and sizes (Figure 42). Most of these were 'quart' sized (identified as large squat or large bottles[4]). However, 'pint' sized (identified as small squat or small bottles) were also represented as well as two black porter bottles. Such differences in bottle size corresponded directly to the quantities in which beer and spirits were sold, both wholesale and in a retail context (Illinois Glass Catalogue 1906: 250; Lindsey 2017). Newspaper advertisements from the 1870s and 1880s suggest that quarts of beer sold for approximately 6-9 pence per bottle, depending on the variety of beer, the quantity purchased and where it was sold. Pint bottles appear to have cost roughly half that of quarts (*Evening Post* 8/6/1871: 3, 10/5/1880: 4). All the black beer bottles were made using dip moulds and no embossing or labelling was noted on them, making it difficult to determine the product that they originally contained. These bottles are known to have been used for beer and spirits such as whisky and gin (Garland 2016).

[4] Size measurements are provided in Appendix 1.

Table 15. Glass artefacts from Feature 2, listed according to material class and common name.

Class	Common name	MNV
alcohol	black porter	2
	black beer	2
	black beer (pint)	1
	black beer (quart)	4
	ring seal (Bordeaux)	2
	spirits	1
closure	stopper	0*
condiment	condiment/sauce	1
	sauce bottle	4
	pickle jar	1
personal	perfume?	1
household	lamp	3
pharmaceutical	oval pharmaceutical	1
structural	window glass	1
table ware	stemware	2
	tumbler	2
	unid hollow-ware/sugar bowl?	1
	unid hollow-ware?	1
unid	wide mouth bottle/jar, vase?	1
	ro c/s	1
Total		**32**

*MNV of 0, as stopper may belong with one of the other bottles in the feature.

Figure 42. Alcohol bottles found in Feature 2. Top row from left: black porter bottles (SCIRT51-G-34) and pint sized and quart sized black beers (SCIRT50-G-3 and G-1). Bottom row from: amber round sectioned bottle (SCIRT50-G-6) squat bottle (SCIRT50-G-5) and black beer finish (SCIRT50-G-4)

Apart from the black beers, alcohol bottles from this assemblage included three spirit shaped bottles in aqua green light colour (Figure 43). With the exception of the embossed bottle, these were made using a one-piece dip mould. The embossed bottle was made using a two-piece mould with a cup bottom. The embossing on the base read JOHN STEWART & CO KIRKLISTON, referred to John Stewart and Company. They were whisky distillers based at the Kirkliston distillery in West Lothian, Scotland, from 1855 until 1877. The Kirkliston distillery was established in 1795 and went through several owners. Stewart and Company took over the business in 1855, installing a Coffey still and converting it to a primarily grain based distillery. In 1877, John Stewart and Company was one of the six Scottish whisky distillers to form the Distiller's Company Ltd, who continued in business well into the 20th century, although Kirkliston ceased to operate as a distillery in the early 20th century (Townsend 2015).

Figure 43. Spirit bottles. Clockwise from top left: incomplete and complete ring seal (Bordeaux) bottles (SCIRT51-G-39 and G-33), embossed spirit bottle referring to John Stewart and Company from Kirkliston (SCIRT51-G-38).

The non-alcoholic bottles from Feature 2 were several condiment bottles and two oval aqua blue bottles, probably used for pharmaceutical purposes (Figure 44). One unidentified amber round sectioned bottle and one wide mouth jar in clear glass were also found (Figure 44). Condiment bottles included panelled and press moulded body shapes. The complete example was identified as a salad oil bottle. Salad oil typically came in tall slender bottles, often with embossed or moulded decorated bodies. Such bottles were often decorated due to their presence at the dinner table or in order to associate a product with particular manufacturers (Campbell et al. 2009: 214).

As well as the embossed whisky bottle, two sauce bottles had the embossing WORCESTESHIRE SAUCE around the shoulder and LEA & PERRINS down the side (Figure 45). Lea and Perrins is one of the most commonly found condiment bottles from 19th century sites in New Zealand and it has been one of the most popular sauces in New Zealand since at least 1852 (Tasker 1989: 88). The letters A C B & Co embossed on the base refer to the Aire and Calder Glass Bottle Company, a branch of the E. Breffit and Co. glassmaking company established in the mid-19th century. Breffit and Company appears to have acquired the factory and begun manufacturing glass under the name of Aire and Calder by at least the 1860s, possibly earlier. The company became associated with the manufacture of Worcestershire sauce and other company bottles during the mid-late 19th century (Lockhart et al. 2015, Toulouse 1971: 79).

Figure 44. Other bottles from Feature 2. Clockwise from left: salad oil bottle (SCIRT51-G-32), pickle jar (SCIRT50-G-6), and oval pharmaceutical bottle (SCIRT51-G-29).

One perfume bottle was found, identified as such from the embossing, which read E RIMMEL / LONDON (Figure 45). The company was started in 1834, when Eugene Rimmel became his father's apprentice at his newly opened perfumery in London. By the age of 24, Eugene was an expert perfumer and cosmetic maker, and opened his own flagship store in Regent Street. When he died, in 1887, his two sons took over the business (*Guardian* 23/1/2012). The company became one of the most successful cosmetics companies of the 19th century: their products included a range of cosmetics, hair products, personal hygiene products and perfume vaporises, scents and toilet waters, all of which were widely advertised in New Zealand newspapers from 1852 well into the 20th century (*Daily Southern Cross* 24/9/1852: 1, *Nelson Evening Mail* 28/3/1884: 1, *Press* 14/12/1937: 11).

Table 16. Embossed bottles, listed according to common name, embossing, manufacturer and date range.

Common name	Embossing	Manufacturer	Date	MNV
spirits	JOHN STEWART & CO KIRKLISTON	John Stewart and Company	1855-1877	1
stopper	LEA & PERRINS	Lea and Perrins	1852+	0
sauce bottle	LEA & PERRINS on body / A C B Co	Aire and Calder Bottle Company	1852+	2
	WORCESTERSHIRE SAUCE on shoulder / LEA & PERRINS on body / A C B Co	Aire and Calder Bottle Company	1852+	1
perfume?	E RIMMEL LONDON	Eugene Rimmel	pre-1887	1
Total				**5**

Figure 45. Embossed glass from left: Lea and Perrins Worcestershire sauce bottles with detail of the Aire and Calder Bottle Company base (SCIRT51-G-27), Rimmel cosmetic bottle (SCIRT50-G-15) and Lea and Perrins stopper (SCIRT51-G-28).

Glass tableware included three free blown tumblers, two of which were decorated with cut panels and mitres across the body. A press moulded bowl featuring a diamond pattern was also recovered as well as the foot of a vase and two stemmed wine drinking glasses. The function of the former was unclear, although it may have been used as a sugar bowl or celery vase. The two wine glasses were in an unusual shade of lime green with press moulded decoration on the half bottom part of the bowl displaying a diamond pattern. These were made from a form of glass known as uranium glass, 'canary' glass or 'vaseline' glass, containing oxide diuranate uranium as a colouring agent (Jones 2000: 147). It became popular during the mid-19th century, particularly from the 1880s until the 1920s (Jones 2000: 147, Oak Ridge Associated Universities 2009).

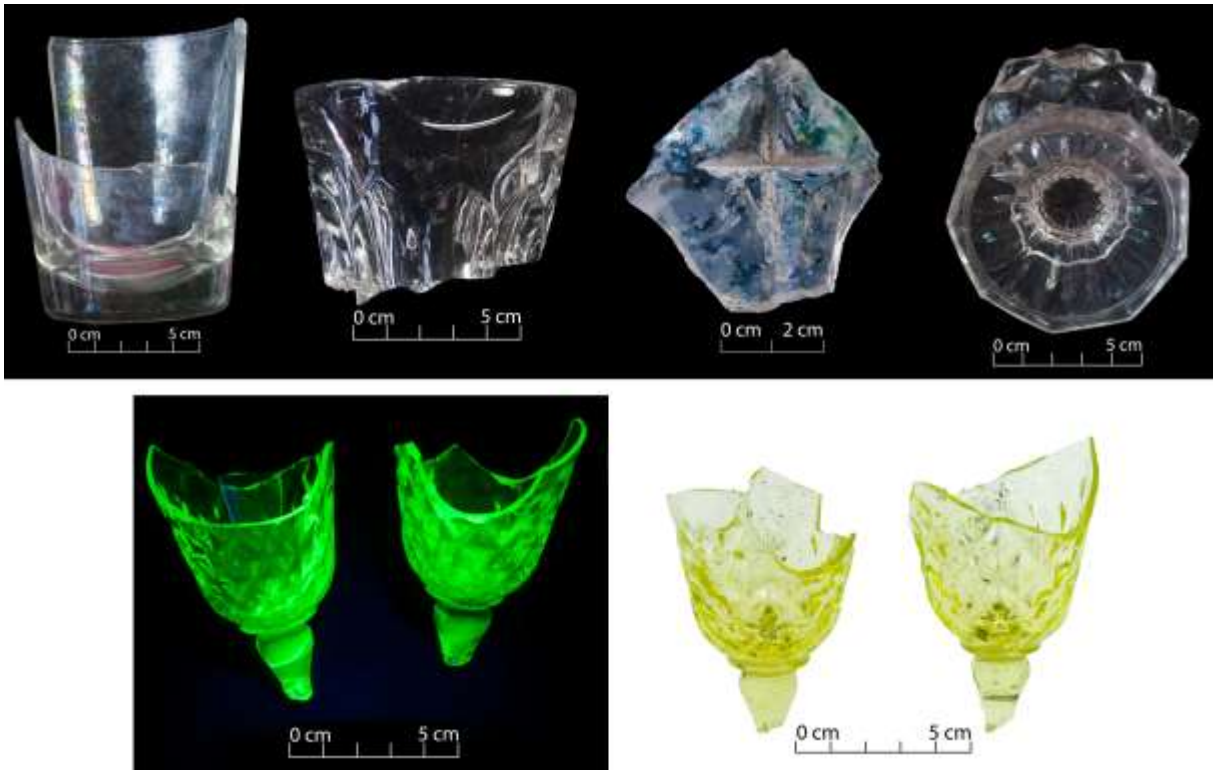

Figure 46. Glass table wares found in Feature 2. Top row from left: tumbler (SCIRT50-G-17), press moulded tumbler (SCIRT51-G-42), press moulded tumbler (SCIRT51-G-31) and sugar bowl or celery vase (SCIRT51-G-17). Bottom row: yellow lime uranium wine glasses (SCIRT51-G-23), shown under black light at left.

Several lamp chimneys were found, one of which was frosted and decorated. These are likely to have originally formed the glass chimneys from oil or gas lamps, either portable and fixed examples, a form of lighting in use for most of the 19th and much of the 20th century (Figure 47).

Figure 47. Lamp fragments recovered from Feature 2 from left: lamp chimney (SCIRT50-G-7), bottom of lamp chimney (SCIRT50-G-41 and frosted and decorated lamp chimney (SCIRT50-G-8).

Miscellaneous

Eleven other items were found in Feature 2, most of which were likely associated with structural elements, comprising a variety of materials such as slate, coal, plaster and conglomerate (Table 17 and Figure 48).

Among the miscellaneous artefacts from Feature 2, one bone toothbrush was encountered (Figure 49). The handle shape was unclear but the head was rounded square with four rows of bristle holes and the neck was gradual. The bristles were attached using the trepanning method. This type of toothbrush is usually associated with toothbrushes of English, French or Japanese manufacture (Mattick 2010: 42).

Table 17. Miscellaneous items from Feature 2, listed according to material class and artefact form.

Material	Artefact	MNI
bone	toothbrush	1
clay	smoking pipe	1
coal	coal	1
conglomerate	conglomerate	1
plaster	plaster	3
slate	slate	4
unid	plaster?	1
Total		**12**

Figure 48. Other items from Feature 2. Clockwise from top left: slate fragments (SCIRT50-MC-13), plaster fragments (SCIRT50-MC-12), unidentified artefact, probably plaster (SCIRT50-MC-16), conglomerate (SCIRT50-MC-14) and coal fragments (SCIRT50-MC-11).

Generally, toothbrushes were available in England from at least the 17th century, but they were uncommon until the end of that century. Many toothbrushes were imprinted with trademarks, slogans or details of the manufacturer from c. 1850 onwards. The rarity of this kind of find on archaeological sites might reflect the lack of dental hygiene in the 19th century, as well as the bad reputation of dentists and the cost of toothbrushes (Webb 2013).

Figure 49. Bone toothbrush (SCIRT51-MC-2).

One white clay smoking pipe was also recovered from Feature 5. The bowl was a slightly rounded cutty shaped and the stem indicated a pipe with half bent stem configuration (Figure 50). The stem had the

relief moulded and impressed mark of SQUATTERS OWN / C. CROP / LONDON in a twisted rope border. Charles Crop was a London pipe manufacturer operating between 1856 and 1891 (Museum Victoria 2017). His pipes are commonly found on archaeological sites in New Zealand and Australia (Ayto 1999: 14, Brassey 1991: 30, Macready et al. 1990: 57). 'Squatters Own' pipes were also found at the Victoria Hotel site in Auckland, examples which also included SYDNEY in the mark on the stem (Brassey and Macready 1994). Brassey (1991: 29) suggested that they may have referred to a hotel, as an example of merchandising using clay smoking pipes. Pipes known as 'Squatters Own Budgeree' or 'Squatters Budgeree' have been found on several sites in Australia, where they are often associated with depictions of European settlers and Aborigines on the bowl of the pipe. These pipes are well advertised in Australia and appear to be almost exclusively found in an Australasian context (Clough 2003: 131, Gojak and Stuart 1999). Similar pipes to this have been found on other Christchurch sites (Dodd 2012, Dodd and Hennessey 2012, Williams et al. 2016). Additionally, advertisements in New Zealand newspapers in the 1860s cautioned people against buying imitations of Crop's Squatters' Own pipes: this may suggest that Crop's version of the pipes were distinct from the Squatter's Own Budgeree pipes, but also indicates that they were popular enough to be counterfeited (*New Zealand Herald* 25/7/1865: 8).

Figure 50. White clay smoking pipe from Feature 2. Left side: C. CROP LONDON. Right side: SQUATTERS OWN (SCIRT51-MC-3).

Feature 3

Feature 3 was a rubbish deposit, possibly a surface accumulation, consisting of artefacts likely to have been discarded in a shallow gully or low spot that was later filled in. A total of 91 artefacts were found, represented by 276 fragments. The assemblage included ceramic, faunal, glass, metal and other items (Table 18).

Table 18. Total NISP and MNI of artefacts from Feature 3, listed according to material.

Feature 3	NISP	MN
Ceramic	140	19
Faunal	32	26
Glass	66	33
Metal	4	3
Miscellaneous	8	8
Shoes	26	2
Total	**276**	**91**

Ceramic

Nineteen ceramic artefacts were found in Feature 3. With the exception of two chamber pots, all of these were tea and table wares. These were mostly refined earthenware vessels, although several porcelain vessels were also recovered (Table 19).

Table 19. Ceramic artefacts from Feature 3, listed according to body type, ware type, functional class and artefact form.

Body Type	Ware	Function	Form	MNI
ew-r	buff-bodied	table ware	jug	1
	ww	household	chamber pot	2
		table ware	bowl	1
			plate	3
			small plate	2
			tureen	1
			jug	1
			unid hollow-ware	1
		tea ware	coffee can	1
			saucer	1
			teacup	2
hpp	porc-h	table ware	side plate	2
spp	bc	table ware	dish	1
Total				**19**

Food and drink vessels included a range of functions and forms: teacups, saucers, coffee can, jugs, plates in several sizes, a soup tureen and a serving dish. One mixing bowl, made of undecorated whiteware with rolled rim, was likely to have been used in the preparation of food within a household, although it may also have been used to consume food. A reasonable level of variety in form was evident in the assemblage, a factor which has been considered indicative of higher socio-economic status when the material can be associated with a single household (Lawrence et al. 2009: 75-77). Alternatively, if the assemblage is not associated with a single household, the range of forms present may simply be the result of an accumulation over time and/or from multiple sources.

Almost all the tea and table wares were decorated. Underglaze transfer printing was the most common decoration identified in this assemblage. The other decorative techniques represented including sprigged decoration, moulding or painting (Table 20).

Table 20. Decorated ceramic vessels, listed according to decorative technique, pattern name/motif, artefact form and ware type.

Decorative Technique	Pattern Name/Motif	Form	Ware	MNI
moulded edge/sprigged	unid: floral	side plate	porc-h	2
moulding	unid: pastoral	jug	buff-bodied	1
painting	unid: bnd	chamber pot	ww	1
	Unid: chinoiserie	dish	Bc	1
ugtp	Broseley	teacup	ww	1
	Cattle Scenery	chamber pot	ww	1
	Dresden Vignette	saucer	ww	1
	unid: floral/foliage/architecture/oriental	jug	ww	1
	Wild Rose	soup tureen	ww	1
	Willow	plate	ww	3
		small plate	ww	2
		lid	ww	1
Total				**16**

Unidentified transfer printed patterns consisted of sheet patterns of floral and foliage designs, one of which resembled the Fibre pattern. Sprigged decoration was noted on two saucers along with the moulded edge. This technique was easily identifiable by the small blue applied moulded sprigs of floral and foliage motifs, frequently common in the mid-19th century (Brooks 2005: 43). One example of a buff-bodied Bristol glazed jug was found, characterised by a two tone glaze moulded decoration. The

relief moulding was of a pastoral scene in which people are drinking surrounded by trees. This type of relief moulded stoneware jug, decorated with complex designs that often depicted sentimental, floral, gothic, biblical or patriotic themes, gained popularity in the early Victorian period (Hughes 1985: 9). Such inexpensive but artistic vessels were produced in quantity beginning around 1830 and continuing until the 1870s (Henrywood 1984: 50, Hildyard 2005: 184, Hughes 1985). They were used to serve a variety of liquids, including water, beer, milk, mulled ale and wine (Jefferson Patterson Park and Museum 2017). The polychrome hand painted dish was decorated with a Chinese design, including pagodas and orange trees in blue. Red was used to highlight some parts of the scene, including the fruits from the trees (Figure 51).

Figure 51. Tea and table wares from Feature 3. Top row from left: blue transfer printed teacup (SCIRT52-C-70), sprigged saucers (SCIRT52-C-47) and fragments of a green printed jar (SCIRT52-C-42). Middle row: banded chamber pot (SCIRT52-48) and undecorated bowl (SCIRT52-C-50),. Bottom row: dish featuring a Chinese design (SCIRT52-C-71) and buff-bodied jug (SCIRT52-C-69).

A number of patterns were noted on the ceramics, such as one Broseley patterned teacup, one Cattle Scenery chamber pot, one Dresden Vignette saucer, one Wild Rose soup tureen lid and several Willow plates. Some of these vessels had maker's mark on the base (Table 21).

Table 21. Maker's marks on ceramic artefacts from Feature 3, listed according to pattern name/motif, artefact form, maker's mark, manufacturer and date range.

Pattern name/motif	Form	Maker's Mark	Manufacturer	Date	MNI
Dresden Vignette	saucer	W S & Co / Dresden Vignette (cartouche, printed mark)	William Smith and Company	1825-1855	1
Willow	plate	DAVENPORT (blue printed) and anchor (impressed)	Davenport Pottery	1860s?	1
		Printed mark. Crown		n/a	1
	small plate	S W P / 3	South Wales Pottery	1839-1858	1
Total					**4**

The Broseley tea pattern was adapted from Chinese patterns, along with the Willow pattern, in the late 18th century (Coysh and Henrywood 1982: 62; Figure 52). It is frequently found on tea wares, although it has also been found on plates and bowls in Christchurch. It is most common on Christchurch sites dating from c. 1850 until c. 1880.

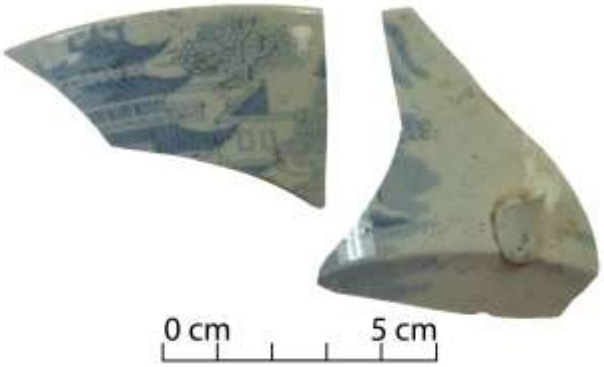

Figure 52. Broseley teacup (SCIRT52-C-42).

The Cattle Scenery was a rural pattern depicting a man who tends his cows in a picturesque landscape, with impressive Gothic abbey ruins across the water and a church with steeple in the background. The scene appears within a floral border with large roses (Coysh and Henrywood 1982: 76, Transferware Collector´s Club 2017; Figure 53).

Figure 53. Cattle Scenery chamber pot (SCIRT52-C-45).

The Dresden Vignette saucer had a complete impressed mark with the pattern name 'Dresden Vignette' below the maker's mark 'W . S . & Co', referring to William Smith and Company, a Staffordshire pottery located at Stockton-on-Tees, Yorkshire. The company was producing earthenwares between c. 1825 and 1855 (Godden 1991: 583, The Potteries 2017; Figure 54).

Figure 54. Dresden Vignette saucer with the W. S. & Co. maker's mark on the base (SCIRT52-C-51).

The Wild Rose pattern is based on an engraving by W. Cooke and earlier drawing by S. Owen (1811) that depicts the famous gardens at Nuneham Courtenay, just east of Oxford (Figure 55). The design is

found on a very wide variety of wares, ranging from dinner services to supper sets, jugs or toilet wares (Coysh and Henrywood 1982: 399-400). It is worth noting the presence of this pattern within the assemblage: the Wild Rose was popular during the period from 1830 to 1850 and has been found in earlier (pre-1870s) assemblages elsewhere in Christchurch (Garland et al. 2015).

Figure 55. Wild Rose tureen lid (SCIRT52-C-44).

Willow was probably the most ubiquitous ceramic pattern found on 19th century archaeological sites. It was found on a range of plates and a lid within this feature, probably making up a dinner set and including examples made by Davenport Pottery and South Wales Pottery. The Davenport mark consisted of the printed word 'DAVENPORT' and an impressed anchor. This pottery was producing from 1793 until 1887. Upper case letters began to be used from 1805, while the impressed anchor was used up to 1860 (Godden 1991: 189). In several instances the last two numerals of the year were placed each side of the anchor, although none were observed on this vessel. The mark 'S W P' referred to South Wales Pottery, Llanelly. They produced earthenwares between 1839 and 1858, using several printed or impressed marks of differing designs (Godden 1991: 587). Another partial mark was noted on a Willow patterned plate, including a crown. However, the manufacturer could not be identified.

Ceramic sets within households are often considered to be an integral aspect of Victorian domestic life and respectability within society (Samford 1997, Wall 1999). However, if the assemblage belonged to different households (as is possible with a surface accumulation), matching vessels may represent the accumulation and/or popularity of those patterns: this is particularly true of patterns like Willow, which continued to be popular throughout the 19th century.

Figure 56. Willow patterned plates with maker's marks from top: Willow plate with Davenport printed mark and impressed anchor anagram (SCIRT52-C-52), Willow plates, one of which had the S W P mark (SCIRT52-C-54) and Willow plate with crown printed on the base (SCIRT52-C-55).

Faunal

A relatively diverse faunal material assemblage was recovered from Feature 3, including chicken, cow, rabbit and sheep bones (Table 22). The chicken bones were predominant, suggesting that the household may have owned laying hens or were eating chicken (which was not a common 19th century meal). It is possible that the rabbit was a pet, food-waste, skinned for its pelt or was later intrusion or natural inclusion. These bones represented four butchery units (Table 23). The sheep vertebra had been sawn in a manner consistent with dividing a sheep carcass in two longitudinally. It was not possible to establish the age of death of any of the animals represented in this assemblage.

Table 22. Faunal material from Feature 3, listed according to species common name and element.

Species common name	Element	MNE
bird/chicken or duck?	radius	3
cow	carpal/tarsal	1
fowl/chicken	coracoid	1
	femur	2
	humerus	1
	sternum	1
	tarsometatarsus	3
	tibiotarsus	3
	ulna	1
	vertebral column	1
	scapula	1
	cervical vertebra	1
rabbit?	fibula/tibia	1
	scapula	1
	skull/mandibula	1
	ulna/radius	1
sheep	lumbar vertebra	1
	metacarpus	1
	rib	1
Total		**26**

Table 23. Faunal material listed according to species common name and butchery units.

Species common name	Butchery unit	MNE	MNBU
cow	fore/hindshank	1	1
sheep	foreshank	1	1
	loin/rump	1	1
	rump	1	1
Total		**4**	**4**

Glass

A minimum of 33 glass artefacts were recovered from Feature 3, including alcohol, condiment, food, personal and pharmaceutical bottles as well as household, structural items and glass table ware (Table 24).

A number of black beer bottles were recovered, including different forms of ´quart´ sized bottles, all of which have been discussed in the previous glass artefacts sections (Figure 57). The majority of these bottles were made using one or three-piece dip moulds, a method of manufacturing common during the mid-late 19th century. All the tops present had applied finishes, also typical of the mid-late 19th century date of glass manufacture. No indication of the original contents of the bottles was evident, although this shape is known to have been used for various alcoholic beverages.

The only other alcohol bottle was a case gin bottle (Figure 57). The pig snout variety identified in this site is more common in early 19th century contexts and declined in use after c. 1875 (Tasker 1989: 48).

Table 24. Glass artefacts from Feature 3, listed according to material class and common name.

Class	Common name	MNV
alcohol	black beer	1
	black beer (large tall)	6
	black beer (large squat)	6
	case gin 'pig snout'	1
condiment	salad oil?	1
	salad oil? vinegar?	1
food	pickle jar	1
household?	bottle? lamp?	1
personal/pharma	octagonal c/s	1
	oval c/s	2
	ro c/s	1
pharmaceutical	ampule	1
structural	window glass	1
table ware	stemware drinking vessel/sherry glass?/wine glass	3
	stemware/celery vase?	1
	tumbler	3
unid	unid ro c/s	1
Total		**33**

Figure 57. Alcohol bottles from Feature 3. Top row from left: large tall 'quart' sized black beer bottles (SCIRT52-G-43) and large 'squat' black beer bottles (SCIRT52-G-45). Bottom row: black beer finishes (SCIRT52-G-47) and pig snout case gin bottle (SCIRT52-G-64).

Several salad oil bottles were recovered, one of which was 'twirly' shaped (Figure 58). One square cross sectioned jar or bottle that probably contained pickles or another preserved foodstuff was also identified. Pickle bottles were typically made in light green aqua glass with a wide mouth. Like the salad oil bottles discussed above, they were often elaborately moulded, with styles specific to certain manufacturers. In addition, a number of light blue aqua bottles were found. The lack of embossing or labelling make it difficult to determine the product they have once contained. However, the oval or bevelled shape is usually associated with pharmaceutical products or products related to personal grooming or health care.

Figure 58. Non-alcoholic bottles from Feature 3. Top row from left: salad oil bottles (SCIRT52-G-51 and G-52), pickle jar (SCIRT52-G-50). Bottom row: aqua blue light round cross sectioned bottle (SCIRT52-G-55), bevelled pharmaceutical/personal bottle (SCIRT52-G-54), aqua blue light oval bottle (SCIRT52-G-53) and oval cross sectioned body-base (SCIRT52-G-57).

One intact ampule was found In Feature 3, with an unidentified liquid inside. The term ampule refers to a type of small glass vial and encompasses a variety of forms, although this one was tubular in shape, with a rounded base, convex shoulder, pinched neck and tapered point seal instead of a finish. A copper covering was wrapped around the outside of the glass to protect it from breaking. Unfortunately, due to the lack of distinguishing marks and continued use of this type of drug container in the present day, it is impossible to discern when it was made, the manufacturer or the precise liquid it contains (Figure 59).

Figure 59. Intact ampule (SCIRT52-G-89)

Glass table wares consisted of tumblers and stemware vessels (Figure 60). The tumblers are all likely to have been made in press or mouth-blown moulds, manufacturing techniques commonly used for glass table wares during the latter half of the 19th century (Jones 2000: 160-165). With the exception of one tumbler, the decoration of which consisted of press moulded panels, cut mitres and a starburst

on the base, all of them were panelled with a polished base. Such tumblers may have been intended for drinking beer (or other liquor), but they may equally have been intended for consumption of non-alcoholic beverages, such as soda or aerated waters (Jones 2000: 141).

Two of the stemware vessels have been tentatively identified as sherry glasses (Figure 60). These glasses were bell shaped with cut oval panels and true baluster stem, with the swelling at the base of the stem not just a step before the foot. Such examples are common stemware styles dating between the 1870s and 1890s (Jones 2000: 208). One of the stemware vessels had a step and angled knops. It had a thistle shape, commonly associated with jellies or celery vases. In addition, part of a lamp chimney was found. This is likely to have been used for an oil or gas lamp, a form of lighting in use for most of the 19th and much of the 20th century. Turn moulding was commonly used in the manufacture of lamp chimneys (Miller et al. 1989: 31)

Figure 60. Glass tableware and household items found in Feature 3. Top row from left: fragments from press moulded tumblers (SCIRT52-G-59) and almost complete press moulded tumbler (SCIRT52-G-60). Bottom row: sherry glasses (SCIRT52-G-62), stemware vessel (SCIRT52-G-63), lamp chimney (SCIRT52-G-61).

Metal

Three metal artefacts were recovered from Feature 3, consisting of one hook, one oval ring which appears to be a chain, one rectangular shaped strip and one cartridge (Table 25 and Figure 61).

Table 25. Metal artefacts from Feature 3, listed according to material, class and artefact form.

Material	Class	Form	MNI
copper	structural?	rectangular c/s bar	1
	unid	oval ring	1
ferrous	structural?	hook	1
Total			**3**

Figure 61. Metal artefacts from Feature 3. Clockwise from top left: ferrous hook (SCIRT52-M-3), oval ring (SCIRT52-M-5), rectangular cross sectioned strip (SCIRT52-M-4) and cartridge (SCIRT52-M-6).

Miscellaneous

Six other items were recovered from Feature 3, including two bone cutlery handles, one coal and handmade brick fragment and leather shoes (Table 26 and Figure 62).

Table 26. Other items from Feature 3, listed according material class and artefact form.

Material	Artefact	MNI
clay	brick	1
white clay	smoking pipe	1
bone	cutlery	2
coal	coal	1
leather	shoe	2
Total		**7**

Figure 62. Other items from Feature 3. Clockwise from top left: bone handles (SCIRT52-MC-3 and MC-4), upper fragments with eyelets (SCIRT52-S-14) and machine stitched sole (SCIRT52-S-17).

Cutlery of the type found in Feature 3, with an iron or steel blade and a bone or wooden handle, is commonly referred to as composite cutlery. These cutlery items all appear to have rat-tail tangs, whereby the tang is simply cemented or pinned into a slot in a one-piece handle. Both of these styles were in common use from the early 18th century and continued to be used into the 19th century. Many advancements were made in table cutlery technology from the middle of the century, especially in America, but in Britain the availability of cheap labour and the cost of taking up new technology resulted in old manufacturing methods being used into the 20th century (Dunning 2000: 40-41).

The leather sole recovered might have belonged to a child's shoe, based on its small size. This shoe was made using the pegging manufacture method. The use of pegs was particularly prevalent during the first half of the 19th century, after the development of hand-operated machines for pegging shoes and boots together. Automated pegging machines were invented in the 1850s, although these were soon made obsolete by other developments in the 1860s and 1870s (Anderson 1968: 59-61). Consequently, pegged shoes are usually dated to the early to mid-19th century, although it is possible that individual shoe-makers may have continued to use the method as late as the 1880s and 1890s.

Four white clay smoking pipes were also recovered from Feature 3. All of these pipe bowls were the typical 19th century 'cutty' shape with a slight variation (Figure 63).

One of them was a squat rounded bowl with the word COO'EY incised on the back of the bowl (Figure 63). 'Coo-ey' was an Australian colonial term, derived from the Dharug dialect and adopted by the Australian colonial settlement of the 19th century. It was first recorded by Europeans in 1790, becoming a widespread part of colonial speech in Australia by the 1820s and was generally used to denote a distance or as a greeting or call to a person. During the mid-19th century it came to be something of a national and cultural identifier, with use of the word in London by visiting colonists becoming an immediate sign of an Australian connection (OED Online 2015). 'Coo-ey' clay pipes were found on the Chancery Street site in Auckland, where it is suggested that they may have been made by McDougall due to that firm's introduction of the motif into their catalogues in c. 1860 (Macready and Goodwyn 1990: 60, OED Online 2015). Examples of these smoking pipes were also recovered from The Music Centre site in Christchurch (Garland et al. 2015). It seems likely that they were made primarily for the colonial market.

One of the pipes was complete enough to identify its straight stem configuration, meaning that the stem extended out from the bowl in a straight line. The stem fragment had T. MILO'S / CUTTY SHAPE impressed on either side (Figure 63). Theophilus Milo was a pipe maker in Finch's Lane, London, between 1860 and 1870, as well as a tobacconist with premises on the Strand, also in London (Oswald 1975: 142). His pipes have been found on several sites in New Zealand, including The Music Centre in Christchurch (Garland et al. 2015).

Figure 63. White clay smoking pipes from Feature 3. Top row from left: bowl fragment (SCIRT52-MC-19), cutty shaped bowl (SCIRT52-Mc-20) and cutty pipe with COO'EY impressed mark side and front view (SCIRT52-MC-22). Bottom row: CUTTY PIPE / T. MILO's marked pipe (SCIRT52-MC-21).

Feature 4

Feature 4 was a rubbish deposit, possibly a surface accumulation in an infilled ditch, comprising 61 artefacts represented by 121 fragments. The assemblage included ceramic, faunal, glass and other items (Table 27). As within Feature 3, this material appears to have been discarded in a gully or other natural low spot.

Table 27. Total NISP and MNI of artefacts from Feature 4, listed according to material.

Feature 4	NISP	MN
Ceramic	55	14
Faunal	19	15
Glass	35	24
Miscellaneous	6	4
Shoes	11	4
Total	**126**	**61**

Ceramic

Fourteen ceramic artefacts were found in Feature 4, comprising decorated tea and table wares as well as household items (Table 28 and Table 29).

Tea and table wares consisted of teacups, saucers and hollow-wares, as well as plates in several sizes. Undecorated vessels were also recovered in the form of a rounded bowl. Decoration is closely tied to some functions and the more utilitarian item is the lesser the need to decorate it, as is this case with this mixing bowl.

As well as the common floral and foliage designs transfer printed in blue or green, other decorations were identified (Figure 64). One of the porcelain saucers was decorated with hand painted flowers that had been slightly flown. Flown decoration refers to a type of decoration (usually blue, but occasionally black or purple) that has been allowed to blur or 'flow'. It is usually associated with

transfer printing, but some examples like this one, are painted. Sponged vessels were also well represented in this feature, including a tea and/or breakfast set (at least two teacups and one saucer) and a polychrome plate, the pattern of which was also found at the Wanganui Hotel site in Whanganui (Campbell et al. 2009). The former comprised a black sponged decoration featuring a ribbon consisting of repetitive spirals designs. The latter had repetitive green foliage motifs on the marly and blue bands on top and bottom.

Table 28. Ceramic artefacts from Feature 4, listed according to body type, ware type, functional class and artefact form.

Body Type	Ware	Function	Form	MNI
ew-c	rre	household	pot/container	1
	rre	household/storage	pot/container	1
ew-r	ww	household	chamber pot	1
		personal	cold cream	1
		table ware	bowl	1
			plate	1
			unid flatware	1
			unid hollow-ware	2
		tea ware	saucer	2
			teacup	2
spp	bc	tea ware	teacup	1
Total				**14**

Table 29. Decorative ceramic vessels, listed according to decorative technique, pattern name/motif, artefact form and ware type.

Decorative Technique	Pattern Name/Motif	Form	Ware	MNI
flow blue	unid: floral	saucer	ww	1
painting	unid: bnd	chamber pot	ww	1
sponged	unid: geometric	saucer	ww	1
		teacup	ww	2
	unid: geometric/foliage	plate	ww	1
sprigged	unid	teacup	bc	1
ugtp	unid: floral/foliage	unid hollow-ware	ww	2
	Wild Rose?	unid flatware	ww	1
Total				**10**

Figure 64. Tea and table wares found in Feature 4. Top row from left: porcelain teacup (SCIRT54-C-57), flow blue saucer (SCIRT54-C-59) and undecorated whiteware bowl (SCIRT54-C-58). Middle row: black sponged saucer (SCIRT54-C-62) and teacups (SCIRT54-C-63). Bottom row: sponged polychrome plate (SCIRT54-C-64), blue transfer printed flatware (SCIRT54-C-56) and green floral printed hollow-ware vessels (SCIRT54-C-60 and C-61).

Household items were also present in the form of one chamber pot and two slip glazed containers (which might have been pots or another big container with storage purposes).

Figure 65. Household items found in Feature 4. Clockwise from top: whiteware chamber pot (SCIRT54-C-66), slip glazed hollow-ware (SCIRT54-C-67) and unglazed pot or container (SCIRT54-C-65).

One ceramic lid of a cold cream jar was also found (Figure 66). Cold cream is a facial cream, originally attributed to second century Greek physician Galen and so called due to the cool feeling it created on the skin as the water in the cream evaporated (Redgrove 1931, Sherrow 2001: 238). Still in use today, it was popular during the 19th century as a facial cream and emulsion for skin and makeup remover. Advertisements recommend it for face, hands, feet, sunburn and other skin related uses. A number of recipes existed, most of which used waxes, fats and oils, and it was often made in the home from a combination of fats, glycerine, and rosewater (*Bruce Herald* 29/5/1900: 7, Redgrove 1931). Commercial products were sold by Rimmel, Gosnell, Price and other 19th century cosmetics manufacturers (*Taranaki Herald* 19/3/1864: 4). This particular jar lid has been dated to the 1880s by collectors, although it is not clear how accurate this date is. The product is first mentioned in New Zealand newspapers in 1842 (*New Zealand Colonist and Port Nicholson Advertiser* 23/09/1842: 4).

Figure 66. Cold cream lid (SCIRT54-C-68).

Faunal

A minimum of 15 faunal elements were found in Feature 4, all of which is likely to have been food waste. The assemblage included cow and sheep bones (Table 30). Nine butchery units were represented, four cow and five sheep (Table 31). The sheep foreshank and cattle hindshank were the most common cuts, both of which are relatively cheap cuts of meat, typically used for soups, stocks or stew (Colley 2004). Bones from both a cow and a sheep skull were present, also suggesting the consumption of inexpensive cuts of meat. The cow tibia has been sawn, and was from an animal more than 3.5-4 years old.

Table 30. Faunal material from Feature 4, listed according to species common name and element.

Species common name	Element	MNE
cow	astralagus	1
	atlas	1
	calcaneus	1
	rib	1
	tibia	1
sheep	femur	1
	humerus	2
	mandibula	1
	metatarsus	1
	molar	1
	pelvis	1
	radius	1
	tibia	2
Total		**15**

Table 31. Faunal material listed according to species common name and butchery units.

Species common name	Butchery unit	MNE	MNBU
cow	hindshank	2	2
	loin	1	1
	scrag end neck	1	1
sheep	foreshank	3	2
	hindshank	4	1
	rump	1	1
	head	2	1
Total		**15**	**9**

Glass

A variety of glass artefacts were recovered from Feature 4, comprising 24 items. The assemblage included alcohol and non-alcoholic bottles, condiment, personal, pharmaceutical and table ware vessels (Table 32).

As in the other features, a range of different sized and shaped black beer bottles were identified among the assemblage, along with case gin and spirit shaped bottles, all of which are discussed in more detail above (Features 1 and 2 glass sections). One ring seal wine/beer bottle was also found. This type of bottle may have once contained wine or beer, although it could have been used for a variety of products during its uselife. With the exception of the ring seal bottle, which was turn-moulded, all the alcohol bottles were made using dip moulds. These manufacturing methods were common during the mid to late 19th century.

One embossed black beer bottle read WOOD PORTOBELLO around the base (Figure 68). Thomas Wood operated from 1866 or 1868 until the 20th century, following the dissolution of the Cooper and Wood partnership. Established by William Bailey in 1829, these Portobello glass works became Cooper and

Wood in 1829, when Richard Cooper, previously a partner in the company, took ownership of the works, along with his brother-in-low Thomas Wood. Cooper and Wood operated until 1868 (although some reports suggest the partnership ended in 1866), when they divided the company and the factory into two separate glass works (Toulouse 1971: 141-143, 524-526).

Table 32. Glass artefacts from Feature 4, listed according to class and common name.

Class	Common name	MNV
alcohol	black beer	4
	black beer (squat)	2
	case gin	1
	ring seal	1
	spirits	1
condiment	'goldfields' salad oil	1
	'twirly' salad oil	1
food	pickle jar	2
	pickle/preserve jar	1
	wide mouth jar	1
non-alcoholic	torpedo	1
personal	perfume	1
personal/pharma	bevelled pharmaceutical bottle	1
table ware	tumbler	4
unid	ro c/s	2
Total		**24**

Figure 67. Alcohol bottles from Feature 4. Top row from left: 'squat' beer bottle with remnants of label on neck (SCIRT54-G-88), 'squat' black beer body (SCIRT54-G-85), black beer body-bases (SCIRT54-G-83 and G-84). Middle row: black beer finishes (SCIRT54-G-86 and G-87) and ring seal wine/beer base (SCIRT54-G-66). Bottom row: case gin bottle (SCIRT54-G-73) and spirits bottle (SCIRT54-G-65).

Figure 68. Wood Portobello embossed black beer bottle (SCIRT54-G-82).

The non-alcoholic bottles from Feature 4 included one torpedo shaped aerated water bottle (Figure 69). Six condiment bottles were identified, including salad oil bottles and unidentified sauce bottles in several styles. The different styles noted included the distinctively fluted 'goldfields oil' bottle and a 'twirly' salad oil bottle, as well as number of wide mouth pickle jars/bottles, including both square and round sectioned bottles. All were made using a dip mould with cup bottom. No embossing was present on any of these bottles (Figure 69).

Figure 69. Non-alcoholic, food related bottles from Feature 4. Top row from left: forest green rounded bottle (SCIRT54-G-80), torpedo bottle (SCIRT54-G-70), lamp chimney (SCIRT54-G-75). Middle row: sauce bottle (SCIRT54-G-76), 'twirly' salad oil bottle (SCIRT54-G-67), 'goldfields' salad oil bottle (SCIRT54-G-71). Bottom row: wide mouth jars/bottles (SCIRT54-G-72) and colourless wide mouth jar/bottle (SCIRT54-G-77).

A rectangular pharmaceutical bottle and an octagonal perfume bottle were recovered from Feature 4. These are likely to have contained pharmaceutical products and/or haircare remedies and perfume, although they may have been used for other products. The lack of embossing or labelling on these bottles make it difficult to discern the exact contents (Figure 70).

Figure 70. Pharmaceutical/personal bottles: bevelled pharmaceutical bottle (SCIRT54-G-78) and perfume bottle (SCIRT54-G-79).

Glass table wares found in Feature 4 consisted of four tumblers, which are commonly found in residential assemblages (Figure 71). Two of them were press moulded with concave flutes running vertically up the body of the vessel. The other two tumblers were free blown with cut-panelled decoration. Pressed panelled tumblers were first introduced in the late 1830s and continue in use today (Jones 2000: 225).

Figure 71. Glass tableware found in Feature 4 from left: tumbler base (SCIRT54-G-68), press moulded tumblers (SCIRT54-G-69) and cut panelled tumbler (SCIRT54-G-74).

Miscellaneous

Two fragments of slate, probably used for structural purposes (based on their 5 mm of thickness) were recovered from Feature 4 (Figure 72).

Two bricks were also exposed within Feature 4, one of which was a refractory brick (Figure 73). The latter was probable made in a slope mould, based on the marks identified on it (M. Hennessey, pers. comm., January 2017). However, no further information could be discerned from these brick fragments. No marks were noted on them.

In addition, one white clay smoking pipe bowl was found (Figure 74). As with all the smoking pipes recovered from this site, this one was identified as the cutty shape (rounded), consisting of a squat rounded bowl perpendicular or near perpendicular to the stem and a lip running at a parallel angle to the stem.

Figure 72. Slate fragments from Feature 4 (SCIRT54-MC-6).

Figure 73. Bricks from Feature 4. Top: SCIRT54-B-3 and bottom: SCIRT54-B-4.

Figure 74. White clay smoking pipe bowl (SCIRT54-MC-5).

Shoes

The four shoes found in Feature 4 were adult sized (Figure 75). With the exception of one square toe shaped shoe, all of them had smart toes. The former was identified as a boot with hobnails and it is likely to have belonged to a man. No children's shoes or boots were noted.

Square toes were most common on women's and men's shoes during the 1850s and 1860s, with a shift to more rounded toe shapes during the 1870s. The 1870s also saw an increase in the popularity of decorated uppers, particularly on ladies' boots (Stevens and Ordonez 2005: 17-18).

Shoes from this feature combined the methods of machine stitching and vertical attachment to attach the parts of the upper and the upper and sole together respectively. This is probably the most common combination of footwear construction methods found on archaeological examples from Christchurch. Vertical attachment usually involves the use of copper nails, iron nails or wooden pegs to attach the outsole and heel to the insole, or a combination of all three (particularly evident where the soles have been reinforced or repaired). All these shoes were machine nailed based on the regularity of the copper nails used to attach the outsole to the insole.

Figure 75. Top and bottom views of leather shoes from Feature 4. Clockwise from top left: copper nailed shoe (SCIRT54-S-18), nailed shoe with hobnails as reinforcing (SCIRT54-S-20), nailed shoes with remnants of upper and laced closure (SCIRT54-S-21) and nailed shoe with upper attached (SCIRT54-S-20).

DISCUSSION

Sorensens Place was formed from Rural Section 41 and conveyed by the Canterbury Association to Fooks in 1851. In the early 1860s the property changed hands and was subdivided several times by Buckley, who also sold part to the clerk Edward Watson Tippetts. A Christchurch gentleman, Thomas Acland, purchased the property in 1878 and one year later sold the land to Christchurch hotel keeper William Seago Savage, who was listed as occupant on the east side of Stanmore Road between 1880 and 1881. In May 1882, Henry Bylove Sorensen purchased the property. By 1884 Sorensen's family and one servant lived in a house on that property, which was burned in April and probably rebuilt during the next years. Henry Sorensen was listed as occupant from 1887 and continued to be listed in the 20th century.

Four archaeological features were uncovered during the rebuild of the earthquake damaged wastewater system on Sorensens Place, from three different types of artefact-bearing features– a rubbish pit (Feature 1), a rubbish filled well (Feature 2), and two sections of what is believed to be a rubbish infilled ditch or gully (Features 3 and 4).

Feature 1 was interpreted as fireplace clearance and later rubbish dumping. The feature has a TPQ of 1842, given the registration diamond embossed on the base of one bottle (Table 33). The assemblage from Feature 1 consisted of artefacts typical of a domestic context. Based on the date range, the artefacts may have been deposited in the early 1880s, which suggests that the material from this rubbish deposit might have belonged to William Seago Savage, who was listed as resident on the east side of Stanmore Road between 1880 and 1881, or the Sorensen family from the mid-1880s onwards. However, the assemblage is too small to be sure of any particular association: the artefacts identified could easily have been deposited in the 1870s or later in the 1880s.

Feature 2 was by far the most interesting of the four features uncovered. The location of this feature within the footprint of the Sorensen house (refer Figure 6) is curious, as it is thought that such a water supply related feature would not normally be located inside the footprint of a domestic dwelling. There could be any number of reasons to explain why this is the case. It is possible that the construction, abandonment, and infilling of the well predates the Sorensen family's 1882 occupation of the site and/or construction of this house, and that by the time the Sorensens moved in their property was served by an alternative water source (such as an artesian tube well). The well's location sits within that part of the house footprint which could possibly a later lean-to extension off the southern end of the dwelling. If this is the case, then this could mean that the well was indeed originally located outside, and was only later to end up within the footprint of the dwelling, possibly after it had been filled in. It is also not known whether the Sorensen house rebuilt subsequent to the 1884 fire was rebuilt in the location of the original house.

There are also a number of possible reasons why this feature was repurposed for rubbish disposal. It is possible that sinking an artesian tube well nearby made the brick well irrelevant, and the well was filled in at this time or soon after, subsequent to the salvaging of some of the bricks that lined it. It is also possible that the well ceased to function after the water table had dropped to such a level that the well no longer yielded a reliable amount of water. Another possibility is that the well silted up as a result of an earthquake event – a hypothesis which is suggested by the presence of the dark grey silt in the bottom of the well that was not dissimilar in appearance to liquefaction silt associated with earthquake activity. Although this is supposition, several earthquakes estimated as being greater than magnitude 6 affected Christchurch in varying degrees in the 19th century, in 1876, 1879, 1881 and 1888, and any of these may have resulted in intrusive liquefaction silt being brought up from depth to choke off the supply of water to this shallow surface well (Rice 2010). Such a layer of liquefaction-type silt has also been observed at the bottom of another 19th century Christchurch well, this barrel-lined

example excavated in 2014 on the Christchurch Justice and Emergency Services Precinct (Williams et al. 2016).

Table 33. Artefact manufacturing date ranges for the assemblage, listed according to Feature, date and artefact.

Feature	Date	Artefact	TPQ	Est. deposition date	Historical association
Feature 1	1842-1867	Condiment bottle. Registration diamond.	1842	1870s-1880s	William Seago Savage or Sorensen family?
Feature 2	1852-1862	Royal Vitrified China. Kerr and Company.	1856	1870s-1880s	Sorensen family?
	1843-1920s (1861 NZ)	Blackwood and Company Patent Syphon.			
	1855-1877	John Stewart and Company whisky distillers.			
	1852+ (NZ)	Lea and Perrins Worcestershire sauce. Aire and Calder Glass Bottle Company.			
	1834-1887	E. Rimmel cosmetic bottle.			
	1856-1891	Charles Crop white clay smoking pipe.			
Feature 3	1825-1855	William Smith and Company Pottery. Willow patterned plate.	1860	1860s-1870s	Tippetts?
	1805-1860	Davenport Pottery. Willow patterned plate.			
	1839-1858	South Wales Pottery. Willow patterned plate.			
	1860-1870	Theophilus Milo's cutty pipe.			
Feature 4	1866/1868+	Wood Portobello black beer bottle.	1866	1870s-1880	Previous occupants or Sorensen family

The artefact assemblage recovered from Feature 2 had a TPQ of 1856, based on the Charles Crop smoking pipe (Table 33). However, many of the artefacts, including the Charles Crop pipe, had long manufacturing date ranges and the material may have been deposited as late as the 1870s or 1880s. The artefacts were recovered from within a charcoal and ash stained sandy fill that may have been associated with the 1884 fire in Sorensen's house, but the lack of melted or burned objects among the assemblage would be unusual if that is the case.

Features 3 and 4 were interpreted as both being surface accumulation rubbish deposits, dumped in a gully or other natural low spot that was filled in, possibly as a single deposition event. Part of both features remains in situ and their maximum spatial extent is not known. The close proximity of Features 3 and 4 support the possibility that these features were dumped in the same gully or natural low spot. The two assemblages have a TPQ of 1860 and 1866/1868 respectively. The former date is derived from Theophilus Milo's smoking pipe, while the latter was based on the Wood Portobello bottle (Table 33). Both the date ranges and stylistic characteristics indicate that Feature 3 is the earliest assemblage of the four excavated: it is likely that deposition occurred in the 1860s, or the early 1870s at the latest. Decorative styles consisted primarily of floral and romantic designs covering all the vessels, such as the Dresden Vignette, Cattle Scenery, Broseley or Wild Rose patterns, the last of which is commonly found in earlier (pre-1870s) assemblages elsewhere in Christchurch. In addition, the TPQ is derived from a clay smoking pipe rather than a ceramic or glass vessel, both of which had long uselives in the 19th century and may not have been deposited until 15-20 years after their

manufacture (Adams 2003). Clay smoking pipes, on the other hand, are considered disposable items and were probably discarded within a couple of years of their manufacture or purchase. For that reason, it is unlikely that the assemblage was deposited any later than a couple of years after 1870, when Theophilus Milo stopped making pipes (Table 33). With this in mind, the artefacts recovered from Feature 3 may have belonged to one of the owners of this section in the 1860s and/or early 1870s: the most likely candidate is Edwin Tippetts.

Feature 4 is likely to have been deposited during the 1870s and 1880s, suggesting that it may have been associated with Thomas Acland or the Sorensens family.

The assemblages are all predominantly domestic in nature. A high proportion of the glass and ceramic vessels were related to the consumption of food and drink, including a relatively large quantity of condiment bottles and wide mouth jars as well as serving and drinking vessels. The high proportion of alcohol bottles in the assemblage is also notable, most of which were black beers in different sizes, indicating the consumption of alcoholic beverages on the site and/or reuse of these bottles for other purposes. Stylistics trends, particularly in ceramic patterns, are represented through the presence of both earlier landscape, scenic and pastoral specific motifs, particularly in Feature 3, as well as later border-only styles particularly in Features 2 and 4. Nevertheless, the enduring popularity of certain 'early' patterns such as the Willow patterned sets, must also be noted. Their presence in the assemblage is not indicative of an early deposition date, but can instead reflect their status as 'traditional styles', as evidenced by the presence of several Willow patterned vessels in both Features 2 and 3 (Majewski and Schiffer 2009: 197).

A reasonable level of variety in function and form was evident in the assemblage, particularly among the ceramic and glass table wares and drinking vessels from Features 2 and 3. Variety in form has also been considered indicative of higher socio-economic status or means when the material can be associated with a single household (Lawrence et al. 2009: 75-77). All the occupants recorded from the mid-19th century were gentlemen of reasonable means, who could afford valuable household assemblages showing their status, class or wealth though the material culture. In this light, it is interesting to note that there were transfer errors on a lot of the tea and table wares. These are fairly common in Christchurch sites and may reflect the quality of the ceramics shipped to the colonies as much as the means of individual consumers.

Other artefact types, such as the pharmaceutical bottles, the bone toothbrush, the Rimmel bottle or the cold cream, reflect wider trends in the material culture and daily life of residents in 19th century Christchurch, particularly in the importance of personal hygiene, self-medication and personal grooming. The ampule found in the assemblage is a particularly uncommon find and may be evidence of a health professional residing on the site or a person in need of medicinal treatment. Neither possibility could be confirmed from the historical record.

The specific gender associations of many of the artefacts were also unclear, a characteristic commonly noted on archaeological sites here. However, the presence with women could be supported by the presence of products such as the cold cream and the Rimmel bottle. In addition, a range of white clay smoking pipes were recovered, four of them in Feature 3. Such smoking pipe would belong probably to men, because pipe smoking was an almost exclusively male habit amongst European settlers.

Children are under-represented in the assemblage: the only evidence for their presence is a children's size shoe from Feature 4. Such a shoe might have belonged to the Henry and Margaret Sorensen's daughter, the birth of whom was recorded on the newspaper in May 1883.

In terms of material culture consumption on a broader scale, it is worth noting that the assemblage is overwhelmingly dominated by objects and products manufactured in England and Scotland. This is not completely surprising, given the early manufacturing dates for much of the assemblage and the heavy reliance of young colonial settlements like Christchurch on the trade and industry of their parent country during the first decades of colonisation.

Assessment of archaeological significance

The assemblage is considered to be of medium significance, based on the criteria outlined in Table 34. This may change in future if any other material is recovered from the site.

Table 34. Assessment of significance for artefact assemblage recovered from Sorensen's Place, according to archaeological criteria.

Criteria	Value
Condition	Medium. Contained many complete artefacts or vessels that could be refitted.
Context	Medium. Good archaeological context although historical associations are unclear for some of the material.
Rarity	Medium. Material is domestic in nature, but the early dates for some of the assemblages are underrepresented in the Christchurch archaeological record. Several unusual items, such as the glass ampule, were also found.
Information potential	Medium, due to the early dates for some of the assemblages, the good and interesting historical associations and the secure archaeological context.
Cultural associations	None known.
Amenity	Medium. Many of the artefacts could be and have already been used in the communication of archaeological and heritage values and narratives to a wider audience.

CONCLUSION

Earthworks associated with wastewater renewals on Sorensens Place, Christchurch, took place from July-September 2016 as a part of SCIRT project 11232. This work was monitored by an archaeologist due to the potential for this work to affect subsurface archaeological deposits associated with the occupation of the section prior to 1900. Four archaeological features were uncovered during this work, and parts of all four of these remain in situ below the roadway, footpath, and berm, at depths below 440 mm (Features 1, 2, and 3) and below 260 mm (Feature 4). Because of this, an archaeological authority is required/recommended for any future earthworks located within the road reserve. Because no excavations associated with this work took place on private property, it is impossible to say for certain whether rebuild related earthworks on these sections will impact on subsurface archaeological deposits associated with 19th century occupation of the site, but it is a possibility. As a result of this work, the site record form M35/1440 has been updated.

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APPENDIX 1: METHODS OF ARTEFACT ANALYSIS

All data relating to artefacts was entered into a Microsoft Excel spreadsheet. Photographs were taken of notable, interesting and/or dateable artefacts, or artefacts crucial to understanding this site.

Dating: the TPQ method

Ceramic, glass and metal artefacts were commonly embossed or printed with information concerning the manufacture of the vessel or the product the vessel contained. These manufacturers can often be identified and the period of their operation dated. The specific sources used for this process are discussed above for each material category. This information allows for the calculation of a *terminus post quem* (limit after which) for each feature that is associated with a dated artefact. A *terminus post quem* (TPQ) is the earliest date at which an archaeological feature could have been deposited. It is derived from the date range of the youngest artefact in the feature. For example, if a manufacturer identified on a ceramic vessel is known to have operated between 1865 and 1880, and this is the latest date range identified in the feature, the TPQ for that feature is 1865.

Establishing a TPQ is useful because it can be used to associate deposition with a specific period of a site's occupation. However, it should be emphasised that the TPQ is the earliest possible date for a feature, not the definite date at which deposition occurred. The time between the manufacture and disposal of an artefact must be taken into account. Various factors influence this period. For example, a ceramic vessel is likely to proceed through a number of stages between creation and disposal. These include the time is takes for a vessel to be packed and processed in Britain, then shipped to New Zealand, and then more time in retail before its eventual purchase. After this process, the vessel was most likely used for a period of time before its disposal. This period is termed a vessel's 'use-life'. Therefore, it could be many years between the date at which a vessel was produced and the date at which a vessel was added to an archaeological assemblage.

Ceramic artefacts

A number of references were consulted during the analysis of the ceramic assemblage. Brooks (2005) was the principle reference used for the analysis of material ware, form and decorative technique. Samford (1997) was consulted in relation to decorative patterns and colours and internet resources such as The Potteries website were also utilised. Maker's marks were identified using Godden (1991) and The Potteries website. These resources contribute to the internal database maintained by Underground Overground Archaeology Ltd which records both identified ceramic maker's marks and patterns recovered from previous archaeological sites in Canterbury.

Ceramics were analysed according to a standard set of attributes and the specific categories are listed below. Some of these attributes and categories have been removed from the spreadsheets in Appendix 2 due to the constraints of printing on an A4 page. The columns left out were those in which no data was entered during the analysis, or where the data was not crucial to this report. Photographs were taken of all unidentified ceramic patterns and have been retained on file. These are available on request.

Bag ID	Material	Quantity	Decoration	General information
Site	Body type	NISP	Technique	Notes
Code	Glaze	MNI	Colour	References
Box number	Ware		Pattern name/motif	Photo number
Bag number	Function		Maker's mark	
Provenance	Form			
	Portion			

Faunal material

Methods of analysing the faunal material drew on those outlined in Watson (2000). The faunal material was identified to taxonomic category and, where possible, mammal and bird bones were identified to species. Underground Overground Archaeology holds a reference collection of European mammal bones, and the bird bone reference collection at the Canterbury Museum was used to identify bird bones.

A MNE (minimum number of elements) was generated from the NISP (number of individual specimen present). The attributes recorded during the analysis of the faunal material are listed below and include skeletal details, taphonomic processes and, where possible, any butchery marks on the material were recorded. Minimum number of butchery units (MNBU) was also recorded to represent cuts of meat targeted (Watson 2000).

Bag ID	Description	Detailed analysis	General information
Site	Species	Taphonomy	Notes
Code	Element	MNBU	Photo number
Box number	Side		
Bag number	Portion		
Provenance			

Glass artefacts

Glass vessels were sorted by provenance and analysed according to the process outlined in Smith (2004). This included recording glass colour, finish, base type and any marks present. Further information concerning the bottle and product manufacturers identified by marks was supplied when possible. Internet research provided the majority of this information but Donaldson et al. (1990) and Lindsey (2012) also proved useful.

Some glass vessels could be identified to type by their form or their embossing. This information identifies the original contents of the bottle. However, identification of the original contents of a bottle does not necessarily connect the occupants of a site with the consumption of that product. Reuse of glass bottles for different products was a common practice in New Zealand in the 19th century, as there was no glass bottle production in New Zealand until the 20th century. All bottles had to be imported, which resulted in a scarcity of glass containers. However, the identification of reuse in an archaeological context is difficult. As such, glass vessels are discussed in relation to their original contents.

Bag ID	General description	Quantity	Manufacture	Identification details
Site	Colour	NISP	Type	Embossing
Code	Portion	MNV	Marks	Notes
Box number	Class			Reference
Bag number	Common name			Photo ID
Provenance	Details			

Metal artefacts

Metal artefacts were analysed and recorded by their material type, form and measurements. If the artefact could not be identified by form a description of its appearance was included.

Bag ID	Description	Quantity	Identification details
Site	Material	Measurements	Notes
Code	Form	NISP	Reference
Box number	Details	MNI	Photo ID

Bag number	Portion
Provenance	

Miscellaneous artefacts

Miscellaneous artefacts included building materials and all other recovered artefacts not relevant to the already established material categories. Artefacts were cleaned and then analysed according to material type. Those that could be identified to form were recorded as such.

Bag ID	**Description**	**Quantity**	**Information**
Site	Material	Measurement	Notes
Code	Artefact	NISP	ID
Box number	Portion	MNI	
Bag number	Description		
Provenance			

Discard protocol

Underground Overground Archaeology uses a discard protocol involving the discard of non-diagnostic artefact fragments. A note is made in the artefact spreadsheet if an artefact is discarded. Copies of the artefact discard protocol are available upon request.

Abbreviations

Ceramic	
b & b plate	bread and butter plate
bbe	buff bodied earthenware
bc	bone china
bd	body
bgst	bristol glaze
bs	base
cl	clear
ew-c	coarse earthenware
dbw	dyed body ware
fb	flow blue
ew-r	refined earthenware
h	handle
porc-h	hard paste porcelain
porc-s	soft paste porcelain
pw	pearlware
r	rim
rre	red refined earthenware
rt	rockingham type
sgst	salt glaze
st	stoneware
svww	Semi-vitrified whiteware
ugtp	underglaze transfer print
unid	unidentified
wg	white granite
ww	whiteware
yw	yellowware
Faunal	
C	complete
C*	complete, missing 1 epiphysis
C**	complete, missing 2 epiphyses
P	complete proximal portion of the bone
P*	complete proximal portion but missing the unfused epiphysis
PE	the unfused proximal epiphysis
PS	proximal shaft
MS	shaft
DS	distal shaft
D	complete distal portion of the bone
D*	complete distal portion but missing the unfused epiphysis

DE	the unfused distal epiphysis
Glass	
1pc dm	one piece dip mould
2pc	two piece mould
2pc w cb	two piece mould with cup bottom
2pc w pb	two piece mould with post bottom
3pc dm	three piece dip mould
ab	amber brown
ag	aqua green
bd	body
bs	base
bv1	blake variant one
cb	cobalt
cc	concave
cl	colourless
cmpl	complete
c/s	cross section
cv	convex
-d	dark
dcc	dished curved
dft	dished flat
dm	dip mould
f	finish
fg	forest green
eg	emerald green
ft	flat
hs	seams horizontal on shoulder
hs/vb	seams horizontal on shoulder, vertical on body
hs/vbs	seams horizontal on shoulder, vertical on body and shoulder
hs/vs	seams horizontal on shoulder, vertical on shoulder
hz	horizontal
kbe	kickup bell shaped
kcm	kickup conical with mamelon
kcn	kickup conical
kdo	kickup domed
kpa	kickup parabolic
krc	kickup rounded cone
-l	light
mm	machine made
n	neck
nil	nil seams
og	olive green
rcb c/s	round cornered blake cross section
ro	rounded
s	shoulder
sc	scooped
st	straight
sts	straight short
td	tapered down
td/u/bead	tapered down/u-shaped groove/bead
td/v/skirt	tapered down/v-shaped groove/skirt
tp	tapered
tu	tapered up
tus	tapered up short
turn-b	turn marks on the body
turn-l	turn marks on the lip
vh/hh	seams vertical on heel, horizontal on heel
vh/tb	seams vertical on heel, transverse on base
vh/tf/cb	seams vertical on heel, horizontal on foot, circular on base
v3h/t3f/cb	seams 3 vertical on heel, 3 transverse on foot, circular on base
vbs	seams vertical on body and shoulder
v3bs	seams 3 vertical on body and shoulder
vcn	seams vertical complete on neck
v3cn	seams 3vertical complete on neck
vpn	seams vertical partial on neck
wrench-n	wrench marks on the neck
Metal	
h	head
pt	point
s	shaft

APPENDIX 2: ARTEFACT SPREADSHEETS

Due to the constraints of printing on an A4 page, the following artefact spreadsheets have been condensed (as noted in the footnotes for each table). For full spreadsheets please contact Underground Overground Archaeology.

At the time of writing, the artefacts were stored at Underground Overground Ltd offices at 31 Stevens Street, Waltham, Christchurch.

Ceramic[5]

Bag	Prov	Body Type	Glaze	Ware	Function	Form	Port.	NISP	MNI	Techn.	Colour	Pattern Name/Motif	Maker's Mark	Date	Notes	Reference
1	F2 (layer 6)	ew-r	cl	ww	table ware	plate	bs	1	1	ugtp	blue	unid: tree			It is impossible to determine the pattern based on the small fragment. Part of a tree is the only motif identified.	
2	F2 (layer 7)	ew-r	cl	ww	tea ware	saucer	bs	1	1	painting	red	unid: bnd	Impressed partial mark impossible to identify		Red line surrounding the footring.	
3	F2 (layer 7)	st	plain	pgst	household	spouted ink bottle	cmpl	1	1				Blackwood & Co/ Patent/ Syphon on heel // O // Y (also impressed on the sides of the impressed anagram)	1861 first adv NZ		
4	F2 (layer 7)	ew-r	cl	ww	table ware	plate?	bd	1	1	ugtp	blue	unid: floral/foliage ?			It is a small fragment although it looked like very similar to C-1 from F2 (layer 6).	
5	F2 (layer 7)	ew-r	cl	ww	table ware	serving bowl	r-m-bd	1	1	ugtp	blue	Willow				
6	F1	ew-r	cl	ww	table ware	plate	r-m-sh	1	1	ugtp	blue	Willow				
7	F1	ew-r	cl	ww	table ware	plate/serving bowl	bd-bs	1	1	ugtp	blue	Willow			It looked more like a serving bowl as C-5 from F2 (layer 7), based on the straight profile.	
8	F1	ew-r	cl	ww	table ware	plate	bs	1	1	ugtp	blue	unid: landscape/architecthure			It is a very small fragment in which there is part of a tree, mountains and the top of a building represented.	
9	F1	ew-r	cl	ww	table ware	plate	bs	3	1	ugtp	blue	Willow				

[5] The following columns have been removed from this table: Site, code, SCIRT box # (F1 is stored in SCIRT50, F2 is stored in SCIRT50 and SCIRT51, F3 is stored in SCIRT52 and F4 is stored in SCIRT54), photo ID.

10	F1	ew-r	cl	ww	table ware	plate	r-m-sh	1	0	ugtp	blue	Willow			It was considered part of one of the other Willow patterned plates.	
11	F1	ew-r	cl	ww	table ware	unid hollow-ware/small bowl?	r-m-bd	1	1	ugtp	blue	Willow				
12	F1	ew-r	cl	ww	table ware	side/small plate	bs	1	1	ugtp	blue	Willow				
13	F1	ew-r	cl	ww	tea/table ware	unid hollow-ware/small bowl?/teacup?	bd-bs	3	1	ugtp	blue	unid: landscape/architecthure			It looked like the Rhine pattern or very similar.	
14	F1	ew-r	cl	ww	tea ware	saucer	r-bd-bs	1	1	ugtp	black	unid: floral/foliage			Moulded edge. Decoration of rim consisted of horizontal and vertical lines, below of which there are acanthus and stilysed leaves and flowers. In the middle of the saucer only one leave it is visible.	
15	F1	ew-r	cl	ww	table ware	plate	r-m-sh	1	1	ugtp	grey	unid: floral/foliage			Failed transferprint. Decorated marly featuring stylised leaves with small leaves and fruits in the middle of a type of vignettes. The inner body is decorated with floral and foliage elements similar to the Asiatic Pheasants pattern.	
16	F2 (layer 1)	ew-r	cl	ww	table ware	unid hollow-ware	bd	9	0						DISCARTED. Body fragments (some of which were burned). They were considered part of the other ww vessels.	
17	F2 (layer 1)	ew-r	cream	cw	tea ware	saucer	r-bd-bs	5	1						Creamware saucer	
18	F2 (layer 1)	spp	cl	bc	tea ware	teacup	r-bd-handle	9	1	gilt painting	gold	unid: bnd			two parallel lines outer surface, above of which there is an undetermined band. Thin gilt band inner surface. Gilt band also across the handle.	
19	F2 (layer 1)	ew-r	cl	ww	table ware	plate	r-m	3	1	ugtp	blue	Willow				
20	F2 (layer 1)	ew-r	cl	ww	table ware	unid hollow-ware	bd	1	1	ugtp	blue	Willow			It is a small fragment with failed transferprint. It looked like Willow patter,	

															identified by some of the elements.	
21	F2 (layer 1)	ew-r	cl	ww	table ware	bowl	r-bd	5	1						Burned. Bowl with rounded rim.	
22	F2 (layer 1)	ew-r	cl	ww	tea ware	coffee can	bs	7	1						Burned.	
23	F2 (layer 1)	ew-r	cl	ww	tea ware	coffee can	r-bd	1	0						Burned. It is considered part of the C-22. A grooved line below the rim and straight boy, suggesting that it is a coffee can.	
24	F2 (layer 1)	ew-r	cl	ww	table ware	plate	r-m-sh-bs	2	1	ugtp	grey	Rhine				
25	F2 (layer 1)	ew-r	cl	ww	tea ware	teacup	almost cmpl	3	1	ugtp	black	Asiatic Pheasants				
26	F2 (layer 1)	ew-r	cl	svww	table ware	dinner plate	almost cmpl	13	1				ROYAL VITRIFIED CHINA / KERR & CO / WORCESTER / ENGLAND	1852 - 1862	Crown added after 1862. In the book appeared as KERR or KERR & BINNS or W.H. KERR & CO. It is not exactly porcelain although it has high level of fineness.	Godden 1991: 371
27	F2 (layer 1)	ew-r	ungla zed	cw	table ware	unid hollow-ware	r-bd	1	1	mouldin g/painti ng	green, black, yellow, orange	unid: greek key			Green and black band on the rim combining with moulded band consisting of repetitive circles. In the middle of the outer body displayed greek key elements.	
28	F2 (layer 2)	ew-r	cl	ww	table ware	small bowl	cmpl	3	1	ugtp	black	Marble	Unidentified impressed mark, likely a letter.		Inner and outer decoration.	
29	F2 (layer 2)	ew-r	cl	ww	table ware	plate	r-m	1	1	ugtp	blue	Asiatic Pheasants				
30	F2 (layer 2)	ew-r	cl	ww	table ware	plate	r-m-sh	2	1	ugtp	grey	Rhine				
31	F2 (layer 2)	ew-r	cl	ww	tea ware	coffee can	r-bd	1	1						It has a grooved band below the rim.	
32	F2 (layer 2)	ew-r	cl	ww	tea ware	saucer	bs	2	1	ugtp	purple	Scott	SCOTT / R (impressed mark)			
33	F2 (layer 3)	ew-r	cl	svww	table ware	dinner plate	almost cmpl	3	1						It is not exactly porcelain although it has high level of fineness.	
34	F2 (layer 3)	st	plain	pgst	household/storage	Lid	almost cmpl	1	1						103 mm diameter. It could be the closure of a wide mouth jar or container.	
35	F2 (layer 3)	ew-r	cl	ww	table ware	plate	almost cmpl	12	1	ugtp	blue	Asiatic Pheasants				
36	F2 (layer 3)	ew-r	cl	ww	table ware	plate	bs	1	1	ugtp	blue	Willow				
37	F2 (layer 3)	ew-r	cl	ww	table ware	plate	bs	1	1	ugtp	blue	Willow			It is a different base from C-36	

38	F2 (layer 3)	ew-r	cl	ww	table ware	plate	r-m-sh	1	0	ugtp	blue	Willow			It was considered part of one of the Willow plates.	
39	F2 (layer 3)	ew-r	cl	ww	table ware	plate	r-m	1	1	moulding/ugtp	blue	unid: vine leaves			Marley decorated featuring vine leaces and small cercles.	
40	F2 (layer 3)	ew-r	cl	ww	tea ware	saucer	almost cmpl	6	1	ugtp	purple	unid: ribbon floral/foliage	interlaced letters (impressed mark)		A ribbon/cable displaying bunch of different flowers and leaves.	
41	F2 (layer 4)	ew-r	cl	ww	table ware	Jar	hadle	1	1							
42	F3	ew-r	**cl**	**ww**	tea ware	teacup	r-bd	2	1	ugtp	blue	Brosseley				
43	F3	ew-r	cl	ww	table ware?	unid hollow-ware	lid	1	1							
44	F3	ew-r	cl	ww	table ware	soup tureen	lid	1	1	ugtp	blue	Wild Rose			The space for the spoon was identified as a hole on the border.	
45	F3	ew-r	cl	ww	table ware	tureen	cmpl	21	1	ugtp	blue	Cattle Scenery			Marks on the border (blurred transferprint).	Trancollectors Data Base; Coysh and Henrywood 1982: 52
46	F3	ew-r	cl	ww	tea ware	coffee can	bs	2	1						The artefact from is derived from the straight profile from the base.	
47	F3	hpp	cl	porc-h	table ware	side plate	r-m-sh-bs	10	2	moulded edge/sprigged	blue	unid: floral			Moulded edge and sprigged motifs combining a type of daisy with leaves and a type of tulip. A little bit cream glazed.	
48	F3	ew-r	cl	ww	household	chamber pot	almost cmpl	19	1	painting	blue	unid: bnd			A thin line painted on the outer surface (in the junction between the end of the border and the beginning of the body). Additionally a shadow of a possible blue band remained on the rim.	
49	F3	ew-r	cl	ww	table ware/household	Jug	r-handle	3	1	ugtp	green	unid: floral/foliage /architecture /oriental			Floral and foliage garland across the handle. Oriental scena derived from the architecture present consisted of pagoda, bridge and stairs	
50	F3	ew-r	cl	ww	table ware	bowl	almost cmpl	8	1						Bowl with rounded rim.	
51	F3	ew-r	cl	ww	tea ware	saucer	almost cmpl	7	1	ugtp	blue	Dresden Vignette	W S & Co / Dresden Vignette (cartouche, printed mark)	1825 - 1855	William Smith and Company.	http://www.transcollectorsclub.org/
52	F3	ew-r	cl	ww	table ware	plate	almost cmpl	16	1	ugtp	blue	Willow	DAVENPORT (blue printed) and impressed anchor (imposible to read the numbers)	1860 s?	Upper case letters from 1805. The anchor impressed mark was used up to 1860, in several instances the last two	Godden 1991: 189

															numerals of the year were placed each side of the anchor (impossible to determine in this case)	
53	F3	ew-r	cl	ww	table ware	plate	half part	2	1	ugtp	blue	Willow			The transferprint is a little bit blurred.	
54	F3	ew-r	cl	ww	table ware	small plate	half part	11	2	ugtp	blue	Willow	S W P / 3 (one of them)	1839 - 1858	South Wales Pottery	Godden 1991: 587
55	F3	ew-r	cl	ww	table ware	plate	half part	1	1	ugtp	blue	Willow	Printed mark. Crown		Impossible to determine because only the top of the crown remained. Flowers and scrolls also visible.	
56	F4	ew-r	cl	ww	table ware	unid flatware	bs	2	1	ugtp	blue	Wild Rose?			It looked like the Wild Rose pattern although the small fragments don't let to be sure about the pattern.	
57	F4	spp	cl	bc	tea ware	teacup	r-bd-bs	2	1	sprigged	blue	unid			It is likely vine leaves/grapes decoration although it is impossible to identify due to the fragmented vessel.	
58	F4	ew-r	cl	ww	table ware	bowl	r-bd-bs	10	1						Bowl with rounded rim.	
59	F4	ew-r	cl	ww	tea ware	saucer	r-bd	1	1	flow blue	blue	unid: floral			Flowers distributed on the inner surface. It is a simple design consisting of six peatals in each flower.	
60	F4	ew-r	cl	ww	table ware	unid hollow-ware	r-bd	1	1	ugtp	grey/green	unid: floral/foliage			Decoration inner and outer surface consisted of a bunch of different flowers and pointed leaves that seemed to cover all the outer surface. On the iner of the vessel a band was identified featuring stylised acanthus leaves combined with a hanging rose along with pointed leaves. Simillar to Bouquet or Ermine Border patterns. Failed transferprint.	
61	F4	ew-r	cl	ww	table ware	unid hollow-ware	r-bd	1	1	ugtp	grey/green	unid: floral/foliage			It is very similar to C-60 although. It was decorated with a band on the top displaying acanthus leaves and a bunch of different flowers and leaves below of the band. Inner and outer decoration is the same. Curved profile on the top and change in the	

															middle of the body. It could be part of a jug.	
62	F4	ew-r	cl	ww	tea ware	saucer	r-bd-bs	6	1	sponged	black	unid: geometric			Inner border decorated with repetitive spirals surrounding it. Same motifs on the centre of the base.	
63	F4	ew-r	cl	ww	tea ware	teacup	r-bd-bs	8	2	sponged	black	unid: geometric			Inner and outer border decorated with repetitive spirals. The same in the middle of the inner base. These are part of the same set as C-62.	
64	F4	ew-r	cl	ww	table ware	plate	r-m-sh	1	1	sponged	blue, green, red	unid: geometric/foliage			Blue band on top rim and below the shoulder. Repetitive sponged motifs are identified between both bands, consiting of schematic leaves. Unidentified red sponged motifs were noted below the shoulder.	
65	F4	ew-c	unglazed		household/storage	pot/container	bs	1	1						Glazed inside could be associated with drainage. It might be a big flower pot. 310 mm diameter base.	
66	F4	ew-r	cl	ww	household	chamber pot	almost cmpl	20	1	painting	blue	unid: bnd			A thin line painted on the outer surface (in the junction between the end of the border and the beginning of the body). Sam line in the junction between the body and the footring.	
67	F4	ew-c	slip	white	household	pot/container	bs	1	1						Coarse earthenware with white slip on the inner surface. Remnats of glaze or vitrification on the outer surface.	
68	F4	ew-r	cl	ww	personal	cold cream	lid	1	1	ugtp	black		COLD CREAM		The same lid was found in 94-96 Gloucester Street.	
69	F3	ew-r	buff-bodied	buff-bodied	table ware	Jug	n-bd-bs	1	1	moulding			unid: scenery		A tree in the background and three people. One of them is a man, who is wearing a hat, smiling and doing something with his hands. On the other hand a woman and a man, who is serving a glass of wine from a jug. A type of small barrel is noted close to them. Countryside scene.	

70	F3	ew-r	cl	ww	tea ware	teacup	almost cmpl	8	1	ugtp	blue		unid: fibre/seaweed		Failed transferprint on the inner surface. Decoration consisted of stylised branches as the Fibre or Seaweed patterns.	
71	F3	spp	cl	bc	table ware	Dish	almost cmpl	27	1	painting	blue, red, gold		unid: chinoiserie		The main scene consisted of a blue pagoda and several trees with branches. Red colour was used for painting flowers and curved lines across the surface, as well as gold, only for higlighing some elements. Some paint was gone and only the shadow remained.	

Faunal

Site	Code	Box	Bag	Prov	Species	Element	Side	Portion	Butchery unit	Taphonomy	NISP	MNE	MNBU	NOTES
SCIRT11232	F	SCIRT50	1	F2 (layer 5)	sheep	femur	left	med condyle, lat supracondyloid crest, lat epicondyle	hindshank	broken	1	1	1	
SCIRT11232	F	SCIRT50	2	F2 (layer 5)	sheep	femur	left	cmpl except prox part and trochlea	hindshank	broken, small horizontal cuts	1	1	1	
SCIRT11232	F	SCIRT50	3	F2 (layer 5)	sheep	scapula	left	post border, n, glenoid cavity	chuck	broken	1	1	1	
SCIRT11232	F	SCIRT50	4	F2 (layer 5)	sheep	tibia	right	med and distal end	hindshank	broken	1	1	1	
SCIRT11232	F	SCIRT50	5	F2 (layer 5)	sheep	metacarpus		cmpl except distal end	foreshank	broken	1	1	1	
SCIRT11232	F	SCIRT50	6	F2 (layer 5)	cow	cervical vertebra		ant and post end of bd, articular process	scrag n	half part sawn	1	1	1	
SCIRT11232	F	SCIRT50	7	F2 (layer 6)	cow	rib		head, n, ant border	chuck/loin	broken, sawn	2	1	1	
SCIRT11232	F	SCIRT50	8	F2 (layer 6)	chicken	tarsometatarsus		prox, med		broken	1	1	1	
SCIRT11232	F	SCIRT50	9	F2 (layer 6)	sheep	rib		head, n, ant border	chuck/loin	broken	1	1	1	
SCIRT11232	F	SCIRT50	10	F2 (layer 6)	sheep	radius	right	prox, med, dist uncompleted	foreshank	broken	2	1	1	
SCIRT11232	F	SCIRT50	11	F2 (layer 6)	cow	vertebra		half part	scrag n/loin	sawn	1	1	1	
SCIRT11232	F	SCIRT50	12	F2 (layer 6)	sheep	pelvis		gluteal line	loin	broken	1	1	1	
SCIRT11232	F	SCIRT50	13	F2 (layer 6)	sheep	pelvis	right	gluteal line	loin	broken	1	1	1	
SCIRT11232	F	SCIRT50	14	F2 (layer 7)	sheep	ulna		processus anconaoeus	foreshank	broken	1	1	1	
SCIRT11232	F	SCIRT50	15	F2 (layer 7)	cow	rib		med	chuck/loin	sawn	2	1	1	
SCIRT11232	F	SCIRT50	16	F2 (layer 7)	sheep	tibia	left	head, prox	hindshank	sawn	1	1	1	
SCIRT11232	F	SCIRT50	17	F2 (layer 7)	sheep	rib		med	chuck/loin	broken	1	1	1	
SCIRT11232	F	SCIRT50	18	F2 (layer 7)	sheep	pelvis		med	loin	broken	3	0	0	
SCIRT11232	F	SCIRT50	19	F2 (layer 7)	cow	vertebra		med	chuck	broken. Chopped	1	1	1	
SCIRT11232	F	SCIRT50	20	F2 (layer 7)	sheep	pelvis	right	acetabulum, schiatic spine	loin	broken	2	2	2	
SCIRT11232	F	SCIRT50	21	F1	sheep?	teeth		skull	skull	fragments	6	1	1	

SCIRT11232	F	SCIRT50	22	F1	cow	rib		med	chuck/loin	fragments	1	1	1	Worn bone, caused by the effect of water?
SCIRT11232	F	SCIRT50	23	F1	sheep	sacrum		median crest	rump	fragments	2	1	1	
SCIRT11232	F	SCIRT50	24	F1	sheep	humerus	right	cmpl	foreshank	broken	2	1	1	
SCIRT11232	F	SCIRT50	25	F1	sheep	humerus	left	condyles, epicondyles	foreshank	broken	1	1	0	
SCIRT11232	F	SCIRT50	26	F1	cow	lumbar vertebra		transverse process, ant articular process	loin	broken	4	1	1	
SCIRT11232	F	SCIRT50	27	F1	pig	mandibula		angle, med	skull	broken	4	1	1	
SCIRT11232	F	SCIRT50	28	F1	sheep	tibia	right	distal end	hindshank	broken	1	1	1	
SCIRT11232	F	SCIRT51	29	F2 (layer 1)	sheep	radius	right	medial	foreshank	broken	1	1	1	
SCIRT11232	F	SCIRT51	30	F2 (layer 1)	sheep	tibia		crest	hindshank	broken	1	1	1	
SCIRT11232	F	SCIRT51	31	F2 (layer 3)	sheep	lumbar vertebra		articular and transverse processes, end of body	loin	sawn	2	1	1	
SCIRT11232	F	SCIRT51	32	F2 (layer 3)	sheep	metatarsus		prox, med	hindshank	worn	1	1	1	
SCIRT11232	F	SCIRT51	33	F2 (layer 4)	cow	radius	right	med	foreshank	sawn both sides	1	1	1	
SCIRT11232	F	SCIRT51	34	F2 (layer 4)	cow	rib		med	loin	sawn both sides	2	1	1	
SCIRT11232	F	SCIRT51	35	F2 (layer 4)	chicken	tarsometatarsus		med, distal		broken	1	1	1	
SCIRT11232	F	SCIRT51	36	F2 (layer 4)	cow	sacrum		articular processes, sacral canal, foramina	rump	broken	2	1	1	
SCIRT11232	F	SCIRT52	37	F3	fowl/chicken	femur	left/right	cmpl			2	2		
SCIRT11232	F	SCIRT52	38	F3	fowl/chicken	tibiotarsus	left/right	cmpl		broken	3	3		
SCIRT11232	F	SCIRT52	39	F3	fowl/chicken	tarsometatarsus	left/right	cmpl		broken	4	3		
SCIRT11232	F	SCIRT52	40	F3	fowl/chicken	humerus	right	cmpl			1	1		
SCIRT11232	F	SCIRT52	41	F3	fowl/chicken	ulna	right	cmpl		broken	1	1		
SCIRT11232	F	SCIRT52	42	F3	bird/chicken or duck?	radius		cmpl		broken	3	3		
SCIRT11232	F	SCIRT52	43	F3	chicken	scapula		cmpl			1	1		
SCIRT11232	F	SCIRT52	44	F3	bird/chicken?	coracoid		med, distal		broken	1	1		
SCIRT11232	F	SCIRT52	45	F3	rabbit?	fibula/tibia		almost cmpl		broken	2	1		
SCIRT11232	F	SCIRT52	46	F3	rabbit?	scapula		cmpl		broken	1	1		
SCIRT11232	F	SCIRT52	47	F3	rabbit?	ulna/radius		cmpl			1	1		
SCIRT11232	F	SCIRT52	48	F3	rabbit?	skull/mandibula				broken	2	1		
SCIRT11232	F	SCIRT52	49	F3	fowl/chicken	sternum		crista, facies art for coracoid, spina sterni		broken	2	1		
SCIRT11232	F	SCIRT52	50	F3	fowl/chicken	vertebral column		thoracic andsacrothoracic vertebrae		broken	2	1		
SCIRT11232	F	SCIRT52	51	F3	fowl/chicken?	cervical vertebra		cmpl			2	1		
SCIRT11232	F	SCIRT52	52	F3	sheep	lumbar vertebra		articular processes, foramen	rump	sawn	1	1	1	
SCIRT11232	F	SCIRT52	53	F3	sheep	metacarpus		cmpl	foreshank	worn	1	1	1	
SCIRT11232	F	SCIRT52	54	F3	sheep	rib		medial	loin/rump	worn, broken	1	1	1	
SCIRT11232	F	SCIRT52	55	F3	cow	carpal/tarsal		almost cmpl	fore/hindshank	broken	1	1	1	
SCIRT11232	F	SCIRT54	56	F4	sheep	mandibula	right	infraorbital foramen, medial, molars	skull	broken	2	1	1	
SCIRT11232	F	SCIRT54	57	F4	cow	calcaneus		cmpl	hindshank		1	1	1	

SCIRT11232	F	SCIRT54	58	F4	cow	tibia	right	condyles, tuberosity, spine, crest	hindshank	sawn	1	1	0	3.5-4 years. Prox ephiphysis
SCIRT11232	F	SCIRT54	59	F4	cow	tibia	left	malleolus, distal end	hindshank	sawn	1	1	0	
SCIRT11232	F	SCIRT54	60	F4	sheep	tibia		medial	hindshank		1	0	1	
SCIRT11232	F	SCIRT54	61	F4	sheep	tibia	left	medial, distal end	hindshank	broken	1	0	0	
SCIRT11232	F	SCIRT54	62	F4	sheep	femur	left	cmpl	hindshank	worn	1	1	0	
SCIRT11232	F	SCIRT54	63	F4	cow	astralagus		cmpl	fore/hindshank		1	1	0	
SCIRT11232	F	SCIRT54	64	F4	sheep	pelvs	left	acetabulum, schiatic spine	rump	broken	1	1	1	
SCIRT11232	F	SCIRT54	65	F4	cow	rib		medial	loin	broken	1	1	1	
SCIRT11232	F	SCIRT54	66	F4	sheep	molar		cmpl	skull		1	0	0	
SCIRT11232	F	SCIRT54	67	F4	cow	tibia	left	distal end	hindshank	broken	1	1	1	
SCIRT11232	F	SCIRT54	68	F4	sheep	radius	left	med, distal end	foreshank	broken	2	1	1	
SCIRT11232	F	SCIRT54	69	F4	sheep	metatarsus		prox, med	hindshank	broken	1	1	0	
SCIRT11232	F	SCIRT54	70	F4	sheep	humerus	right	coronoid fossa, condyles, epycondiles	foreshank	broken	1	1	1	
SCIRT11232	F	SCIRT54	71	F4	sheep	humerus	left	med, lat condyle	foreshank	broken	1	1	0	
SCIRT11232	F	SCIRT54	72	F4	cow	atlas		wing, foramens	scrag end n	broken	1	1	1	

Glass[6]

Bag	Prov	Col	Port	Class	Common name	Details	NISP	MNE	MNV	Type	Marks	Embossing	Date	Notes	Reference
1	F2 (layer 5)	og-d	bd-bs	alcohol	black beer (quart)	st bd, ro heel, krc bs	1	1	1	dm	stippled, air bubbles			75 mm diameter base	
2	F2 (layer 5)	og-d	sh	alcohol	black beer	ro sh	2	0	0	dm	stippled			It could be part of one of the other black beer	
3	F2 (layer 5)	og-d	bd-bs	alcohol	black beer (pint)	st bd, ro heel, krc bs	1	1	1	dm	stippled			70 mm diameter base.	
4	F2 (layer 5)	og-d	finish	alcohol	black beer (squat?)	ap bead//v/ft lip, cv n, ro sh	1	0	0	dm	stippled, air bubbles			It was considered part of one of the other black beer bottles.	
5	F2 (layer 5)	og-d	finish	alcohol	black beer	ap bead/v/skirt lip, cv n	1	0	0	dm	wrench-n			It was considered part of one of the other black beer bottles.	
6	F2 (layer 5)	ag-l	bd-bs	condiment	condiment/sauce	bevelled bd, rect cc c/s, ft and kdo bs	3	1	1	dm	stippled			It has tapered corners and press moulded decoration featuring panels on the four faces.	

[6] The following columns have been removed from this table: Site, code, SCIRT box # (F1 is stored in SCIRT50, F2 is stored in SCIRT50 and SCIRT51, F3 is stored in SCIRT52 and F4 is stored in SCIRT54), photo ID.

7	F2 (layer 5)	cl	chimney	household	lamp	st n, oval bd	3	1	1		air bubbles, hb				
8	F2 (layer 5)	cl	bd	household/ table ware	unid hollow-ware/lamp?	ft top, oval shape	2	1	1					Opaque glass, clear hand decoration featuring foliage/plants (they looked like cherries or some small and circular fruit)	
9	F2 (layer 6)	amb	n-sh-bd-bs	alcohol?	beer bottle?	cc n, tap sh, st bd, ro sh, dcc bs	2	1	1	2 pc m	patina			50 mm diameter base. It is difficult to identify the colour based on the patina and burned level of conservation. Pimple.	
10	F2 (layer 6)	aqb-l	finish, top bd	pharmaceutical	oval phamaceutical?	angle lip, st n, ro sh, oval c/s	1	1	1	2 pc m	air bubbles, patina, hb				
11	F2 (layer 6)	green	n-sh	unid/beverage/other?	ro c/s	ro sh	2	1	1	dm	patina, hb			It is difficult to identify any diagnostic elements.	
12	F2 (layer 6)	cl	fragment	structural	window glass	ft	1	1	1					2 mm thickness. It looked like a little bit grey, maybe due to a burned context.	
13	F2 (layer 6)	cl	r-bd	table ware	unid hollow-ware/sugar bowl?	press moulded bowl	5	1	1					Moulded edge and press moulded decoration consisting of oval shapes in vignetes.	
14	F2 (layer 6)	ag-l	n-bd-bs	condiment	condiment/sauce	bevelled bd, rect cc c/s, ft and kdo bs	4	1	1	dm	hb, stippled			It is the same shape as G-6, but another one based on the base present.	
15	F2 (layer 6)	cl	bd-bs	cosmetic	perfum?	ro c/s, tap sh, st bd, ab heel, ft bs	1	1	1	2 pc m	patina, vb, hb, stippled	E RIMMEL LONDON	1852 first adv NZ	36 mm diameter base, 55 mm high of body.	https://paperspast.natlib.govt.nz, https://en.wikipedia.org
16	F2 (layer 7)	cl	footring	table ware	unid hollow-ware/sugar bowl?	press moulded bowl	1	0	0	moulded				It conjoined with G-13 from F2 (layer 6). That's the reason for MN 0. Starbust on	

														base and diamond patterned.	
17	F2 (layer 7)	cl	almost cmpl	table ware	tumbler	st bd, ab heel, dft bs	2	1	1	turn-m	patina, hb, air bubbles			Free blown inside (base) and turn-moulded body (hb). 63 mm diameter base.	
18	F1	cl	bowl	table ware	stemware	tap bd, cut panelled	1	1	1		hb, vb, stippled			Cut vertical panels.	
19	F1	ag-l	finish	storage	wide mouth bottle/jar	ap ft lip, st n	1	1	1		vn, patina				
20	F1	fg	bd	alcohol?	ring seal?	st bd	1	1	1	turn-m	hb, stippled			It is difficult to determine because only one small fragment remained.	
21	F1	ag-l	bs	unid	ro c/s	kdo bs	1	1	1			uncompleted registration diamond (14th on the right side)	1842-1867 based on the number of the right hand corner.		
22	F1	fg	sh	unid	ro c/s	ro sh	1	1	1		hb, vb			It is a small fragment.	
23	F2 (layer 1)	yellow	r-bowl-top of stem	table ware	stemware	ro r, tap bowl	8	2	2	free blown	stippled			Press moulded diamond pattern	
24	F2 (layer 1)	og-d	bd-bs	alcohol	black beer (quart)	st bd, ro heel, krc bs	1	1	1	dm	air bubbles			Uneven base. 85 mm diameter base.	
25	F2 (layer 1)	og-d	finish-sh	alcohol	black beer (squat?)	ap bead/v/skirt lip, cv n, ro sh	1	0	0	dm	wrench-n, hb			It looked like wider than the normal size.	
26	F2 (layer 1)	og-d	bd-bs	alcohol	black beer (quart)	st bd, ro heel, krc bs	3	1	1	dm	stippled, hb			75 mm diameter base	
27	F2 (layer 1)	ag-l	bd-bs	condiment	sauce bottle	ap angl/v/skirt/v/skirt lip, st bd, ab heel, kdo bs	2	2	2	2 pc m w c b	wrench-n, vb, hb, air bubbles	LEA & PERRINS on body / A C B Co	from 1852 onwards	Aire & Calder Glass Bottle Company, Lea & Perrins.	Tasker 1989: 88
28	F2 (layer 1)	ag-l	cmpl	closure	stopper		1	0	0	moulded	hb	LEA & PERRINS	from 1852 onwards	31 mm length, 23 mm diameter top. It was considered part of one of the sauce bottles.	Tasker 1989: 88

29	F2 (layer 1)	aqb-l	bd-bs	pharmaceutical?	oval phamaceutical?	oval c/s, ab heel, dft bs	5	1	1	dm	vb, hb, air bubbles				
30	F2 (layer 1)	ag-l	bd	condiment	sauce bottle?	press moulded decoration	1	1	1	2 pc m	hb, vb			Press moulded decoration featuring waves and lines with a kind of vignetes with oval and straight sides.	
31	F2 (layer 1)	cl	bd	table ware?	unid hollow-ware?	cut panelled body	1	1	1	free blown?	patina			Cut decoration featuring mitres (as stars or crosses?)	
32	F2 (layer 1)	ag-l	cmpl	condiment	sauce bottle	ap ft/v/skirt lip, st n, tap sh, st bd, ab heel, kdo bs	1	1	1	2 pc m w c b	vb, air bubbles			49 mm diameter base, 215 mm length	
33	F2 (layer 1)	fg	cmpl	alcohol	spirits	ap ft/trail lip, cc n, ro sh, st bd, ro heel, kpa w m bs	1	1	1	1 pc dm	patina, vn, air bubbles			73 mm diameter base, 290 mm length	
34	F2 (layer 2)	amb	almost cmpl	alcohol	appolinaris black beer	ap ft or bead lip, tap sh, st bd, ro heel, dcc bs	2	2	2	2 pc m	wrench-n, air bubbles	Pimples on the base		80 mm diameter base. One of them has remnants of label on neck.	
35	F2 (layer 2)	og-d	bd-bs	alcohol	black beer	st bd, ro heel, krc bs	2	1	1	dm	air bubbles			73 mm diameter base	
36	F2 (layer 2)	ag-l	cmpl	closure	stopper		1	0	0	moulded	hb	LEA & PERRINS	from 1852 onwards	31 mm length, 23 mm diameter top. It was considered part of one of the sauce bottles.	
37	F2 (layer 2)	ag-l	bd-bs	condiment	sauce bottle	ap angl/v/skirt/v/skirt lip, st bd, ab heel, kdo bs	1	1	1	2 pc m w c b	wrench-n, vb, hb, air bubbles	WORCESTERSHIRE SAUCE on shoulder / LEA & PERRINS on body / A C B Co	from 1852 onwards	Aire & Calder Glass Bottle Company. Lea & Perrins.	
38	F2 (layer 3)	ag-l	almost cmpl	alcohol	spirits	cc n, tap sh and bd, ab heel, dcc bs	1	1	1	2 pc m w c b	wrench-n, air bubbles	JOHN STEWART & CO KIRKLISTON	1855-1877	John Stewart and CO.	Townsend, B., 2015.

39	F2 (layer 3)	fg	cmpl	alcohol	spirits	ap ft/trail lip, cc n, ro sh, st bd, ro heel, kpa w m bs	3	1	1	1 pc dm	patina, vn, air bubbles			Label is yellow and black, although it was impossible to identify.	
40	F2 (layer 3)	og-d	finish, bd-bs	alcohol	black beer (quart)	ap bead/v/skirt, tap n, st bd, ro heel, krc bs	2	1	1	dm	stippled			75 mm diameter base	
41	F2 (layer 3)	cl	r-bd	unid	wide mouth bottle/jar, vase?	angled rim, round c/s	1	1	1	turn-m	hb				
42	F2 (layer 4)	cl	r-bd	table ware	tumbler	ro rim, tap bd	1	1	1	free blown	stippled			Cut panelled vertical mitres decorating the body.	
43	F3	og-d	sh-bd-bs	alcohol	black beer (quart)	ro sh, st bd, ro heel, krc bs	6	6	6	1 pc dm	air bubbles			Uneven base and surface. 75 mm diameter base.	
44	F3	og-d	bd-bs	alcohol	black beer	st bd, ro heel, krc bs	1	1	1	dm	stippled			Sand pontil mark. 70 mm diameter base.	
45	F3	og-d	sh-bd-bs	alcohol	black beer (squat)	ro sh, st bd, ro heel, krc bs	5	5	5	1 pc dm	stippled			85 mm diameter base.	
46	F3	og-d	bd-bs	alcohol	black beer (squat)	st bd, ro heel, krc bs	1	1	1	dm	air bubbles			88 mm diameter base.	
47	F3	og-d	finish	alcohol	black beer	ap ft/v/skirt lip, cv n	6	0	0		vn			One of them is specially convexe shaped. Few difference between them, they are not exactly the same.	
48	F3	og-d	bd	alcohol	black beer	st bd	3	0	0	3 pc dm	air bubbles			These fragmets are considered part of the other bottles.	
49	F3	ag-l	bd	structural	window glass	fragments	7	1	1					2 mm thickness.	
50	F3	ag-l	finish-bs	food	pickle jar	ap bead lip, st n, bead ring, bevelled bd, ab heel, do bs	4	1	1	2 pc m w c b	air bubbles				

51	F3	ag-l	bd-bs	condiment	salad oil?	tapered and press moulded body, ab heel, dft bs	2	1	1	dm	air bubbles, patina			Hexagonal base. 58 mm diameter base.	
52	F3	ag-l	finish, bd-bs	condiment	salad oil? Vinegar?	ap ft/v/skirt lip, st n, panelled bd, ab heel, dcc bd	2	1	1	dm	wrench-n, air bubbles			57 mm diameter base.	
53	F3	aqb-l	cmpl	personal/pharma	oval c/s	ap ft lip, st n, tap sh, oval c/s, ab heel, dcc bs	1	1	1	2 pc m w c b	stippled, patina			48 mm max wide, 129 mm length.	
54	F3	aqb-l	finish, bd-bs	personal/pharma	octogonal c/s	ap ft lip, tap n, bevelled bd, ab heel, dcc bs	2	1	1	dm?	wrench-n, vb, air bubbles				
55	F3	aqb-l	bd-bs	personal/pharma		st bd, ro heel, dft bs	1	1	1	dm	vb, hb, air bubbles			63 mm diameter base.	
56	F3	cl	bd-bs	personal/pharma	ro c/s	st bd, ro heel, dft bs	1	1	1	dm	vb, hb, stippled			57 mm diameter base. It is the same as G-55 except the colour and diameter. Glass pontil	
57	F3	cl	bd-bs	personal/pharma	oval c/s	oval c/s, ab heel, dft bs	1	1	1	2 pc m	stippled			40 mm max wide, glass pontil mark.	
58	F3	ag-l	bs	unid	unid ro c/s	mamelon	1	1	1		patina				
59	F3	cl	r-bd-bs	table ware	tumbler	ro rim, tap fluted bd, ab heel, kdo bs	4	2	2	moulded	patina, hb, stippled			Fluted body (press moulded decoration). 70 mm max diameter base. Polished base.	
60	F3	cl	r-bd-bs	table ware	tumbler	ro rim, panelled bd, ro heel, kc bs	3	1	1	moulded	hb, stippled			Press moulded. Starburst on base. 67 mm max wide base. Polished base.	
61	F3	cl	bd	household?	bottle? Lamp?	rounded	7	1	1					It could be part of a bottle although it might also be the chimney of a lamp.	

62	F3	cl	cmpl	table ware	stemware drinking vessel/wine glass	bell shaped, cut oval panels, true balaster stem w knob under bowl and slight step at foot, conical foot.	4	3	3	3 pc		Patina		72 mm diameter foot. Glass pontil mark.	Jones 2000: 207. Parks Canada as well.
63	F3	cl	botto m bowl, stem, foot	table ware	stemware/cel ery vase?	bladed know in the middle of the stem, conical foot	1	1	1	3 pc		hb, patina		72 mm diameter foot. Glass pontil mark. Step and collar are present. Thistle shape is common for jellies and celery vases.	
64	F3	og-d	finish-sh-bs	alcohol	case gin 'pigsnout'	flared finish	2	1	1	dm	stippled	starburst on base	pre 1880		https://sha.org/bottle/liquor.htm
65	F4	ag-l	cmpl	alcohol	spirits	ap ft/step in/skirt, tap n, ro sh, st bd, ab heel, kso bs	1	1	1	3 pc dm	patina, air bubbles, h on the top part (shoulder)			277 mm length, 74 mm diameter base. Remnants of undetermined label on body.	
66	F4	fg	bs	alcohol	ring seal	kpa w m bs	1	1	1	turn-m	air bubbles			70 mm diameter base.	
67	F4	ag-l	sh-bd-bs	condiment	twirlie salad oil	tap sh, st bd, ring, ab heel, dcc bs	1	1	1	2 pc m w c b	vb, stippled			55 mm diameter base. Press moulded diamond pattern.	
68	F4	cl	bs	table ware	tumbler	panelled body, ab heel, dft bs	1	1	1	free blown	vb			61 mm diameter. Cut panels (11). Slight pink tint.	
69	F4	cl	r-bd-bs	table ware	tumbler	ro r, tap and panelled bd, ab heel, dcc bs	2	2	2	moulde d	stippled			Press moulded panels (8). The base has a startburt and remnants of glass pontil mark. 55 mm diameter base.	
70	F4	ag-l	cmpl	non_alcoho lic	torpedo		1	1	1	2 pc m	air bubbles				
71	F4	ag-l	finish-bd-bs	condiment	golfields salad oil	ap ft/v/skirt lip, tap n,	5	1	1	moulde d	wrench-n, air bubbles			46 mm diameter base, pimple	

						fluted bd, ab heel, kdo bs									
72	F4	ag-l	finish-bs	food	pickle jar	ap bead lip, st n, bead ring, bevelled bd, ab heel, do bs	3	2	2	2 pc m w c b	air bubbles				
73	F4	og-d	bs	alcohol	case gin	tap bd, ro corners, dcc bs	2	1	1	dm	vb, stippled				
74	F4	cl	bd	table ware	tumbler	panelled bd	2	1	1	free blown	patina, stippled			Cut panels (oval shape in the top part of them).	
75	F4	cl	finish	food	wide mouth jar	ap ft lip, cc n	1	1	1	2 pc m	hn				
76	F4	ag-l	almost cmpl	unid	ro c/s	ap 3 bead rings, st n, ro sh, st bd, ab heel, kdo bs	2	1	1	2 pc m w c b	vb, air bubbles			66 mm diameter base, 185 mm lenght	
77	F4	cl	mouth	food	pickle/preserve jar	flared lip, cc n	1	1	1	turn-m	hb			Slightly pink tint.	
78	F4	aqb-l	cmpl	personal/pharma	bevelled bottle	flared lip, st n, tap sh, bev bd, black varient, ab heel, dcc bs	1	1	1	2 pc w c b	vb, stippled			153 mm length, 55 mm wide.	
79	F4	cl	sh-bd-bs	personal	perfum?	bead, tap sh, panelled bd, octogonal c/s, ab heel, ft bs	1	1	1	dm?	patina, vb, air bubbles			45 mm diameter base, uneven inner base surface.	
80	F4	fg	bd-bs	unid	ro c/s	st bd, ab heel, krc bs	1	1	1	2 pc m w c b	patina, air bubbles			70 mm diameter base.	
81	F4	og-d	bd-bs	alcohol	black beer	st bd, ro heel, krc bs	1	1	1	dm	air bubbles			68 mm diameter base	
82	F4	og-d	bd-bs	alcohol	black beer	st bd, ro heel, krc bs	1	1	1	dm	vertical bands, air bubbles	WOOD PORTOBELLO	post 1868	75 mm diameter base. One half of Cooper & Wood, Portobello..	
83	F4	og-d	bd-bs	alcohol	black beer	st bd, ro heel, krc bs	1	1	1	dm	stippled, air bubbles			73 mm diameter base.	

84	F4	og-d	bd-bs	alcohol	black beer	st bd, ro heel, krc bs	1	1	1	dm	stippled			75 mm diameter base. Remnants of sand pontil mark?	
85	F4	og-d	bd-bs	alcohol	black beer (squat)	st bd, ab heel, kdo bs	1	1	1	turn-m	hb, air bubbles, pimple			85 mm diameter base.	
86	F4	og-d	finish-sh	alcohol	black beer	ap ft/u/ft lip, tap n, ro sh	1	0	0	dm	wrench-n			Remnants of label on finish.	
87	F4	og-d	finish	alcohol	black beer	ap ft or bead/v/skirt lip, cv n	1	0	0		wrench-n				
88	F4	og-d	cmpl	alcohol	black beer (squat)	ap tap /v/skirt lip, cv n, tap sh, st bd, ro heel, krc bs	1	1	1	dm	stippled			85 mm diameter base. Remnants of label on lip and top of neck.	
89	F3	cl	cmpl	pharmaceutical	ampoule	ro c/s	1	1	1					Intacte. It contained the liquid inside. It was never used. 105 mm length, 15 mm diameter.	

Metal

Site	Code	Box	Bag	Provenance	Material	Class	Form	Details	Portion	Measurements	NISP	MNI	Notes
SCIRT11232	M	SCIRT50	1	F1	ferrous	door hardware?	lock or henge?	rectangular shaped	fragment	3 mm thickness, 70 mm x 56 although it is unsure if the piece is completed or not.	1	1	It might be part of a lock or door hardware.
SCIRT11232	M	SCIRT50	2	F1	ferrous	door hardware?	handle/thumb latch?	Fasteners on the both extremes of the handle, oval c/s	handle	160 mm max length, 19 mm wide, 11 mm max wide	1	1	It could be part of a lock or door hardware. In that case, it might be part of M-1?
SCIRT11232	M	SCIRT52	3	F3	ferrous	structural?	hook	rusty condition	bend, shank	145 mm max length, 16 mm wide	2	1	
SCIRT11232	M	SCIRT52	4	F3	copper	structural?	rectangular c/s bar	at least one small hole in one extreme.	cmpl?	155 mm length, 22 mm wide, 3 mm thickness	1	1	It is impossible to determini what is.
SCIRT11232	M	SCIRT52	5	F3	copper	unid	link	oval link with one smaller circular link attached to it.	cmpl?	52, mm length 29 mm max wide, 3 mm diameter	1	1	
SCIRT11232	M	SCIRT52	6	F3	copper						5	1	

Miscellaneous[7]

Bag	Prov	Material	Class	Artefact	Portion	Description	Measurements	NISP	MNI	Date	Notes	Reference
1	F2 (layer 6)	slate	structural	slate	fragment	broken fragment	5 mm thickness	1	1		It looked like rectangular shape although it is not possible to be sure because it is an uncomplete fragment.	
2	F2 (layer 3)	bone	personal	toothbrush. England Type	head, n, top part of handle	ro stock, gradual n, flat cranking and ft oval c/s		1	1	1870-1920 (main date range: 1890-1901)	Trepanning as bristle insertion method; 4 rows bristle holes, 17 holes/row	Mattick 2010
3	F3	bone	table ware	cuttlery	handle	rectangular c/s and flat butt cap	63 mm max length, 17 mm wide, 3 mm thickness.	1	1		top part is broken although it is possible to identify that it was a rat-tail tang (the tang is cemented and/or pinned into the handle)	Dunning 2000
4	F3	bone	table ware	cuttlery	handle	rectangular c/s and flat butt cap	90 mm max length, 20 mm wide, 10 mm thickness	1	1		it is broken, worn and incomplete. However it is possible to identify that it was a rat-tail tang (the tang is cemented and/or pinned into the handle)	
6	F4	slate	structural	slate	fragments		5 mm thickness	2	1			
7	F2 (layer 2)	slate	structural	slate	fragment		5 mm thickness	1	1		6 or 9 marked on the surface.	
8	F2 (layer 2)	plaster	structural	plaster	burned fragments		13 mm max thickness	2	1			
9	F2 (layer 3)	slate	structural	slate	fragment		5 mm thickness	1	1		Remnants of rusty ferrous (it is probable that it was a fastener?)	
10	F2 (layer 3)	plaster	structural	plaster	burned fragments		13 mm max thickness	1	1			
11	F2 (layer 5)	coal		coal	fragments			2	1			
12	F2 (layer 5)	plaster	structural	plaster	burned fragments		13 mm max thickness	6	1		One of the fragments has a stuck rusty fastener	
13	F2 (layer 5)	slate	structural	slate	fragment		5 mm thickness	2	1			
14	F2 (layer 5)	conglomerate	structural?	conglomerate	fragment	rusty condition, mixed stones, ferrous and other elements.		1	1			
15	F3	coal		coal	fragments			1	1			
16	F2 (layer 5)	unid	unid	plaster?				2	1		Soft and white material, recovered as 'suspected soap'. However it could also be plaster. It is impossible to determine certainly. Uneven shape.	
17	F1	coal?	unid	coal?	small fragment			1	1		black and red colour derived from the burned condition and maybe, apart from coal, the piece contained metal. It is impossible to determine certainly.	
18	F1	coal		coal	fragments			1	1			

[7] The following columns have been removed from this table: Site, code, SCIRT box # (F1 is stored in SCIRT50, F2 is stored in SCIRT50 and SCIRT51, F3 is stored in SCIRT52 and F4 is stored in SCIRT54), photo ID.

Bricks[8]

Bag	Date	Initials	Prov	Brick Type	Portion	NISP	MNI	Press Method	Mould Type	Colour	Manufacturing Damage	Notes
1			F1	coarse-grained fabric		2	2	handmade				small fragments, it is impossible to identify more diagnostic element. Orange/Pink with grey and white inclusions.
2			F3	coarse-grained fabric	half part	1	1	handmade				100 mm length, 72 mm wide, 62 mm thickness. Small orange brick.
3			F4	yellow/cream brick		2	1					
4			F4	red brick		1	1					

Clay Pipes[9]

Bag	Feature	Type	Port	One piece/Two piece	Configurat	Bowl	Plane of bowl	Spur/heel	Stem	Measurem	Stem	Usewear	Date	Notes	Ref
3	F2 (layer 3)	half bent billiard?	stem-bowl	2 pc	1/2 bent	cutty?	parallel to stem and smoker?		curved	21 mm diameter bowl, 32 mm length	C.CROD / LONDON // SOVATIERS OWN	residue in bowl	1840-1861	spalling: pock marks caused by exposure to fire, salt or freeze/thaw	Bradley 2000
5	F4	n/a	bowl	1 pc	n/a	rounded/cutty?	n/a	n/a	n/a	23 mm diameter mouth, 35 mm length	n/a	used: residue in bowl		It is impossible identify more diagnostic elements derived from the remnants.	
19	F3	n/a	bowl (small fragment)	2 pc	n/a	rounded/cutty?	n/a	n/a	n/a	It is impossible to measure. Incomplete.	n/a	unused			
20	F3	cutty	bowl	1 pc	n/a	cutty	n/a	n/a	n/a	20 mm diameter mouth, 32 mm length bowl.	n/a	used: residue in bowl			
21	F3	cutty	bowl-partial stem	1 pc	straight	cutty	a little bit angled from smoker	a slight band	straight	21 mm diameter bowl, 35 mm length bowl	CUTTY PIPE / T. MILO'S	slight residue in bowl	c.1860-1870 (maybe earlier)	Theofilus Milo was a pipemaker and tobacconist based in London in the mid-19th century.	The Music Centre report (p.139)
22	F3		bowl	1 pc	n/a	cutty	n/a	n/a	n/a	25 mm diameter bowl, 35 mm length bowl	COO'EY	burned rim and outer surface			The Music Centre report (p.139)

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[9] The following columns have been removed from this table: Site, code, SCIRT box # (F1 is stored in SCIRT50, F2 is stored in SCIRT50 and SCIRT51, F3 is stored in SCIRT52 and F4 is stored in SCIRT54), photo ID.

Shoes[10]

Bag	Prov	Material	Class	Portion	Size/wearer	Type/style	NISP	MN	Toe shape	Heel type	Lifts	Heel	Sole/insole	Upper	Reinforcing	Repair	Notes	Measurements
1	F2 (layer 6)	leather	footwear	heel	adult		1	1	n/a	rounded	at least 2	hobnailed	n/a	n/a	2 rows of hobnails	n/a		
2	F2 (layer 6)	leather	footwear	heel	n/a		1	1	n/a	rounded	4	nailed	n/a	n/a	ferrous hobnails and copper nails	n/a		Hand nailed based on the uneven distribution of nails. 55 mm max wide and 55 max length
3	F2 (layer 6)	leather	footwear	upper	adult	boot?	1	0	n/a	n/a	n/a	n/a	n/a	machine stitched	n/a	n/a	Eyeletes, copper attachement and lace remained in situ.	
4	F2 (layer 1)	leather	footwear	heel	adult		1	1	n/a	rounded	5	nailed	n/a	n/a	hobnails in the middle of the heel	n/a	One copper square c/s nail noted, the rest handnailed.	
5	F2 (layer 1)	leather	footwear	sole	adult		4	1	n/a	n/a	n/a	n/a	machine stitched	n/a	n/a	n/a		
6	F2 (layer 1)	leather	footwear	sole	adult		3	0	n/a	n/a	n/a	n/a	machine nailed	n/a	n/a	n/a	Rand, shank noted	
7	F2 (layer 2)	leather	footwear	shoe	adult/man		1	1	pointed	n/a	n/a	n/a	nailed	machine stitched	hobnails identified on the insole	n/a	Worn sole (2 insoles) and hand nailed (row of copper nails and uneven distribution of hobnails)	214 mm max length, 39 mm wide of arch
8	F2 (layer 3)	leather	footwear	shoe	adult/man		1	1	pointed	n/a	n/a	n/a	nailed (copper)	machine stitched	hobnails	n/a	insole/upper/2 outsoles	66 mm max wide, 160 mm max length
9	F2 (layer 4)	leather	footwear	shoe	adult		1	0	pointed	n/a	n/a	n/a	nailed, pegging?	machine stitched	hobnails uneven distribution in the insole	n/a	It appeared to be handmade. 2 soles	200 mm max length, 35 mm wide arch
10	F2 (layer 4)	leather	footwear	sole			5	0	n/a	n/a	n/a	n/a	machine nailed (copper)	n/a	n/a	n/a		35 mm wide arch

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11	F2 (layer 4)	leather	footwear	heel	adult		1	1	n/a	rounded	4	hobnailed	n/a	n/a	2 honailed rows	n/a	57 mm x 52 mm (wide and length)	
12	F2 (layer 4)	leather	footwear	heel	adult		1	1	n/a	rounded	3	pegging	n/a	n/a	several pegs		Broken and uncomplete.	62 mm max wide
13	F3	leather	footwear	sole			16	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Small fragments. It is impossible to determine any diagnostic element.	
14	F3	leather	footwear	upper (eyelets)	adult		6	0	n/a	n/a	n/a	n/a	n/a	machine stitched	n/a	n/a	In few case the copper ring surrounding the eyelets remained.	
15	F3	leather	footwear	upper	adult		1	1	n/a	n/a	n/a	n/a	n/a	machine stitched	n/a	n/a	Fabric as filler on sole remained.	50 mm wide arch
16	F3	leather	footwear	shank			1	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	There are two small holes in the middle but it is impossible to determine if they are repairing or part of the attachment.	
17	F3	leather	footwear	shoe	child		2	1	n/a	rounded	3	pegging	machine stitched	n/a	1 peg nail in the middle of the heel	n/a	31 mm and 30 mm heel	
18	F4	leather	footwear	shoe	adult? Small		1	1	pointed	rounded	5	nailed	nailed (copper)	n/a	hobnails on the midsole	n/a	copper nails remained, heel plate, sole, insole (midsole in between), rand, shank	197 mm length, 35 mm wide arch
19	F4	leather	footwear	shoe	adult/man		1	1	pointed	rounded	at least 2	nailed (copper)	nailed (copper)	machine stitched	copper nails on heel, hobnails on toe	piece of leather in the insole (heel)	Rand, shank	260 mm length, 40 mm wide arch
20	F4	leather	footwear	shoe	adult/man		2	1	square	rounded	at least 4	hobnailed	nailed (copper)	n/a	many hobnails	n/a	2n row of nails reinforcing sole and vertical lines of hobnails in the middle as well.	290 mm length, 45 mm wide arch
21	F4	leather	footwear	shoe	adult		3	1	pointed	rounded	3	nailed (copper handmade)	nailed (copper handmade)	machine stitched (fabric)	hobnails surrounding the sole	n/a	It is bent, as right foot	220 mm length, 45 mm wide arch