

# **Saracen Pottery, Glasgow: Archaeological Excavation**

Data Structure Report

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issued 6<sup>th</sup> August 2010

reissued 14<sup>th</sup> September 2010



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## Overview

1. This Data Structure Report is for a programme of archaeological works required by Glasgow City Council Development and Regeneration Services in respect to the proposed plan for development at Mansion Street, Springburn, Glasgow. The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.
2. Glasgow City Council, as the planning authority, has required a programme of archaeological works to be undertaken. The West of Scotland Archaeology Service who advises Glasgow City Council on archaeological matters has provided guidance on the structure of archaeological works required on this site prior to development works.
3. Rathmell Archaeology Limited has been appointed by Glasgow City Council to undertake the development and implementation of archaeological works. These works include a stage of archaeological excavation of the area where significant archaeological features may be subject to adverse impact due to the proposed development. There may be a requirement for further archaeological monitoring of the development works in progress but should this take place it will be the subject of later report. The scope of these works was agreed in a Method Statement (Rees 2010) here fulfilling the role of a written scheme of investigation.
4. The archaeological works were intended to mitigate the impact of the development upon any archaeology present. Rathmell Archaeology Ltd has been appointed to act with regard to the archaeological issue by Glasgow City Council.

## Archaeological and Historical Background

### *Historical Context*

5. Cartographic evidence demonstrates that the site was green field prior to 1875. Saracen Pottery, as illustrated on available 2<sup>nd</sup> edition Ordnance Survey mapping, covers some 2800m<sup>2</sup> of ground edged by Hawthorn Street, Denmark Street and Mansion Street. The industrial use of the ground has four main phases followed by the a fifth when it is in use as a school:
  1. the Saracen/Possil Pottery 1875-1896;
  2. the Nautilus Pottery 1986-1911;
  3. J & R Tennent Ltd (Glasgow Trading & Transport Co.) 1916-1942;
  4. the Clydesdale Iron Works and other industrial uses post 1942 and; and
  5. Keppoch Nursery School.
6. Founded originally as the Saracen Pottery in the Possilpark area of Glasgow in 1875, this firm began manufacturing a wide range of domestic wares, such as teapots and jugs, in a variety of fabrics and finishes, including Rockingham, cane-coloured, jet and mazarine blue (Kelly 2002, 49). During this period, the company endured various changes in management, but its output appears to have remained consistent, though there are references to the addition of 'stoneware' in 1880, with Kelly suggesting that in this instance, 'stoneware' refers to white earthenware (Kelly 2002, 51). The establishment of the site at Mansion Street included the construction of four large kilns (Quail 1983).
7. The Possil Pottery, as it was ultimately known, failed in 1896, at which point the premises were sold to the Nautilus Porcelain Company, formed by china merchants MacDougall & Sons. They produced a range of soft paste porcelain wares influenced by Worcester and Limoges (Quail 1983). Tea and dessert 'services' were characterised by their painted and gilded floral decoration, and additional ornamental items such as figurines and jardinières also formed part of the pottery's output. In addition, they produced more utilitarian items from earthenware.

8. Once again, the pottery ran into financial difficulties, and was forced to close in 1911. The premises were retained by MacDougall and Sons at first, and were leased to J & R Tennent Ltd in 1916. The primary aim of the pottery was to produce stoneware beer bottles for the export market (Kelly 1995). In 1917 initial works to start production included the repair of dilapidated buildings and the construction of three kilns and a drying room.
9. In 1920, J & R Tennent Ltd acquired the pottery, before reselling it immediately to a subsidiary company, Glasgow Trading & Transport Ltd. The repertoire expanded during this period to include jam jars, acid jars, and footwarmers, with battery boxes, insulators and whisky jeroboams becoming increasingly important. Some decorative pieces in the Art Deco style, known as Possil Ware, were produced during quiet times in this period.
10. Changes to the site occurred throughout including repairs to structures and in 1933 the steam boiler and engine were replaced by a hot water boiler for heating only. The outbreak of the Second World War prompted the construction of an air-raid shelter, its character and location is uncertain although such structures are typically, although not always, within the factory and subterranean.
11. By 1942 demand for stoneware vessels had fallen, there was a lack of skilled workers and so the pottery was sold as commercial premises to A & J Main & Co Ltd. The sale catalogue clearly identifies the pottery at this time still had only its three kilns (by inference those built in 1916). The site at this point ceased to be a pottery and was converted to other, unrelated industrial uses (Kelly 1995).

#### *Archaeological Context*

12. Prior to excavation commencing the area is was a cleared urban plot resulting from the demolition of a Janitor's House, a carpark and a red blaes pitch. The area was subject to an evaluation by GUARD (Glasgow University Archaeological Research Division) in 2010 after earlier monitoring of site investigation works. The intention of this evaluation was to inform on the nature and extent of any surviving significant archaeological features on site with specific reference to the remains of Saracen Pottery and to establish the potential for impact of the proposed development on the archaeological resource.
13. Prior to the evaluation by GUARD there has been no known archaeological investigation of the development area. The Saracen Pottery was recorded by Hume (1974) although at that time the only element attributable to the pottery which survived was a brick built structure facing onto Hawthorn Street.
14. The evaluation trenches opened by GUARD located and characterised the Pottery identified as Saracen or Possil Pottery (James 2010). However, there are a number of issues with their report that were not clarified due to a lack of substantive desk-based assessment work at this time. The evaluation identified three kiln bases to the west of the site that did not match the four kilns mapped by the Ordnance Survey in 1893 (Figure 1a) and were interpreted as later features (James 2010). The inference being that the original kilns had been demolished including the removal of their foundations.
15. The evaluation also identified a tiled surface adjacent to Denmark Street (Trench 6) which was interpreted as sub-basement boiler room. This location may also match the 1950s Ordnance Survey mapped location of an electricity substation for the Clydesdale Iron Works. Hence a post 1942 origin for this sunken tiled room is possible. Documentary sources make clear that an air raid shelter was constructed during World War II. That the evaluation did not locate this structure suggests that it is possible that one of the ash and debris filled pits may be its remnants. This hypothesis was tested in the course of the excavation works.

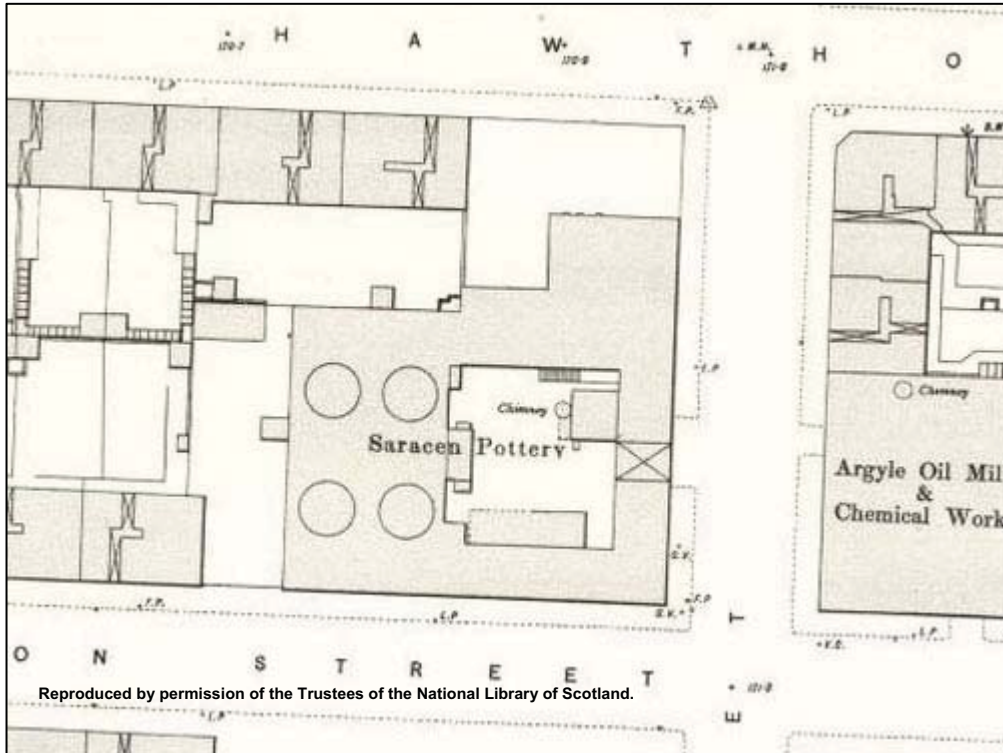


Figure 1a: 1892-94 Ordnance Survey Town Plan

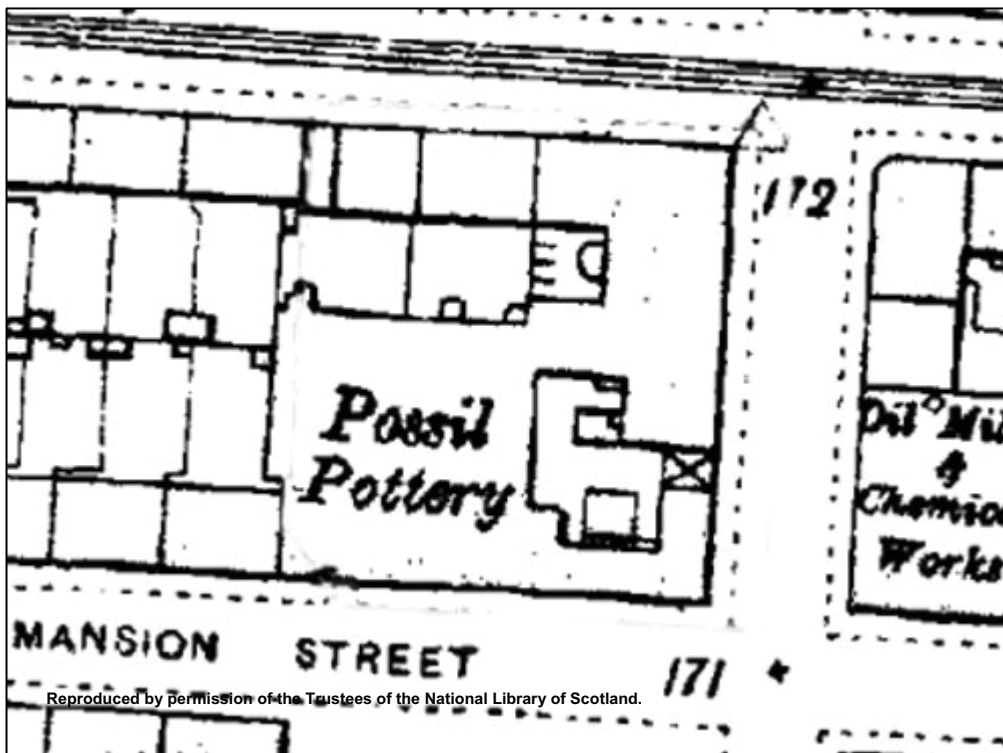


Figure 1b: 1910 Ordnance Survey Town Plan



Figure 2a: Site after clearing trees.



Figure 2b: Site prior to excavation



## Project Works

16. Prior to the commencement of archaeological works several trees were removed from the site with the permission of Glasgow City Council (Figure 2a). As per the terms of the Method Statement (Rees 2010) the excavation was to be carried out over a period of three weeks. This was to involve the progressive opening and reinstatement of the site by mechanical excavator as the archaeological work continued. For this reason, at no point during the archaeological works was the entire excavation area exposed.
17. As per the terms of the Method Statement (Rees 2010) and on the advice of West of Scotland Archaeology Service the most significant archaeological horizon to be addressed is the use of the site as a pottery between 1875 and 1911. The subsequent use of the site as a stoneware pottery from 1916 to 1942 is of lesser significance and the then subsequent use of the site as an iron works are not significant. The archaeological excavation work was carried out with the aim to elucidate which remains on-site relate to which phase. Where reasonable doubt existed features were treated as if they are from the primary pottery phase.
18. The excavation area agreed in the Method Statement (Rees 2010) was progressively stripped from the north-east corner down to the south-west. However, a strip along the western boundary was stripped early in the programme of excavation works in order to give sufficient time to record potentially complex archaeology which was uncovered during the GUARD evaluation works (James 2010). The entire excavation area is illustrated in Figure 15.
19. Archaeological excavation works were carried out from the 5<sup>th</sup> until the 23<sup>rd</sup> of July 2010. All of the archaeological remains uncovered were recorded as extensively as the limits of Health & Safety permitted. All of the significant archaeological remains uncovered were recorded according to the process described in the Method Statement (Rees 2010).
20. All works were conducted in accordance with the Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

## Findings: Introduction

21. As an aid to understanding the Findings will be split into three areas. Given the historical background information available some interpretation will necessarily creep into this description. Where an obviously modern feature or disturbance impacts on significant features these will be interpreted in the Findings so as not to complicate the Discussion of significant archaeological features. A more detailed interpretation of the features and their significance will follow in the Discussion.
22. The character of the site was already known to vary slightly prior to the commencement of archaeological works (Figure 2b). The entire northern half of the site had been converted to a blaes pitch, the south-eastern quarter was overgrown and the south-western quarter was largely paved with tarmac. Typically archaeological deposits were uncovered at a depth of 0.3 to 0.4m. In the northern part of the site the surface deposits were blaes, in the south-east topsoil and in the south-west tarmac and hardcore. In most parts of the site a quantity of made ground had to be removed. This typically consisted of modern (20<sup>th</sup> century) material but also incorporated pottery fragments and occasionally kiln waste.
23. In all parts of the site test-pits were excavated in order to verify the depth of archaeological deposits and assess the depth of natural soil where present. In almost all cases the depth of archaeologically sterile natural soil was reached. The only exceptions were in the cases of structural features on the eastern boundary which were excavated to a depth greater than would permit safe excavation. The *in-situ* subsoil was typically dark yellow or orange silty sand, extremely compact, with fragments of natural sandstone.



Figure 3: Close up of North-Eastern Area



Figure 4a: Kiln (108) and Surface (106)



Figure 4b: North-Eastern Area

## Findings: North-Eastern Area

24. This was the first area to be excavated and recorded (Figure 3). It was already clear from the stripping of this area that the conversion of the site to Clydesdale Iron Works and the subsequent construction of the school buildings had caused significant disturbance to any surviving archaeological remains on site.

### *Area of Warehouse*

25. The northern most approximately 6m of the site had been subject to disturbance resulting from the 1902 placement of a warehouse. This area contained several brick wall foundations; (125), (132) and (135) and concrete bases; (122), (133) and (136), among which were deposits of dumped pottery and kiln waste (105) and (119). Concrete surface (103) was an element of the foundation of concrete structures and will be referred to below. Preliminary examination of the finds from (105) suggests that they may all be comfortably placed within Phases 2 and 3 of the occupation of the site. Included in the artefacts recovered from this area were numerous ceramic insulators, known to be produced by J & R Tennent Ltd. This area was surveyed and sampled but on instruction from West of Scotland Archaeology Service the disturbance in this area was considered to be too great and so archaeological recording was stopped.

### *Kiln (108) and Surrounding Structures*

26. Immediately to the south of the northern disturbance (see above) was a combination of a kiln base (108) (Figure 4a), a square structure (110), an area of flooring (106) and walls (107) and (113). This combination of structures was recognised as being significant archaeological remains and recorded as such. Kiln (108) partially appears at the south end of GUARD evaluation Trench 7. Kiln (108) was disturbed by a modern service trench (116), running north-south. Service Trench (116) was a typical example of a modern drainage trench containing plastic ducting and in-filled with hardcore. These drains most likely relate to the establishment of the blaes pitch.
27. Kiln (108) (Figure 5) was approximately 3.4m in diameter. Upon excavation the kiln was four courses of brick deep and constructed by excavating into the natural soil (131) (Figure 9a and 9b). Evidence of one fire-mouth remained, facing north, in the uppermost course of brick and was filled with deposit (137). Kiln (108) appeared to stand proud from the surrounding deposits to the west but was on the same level as the floor surface (106) to the east.
28. To the immediate east of Kiln (108) there was a large brick surface covering an area of approximately 7.2m by 5.4m. Surface (106) (Figure 4a) was featureless, constructed of regularly laid bricks of similar appearance to Kiln (108). The northern half of Surface (106) was destroyed although the bricks were still visible, loose in the disturbed area. In the south-east corner of Surface (106) was a concrete surface (109) approximately 1.5m by 1m. Although it is possible that this concrete was a later insertion it should be noted that the brick was laid as if to edge the concrete. In the south-west corner of Surface (106) and extending south for 5m two parallel double lines of brick (114) (Figure 6g) were recorded.
29. In the north-east corner of Surface (106) a roughly square brick structure (110) (Figure 6a) approximately 1.2m by 1.3m with an infilled central shaft 1.2m by 0.5m (Figure 6d). Structure (110) was excavated to a depth of 1.2m (Figure 6f), exposing 7 courses of brick to the base and an additional two courses beneath. It is not certain that the base of the structure was reached but the depth of excavation and the danger of collapse of the fragile brick structure meant that further excavation was not possible.

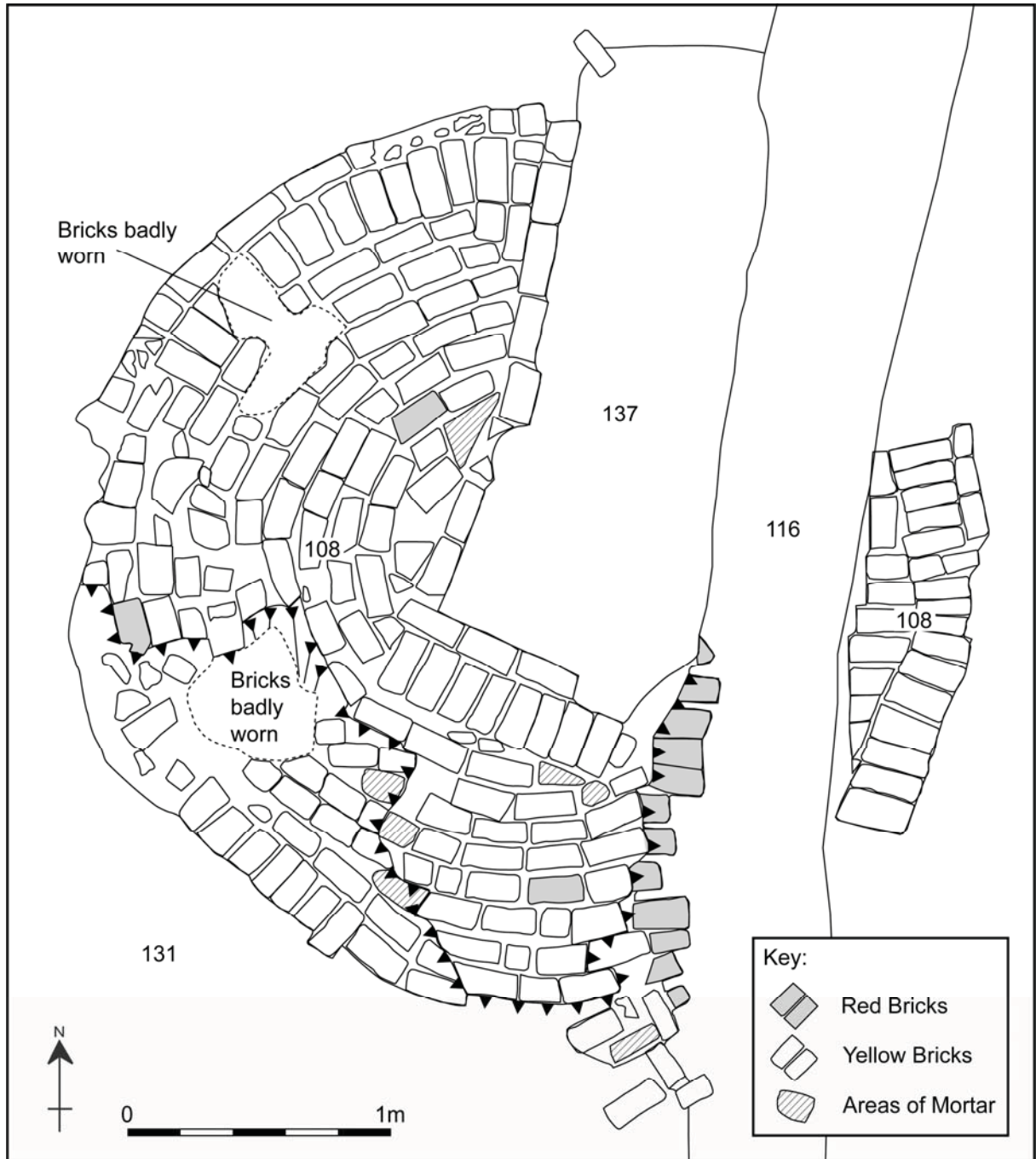


Figure 5: Plan of Kiln (108)



Figure 6a: Structure (110)



Figure 6b: Surface (117)



Figure 6c: Wall (124)



Figure 6d: Recording (110)



Figure 6e: Walls (129) and (151)



Figure 6f: Section (110)



Figure 6g: Section (144)



Figure 6h: Wall (153)

*Brick Walls*

30. The edges of Surface (106), to the south, west and east, were marked by the possible foundations of brick walls. These walls were structurally connected to Surface (106) and so were recorded as an element of the same structure, however, several brick wall foundations existed in the north-east area which stood independent of other structures. In most cases the origin of these foundations is uncertain and so all were surveyed and recorded according to the terms of the Method Statement (Rees 2010) for later comparison with historical records.
31. A large brick wall foundation (124) (Figure 6c) existed to the north-west of Surface (106) This wall was approximately 0.5m wide and extended to include a concrete and brick stance at the western end. Three lines of less substantial brick walls ran east-west through the north-eastern area as we move progressively south. These walls were all two bricks wide, surviving to a height of three, and aligned east-west. The lowest course of these walls was typically wider as a foundation course. The three pairs may be grouped as follows; Walls (129) (Figure 6e) and (142); Walls (145) and (151) and Walls (147) and (153) (Figure 6h). All of these walls were heavily disturbed by later features.

*Concrete Foundation and Stances*

32. The entire eastern boundary of the north-east area was occupied to a breadth of 6m by a large concrete surface (117) (Figure 6b) and adjoining foundations (103). The concrete surface was known to exist to a depth of more than 1.3m because excavation work had partially removed the upper surface at the north end which investigating the area of the former warehouse. Surface (117) extended approximately 15m south while the western boundary was marked by a service track (118) identical to Service (116) and in the north-western corner by the foundation of a brick wall.
33. To the immediate south of (117) there was a large dump of pottery waste and kiln furniture (139). As well as copious amounts of kiln furniture, this context produced sherds from a brown-glazed white earthenware vessel (probably a teapot) plus sherds of unglazed 'biscuit' ware representing both red and white earthenwares (with teapots again represented).
34. As well as the depth investigated at the north end of Surface (117), which demonstrated that Concrete (103) continued to a depth of more than 1.3m, two test pits were excavated through the exposed foundations at the south end to investigate depth of disturbance. These test pits were excavated to a depth of more than 1.2m through the foundation structures but at this depth the test pits flooded so as to make deeper excavation or recording impossible. It shall be demonstrated that the average depth to archaeologically sterile natural soils was no more 0.7m; in addition, all of the significant archaeological features were exposed at a depth of approximately 0.5m. There is therefore no reasonable chance of significant archaeological features surviving in the area occupied by Surface (117) or the adjoining foundations.
35. To the south of Surface (117) were several brick structures (206) (Figure 9h) arranged in a grid pattern. Structures (206) took the form of sunken walls delimiting squares each approximately 1.5m by 1m. These structures also joined a concrete stance (206). Excavation of the deposits within these structures revealed mostly made ground and 20<sup>th</sup> century infill consisting mostly of demolition material. At the base of one test pit formed but unfired clay artefacts were recovered from waterlogged deposits.

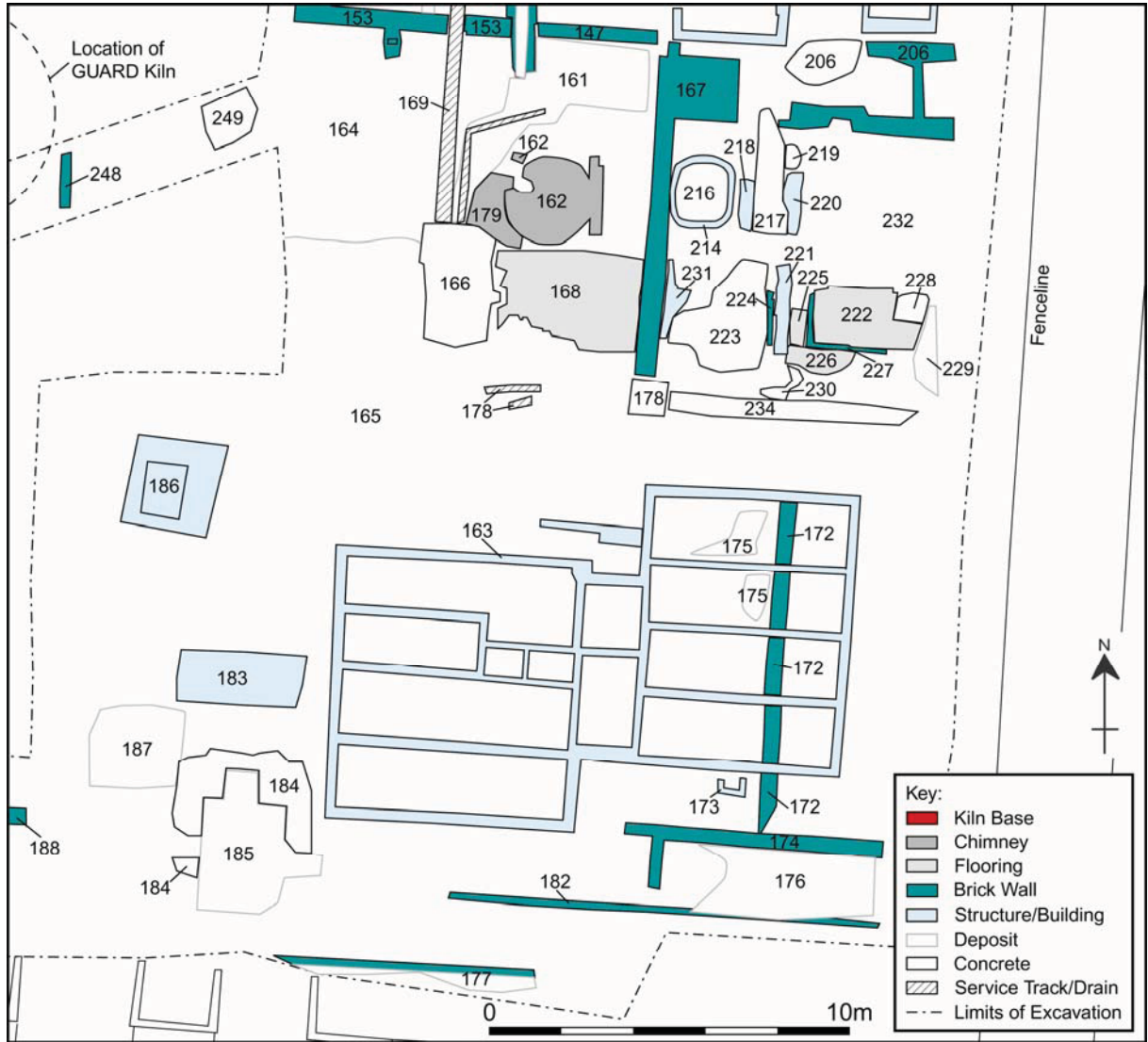


Figure 7: Close up of South-Eastern Area





Figure 8a: South-Eastern Area



Figure 8b: Structure (162) and Surface (166) and (168)

## Findings: South-Eastern Area

36. Continuing south from the brick structures (206) on the eastern boundary of the site several additional brick structures were also evident. Some of these may be compared with features recorded at the south-east end of the GUARD evaluation Trench 6. In a similar way to other areas, this area (Figure 7) was reduced to the first horizon of structural remains and then test pits were excavated in selected areas to confirm, where necessary, the depth of archaeological deposits.
37. A sunken brick structure (214) was located in northern centre of the south-eastern area. This structure was enclosed by brick walls, (167) and (218). Structure (214) (Figure 9f) was shaped into a rounded rectangle from a single layer of brick but as several courses deep. The structure was approximately 2m in diameter. In order to determine the depth and nature of Structure (214) and surrounding deposits a test pit was excavated through the eastern half of Structure (214). The test pit determined that Structure (214) continued to a depth of more than 1.5m from initial ground level and that the fill, (216), changed progressively from rubble and made ground to light grey clay. However, at this depth the fragility of the structure and flooding made further excavation unsafe.
38. At the south-eastern end of GUARD Trench 6 the evaluation works noted a small area described as a tiled floor. After widening the excavation to reveal the entire surface (222) (Figure 9g) it became clear that this was in fact a surface composed of glazed brick. The surface was approximately 3m east-west by 2m north-south. A small concrete stance was an element of the surface in the north-eastern corner and the northern edge was delimited by a wall line (227). In the area of disturbance and made ground immediately to the north of Surface (222) it was possible to excavate a test pit to determine the potential depth of significant archaeological deposits. After removing the made ground archaeologically sterile natural soil was reached at a depth of approximately 0.8m below initial ground level.
39. Two large areas of concrete, (223) (166), were uncovered in the northern half of the south-eastern area and a third (184) was recorded in the south-west corner. Concrete (223) and (166) were typically around 3m by 2m and had steel bolts embedded or the placement of machinery. Concrete (184) was different in that it enclosed an area of deeper disturbance containing made ground (185) and did not have metal bolts. This area was recorded and sampled according to the terms of the Method Statement (Rees 2010) however all of the associated material appeared to be of 20<sup>th</sup> century origin. Concrete (249) was found in the western boundary of this area and although only partially exposed was a concrete surface with a depth of approximately 0.4m.

### *Brick Base and Surround*

40. In the approximate centre of the south-eastern area several red brick structures (Figure 8b) were uncovered in the course of the machine stripping. These adjoining structures consisted of a circular brick structure (162), a brick surface (168) extending to the south and an element of the brick surface was two small rectangular brick structures. Surface (168) was approximately 4m by 2.5m and was broken or eroded by subsequent structures. To the west Surface (168) connected with Concrete Base (166) and it was unclear if these structures were contemporary constructions or if the concrete was a later addition. Similar erosion of Surface (168) had taken place to the south where it met Concrete (178). The two irregularly shaped brick structures which formed an element of the Surface (168) were raised by two courses and were approximately 1m square.
41. The circular brick structure (162) was approximately 2.5m in diameter, upon excavation three courses of brick deep and excavated into the natural drift geology (164) (Figure 11a), which is orange brown clay disturbed in the upper 0.1m. Structure (162) was constructed of three concentric circles of red brick with a mass of red brick regularly arranged in the centre. There were no features or designs in the layout of the structure that would suggest use (i.e. as a kiln base). On the eastern edge Structure (162) did extend out into a short section (2.6m) of brick wall running approximately north-south.



Figure 9a: Section (108)



Figure 9b: Test Pit (131)



Figure 9c: Detail Kiln (170)



Figure 9d: Drains (186)



Figure 9e: Structure (183)



Figure 9f: Structure (214)



Figure 9g: Surface (222)



Figure 9h: Test Pit (206)

### *Services and Sewers*

42. It was especially evident in the south-eastern portion of the site that there had been extensive disturbance resulting from the placement of waste water pipes and 20<sup>th</sup> century services. Most notably, just to the south of the approximate centre of the development area a large concrete manhole (186) (Figure 9d), with manhole cover in place, was revealed to be just below the initial ground level. This manhole was clearly a modern construction; approximately 2m by 2m and with the cut for its placement clearly visible in the surrounding natural soil. After removal of the manhole cover it was possible to determine that pipes connected to the manhole from the north, east and south.
43. Disturbance resulting from the placement of waste water pipes was evident to the south of Surface (168) and linked into linear concrete and brick structures (167), (178) and (234) to the east. This links in to the complex of structural material immediately surrounding Structure (216) and Surface (222), however, it is unclear if the pipes are contemporary or a later addition.

### *Janitor's House*

44. In the south-eastern corner of the development area was the lower walls and foundations of the former Janitor's House (163) (Figure 8a). This structure was demolished in the last few years and so the form and nature of the structure is well known and may be definitively described as not significant archaeological remains. However, it was recorded and surveyed in order to demonstrate its interaction with and surviving significant archaeological features in the same area.
45. Within the foundations of the Janitor's House (163), especially in the north-east corner, there were deposits containing kiln furniture and ceramic waste (175). These deposits were sectioned and sampled in order to recover ceramic material for further analysis. Similar deposits (176) were recorded and sampled outside the south-eastern corner of the Janitor's House, revealing sherds of glazed stoneware and kiln furniture. These deposits were recorded in association with the lower courses of brick walls, (173) and (174), which also survived in this area. The potential depth of these deposits was tested in two test pits all of which were excavated to archaeologically sterile natural soil at a depth of less than 0.9m from initial ground level.
46. The southern boundary of the development area was marked by a Wall (177), two bricks thick and between three and five courses high. Around and behind Wall (177), where it was exposed in the eastern half of the site, there was a large deposit of ceramic waste and kiln furniture.
47. To the west of the Janitors house was a rectilinear brick feature (183) (Figure 9e) backfilled for the most part with light grey clay and fragments of pottery. Feature (183) was approximately 4m by 1.5m and filled with light grey clay, fragments of pottery and other waste material. This feature was excavated in section in order to better determine its form. It was shown to be approximately 1m deep with a curving, brick lined base.

## Findings: Western Area

### *Kiln (170) and Brick Surface*

48. In the evaluation carried out by GUARD their Trench 7 was centred on a large brick surface identified as a kiln base. This brick surface was uncovered in the northern part of the western edge of the excavation area (Figure 10). According to the terms of the Method Statement (Rees 2010) the entire area of Kiln (170) (Figure 13a) was stripped with the exception of a small area which was preserved in the westernmost section. The kiln had been disturbed by a service track (190) running through the centre from east to west but this damage aside the brick surface was largely intact.

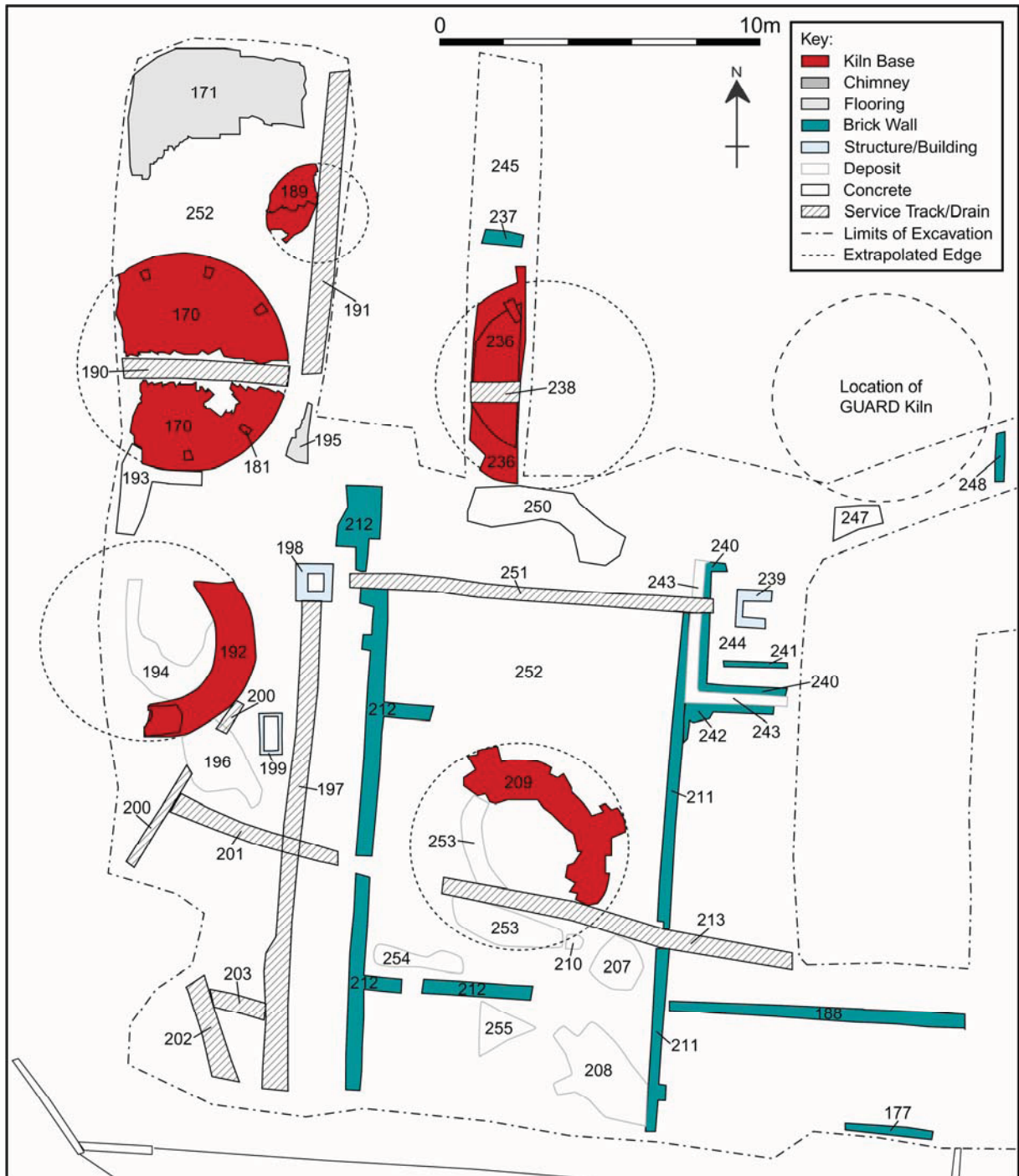


Figure 10: Close up of Western Area



Figure 11a: Section through Structure (162)



Figure 11b: Kiln (236)

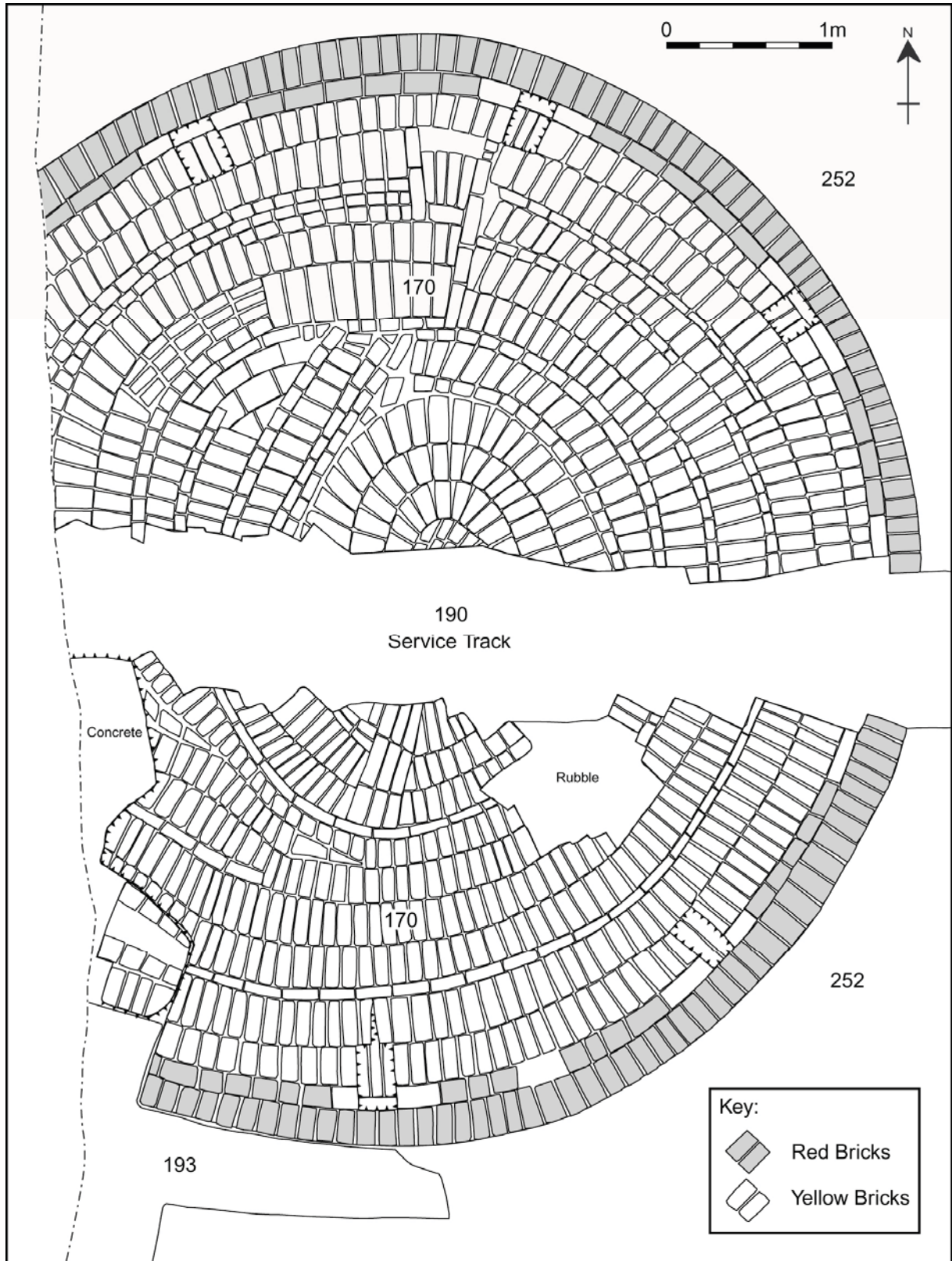


Figure 12: Plan of Kiln (170)

49. Kiln (170) (Figure 12) was approximately 6.8m in diameter. Five small recesses in the brick surface were equally spaced around the perimeter. The remainder of the surface was composed of roughly concentric bands of brick. Service (190) was excavated in order to determine the character of the deposits beneath the kiln base. Kiln (170) survived to a depth of two courses of brick but was founded on concrete. The concrete foundation of the kiln was more than 0.3m deep. The Service (190) had not been excavated through the base of the concrete but comparison with a test pit excavated to the immediate north demonstrates that the concrete foundation must have been excavated into the natural soil (252).
50. In the north-western corner of the site a large irregular area of brick surface was also recorded. For the purposes of understanding this surface will be split into two areas. Coming south for about 2m from the northern boundary of the excavation area a surface (171) (Figure 13b) of glazed brick was formed in three parts where the bricks were laid east-west and separated by two lines of brick laid north-south. Upon excavation of the test pit to the south it was demonstrated that Surface (171) was one course deep and bedded on made ground and then natural soil.
51. The second area of brick in the north-western corner was a small semi-circular brick surface (189) to the east between Kiln (170) and Surface (171). Surface (189) was disturbed by the placement of service (191) to the east and heavily eroded along its western edge. The surviving portion of Surface (189) was approximately 2.5m in diameter and survived to a depth of 2 courses. The surface was composed of concentric rings of brick containing no obvious features.

#### *Concrete Structures and Deposits*

52. To the south and adjoining Kiln (170) was an area of concrete (193) which may have been an extension of the foundation of the kiln itself. A similar foundation, but lacking the brick superstructure was recorded further to the south in the form of a semi-circular arch of concrete (192) (Figure 14a). This arch was approximately 5.5m in diameter and no more than 0.3m deep. A small area of embedded brick was in place at the westernmost end. Concrete (192) enclosed a deposit (194) which was almost entirely composed of kiln furniture and ceramic waste.
53. Similar deposits to the one enclosed by Concrete (192) were recorded in the south-western corner of the excavation area. These deposits, (196), were composed almost entirely of discarded kiln furniture and ceramic waste. These features were recorded and sampled. It should be noted however that much of the topsoil and made ground removed from this area contained similar material in large quantities. This material was also sampled for later analysis.

#### *Central Kiln and Area of Drainage Tracks*

54. In the approximate centre of the western area a semi-circular brick surface was exposed and recorded. After cleaning and closer examination it was apparent that this surface was the degraded remains of a large kiln base (209) (Figure 14b). Kiln (209) survived to only one course deep and was founded directly onto the sterile natural soil (252). The remainder of Kiln (209) was approximately 6m in diameter and 2m wide. The heavily degraded but it was still possible to determine the concentric circles of bricks which made up the surface as well as the possible location of features which may have characterised its use. The centre of Kiln (209) there was a shallow black deposit (253) which, after being investigated in a test pit, was demonstrated to be less than 0.1m deep.
55. To the north of Kiln (209) the remains of another kiln was located in a narrow trench excavated to record archaeological remains in preparation for the placement of drainage. Kiln (236) (Figure 11b) was partially exposed in a trench 1.2m wide and revealed an arching brick surface approximately 7m in diameter. The kiln was cut from east to west by a service trench, (238), which was very likely the same service trench which cut Kiln (170). The central portions of Kiln (209) were heavily disturbed but the outer five circles of brick remained largely intact.





Figure 13a: Kiln (170)



Figure 13b: Kiln (189) and Surface (171)

### *Brick Walls and Structures*

56. Several brick walls were recorded in the western area. A large brick wall (197) was recorded running north-south just to the east of Concrete (192). Wall (197) was four bricks wide and survived to a height of at least five courses. At the north end of this wall was a rectangular brick structure (198) approximately 0.7m by 0.7m. Smaller walls; (211), (212) and (188) formed a rough rectangle around Kiln (209). These walls were all of similar character; demolished to the level of the natural soil; two bricks wide and all composed of similar bricks. In places these walls were cut by services running east-west across the entire excavation area. Two additional brick walls were located in the trenches excavated for the future placement of drainage, (237) (248).
57. In the north-eastern corner of the western area there were a series of roughly rectangular brick structures (239), (240), (242), (243) and (244) formed together concentrically. These structures connected physically with Walls (211) and (251). Upon further excavation this combination of structures was shown to have a concrete base containing a large ceramic drain.
58. Close to the southern boundary of the western area there were several deposits which, similar to (194) and (196), were mostly composed of kiln and pottery waste. These deposits were of different character; Deposit (208) was extremely compact and homogenous where Deposit (255), (210) and (207) were loose and had very varied fills. The depth and nature of these deposits was further investigated by test pits. Preliminary analysis of the finds recovered from Deposit (207) suggests that they are potentially from Phase 2, Nautilus Pottery, use of the site although confirmation will require more detailed analysis.

### Discussion

59. A large number of structural features and deposits were uncovered and recorded in the course of the evaluation works. Although for some of them an interpretation has already been suggested, either from obvious characteristics or with reference to the work carried out by GUARD, for all of the archaeological remains there is the need for further interpretation with reference to the historical record or a more detailed analysis of the material found on site. Key to the discussion of all of the structures and material recovered is the question of where it may be placed in the chronology of the site. In this portion of the document reference will be made to historical records and historical mapping to as narrow as possible chronological associations for each feature as well as interpreting their function.

### *The Keppoch Nursery School or the Clydesdale Iron Works*

60. The most obvious element of the Nursery School which survives was the Janitor's House in the south-east corner of the site. Other than a few deposits (175) and (176) containing ceramic waste and kiln furniture there was no evidence that the older structural features survived in the area of Janitor's House. Test pits excavated in this area did not indicate further archaeological deposits at depth. All test pits were excavated to archaeologically sterile natural soil. It would seem that the first four phases of occupation of the site have been wiped out in this area by later construction. If, during the industrial phases of the site's use, this area had been given over to offices rather than for machinery the remains may have been less substantial and therefore more easily removed.
61. In several places in the site were large areas of concrete. In some cases these were founded on a brick structure but in others they were simply large areas of poured concrete. Some of these; like (184), (206) and (249), may be identified simply as foundations for larger structures. However, the metal bolts fixed into (166) and (223) suggest that they were for the placement of large pieces of machinery.



Figure 14a: Concrete (192) and surrounding deposits



Figure 14b: Kiln (209) and surrounding deposits

62. Similar metal hard-points were located in the surface of (177) occupying the north-eastern boundary of the site and so it may also be interpreted as a foundation for the placement of large machinery. The most likely explanation of these structures is that they relate to the use of the site by Clydesdale Iron Works. Although this phase of the site's use had been recognised as not archaeologically significant it is worth noting that, where it was possible to investigate at depth, it can be demonstrated that these structures have removed all previous occupation traces from the site.
63. Several services were excavated and recorded in the course of the archaeological excavation works. The majority of these may confidently be dated to the modern (20<sup>th</sup> century) use of the site and therefore of no archaeological significance. The central sewer pipes (178) linked to a modern manhole (186) and manhole cover, however, they also appeared to link into the complex of structures surrounding (216) and (222). Although these features appear modern more precise dating may be possible by association with other features.
64. No sign of the air raid shelter was found anywhere on the site and so we must conclude that it was an above ground structure. None of the sunken structures or negative features was large enough to have accommodated such a structure.

#### *J & R Tennent Ltd*

65. The most difficult aspect of the site recording was to determine the difference between the earliest phases of the pottery and the later phase when it was taken over by J & R Tennent Ltd. In practice, and in accordance with the terms of the Method Statement (Rees 2010), any structure or feature which obviously related to the use of the site as a pottery was recorded as if it was of the earliest phase of occupation. This became more difficult when recording the large number of brick walls and structures on site. Putting aside those structures already discussed, which more confidently relate to the Keppoch Nursery School or the Clydesdale Iron Works, we can tentatively suggest a phasing for the remaining brick structures.
66. Comparison with cartographic sources allows us to suggest an origin for some of the walls uncovered in the course of the works. For example, Wall (197) or Wall (212) may be the rearmost wall of the factory described on the 2<sup>nd</sup> edition Ordnance Survey Town Plan (1898). From the location Wall (212) is the more likely candidate however this leaves Wall (197) unexplained. Most likely is that (197) relates to a later construction on site but it is not in a location which could be easily explained as an external wall of the factory on historical maps.
67. Similarly Wall (129) or Wall (151) may relate to the northern factory wall as depicted on the 2<sup>nd</sup> edition Ordnance Survey Town Plan (1898). To untangle the remaining relationships would require detailed comparison of the site survey data with geo-referenced historical maps. However, from a superficial analysis it would seem that those walls which have been demolished to be almost flush with the level of the natural soil (surviving as only one or two courses) seem to relate to early phases of the pottery where the more prominent walls most likely relate to later phases of occupation.
68. A large quantity of finds were recovered in the course of the archaeological works the vast majority of these were from contexts which were almost completely composed of pottery fragments, waste and kiln furniture. It is out with the scope of this Data Structure Report to provide a detailed analysis of the finds recovered however a preliminary analysis has been performed.
69. It is evident that a mixture of Phase 2 and Phase 3 material survives, with finds dominated by earthenware with some sherds of stoneware also evident. More of the assemblage will have to be examined before reliable conclusions can be reached on the dating of recovered material.
70. Several sunken structures were recorded on site, which from the nature of the fills (mostly made ground and waste material) and their physical associations are most likely related to the later phases of the pottery, the occupation by J & R Tennent Ltd or perhaps even Clydesdale Iron Works. Further examination of the material recovered is required in

order to determine the date of these features. This may also provide us with a better idea of their use. The brick Structure (206) creates several discrete brick boxes which may have been used for storage or may be exposed foundations filled with waste material.

71. Structures (183) and (216), although not physically associated on site were both sunken brick structures; containing light grey clay and constructed of yellow brick. Without further examination of their fills their use remains uncertain. It is unlikely that the glazed brick floor, Surface (222), is associated with the electricity substation as its corrected location is in the wrong place. But no material was recovered which would suggest its origin.
72. Following the site's take over by J & R Tennent Ltd extensive renovation works were carried out, "three kilns had to be erected as well as drying room accommodation with steam piping and various lesser changes." (Kelly 1995). From this information alone it is unclear if the three kilns were erected on the site of older/existing kilns or on new sites. For this reason, and without further analysis, we cannot say for certain to which phase of the pottery a kiln relates. All kilns were recorded as if they were of the highest archaeological significance and therefore potentially related to one of the Saracen Pottery Co., Possil Pottery Co. and Nautilus Pottery phases of the pottery.

*Saracen Pottery Co., Possil Pottery Co. and Nautilus Pottery*

73. Circular Structure (162) and the adjoining brick Surface (168) were, from first appearances, associated with the archaeologically significant phases of the occupation of the site. In other words the Saracen Pottery Co., Possil Pottery Co. and Nautilus Pottery. However, examination of the structures themselves did not, at first, lend itself to an explanation of their origins given that there was no fire-mouth, heat resistant brick, heat damage or other characteristics which would indicate a kiln base. In addition the small raised brick structures within Surface (168) require explanation perhaps as the base of a larger structure.
74. Comparison with the 2<sup>nd</sup> edition Ordnance Survey Town Plan (1893) suggests immediately that Structure (162) and Surface (168) are the surviving elements of the chimney, shown on the plan at the approximate centre of the factory where it extends into the central courtyard. Structure (162) may therefore be identified as the foundation of the chimney. The brick stances on Surface (168) must relate to the structure, shown on the plan, to the south and east of the chimney and the machinery contained therein.
75. Of primary importance, of course, were the kiln bases recorded at various locations within the development area. From historical and cartographic evidence it is possible to demonstrate that the complement of kilns were variously modified and remodelled throughout the working life of the factory and therefore we can go some way to relate the kilns uncovered in the course of the archaeological works to kilns described in the historical record.
76. The 2<sup>nd</sup> edition Ordnance Survey Town Plan (1893) four regularly spaced circles in the western half of the factory. From this we infer the location of four kilns in use during the Saracen Pottery Co. and Possil Pottery Co. phases of the factory's use. Kilns (209) and (236) may relate to this phase of the factory's use. Their location fits as close as possible with the western most of the four kilns shown on the 2<sup>nd</sup> edition Ordnance Survey Town Plan (1893). What is perhaps more noteworthy is that there is no evidence of these kilns being set atop an older structure and so these may be the original foundations. In addition, no evidence was found of the two eastern most kilns on the plan despite the fact that their edges should have been picked up about the centre of the excavation area. Given the poor state of preservation of Kilns (209) and (236) it is possible that they have been substantially removed although GUARD did potentially locate a portion of the north-eastern kiln in their Trench 4 (an area not re-opened for excavation during these works).
77. Kiln (108) was recorded in part during the GUARD evaluation works. This kiln is notably smaller than the others on site and does not appear in 2<sup>nd</sup> edition Ordnance Survey Town Plan (1893). Kiln (108) does however appear on the 1910 Ordnance Survey Town Plan in

the form of semi-circle out of the western edge of the northern part of the now extended factory. This presumably then is one of two new bottle kilns constructed by Nautilus Pottery in 1903. Closer examination of the site records and comparison with recorded kilns from other sites may provide information as to the form and character of Kiln (108).

78. It is unclear to what phase of the working life of the pottery Kiln (170) belongs. As we have already seen there was modification in the infrastructure of kilns prior to 1916 when the property was taken over by J & R Tennent Ltd and it has already been discussed that significant modifications were made to the building after. However, it is unclear if the modifications made under J & R Tennent Ltd included changes to the kilns. Detailed examination of the historical record or comparison with other sites may give a greater understanding of the character and use of Kiln (170).
79. In addition to the kilns discussed above two possible kilns, (186) and (192), should also be noted. Structure (186) was a much degraded semi-circle of brick which may represent a kiln base but given its location, on the western edge, would have to be a later modification of the factory layout. Similarly, Concrete (192) would have to be a later modification and may be the foundation of a kiln. However, beyond its circular shape there is no definitive evidence to characterise (192) as a kiln.
80. A large quantity of finds was recovered from around the kilns in the western area of the site. These appear to be consistent with material produced in Phases 2 and 3 of the site occupation. Further examination of the finds is required to get a more complete understanding of the site chronology.

## Recommendations

81. During the excavation work carried out at Mansion Street numerous structural features and deposits were uncovered. A portion of these remains could immediately be characterised as significant archaeological remains under the terms agreed in the Method Statement (Rees 2010). A similar proportion of those remains found could be categorised as of modern origin and therefore of no archaeological significance other than to mark areas of disturbance. For the remainder the origin is ambiguous and may only be uncovered with the comparison if the site record with detailed historical analysis.
82. All material uncovered in the course of the excavation works was recorded and sampled to the full requirement of the Method Statement (Rees 2010). In addition the depth of archaeological deposits was repeatedly validated by test pitting and by sectioning features. From this we can be confident that all potentially significant archaeological remains, within the excavated area, have been fully sampled and recorded and therefore no further on-site archaeological work is required in relation to these remains.
83. The excavation work did confirm the work carried out by GUARD in the evaluation of the site; hence those areas of the site which have not been covered by the excavation works described in this report still have the potential to contain significant archaeological material. The exception to this being those areas identified in the Method Statement (Rees 2010) as having no archaeological potential, for example the north-west corner of the site. Therefore, any area not covered by the excavation works described here or eliminated by the Method Statement should be subject to archaeological monitoring in the event that the development works impact upon it.
84. As previously discussed a significant body of material and information was recovered in the course of the excavation works which, according to the terms agreed in the Method Statement (Rees 2010), should be subject to post-excavation analysis and reporting. Post-excavation analysis of the site should focus on the analysis of the materials removed to elucidate the industrial processes undertaken and the character of the finished products. In general terms the corpus material should be subject to the analysis by an appropriate specialist. In addition, there is scope for the relation of the site record to the historical record in order to achieve a greater understanding of the site chronology. The results of any monitoring works undertaken should be incorporated into the above analysis and results of this analysis should be published within an appropriate academic journal.

## Conclusion

85. A programme of archaeological works was undertaken on behalf of Glasgow City Council in respect to the proposed plan for development at Mansion Street, Springburn, Glasgow. The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.
86. Archaeological excavation works were carried out within the agreed footprint of the disturbance of the proposed development works. This included the footprint of the building and the proposed area for drainage. The north-west corner of the site had already been excluded as being of no archaeological potential. The archaeological excavation works uncovered a variety of structural features and deposits relating to the early phases of the pottery to the modern incorporation of the site in the grounds of a primary school.
87. All archaeological features were recorded and a significant body of material was recovered. The structural features recorded included the remains of possibly five kilns, the base of a chimney and numerous brick walls. More modern features included concrete stances and modern services. There is the potential for further on-site archaeological work in the form of archaeological monitoring in those areas which were not covered by the excavation works. In addition, it is recommended that the material and information recovered should be subject to post-excavation analysis and reporting.

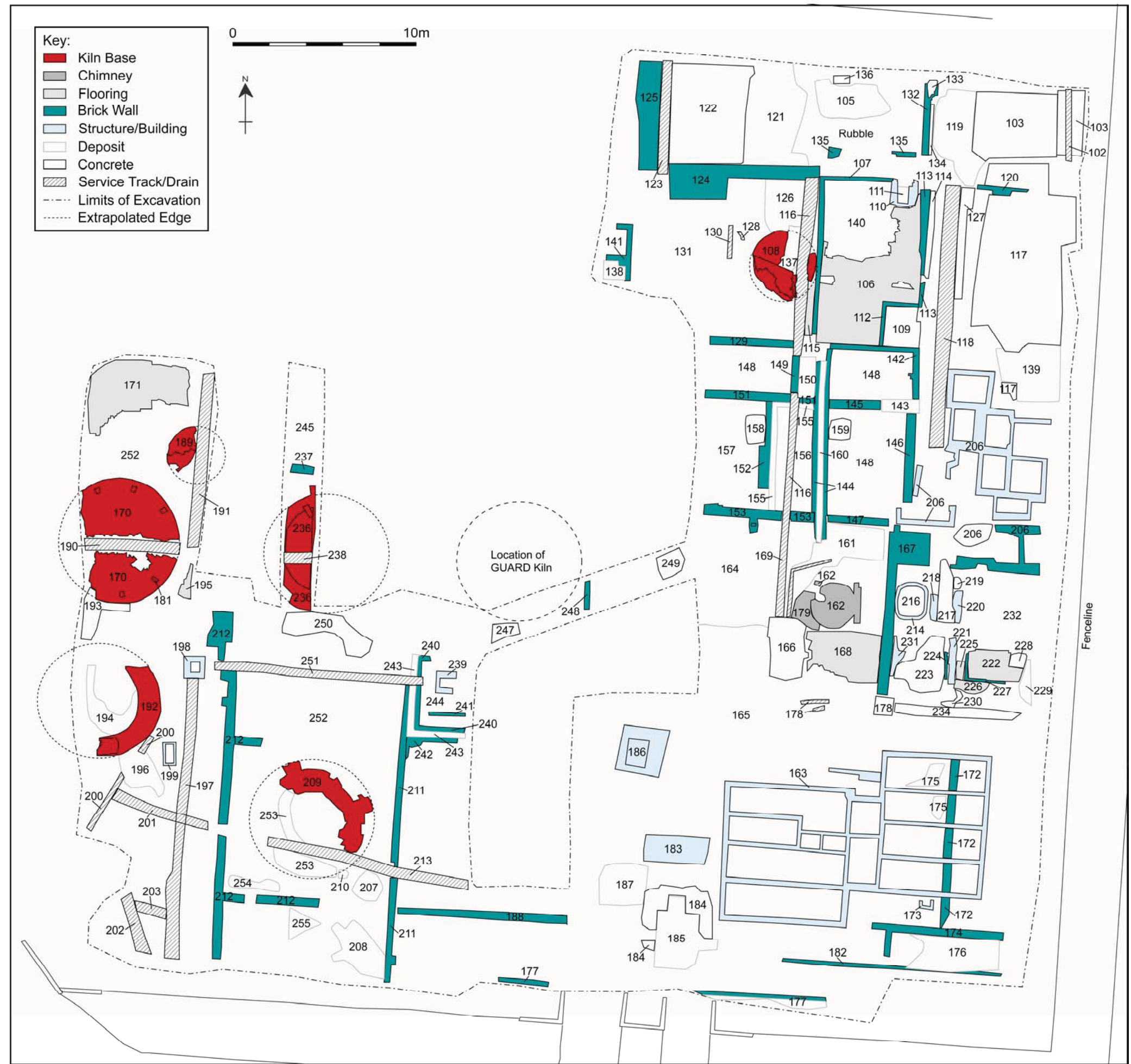


Figure 15: Complete Site Plan



## References

### *Documentary*

- Arabaolaza, I., 2009, *Mansion Street, Archaeological Watching Brief, Data Structure Report*, unpublished commercial report by GUARD
- Hume, J.R., 1974, *Industrial Archaeology of Glasgow*, Glasgow. Held at RCAHMS: D.12.4.IND
- James, H., 2010, *Mansion Street, Possil, Glasgow, Data Structure Report*, unpublished commercial report by GUARD
- Kelly, H.E., 1995, 'Possil Pottery, Tennent, and Glasgow Trading & Transport Ltd.', *Scottish Pottery Historical Review No. 17*
- Quail, G., 1983, *Nautilus Porcelain: the History of the Possil or Saracen Pottery*, Glasgow District Libraries
- Rees, T., 2010, *Saracen Pottery, Glasgow: Archaeological Works, Method Statement*, Rathmell Archaeology Ltd.
- SOEnv, 1994, *Planning Advice Note 42, Archaeology*, Scottish Office Environmental Department.

### *Cartographic*

Roy, W	1747-55	Military Survey of Scotland
Fleming	1807	Fleming Glasgow Town plan
Ordnance Survey	1850	1 <sup>st</sup> edition map
Ordnance Survey	1893	Town Plan
Ordnance Survey	1895	2 <sup>nd</sup> edition map
Ordnance Survey	1903	3 <sup>rd</sup> edition map
Ordnance Survey	1910	Town Plan

## Appendix 1: Discovery and Excavation in Scotland

<b>LOCAL AUTHORITY:</b>	Glasgow City Council
<b>PROJECT TITLE/SITE NAME:</b>	Saracen Pottery, Glasgow
<b>PROJECT CODE:</b>	RA10035
<b>PARISH:</b>	Glasgow
<b>NAME OF CONTRIBUTOR:</b>	Alan Matthews & Claire Williamson
<b>NAME OF ORGANISATION:</b>	Rathmell Archaeology Limited
<b>TYPE(S) OF PROJECT:</b>	Excavation
<b>NMRS NO(S):</b>	None
<b>SITE/MONUMENT TYPE(S):</b>	Pottery
<b>SIGNIFICANT FINDS:</b>	Pottery and Kiln Waste
<b>NGR (2 letters, 6 figures)</b>	NS 682 591
<b>START DATE (this season)</b>	5 <sup>th</sup> July 2010
<b>END DATE (this season)</b>	23 <sup>rd</sup> July 2010
<b>PREVIOUS WORK (incl. DES ref.)</b>	None
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (may include information from other fields)	Archaeological excavation works were carried out within the agreed footprint of the disturbance of the proposed development works. This included the footprint of the building and the proposed area for drainage. The archaeological excavation works uncovered a variety of structural features and deposits relating to the early phases of the pottery to the modern incorporation of the site in the grounds of a primary school. All archaeological features were recorded and a significant body of material was recovered. The structural features recorded included the remains of possibly five kilns, the base of a chimney and numerous brick walls. More modern features included concrete stances and modern services. There is the potential for further on-site archaeological work in the form of archaeological monitoring in those areas which were not covered by the excavation works. In addition, it is recommended that the material and information recovered should be subject to post-excavation analysis and reporting.
<b>PROPOSED FUTURE WORK:</b>	Monitoring
<b>CAPTION(S) FOR ILLUSTRS:</b>	None
<b>SPONSOR OR FUNDING BODY:</b>	Glasgow City Council Development and Regeneration Services
<b>ADDRESS OF MAIN CONTRIBUTOR:</b>	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
<b>E MAIL:</b>	contact@rathmell-arch.co.uk
<b>ARCHIVE LOCATION (intended/deposited)</b>	Report to West of Scotland Archaeology Service and archive to National Monuments Record of Scotland.

## Contact Details

88. Rathmell Archaeology can be contacted at our Registered Office or through the web:

Rathmell Archaeology Ltd	<a href="http://www.rathmell-arch.co.uk">www.rathmell-arch.co.uk</a>
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Kilwinning	t.: 01294 542848
Ayrshire	f.: 01294 542849
KA13 6PU	e.: <a href="mailto:contact@rathmell-arch.co.uk">contact@rathmell-arch.co.uk</a>

89. The West of Scotland Archaeology Service can be contacted at their office or through the web:

West of Scotland Archaeology Service	<a href="http://www.wosas.org.uk">www.wosas.org.uk</a>
Charing Cross Complex	
20 India Street	t.: 0141 287 8332/3
Glasgow	f.: 0141 287 9259
G2 4PF	e.: <a href="mailto:enquiries@wosas.glasgow.gov.uk">enquiries@wosas.glasgow.gov.uk</a>

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