

Birmingham University Field Archaeology Unit
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**A Watching Brief and Salvage Recording
at Gas Street, Birmingham**

by
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B.U.F.A.U.



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1.0 Summary

A watching brief and salvage recording was undertaken by Birmingham University Field Archaeology Unit on behalf of Dr Paul Collins (acting for Crosby Homes) on the site of an early gasworks at Gas Street, Birmingham (Grid reference 0625:8647). This was performed in a 3 week period during August 1999 whilst the site was being cleared. The well preserved remains of an early 19th century gasometer and associated boundary walls were recorded underlying many 19th Century and 20th Century industrial structures.

2.0 Background to the Investigation

A watching brief was undertaken by Birmingham University Field Archaeology Unit on behalf of Dr Paul Collins (acting for Crosby Homes) during ground clearance in preparation for the construction of apartments. The work was commissioned in response to planning application C/04297/98/FUL. Condition 22 of this planning permission made specific reference to “*ensure that foundation piling does not damage archaeological remains and to ensure that all archaeological remains are protected during development*“. Therefore, any surviving features relating to the early gasworks known to be on the site in the early 19th century were to be preserved *in situ*.

3.0 Site Details and Historical Background

The site is a parcel of land bounded by Berkley Street to the west and Gas Street to the south. A listed boundary wall forms the eastern edge of the site. (See Fig.1 & Fig. 2)

Before the clearance work started, the site contained a number of industrial and warehouse buildings, dating mostly from the 20th-century. Prior to the demolition of these buildings, a photographic record was taken of the site boundary walls.

The main features of archaeological significance and importance on the site were the probable surviving remains of an early gasworks. Following its role in the production and supply of coal gas, the site was at the centre of Birmingham's brass and toy industries. A Galvanising Works dominated the site in the late-19th century prior to the taking over of the site by a multitude of 20th-century industries. A brief summary of the pertinent early gasworks in the area can be found in Demidowicz, (1993). No archaeological excavations have taken place on the site but several building recording surveys were undertaken by BUFAU of the nearby gasworks retort house (Linnane, SJ, 1998 and Halstead, J & Breedon, M, 1999). Some trial trenching also took place in the listed retort house by Lancaster University (Trueman R G & Krupa M 1994).

4.0 Method

The site was cleared using an excavating machine, fitted with a 2m-wide, toothed bucket and operated under archaeological supervision.

The ground clearance scheme involved the removal of concrete stanchions and brick footings to allow piling by auger. At the southern end of the site, the ground level was ramped, resulting in a deeper machining.

Any significant archaeological features were recorded in notebook form. A series of measured, sketch plans, sections & elevation drawings were also made during the clearance work. These are reproduced in Figures 3-9. Both colour print and black and white photographs were taken of various features, as well as the ongoing state of the site. These records comprise the site archive, which, at the time of writing, is currently stored at Birmingham University Field Archaeology Unit. After completion of the clearance work, the site was levelled by machine.

5.0 Observation results

The development site can be divided into three distinct areas;

- Area A: The southern section, adjacent to Gas Street.
- Area B: The middle section, with little archaeological remains.
- Area C: The northern area, where most remains from the gasworks were found.

A schematic plan of the archaeological features recorded is shown in Fig. 3. In the following narrative several nomenclature are used;

- (F100) : Refers to the feature number in the archive.
- (1000) : Refers to the context number in the archive.
- (*I.I*) Refers to the photographic archive: (film number.photo)

5.1 Area A

After the demolition of the extant buildings on the site, ground clearance commenced with the removal of a concrete slab (1000) in Area A. Underlying this concrete were well preserved surfaces (F100), comprising yard segments with 3" hand-made blue bricks set on edge in stretcher bond. Adjacent to these and towards the southwest corner of Area A, were areas of similar bricks laid on their bats. (*5.6*)

A significant number of bricks had green residue or paint. Just to the east of these brick surfaces was a small remnant of a quarry-tiled floor (F101, *5.I*), built with 4" tiles. Underlying the brick surface was a thick layer of ash and coke with metal slag fragments and green deposits (1001).

At the southwest corner of Area A, a cellar was recorded (F102), with an 8" quarry-tiled floor 1m below current pavement surface. The cellar had extant wallpaper decoration. This cellar was adjacent to a backfilled doorway to Gas Street. In the southeast corner of Area A, a wall section (F104) was recorded well below the footings of later east-west walls, sealed by a layer of coke and aligned significantly differently to the listed north-south boundary wall (F106). The wall (F104) bounded a sub-rectangular pit of black tar (F103, 1007, *I.3*), a sample of which was taken for chemical analysis. Further north, a paint-stripping tank, with an associated deposit of lime, was removed from the uppermost levels.

5.2 Area B

Removal of the concrete slab (1000) over Area B revealed only deposits of rubble and coke. On the eastern edge of the area, machine clearance uncovered fragments of firebricks encrusted with iron slag, and iron pipe fragments of 4" gauge, along with some stone windowsill fragments (5.2). In the centre of Area B, a brick-lined tank (F105), measuring 2m x 3m, was removed from 0.4m depth below the concrete slab (1.9). This tank had a hand-made concrete base and contained a black liquid (1012), sampled by Geotech Ltd.

5.3 Area C

It is not certain whether virgin subsoil was ever reached in the clearance of this area. However, a distinct horizon consisting of a thin layer of black silt (1003) formed a useful reference. Underlying this layer was a deposit of orange clay, (puddle clay, 1004) which was bounded to the south by an east-west aligned wall (F109) and to the north by another east-west wall (F110). See Fig. 4. (2.29, 2.10)

In the centre of Area C, the gasometer base (F107) along with three visible pillar bases (F108) with extant oak posts, was recorded. See Fig. 5 (1.15, 2.5, 4.4). The puddle clay surrounded the entire gasometer base. The western edge of F107 was well preserved with the top course of bricks being flush with the black silt horizon (1003) which was approximately 2.2m below nearby pavement level. A north-south wall (F111/A) had its footings overlying the truncated top of F107, with a visible cut through the puddle clay (1004). See Fig. 6. (2.16)

A small, curved segment of brickwork (F117, 2.12) was uncovered in the southwest corner of Area C close to F107, at the same level.

Close to the eastern edge of F107, a south-facing section was recorded. See Fig. 7 (2.23). A deposit of orange sand-clay (1004) was overlain by a thin layer of black silt (1003) over which a thick deposit of black tar had set. A highly fired clay pipe orientated approximately northeast-southwest (F118), had been inserted into the tar. A thin lens of mortar overlay the tar, which along with layers 1003 and 1004, was cut by a wall (F116) and its associated foundation trench. This small brick wall, aligned north-south, survived as only four courses and was overlain with rubble levelling layers.

An adjoining west-facing section was also recorded. (Fig. 8 2.27) The rubble/ash layers were cut by a furnace structure (F115), measuring 4.2m by 2.7m, which had a fire-clay brick lining. A blue brick yard surface was noted at the top of the furnace structure. The eastern edge of the gasometer base was also truncated by the furnace structure.

Higher up in the rubble/ash deposits, at the approximate centre of the gasometer base, a brick-lined structure (F120) with a possible horizontal brick flue was recorded (1.13). This was filled with a white creamy material. An adjacent, late Victorian culvert (F119) represents the latest feature in the location of the gasometer (1.10). To the north of the gasometer an east-west aligned brick wall (F110) was butted by the black-silt horizon (1003) (2.9, 2.10, 2.11). A wall brace *in-situ* was recorded (2.8). Along the western boundary wall with Berkley Street, a one-brick-width segment of earlier walling (F114) was butted by the current boundary wall (2.14).

Close to the northern boundary of the site, an unmortared redbrick well (F112) was cut from a layer of brown clay-silt overlying orange sand-clay and pebbles. The well, at 2m depth was sealed by a layer of black coke. This was overlain by orange sand-clay with many rounded pebbles which itself was overlain by the Berkley Street wall footings. (See Fig. 9 and Fig. 10, 4.5, 4.6). Next to the well (F112), a World War II air raid shelter (F123, 4.7) truncated the

surrounding deposits. In the northeast corner of Area C, two small segments of brick walling were recorded (F121 and F122), aligned east-west and north-south respectively. Just 0.5m from the eastern site boundary, and parallel to it, a small section of iron piping (F113), probably *in-situ*, was recorded with a smaller gauge branch aligned east-west. This pipe lay approximately 0.5m below the concrete slab (1000, **4.16**).

6.0 Finds

During site clearance a number of objects were uncovered from the rubble deposits. The following were photographed.

1. Stone grinding or rolling wheel. (**3.15**)
2. Large circular wood beam with wrought iron nails. (**3.18**)
3. Several gauges of iron pipe. (**5.2**)
4. Steel railway tracks reused as re-enforcement for concrete. (**2.19**)
5. Branch of iron pipe F113 kept as Special Find 1. (**4.16**)
6. Red Brick from well build 1006 kept as Special Find 2.

7.0 Interpretation

It seems evident that the ground level has been raised by approximately 1m-2m from the south to north of the site since the use of the gasworks and this seems to be confirmed by the trial trenches in the Retort House revealing the true bottom, some 1.4m below current floor levels. (Demidowicz, verbal communication, 1999).

Fig. 11 shows the site plan overlaid onto the 1855 Piggot Smith map with an additional overlay from the current OS map.

Area A was characterised by the remains of a cottage cellar (F102), present on the 1855 Piggot Smith map but not on his 1825 map. The yard surfaces (F100) probably relate to the modern uses of the buildings over that area. Of more interest are the tar pit (F103) and the wall (F104) in the southeast corner of the site. These cannot be seen on maps from 1825 onwards but the stratigraphy suggests that the tar pit is associated with the early gasworks on the site. It has been commented (Demidowicz, 1993) that an early retort house may have been in this part of the site, and indeed F104 could be part of that. However, it is interesting to note that the wall is parallel to Granville Street to the west and that on the 1825 Piggot Smith map, Berkley street does not yet exist at the southern end. Thus the building that F104 represents seems to respect an earlier boundary and, as such, is probably the earliest surviving remains on the site.

The remains in Area B were probably 20th century and relating to paint-stripping and metal working.

The gasometer base (F107) was in exactly the place that the 1855 Piggot Smith map details, as are the location and number of brick pillar bases (F108). The southern wall F109 is also associated with the early gasworks as is F110. This observation led to the re-examination of the north-south Berkley Street wall which indicated that the original boundary wall (F114) survived as a one brick skin on the inside of the later visible wall. The layer of black silt (1003) seems to represent the actual working horizon of the gasworks with the puddle clay (1004) intentionally inserted around the gasometer base for sealing. The fill of the gasometer base, so far as could be seen and sampled by Geotech Ltd. indicates possible remediation which is highly unusual for this period. The iron gas pipe (F113) may be part of the pipe system feeding the 4 gasometers as indicated by its location and the presence of a branch going towards the gasometer. At the north

end of the site the wall fragment (F121) matches the original northern wall of the gasworks site shown on the 1855 Piggot Smith map.

The furnace (F115) probably relates to the Galvanising Works that were present on the site from the 1880s. It is possible that the wall remnant F116 is a fragment of the original eastern boundary wall of the 1828 gasometer but its position does not match exactly with the 1855 map. However, this could not be proven stratigraphically. The wall F111/A dates from post-1850 and matches a building wall of the Galvanising Works on the site shown on the 1884 OS map, while F111/B is present from at least 1955.

At the northwest corner of the site, the well (F112) is possibly slightly earlier than the 1828 gasometer. The area of the well is shown to be open on the 1825 Piggot Smith map but by 1855 is covered by a building.

8.0 Comments on Survival of remains

It seems apparent that the ground level has been raised approximately 2m over the gasworks horizon and this had most likely helped the preservation of those deep features. However it is probable that any above ground elements of the gasworks were demolished in later use of the site and the rubble left on site. The wall F109 survived due to its reuse for a building, as did F110. However the tops of the brick pillar bases (F108) were not complete and indeed the current clearance programme further damaged the southwest pillar base. The southeast pillar base and gasometer section was encased by a mass of overlying concrete which due to its removal for hardcore, caused inescapable damage. The small section of gas pipe (F113) was set into concrete that indirectly preserved it. The northern edge of the site was not deeply cleared and so further remains could survive there.

9.0 Acknowledgements

The project was managed by Dr Paul Collins and Iain Ferris. The excavations were sponsored by Crosby Homes although Kendrick Construction performed the land clearance and we are grateful to Paul Langford, the site manager for his co-operation.

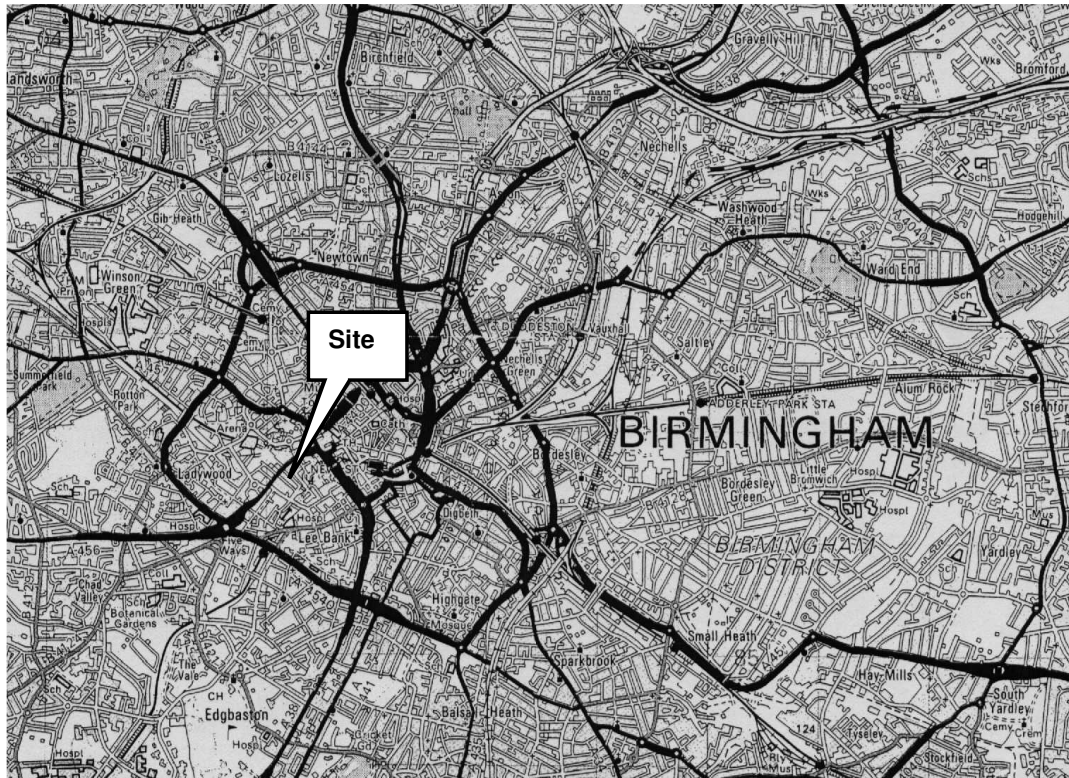
10.0 References

Demidowicz T, 1993 *Early Gasworks, Gas Street/Berkley Street, City Centre Birmingham*. Birmingham City Council internal report.
Linnane, SJ 1998 *Early Gasworks, Gas Street, Birmingham, Architectural Recording and Analysis*. BUFAU report 550.
Halstead J & Breedon M, 1999 *Early Gasworks, Gas Street, Birmingham, Architectural Recording and Analysis*. BUFAU report 550.01
Trueman RG & Krupa M, 1994 *Gas Street/Berkley Street Gasworks, Birmingham; Recommendations for Archaeological Recording*. Lancaster University

11.0 Map References

1825 Piggot Smith Map of Birmingham
1855 Piggot Smith Map of Birmingham
1884 OS Map
1955 OS map
1993 OS map

12.0 Figures



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Figure 1 Map of Central Birmingham showing site location 1:50000

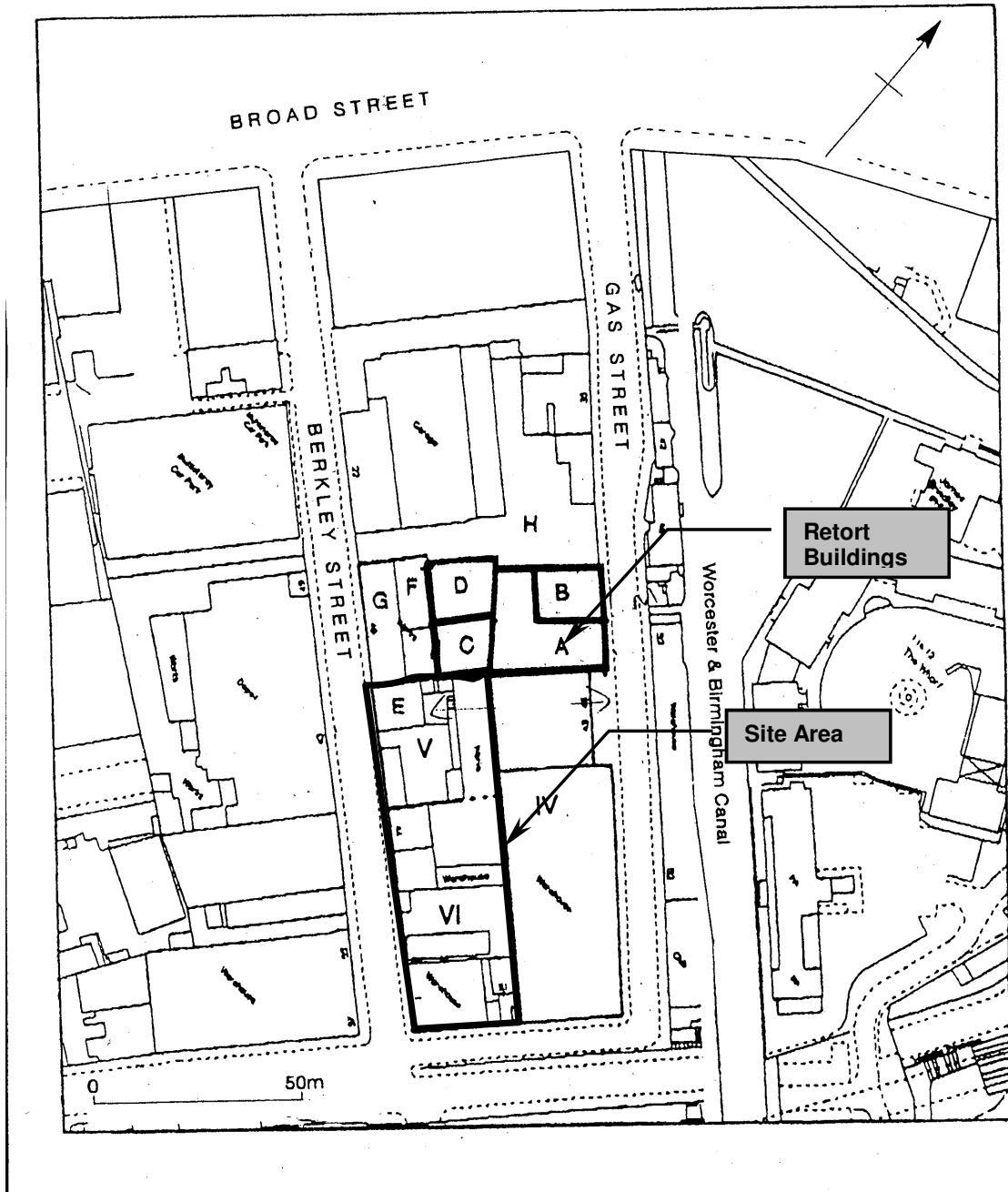


Figure 2 Site Area

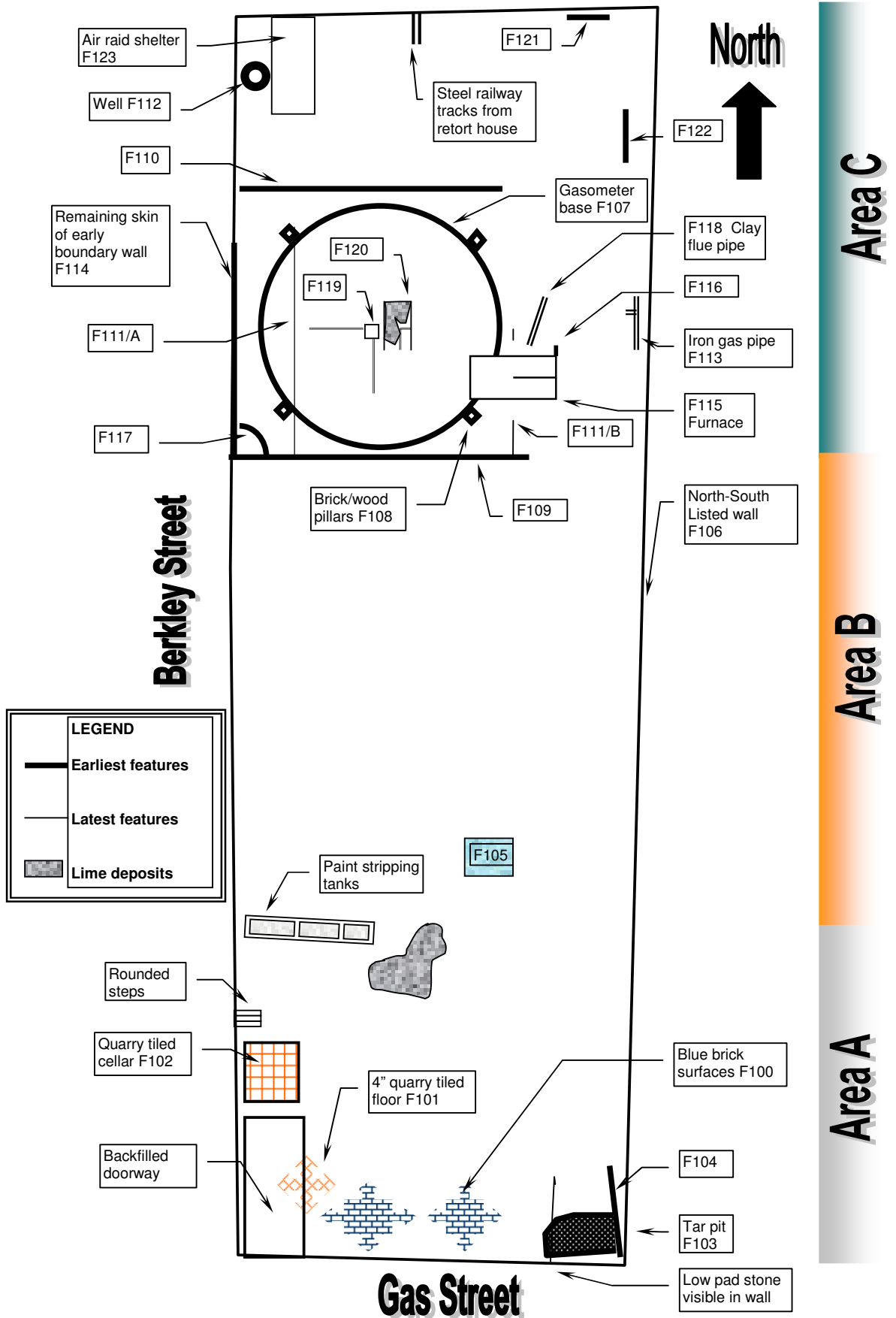


Figure 3 Schematic plan of site approximate scale 1:400

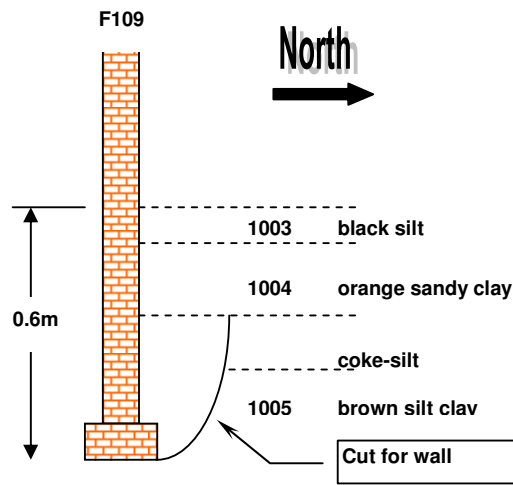


Figure 4 East facing section schema F109

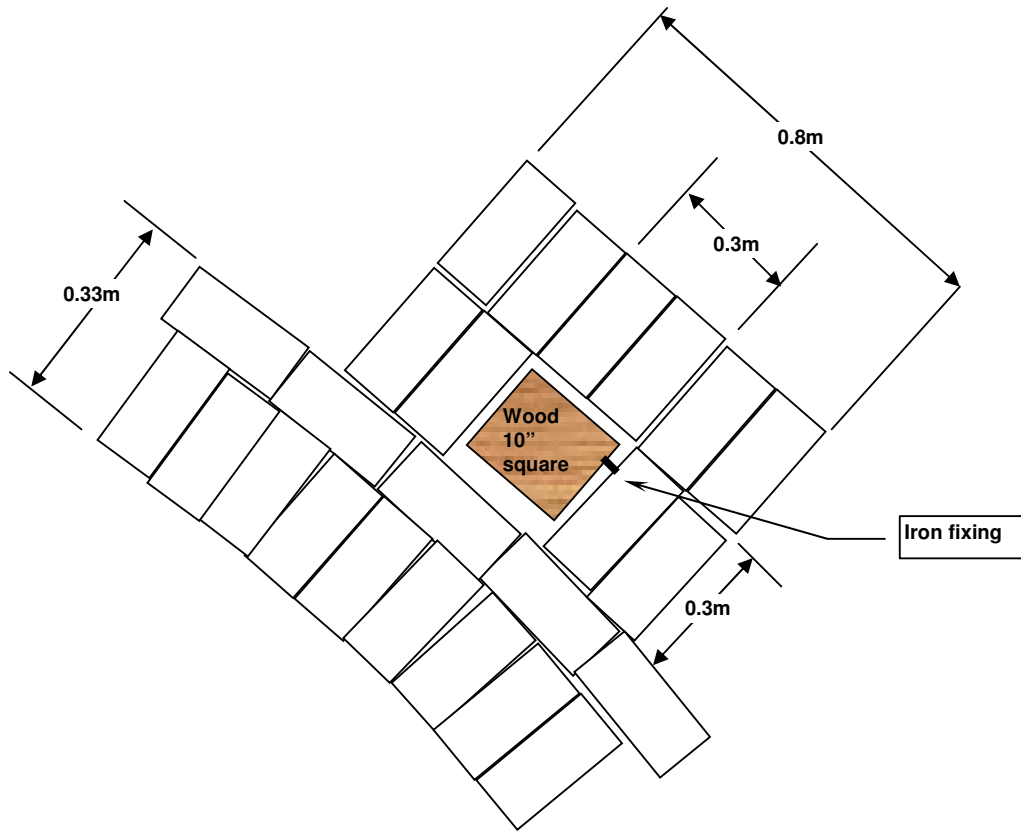


Figure 5 Schematic plan of Southwest pillar F108

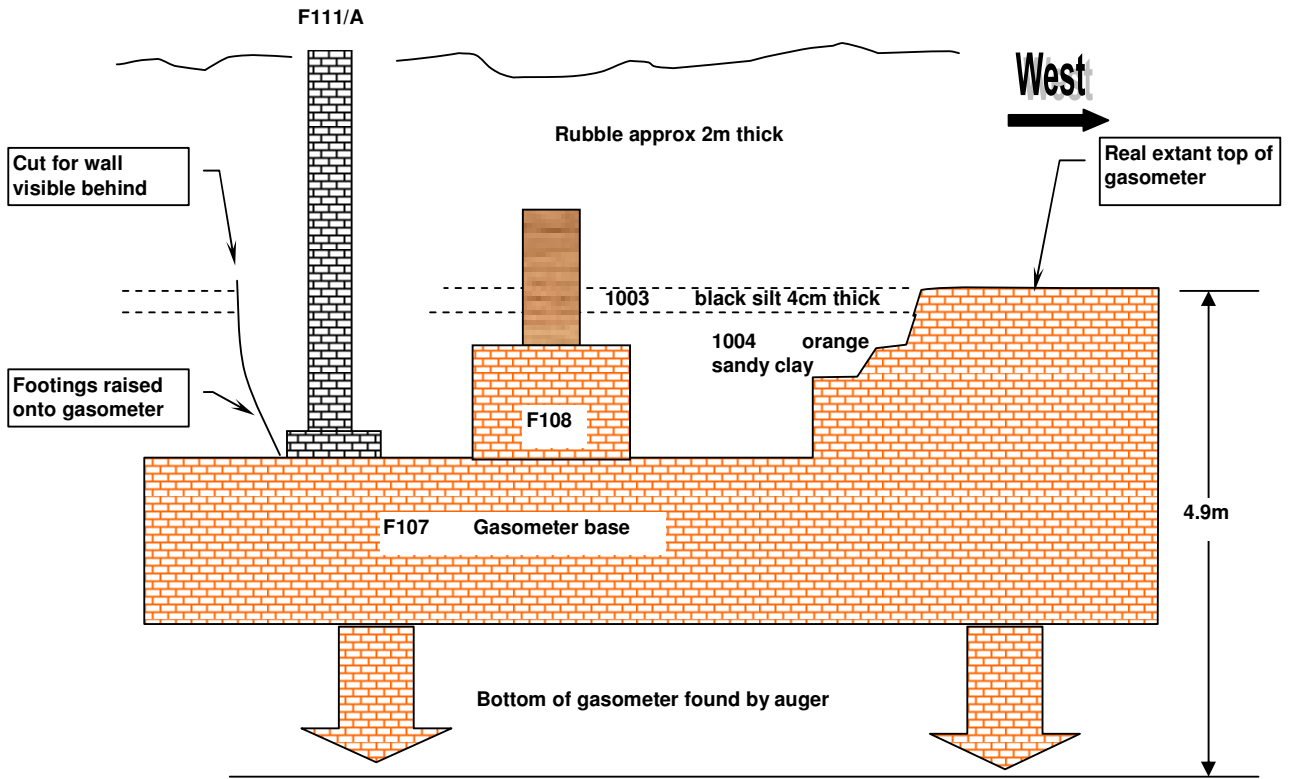


Figure 6 North facing section schema F107, 108, 111/A

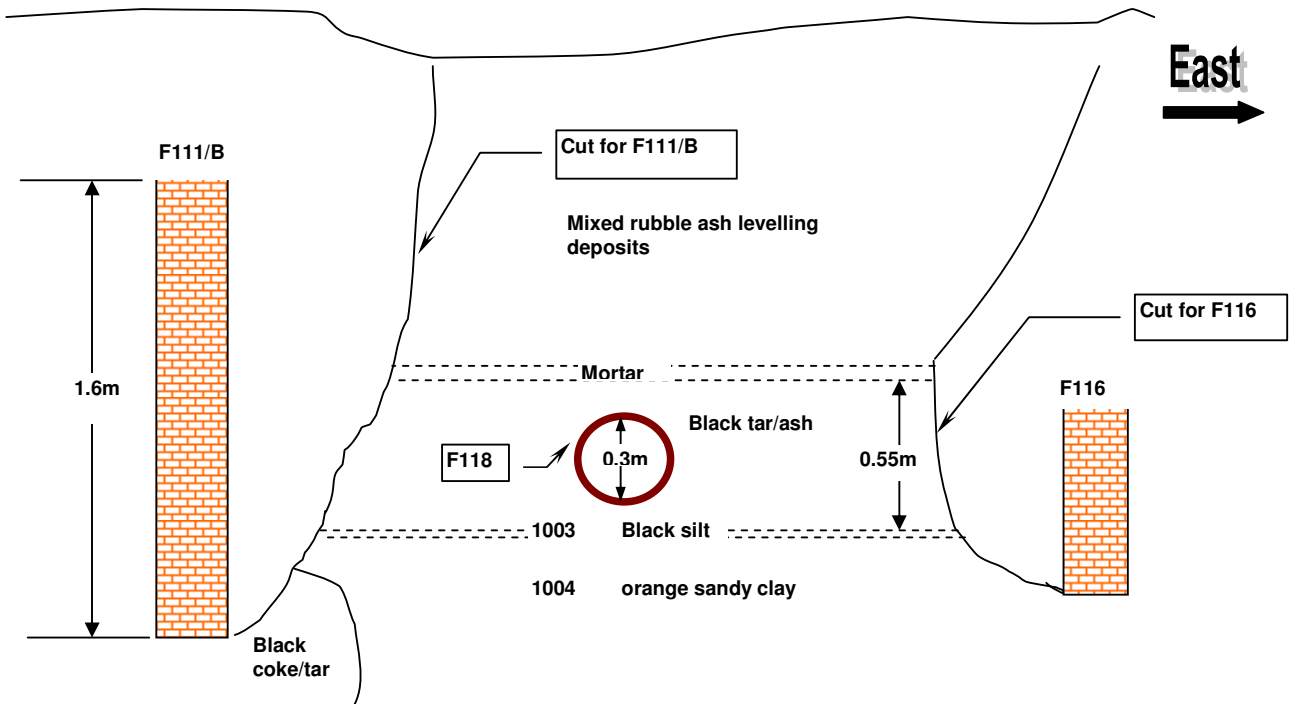


Figure 7 South facing section schema F116, F111/B

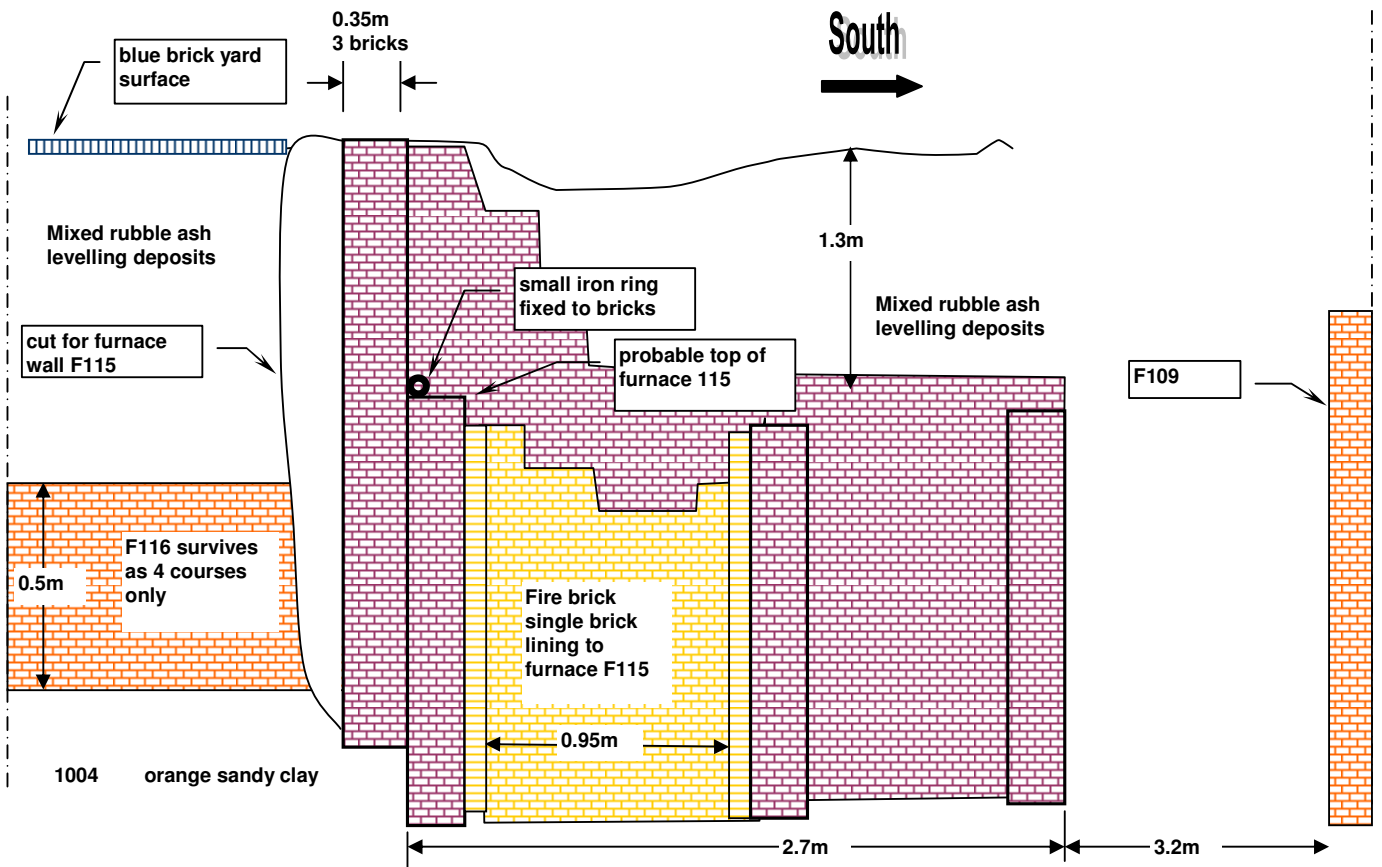


Figure 8 West facing section schema F115

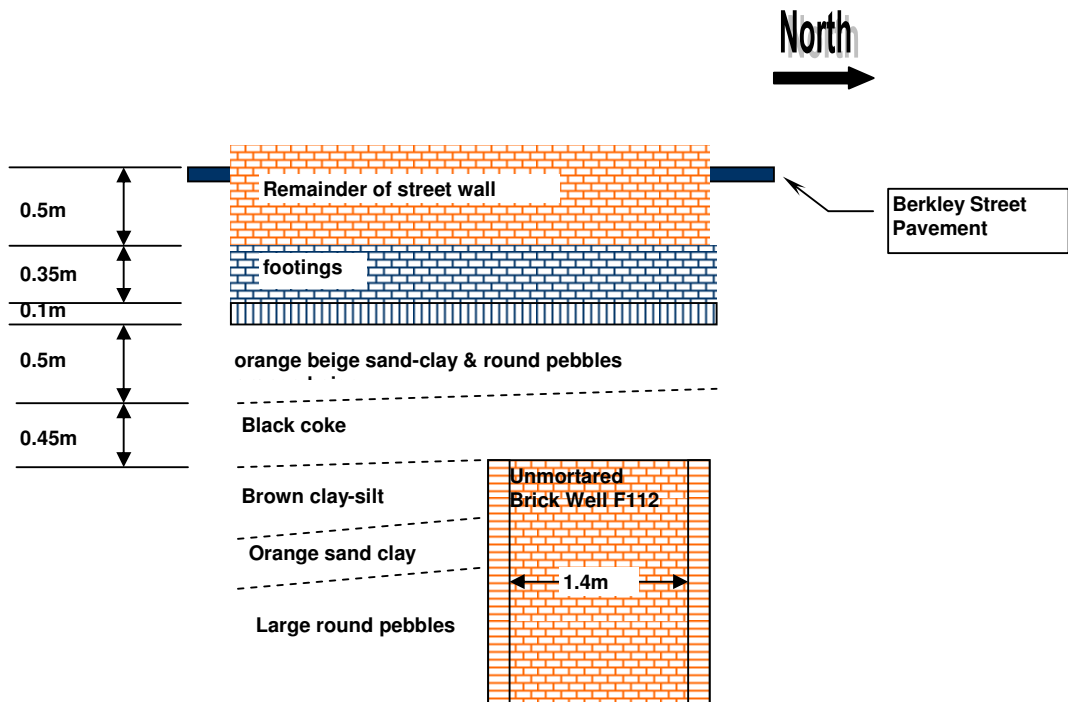


Figure 9 East facing section of F112

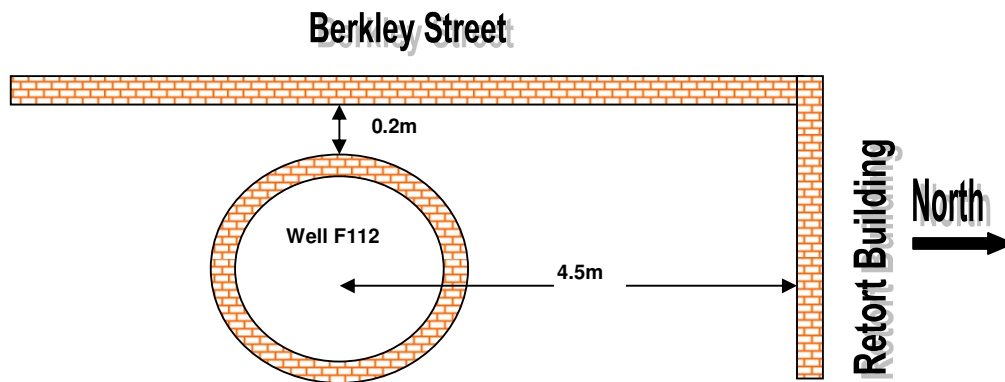


Figure 10 Schematic plan of F112 showing location

3.6" X 2.6"

Berkley Street



North

S
T
R
E
E
T

Gas Street

Figure 11 Plan of features (blue) overlaid with 1855 Piggot Smith and current OS Map

3.6" X 2.6"