PCA

PRE-CONSTRUCT ARCHAEOLOGY

An Archaeological Watching Brief and Evaluation at 21 Wapping Lane, London Borough of Tower Hamlets, E1

Site Code: WPI 07

Central National Grid Reference: TQ 3490 8049

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1. ABSTRACT

1.1 This report details the results and working methods of an archaeological watching brief on a series of trenches, geotechnical trial pits, boreholes and window samples, and a subsequent evaluation trial trench, all carried out at Tower Warehouse, 21 Wapping Lane, London Borough of Tower Hamlets, E1 (see Figure 1). The watching brief was undertaken between 9th July and the 16th August 2007, and the evaluation trial trench between 5th and 13th September 2007. All fieldwork was commissioned by WSP Environmental on behalf of Eulysses Limited (part of the Ballymore Group of Companies).

1.2 During the initial geotechnical investigations natural gravel was recorded across the site and was sealed where truncation had not occurred by a sequence of alluvial sediments. These were overlain in places by probable 17th or 18th century soil horizons. The soils and the remaining areas of site were covered by substantial levelling/ground level raising deposits which are likely to be associated with the construction in the 19th century of a large dock basin and ancillary structures. Some evidence of the continued development of the dock was also recognised.

1.3 The later deposits were partly truncated in the central area of site by the construction in the 1960's of the Tower warehouse, whilst widespread levelling deposits that consisted of masses of demolition rubble sealed the remaining areas of the site. This is also thought to have occurred as part of the 1960's development.

1.4 Following on-site discussions between David Divers, English Heritage (GLAAS), Sally Randell, WSP Environmental, and Tim Bradley, Pre-Construct Archaeology Ltd, it was decided that an additional pre-determination archaeological evaluation trial trench be undertaken in the basement of the extant warehouse building to further understand the archaeological deposit sequence and archaeological potential of the site.

1.5 This trench broadly confirmed the sequence recorded during the watching brief, with natural alluvial clay recorded sealed by a sequence of 18th and 19th century layers. These were truncated by the construction cut for the concrete foundation of a north-south orientated brick base/wall. The concrete foundation and wall occupied most of the area of the trench and extended below the final depth of the trench.

1.6 No archaeological remains or evidence of human activity prior to the post-medieval period were encountered in the evaluation.

2. INTRODUCTION

2.1 A watching brief on geotechnical investigations and a pre-determination archaeological evaluation trench were conducted by Pre-Construct Archaeology Ltd. on land at 21 Wapping Lane, London Borough of Tower Hamlets, E1.

2.2 The site lies at 21 Wapping Lane and occupies an area of approximately 85m from east to west and approximately 87m from north to south and has a central National Grid Reference of TQ 3490 8049. The site is now disused but a large warehouse still occupies the central area of the site with the remaining space given over to tarmac surfacing.

2.3 During the initial watching brief, five trial trenches were excavated to locate with certainty the limits of the now infilled dock basin - these were between 0.45 to 1.80m in depth. Eight engineering trial pits were also excavated, the depths of which ranged from between 0.70 and 3.90m. In addition to this nine boreholes and six window samples were excavated to depths between 1.2 and 40m. The trenches, trial pits, boreholes and window samples were all recorded as a watching brief (see Figure 2).

2.4 Additionally, the excavation of a single trial trench was undertaken in the basement of the warehouse building, aimed at providing the Local Planning Authority with sufficient information to determine the planning application for the development of the site. The trench measured 3m x 3m at ground level, and was excavated to a depth of 4.60m.

2.5 WSP Environmental commissioned the work on behalf of Eulysses Limited. The project was managed for Pre-Construct Archaeology Ltd by Tim Bradley and supervised by John Payne and Ireneo Grosso. David Divers, English Heritage (GLAAS), monitored the site on behalf of the London Borough of Tower Hamlets. The Museum of London Site Code assigned to the project was WPI 07.

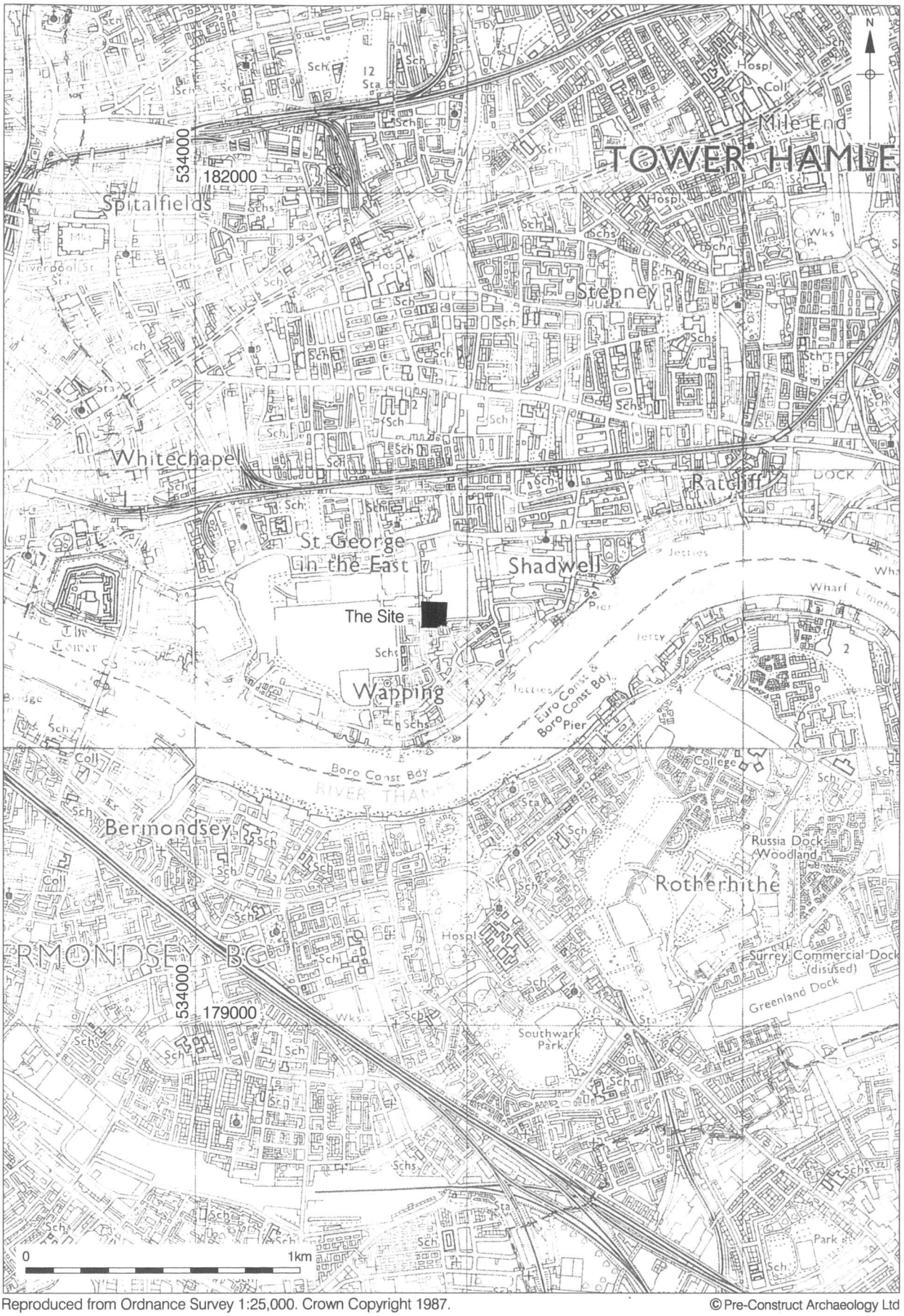
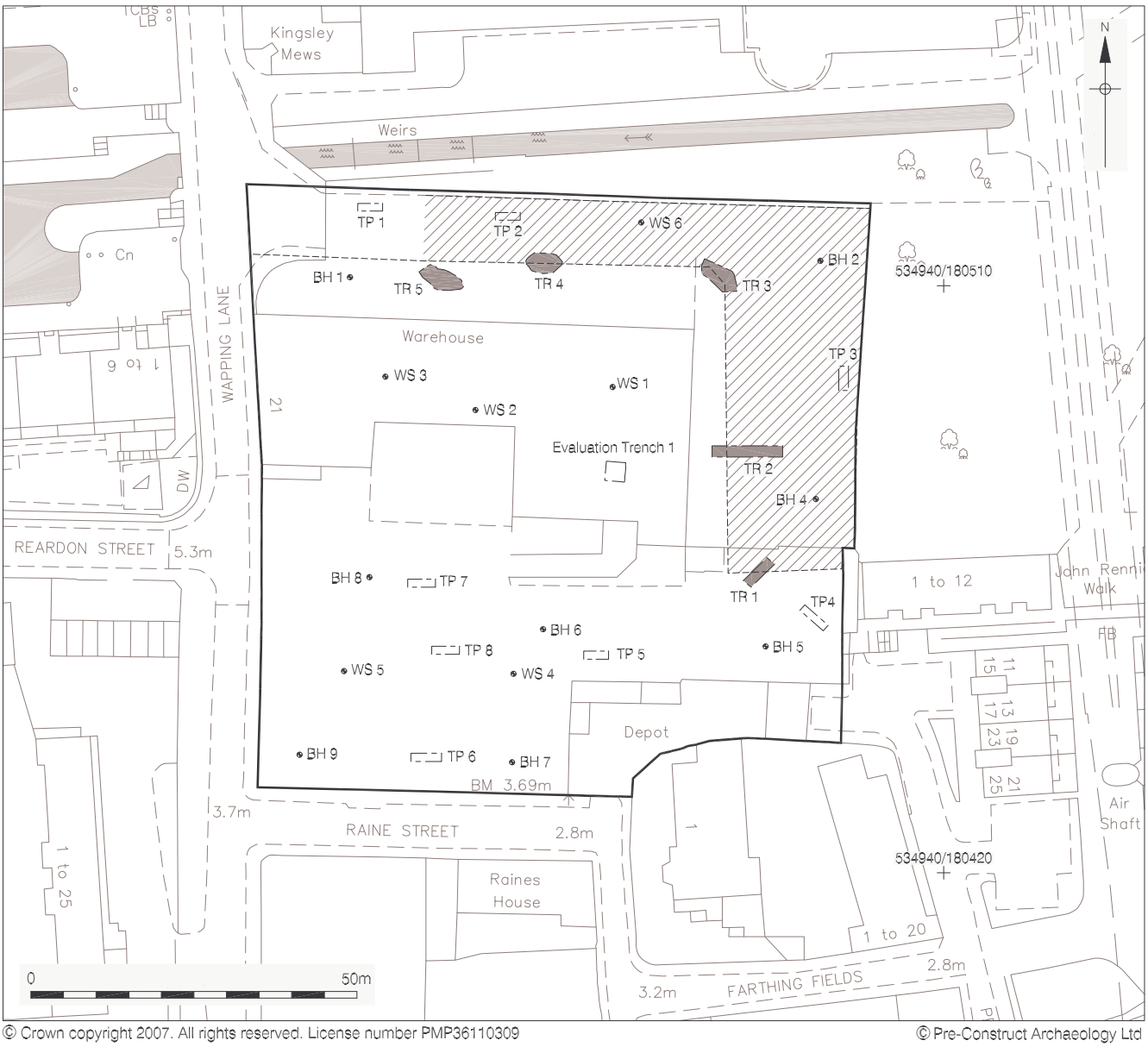


Figure 1
Site Location
1:20,000 at A4



Approximate area of former dock

Approximate Watching Brief trench locations

BH/TP/WS Borehole, Test Pit and Window Sample locations from Watching Brief

Figure 2
Trench Location
1:1,000 at A4

3 PLANNING BACKGROUND

3.1 In November 1990 the Department of the Environment issued Planning Policy Guidance Note 16 (PPG16) “Archaeology and Planning”, providing guidance for planning authorities, property owners, developers and others on the preservation and investigation of archaeological remains.

3.2 In short, government policies provide a framework which:

- Protect Scheduled Ancient Monuments
- Protect the settings of these sites
- Protect nationally important un-scheduled ancient monuments
- Has a presumption in favour of in situ preservation
- In appropriate circumstances, requires adequate information (from field evaluation) to enable informed decisions
- Provides for the excavation and investigation of sites not important enough to merit in situ preservation

3.3 In considering any proposal for development, the local planning authority will be mindful of the policy framework set by government guidance, in this instance PPG16, of existing development plan policy and of other material considerations.

3.4 The relevant Development Plan framework is provided by the London Borough of Tower Hamlets Unitary Development Plan (UDP) adopted in 1998. The plan contains the following policies which provide a framework for the consideration of development proposals affecting archaeological and heritage features:

POLICY ENV 54
IN AREAS OF ARCHAEOLOGICAL SEARCH, WHERE DEVELOPMENT PROPOSALS MAY AFFECT ARCHAEOLOGICAL REMAINS THE COUNCIL WILL EXPECT APPLICANTS TO HAVE PROPERLY ASSESSED AND PLANNED FOR THE ARCHAEOLOGICAL IMPLICATIONS. THE COUNCIL MAY REQUIRE A PRELIMINARY SITE EVALUATION BEFORE PROPOSALS ARE CONSIDERED.

POLICY ENV 55
WHERE SITES OF ARCHAEOLOGICAL SIGNIFICANCE OR POTENTIAL ARE DISCOVERED THE COUNCIL WILL SEEK THAT:
1. THE MOST IMPORTANT ARCHAEOLOGICAL REMAINS AND THEIR SETTINGS ARE PRESERVED IN SITU (IF APPROPRIATE FOR PUBLIC ACCESS AND DISPLAY) AND THAT WHERE APPROPRIATE THEY ARE GIVEN STATUTORY PROTECTION;

2. SITES NOT REQUIRING PRESERVATION IN SITU SHALL BE MADE AVAILABLE FOR AN APPROPRIATE LEVEL OF ARCHAEOLOGICAL INVESTIGATION AND EXCAVATION BY A RECOGNIZED ARCHAEOLOGICAL ORGANIZATION BEFORE DEVELOPMENT BEGINS.

POLICY ENV 56
THERE WILL BE A PRESUMPTION AGAINST ANY DEVELOPMENT WHICH WOULD ADVERSELY AFFECT ANY SCHEDULED ANCIENT MONUMENT OR OTHER NATIONALLY IMPORTANT ARCHAEOLOGICAL SITES AND MONUMENTS IN THEIR SETTINGS.

3.5 The site lies within the Archaeological Priority Areas as defined by the London Borough of Tower Hamlets Unitary Development Plan. The archaeological investigations reported within this document are aimed at providing the Local Planning Authority with sufficient information to determine the planning application for the development of the site.

4.1 GEOLOGY AND TOPOGRAPHY

4.1.1 The site lies on an area of alluvial sediment that overlies river terrace gravels sealing London clay. The on-site boreholes have revealed the surface levels for the London clay are between -8m OD and –8.98m OD. The same boreholes give a surface level for the overlying gravel at –1.90m to –2.90m OD. This gravel appears to display a topographical trend of a northwest to southeast downwards slope. These gravels are overlain by an alluvial sequence that has a surface level ranging between +0.34m to -0.24m OD. Peat was revealed only within Borehole 1, the surface level of which was at 0.56m OD. This peat horizon interrupted the alluvial sequence of deposits. Previous boreholes located peat deposits between –0.70m and –0.50m OD.

4.2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.2.1 The following provides a summary of the archaeological information that has been presented in the MOLAS archaeological assessment undertaken in May 2004.

4.2.2 A submerged Bronze Age forest was discovered during the excavation of Shadwell Basin, c 300m to the east of the site. Worked flints dating from the prehistoric period were discovered in alluvial deposits during excavations to the north of the site at 130-162 The Highway, Wapping in 1996.

4.2.3 The Highway follows the line of a Roman road and archaeological excavations have revealed significant Roman buildings in the area. Excavations in 1976 located a masonry tower at the top of Wapping Lane.

4.2.3 Archaeological excavations at 130-162 The Highway in 1996/1997 recorded two large east-west Roman ditches, one of which may have been associated with a timber palisade. The site then appears to have been abandoned until circa 270 AD when the site appears to have been landscaped prior to a phase of domestic occupation, evidenced by a timber building and domestic debris. By the early 5th century Roman occupation had suddenly ended with Roman demolition material sealing occupation layers.

4.2.4 More recent excavations at the former Babe Ruth restaurant, 172-176 The Highway, revealed extensive Roman buildings and a bathhouse. A Roman ditch was found cutting the natural gravels towards the north of the site which appears to link up to one south of the Roman tower found to the east in 1974 and 1976. The northern part of the site had been severely truncated by basements. In the southern part of the site

a series of terraces, were cut into the southerly sloping natural gravels preserving the remains of a group of Roman buildings.

4.2.5 The nearest archaeological remains were found 100m to the north of the site and consist of a Roman cremation and evidence of Roman occupation. There have been no archaeological finds further south along Wapping Lane but this could be due to the lack of archaeological investigations in this area.

4.2.6 The spot find of a Saxon spearhead has been recorded in the vicinity of the site. Although Wapping was a Saxon village and Saxon cultivation soils have been recorded, the extent of the occupation is unknown. Finds of Medieval date have also been recorded in the vicinity of the site. The site is unlikely to have been occupied at this time, as the area was mainly arable land, pasture and some woodland.

4.2.7 The earliest recorded development on the site dates from the mid 18th century when Rocque's map shows houses on the southern and western sides of the site. Horwoods map of 1799 shows a large warehouse encroaching into the north east corner of the site. Terraced houses occupy the western and southern boundaries.

4.2.8 The Eastern Dock was constructed between 1824 to 1828 and truncated part of the northern and eastern part of the site. The buildings that stood on the site in 1848 had been replaced by 1872 by the No.10 warehouse, which consisted of two ranges. The area suffered heavy bombing in the Second World War and the northern of the two warehouses on the site was ruined. By 1957 the northern warehouse had been rebuilt in its current form and by the 1970s the southern surviving part of Warehouse No. 10 had been demolished. The Eastern Dock was backfilled in the 1980s

4.3 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS ON THE SITE

4.3.1 Two test pits and four boreholes were archaeologically monitored by MoLAS in April 2004, however no archaeological evaluation has previously taken place on the site.

5 ARCHAEOLOGICAL METHODOLOGY

5.1 The Geotechnical Watching Brief

5.1.1 The watching brief on the geotechnical trenches, geotechnical trial pits, boreholes and window samples was conducted in accordance with the method statement prepared by Pre-Construct Archaeology Ltd (2007A) and approved by David Divers, English Heritage (GLAAS) on behalf of the London Borough of Tower Hamlets.

5.2.2 Five trenches were excavated to locate with certainty the limits of the now in-filled dock/basin that is shown on Ordnance Survey maps dating from 1872. In addition eight engineering trial pits were excavated across the site to investigate ground conditions. Nine boreholes were originally planned, however Borehole 3 was abandoned at 1.20m. The remaining eight were excavated to depths of between 25 and 45m. All eight boreholes required machine excavated starter pits, which varied in depth from between 2.0m to 3.8m. Six window samples were also observed as a part of this archaeological watching brief. These ranged from1.2m to 5.0m in depth. Three of these were placed within the basement of the upstanding Tower Warehouse.

5.2.3 The dimensions of the trenches (TR), trial pits (TP) and starter pits for boreholes (BH) were:

TR1	Approximately 4.90m north-south x, 1.40m east-west x 1.15m deep.
TR2	Approximately 0.60m north-south x 11.50m east-west x 1.40m deep.
TR3	Approximately 4.20m north-south x 2.20m east-west x 1.80m deep.
TR4	Approximately 0.70m north-south x 2.00m east-west x 1.30m deep.
TR5	Approximately 3.60m north-south x 4.40m east-west x 0.45m deep.
TP 1	Approximately 0.80m north-south x 2.40m east-west x 0.70m deep.
TP2	Approximately 0.85m north-south x 2.75m east-west x 3.30m deep.
TP3	Approximately 2.70m north-south x 0.80m east-west x 3.50m deep.
TP4	Approximately 0.40m north-south x 3.25m east-west x 3.90m deep.
TP5	Approximately 0.50m north-south x 3.30m east-west x 1.28m deep.
TP6	Approximately 0.90m north-south x 3.45m east-west x 2.50m deep.
TP7	Approximately 1.00m north-south x 3.45m east-west x 4.10m deep.
TP8	Approximately 1.50m north-south x 3.65m east-west x 1.80m deep.
BH1	Starter pit 0.90m north-south x 3.70m east-west x 3.30m deep.

BH2	Starter pit 1.00m north-south x 4.00m east-west x3.80m deep.
BH3	Abandoned
BH4	Starter pit 3.40m north-south x 0.85m east-west x 3.00m deep.
BH5	Starter pit 2.80m north-south x 0.85m east-west x 3.00m deep.
BH6	Starter pit 1.70m north-south x 2.90m east-west x 3.20m deep.
BH7	Starter pit 3.80m north-south x 1.00m east-west x 2.00m deep.
BH8	Starter pit 3.20m north-south x 1.00m east-west x 3.50m deep.
BH9	Starter pit 3.60m north-south x 1.50m east-west x 2.90m deep.

5.2.4 The trenches, trial pits and borehole starter pits were excavated with a JCB under the engineers and archaeologists supervision. Features within the five trenches were recorded in plan at a scale of 1:20. Sections for these trenches and also the trial pits were drawn at a scale of 1:10. Borehole and window sample sections were drawn at a scale of 1:20.The nature and depth of the trial pits precluded any examination of features or deposits by hand below a depth of 1.20m, deeper deposits and features being recorded from the top of the trial pit. The Ordnance Datum heights for all interventions were transferred by Pre-Construct Archaeology from a Bench Mark that is situated in Raines Street. This street forms the southern boundary of the site.

5.3 The Evaluation Trial Trench

5.3.1 The trial trench was located within the basement of the extant warehouse building in accordance with the method statement prepared by Pre-Construct Archaeology Ltd (2007B) and approved by David Divers, English Heritage (GLAAS) on behalf of the London Borough of Tower Hamlets.

5.3.2 The trial trench was located within the basement of the existing warehouse building, as shown on Figure 2. It measured 2.96m (N-S) by 3m (E-W) and was initially excavated to a depth between 1.84 and 1.76m from ground level corresponding to the top of the concrete foundation for a north-south 19th century structure. After the construction of the shoring using two hydraulic square frame and metal sheets the concrete on the west side of the trench was partially removed to a maximum depth of 4.40m from ground level.

5.3.3 The trial trench was excavated using a 360 degree mechanical excavator fitted with a flat bladed ditching bucket, under archaeological supervision. Excavation proceeded by machine (with intermittent breaks for recording) through the made ground, brickwork and concrete until natural alluvial clay was observed on the eastern side of the trench at

0.03m OD. Hand excavation then commenced to a maximum depth of –0.42m OD. Hand excavation of the upper horizons of the alluvial sequence continued until health and safety considerations precluded further excavation.

5.3.4 Two 3m sections facing east and west, one 1m section facing south, and the west facing elevation of the 19th century north-south wall were recorded in the trial trench. The general plan of the north-south 19th century wall, and another showing the concrete foundation and the slot excavated through the concrete to expose the alluvial clay in the east facing section, were also prepared.

5.3.5 Two brick samples were taken for a more accurate dating of the 19th century wall and a 30 litre bulk sample was collected from the alluvial clay for evidence pre-dating the post-medieval sequence of layers.

5.3.6 All recording systems adopted during the investigations were fully compatible with those most widely used elsewhere in London, that is those developed out of the Department of Urban Archaeology Site Manual, now published by the Museum of London Archaeology Service (MoLAS 1994). Individual descriptions of all archaeological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being drawn at a scale of either 1:20 or 1:50 and the sections at 1:10 or 1:20. The OD height of all principal strata were calculated and indicated on the appropriate plans and sections. A full photographic record of the investigations was also prepared, including both black and white prints and colour transparencies on 35mm film.

5.3.7 Levels on the trial trench were taken using the Temporary Bench Mark (TBM) established on the site with a value of 4.98m OD. This value corresponds to the level of the modern concrete of basement floor in the existing warehouse building. The trench was surveyed using Total Station, and tied into the Ordnance Survey grid.

6 ARCHAEOLOGICAL DISCUSSION

GEOTECHNICAL INVESTIGATIONS

GEOTECHNICAL TRENCHES

6.1 TR1

6.1. This trench was located within the south-eastern area of the site and was positioned so as to cross the east-west aligned southern wall of the dock basin. The earliest context observed was the dockside wall [70], which survived to a height of 6.62m OD This was aligned east-west and constructed of red and yellow bricks in the English bond style, bonded with a mid brownish yellow mortar. The dimensions as recorded measured 1.60m N-S (width) x 1.20m E-W (length) x 0.35m depth. Later truncation had probably removed substantial sandstone capstones that would have formed the dock kerb - these were observed on a surviving length of wall visible on a surviving part of the structure located to the east of site. This part of the wall seems likely to represent the original dockside wall, which was not seen elsewhere on site. Overlying this structure was a loose deposit of demolition debris [69], which contained material of recent date. This in turn was overlain by two further modern levelling/ground level raising deposits [68] and [67]. The final deposit in the sequence was the existing tarmac surface [1] that is recorded at a height of 7.17m OD.

6.2 TR2

6.2.1 This trench was also located within the south-eastern area of the site and was positioned so as to cross the north-south aligned western wall of the dock basin. The earliest context observed was the dockside wall [11], which survived to its full height at 6.84m OD This was aligned north-south and constructed of red brick in the Flemmish bond style, bonded with a mid grey mortar. The dimensions as recorded measured 0.55m N-S (length) x 1.60m E-W (width) x 0.60m depth.

6.2.2 A substantial capstone [10] made of a light grey concrete and pebble mix was still in-situ on the top of the wall and measured 0.55m N-S (length) x 1.06m E-W (width) x 0.62m thick, with the surface level at 7.47m OD The eastern or dockside face of the stone was flush with the underlying wall although not vertical, at around 85 degrees sloping away from the dock basin. The top eastern edge of the stone was rounded. Partly overlying wall [11] and abutting the eastern side of capstone [10] was a loose coarse sand, mortar and pebble mix [15] which was partly excavated to a depth of 0.50m. This clearly represents an infilling deposit associated with the construction of the dockside. This infilling was overlain by a reinforced concrete surface [14] of 0.23m thickness which also abutted the western side of capstone [10]. All of the above

contexts form the surviving dockside structure as seen within this trench. The differing brickwork style from that seen in TR1 and the use of more modern materials on the capstone and associated surface seem indicate a later date for this part of the structure. This therefore is likely to represent a rebuild perhaps of 20th century date.

6.2.3 The final stratigraphic sequence within this trench consisted of a series of dock infilling deposits. These deposits [5], [4], [3] and [2] were all composed of varying degrees of demolition debris and had a combined thickness of around 1.20m, all are likely to be imported material deposited during the 1960's construction phase. These were overlain by a fine grey sand [6] of 0.10m thickness that is clearly a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 7.55m OD.

6.3 TR3

6.3.1 This trench was also located within the north-eastern area of the site and was positioned so as to locate the corner point between the north-south and east-west aligned walls of the dock basin. The earliest context observed was the dockside structure [25], the north-south alignment of which started at the southern end of the trench, was seen for 2.40m at which point the alignment changed to northwest-southeast and continued for a further 2.20m - an east-west alignment was not seen.

6.3.2 The structure as revealed was constructed solely of light grey reinforced concrete and consisted of a concrete platform of around 0.30m in thickness that was supported by concrete beams of 0.47m thick. This in turn was supported by a series of concrete piers/columns. Only the dockside face of this structure was exposed and was excavated to a depth of around 1.87m. The surviving dockside structure as seen within this trench was again of a very different style to that seen in TR1 and TR2, the exclusive use of modern materials here seems to indicate a late date for this part of the structure. This therefore is also likely to represent a late rebuild and is perhaps a jetty rather than the dockside proper.

6.3.3 The final stratigraphic sequence within this trench consisted of a series of dock infilling deposits. These deposits [24], [23], [22] and [21] were all composed of varying degrees of demolition debris and had a combined thickness 1.04m. All are likely to be imported material deposited during the 1960's construction phase. These were overlain by a fine grey sand [20] of 0.26m thickness that was clearly a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 7.47m OD.

6.4 TR4

6.4.1 This trench was located within the eastern area of the site and was positioned so as to locate the east-west aligned wall of the dock basin. The earliest context observed

was the dockside structure [40]. It was aligned east-west and was seen for a length of 2.00m. The structure as revealed was constructed solely of light grey reinforced concrete and consisted of a concrete platform of around 0.30m in thickness which was supported by concrete beam of 0.47m thick. Although concrete columns were not seen, the similarity between this structure and structure [25] make it highly likely that they do exist here also.

6.4.2 Only the dockside face of this structure was exposed and was excavated to a depth of around 1.30m. The surviving dockside structure as seen within this trench clearly represented a continuation of structure [25] which is thought to be a jetty like structure, and as with [25] is also likely to represent a rebuild to the original dock structure.

6.4.3 The final stratigraphic sequence within this trench consisted of a dock infilling deposit [44]. This was composed of coarse sand, mortar, CBM and concrete and was excavated to a depth of 0.80m. This is also likely to be imported material deposited during the 1960's construction phase. Overlying this was a fine grey sand [43] of 0.45m thickness that is clearly a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 7.41m OD.

6.5 TR5

6.5.1 This trench was also located within the north-western area of the site and was positioned so as to locate the east-west aligned wall of the dock basin. The earliest context observed was structure [26] and as with structures [25] and [40] discussed earlier this also was constructed solely of a light grey reinforced concrete. As seen it consisted of a concrete platform with a stepped edge, the surface level of which was at 7.22m OD, this was excavated to a depth of 0.45m.

6.5.2 The alignment of the structure appeared to show a southern edge to the structure as opposed to the northern edge seen in TR4. This southern area was where the dockside was conjectured to have been. As seen it continued west for 2.90m and at this point the alignment changed to northwest southeast and continued for a further 1.90m and finally turned again to an almost north-south alignment, continuing for a further 1.90m.

6.5.3 As mentioned above the face of this structure was exposed to a depth of around 0.45m. Set within the concrete platform was a single east-west aligned steel track which is thought to be a rail for a mobile crane or other such dockside device. The surviving dockside structure as seen within this trench was again of a very different style to that seen in TR1 and TR2, the exclusive use of modern materials seem indicate a late date for this part of the structure. This therefore is likely to represent a

rebuild and is perhaps the southern edge of the jetty hypothesised earlier rather than the dockside proper.

6.5.4 The final stratigraphic sequence within this trench consists of dock infilling deposit [164], which consisted of a coarse sand, mortar, CBM and concrete excavated to a depth of 0.40m. This was overlain by the existing tarmac surface [1] that is recorded at a height of 7.27m OD.

GEOTECHNICAL TRIAL PITS

6.6 TP1

6.6.1 This trial pit was located in the north-western area of site and was excavated to a depth of 0.70m. The earliest context seen was a light grey concrete and pebble surface [140] that was retained in-situ, the datum level being 6.51m OD. This surface is believed to be associated with the dock structure, although the location and the limited extent of the surface as seen make interpretation difficult. This surface was overlain by a fine grey sand [139] of 0.50m thickness which was seen across site and is clearly a modern levelling deposit. Overlying this deposit was a second light grey concrete and pebble surface [138], which was 0.10m thick. Although not seen elsewhere on site this must be part of the 1960's construction phase, possibly surface strengthening around the site entrance. This was overlain by the existing tarmac surface [1] that is recorded at a height of 7.21m OD.

6.7 TP2

6.7.1 This trial pit was located in the north-western area of site within the in-filled dock, approximately 20m to the east of TP1. The TP was excavated to a depth of 3.30m revealing of a series of dock infilling deposits. These deposits [137], [136] and [135] were all composed of varying degrees of demolition debris and had a combined thickness of around 1.50m. All are likely to be imported material deposited during the 1960's construction phase. These were overlain by a fine grey sand [134] of 0.40m thickness that is clearly a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 7.27m OD.

6.8 TP3

6.8.1 This trial pit was located in the south-eastern area of site within the in-filled dock, approximately 2m from the southern site boundary. The TP was excavated to a depth of 3.50m revealing of a series of dock infilling deposits. The initial deposit [133] consisted of a coarse sandy clay and pebbles 0.30m thick. This was overlain by

deposits [132], [131] and [130], all composed of varying degrees of demolition debris and had a combined thickness of around 3.10m. All of these deposits are likely to be imported material deposited during the 1960's construction phase. These were overlain by the existing tarmac surface [1] that was recorded at a height of 7.29m OD.

6.9 TP4

6.9.1 This trial pit was located in the south-eastern area of site and was excavated to a depth of 3.40m. The earliest contexts seen were mixed deposits clays and peat [49] and [48]. These had a combined thickness of 1.40m, the surface level being at 4.75m OD. These were overlain by greenish grey sandy clay that contained CBM and gravel [47] of 0.80m thick, surface level at 6.04m OD. These three deposits seem likely to represent infilling deposits associated with the dock construction phase, possibly excavated material from the dock basin reused as infilling behind the structure. These deposits were overlain by a further levelling deposit [46] of 0.84m thick. This consisted of demolition debris, which is believed to form part of the 1960's construction phase. These deposits were overlain by the fine grey sand [45] of 0.34m thickness which was seen across site and is clearly a modern levelling deposit also associated with the 1960's construction phase. This was overlain by the existing tarmac surface [1] that is recorded at a height of 7.26m OD.

6.10 TP5

6.10.1 This trial pit was located in the southern area of site, approximately 30m to the west of TP4, and was excavated to a depth of 1.28m. The earliest context seen was a light grey concrete and pebble surface [140] left in-situ, the datum level of which was at 6.51m OD. This surface is believed to be associated with the earlier dockside warehouse, the northern wall of which has been incorporated into the existing Tower warehouse. This surface was overlain by a very loose deposit of demolition debris [51] of 0.90m thickness which seemed likely to represent the demolition of this earlier warehouse. Overlying this was a 0.25m thick deposit fine grey sand [50] that is clearly a modern levelling deposit associated with the existing tarmac surface [1] that was recorded at a level of 6.84m OD.

6.11 TP6

6.11.1 This trial pit was located in the south-western area of site approximately 4.0m from the southern site boundary and was excavated to a depth of 2.50m. The initial deposits encountered [56], [55] and [54] were all composed of very loose demolition

debris and had a combined thickness of around 2.00m, the surface level of the highest being at 6.02m OD. All clearly represent a demolition phase, possibly a combination of the on-site demolition of the earlier warehouse structure with perhaps some imported material, which is likely to have been deposited during the 1960's construction phase. These were overlain by a fine grey sand [53] of 0.45m thickness that was clearly a levelling deposit for the existing tarmac surface [1], recorded at a height of 6.52m OD.

6.12 TP7

6.12.1 This trial pit was located in the south-western area of site approximately 26m from the southern and 21m from the western site boundaries. The TP was excavated to a depth of 4.10m. The earliest contexts seen were a series of mid to dark sandy clays and pebbles [106], [107], [108], and [109] which had a combined thickness of 2.50m, the surface level of the highest being at 4.80m OD. All of these deposits seem likely to represent infilling deposits associated with the dockside construction phase. Overlying this was a 0.27m thick deposit of very compacted sand and gravel that contained CBM fragments [110], surface level at 5.06m OD. This context represents either a gravel surface associated with the 19th century construction phase or possibly a preparation deposit for overlying cobbled surface [59]. The cobbled surface that overlay deposit [110] was around 0.16m in thickness and was constructed using large rectangular light coloured, coarse-grained stone cobbles, surface level at 5.23m OD. This surface is likely to represent a later phase of construction associated with the dockside, possibly of 19/20th century date. Overlying this were two levelling deposits, [58] and [57] which combined measured 1.10m in thickness. These consisted of loose demolition debris, which is believed to form part of the 1960's construction phase. These levelling deposits were sealed by the existing tarmac surface [1] that is recorded at a height of 6.39m OD.

6.13 TP8

6.13.1 This trial pit was located in the south-western area of site approximately 20m from the southern and around 26m from western site boundaries. This TP was excavated to a depth of 1.80m.The initial deposits encountered [118] and [117] were both composed of dark granular sands and gravel with varying degrees of CBM which had a combined thickness of around 1.60m, the surface level of the highest being at 6.02m OD. Both are clearly deliberate levelling deposits, probably using imported material, which is likely to have occurred during the 1960's construction phase. These were overlain by a mid orange sand and gravel [116] which was 0.13m thick and is clearly

a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 6.23m OD.

BOREHOLES

6.14 BH1

6.14.1 This borehole was located in the north-western area of site outside of the dock basin, approximately 14m from the western and 13m from the northern site boundaries. The BH was excavated to a depth of around 40m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.14.2 The top of the London Clay [39] was recorded at –8m O.D this was overlain by poorly sorted sands and gravels [181] of 4m thickness, the surface level of which is at –1.90m OD. This clearly represents high-energy depositional processes, the structure of which was un-recordable in the borehole because of the loose compaction of the deposit. Overlying this gravel was a 0.10m thick deposit of coarse-grained sands with occasional rounded pebbles [180], the surface level of which is at –2.00m OD. This is also thought to represent a fairly high-energy depositional sequence; indeed it is possible that the structure of the underlying gravel deposit is banded throughout with these finer deposits. However it is also possible that this deposit represents an initial high-energy phase in the alluvial sequence.

6.14.3 Overlying this context was the definite alluvial sequence of clayey silt and clays interrupted by a peat horizon, these deposits including the peat had a combined thickness of 2.34m. The earliest deposit in this sequence [179] was a 1.16m thick firm mid greenish grey clay silt which contained frequent sub rounded and sub angular pebbles of widely varying size, plus occasional small organic fibres which are probably root channels originating from the overlying peat horizon. The surface level for this deposit is recorded at –0.76m OD. The formation process, which is clearly natural, is thought to be a combination of low energy alluvial deposition and slope erosion that has deposited the pebble inclusions.

6.14.4 Overlying this was a 0.20m thick, firm dark brown peat [178] that contained frequent small wood fragments, the surface level for which is at - 0.56m OD. This deposit seems most likely to represent a stabilised land surface, possibly marginal containing trees or shrubs. Sealing this peat was the second alluvial sequence, the earliest of which was a 0.44m thick layer of mid bluish grey clay [177], which contained small black flecks, and small fragments of lime/calcium. This was overlain by the final alluvial sediment, which was a 0.42m thick dark bluish grey clay [176], the surface level of which was at 0.32m OD. This also contained the same black flecking and the small lime/calcium fragments. Both of these deposits clearly represent alluvial deposition; their homogenous nature with no evidence of sediment sorting indicates

gradual low energy deposition for both deposits. The variations in colour are probably due to variations in the anaerobic conditions during deposition or possibly leeching of small organic particles from the overlying deposit, which is also probably the source of the black flecking. This flecking and the small lime/calcium fragments are believed to be the result of post depositional processes possibly caused by water precipitation through root channels. These final alluvial deposits seem to indicate a period of increasingly wetter conditions which post dates the peat horizon.

6.14.5 Directly overlying this alluvium was a 0.76m thick deposit of mixed clay and peat [175] that is thought to be a deliberate levelling/ground level raising deposit, the surface level of which was at 1.08m OD. This deposit contained CBM fragments plus clay pipe dated to 1680-1710 and the stem and knop of a late 17th century wine glass.

6.14.6 Sealing this was a 1.90m thick layer of dark brownish black coarse sandy clay [174] this contained CBM and shell plus clay pipe and pottery of probable 17/18th century date. The surface level for this deposit was at 2.98m OD.

6.14.7 This was overlain by a similar deposit of dark brownish grey sandy clay of 0.56m thick, which also contained CBM fragments. The surface level of which was at 3.54m OD. These homogenous deposits are thought to represent a pre-dock phase soil horizons, presumably imported soils that are possibly associated with the terraced housing shown on the early maps of the area.

6.14.8 Sealing these soils was a 1.60m thick deposit of mixed silts, sands and clays containing CBM and concrete fragments [94]. Overlying this was a 0.30m thick layer of coarse silty sands and gravel [93], the surface of which was at 6.94m OD. This was sealed by a 1.00m thick deposit of mid orange silty clay and sands with CBM and concrete fragments [92]. These deposits are believed to be a deliberate levelling deposits lain in preparation for an overlying surface. This overlying surface [91] was a 0.30m thick reinforced concrete slab with a surface level of 7.24m OD. Overlying was the existing tarmac surface [1] that is recorded at a height of 7.34m OD.

6.15 BH2

6.15.1 This borehole was located in the south-eastern area of site within the in-filled dock basin, approximately 7m from the eastern and 9m from the northern site boundaries. The BH was excavated to a depth of around 42m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.15.2 The top of the London Clay [39] was at –7.44m O.D, which was overlain by poorly sorted sands and gravels [28] of 5.00m thickness, the surface of which is at –2.44m OD. This clearly represents high-energy depositional processes the structure of which, because of the looseness of the matrix, was un-recordable in the borehole. Overlying this gravel was a 0.10m thick deposit of much finer sands and small gravels

[27], surface level at –2.34m OD. These are also thought to represent a fairly high-energy depositional sequence; indeed it is possible that the structure of the underlying gravel deposit is banded throughout with these finer deposits.

6.15.3 Directly overlying this was a 0.20m thick deposit of dark silty clay [19] the surface level of which was at –2.14m OD. This is thought to represent an in-situ alluvial sediment, although the presence of CBM and other material of recent date indicate that it is likely to have been heavily disturbed. Overlying this was a 0.90m thick layer of mid brownish grey clayey silt [18] that contained concrete and wood, the surface level of which is at–1.24m OD. This deposit is thought to represent a deliberately lain deposit, which possibly functioned as clay lining for the 19th century dock basin. Overlying this were contexts [13] and [17] that had a combined thickness of 8.00m, the surface level of the highest being at 6.75m OD. They consist of dark clays and silts that contained large amounts of gravel and CBM plus other industrial debris (slate, glass and some plastic). These deposits are clearly material deposited during the 1960's construction phase as part of the dock infilling process. These infilling layers were sealed by a fine grey sand [172] of 0.50m thickness that was clearly a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 7.35m OD.

6.16 BH3

6.16.1 This borehole was located in the south-eastern area of site approximately 4m to the east of TR1. The BH was abandoned at around 1.20m depth because of an obstruction. Later excavation of TR1 revealed the borehole had been positioned on the top of the dockside wall. No drawn or written record was made of this borehole.

6.17 BH4

6.17.1 This borehole was located in the eastern area of site within the in-filled dock basin, approximately 6m from the eastern and 37m from the southern site boundaries. The BH was excavated to a depth of around 30m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.17.2 The top of the London Clay [39] was at –7.62m O.D, which was overlain by poorly sorted sands and gravels [124] of 3.40m thickness, the surface of which is at –4.22m OD. This clearly represents high-energy depositional processes the structure of which, because of the looseness of the matrix, was un-recordable in the borehole.

6.17.3 Overlying this was a 0.80m thick layer of mixed dark brown peat and mid greenish grey clay [123] containing frequent well rounded pebbles, the surface level of which is at –3.42m OD. This deposit is thought to represent a deliberately lain deposit, which

possibly functioned as clay lining for the 19th century dock basin. Overlying this deposit were contexts [122], [121] and [120] that have a combined thickness of 9.30m, they consisted of mixtures of dark clayey sand, clayey silts and granular sandy silts containing large amounts of gravel and CBM plus other debris (glass, metal and pot). The surface level of the highest deposit [120] in this sequence is at 5.88m OD. These three contexts are clearly material deposited during the 1960's construction phase as a part of the dock infilling process.

6.17.4 Overlying this was two further deposits of recent date; the first deposit [125] was a 0.50m thick layer of crushed brick and mortar that was sealed by a 0.80m thick deposit fine grey sand [119]. Both of these are thought to be levelling deposits for the existing tarmac surface [1] the recorded height of which was 7.28m OD.

6.18 BH5

6.18.1 This borehole was located in the southwestern area of site outside of the dock basin, approximately 11m from the eastern and 14m from the southern site boundaries. The

BH was excavated to a depth of around 25m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.18.2 The top of the London Clay [42] was at –7.52m OD., which was overlain by poorly sorted sands and gravels [41] of 4.90m thickness the surface of which is at –2.62m OD. This clearly represents high-energy depositional processes the structure of which, because of the looseness of the matrix, was un-recordable in the borehole.

6.18.3 Overlying this was a 2.40m thick deposit of silty clay [16], the top level of which was at –0.24m OD. This is thought to represent an in-situ alluvial sediment. Rapid water logging of this borehole made any divisions within this alluvial sediment impossible to define although other boreholes do indicate such do exist.

6.18.4 Directly overlying this alluvium was a 2.00m thick layer of dark blackish brown sandy silt [12] that contained CBM, bone and 18th century pottery. This homogenous deposit is thought to represent a pre-dock phase soil horizon which has either formed in situ or possibly been imported as a ground level raising deposit, which could be associated with the terraced housing shown on pre 1872 maps of the area. The surface level for this context is at 1.76m OD.

6.18.5 Sealing this dark soil was a 4.10m thick layer of coarse sand, mortar and CBM fragments [9] that was itself overlain by a 0.70m thick dark clayey silt mixed with CBM [8]. Both of these deposits are believed to represent deliberately lain levelling/ground level raising deposits associated with the 19th century dock construction phase. Context [8] is also likely to be a preparation layer for an overlying surface. The overlying surface, context [7] was a light greyish yellow concrete and pebble surface

of 0.14m thickness which is believed to be associated with the 19th century dockside, the datum level for this surface was at 6.67m OD.

6.18.6 This surface was sealed by a fine grey sand [126] of 0.54m thickness that is clearly a levelling deposit for the existing tarmac surface [1] that is recorded at a height of 7.27m OD.

6.19 BH6

6.19.1 This borehole was located in the southern area of site outside of the dock basin, approximately 25m from the southern and 44m from the eastern site boundaries. The BH was excavated to a depth of around 25m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.19.2 The top of the London Clay [39] was at –7.72m O.D, which was overlain by poorly sorted sands and gravels [158] of 5.50m thickness the surface of which is at –2.22m OD. This clearly represents high-energy depositional processes the structure of which, because of the looseness of the matrix, was un-recordable in the borehole.

6.19.3 Overlying this was a series of clays and silty clays that had a combined thickness of 2.32m. The earliest deposit in this sequence [157] was a 0.66m thick soft dark greenish grey clay containing moderate small rootlets, surface level at –1.58m OD. Overlying this was a 0.44m thick soft dark brown silty clay [156] which contained frequent organics, probably rootlets or possibly small twigs. The surface level for this context was at –1.12m OD. The final deposit within the sequence was a 1.22m thick mid greenish grey silty clay that contained no organic remains [155]; the top level of this deposit was at 0.12m OD. All three of these deposits clearly represent alluvial deposition; their homogenous nature with no evidence of sediment sorting indicates gradual low energy deposition for all three deposits. The colour variations are probably due to varying levels of organic preservation caused by variable anaerobic conditions during deposition or subsequent drying, particularly of the upper deposit that contained no organics.

6.19.4 Directly overlying this alluvium was a 0.80m thick layer of dark blackish grey mixed silty clay and coarse sand [154], surface level at 0.88m OD., containing carbon fragments and frequent angular pebbles. Overlying this was a 1.10m thick layer of dark greenish grey clayey sand containing around 70% pebbles. Both of these deposits, although undated by finds, are thought to be deliberately lain levelling/ground level raising deposits associated with the 18th century pre-dock building phase. The surface level of the highest layer in this sequence was at 1.98m OD.

6.19.5 Overlying context [153] was a thin 0.10m thick deposit of clean light yellow brown sand and gravel [152]. The function of this deposit is unclear; one possibility is that it

represents a surface or surface preparation deposit possibly associated with the 18th century phase.

6.19.6 Sealing this clean gravel were two levelling deposits, [77] and [76] which combined measured 2.00m in thickness, the surface level of the highest being at 5.93m OD. These were both composed of loose demolition debris, which is believed to form part of the 1960's construction phase. These levelling deposits were sealed by the mid grey sand surface preparation deposit [75] which was 0.32m thick, this was covered by the existing tarmac surface [1] that is recorded at a height of 6.37m OD.

6.20 BH7

6.20.1 This borehole was located in the southern area of site outside of the dock basin, approximately 4m from the southern and 40m from the western site boundaries. The BH was excavated to a depth of around 45m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.20.2 The top of the London Clay [39] was at –8.98m O.D, which was overlain by poorly sorted sands and gravels [163] of 6.40m thickness the surface of which is at –2.58m OD. This clearly represents high-energy depositional processes the structure of which was un-recordable in the borehole because of the looseness of the deposit.

6.20.3 Overlying this was a series of clays and silty clays that had a combined thickness of 1.10m. The earliest deposit in this sequence [162] was a 0.30m thick soft light greenish grey clay, surface level at –2.28m OD. Overlying this was a 0.50m thick firm dark greenish grey silty clay [161] which contained occasional organic fibres. The surface level for this context was at –1.80m OD. The final deposit within the sequence [160] was a 0.30m thick mid greenish grey silty clay that contained very occasional small pebbles; the top level of the deposit was at –1.48m OD. All three of these deposits clearly represent alluvial deposition; their homogenous nature with no evidence of sediment sorting indicates gradual low energy deposition. The colour variations are probably due to varying levels of organic preservation caused by variable anaerobic conditions during deposition.

6.20.4 The final deposit in the sequence, which contained pebble inclusions, had probably undergone some post depositional disturbance and truncation during the deposition of overlying deposit. This overlying deposit [159] was a 1.60m thick layer of weakly cemented coarse sand, pebbles and cement that is believed to represent the lower portion of a substantial wall foundation. If this hypothesis is correct considerable truncation to the alluvium has probably occurred.

6.20.5 Overlying context [151] is a 1.70m thick layer of indurated concrete and pebbles that forms the upper part of the same wall foundation, the surface of which is at 1.82m OD. Directly above this concrete foundation a 1.24m thick mass of crushed CBM was

recorded which must represent the remains of a substantial wall [150], the upper level of this was at 3.16m OD. It seems highly probable that this wall was also recorded in BH 9 located around 32m to the west, if correct it must form part of a substantial E-W aligned wall which is likely to form the southern wall of the 19th century dockside warehouse structure. Capping this wall was a 0.26m thick layer of soft clayey sand [149] which possibility forms a part of the demolition horizon seen above.

6.20.6 Sealing this soft clay were two levelling deposits, [148] and [72] which combined measured 2.64m in thickness, the level of the highest being at 6.06m OD. These consisted of loose demolition debris, which is believed to form part of the 1960's construction phase. These levelling deposits were sealed by the mid grey sand surface preparation deposit [71] which was 0.50m thick, this was covered by the existing tarmac surface [1] that is recorded at a height of 6.62m OD.

6.21 BH8

6.21.1 This borehole was located in the southern area of site outside of the dock basin, approximately 33m from the southern and 16m from the western site boundaries. The BH was excavated to a depth of around 30m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.21.2 The top of the London clay [39] was recorded at –7.80m OD. This was overlain by poorly sorted sands and gravels [147] of 5.50m thickness, the surface level of which was at –2.30m OD. This clearly represents high-energy depositional processes the structure of which was un-recordable in the borehole because of the loose compaction of the deposit.

6.21.3 Overlying this gravel was a 0.20m thick deposit of clayey coarse-grained sands [146], the surface level of which is at –2.10m OD. These are also thought to represent a fairly high-energy depositional sequence; indeed it is possible that the structure of the underlying gravel deposit is banded throughout with these finer deposits. However it is also possible that this deposit represents an initial high-energy phase in the alluvial sequence.

6.21.4 Overlying this context was the definite alluvial sequence of a silty clay and a clay which had a combined thickness of 2.18m. The earliest deposit in this sequence [145] was a 0.82m thick soft dark greyish brown silty clay containing moderate organic fibres including reeds which increased with depth. The surface level for this deposit is recorded at –1.28m OD. Overlying this was a 1.36m thick soft mid bluish grey clay [144] with no organic preservation, the surface level for which is at 0.08m OD. Both of these deposits clearly represent alluvial deposition; their homogenous nature with no evidence of sediment sorting indicates gradual low energy deposition for both deposits. The variations in colour and organic preservation are probably due to

variations in the anaerobic conditions during deposition, however the lack of organics in the upper deposit may indicate a drying of the land surface and a gradual change from marshy conditions to more seasonal alluviation.

6.21.5 Directly overlying this alluvium was a 1.44m thick layer of dark brownish black coarse sandy clay [143] that contained CBM, bone, shell plus 18th century glass and pottery, the surface level of which is at 1.54m OD. This homogenous deposit is thought to represent a pre-dock phase soil horizon that has formed in situ and possibly pre dates the terraced housing shown on the early maps of the area.

6.21.6 Sealing this soil was a 0.66m thick layer of mixed dark bluish grey and dark grey coarse sandy clay with pebbles and CBM fragments [142] the surface level of which is 2.20m OD. This context is thought to be a deliberately lain levelling /ground level raising deposit, possibly associated with the terraced housing mentioned above. Deposit [141], which overlies this, is a 0.50m thick dark brownish black sandy clay with occasional abraded CBM fragments, clay pipe and 18th century pottery with a surface level of 2.70m OD. This deposit could represent a deliberately lain topsoil, possibly associated with the terraced housing discussed previously.

6.21.7 Sealing this soil was a 1.00m thick mixed mid grey, orange and brown silty coarse-grained sand containing CBM and concrete fragments [115]. This deposit is believed to be a deliberately lain levelling deposit lain in preparation for an overlying surface. This overlying surface [114] was a 0.30m thick bitumen coated concrete slab with a surface level of 3.90m OD. that is believed to have been associated with the 19th century dockside.

6.21.8 Sealing this surface was a 0.40m thick sand and gravel [113] that was overlain by a 1.10m thick deposit of loose demolition debris [112], both are thought to form a part of the 1960's construction phase. This deposit was sealed by the mid grey sand surface preparation deposit [111] which was 0.90m thick, this was covered by the existing tarmac surface [1] that is recorded at a height of 6.49m OD.

6.22 BH9

6.22.1 This borehole was located in the southwestern area of site outside of the dock basin, approximately 4m from the southern and 6m from the western site boundaries. The BH was excavated to a depth of around 27m of which only the deposits down to the level of the geological horizon were recorded in detail.

6.22.2 The top of the London Clay [39] was at –7.80m O.D this was overlain by poorly sorted sands and gravels [171] of 4.90m thickness the surface of which is at –2.90m OD. This clearly represents high-energy depositional processes the structure of which was un-recordable in the borehole.

6.22.3 Overlying this was a sandy clay overlain by a silty clay which had a combined thickness of 1.40m. The earliest deposit in this sequence [170] was a 1.30m thick firm dark greenish grey sandy clay containing very small rounded pebbles and occasional organic fibres, surface level at –1.60m OD. Overlying this was a 0.10m thick soft dark greyish brown clayey silt containing angular and rounded flint pebbles [169]. The surface level for this context was at –1.50m OD. These deposits are thought to represent alluvial deposition; their fine homogenous nature with no evidence of sediment sorting indicates gradual low energy deposition. The colour variations are probably due differing levels of organic preservation which may indicate variable anaerobic conditions during deposition. The presence of the pebble inclusions is unusual and may be due to post depositional disturbance. Some truncation is also likely to have been caused during the deposition of overlying deposit.

6.22.4 The deposit [168] that directly overlies the alluvium was a 1.00m thick layer of weakly cemented coarse sand, pebbles and cement that is believed to represent the lower portion of a substantial wall foundation. If this hypothesis is correct considerable truncation to the alluvium has occurred. Overlying context [167] is a 2.10m thick layer of indurated concrete and pebbles that forms the upper part of the same wall foundation, the surface of which is at 1.70m OD. Directly above this concrete foundation a 0.90m thick mass of crushed CBM was recorded which must represent the remains of a substantial wall [166], the upper level of this deposit was at 2.60m OD. It seems highly probable that this wall was also recorded in BH 8 located around 32m to the east. If correct it must form part of a substantial E-W aligned wall that most likely forms the southern wall of the 19th century dockside warehouse structure.

6.22.5 Sealing this wall were two levelling deposits, [165] and [105] which combined measured 2.40m in thickness, the level of the highest deposit being at 5.04m OD. These consisted of mixed dark soils containing CBM and pebbles that is believed to be a deliberately lain levelling/ground level raising episode. This was overlain by a cobbled surface [104], which was around 0.16m in thickness and was constructed using large rectangular light coloured, coarse-grained stone cobbles. This surface is likely to represent a later phase of construction associated with the dockside, possibly of 19/20th century date, surface level of which is at 5.20m OD.

6.22.6 Overlying this was a 0.50m thick compacted deposit of demolition debris [103] which served as a preparation for a second surface. This second surface [102] was a 0.30m thick light grey concrete and pebble mix that is probably of 20th century date. Covering this surface was a second 0.50m thick, compacted deposit of demolition debris [101] that served as a preparation for the existing tarmac surface [1] that is recorded at a height of 6.60m OD.

WINDOW SAMPLES

6.23 WS1

6.23.1 This window sample was located within the basement of the Tower Warehouse in the northeast part of the building. The WS was excavated to a depth of 5.00m, revealing part of the underlying alluvial sequence.

6.23.2 The earliest deposit seen was a dark greenish brown clayey silt that contained minute particles of organic mater [38], the surface level of which was –0.84m OD. This was partly excavated to a depth of 0.20m. Overlying this was a 1.04m thick soft mid greenish grey clay [37] with occasional small molluscs and peat lenses, the peat lenses increasing towards the base of the deposit. The surface level of this deposit is at 0.22m OD. Both of these deposits clearly represent in situ alluvium; their fine homogenous nature that displays no evidence of sediment sorting indicates gradual low energy deposition for both deposits. The variations in colour and organic preservation are probably due to differing anaerobic conditions during deposition. The small peat lenses within deposit [37] may be derived from a secondary source and redeposited within the alluvial matrix during its formation.

6.23.3 Directly overlying this alluvium was a 1.36m thick layer of dark brown sandy clay [36] that contained bone and leather plus glass of probable 18/19th date, the surface level for this deposit was at 1.56m OD. This was overlain by a 0.22m thick, dark greyish black silty sand in which only bone was found [35]. These dark homogenous deposits are thought to represent pre-dock phase soil horizons that have possibly formed in situ and seem likely to be contemporary with the terraced housing shown on the early maps of the area.

6.23.4 These soils were overlain by a sequence of levelling deposits [34], [33] and [32] which had a combined thickness of 1.32m, the surface level for the highest being at 3.12m OD. These deposits consisted of banded light and dark silty sands, coarse sand and crushed mortar with CBM that are believed to represent levelling/ground level raising deposits. These deposits were sealed by context [31], which was a 0.26m thick deposit of clean mottled silty clay. This is thought to be a redeposited alluvium probably derived from the excavation of the dock basin during its construction; the surface level of this deposit was at 3.38m OD. All of these levelling deposits are thought to be of 19th century date. The absence of associated surfaces is probably due to modern truncation.

6.23.5 Directly overlying these deposits were two modern levelling deposits [30] and [99] which had a combined thickness of 0.32m, which were overlain by the existing concrete basement surface [98] the surface of which was at 3.98m OD.

6.24 WS2

6.24.1 This window sample was the second to be located within the basement of the Tower Warehouse centrally within the building. The WS was excavated to a depth of 4.00m, at which point an obstruction was encountered.

6.24.2 The earliest deposit seen was a soft dark greenish brown clay [38] that was only seen for a depth of 0.06m before an obstruction was encountered which precluded further excavation. The recorded surface level was at 0.13m OD. This deposit is likely to represent the very top of the alluvial sequence, however the limited extent revealed makes further interpretation difficult.

6.24.3 Directly overlying this context was a 0.45m thick layer of dark brown sandy clay [65] that contained bone and clay pipe that is likely to be of 18/19th date, the surface level for this deposit was 0.58m OD. This dark homogenous deposit is thought to represent pre-dock phase soil horizon that has possibly formed in situ and seems likely to be contemporary with the terraced housing shown on the early maps of the area. This soil was overlain by a sequence of levelling deposits that had a combined thickness of 2.60m, the surface of the highest being at 3.16m OD. These deposits consisted of a mid greenish yellow coarse sand and pebbles [64], a mid greenish yellow coarse sand with angular stones [63] a light yellowish white crushed mortar and CBM [62] and a dark brownish grey coarse sandy clay with crushed mortar and CBM [61], all of which are believed to represent levelling/ground level raising deposits.

6.24.4 These deposits were sealed by context [100], which was a 0.20m thick deposit of clean mottled silty clay. This is thought to be a redeposited alluvium probably derived from the excavation of the dock basin during its construction; the surface level of this deposit was at 3.36m OD. All of these levelling deposits are thought to be of 19th century date. The absence of associated surfaces is probably due to modern truncation. Directly overlying these deposits were two modern levelling deposits [60] and [29] which had a combined thickness of 0.34m, which were overlain by the existing concrete basement surface [98] the surface of which was at 4.07m OD.

6.25 WS3

6.25.1 This window sample was located within the basement of the Tower Warehouse in the northwest part of the building. The WS was excavated to a depth of 1.20m at which point an obstruction was encountered.

6.25.2 The limited depth of this window sample meant that earliest deposits seen were part of the sequence of levelling deposits associated with the 19th century dockside construction. These deposits [81], [80] and [79] had a combined thickness of 0.54m. and consisted of dark to mid clays and sandy clays with CBM and mortar, the surface level of the highest being at 3.36m OD.

6.25.3 Directly overlying these deposits were two modern levelling deposits [78] and [74] which had a combined thickness of 0.30m, which were overlain by the existing concrete basement surface [98] the surface of which was at 4.07m OD.

6.26 WS4

6.26.1 This window sample was located in the southern area of site outside of the dock basin, approximately 19 from the southern and 38m from the western site boundaries. The WS was excavated to a depth of 2.20m at which point an obstruction was encountered.

6.26.2 The earliest deposit was a light brownish yellow crushed mortar and yellow brick [83] that was partly excavated to a depth of 1.20m. This was overlain by 0.50m thick, dark greyish brown silty sand with mortar and CBM fragments [82], the surface level of which was at 5.90m OD. Both these deposits are likely to represent demolition horizons associated with the 1960's construction phase. These deposits were sealed by the mid grey sand surface preparation deposit [97] which was 0.40m thick, this was covered by the existing tarmac surface [1] that is recorded at a height of 6.40m OD.

6.27 WS5

6.27.1 This window sample was located in the southern area of site outside of the dock basin, approximately 19 from the southern and 12m from the western site boundaries. The WS was excavated to a depth of 1.40m at which point an obstruction was encountered.

6.27.2 The earliest deposit seen was a light brownish yellow coarse sand with poorly sorted pebbles [85] that was partly excavated to a depth of 0.64m. This was overlain by a 0.26m thick dark brownish yellow sand and gravel with frequent CBM fragments [84] the surface level of which was at 5.99m OD. Both these deposits are likely to represent levelling horizons associated with the 1960's construction phase. These deposits were sealed by the mid grey sand surface preparation deposit [96] which was 0.40m thick, this was covered by the existing tarmac surface [1] that is recorded at a height of 6.49m OD.

6.28 WS6

6.28.1 This window sample was located in the northern area of site within the in-filled dock basin, approximately 4m from the northern and 35m from the eastern site boundaries. The WS was excavated to a depth of 3.00m at which point an obstruction was encountered.

6.28.2 The initial deposits encountered [90], [89] and [88] were all composed of dark granular sandy clays and clays with varying degrees of CBM which had a combined thickness of around 1.20m. All are clearly deliberate levelling deposits, probably using imported material. These were overlain by a 0.70m thick loose mass of CBM fragments [87] which was in turn covered by a 0.64m thick dark brownish grey sandy clay with CBM, mortar and concrete fragments [86]. All of these deposits are likely to represent levelling horizons associated with the 1960's construction phase. These deposits were sealed by the mid grey sand surface preparation deposit [95] which was 0.36m thick, this was covered by the existing tarmac surface [1] that is recorded at a height of 7.31m OD.

6.29 EVALUATION TRIAL TRENCH

The trench measured 2.96m north-south by 3m east-west and was excavated to a maximum depth of –0.42m OD (4.40m below basement level).

6.29.1 Phase 1 – Natural Alluvial Clay

The earliest deposit observed was a layer of very firm, mid bluish grey silty clay [525] containing very occasional small to medium round pebbles. This deposit was recorded at a highest level of at 0.03m OD, under waterlogged conditions, and was observed on the eastern side of the trench only. It extended 0.80m north-south, was 0.55m deep, and was not fully excavated due to health and safety constraints. This deposit clearly represents in situ alluvium, its fine homogenous nature, with no evidence of sediment sorting, indicates gradual low energy deposition for the deposit. No anthropogenic material was recovered from the alluvium.

6.29.2 Phase 2 – 18th to 19th Century Waterlogged Deposits

Context [525] was sealed by a layer of compact, mid to dark grey clayey sandy organic silt [524] which contained occasional oyster shells and animal bones. A single fragment of roof tile dating to between 1660 and 1900 was observed and collected from this deposit. This layer extended 1.05m north-south and was 0.46m thick. The highest level for the layer was 0.50m OD.

Sealing [524] was a layer of dark grey clayey silt [523] with very occasional small fragments and flecks of CBM and one fragment of clay pipe, probably late 17th-mid 18th century in date. This layer was observed at 1.02m OD, extended 1.66m north-south, was 0.52m thick and was interpreted as a post-medieval dumped layer.

Overlying [523] was a layer consisting of soft, mid to dark orange brown silt and decayed wood [522]. It extended 1.72m north-south, was 0.11m thick and was observed at 1.15m OD. This layer may represent a decayed wooden platform or working surface laid down to counteract the waterlogged conditions in the area.

Overlying [522] was a layer of dark brown sandy clayey silt [521] at 1.42m OD. This deposit contained occasional flecks of CBM and was interpreted as post-medieval dump layer. It measured 1.78m north-south, was 0.40m thick and was observed only in the extreme eastern side of the trench. Sealing [522] was a soft layer of very dark blackish brown clayey silt [508] with occasional fragments of brick and occasional pottery and animal bone. The pottery included assemblage consisted of three sherds of Developed Creamware dating to between 1765-1830. This deposit was recorded at a height of 1.78m OD and extended 2.40m north-south with a thickness of 0.39m. It was observed on the eastern side of the trench and was interpreted as a post-medieval dump layer. A very similar layer [520] was observed sealing this deposit. It had very similar soil matrix, compaction and inclusions as [508], was found at 1.99m OD, extended 3m north-south and 0.30m east-west and was 0.40m thick. Pottery recovered from this deposit placed it within the same date range as deposit [508] below.

6.29.3 Phase 3 – 19th Century Dry Deposits

Sealing dumped deposit [508], on the west side of the trench, was a layer [507] of firm mid orange brown clayey sandy silt with very frequent red brick fabric fragments and flecks and occasional fragments of pottery of 18th or more likely 19th century form. It measured 2.95m north-south, 0.30m thick and was recorded at a height of 1.93m OD. Overlying [507] at 2.23m OD was a soft and sticky dark blackish brown layer [506] of clayey sandy silt. This measured 2.35m north-south, 0.30m east-west and 0.24m thick and contained moderate oyster shells, brick and tile fragments and occasional fragments of pottery dating to the late 18th/early 19th century (Developed Creamware and Chinese porcelain).

Directly overlying [506] was a very firm mid orange brown layer [505] of brick fragments, mortar and industrial waste (slag) with occasional mortar fragments. The top of this layer was recorded at 2.43m OD and it measured 2.95m north-south, 0.30m east-west and 0.20m thick. Deposit [505] sloped gradually downwards to the

north and was interpreted as an 18th/19th century demolition layer. Sealing [505] at 2.93m OD was a compacted mid brown greyish sandy clayey silt layer [504], containing moderate brick and roof tile fragments and flecks. It measured 2.95m north-south, 0.30m east-west and 1m thick. On the east side of the trench a layer [519] with the same colour, composition and inclusions as [504] was observed at 2.59m OD. Both contexts were interpreted as post-medieval dump layers.

Overlying [519] on the east side of the trench was a compacted very dark grey silty clay layer [518], recorded at 2.84m OD. This layer measured 3m north-south, 0.30m east-west, and 0.26m thick. It contained occasional to moderate brick fragments and flecks and sub-rounded pebbles. On the east side of the trench, sealing layer [518] at 3.03m OD, was a compacted dark grey brown clayey silt layer [517], containing moderate small fragments and flecks of brick. This measured 3m north-south, 0.30m east-west and 0.16m thick, and was interpreted as a post-medieval dump deposit.

Overlying [517] was layer [516] of friable light orangey yellowish sandy mortar with occasional small fragments of brick. The top of this layer was recorded at 3.03m OD, it extended 1.90m north-south, 0.30m east-west, and was 0.04m thick. Sealing [516] was a layer of compacted mid brown sandy silt [515], with moderate fragments of brick, observed at a height of 3.14m OD. This post-medieval layer measured 3m north-south, 0.30m east-west and 0.12m thick. Sealing [515], at 3.34m OD, was a firm mid grey silty clay layer [514] with occasional CBM flecks. This layer was very similar in compaction, composition and inclusions to context [503], located on the west side of the trench. Both context [514] and [503] were interpreted as redeposited alluvial clay. On the east side of the trial trench layer [514 was sealed by a compacted mid brown sandy silt layer [513] recorded at 3.5m OD, and interpreted as an further duped deposit.

6.29.4 Phase 4- North-South 19th Century Wall/Foundation

A north-south orientated construction cut [509] was recorded truncating layers [503] and [513] at 3.43m OD. It was observed across the full 3m long north-south length of the trench and extended beyond both north and south limits of excavation. Its east-west width was 2.40m, and the base was not reached as it extended below the base of the trench and the difficulties in breaking the foundation concrete under waterlogged conditions increased with depth.

Construction cut [509] was infilled with concrete [512] up to the level of 2.14m OD. The depth of the concrete can be explained with the waterlogged conditions of the area and the need to reach a solid and firm deposit (possibly the river terrace gravel). The 19th century wall [511] was laid on top of the concrete foundation [512]. This wall

measured in excess of 3m north-south, and was 2m wide (east-west) at the base of the footing. The brickwork narrowed to 1.34 wide and 1.38m long at the top, and was 1.5m in height with its highest point at 3.64m OD. The wall had a concave slope on both its east and west sides (the eastern side being fully exposed). Additionally on each side the position of the brickwork formed a series of sockets which probably represented the supports for a metal or wooden bracing structure. Although the precise function of this foundation cannot be ascertained within the confines of the trench, the massive nature of the foundation suggests that the wall was industrial in nature, forming part of the dockside activity in the area in the 19th century. The apparent sockets within the sloping sides of the wall suggest that braces may have been affixed here, possibly to support structures such as the hulls of boats, during construction and/or repair.

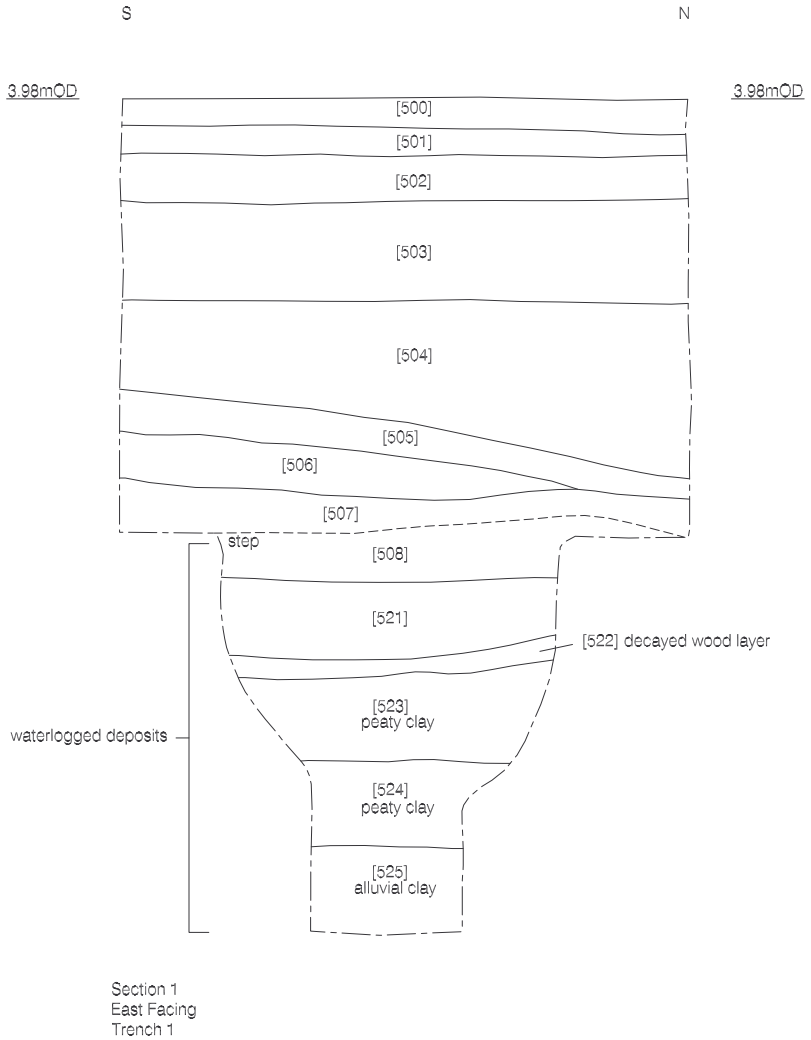
6.29.5 Phase 5- Early 20th Century

Overlying [511] was a dark brown sandy silt [510], containing moderate to frequent fragments and flecks of CBM, which was recorded at a height of 3.43m OD and extended 3m north-south and 2.20m east-west. A compacted and firm mid yellowish grey mortar layer/floor [502], with very frequent fragments of brick, overlay [511]. This was recorded at 3.68m OD, was 0.25m thick, and extended across the whole trench.

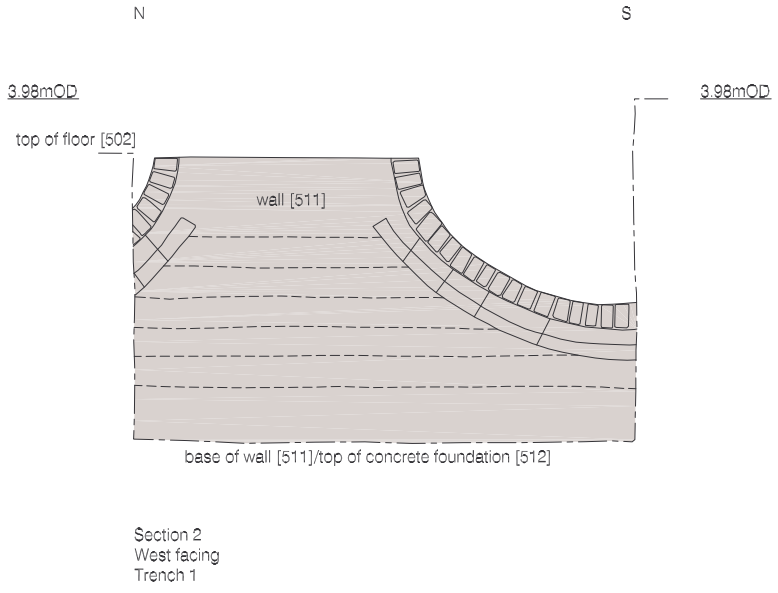
6.29.6 Phase 6- Late 20th Century

The modern concrete basement floor [500] sealed [502].

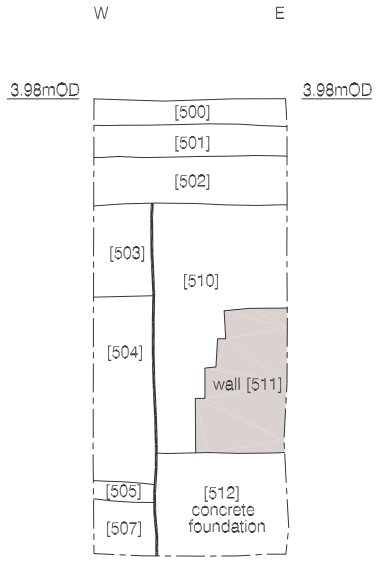
Figure 3
Plan of Trench 1
1:25 at A4



Section 1
East Facing
Trench 1

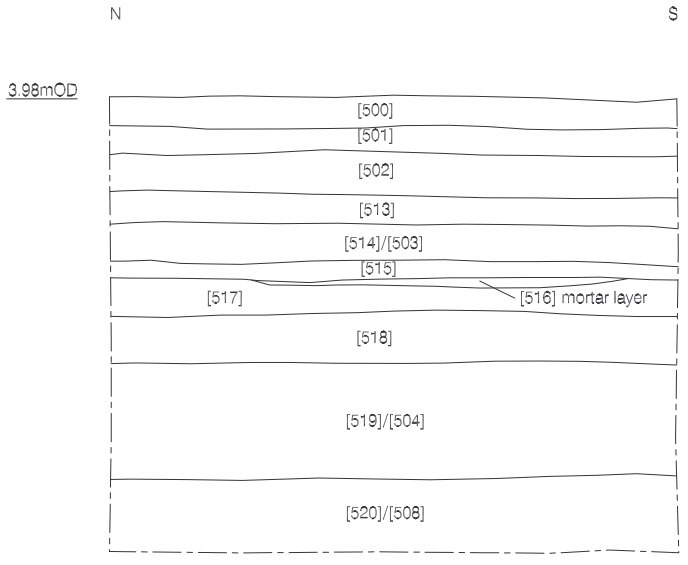


Section 2
West facing
Trench 1



construction cut [509]

Section 3
South Facing
Trench 1



Section 4
West facing
Trench 1

0 2m

Figure 4
Sections 1-4
1:40 at A3

7 INTERPRETATION AND CONCLUSIONS

7.1 Natural Deposits

7.1.1 London Clay was recorded across the site at heights between -8m OD and –8.98m OD.

7.1.2 A poorly sorted sand and gravel was observed sealing the London Clay in all of the boreholes with the exception of the abandoned BH 3. The surface of the gravel in BH 4 was recorded at –4.22m O.D and is clearly truncated by the 19th century dock construction. The levels for the remaining gravels vary between –1.90m and –2.90m OD. and display a topographical trend of a north west to south east downwards slope.

7.1.3 An alluvial sequence was observed in seven of the boreholes, three of which are almost certainly partly truncated by the 19th century construction phase and not considered below. Two of the window samples also revealed part of the upper alluvial sequence, giving a total of six values to compare. This information indicates the top of the alluvium lies between +0.34m to –0.24m OD. The only obvious topographical trend is that the two highest levels are the most northerly, which would suggest as expected that the underlying alluvium slopes south towards the River. Also it is to be noted that the value for BH5 at –0.24m is considerably lower than the remaining levels by at least 0.32m and should therefore be treated with some caution.

7.1.4 Variations within the structure of the alluvium were slight, mainly in colour and degrees of organic preservation but otherwise all composed of fine sediments suggesting very similar depositional processes. Of interest is the presence of preserved reed in the lower alluvium of BH 8 that seems to indicate a marginal, marshy environment during its formation. Also of interest is the peat horizon which is seen in BH 1, the most northerly of the boreholes. This seems to indicate that for a period at least trees or shrubs were present in the area, presumably reflecting increasingly drier conditions as one moves northwards. The upper sequences in the alluvium generally show less preserved organics.

7.1.5 Within the evaluation trench the upper sequence of alluvium was encountered at 0.03m OD, and was excavated by hand to a depth of 0.40m below this. This material was fine grained with no organic content, as is the case across the rest of the site. No anthropogenic material was encountered during the hand excavation of this material.

7.1.6 Where the top of the alluvial sequence appeared untruncated, the deposits that directly overlay it were object dated to the 17/18th century, or if undated the overlying deposits appear comparable to these 17/18th century dated deposits. As the alluvial sequence has also been seen to directly overlie the terrace gravels, it follows that any pre-17th century archaeological horizons, if they exist, must be within the alluvial sequence.

7.1.7 No prehistoric land surfaces were definitely recognised. In particular no evidence was seen for the submerged Bronze Age forest revealed during the excavation of the Shadwell Basin. The thin peat horizon seen in BH 1 is as yet undated.

7.2 Potential for Survival of Roman Deposits

7.2.1 This area of Wapping has been of particular interest as an area of Roman activity because of its relative closeness to the Roman road that lies approximately *c*250m to the north, and the area of the site has been suggested as a possible location for a late Roman port. The recently excavated Roman bath-house which lies to the south of the Roman road and the presence of a Roman cremation with evidence of occupation that has been recorded *c*100m to the north of the site indicate Roman activity in the area.

7.2.2 Of particular interest in relation to possible Roman occupation on this site are the OD levels of the alluvium compared with the known Roman occupation sites and other evidence for the river levels during the Roman period.

7.2.3 Excavations of the Roman bathhouse at 172-176 The Highway, revealed an area close to the southern boundary of the site that may have been part of the Thames foreshore, which is thought to date to the 2nd century AD. The recorded levels for this are between 1.97m OD to 1.67m OD. These levels are least 1.45m higher than the top of the alluvium as revealed in this watching brief.

7.2.4 Tree-ring dated evidence does however indicate a considerable change in the level of the Thames during the Roman period and by the late 3rd and 4th centuries dry land levels of close to 0.00m OD have been suggested.

7.2.5 This level of 0.00m OD is slightly below the top of the alluvium as revealed in this watching brief. A possibility does therefore exist for some evidence of Roman activity within the upper sequence of the alluvium, however it must be mentioned that although this upper alluvium is undated, the presence of post-medieval material within the deposits which directly overlie it suggest, assuming no truncation has occurred, a post-Roman date for the formation of the upper alluvial sequence.

7.3 Post-Alluvial Sequence

7.3.1 Evidence for post-alluvial and pre-19th century deposits were seen in BH's 1, 5, 6, and 8, in WS's 1 and 2, and within the evaluation trench. These deposits can also be roughly sub divided into two phases. The earliest phase of these deposits directly overlie the alluvial sequence and are believed to represent an in-situ soil horizons. (With the exception of BH1) They consist of dark homogenous silty sands of 0.45m to 2.00m thick that contain pottery, bone, glass and clay pipe, and which give a likely 17/18th century date. Sealing these horizons were mixed soils interpreted as levelling deposits which again are believed to be of 17/18th century date and are possibly associated with the 18th century terraced housing shown on early maps of the area.

7.4 Dock and Dockside Activity

7.4.1 Evidence for the dockside construction was seen in Geotechnical Trenches 1-5, Trial Pits 1, 5, and 7, Window Samples 1 and 2, in all of the boreholes, and in more detail within the evaluation trench. Within the boreholes located within thee area of the dock basin, a 0.84m to 0.90m thick layer of mixed clay and peat was observed which possibly represents a deliberate clay lining for the dock basin. Elsewhere across site the main deposits believed to be associated with the dock structure are represented by substantial ground level raising deposits which where presumably used to raise the ground surface around the dock basin. This basin must have been constructed by partly truncating the underlying deposits but also constructed partly above the pre-dock ground surface. This can be observed when viewing the topography of the present day Wapping Lane, which displays a clear mound around the dock basin. These deposits are therefore likely to be at their thickest around the dock basin itself and at their least substantial along the southern site boundary where evidence for the 19th century warehouse wall lies at around 3.50m below the existing ground surface. Sporadic evidence of surfacing which is likely to be associated with the warehouse structures was also observed. Evidence of the dockside wall was recorded in Trenches 1-5, and here was seen the clearest evidence for rebuilds to the original structure in the use of more modern materials, especially reinforced concrete.

7.4.2 Within the evaluation trench, evidence was recorded for a very large concrete foundation, extending into the alluvial sequence for a north-south orientated brick wall/support. Although the confines of the trench preclude a precise interpretation of the function of this brickwork, the massive nature of the foundation suggests that the wall was industrial in nature, forming part of the dockside activity in the area in the 19th century. The apparent sockets within the sloping sides of the wall suggest that braces may have been affixed here, possibly to support structures such as the hulls of boats, during construction and/or repair. This structure, together with the evidence recorded during the geotechnical work, certainly suggests the potential for encountering further dock and dockside activity on the site is high.

7.5 Post-Dock Activity

7.5.1 The evidence for the disuse of the dock and associated redevelopment of the site in the recent past was observed across site in the form of substantial infilling, demolition and ground level raising deposits. These deposits were at their thickest within the dock basin itself where over 10m of infilling was observed. Outside of the dock basin the infilling deposits are generally thickest at the southern end of site, decreasing towards the north. However this decrease is unlikely to be even or predictable when moving across site, as basements and deeper structures that have been infilled with loose demolition material are likely to be encountered.

8 ACKNOWLEDGEMENTS

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Appendix 1: Context Descriptions

GEOTECHNICAL WATCHING BIEF

Context No.	Type	Location	Description
1	Layer	site	Existing tarmac surface.
2	Layer	TR2	Light greyish brown coarse sand mortar and brick fragments. 1960's infilling deposit.
3	Layer	TR2	Dark grey clayey-silt, concrete brick and pebble inclusions. 1960's infilling deposit.
4	Layer	TR2	Dark greyish brown coarse sand, mortar and brick fragments. 1960's infilling deposit.
5	Layer	TR2	Dark brownish grey coarse sand, mortar and brick fragments. 1960's infilling deposit.
6	Layer	TR2	Mid grey fine sand. 1960's levelling deposit.
7	Structure	BH5	Light greyish yellow concrete and pebbles. 20th century surface.
8	Layer	BH5	Dark greyish brown clayey silt, brick and mortar fragments. Levelling deposit in preparation for context 7.
9	Layer	BH5	Mid greyish brown coarse sand, mortar and brick fragments. 20th century levelling deposit.
10	structure	TR2	Concrete capstone for dockside wall. 20th century rebuild?
11	structure	TR2	N-S aligned wall, part of dockside wall. 20th century rebuild?
12	Layer	BH5	Dark blackish brown sandy silt, CBM, pottery and bone fragments. 17/18th century soil ?
13	Layer	BH2	Dark greyish black mixed clay silt and coarse sand. Pebble and CBM inclusions. 1960's infilling deposit?
14	structure	TR2	Light grey reinforced concrete and pebble surface.20th century dockside rebuild ?
15	Layer	TR2	Light brownish yellow coarse sand, mortar, concrete and pebble mix. 20th century infilling deposit.
16	Layer	BH5	Mid bluish grey silty clay. In-situ alluvial deposit.
17	Layer	BH2	Dark grey clay and brick fragments. 1960's infilling deposit.
18	Layer	BH2	Mid brownish grey clayey silt and concrete fragments.
19	Layer	BH2	Dark bluish black silty clay, CBM, pebble metal and bone fragments. Disturbed alluvium?
20	Layer	TR3	Mid greyish brown sand and gravel. Preparation for tarmac surface.
21	Layer	TR3	Dark greyish black fine sandy silt. 1960;s infilling deposit.
22	Layer	TR3	Light mid whitish grey concrete fragments and gravel mix. Preparation for tarmac

			surface.
23	Layer	TR3	Mid greyish brown sandy silt, pebble and CBM inclusions. 1960's infilling deposit.
24	Layer	TR3	Mid brownish orange silty sand and CBM. 1960's infilling deposit.
25	structure	TR3	Light grey concrete and pebble surface. 20th century dockside rebuild?
26	structure	TR5	Light grey concrete and pebble surface. 20th century dockside rebuild?
27	Layer	BH2	Mid brownish grey sandy gravel. Natural
28	Layer	BH2	Mid orangey brown poorly sorted sand and gravel. Natural
29	Layer	WS2	Pinkish red crushed CBM. 1960's surface preparation.
30	Layer	WS1	Dark greyish brown sand. 1960's levelling deposit.
31	Layer	WS1	Mottled light yellowish brown and mid greenish brown silty clay. Probable 19th century levelling deposit.
32	Layer	WS1	Dark greyish brown coarse sand. CBM and mortar inclusions. 19th century levelling deposit?
33	Layer	WS1	Light greenish yellow coarse sand and mortar fragments. 19th century levelling deposit?
34	Layer	WS1	Dark greyish brown silty sand. CBM and mortar inclusions.
35	Layer	WS1	Dark greyish black silty sand. Post medieval soil, pre 19th century construction phase?
36	Layer	WS1	Dark Brown sandy clay and occasional limestone fragments. Post medieval soil, pre 19thcentury construction phase?
37	Layer	WS1	Mid greenish grey clay with occasional molluscs and small peat lenses. In-situ alluvial deposit.
38	Layer	WS1	Dark greenish brown clayey silt. In-situ alluvial deposit.
39	Layer	BH2	Mid brownish grey clay. In-situ London clay.
40	Structure	TR4	Light grey concrete and pebble platform. 20th century dockside structure.
41	Layer	BH5	Mid orangey brown poorly sorted sand and gravel. Natural.
42	Layer	BH5	Mid brownish grey clay. In-situ London clay.
43	Layer	TR4	Mid grey fine sand. 1960's levelling deposit.
44	Layer	TR4	Dark brown coarse sand, mortar and CBM fragments. 1960's levelling deposit.
45	Layer	TP4	Banded light and dark grey fine sand. 1960's levelling deposit.

46	Layer	TP4	Mid yellowish brown silty sand with CBM inclusions. 19th century levelling deposit.
47	Layer	TP4	Mid greenish grey sandy clay, pebbles and CBM fragments. 19th century levelling deposit.
48	Layer	TP4	Mixed mid brown peat and mid greenish grey clay, occasional CBM fragments. 19th century infilling deposit.
49	Layer	TP4	Mixed mid greenish grey clay and mid brown peat, moderate CBM fragments.19th century infilling deposit.
50	Layer	TP5	Mid grey fine sand. 1960's levelling deposit.
51	Layer	TP5	Mid brown coarse granular sand and CBM fragments. 1960's levelling deposit.
52	Structure	TP5	Light grey concrete and pebble surface. 19th century dockside surface?
53	Layer	TP6	Mid grey fine sand. 1960's levelling deposit.
54	Layer	TP6	Mid reddish brown granular sand, CBM and mortar fragments. 1960's levelling deposit.
55	Layer	TP6	Dark grey granular silty sand, CBM and mortar fragments. 1960's levelling deposit.
56	Layer	TP6	Mid yellowish grey crushed mortar, coarse sand and CBM fragments. 1960's levelling deposit.
57	Layer	TP7	Mid reddish brown granular sand, mortar and CBM fragments. 1960's levelling deposit.
58	Layer	TP7	Mid brown coarse granular sand, CBM and concrete fragments. 1960's levelling deposit.
59	Structure	TP7	Cobbled surface of rectangular stone blocks. 19/20th cent dockside rebuild?
60	Layer	WS2	Light brownish grey crushed mortar and CBM fragments. 1960's levelling deposit.
61	Layer	WS2	Dark brownish grey coarse sandy clay, crushed concrete and CBM fragments. 19th century levelling deposit.
62	Layer	WS2	Light yellowish white crushed mortar and CBM fragments. 19th century levelling deposit.
63	Layer	WS2	Mid greenish grey coarse sand and angular stone fragments. 19th century levelling deposit.
64	Layer	WS2	Mid greenish yellow coarse granular sand and rounded pebbles. 19th century levelling deposit.
65	Layer	WS2	Dark brown sandy clay. 17/18th century soil?
66	-	-	Void context.
67	Layer	TR1	Light yellowish white sand and gravel. 1960's levelling deposit.

68	Layer	TR1	Mid bluish grey fine sand. 1960's levelling deposit.
69	Layer	TR1	Mid greyish brown silty sand and pebbles with CBM and concrete fragments. 1960's levelling deposit.
70	Structure	TR1	E-W aligned wall, part of 18th century dockside wall.
71	Layer	BH7	Dark bluish grey fine sand. 1960's levelling deposit.
72	Layer	BH7	Mid orangey brown sandy silt and CBM fragments. 1960's levelling deposit.
73	Layer	WS2	Dark greenish brown clay with occasional clinker fragments. Disturbed in-situ alluvium?
74	Layer	WS3	Mid brownish yellow coarse sand and angular stone fragments. 1960's levelling deposit.
75	Layer	BH6	Mid bluish grey fine sand. 1960's levelling deposit.
76	Layer	BH6	mid orangey brown sandy silt, CBM and industrial debris. 1960's levelling deposit.
77	Layer	BH6	Mid brownish grey sandy silt with CBM fragments. 1960's levelling deposit.
78	Layer	WS3	Mid brown clay. 1960's levelling deposit?
79	Layer	WS3	Mixed dark grey clay and black sandy silt with CBM inclusions. 19th century levelling deposit?
80	Layer	WS3	Mid greenish yellow clay. 19th century levelling deposit?
81	Layer	WS3	Dark brown granular sandy clay, CBM and mortar fragments. 19th century levelling deposit?
82	Layer	WS4	Dark greyish brown silty sand, CBM and mortar fragments. 1960's levelling deposit.
83	Layer	WS4	Light brownish yellow crushed mortar and CBM fragments. 1960's levelling deposit.
84	Layer	WS5	Dark brownish yellow coarse sand and gravel, CBM inclusions. 1960's levelling deposit.
85	Layer	WS5	Light brownish yellow coarse sand and gravel. 1960's levelling deposit.
86	Layer	WS6	Dark brownish grey sandy clay, CBM mortar and concrete fragments. 1960's levelling deposit.
87	Layer	WS6	Mid yellowish brown coarse sand CBM and concrete fragments. 1960's levelling deposit.
88	Layer	WS6	Dark brownish grey coarse granular sandy clay and pebbles, CBM and mortar fragments. 1960's levelling deposit.
89	Layer	WS6	Dark yellowish brown coarse sand and CBM fragments. 1960's infilling deposit.
90	Layer	WS6	Mixed dark greenish brown and mid brownish yellow clay, CBM and angular

			pebble inclusions. 1960's levelling deposit.
91	Structure	BH1	Light grey reinforced concrete surface. 20th century surfacing?
92	Layer	BH1	Mixed mid orangey brown silty clay and coarse sand, CBM and concrete fragments. 20th century levelling deposit?
93	Layer	BH1	Mixed dark orange silty sand, gravel and clay. 20th century levelling deposit?
94	Layer	BH1	Mixed orangey brown silty sand, gravel and clay with CBM and concrete fragments.
95	Layer	WS6	Mid grey fine sand. 1960's levelling deposit.
96	Layer	WS5	Mid grey fine sand. 1960's levelling deposit.
97	Layer	WS4	mid grey fine sand. 1960's levelling deposit.
98	Structure	WS1, 2 & 3	Concrete surface within basement of existing building.
99	Layer	WS1	Mid pinkish red crushed CBM. 1960's levelling deposit.
100	Layer	WS2	Mottled light yellowish brown and mid greenish brown silty clay. 1960's levelling deposit?
101	Layer	BH8	Mid orangey brown coarse sand, CBM and concrete fragments.1960's levelling deposit.
102	Structure	BH8	Light grey concrete and pebble surface. 20th century surfacing?
103	Layer	BH8	Mid brown CBM and concrete fragments. 20th century levelling deposit?
104	Structure	BH8	Cobbled surface of rectangular stone blocks. 19/20th century dockside rebuild?
105	Layer	BH8	Dark brown silty clay with occasional pebbles, CBM and orange clay lenses. 19/20th century levelling deposit.
106	Layer	TP7	Dark greyish black sandy clay with mid brown clay lenses, pebbles, CBM and mortar inclusions. 19th century levelling deposit?
107	Layer	TP7	Mid brown clay. 19th century levelling deposit?
108	Layer	TP7	Dark grey sandy clay with pebble inclusions. 19th century levelling deposit?
109	Layer	TP7	Mid orange sand and pebbles. 19th century levelling deposit?
110	Layer	TP7	Dark brownish grey granular sand and pebbles with CBM and concrete fragments. 18/20th century levelling deposit?
111	Layer	BH9	Mid grey fine sand. 1960's levelling deposit.
112	Layer	BH9	Mid orange brown silty sand, brick and concrete fragments. 1960's levelling deposit

113	Layer	BH9	Dark orange coarse sand and gravel. 1960's levelling deposit.
114	Structure	BH9	Light grey concrete surface. 19/20th century dockside rebuild?
115	Layer	BH9	Mixed mid grey and orangey brown silty coarse sand, concrete and tarmac fragments. 19/20th century dockside rebuild?
116	Layer	TP8	Mid orange coarse sand and pebbles. 1960's levelling deposit.
117	Layer	TP8	Dark brownish grey granular sand, pebbles and CBM fragments. 1960's levelling deposit.
118	Layer	TP8	Dark blackish grey granular sand and pebbles, CBM and concrete fragments. 1960's levelling deposit.
119	Layer	BH4	Mid grey fine sand. 1960's levelling deposit.
120	Layer	BH4	Dark brownish grey granular sandy silt and pebbles with CBM fragments. 1960's levelling deposit.
121	Layer	BH4	Dark brownish grey silty clay with CBM fragments. 1960's levelling deposit.
122	Layer	BH4	Dark grey clayey coarse grained sand and pebbles with CBM fragments.1960's levelling deposit.
123	Layer	BH4	Mixed dark brown peat and mid greenish grey clay with rounded pebble inclusions. 19th century levelling deposit?
124	Layer	BH4	Light brownish yellow coarse sand and poorly sorted gravel. Natural.
125	Layer	BH4	Light yellowish white crushed mortar and CBM fragments. 1960's levelling deposit.
126	Layer	BH5	Mid grey fine sand. !960's levelling deposit.
127	Structure	BH6	Possible flagstone surface. 19th century dockside structure?
128	Layer	BH6	Light brownish yellow coarse sand and pebbles. 19th century surface preparation deposit?
129	Layer	BH6	Mixed dark grey and mid brown clay and pebbles with CBM and slate fragments.19th century levelling deposit?
130	Layer	TP3	Dark brownish grey clayey sand with pebble CBM and concrete fragments. 1960's levelling deposit.
131	Layer	TP3	Dark blackish brown coarse granular clayey sand, pebble mortar and CBM fragments. 1960's levelling deposit.
132	Layer	TP3	Dark brown coarse granular sand with mortar and CBM fragments. 1960's levelling deposit.
133	Layer	TP3	Light orangey brown coarse sandy clay and pebbles. 1960's levelling deposit.
134	Layer	TP2	Mid grey fine sand. 1960's levelling deposit

135	Layer	TP2	Dark brownish black coarse sandy clay and pebbles with CBM and concrete fragments. 1960's levelling deposit.
136	Layer	TP2	Dark brown coarse granular sand and mortar with CBM and concrete fragments. 1960's levelling deposit.
137	Layer	TP4	Dark brownish black coarse granular clayey sand and pebbles with CBM and concrete fragments. 1960's levelling deposit.
138	Structure	TP1	Light grey concrete and pebble surface. 1960's surfacing.
139	Layer	TP1	Mid grey fine sand. 1960's levelling deposit.
140	Structure	TP1	Light grey concrete and pebble surface. 19/20th century dockside rebuild?
141	Layer	BH8	Dark brownish black sandy clay with small abraded CBM fragments. 17/18th century topsoil?
142	Layer	BH8	Mixed dark bluish grey and dark grey coarse sandy clay and pebbles with small CBM fragments. 17/18th century levelling deposit?
143	Layer	BH8	Dark brownish black coarse sandy clay and pebbles. 17/18th century topsoil?
144	Layer	BH8	Mid bluish grey clay with small lime and CBM flecks. In-situ alluvial deposit?
145	Layer	BH8	Dark greyish brown silty clay with small organic fibres. In-situ alluvial deposit.
146	Layer	BH8	Mid green coarse clayey sand and occasional clay lenses. Possible fluvial episode associated with deposition of underlying natural gravels.
147	Layer	BH8	Mid brownish yellow poorly sorted sand and gravel. Natural.
148	Layer	BH7	Dark reddish brown clayey granular sand and crushed mortar with CBM fragments. 1960's levelling deposit.
149	Layer	BH7	Mid grey clayey sand. 1960's levelling deposit?
150	Structure	BH7	Mid brownish red crushed CBM. Possible 18th century wall.
151	Structure	BH7	Light brownish grey concrete and pebbles. Foundation for structure 150.
152	Layer	BH6	yellowish brown coarse sand and pebbles with small lime fragments. 17/18th century levelling deposit?
153	Layer	BH6	Dark greenish grey coarse clayey sand and pebbles. 17/18th century levelling deposit?
154	Layer	BH6	Dark blackish grey mixed silty clay with small coarse sand and pebble lenses. 17/18th century levelling deposit?
155	Layer	BH6	Mid greenish grey silty clay. In-situ alluvial deposit.
156	Layer	BH6	Dark brown silty clay with frequent organic fibres. In-situ alluvial deposit.

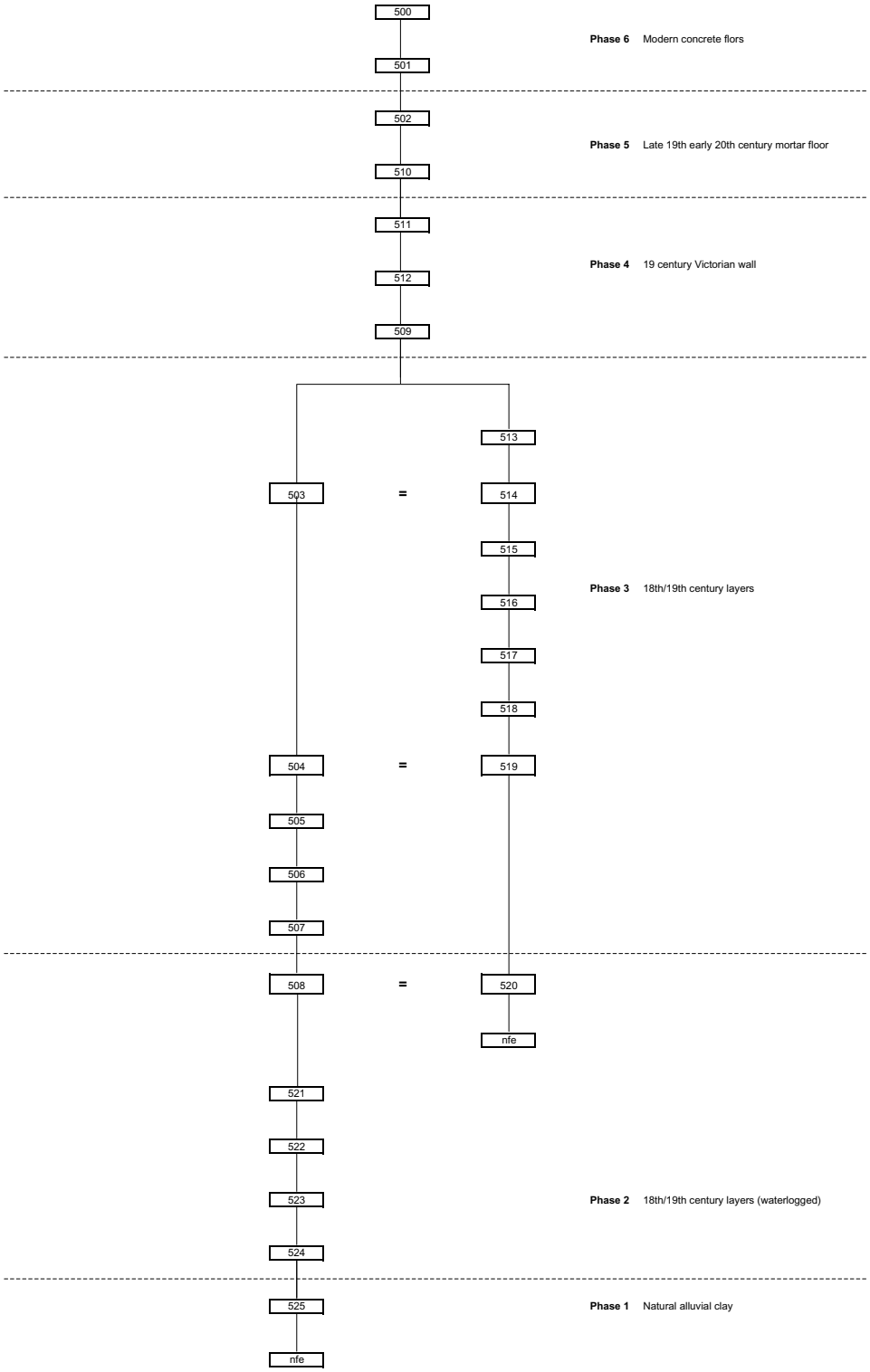
157	Layer	BH6	Dark greenish grey clay with small organic fibresIn-situ alluvial deposit.
158	Layer	BH6	Mid brownish yellow poorly sorted sand and gravel. Natural.
159	Structure	BH7	Mid greyish brown coarse sand, cement and pebbles with occasional CBM fragments. Lower foundation for structure 150?
160	Layer	BH7	Mid greenish grey silty clay and small pebbles. Disturbed but in-situ alluvial deposit?
161	Layer	BH7	Dark greenish grey silty clay with frequent black patches and occasional organic fibres. In-situ alluvial deposit
162	Layer	BH7	Light greenish grey clay. In-situ alluvial deposit.
163	Layer	BH7	Mid brownish yellow poorly sorted sand and gravel. Natural.
164	Layer	TR5	Dark brown coarse sand with mortar and CBM fragments. 1960's levelling deposit.
165	Layer	BH9	Mixed dark blackish grey silty sand and pebbles with mid greyish brown clay and CBM fragments. 19/20th century levelling deposit.
166	Structure	BH9	Light brownish red crushed CBM. Possible 19th century wall.
167	Structure	BH9	Light brownish grey concrete and pebbles. Foundation for structure 166.
168	Structure	BH9	Mid greyish brown coarse sand, concrete and pebbles. Lower foundation for structure 166?
169	Layer	BH9	Dark greyish brown clayey silt with occasional angular and rounded pebbles. Disturbed in-situ alluvial deposit.
170	Layer	BH9	Dark greenish grey sandy clay with very occasional small rounded pebbles and small organic fibres. In-situ alluvial deposit.
171	Layer	BH9	Mid brownish yellow poorly sorted sand and gravel. Natural.
172	Layer	BH2	Mid grey fine sand:- 1960's levelling deposit.
173	Layer	BH1	Dark brownish grey sandy clay with small abraded CBM fragments and frequent sub-rounded pebbles. 17/18th century levelling deposit?
174	Layer	BH1	Dark brownish black granular sandy clay with moderate CBM fragments, mortar, shell and clay pipe. 17/18th century levelling deposit.
175	Layer	BH1	Mixed dark brown peat and dark greenish grey clay with CBM and occasional pebbles. 17/18th century levelling deposit
176	Layer	BH1	Dark bluish grey clay with black decayed organic flecks and calcium carbonate/lime nodules. In-situ alluvial deposit.
177	Layer	BH1	Mid bluish grey clay with black decayed organic flecks and small calcium

			carbonate/lime nodules. In-situ alluvium.
178	Layer	BH1	Dark brown peat with frequent small wood fragments. In-situ peat horizon.
179	Layer	BH1	Mid greenish grey clay silt with frequent sub-rounded to sub-angular pebbles and occasional organic fibres. In-situ alluvium.
180	Layer	BH1	Mid greenish grey mixed sands and moderate small pebbles. Natural.
181	L ayer	BH1	Mid brownish yellow mixed sands and poorly sorted gravels. Natural gravels.

Context Number	Plan Number	Section Number	Phase	Trench	Type	Description
500		1,3,4	6	Trench 1	Concrete	Modern concrete floor
501		1,3,4	6	Trench 1	Concrete	Modern concrete floor
502	511	1,3,4	5	Trench 1	Masonry	Mortar floor with brick fragments
503		1,3	3	Trench 1	Layer	Redeposited alluvial clay
504	511,512	1,3	3	Trench 1	Layer	Post med mid brown grey sandy silt
505		1,3	3	Trench 1	Layer	Post med mid orangey brown demolition layer
506		1	3	Trench 1	Layer	Post med clayey sandy silt
507		1,3	3	Trench 1	Layer	Post med mid orangey brown clayey sandy silt
508		1	2	Trench 1	Layer	Post med very dark blackish clayey silty peat
509	511,512	3	4	Trench 1	Cut	Construction cut for concrete (512)
510		3	5	Trench 1	Fill	Backfill of construction cut (509)
511	511	3	4	Trench 1	Masonry	North-South Victorian wall
512	511,512	3	4	Trench 1	Concrete	Foundation concrete for wall (511)
513		4	3	Trench 1	Layer	Post med mid brown sandy silt
514		4	3	Trench 1	Layer	Redeposited alluvial clay (same as 503)
515		4	3	Trench 1	Layer	Post med mid brown sandy silt
516		4	3	Trench 1	Layer	Post med mortar layer/floor
517		4	3	Trench 1	Layer	Post med silty clay
518		4	3	Trench 1	Layer	Post med dark grey silty clay
519		4	3	Trench 1	Layer	Post med dark grey blackish clayey sandy silt
520	511,512	4	2	Trench 1	Layer	Soft and organic post medieval layer (waterlogged)
521		1	2	Trench 1	Layer	Post med dark brown layer (waterlogged)
522		1	2	Trench 1	Layer	Post med decayed wood (waterlogged)
523		1	2	Trench 1	Layer	Post med dark grey clayey peat
524		1	2	Trench 1	Layer	Post med dark grey clay with peat
525		1	1	Trench 1	Layer	Natural alluvial clay

Appendix 2: Site Matrix

Evaluation Trench 1



Appendix 3- Oasis Data Collection Form

OASIS ID: preconst1-31525

Project details

Project name	An Archaeological Watching Brief and Evaluation at 21 Wapping Lane, London Borough of Tower Hamlets
Short description of the project	Archaeological watching brief and evaluation work was conducted between July and September 2007. The work consisted of a watching brief on geotechnical boreholes and test pits, with one archaeological trial trench located to the south-east of the basement floor of the existing warehouse building, which was excavated to a maximum depth of -0.42m OD. The basement floor was at a level of 3.98m OD. The trial trench contained a north-south orientated 19th century wall resting on a very deep concrete foundation. The construction cut for this wall truncated a sequence of post-medieval (18th to 19th century) layers located on both east and west sides of the trench. The natural alluvial clay was observed on the east facing section of the trench only.
Project dates	Start: 09-07-2007 End: 13-09-2007
Previous/future work	Yes / Not known
Any associated project reference codes	WPI 07 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Industry and Commerce 4 - Storage and warehousing
Monument type	BRICK FOUNDATION Post Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	CBM Post Medieval
Methods & techniques	'Sample Trenches'
Development type	Not recorded

Prompt	Direction from Local Planning Authority - PPG16
Position in the planning process	Pre-application

Project location

Country	England
Site location	GREATER LONDON TOWER HAMLETS TOWER HAMLETS 21 Wapping Lane, London Borough of Tower Hamlets
Postcode	E1
Study area	8138.10 Square metres
Site coordinates	TQ 3490 8049 51.5067182767 -0.05599534833310 51 30 24 N 000 03 21 W Point
Height OD	Min: -0.42m Max: 0.03m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Consultant
Project design originator	WSP Environmental
Project director/manager	Tim Bradley
Project supervisor	Ireneo Grosso
Type of sponsor/funding body	Landowner

Project archives

Physical Archive recipient	LAARC

Physical Contents	'Ceramics','other'
Digital Archive recipient	LAARC
Paper Archive recipient	LAARC
Paper Media available	'Context sheet','Matrices','Photograph','Plan','Report','Section','Survey '

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Watching Brief and Evaluation at 21 Wapping Lane, London Borough of Tower Hamlets, E1
Author(s)/Editor(s)	Grosso, I. Payne, J.
Date	2007
Issuer or publisher	Pre-Construct Archaeology Limited
Place of issue or publication	Brockley, London

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