CFA ARCHAEOLOGY LTD

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Commissioned by Thomas and Adamson on behalf of the Edinburgh Military Tattoo Company

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Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Site Investigation Works: Archaeological Watching Brief

Data Structure Report No. 1447

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ILLUSTRATIONS (bound at rear)

1. INTRODUCTION

1.1 General

1.1.1 This report presents the results of an archaeological watching brief undertaken by CFA Archaeology Ltd (CFA) in February 2008 at Edinburgh Castle Esplanade, Edinburgh (NGR: NT 1538 7268, Fig.1). The work took place during site investigation (SI) works and was commissioned by Thomas and Adamson on behalf of the Edinburgh Military Tattoo Company.

1.1.2 A Written Scheme of Investigation (WSI) for the watching brief was produced by CFA on behalf of Thomas and Adamson. The WSI was agreed in advance by Historic Scotland, (HS) guardians of Edinburgh Castle. Scheduled Monument Consent (SMC) was applied for and was granted on the 31 January 2008.

1.2 Background and Archaeological Potential

1.2.1 Edinburgh Castle and the Esplanade are protected as a Scheduled Ancient Monument (SAM No. 90130) and lie within the Old and New Towns of Edinburgh World Heritage Site, which was inscribed in 1995. Edinburgh Castle and the Esplanade are, therefore, of international importance. The Castle and Esplanade is a Property in the Care and Ownership of HS.

1.2.2 The site of the Castle Esplanade has great archaeological potential. Since there has been no known archaeological investigation of that potential, the following account of the use of the site and consideration of its archaeological potential is based upon readily available documentary and cartographic sources, the results of past bore-hole work, and a consideration of topography.

1.2.3 The principal sources employed in this discussion are a report produced by Kirkdale Archaeology for Historic Scotland in 1997 (Kirkdale 1997), and a later illustrated version of the same report presented in the *Edinburgh Military Tattoo Retractable Seating – Feasibility Study* (Mott MacDonald 1999). Reference is made to the results of excavations within Edinburgh Castle (Driscoll & Yeoman 1997), archaeological coring conducted in 2006 (Lancaster 2006) and ground investigation works on the Esplanade conducted in 1975 by Nicolson Site Investigation (Arup Scotland 2007). Cartographic sources were of particular use in reconstructing the development of the Esplanade since the 17th century. The proposed bore-hole and trial pit distribution in the WSI have been superimposed on a selection of the maps, which are not reprinted here but range in date from 1674 to 1877. The proposed and additional locations of the interventions are shown on Fig. 1.

1.2.4 Recent excavations (Driscoll & Yeoman 1997) have shown that Edinburgh's Castle Rock has been occupied since the late Bronze Age (c.900 BC) and it seems probable that it has been occupied continuously since that date. The parent geology has created specific ground conditions, resulting from the interface of two geological regimes – volcanic and sedimentary rock sequences. This has resulted in a fault line to the east of Castle Rock, which could have

been exploited to facilitate the excavation of defensive ditches. The topography also naturally defines the main access route to the Castle Rock as being from the east, over the site of the Esplanade; precipitous cliffs surround the remainder of Castle Rock. Thus, throughout the c.3000 year occupation of Castle Rock, the main entrances with their associated defensive systems and access routes were located on this eastern side. The scale, character and condition of the archaeological resource on the Esplanade will relate to a series of construction, use and demolition episodes associated with the occupation and defence of (and access to) the Castle Rock.

1.2.5 The use of the site of the Esplanade can be divided in to four main periods, based upon current knowledge.

Period 1 - Prehistoric / early medieval double ditch with rampart

1.2.6 Two large, deep ditches were encountered during excavation in 1989 (Yeoman 1989) at the entrance to the vehicle tunnel. Both ditches were multi-phased, possibly originating in the later Iron Age, recut in the 14th century and in use well into the 15th century. The ditches exploited at least part of the prominent geological fault aligned roughly SW to NE across the Esplanade. The resulting enclosure between the foot of Castle Rock and the outer defences may have been wider than that defined by the Period 3 Dry Ditch (see below). The extent of disturbance to the Period 1 system by later defensive works is probably considerable, but available evidence points to the likelihood that the Period 1 and 2 works extended further to the east than did the Period 3 and 4 works.

1.2.7 Archaeological coring work in 2006 on the site of the ditches demonstrated that they were c.9.6m deep and were cut through glacial till into bedrock (Lancaster 2006). The ditches were infilled by low-energy alluvial deposition processes. The infill of the ditches was dated at a depth of c.5m to the 14th century on the basis of a pottery find (Driscoll & Yeoman 1997). It would also be potentially possible to date the lower fills of the ditch using plant macrofossils or artefacts recovered from the retained cores from the 2006 work, but no results are currently available.

1.2.8 Boreholes from 1975 (Arup Scotland 2007) record that the made ground ('clayey ashes with sand, gravel and broken sandstone') beneath the current tarmac surface of the Esplanade varies between 1.5m and c.9m in thickness. The intervals between boreholes was too wide to propose that the variation in thickness was due to the presence of defensive ditches or other anthropogenic features. Nevertheless, the presence of such a large thickness of infill deposits indicates that the potential for archaeological survival of remains of prehistoric and medieval date should be considered to be high.

Period 2 – The Spur (mid 16th century to mid 17th century)

1.2.9 An elaborate and extensive artillery work was built on the east side of the Castle Rock in the 1540s (Mott Macdonald 1999) and rebuilt at least once and finally replaced by Cromwell's scheme (Period 3). The outermost elements

underlying the Esplanade, was an angle-pointed bastion housing the outer entrance to the castle. The Spur also had its own well.

1.2.10 Two versions of the approximate extent of this feature are suggested here (Period 2 and Period 2 Alternate Version). The Period 2 version, which appeared in the Mott Macdonald feasibility study, was based upon the plan shown as Illus 74 in Driscoll & Yeoman (1997; PRO State Papers 52/25/2). The Period 2 Alternate Version makes use of Gordon of Rothiemay's *View of the Castle*, dated 1647 and a map of 1674 held by National Archives of Scotland. The 1674 map shows that the Spur had been demolished by 1674, but also shows a wall which matches with a wall to the south of the Spur that is shown on Gordon's illustration.

1.2.11 Incidentally, Gordon's illustration shows a gibbet to the south of the Spur. It is possible that the gibbet is within a partially backfilled defensive ditch.

Period 3 – The 17th-century ditch and flankers

1.2.12 The Spur was abandoned c.1650 and replaced by a deep, stone-faced ditch (now called the Dry Ditch) fronting a new east gate (demolished in the 1880s and replaced by the present gatehouse) and gun flankers.

1.2.13 Moore's map of 1725 shows the Esplanade site as unoccupied, with the town and Castle linked by a track. No trace of the footings of the Spur or its associated walls are shown on either this map or the map of 1674.

Period 4 – 18th and 19th-century modifications

1.2.14 The Period 3 ditch was substantially modified in the early 18th century as part of a grand scheme (ultimately aborted) to refortify the eastern approach. In 1753 the Esplanade was extensively modified to serve as a Parade Ground, using imported spoil excavated during the building of the nearby City Chambers. The imported material extended the natural contours of the Esplanade to north and south, creating a generally level open area. The Parade Ground was reconfigured with masonry enclosing walls in the 1810s. In the 1880s the present Dry Ditch and Gatehouse were formed.

1.2.15 A triangular barrier is shown at the entrance to the Castle on Ainslie's map of 1780. The barrier is recorded elsewhere as a series of upright wooden posts, 5 feet 11 inches high (NAS RHP6520/27 *Copy of Plan of Works of Entrance to Main Entrance* 1799).

2. WORKING METHODS

2.1 General

2.1.1 CFA Archaeology Ltd follows the Institute of Field Archaeologists' Code of Conduct, Standards and Guidance for Archaeological Watching Briefs. The terms of the WSI were adhered to.

2.2 Location of Site Investigation Works

2.2.1 A proposed scope for site investigation was outlined in the Stage C Report (Arup Scotland 2007).

2.2.2 No unforeseen services were located during the works and no SI interventions were relocated for this reason. Adverse ground conditions, in the form of concrete foundations, were located in Princes Street Gardens and a number of interventions were relocated in this area (Fig. 1 and inset). BH01 struck a hard surface and a second intervention (BH01.1) was made nearby. It took four starter pits (BH02, BH02.1-3) and an agreed additional test-pit (TP7) to obtain access through the concrete foundations in the area of BH02. The starter pit for BH03 met concrete foundations at 1.2m depth and a second starter pit (BH03.1) was excavated nearby. A single intervention (BH07) was relocated to avoid a cobbled drain. All these relocated interventions were within a 5m radius of that intended.

2.2.3 The positions of all boreholes and trial-pits were surveyed on completion. All survey work was conducted by the SI contractor's surveyors.

2.2.4 All works on the Esplanade took place within temporary compound areas (Fig. 1). These were formed using Heras fencing. Tarpaulins were used initially but windy weather created a hazard and this was discontinued. Only one compound was erected at a time, with the exception of compounds 2A and 2B which were erected and classed as one compound.

2.2.5 Plant was lifted by crane into the Dry Ditch and into Princes Street Gardens over the North Esplanade Wall. The crane was positioned so as to avoid placing pressure on the Dry Ditch wall and to avoid statues and monuments within the Esplanade. Trained personnel supervised each lift.

2.2.6 Protective boards were placed at the base of the Dry Ditch and on the soft landscaping of Princes Street Gardens. The rig was lifted directly onto the bore-hole location within the Dry Ditch; no tracking of the rig within the Dry Ditch took place. All plant movement was restricted to protective boards on areas of soft landscaping. The boards were removed following the works and the areas left in a condition satisfactory to HS.

2.2.7 All plant movement (outside compounds) was agreed in advance with Historic Scotland's Regional Works Manager or their representative.

2.3 Test-Pit Methodology

2.3.1 Six test-pits (TP1-6) were excavated to expose the existing Tattoo stand foundations and determine both their depth and the surrounding ground conditions. One agreed additional test-pit (TP7) was excavated to locate a break in the concrete foundations within Princes Street Gardens. All test-pits were excavated by hand.

2.3.2 The purpose of the test-pits was to confirm the dimensions and condition of the existing foundations. There are no as-built drawings available for the current stands and this confirmation was required such that their reuse and/or removal can be assessed. The test-pits were intended to be of the following maximum dimensions: 2.5m by 0.7m by 1.5m deep, this being sufficient to expose an adequate section of existing foundation for assessment. By agreement with HS, these maximum dimensions were changed during the work to 2m by 1m by 1.5m deep.

2.3.3 The work involved excavating a rectangular exploratory Test-Pit by hand, with maximum dimensions as stated above. Care was taken to ensure that trenches were no larger than was required for the recovery of SI data. Spoil was placed adjacent to the pit and metal detected prior to being removed from the site.

2.3.4 Test-Pitting was carried out under the supervision of the site investigation contractor's engineer and was monitored by the Archaeologist. No Test-Pits exceeded 1.2m in depth and no shoring was required. No trial pit was left unattended, and all were backfilled immediately on completion.

2.3.5 No potentially contaminated material was encountered.

2.3.6 Within Princes Street Gardens and the Dry Ditch, protective boarding was used to avoid damage.

2.3.7 The SI contractor ensured that the ground reinstatement was carried out to the satisfaction of HS.

2.3.8 Test-Pits were infilled with stable imported material (quarry-run granular fill) which was compacted sufficiently to allow a new surface to be laid. One of the reasons behind the use of stable imported material is to identify these areas clearly as modern interventions, essentially providing a self-documenting record of the SI works in case of future excavations.

2.4 Borehole Methodology

2.4.1 Boring was undertaken to determine the ground conditions and obtain samples of soil and rock for geotechnical and geo-environmental testing. Both cable percussive and rotary drilling rigs were used (see Fig. 1 for positions).

2.4.2 Works commenced with the hand excavation by the SI contractors of a starter pit at each borehole position. This was undertaken to locate any possible utility services at that position. The dimensions of these pits were no greater than

0.5m by 0.5m in plan and did not exceed 1.2m in depth. The excavation of the starter pit was monitored by the Archaeologist. Spoil was placed adjacent to the pit and subjected to metal detection prior to being removed from site.

2.4.3 Boreholes were excavated using two methods, cable percussion and rotary drilling.

- Cable percussion: a 150mm steel tubular casing is used to break through the soil sediments and rock. Once boring has been completed a tube sample is taken of cohesive soils using a 100mm internal diameter open drive sampler.
- Rotary drilling: a detached compressor and drill bit is used to break up hard sediments and rock. The sediment and rock are then flushed to the surface using water. Rock sediments for geotechnical analysis are collected from the material flushed up from the borehole. No sediment samples are produced.

2.4.4 Cable percussion drilling was used to extract soil sediments overlying the bedrock. The rotary method was then used to extract rock samples. Where very compact soil sediments were encountered the rotary drilling method was used for extraction of both soil and rock sediments. Rock chippings were flushed to the surface, recorded by the SI engineer and retained for laboratory testing by Land-Drill Geotechnics.

2.4.5 Cable percussion works involved driving a 150mm steel tubular casing through the ground by means of a gravity-drop weight. Samples were retrieved by dropping a hollow tube through the casing into the soils. Bulk soil samples were taken for geotechincal and palaeoenvironmental analysis from the main sedimentary deposits. Samples were placed in a clean polythene bag, labelled and removed for storage at CFA Archaeology, Musselburgh and Land-Drill Geotechnics, Linlithgow.

2.4.6 The SI contractor ensured that drilling methods and control measures were appropriate to ensure all waste (including water flush arisings) were retained within the fenced off compounds and disposed of off-site.

2.4.7 In areas of soft landscaping, the SI contractor utilised protective boarding in order to protect Princes Street Gardens and the Dry Ditch (Fig. 5).

2.4.8 The SI contractor ensured that the ground reinstatement was carried out to the satisfaction of HS.

2.4.9 The completed boreholes were backfilled with stable imported material and cement or bentonite grout (in rock). The reasons for this are as described for the Test-Pits (2.3.8 above).

2.4.10 Standpipes were installed, as directed by the Engineer, to monitor gas and groundwater. These consisted of flush steel covers on the ground surface (resembling small manhole covers) with dimensions approximately 0.2m by 0.2m.

2.5 Archaeological Methodology

2.5.1 The aims of the archaeological work were:

- To monitor the ground-breaking works associated with the excavation of six trial pits and sixteen boreholes; record their stratigraphic profile; and excavate any archaeological features or deposits present;

- To ensure that the archaeological works take account of the known archaeological potential of the Esplanade, as outlined above;

- To ensure that the terms of the SMC were adhered to;

- To produce a report on the findings of the fieldwork, setting out the potential for any further work and dissemination of the results, as appropriate;

2.5.2 All work was compliant with the requirements of HS. All work was carried out in compliance with the codes of practice of the Institute of Field Archaeologists (IFA) and followed the IFA Standards for Watching Briefs.

2.6 Watching Brief

2.6.1 All interventions were carried out under constant archaeological supervision. The interventions were subject to observation by the archaeologist. This observation involved the systematic examination and accurate recording of all archaeological features, horizons and artefacts identified.

2.6.2 No works took place without the presence of CFA personnel.

2.6.3 All artefacts were retained. Soil samples were taken as appropriate from archaeological contexts.

2.6.4 No human remains were identified during the fieldwork but they were recognised during the compiling of the Finds Assessment (section 3.5 below).

2.6.5 All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, by photography and by completing standard CFA record forms. A full and proper record (written, graphic and photographic as appropriate) was made for all work. Accurate scale plans and section drawings were drawn at 1:20 and 1:10 scales as appropriate and at least one section of each trial pit or borehole starter pit was drawn and photographed.

2.6.6 The trial pits were excavated by hand under archaeological supervision and the spoil was checked visually for artefacts by the archaeologist. All spoil was then checked with a metal detector with no discrimination set. All artefacts were retained.

2.6.8 As sediments were removed by the SI contractors they were appraised by the archaeologist: an assessment was made of whether they were considered to be of archaeological origin, and any artefactual or ecofactual content recorded.

3. ARCHAEOLOGICAL RESULTS

3.1 General

3.1.1 The monitored SI groundworks consisted of seven test-pits (TP1-6, Figs 2A-G), six of which were adjacent to the concrete foundation blocks and mounts for the grandstands. An additional test-pit (TP7) was excavated following agreement with HS. This was used to locate an area free from concrete foundations in Princes Street Gardens. Twenty-one starter pits (Figs 3A-V) for the 16 boreholes were excavated. The locations of all test-pits and starter pits are shown on Fig. 1.

3.1.2 Following agreement with HS, the maximum dimensions of the test-pits was changed from 2.5m by 0.7m to 2m by 1m. The maximum depth of 1.5m was unchanged. The dimensions of the hand dug starter pits at each borehole location were unchanged although a section collapse in BH05 increased its width to 0.6m. No boreholes were relocated beyond the agreed distance of 5m from the planned location.

3.1.3 In order to locate a gas main within Princes Street Gardens running along the base of the northern Esplanade Wall, three small test-pits (G1-3), each 0.3m by 0.3m, were excavated. Their locations are shown on Fig. 1 and excavation was solely within the quarried grit fill of the gas main trench. They revealed that the gas main was at most 0.2m below the ground surface (Fig. 6).

3.1.4 In the following text numbers in bold refer to contexts, a full list of which is contained in Appendix 1.

3.2 Test-Pit Excavations (Figures 1-2)

3.2.1 The seven Test-Pits are summarised in Appendix 1 and their locations are shown on Fig. 1. Their sections are shown on Fig. 2.

3.2.2 The five test-pits on the Esplanade (TP1-4, 6) revealed that tarmac overlay an olive-brown hardcore gravel. These modern deposits relate to the surface finish of the Esplanade and in general had a combined depth of c.0.18m-0.3m.

3.2.3 In most cases these upper modern deposits overlay a mixed and very compact deposit containing mortar, hardcore and other broken stones around a matrix of soil, which incorporated flecks of mortar and occasional artefacts.

3.2.4 Below, the deposits were typically less mixed, much less compact and often dipped in the manner of material being deposited onto a slope. In general, these deposits comprised of varying proportions of gritty mortar, broken sandstone and soil. Within these constituents were occasional coal lumps, ash, bricks,

pantiles, slate, nails, thin window glass, bottle glass, domestic ceramics, animal bones, coal and shells of medieval to 20th century in date, although predominantly 18th-19th century.

3.2.5 Test-Pit 1 contained entirely modern, disturbed deposits. Three kerb-stones with chamfered edges, possibly part of a drain, were revealed; these were not removed (Fig. 7). Recent work in the SE corner of the Esplanade was confirmed by Alec MacKay of Edinburgh Castle but its exact nature remains unknown.

3.2.6 Test-Pits 2-3 and 6 contained deposits conforming to those above. Fragments of human bone were recovered from Test-Pit 3 (Fig. 8); these were not recognised as human on site and are disarticulated and re-deposited: an in situ burial was not disturbed.

3.2.7 Test-Pit 4 contained modern deposits, under which lay a fragment of a clay lens (**TP4/004**) and a deposit (**TP4/005**) from which medieval pottery, animal bones, marine shells and window glass were recovered. This overlay chunks of yellow sandstone and sand (**TP4/006**).

3.2.8 The two test-pits (TP5, 7) inside Princes Street Gardens revealed deposits relating to extensive recent landscaping (post-dating 1966). These overlay concrete foundations which form part of the Raker Supports (Ministry of Works 1966), used to retain the North Esplanade Wall (Fig. 9).

3.2.9 Test-Pit 5 contained modern gravels and reworked landscaping deposits (**TP5/001-4**) over a brown soil (**TP5/005**) from which no artefacts were recovered. A cast-iron disused pipe was revealed.

3.2.10 Test-Pit 7 also contained modern landscaping deposits (**TP7/001-2**) which included frogged and stamped (NCB ROSLIN) bricks and residual late medieval finds overlying the concrete foundations (**TP7/003**).

3.3 Borehole Starter Pit Excavations (Figures 1, 3)

3.3.1 In total 16 boreholes (Appendix 1) were sunk and the need to reposition some resulted in 21 starter pits being excavated (positions on Fig. 1). Their sections are on Fig. 3. It proved difficult to allocate finds recovered during the excavation of the starter pits to specific contexts and the narrowness of the starter pit, allied to its depth, meant only oblique photographs could be taken (Fig. 10).

3.3.2 The starter pits for boreholes BH05-BH12 and BH14-BH16 on the Esplanade revealed that modern tarmac overlay an olive-brown hardcore and, in most cases, a very compact re-deposited made ground. These contexts overlay less mixed, much less compact deposits of made ground, equivalent to those in the test-pits.

3.3.3 The starter pit for borehole BH05 revealed entirely modern deposits, including a deposit of large dressed, but broken sandstone blocks (**BH05/009**) (Fig. 10).

3.3.4 The initial excavation of BH07 exposed cobbles or setts (**BH07/008**) comprising a buried surface-water drain (Fig. 3L). The majority of these were formed from the common grey-blue stone but several were formed from pinkish-red granite. The starter pit was moved 0.3m and re-excavated (Fig. 11).

3.3.5 Within the Dry Ditch, BH13 the surface covering was gravel on top of plastic sheeting, with the underlying deposits of made ground similar to those on the Esplanade, though these deposits were damper and more silty (Fig. 5).

3.3.6 The starter pits for all the boreholes in Princes Street Gardens (BH01, BH01.1, BH02, BH02.1, BH02.2, BH02.3, BH03, BH03.1, BH04) revealed that modern topsoil and made ground either extended to the base of the starter pit, or overlay concrete foundations. These foundations form part of the Raker Supports for the North Esplanade Wall (Ministry of Works 1966). The extent of the concrete was such that five attempts were made before access below it could be gained in the area of BH02. The made ground contained lumps of concrete and bricks and contained a variety of finds.

3.4 Borehole Monitoring Results

3.4.1 In total sixteen boreholes were excavated. Eight boreholes were sunk using the rotary drilling method, BH02, BH04, BH05, BH07, BH09, BH11, BH13, BH15. This method only produced rock samples and no soil samples were retrieved from these boreholes. These are therefore not discussed further.

3.4.2 Eight boreholes were sunk using the cable percussion drilling method, BH01, BH03, BH06, BH08, BH10, BH12, BH14, BH16 (Fig. 4), producing sediment samples. Depths of boreholes ranged from 2.2m to 11.5m.

3.4.3 Bulk soil samples ranging in size from 1-2 litres were taken from the deposits removed during cable percussion drilling, for further palaeoenvironmental analysis as appropriate (listed in Appendix 4). Each sample was assessed on site by the archaeologist. The colour and texture of the sediments present were classified using a Munsell chart, and the sediment matrix, including any artefacts / ecofacts present, were described (Fig. 12). For detailed descriptions of the soil profiles within each percussion borehole see Appendix 1 and Fig 3 O-V.

3.4.4 The material removed from the boreholes consisted principally of homogenous sandy / clayey loam with varying quantities of blaes, crushed sandstone, mortar, crushed oyster shell, coal and slag. This deposit extended to over 5m in depth in all boreholes except BH08, BH10 and BH16, where natural clay was encountered at 3.3m, 2.1m and 2.3m depth respectively.

3.4.5 The base of the cores generally cut a thin layer of natural stiff clay of varying colours, often containing weathered rock such as mudstone.

3.4.6 The six cable percussive boreholes located within the Esplanade, BH06, BH08, BH10, BH12, BH14, BH16, hit underlying rock at depths varying between

2.2m and 6.9m, with a general trend showing less build-up of material towards the eastern end of the Esplanade.

3.4.7 Two cable percussive boreholes (BH01, BH03) were located in Princes Street Gardens and were substantially deeper than those excavated on the Esplanade, with rock not being reached until 11.55m and 9.6m respectively. A general trend of less infilling towards the east of the site was again noted.

3.4.8 No features were identified and no datable artefacts were recovered during the borehole investigations.

3.5 The Finds, by Sue Anderson

3.5.1 Table 3 shows the quantities of finds collected by find type. A full quantification by test-pit (TP) / borehole (BH) context is included as Appendix 6.

Find type	No	Wt (g)
Pottery	100	1052
CBM	26	2195
Clay pipe	8	36
Glass	45	351
Stone	25	10395
Mortar	6	432
Iron	43	1133
Lead	2	146
Copper alloy	2	20
Slag	1	2
Coal	-	57
Misc modern	7	-
Human bone	13	-
Animal bone	113	978
Shell	3	140

Table 3. Finds quantification.

Pottery

3.5.2 Sherds of medieval white gritty ware were recovered from TP3 and TP4, the latter including a jar rim. Fragments of Scottish Post-medieval Oxidised/Reduced ware were found in TP5, TP7, BH06 and BH09. Tin-glazed earthenwares of probable 18th-century date were collected from TP3, TP7, BH06, BH07, BH09, BH11 and BH14. There were also a few fragments of Chinese porcelain. All other pottery was of late 18th- to 20th-century date and included creamwares, transfer-printed earthenwares, slipped redwares, refined redwares and unglazed redwares.

Ceramic building material (CBM), stone and mortar

3.5.3 CBM comprised fragments of pantile, red brick, floor tiles and drainpipes. Most of these were of relatively recent date, although one possible floor tile in BH09 may be earlier post-medieval. Two fragments of tin-glazed decorated wall tile were recovered from TP7.

3.5.4 Most of the stone fragments were pieces of blue slate and micaceous sandstone tiles. A coarse building block with mortar adhering was recovered from BH11, and from BH05 (009) there was a squared marble block. Pieces of lime mortar were recovered from BH07 and BH13, the latter with fragments of stone attached.

Clay tobacco pipes

3.5.5 Five pieces of stem and three fragments of two pipe bowls were collected. A small fragment of bowl from BH01 was decorated and probably of 19th-century date. The two fragments from BH09 were plain with a heel and probably belonged to the late 17th to mid 18th centuries.

Glass

3.5.6 The majority of the glass assemblage comprised post-medieval and modern brown, green and clear bottle glass with a few fragments of modern window panes. Fragments of late medieval or early post-medieval window glass were also present, found in BH08, BH11 and BH13. A fragment of knop from a handmade wine glass stem, probably 18th/19th-century, was found in BH09.

Metalwork

3.5.7 Most of the iron was likely to be of post-medieval or modern date. A few handmade nails were present, but there were also long narrow 'bolts' with screw fittings, washers, a fragment of a cast name plate (BH01) and two cast hinges (BH01, BH02).

3.5.8 A large lead ring was found in TP5 and there was a small lead object (cylindrical with a rounded terminal) in BH01. Both were probably modern.

3.5.9 Copper alloy comprised a fragment of pipe in BH03 and an unidentified object in BH13. Both were post-medieval or modern.

Miscellaneous artefacts

3.5.10 A drip-like fragment of ?slag or melted object was found in BH01 (002). Fragments of coal and burnt coal were also collected, some of which had copper alloy fragments adhering (TP3).

3.5.11 Various modern finds included a piece of insulated wire, fragments of early plastics and a squashed aluminium can. A plastic sweet wrapper (stamped 6d) was recovered from BH05

Biological material

3.5.12 Thirteen fragments of human bone, including ribs, a thoracic vertebra and pieces of humerus, were found in TP3. The size of the bones suggest a possible female.

3.5.13 Animal bone fragments were recovered from most of the test pits and boreholes. These included bovine, ovicaprid, bird and fish fragments. Although not intrinsically datable, where butchery was present this was in the form of chopmarks and cuts, rather than sawing, which may suggest a medieval or early post-medieval date. One large vertebra fragment was covered in lime mortar and may have been incorporated into a wall.

3.5.14 One oyster, one whelk and one small fragment of unidentified shell were collected. Like the large mammal vertebra, the oyster shell was covered in lime mortar.

Discussion

3.5.15 The finds assemblage included artefacts which dated to the medieval, post-medieval and modern periods. Medieval material included sherds of white gritty ware pottery and pieces of window glass. Pottery of post-medieval date included oxidised/reduced wares of 15th to 18th-century date, 18th-century decorated tin-glazed earthenwares and Chinese porcelain. Some bottle glass, clay pipe fragments and a wine stem fragment may also date to this period, as may much of the animal bone assemblage. The majority of ceramic building material, a large group of pottery, much of the stone, metalwork and miscellaneous finds probably date to the last two centuries.

3.5.16 The fragments of human bone from TP3 were found within made ground and were disarticulated. They do not provide evidence for the disturbance of an in situ burial.

3.5.17 In general, this is an unstratified and re-deposited assemblage which is largely of recent date. The assessment has identified a few early finds for which specialist work may be required, but no further work is necessary for the recent material.

3.6 **Potential of Palaeoenvironmental Remains** by *Mhairi Hastie*

3.6.1 In total 37 bulk soil samples, ranging in volume from 1-2 litres, were retained for palaeoenvironmental analysis from the borehole investigations (Appendix 4).

3.6.2 Each sample was assessed visually on site during the ground investigation works prior to being stored in polythene bags and removed for storage at CFA Archaeology's laboratory. The colour and texture of the sediments present were classified using a Munsell chart, and the sediment matrix, including any artefacts / ecofacts present, were described. Bedrock samples collected by Land-Drill Geotechnics were not assessed as these were outwith the remit.

3.6.3 Ground investigations indicated that a thick layer of unstratified, homogenous sandy / clayey loam and rubble was underlying the modern surface to a maximum depth of over 5m. No features, such as ditches or pits, were identified during the investigations.

3.6.4 The deposits consisted primarily of a soil matrix along with crushed sandstone rubble and occasional fragments of brick, tile, mortar, oyster shell, coal and slag. No datable artefacts were recovered from the boreholes.

3.6.5 No organic waterlogged remains were observed and the extremely dry nature of the sediments uncovered indicates that the potential for the recovery of waterlogged macrofossils, pollen and insect remains would be extremely limited.

3.6.6 Fragments of wood charcoal were identified within the sediments, however this material was not present in high concentrations and no carbonised cereal remains were identified.

3.6.7 Datable finds recovered by hand during digging of the starter pits indicate that the material primarily dates to the 18th / 19th centuries, although occasional finds dating to the early post-medieval and medieval periods were also recovered. No spatial distribution of these finds was observed.

3.6.8 The mixed and unstratified nature of the deposits underlying the modern surface of the Esplanade and Gardens suggests that the deposits have undergone repeated mixing and re-working. The origin of the material is unknown and cannot be associated with any specific features.

3.6.9 In 1753 the Esplanade was extensively modified to serve as a Parade Ground, using imported earth excavated during the building of the nearby City Chambers. The recovery of a thick homogenous deposit of rubble and redeposited midden material across the Esplanade and within the Gardens would be consistent with this.

3.6.10 Further detailed palaeoenvironmental analysis of the borehole samples would add little to that recorded above and no further analysis is recommended.

4. CONCLUSIONS

General

4.1 The archaeological watching brief during the excavation of test-pits, starter pits and coring which were part of the Site Investigation Works to record the foundations of the Edinburgh Military Tattoo Grandstand and the underlying bedrock on the Edinburgh Castle Esplanade was carried out successfully.

4.2 Although substantial deposits of made ground were encountered on the Esplanade and in Princes Street Gardens, the deposits are of different character. That on the Esplanade was a mixture of soil and rubble. In Princes Street Gardens, grey clay was the dominant constituent, along with bricks, stone, mortar and soil. Residual artefacts were recovered from made ground deposits.

4.3 Apart from a portion of cobbled surface drain or gutter discovered in Test-Pit 1 and Borehole 7, none of the test-pits or borehole starter pits revealed

demonstrably structural remains and none were apparent from the monitoring of the coring.

4.4 The environmental potential of the re-deposited made ground on the Esplanade is low. Overall, numbers of artefacts were also low. Human bone was recovered from Test-Pit 3.

Esplanade

4.5 Previous SI work conducted in 1975 found that the depth of made ground varied between 1.5m and 9m and this is very similar to the depths encountered during this project. Thin deposits of natural clays containing varying amounts of weathered mudstone were encountered at the base of each borehole. These varied between 0.5m and 0.1m thick and seemed to overlie a weathering horizon of the underlying geology.

4.6 In general, the results agree with the view that much of the material underlying the Esplanade today could have been dumped during and after the construction of the City Chambers around 1753. This work aimed to establish a parade ground at the eastern approach to the castle.

The Dry Ditch

4.7 No archaeological features or deposits were recorded in the starter pit within the Dry Ditch.

Princes Street Gardens

4.8 Deposits in this area were up to 5m deeper than those on the Esplanade, reflecting a dipping of the geology that is more notable to the eye on the southern side of the Esplanade due to the lack of landscaping. This area has seen extensive groundbreaking work in the later half of the 20th century relating to support works for the North Esplanade Wall (Ministry of Works 1966). These inhibited the excavation of the starter pits for the boreholes, with several having to be relocated. What may be earlier soils were recorded in TP5 and BH01.

4.9 The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with Historic Scotland and the City of Edinburgh Council Sites and Monuments Record.

4.10 A summary statement of the results of this watching brief, to be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 7) will be sufficient to disseminate the results of this work.

5. REFERENCES

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APPENDIX 1: Context Register

TEST-PITS

Test-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from Finds
TP1 2m x 1m x 0.95m	TP1/001	Surface tarmac, 0.09m thick		
	TP1/002	Olive-brown hardcore. Fills 003. 0.05-0.37m thick		
	TP1/003	Cut, possibly for electricity cable to E of TP1		
	TP1/004	Mixed deposit. Compact soil and stones. Stones may be hardcore. 0.28m thick		
	TP1/005	Mixed deposit. Compact soil, mortar and stones. 0.25m thick		
	TP1/006	Smashed grey sandstone, 0.22m thick		
	TP1/007	Mixed deposit. Compact soil, mortar and stones, 0.17m thick		
	TP1/008	Concrete foundation block and mount, measured 1.35m by 0.45m in plan within the trench		
	TP1/009	Cut, filled by 008		
	TP1/010	Three kerb stones in a line. Chamfered edges, possibly part of a drain. Cut by 009 and lying within 004		
	Unstratified		Pottery, CBM, stone, clay pipe, glass, iron, bone	19th century
TP2 1.5m x 0.7m x 0.95m	TP2/001	Surface tarmac, 0.1m thick		
	TP2/002	Olive-brown hardcore, 0.08m thick		
	TP2/003	Mixed deposit of soil and stones under 002, 0.05m thick		
	TP2/004	Mortar and degrading bricks, 0.1m thick		
	TP2/005	Soil, mortar and small stones, 0.15m thick		
	TP2/006	Mortar and soil, 0.2m thick		
	TP2/007	Mortar, stones and slates, 0.22m thick		
	TP2/008	Concrete foundation block and mount, measured 0.6m by 0.7m in plan within the trench		
	TP2/009	Cut, filled by 008		

Test-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from Finds
	Unstratified		Pottery, CBM, stone, clay pipe, glass, iron, shell, bone	19th century
TP3 2m x 0.7m x 0.75m	TP3/001	Surface tarmac, 0.1m thick		
	TP3/002	Olive-brown hardcore, 0.08m thick		
	TP3/003	Soil and rubble, 0.16m thick		
	TP3/004	Rubble, up to 0.4m thick	Burnt coal	
	TP3/005	Concrete foundation block and mount, measured 1.5m by 0.45m in plan in the trench		
	TP3/006	Cut, filled by 005		
	TP3/007	Brown silt, 0.08m thick		
	TP3/008	Brown sand, 0.06m thick		
	TP3/009	Rubble, 0.06m thick		
	TP3/010	Mixed soil, gravel and mortar, up to 0.25m thick		
	TP3/011	Cut, vertically truncating 004, 007, 008, 010		
	Unstratified		Pottery, CBM, stone, glass, iron, shell, bone, HSR, coal	Medieval to 19th century
TP4 1.5m x 0.8m x 0.85m	TP4/001	Surface tarmac, 0.09m thick		
	TP4/002	Olive-brown hardcore, 0.08m thick		
	TP4/003	Mortar-rich deposit, 0.12m thick		
	TP4/004	Thin lens of dirty creamy grey/blue clay, 0.04m thick		
	TP4/005	Dark brown homogeneous clay-silt deposit, up to 0.55m thick	Pottery, glass, bone, shell	Medieval +
	TP4/006	Brownish-yellow silt, fine sand and stones, up to 0.4m thick		
	TP4/007	Cut. Vertically truncating 004-5		
	TP4/008	Concrete foundation block and mount, measured 1.05m by 0.3m in plan within the trench		
	TP4/009	Cut, filled with concrete 008		
TP5	TP5/001	Light brown topsoil, 0.12m thick		

Test-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from Finds
2m x 0.7m x 1.1m	TP5/002	Grey gravel hardcore, 0.3m thick	Pottery, lead, iron, bone	20th century
	TP5/003	Re-deposited red and grey clay, 0.4m thick	Pottery, bone	15th-18th century
	TP5/004	Grey gravel hardcore, 0.22m thick		
	TP5/005	Black greasy soil, 0.12m thick		
	TP5/006	Concrete foundation block and mount, measured 1.95m by 0.8m in plan within the trench, with a curved edge		
	TP5/007	Cut, filled by 006		
	TP5/008	Cast iron gas main. Cut by 007		
	TP5/009	Cut, filled by 008		
TP6 1m x 0.7m x 1.3m	TP6/001	Cut, filled by 006		
	TP6/002	Clay and stones, 0.1m thick		
	TP6/003	Black/brown soil, 0.22m thick		
	TP6/004	Soil and stones, 0.5m thick		
	TP6/005	Mortar and sand, 0.2m thick		
	TP6/006	Concrete foundation block and mount		
	TP6/007	Surface tarmac, 0.07m thick		
	TP6/008	Olive-brown hardcore, 0.22m thick		
	Unstratified		Pottery, bone	19th century
TP7 2.5m x 0.7m x 1.05m	TP7/001	Light brown topsoil, 0.2m		
	TP7/002	Made ground. Grey clay, 0.6m thick. Overlies 003		
	TP7/003	Concrete		
	TP7/004	Made ground. Dark grey clay, 0.25m thick. Overlies 003		
	Unstratified		Pottery, CBM, iron, bone	15th to 20th century

BOREHOLE STARTER PITS

Starter-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from finds
BH01	BH01/001	Homogeneous brown silty topsoil, 0.15m thick	Pottery, clay pipe, iron, glass, bone, plastic	19th-20th century
0.4m x 0.4m x 1.2m	BH01/002	Made ground. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout, 1.05m thick	Iron, glass, slag, lead	20th century
	Unstratified		Pottery, glass, bone	19th-20th century
BH01.1	BH01.1/001	Homogeneous brown silty topsoil, 0.3m thick		
0.3m x 0.3m x 1.2m	BH01.1/002	Made ground. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout, 0.9m thick		
BH02	BH02/001	Light brown topsoil, 0.2m thick		
0.7m x 0.4m x 0.8m	BH02/002	Made ground over 1966 concrete. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout. 0.6m thick	Pottery, CBM, glass, plastic, aluminium	20th century
	BH02/003	Concrete		
	BH02/004	Made ground. Probably over 1966 concrete. Dark grey clay. 0.25m thick	Pottery, iron, plastic	20th century
	BH02/005	Layer of sandstone chips, dust and mortar. Possibly relates to the construction of the stone façade of the N wall of the Esplanade. Over 002		
	BH02/006	Mixed deposit. Formed from mixing between 001 and 002, 0.15m thick		
	Unstratified		CBM, iron, bone	19th-20th century
BH02.1	BH02/001	Light brown topsoil, 0.2m thick		
0.4m x 0.4m x 1.2m	BH02/002	Made ground over 1966 concrete. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout, 0.95m thick	Pottery, CBM, glass, plastic	20th century.
	BH02/003	Concrete		
BH02.2	BH02/001	Light brown topsoil, 0.15m thick		

Starter-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from finds
0.4m x 1.2m x 0.5m	BH02/002	Made ground over 1966 concrete. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout, 0.43m thick	Pottery, CBM, glass, plastic	20th century.
	BH02/003	Concrete		
	BH02/004	Made ground. Probably over 1966 concrete. Dark grey clay, 0.1m thick	Pottery, iron, plastic	20th century
	BH02/005	Layer of sandstone chips, dust and mortar. Possibly relates to the construction of the stone façade of the N wall of the Esplanade. 0.15m thick		Post 1966
BH02.3 0.4m x 0.4m x 1.8m	BH02/008	Mixed surface deposit: topsoil, stones, gravel, 0.47m thick		
	BH02/009	Concrete		1975
	BH02/010	Made ground over 011. Gritty silt, mortar and handmade bricks, 0.25m thick	CBM	Post-med
	BH02/011	Made ground over 012. Gritty silt, mortar and handmade bricks, 0.3m thick	CBM	Post-med
	BH02/012	Made ground. Sand, silt, mortar and stones, 0.2m thick		
	BH02/013	Cut containing 008-9		
BH03 0.4m x 0.4m x 1.1m	BH03/001	Light brown topsoil, 0.2m thick	CBM, iron, bone, wire	20th century
	BH03/002	Made ground over 1966 concrete. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout, 0.5m thick		
	BH03/003	Concrete		
	BH03/004	Made ground over 1966 concrete. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout, 0.4m thick		
	Unstratified		Pottery, iron, bone, copper pipe	19th-20th century
BH03.1 0.4m x 0.4m x 1.1m	BH03/001	Light brown topsoil, 0.18m thick		
	BH03/002	Made ground. Grey clay, 0.45m thick		
	BH03/003	Concrete		
	BH03/004	Made ground over 1966 concrete. Lumps of grey clay-silt with occasional stones, mortar and modern finds throughout. 0.4m thick		
	BH03/005	Mixed deposit. Soil, mortar and stones, 0.1m thick		

Starter-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from finds
BH04 0.7m x 0.4m x 1.3m	BH04/001	Brown gritty topsoil with stone inclusions, 0.18m thick		
	BH04/002	Made ground. Grey/ brown gritty clay soil with stone inclusions, 0.7m thick		
	BH04/003	Made ground. Red blaes. May underlie 004. 0.4m thick		
	BH04/004	Concrete block		
BH05 0.6m x 0.4m x 1.2m	BH05/001	Surface tarmac, 0.05m thick		
	BH05/002	Olive-brown hardcore, 0.06m thick		
	BH05/003	Dark-red hardcore, 0.22m thick		
	BH05/004	Crushed tarmac, 0.16m thick		
	BH05/005	Gritty gravel and soil, 0.1m thick		
	BH05/006	Mixed deposit of mortar and stones, 0.2m thick		
	BH05/007	Mortar, stones and soil, 0.5m thick		
	BH05/008	Dark-red hardcore as 003, 0.17m thick		
	BH05/009	Sandstone blocks, some dressed and with faces blackened from ?pollution. Within 005	Stone	Post-medieval?
	Unstratified		Pottery, glass	mid-20th century
BH06 0.3m x 0.3m x 1.2m	BH06/001	Mixed soil, mortar and broken stones, 0.4m thick		
	BH06/002	Mixed soil, mortar and broken stones, 0.6m thick		
	BH06/003	Surface tarmac, 0.1m thick		
	BH06/004	Olive-brown hardcore, 0.1m thick		
	Unstratified		Pottery, stone, iron, bone, coal	15th-19th century
BH07 0.4m x 0.4m x 1.2m	BH07/001	Tarmac, 0.08m thick		
	BH07/002	Hardcore, 0.05m thick		
	BH07/003	Mortar lens, 0.1m thick		
	BH07/004	Mixed deposit. Clay-silt, mortar lumps, stone chips, coal and brick, 0.35m thick	Pottery, CBM, stone, iron, bone, mortar	18th-19th century

Starter-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from finds
	BH07/005	Mixed deposit. As 004 but many large stones. 0.25m thick	Pottery, CBM, stone, iron, bone, mortar	18th-19th century
	BH07/006	Mortar deposit, 0.15m thick	Pottery, CBM, stone, iron, bone, mortar	18th-19th century
	BH07/007	Mixed deposit. Silty sand and mortar, stone chips, 0.2m thick	Pottery, stone, iron, bone	19th century
	BH07/008	Mixed setts (cobbles). Blue volcanic stone but includes red granite cobbles		
BH08 0.5m x 0.5m x 1.2m	BH08/001	Mortar, broken stone and soil, 0.5m thick		
	BH08/002	Mortar and broken stone, 0.6m thick	CBM, glass	Med-pmed
	BH08/003	Surface tarmac, 0.1m thick		
BH09 0.5m x 0.5m x 1.2m	BH09/001	Mixed deposit. Soil and debris, 0.22m thick		
	BH09/002	Mixed deposit. Soil and stones, 0.2m thick		
	BH09/003	Mixed deposit. Soil, mortar, broken stone, lumps of ?soot, 0.25m thick		
	BH09/004	Mixed deposit. Soil and stones, 0.25m thick		
	BH09/005	Surface tarmac, 0.1m thick		
	BH09/006	Olive-brown hardcore, 0.15m thick		
	Unstratified		Pottery, CBM, clay pipe, glass, stone, bone	15th-19th century
BH10 0.3m x 0.3m x 1.2m	BH10/001	Mixed deposit. Soil and stones, 0.5m thick		
	BH10/002	Mixed deposit. Soil, mortar and broken stones, 0.3m thick		
	BH10/003	Mixed soil, mortar and broken stones, 0.2m thick		
	BH10/004	Surface tarmac, 0.1m thick		
	BH10/005	Olive-brown hardcore, 0.1m thick		
BH11 0.5m x 0.5m x 1.2m	BH11/001	Surface tarmac, 0.1m thick		
	BH11/002	Olive-brown hardcore, 0.05m thick		
	BH11/003	Mixed soil mortar and broken stones, 0.12m thick		
	BH11/004	Lens of mortar and stone chips, 0.05m thick		

Starter-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from finds
	BH11/005	Mixed mortar, broken stones, clayey lenses, 0.9m thick	Pottery, clay pipe, glass, stone, iron, bone	Med-18th century
BH12 0.3m x 0.3m x 1.2m	BH12/001	Mixed deposit. Soil, mortar and stones, 0.35m thick		
	BH12/002	Mixed deposit. Soil, mortar and broken stones, 0.4m thick		
	BH12/003	Mixed soil, mortar, 0.2m thick	Bone	
	BH12/004	Surface tarmac, 0.1m thick		
	BH12/005	Olive-brown hardcore, 0.14m thick		
BH13 0.3m x 0.3m x 1.2m	BH13/001	Surface gravel, 0.08m thick		
	BH13/002	Plastic sheet		
	BH13/003	Sand and gravel deposit, 0.08m thick	Pottery, CBM, stone, iron, plastic, copper	19th-20th century
	BH13/004	Soil with mortar and coal flecks, 0.05m thick	Pottery, CBM, stone, iron, plastic, copper	19th-20th century
	BH13/005	Soil and angular stones, sandstone and volcanic, 0.23m thick	Pottery, CBM, stone, iron, plastic, copper	19th-20th century
	BH13/006	Mortar-flecked silty deposit, 0.58m thick	Pottery, CBM, glass, coal	19th-20th century
	BH13/007	Mortar fragments and lumps, 0.18m thick	Mortar	Post-med?
	BH13/008	Olive-brown clay and mortar flecks, 0.05m thick		
BH14 0.4m x 0.4m x 1.2m	BH14/001	Surface tarmac, 0.1m thick		
	BH14/002	Olive-brown hardcore, 0.15m thick		
	BH14/003	Mixed deposit. Soil, mortar, broken stone, 0.6m thick	Pottery, iron, bone	18th century
	BH14/004	Lens of sandstone chips and sand, 0.05m thick		
	BH14/005	Soil and small stones. Both sandstone and volcanic, 0.22m thick		
BH15 0.3m x 0.3m x 1.2m	BH15/001	Surface tarmac, 0.1m thick		
	BH15/002	Olive-brown hardcore, 0.08m thick		
	BH15/003	Mixed deposit, mortar-flecked soil and hardcore, 0.23m thick		
	BH15/004	Mixed mortar dust/lumps and soil, 0.23m thick		
	BH15/005	Mixed mortar-flecked soil and stones, 0.55m thick		

Starter-Pit No. / Dimensions (L x W x D)	Context Number	Description	Finds	Date from finds
	Unstratified		Glass	17th –18th century?
BH16 0.4m x 0.4m x 1.2m	BH16/001	Mixed deposit. Soil and stones, 0.1m thick		
	BH16/002	Mixed deposit. Soil, mortar and broken stones, 0.4m thick		
	BH16/003	Mixed soil, mortar and broken stones, 0.4m thick		
	BH16/004	Surface tarmac, 0.1m thick		
	BH16/005	Olive-brown hardcore, 0.2m thick		
	Unstratified		CBM	Post-med

CABLE PERCUSSIVE BOREHOLES SOILS SUMMARY

Borehole	Unit	Description	Depth below surface (m)	Comment
1	1	10YR 6/1 grey. Compact silt clay containing small angular fragments of sandstone and oyster shell.	1.2-2.4	Mixed re-deposited material
1	2	7.5YR 4 very dark grey. Silt clay matrix containing oyster shell, charcoal and small angular sandstone fragments.	2.4-4	Mixed re-deposited material
1	3	10YR 3/2 very dark greyish brown. Silt loam containing oyster shell, charcoal, bone, fishbone, slag and small angular sandstone inclusions. Has the appearance of garden soil	4-6.2	May be an undisturbed layer representing a past soil surface; could also be re-deposited due to the presence of industrial waste i.e. slag.
1	4	10YR 4 dark greyish brown. Stiff clay loam with small angular sandstone inclusions	6.2-7.8	Presence of sandstone may indicate this layer has been re-deposited.
1	5	10YR 4/4 dark yellowish brown. Stiff clay.	7.8-9.25	Natural
1	6	Natural fractured mudstone with a clay matrix	9.25-11.55	Natural
3.1	1	7.5YR 4/2 brown. Mixed silt clay containing blaes, mortar and angular fragments of sandstone.	1.2-5.2	Mixed re-deposited material
3.1	2	5YR 5/1 grey. Sand clay containing mortar, oyster shell, coal and small sandstone inclusion.	5.2-8	Mixed re-deposited material
3.1	3	10YR 4/1 grey. Wet sand clay with weathered mudstone inclusion.	8-9.6	Natural

Borehole	Unit	Description	Depth below surface (m)	Comment
6	1	7.5YR 4/2 brown. Sand loam. Contains black ash, mortar and angular sandstone inclusions up to 0.2m diameter.	1.2-2.3	Mixed re-deposited material
6	2	10YR 3/1 very dark grey. Sandy clay loam. Contains flecks of mortar, ash, small angular clasts of sandstone and some very fragmented oyster shell	12.3-3.2	Mixed re-deposited material
6	3	10YR 5/3 brown. Sandy clay loam. Contains flecks of mortar, small angular clasts of sandstone and some very fragmented oyster shell	3.2-4.3	Mixed re-deposited material
6	4	5YR 4/2 dark reddish grey. Sandy loam containing small subangular clasts of sandstone, mortar lumps surrounded by a black ash material.	4.3-5	Mixed re-deposited material
6	5	10YR 3/4 dusky red. Compact silt clay with few small subangular sandstone inclusions and a small amount of mortar.	5-5.3	Mixed layer between the imported material and the natural.
6	6	10YR 4/4 weak red. Very stiff laminated clay. Laminations are blue and may represent a layer of chemical weathering.	5.3-5.75	Natural clay.
8	1	10YR 6/2 light greyish brown. Coarse sand matrix containing c 60% mortar and small amount of fragmented sandstone.	1.2-2.2	Mixed re-deposited material Mortar is a fine dust as in (BH8/002).
8	2	10YR 5/2 greyish brown. Coarse sand matrix containing c 40% mortar and many angular inclusions of fragmented sandstone. Also a small amount of cinders and igneous rock andesite?	2.2-2.5	Mixed re-deposited material
8	3	10YR 4/3 dark brown. Silty clay loam. Large angular pieces of sandstone, fragments of red brick and mortar.	2.5-4.5	Mixed re-deposited material
8	4	10YR 4/4 dark yellowish brown. Fine silt clay with few small subangular sandstone inclusion, oyster shell and string.	4.5-5.3	Mixed re-deposited material
8	5	2.5YR 6/1 grey. Fine particle clay, very small fragments of mudstone, inorganic.	5.3-5.95	Natural boulder clay
10	1	10 YR 5/4 yellowish brown. Mixed sandy clay with oyster shell and mortar inclusions.	1.2-2.2	Mixed re-deposited material
10	2	10YR 4/3 dark brown. Silt clay loam with small angular siltstone inclusion. Bands of grey weathered clay throughout.	2.2-3	Possible layer of weathered clay.
10	3	5YR 5/4 reddish brown. Fine stiff clay	3-3.65	Natural

Borehole	Unit	Description	Depth below surface (m)	Comment
12	1	2.5YR 4/4 reddish brown. Stiff mixed silt clay.	1.2-1.8	Probably re-deposited material due to the shallow depth of the material and Unit 2 has bands of broken sandstone within it. However may be an upper layer of mixed natural material.
12	2	10YR 6/4 light yellowish brown. Wet silt clay with highly degraded mudstone and sandstone inclusion. No inclusions	1.8-2.1	Possible layer of weathered clay.
12	3	10YR 7/1 light grey. Powder like degraded mudstone contained with a stiff clay.	2.1-2.2	Natural.
14	1	2.5YR 5/2 weak red. Mixed clay lumps with pockets of silt. Mid sized angular clasts of sandstone. Inclusions of oyster shell, mortar and charcoal.	1.2-2.5	Mixed re-deposited material
14	2	2.5YR 8/4 pale yellow. Matrix of sandy soil with small angular inclusions. C. 80% mortar inclusion with fragmented sandstone.	2.5-3.5	Mixed re-deposited material
14	3	10YR 2/1 black. Compact sand clay loam with mid angular inclusions of sandstone. Smears of charcoal and marine shell are present throughout.	3.5-6.2	Mixed re-deposited material
14	4	10YR 5/6 yellowish brown. Stiff clay with a small amount of sand containing fragmented sandstone, angular, and mortar inclusions	6.2-6.5	Mixed re-deposited material
14	5	10YR 6/2 light brownish grey. Stiff clay matrix with mid sized angular inclusion. Material also contained mortar but no organic remains.	6.5-7	Mixed re-deposited material At 6.9m an obstruction was hit possibly rock head.
16	1	10YR 4/2 dark greyish brown. Sandy clay containing fragments of oyster shell, mortar and mid angular fragments of sandstone.	1.2-2.3	Mixed re-deposited material 2.3-2.5 small band of weathered mudstone. Marks change from fill to natural deposits.
16	2	5YR 3/4 dark reddish brown. Stiff fine clay, red marl.	2.3-3	Natural
16	3	10YR 7/1 light grey. Weathered mudstone	3-3.2	Natural

APPENDIX 2: COLOUR SLIDE and DIGITAL IMAGES

(where 2 digital images are present they were taken with and without flash)

Shot / (digital)	Description	Conditions	From
Film 1			
(0)	General view of percussion corer		
(1-2)	BH14. Pre-ex of repositioned bore-hole 4.8m to NE	Bright	N & NNW
1-2 (3)	BH14. Plan view of excavated test-pit	Overcast	NE
3-4 (4-5)	BH14. NE facing section	Overcast	NE
(6)	TP3. Pre-ex	Dull	W
5-6 (7-8)	TP3. E facing section	Dull	E
7-8 (9-10)	TP3. N facing section	Dull	N
9-10 (11-12)	TP3. W facing section	Overcast	SW
11-12 (13-14)	TP3. W facing section, N side close-up	Overcast	W
13-14 (15-16)	TP6. W facing section	Overcast	W
15-16 (17-18)	TP6. W facing section, close-up of N side	Overcast	WSW
(19)	BH11. Pre-ex	Overcast	E
17-18 (20-21)	BH11. General view	Bright	E
19-20 (22-23)	BH11. Close-up of section	Bright	E
(24)	Compound 1. General view from inside Castle	Overcast	NW
(25)	BH05. Pre-ex	Overcast	E
(26)	BH08. Pre-ex	Overcast	E
21-22 (27)	BH05. Excavated, plan view	Bright	N
23-24 (28-29)	BH05. N facing section	Bright	N
25-26 (30-31)	BH05. W facing section	Bright	W
27-29 (32-33)	BH08. E facing section	Overcast	E
(34)	Compound 2A and BH08. General view	Overcast	NE
(35)	Compound 2B and BH05. General view	Overcast	E
(36)	BH09. Pre-ex	Overcast	NE
(37)	TP2.	Overcast	S
(38)	BH06. Pre-ex	Overcast	E
30-33 (39-41)	BH09. SE facing section. General and close-up	Overcast	SE
Film 2			
1-4 (42-44)	TP2. Excavated, S facing section	Overcast	S
5-6 (45-47)	BH06. E facing section	Overcast	E
7-10 (48-51)	BH13. SE facing section. General and close-up	Dull	SE
(52)	BH12. Pre-ex	Sunny	E
(53)	BH15. Pre-ex	Sunny	E
(54)	TP4. Pre-ex	Sunny	S
11-12 (55-56)	BH12. S facing section	Sun/Shade	S
13-14 (57-60)	BH15. E facing section	Sun/Shade	E
15-16 (61-62)	TP4. W facing section	Sun/Shade	W
17-18 (63-64)	TP4. W facing section	Sun/Shade	NW
(65)	TP4. General view of the test-pit showing the adjacent manhole	Sun/Shade	W
19-21 (66)	TP4. N facing section	Sun/Shade	N
(67)	TP1. Pre-ex	Overcast	NW
(68)	BH10. Pre-ex	Overcast	S
22-23 (69-71)	BH10. W facing section	Overcast	W
(72)	BH16. Pre-ex	Overcast	W
24-25 (73-74)	TP1. W facing section	Overcast	SW
26-27 (75)	TP1. General view	Overcast	S
28-29 (76-77)	TP1. Close-up of W facing section	Overcast	W
30-31 (78)	TP1. Detail shot of the drain edging stones TP1/010 cut by concrete block	Overcast	SE
(79)	TP1. General view of the test-pit	Overcast	SE
Film 3			

Shot / (digital)	Description	Conditions	From
1-2 (80-82)	BH16. S facing section	Overcast	S
3-4 (84)	BH07. Abandoned test-pit with setts in base and excavated test-pit adjacent	Bright	W
5-6 (85-87)	BH07. Excavated test-pit. NE facing section	Bright	NE
(88)	General view of BH07 inside Compound 6	Sunny	SW
(89-109)	General views of the crane operation 19th Feb 08	--------	----
(110)	BH01. Pre-ex	Overcast	N
7-8 (111-113)	BH01. E facing section	Overcast	E
(114-115)	BH13. General views of the rotary rig in the dry ditch	Overcast	E
(116-122)	General views of the crane lift operation 20th Feb 08	--------	-----
9-10 (123)	Gas main exposure along base of Esplanade wall, TP1	Overcast	N
11-12 (124)	Gas main exposure along base of Esplanade wall, TP2	Overcast	N
13-14 (125)	Gas main exposure along base of Esplanade wall, TP3	Overcast	N
15-16 (126)	General view of the TP3 and BH03 area	Overcast	N
17-18(127-128)	BH02.1. E facing section	Overcast	E
19-20(129-130)	BH02. E facing section	Overcast	E
(131)	BH03. Pre-ex	Overcast	E
21-22 (132)	BH01.1. SE facing section	Overcast	SE
23-24(133-134)	BH02.2. E facing section	Overcast	E
25-26(135-136)	BH02 & BH02.2. General view from the Esplanade wall	Overcast	S
27-28(137-138)	BH02 & BH02.2. General view from on the Esplanade	Overcast	S
29-30(139-140)	BH03.1. E facing section	Overcast	E
31-32(141-142)	TP7. General view	Overcast	E
Film 4			
1	As 3/31-32		
2-3 (143-144)	TP7. General view	Overcast	W
4-5 (145-147)	BH02 & TP7 from on the Esplanade	Overcast	S
(148-149)	TP5. Pre-ex	Bright	S & SW
6-7 (150-151)	BH02.3. E facing section	Overcast	E
8-9 (152)	TP5. Excavated. View from on the Esplanade	Overcast	S
10-11(153-154)	TP5. S facing section	Overcast	S
(155-158)	General views of damage to the sandstone steps leading from the Esplanade into Princes St Gdns.		
Borehole digital shots			
(159)	BH14, unit 1 material in SPT chamber	Overcast	NA
(160)	BH14, unit 2 material in SPT chamber	Overcast	NA
(161)	BH14, unit 5 material from percussion core	Overcast	NA
(162)	BH8, unit 1 material in SPT chamber	Overcast	NA
(163)	BH8, unit 2 material in SPT chamber	Overcast	NA
(164)	BH8, unit 3 material in SPT chamber	Overcast	NA
(165)	BH8, unit 4 material in SPT chamber	Overcast	NA
(166)	BH6, unit 1 material on tarp	Sun	NA
(167)	BH6, unit 2 material from SPT in sample tub	Sun	NA
(168)	BH6, unit 3 material from SPT in sample tub	Sun	NA
(169)	BH6, unit 4 material from SPT in sample tub	Sun	NA
(170)	BH6, unit 5 material from percussion core	Sun	NA
(171)	BH6, unit 6 boulder clay in SPT chamber	Sun	NA
(172)	BH12, unit 1 material from percussion core	Sun	NA
(173)	BH12, unit 2 material from SPT in sample tub	Sun	NA

Shot / (digital)	Description	Conditions	From
(174)	BH12, unit 3 material from SPT in sample tub	Sun	NA
(175)	BH1, unit 1 material in SPT chamber	Sun	NA
(176)	BH1, unit 3 material from percussion core	Sun	NA
(177)	BH1, unit 3 material in SPT chamber at c. 4.5m	Sun	NA
(178)	BH1, unit 4 material In SPT chamber at c. 6.2m	Sun	NA
(179)	BH3.1, unit 1 SPT material in sample tub	Sun	NA
(180)	BH3.1, unit 2 SPT material in sample tub	Overcast	NA
(181-200)	Various shot of crane lift that took place at 6am on 22/2/08	Dark	Various
(201-202)	East facing section of BH04	Sun	East
(203-213)	General shots showing condition of garden area after the works	Sun	Various
(214-225)	Various shot of crane lift that took place at 5pm on 27/2/08	Sun	Various

APPENDIX 3: Drawings Register

Drawing No.	Sheet No.	Description	Scale	Contexts
1	1	BH14. NE facing section	1:10	BH14/001-5
2	1	TP3. E facing section	1:10	TP3/001-6, 011
3	1	TP3. N facing section	1:10	TP3/001-4, 011
4	1	TP3. W facing section	1:10	TP3/001-4, 007-11
5	1	TP3. Plan showing extent of concrete plinth TP3/005-6 and manhole cover	1:20	TP3/005-6
6	2	TP6. W facing section	1:10	TP6/001-6
7	2	BH11. E facing section	1:10	BH11/001-5
8	2	BH05. N facing section	1:10	BH05/001-9
9	2	BH05. W facing section	1:10	BH05/001-9
10	3	BH08. E facing section	1:10	BH08/001-4
11	3	BH09. SE facing section	1:10	BH09/001-6
12	3	BH06. E facing section	1:10	BH06/001-4
13	4	TP2. S facing section	1:10	TP2/001-11
14	4	TP2. Plan showing extent of concrete plinth TP2/008-9 and manhole cover	1:20	TP2/001, 008-9
15	4	BH13. SE facing section	1:10	BH13/001-8
16	4	BH12. S facing section	1:10	BH12/001-5
17	4	BH15. E facing section	1:10	BH15/001-5
18	4	TP4. W facing section	1:10	TP4/001-7
19	5	TP4. N facing section	1:10	TP4/001-5, 7-9
20	5	TP4. Plan showing extent of concrete plinth TP4/008-9 and manhole cover	1:20	TP4/005-6, 8-9
21	5	BH10. W facing section	1:10	BH10/001-5
22	5	TP1. W facing section	1:10	TP1/001-7
23	5	TP1. Plan showing extent of concrete plinth TP4/008-9 and manhole cover	1:20	TP1/002, 4, 7-10
24	3	BH16. S facing section	1:10	BH16/001-5
25	3	BH07. NE facing section	1:10	BH07/001-8
26	3	BH07. Plan of test-pit and adjacent abandoned test-pit showing setts	1:10	BH07/008
27	6	BH01. E facing section	1:10	BH01/001-2
28	6	BH1.1. SE facing section	1:10	BH01/001-2
29	6	BH03. E facing section	1:10	BH03/001-4
30	6	BH02.1. E facing section	1:10	BH02.1/001-3
31	6	BH02. E facing section	1:10	BH02/01-6
32	6	BH02.2. E facing section	1:10	BH02/001-5

33	6	BH02, BH02.1, BH02.2. Plan of the location of these Test-Pits	1:20	BH02/001-3
34	7	BH03.1. E facing section	1:10	BH03/001-5
35	7	TP7. Plan	1:20	TP7/002-3
36	7	TP7. Profile	1:10	TP7/001-4
37	7	BH02.3. E facing section	1:10	BH02/008-13
38	7	TP5. Plan	1:20	TP5/006-9
39	8	TP5. S facing section	1:10	TP5/001-5
40	7	BH04. E facing section	1:10	BH04/001-5

APPENDIX 4: Samples Register

Sample No.	Unit No.		Description	Depth
BH01				
1	1	Mixed re-deposited material	Compact silt clay containing small angular fragments of sandstone and oyster shell.	1.3m
2 & 3	2	Mixed re-deposited material	Homogenous silt clay loam containing oyster shell, charcoal and crushed sandstone fragments.	2.5m and 3.5m
4 & 5	3	Mixed re-deposited material	Homogenous silt loam containing oyster shell, charcoal, bone, fishbone, slag and curshed sandstone fragments.	4m and 5.5m
6	4	Mixed re-deposited material	Compact clay loam with crushed sandstone fragments.	6.3m
7	5	Natural	Compact yellow clay.	7.9m
8	6	Natural	Fractured mudstone.	9.8m
BH03				
9	1	Mixed re-deposited material	Homogenous silt clay containing blaes, mortar and crushed sandstone.	1.5m
10	2	Mixed re-deposited material	Sandy clay containing mortar, oyster shell, coal and crushed sandstone fragments.	5.2m
11	3	Natural	Sandy clay with weathered mudstone inclusions.	8m
BH14				
12	1	Mixed re-deposited material	Mixed clay lumps with pockets of silt with crushed sandstone, oyster shell, mortar and charcoal fragments.	1.5m
13	2	Mixed re-deposited material	Sandy loam with 80% mortar inclusion and occasional fragments of crushed sandstone.	2.8m
14	3	Mixed re-deposited material	Compact sandy clay loam with inclusions of crushed sanstone and marine shell. Smears of charcoal are present throughout.	3.5m
15	4	Mixed re-deposited material	Compact clay with occasional crushed sandstone and mortar inclusions.	6.8m

Sample No.	Unit No.		Description	Depth
16	5	Mixed re-deposited material	Compact clay containing mortar and crushed sandstone inclusions.	6.5m
17	N/a	Bedrock	N/a	6.9m
BH12				
18	1	Mixed natural	Compact silty clay	1.6m
19	2	Weathered clay	Silty clay with highly degraded mudstone and sandstone inclusions	1.8m
20	3	Natural	Powder like degraded mudstone contained within compact clay.	2.2m
BH08				
21	1	Mixed re-deposited material	Coarse sand matrix containing 60% mortar and small amounts of fragmentary sandstone.	1.5m
22	2	Mixed re-deposited material	Coarse sand matrix containing 40% mortar and crushed sandstone fragments along with fragments of cinder and igneous rock.	2.5m
23	3	Mixed re-deposited material	Silty clay loam with large fragments of sandstone, red brick and mortar.	3.5m
24	4	Mixed re-deposited material	Fine silty clay with occasional crushed sandstone fragments and oyster shell. Fragments of string were also recovered.	4.7m
25	5	Natural	Boulder clay consisting of fine clay with small fragments of mudstone.	5.3m
BH16				
26	1	Mixed re-deposited material	Sandy clay containing fragments of oyster shell, mortar and crushed sandstone fragments.	1.4m
27	2	Natural	Compact clay, red marl	2.5m
28	3	Natural	Weathered mudstone	3m
BH10				
29	1	Mixed re-deposited material	Mixed sandy clay with oyster shell and mortar fragments.	1.25m
30	2	Weathered clay	Silt clay loam with angular siltstone inclusions and bands of grey weathered clay.	2.2m
31	3	Natural	Compact clay	3m
BH06				
32	1	Mixed re-deposited material	Sandy loam containing black ash, mortar and crushed sandstone fragments.	2.2m
33	2	Mixed re-deposited material	Sandy clay loam containing flecks of mortar, ash, angular clasts of sandstone and very fragmentary oyster shell.	2.6m
34	3	Mixed re-deposited material	Sandy clay loam containing mortar, crushed sandstone and very fragmentary oyster shell.	4.2m

Sample No.	Unit No.		Description	Depth
35	4	Mixed re-deposited material	Sandy loam containing crushed sand stone, mortar and black ash.	4.5m
36	5	Mixed re-deposited material	Compact silt clay with occasional crushed sandstone fragments and small amounts of mortar.	5m
37	6	Natural	Compact laminated clay.	5.5m

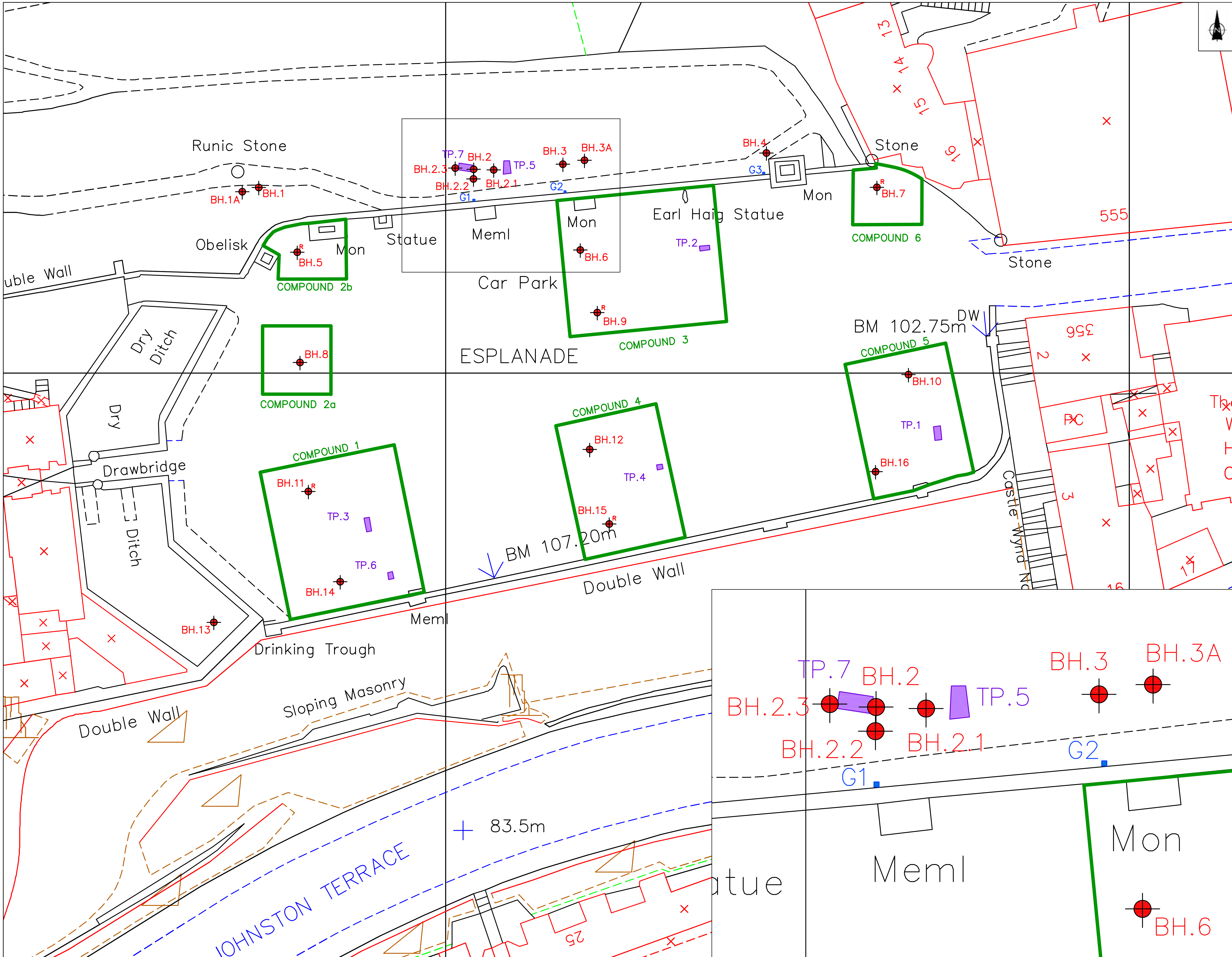
APPENDIX 5: Finds Quantification

Hole	Context	Pottery		CBM		Clay pipe		Glass		Stone		Iron		Bone		HSR	Shell		Miscellaneous	Overall date
		No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	No	Wt		
TP1		11	61	2	177	1	4	1	23	1	99	1	34	13	44					19th c.
TP2		3	4	4	771	1	6	2	6	4	575	8	86	6	21		1	95		19th c.
TP3		26	181	2	104			12	154	7	161	2	11	15	117	13			frags of coal (12g)	Med-19th c.
TP3	004																		frags of burnt coal with Ae adhering	
TP4	005	11	94					2	1					20	107		2	45		Med+
TP5	002	1	1									3	52	1	7				large Pb ring (131g)	20th c.
TP5	003	2	46											1	15					15th-18th c.
TP6		1	7											17	140					19th c.
TP7		3	189	4	124							4	102	2	71					15th-20th c.
BH01		6	179					3	26					1	230					19th-20th c.
BH01	001	1	2			1	2	2	6			2	93	1	8				2 frags early plastic (5g)	19th-20th c.
BH01	002							6	34			4	191						1 ?slag (2g), 1 Pb (15g)	20th c.
BH02				1	52							2	54	1	37					19th-20th c.
BH02	002	1	38	1	179			2	30										1 early plastic (2g), 1 Al (25g)	L.20th c.
BH02	004	2	9									2	199						1 early plastic (1g)	19th-20th c.
BH03		1	9									4	110	1	3				1 Ae pipe (15g)	19th-20th c.
BH03	001			2	248							3	135	1	16				1 insulated wire (6g)	20th c.
BH05		7	12					2	13											M.20th c.
BH05	009									1	6085									pmed?
BH06		4	40							4	133	1	11	1	3				frags of coal (5g)	15th-19th c.
BH07	004-6	2	11	3	203					2	336	1	7	6	60				1 mortar (164g)	18th-19th c.
BH07	007	3	30							1	65	1	7	3	23					19th c.

Hole	Context	Pottery		CBM		Clay pipe		Glass		Stone		Iron		Bone		HSR	Shell		Miscellaneous	Overall date
		No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	No	Wt		
BH08	002			1	102			6	4											Med-pmed
BH09		6	21	2	119	3	17	3	21	1	81			6	14					15th-19th c.
BH11	005	1	1			2	7	1	2	3	2668	1	4	5	33					Med-18th c.
BH12	003													1	1					
BH13	003-5	1	1	2	13					1	192	3	36						1 Ae (5g), 1 early plastic (1g)	19th-20th c.
BH13	006	5	80	1	69			1	1										coal (40g)	19th-20th c.
BH13	007													1	4				5 mortar/stone (268g)	pmed?
BH13	008?							1	1											pmed?
BH14	003	2	36									1	1	10	24					18th c.
BH15								1	29											17th-18th c.?
BH16				1	34															pmed
Total		**100**	**1052**	**26**	**2195**	**8**	**36**	**45**	**351**	**25**	**10395**	**43**	**1133**	**113**	**978**	**13**	**3**	**140**		

APPENDIX 6: Discovery and Excavation in Scotland (DES) Entry

LOCAL AUTHORITY:	City of Edinburgh Council
PROJECT TITLE/SITE NAME:	Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh. Site Investigation Works.
PROJECT CODE:	TATT
PARISH:	City of Edinburgh
NAME OF CONTRIBUTOR:	Ian Suddaby
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Watching Brief
NMRS NO(S):	NT27SE 1.33
SITE/MONUMENT TYPE(S):	Esplanade, Military Display Area
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 Figures)	NT 2531 7350
START DATE (this season)	February 2008
END DATE (this season)	February 2008
PREVIOUS WORK (incl. *DES* ref.)	Dunn, A (2000) 'Edinburgh Castle, (City parish of Edinburgh), archaeological works'. DES, 1, 2000, 34 Murray, D (1998) 'Edinburgh Castle, Johnson Terrace (City parish of Edinburgh), watching brief'. DES, 1998, 35 Scott, L & Bailey, E (2005) 'Edinburgh Castle Esplanade, (City parish of Edinburgh), watching brief'. DES, 6, 2005, 64
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Archaeological monitoring of Site Investigation works included the excavation of seven test-pits to examine the foundations of the Tattoo grandstands and sixteen trial pits at the locations of bore-holes to investigate the depth and quality of the underlying bedrock. Deep deposits of made ground were encountered. Fragments of disarticulated human remains were recovered from a test-pit. In Princes Street Gardens, made ground overlay either undated buried soils or concrete foundations for Raker supports for an earlier Esplanade Wall. Finds dating from medieval to 20th century were recovered.
PROPOSED FUTURE WORK:	
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Thomas and Adamson on behalf of the Edinburgh Military Tattoo Company
ADDRESS OF MAIN CONTRIBUTOR:	The Old Engine House, Eskmills Park, Musselburgh, East Lothian, EH21 7PQ
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	National Monuments Record for Scotland (NMRS) City of Edinburgh Council Sites and Monuments Record (SMR)



Key:

- Cable percussive borehole with rotary cored continuation
- Open hole rotary borehole with rotary cored continuation
- T.P.2 — Test pit to expose existing foundations
- G3 — Additional test pits
- Contractor's working compound

IFA-registered archaeological organisation

CFA ARCHAEOLOGY LTD
The Old Engine House
Eskmills Park
Musselburgh
East Lothian, EH21 7PQ
t: 0131 273 4380
f: 0131 273 4381
e: info@cfa-archaeology.co.uk
w: www.cfa-archaeology.co.uk

Fig. No: 1 Revision: 0

Title: Location Map

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade

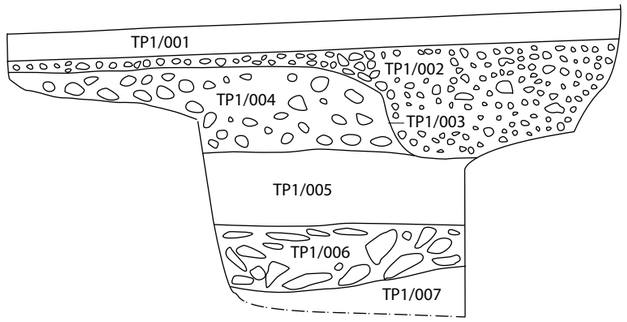
Scale @ A3:
Main map -1:500
Inset - 1:200

Client: Thomas and Adamsom on behalf of the Military Tattoo Company

Drawn by: KC Page No: 0

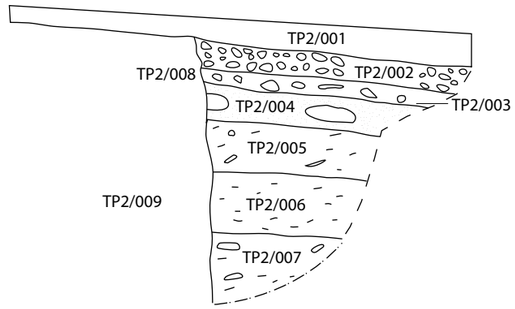
2A

Test-Pit 1 West Facing Section



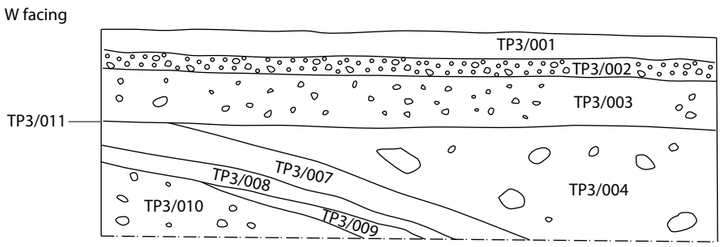
2B

Test-Pit 2 South Facing Section



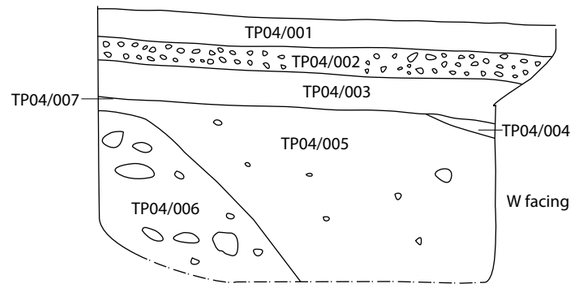
2C

Test-Pit 3 West Facing Section



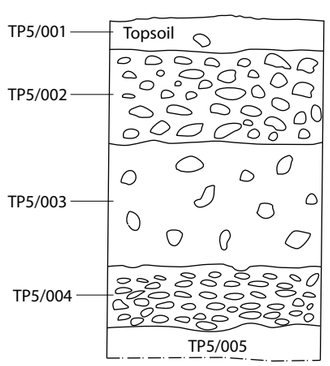
2D

Test-Pit 4 South Facing Section



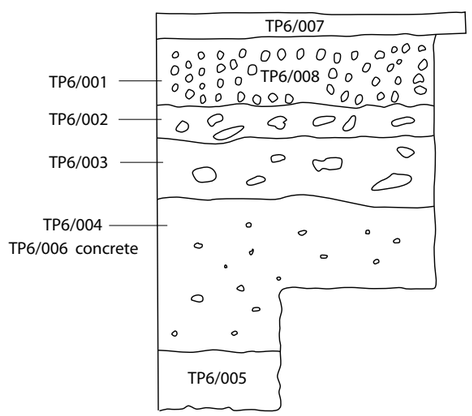
2E

Test-Pit 5 South Facing Section



2F

Test-Pit 6 South Facing Section



2G

Test-Pit 7 Profile

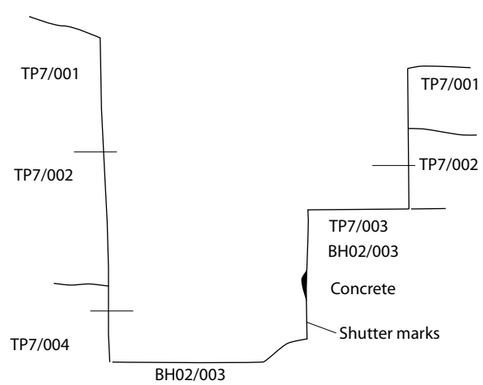


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Fig. No: 2

Revision: 0

Title: Test-Pit sections

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade,

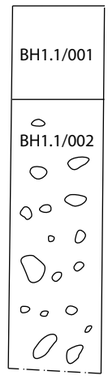
Scale: 1:20

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo Company

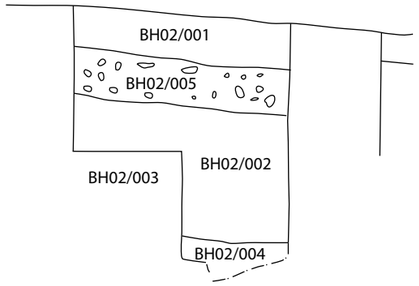
Drawn by: cae

Page No:

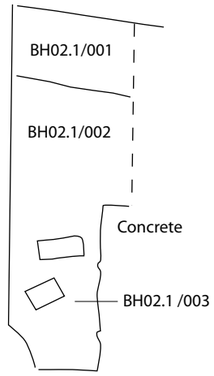
3A
BH01.1 South East Facing section



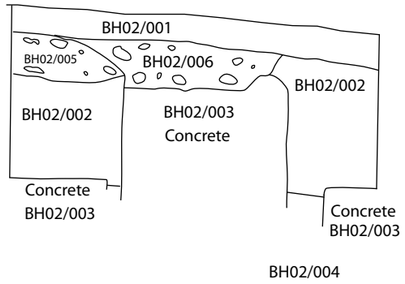
3B
3C BH02 East Facing Section



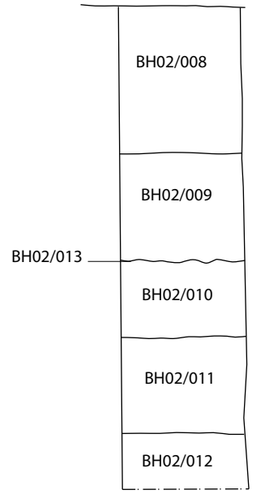
3C
BH02.1 East Facing Section



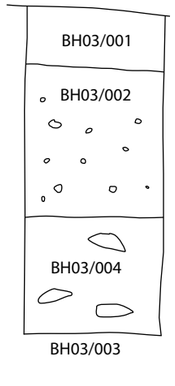
3D
BH02.2 East Facing Section



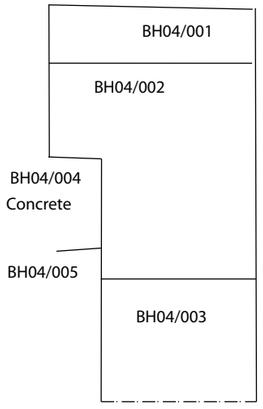
3E
BH02.3 East Facing Section



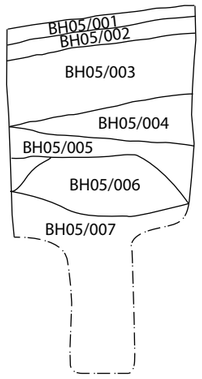
3F
BH03 East Facing Section



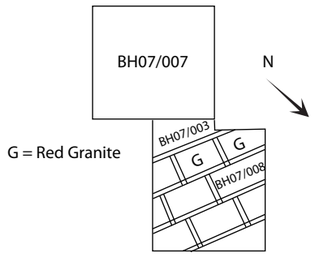
3G
BH04 East Facing Section



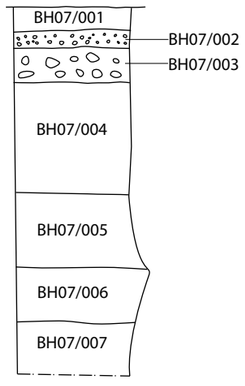
3H
BH05 North Facing Section



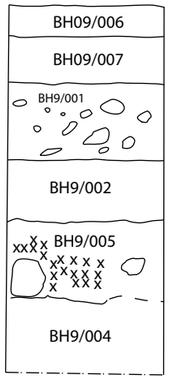
3I
BH07 Plan



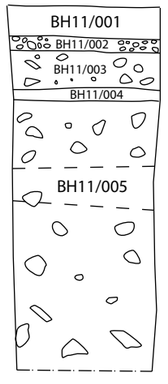
3J
BH07 North East Facing Section



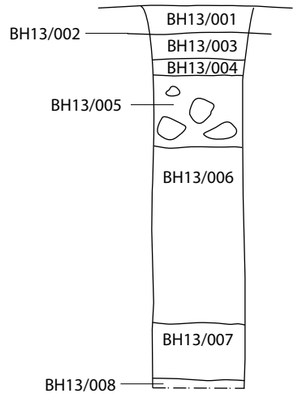
3K
BH09 South East Facing Section



3L
BH11 East Facing Section



3M
BH13 North West Facing Section



3N
BH15 East Facing Section

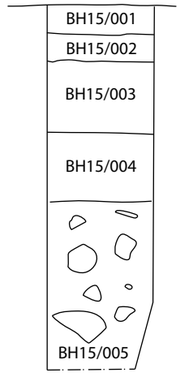


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Fig. No: 3 A-N

Revision: 0

Title: Borehole Starter Pit Sections

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale: 1:20

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo Company

Drawn by: cae

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Fig. No: 3 O-V

Revision: 0

Title:

Results of percussion rig boreholes

Project:

Edinburgh Military Tattoo
Grandstand,
Edinburgh Castle Esplanade,
Edinburgh

Scale: 1:40

Client:

Thomas and Adamson on behalf of the Edinburgh Military Tattoo Company

Drawn by: cae

Page No:

Key:

Fig. No: 4

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Percussion rig set up in Compound 2a

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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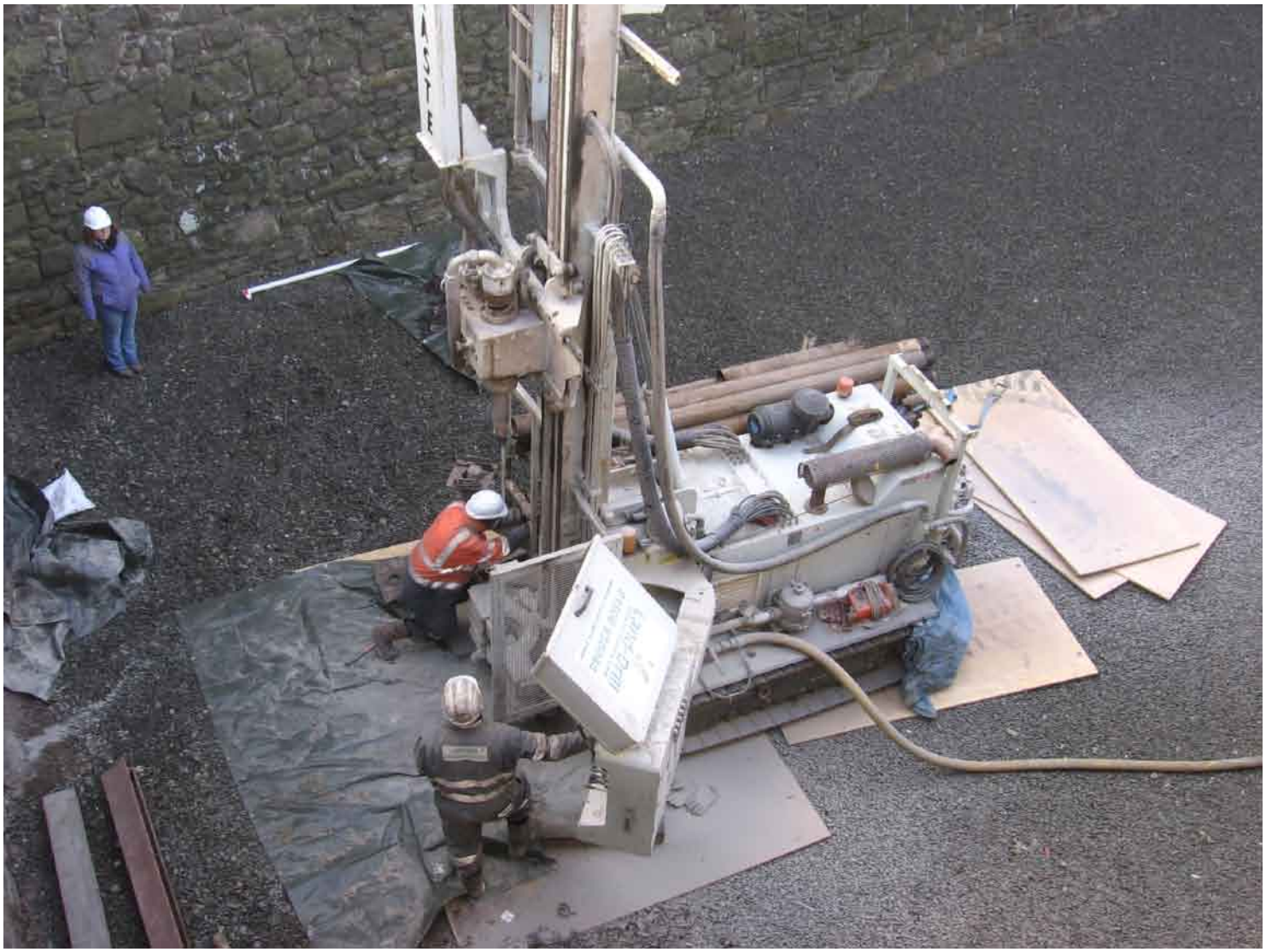

Key:

Fig. No: 5

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Percussion rig set up in Compound 2a

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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Key:

Fig. No: 6

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Gas main visible in G3

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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Key:

Fig. No: 7

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Test-pit 1 in section, with kerb stones and concrete foundation block visible

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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Key:

Fig. No: 8

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Test-pit 3 in section

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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Key:

Fig. No: 9

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Test-pit 7 in section

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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Key:

Scale:

Fig. No: 10

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: General view of BH05 section

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Drawn by: cae

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Key:

Fig. No: 11

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: General view of BH07 section

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Scale:

Drawn by: cae

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Key:

Scale:

Fig. No: 12

Revision: 0

Client: Thomas and Adamson on behalf of the Edinburgh Military Tattoo

Title: Examination of material removed from BH01

Project: Edinburgh Military Tattoo Grandstand, Edinburgh Castle Esplanade, Edinburgh

Drawn by: cae

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