THE FORMER BBC SITE, OXFORD ROAD, MANCHESTER

PHASE 1B: PLOT 14 (MSCP)

A SUMMARY OF AN ARCHAEOLOGICAL EVALUATION

LOCAL PLANNING AUTHORITY: MANCHESTER CITY COUNCIL

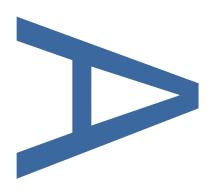
PLANNING REF: 113832/FO/2016

PCA REPORT NO: R12830

MARCH 2017







PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

THE FORMER BBC SITE, OXFORD ROAD, MANCHESTER

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A SUMMARY OF AN ARCHAEOLOGICAL EVALUATION

Quality Control

Pre-Construct Archaeology Ltd		
Project Number	K4888	
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THE FORMER BBC SITE, OXFORD ROAD, MANCHESTER: PLOT 14 (MSCP)

A SUMMARY OF AN ARCHAEOLOGICAL EVALUATION

PLANNING APPLICATION NUMBER:	113832/FO/2016
LOCAL PLANNING AUTHORITY:	Manchester City Council
CENTRAL NGR:	SJ 84395 97309
ARCHAEOLOGICAL SITE CODE:	ARM17
COMMISSIONING CLIENT:	Bruntwood
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March 2017

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CONTENTS

1	Introduction	. 3
2	Archaeological results	.5
2.1	Geology	.5
2.2	Trench 1	.5
2.3	Trench 2	.6
2.4	Trench 3	. 7
2.5	Trench 4	. 8
2.6	Geotechnical Site Investigation	.9
3	Conclusions	10
4	Acknowledgements	11

APPENDICES

5	Appendix 1: Oasis Report Form	. 18
6	Appendix 2: Finds Assessments	20
6.1	Pottery Assessment (ARM17)	20
6.2	Glass Assessment (ARM17)	22
6.3	Clay Tobacco Pipe Assessment (ARM17)	23
6.4	Building Materials (ARM17)	24
6.5	Animal Bone (ARM17)	26
7	Appendix 3: Relevant Geotechnical Results	27
8	Appendix 4: Context Index	48

ILLUSTRATIONS

Figure 1: Site Location	12
Figure 2: Detailed Site and Trench Locations	13
Figure 3: Plan of Trenches 1-4	14
Figure 4: Sections 1 to 3	15
Figure 5: Masonry features overlain on an extract from Bancks_& Cos. Plan of Manchester	
and Salford, 1831	16
Figure 6: Masonry features overlain on an extract of the Ordnance Survey map, 1849-50	17

PLATES

Plate 1: Overview of Trench 1, looking east-southeast (1m scale)	.5
Plate 2: Overview of Trench 2, looking east (1m scale)	.6
Plate 3: Overview of Trench 3, view to south (1m scale)	.7
Plate 4: Overview of Trench 4, view north (1m scale)	. 8

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1 INTRODUCTION

- 1.1 Four evaluation trenches were excavated between 6 and 10 February 2017 prior to the construction of the proposed multi-storey car-park on the site currently occupied by Armstrong House, Manchester (centred at SJ 84395 97309) (Figure 1). The work was carried out by Pre-Construct Archaeology Limited (PCA) and followed an approved methodology designed in a Written Scheme of Investigation¹.
- 1.2 The site is presently occupied by Armstrong House and a landscaped area just to the north of it. To the north, the site is bordered by Cloak Street, and to the east and south by a now defunct access ramp to Mancunian Way and Mancunian Way respectively. Historically the site was farmland until the second quarter of the 19th century whereafter it was occupied by several streets and alleys and the industrial, commercial, and residential buildings fronting them. By the 1960s the site had been cleared of buildings and subsequently became the site of Armstrong House.
- 1.3 The evaluation was undertaken in response to a planning condition attached to consent for the development, and forms the first stage of archaeological fieldwork at the site. The planning application was supported by an Environmental Statement which included a Historic Environment Desk-Based Assessment (DBA) prepared by PCA².
- 1.4 The designed evaluation was to see the excavation of four trial trenches located within the accessible areas of the site so as to target possible remains identified from map regression work within the DBA. These trenches were all successfully completed.
- 1.5 All four archaeological evaluation trenches were excavated by a JCB using a flat-bladed grading bucket. All trench locations were surveyed from known points, and plans were drawn of each trench at a scale of 1:20 showing the locations of all archaeological features. Levels were measured in relation to a temporary benchmark (TBM) using a dumpy level. The trenches were located as follows (also see Figure 2):

	Centre of trench		
Trench	Easting	Northing	Surface Elevation
Trench 1	384390.656	397324.520	36.65 m OD
Trench 2	384392.231	397312.047	36.27 m OD
Trench 3	384404.978	397318.609	36.26 m OD

¹ Mayo, C 2017 'The Former BBC Site, Oxford Road, Manchester: Plot 14 (MSCP): Written Scheme of Investigation for an Archaeological Evaluation', unpublished report for PCA

² Mayo, C. 2016 'The Former BBC Site, Oxford Road, Manchester – Phase 1B: Plot 14 (MSCP): An Historic Environment Desk-Based Assessment', unpublished report for Pre-Construct Archaeology Ltd, number R12306

Trench 4	384410.973	397302.710	36.87 m OD

- 1.6 Since the completion of the evaluation work, the client has undertaken some geotechnical site investigations and the results of these³ have been supplied to PCA for review (summarised at Appendix 3). These interventions provide a wider spatial coverage of the site than could be achieved by archaeological trenches. The results of this work have been incorporated into this report.
- 1.7 PCA were commissioned for the work by Bruntwood; the project was managed for PCA by Chris Mayo and supervised by the author. It was monitored on behalf of the City of Manchester by Norman Redhead, Heritage Management Director (Archaeology) at the Greater Manchester Archaeological Advisory Service (GMAAS).
- 1.8 The following summary presents the results of the archaeological evaluation, and is intended for review by GMAAS in order to decide what further mitigation works, if any, may be necessary.

³ NX Consulting Ltd., 2017 'Phase 1 Geoenvironmental Desk Study and Preliminary Phase 2 Assessment for Proposed Car Park & Hotel, Armstrong House, Cloak Street, Manchester, M1 7EP.', unpublished report, Project No: 299

2 ARCHAEOLOGICAL RESULTS

2.1 Geology

2.1.1 Natural sandy clay was recorded in Trenches 2, 3 and 4, where it survived relatively untruncated. It comprised firm dark brown clay with large patches of mid-yellowish brown sandy gravel. The height of the natural clay remained relatively consistent throughout the site. It was recorded at a height of 35.67m OD to the southeast and 35.31m OD to the northeast suggesting a slight rise towards the south.

2.2 Trench 1

2.2.1 Excavation of this trench exposed a number of archaeological features which are considered to relate to the buildings which once fronted the former Heron Street from at least 1831. Bancks's map from that year (Figure 5) suggests that these walls may have been the rear of a large structure which fronted to Cooke Street but which, by the Ordnance Survey map of 1849-50 (Figure 6), had been sub-divided into two properties. The northerly of the two, fronting Cooke Street, is labelled as the Wheatsheaf Inn whilst the southern, of which the walls in Trench 1 seem to be part, was likely to be a terraced dwelling.



Plate 1: Overview of Trench 1, looking east-southeast (1m scale).

2.2.2 The remains recorded in Trench 1 consisted of a substantial brick foundation, [4], aligned roughly north-south and a narrower brick wall, [5], aligned perpendicular to this. Sondages were excavated on both sides of the narrow brick partition, showing that the walls survived to a height of at least 1.10m (35.79m OD), although an internal floor surface (if present) could not be

reached. This suggests that the narrower wall may well have been the partition separating the cellars of the two dwellings which fronted Heron Street. Brick and mortar samples taken from the two brick walls indicated that they were likely dated 1850 to 1900, which therefore leads to the likelihood that the structures at this location on Heron Street were reconfigured around this time when the Wheatsheaf Inn was developed.

2.2.3 When the building was demolished in the middle of the 20th century the basement was backfilled with demolition rubble recorded as [1] and [2]. Following the demolition, a Yorkstone surface, [3], was laid across this part of the site (Figure 4), at a height of 35.96m OD.

2.3 Trench 2

2.3.1 This trench contained a modern ceramic drain which had caused heavy truncation to the archaeological sequence throughout much of it. However, two small areas survived undisturbed in the eastern and western parts of the trench. In the western part of the trench, the natural clay, [8], was sealed by a brickearth-like subsoil, [11], recorded at 35.31m OD, which had been cut by the construction cut, [16], for a roughly north-south aligned brick footing, [14]. Only the lowest course of the footing survived, at 35.24m OD. It had been constructed using dry laid unfrogged red bricks dated sometime between 1830 and 1900. The footing was sealed by a demolition deposit, [10], which had been truncated by cut for the modern drain pipe.



Plate 2: Overview of Trench 2, looking east (1m scale)

2.3.2 In the eastern end of the trench, the natural clay was also sealed by the aforementioned subsoil, which was recorded as [12] at 35.28m OD. To the east, the subsoil had been cut by a linear cut, [18], aligned roughly north-south. It was filled by a black coal and clinker rich fill, [13],

producing both CBM dated 1850-1900 and pottery dated 1790-1820. The single piece of CBM recovered was found at the very top of the deposit, and is likely intrusive. As such, the likely spot date for the context, considering the entire pottery assemblage recovered (16 sherds), is 1815-1835. To the east, the fill of the cut had been truncated from a height of 35.35m OD by the construction cut, [17], for a red brick footing, [15], aligned along a roughly north-south axis. The bricks and mortar used in the construction of the footing were consistent with a 1850-1900 date.

2.3.3 The brick footing at the western end of the trench is shown from map regression (Figures 5 and 6) to be beneath the former Heron Street, and it is thus likely that the remains may be part of a service. The brickwork at the eastern end is likely the footing for one of the dwellings shown on the same map along the east side of Heron Street.

2.4 Trench 3

2.4.1 The natural clay in Trench 3 was sealed by a dump or levelling layer, [26], located at 35.54m OD; the pottery assemblage recovered from the layer suggests a deposition date of 1815-1835, which is therefore contemporary with the earliest development of the area as suggested from historic maps.



Plate 3: Overview of Trench 3, view to south (1m scale).

2.4.2 To the east layer [26] had been truncated by the construction cut for a brick footing, [20]/[22]/[23], and to the east by the construction cut for a curvilinear footing, [6], and a small wall initially thought to be a fireplace, [7], joining on to it to the south at 35.57m OD. The bricks

used in the construction of both the curvilinear footing and the postulated fireplace are suggestive of a 1830-1900 date, while the footing to the east was dated 1850-1900. The interior of 'fireplace' [7], was filled with loose brick rubble in a sand, ash and charcoal matrix, [24]. Unfortunately, excavation of the rubble fill did not produce any datable finds, but it can be assumed that the fill is a result of the building's demolition in the 20th century. In the centre of the trench, with no discernible relationship with either of the other brick walls, was a "U" shaped drain support, [19], constructed of red unfrogged bricks. Like the remaining brick structures, it is likely to date to between 1830 and 1900. Sealing the entire trench was a layer of modern made ground laid down to landscape the site following the demolition of the buildings in the 20th century.

- 2.4.3 The enclosed space within wall [7], thought to be a fireplace, correlates closely on the 1849-50 OS map (Figure 6) with an outbuilding to the rear of the dwellings which fronted Heron Street. It is therefore probable that this wall represents the remains of an ash pit.
- 2.4.4 The curved wall [6] can also be closely matched to a wall on the 1849-50 map which enclosed the rear yard of the dwelling. Walls [20] and [21] may relate to the wall which formed the opposite side of the alley at the rear of the properties, itself enclosing the rear, western end of the Mount Place terrace.



2.5 Trench 4

Plate 4: Overview of Trench 4, view north (1m scale).

2.5.1 This trench was excavated in the southeastern part of the site, immediately southeast of

Armstrong House. The archaeological sequence here consisted of natural clay at 35.67m OD, overlain by a 0.18m-thick layer of made ground, [28], comprising compact mid-brown sandy gravel with frequent pockets of ash and charcoal. At the northern end of the trench, this was truncated by the construction cut for an east-west aligned brick wall, [31]. The brick wall had been constructed using unfrogged red bricks measuring 235mm x 120mm x 80mm laid in stretcher bond, one skin thick. On both side of the wall, Yorkstone slabs had been laid to form paved surfaces. To the north, the stone surface was recorded as [30], while to the south of the wall, the surface was recorded as [29]. The stone surface to the south of the wall occurred at 35.93m OD, while the one to the north was laid roughly 0.10m lower. Sealing both stone surfaces was a layer of modern made ground raising the ground to its current level.

2.5.2 These remains correlate closely to the 1849-50 OS map (Figure 6), and imply that the wall represents the street frontage boundary to the dwellings on former Crossley Street, and the slabs are the remain of pavements.

2.6 Geotechnical Site Investigation

- 2.6.1 A recent geotechnical study has seen the completion of a number of boreholes and test-pits across the site (Appendix 3). They have been located in areas which were inaccessible to PCA during the evaluation, for example in the car park (still in use) to the south of Armstrong House (the SI work here was completed rapidly over a weekend which was unachievable for linear evaluation trenches).
- 2.6.2 In summary, within the car park area Test Pits 04 and 06 were excavated and a borehole (BH05) was installed. These demonstrated the survival of layers and remains most likely archaeological in nature including an intact brick floor in TP04 at 1.4m BGL, and thick made ground deposits in BH05 (to 3.0m BGL) which may be indicative of a deep, in-filled feature.
- 2.6.3 The SI work included interventions at the eastern side of the site close to Brook Street. Despite this area sitting at a visibly lower elevation than Armstrong House, where the evaluation trenches were dug, the results in TP01, BH01 and BH03 show made ground deposits which could again be archaeological. The thickness of made ground in BH02 (c1.5m) is considered to be typical, whereas in BH01 the material was recorded as up to 4.0m thick perhaps the result of an in-filled truncation or feature.

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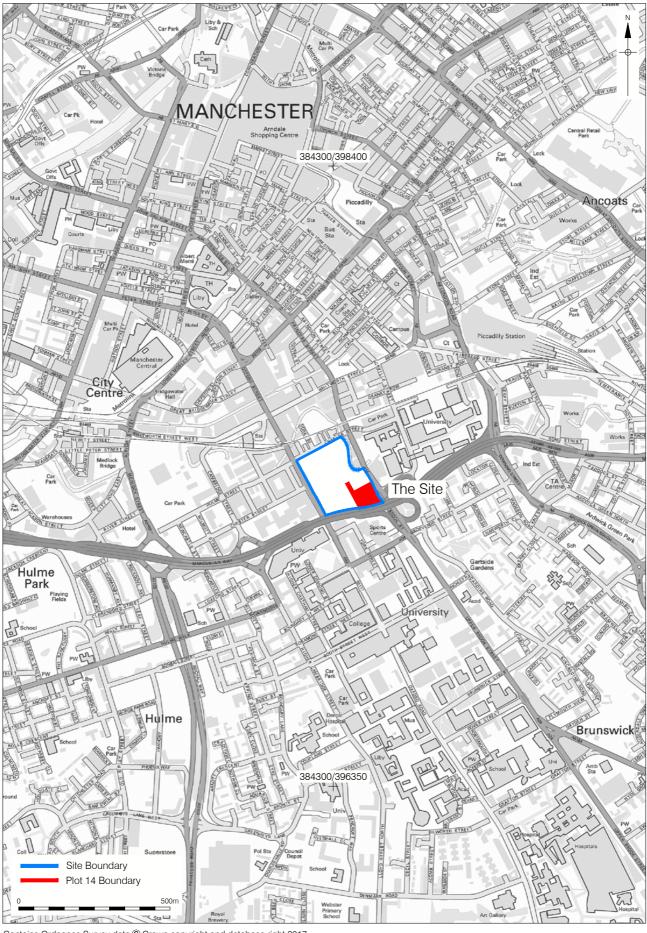
3 CONCLUSIONS

- 3.1 The archaeological evaluation demonstrated that structural remains related to the 19th century development of the area survived within all four evaluation trenches. These remains primarily consisted of brick footings rather than cut features, although contemporary layers also survived across the site. The remains uncovered by the evaluation can be closely related to the buildings shown on historic maps of the area: the structural remains can be related with confidence to walls shown on the 1849-50 OS map, forming parts of the dwellings fronting Crossley Street and Heron Street. Wall [5] in Trench 1 would appear to have been an internal division between cellars in adjacent properties; its narrowness (one stretcher width) is alarming by modern expectations but standard for contemporary worker's dwellings in Manchester.
- 3.2 When compared to the historic maps, there is less correlation of the remains to the earlier (1831) Bancks survey. This may be the result of the map being less accurate and clear than the later OS plan, or alternatively it may suggest a reconfiguration to some of the earlier walls.
- 3.3 In the southern part of the site, the modern ground level rises slightly. The excavation of Trench 4 showed that this rise was partly due to a rise in the natural topography (at levels between 35.67m OD to the southeast and 35.31m OD to the northeast) and partly due to artificial landscaping following the clearance of the site in the 20th century in preparation for the construction of Armstrong House. It is likely therefore, that further archaeological remains survive across the northern half of the site.
- 3.4 Geotechnical work has been completed⁴ which includes interventions in parts of the site which could not be evaluated by PCA. These have demonstrated the presence of deposits of made ground which are likely to be archaeological in nature, and extending to thicknesses (1.5 to 3.0m) which probably represent infilled features or cellars for the properties which faced the former Cooke Street, Crossley Street, Mount Place and Brook Street.
- 3.5 An intact brick floor surface was recorded in TP04 to the south of Armstrong House.
- 3.6 The geotechnical work has shown some evidence for localised truncation from services, for example in TP06. It is anticipated that the construction of the Mancunian Way overpass will have caused at least localised but significant truncation to the archaeological resource in this southern area of the site.

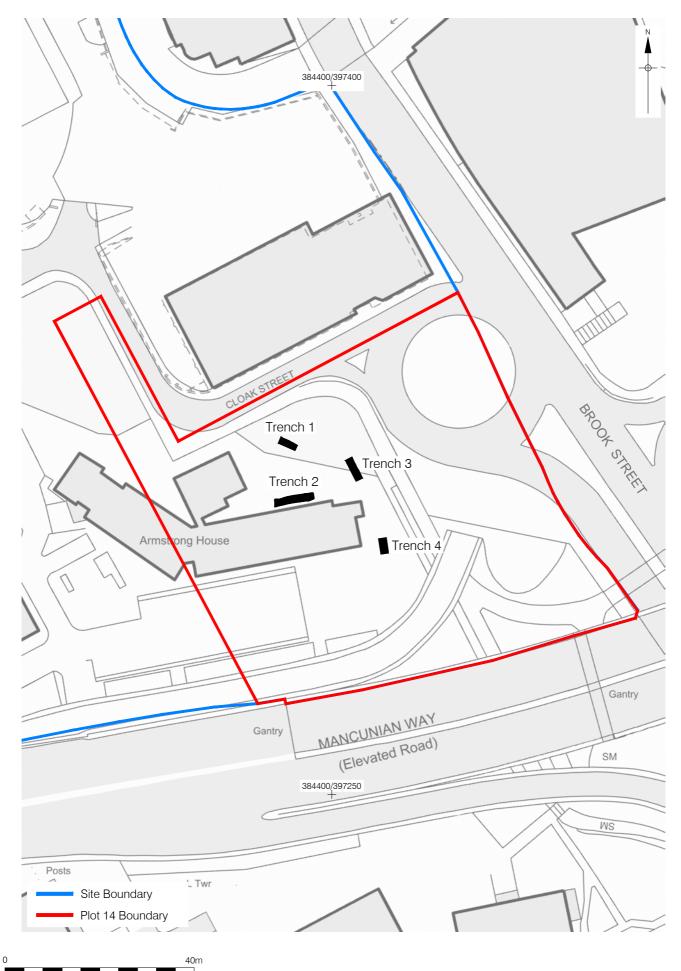
⁴ NX Consulting Ltd., 2017

4 ACKNOWLEDGEMENTS

- 4.1 Pre-Construct Archaeology Limited would like to thank Bruntwood for commissioning the work and Norman Redhead of GMAAS for monitoring the project on behalf of the City of Manchester.
- 4.2 The author would also like to thank James Hopper and Mike Tunnicliffe for their hard work on site, Mark Roughley for preparing the illustrations, Chris Jarrett, Amparo Valcarcel and Karen Deighton for assessing the artefacts and Chris Mayo for project management and editing.

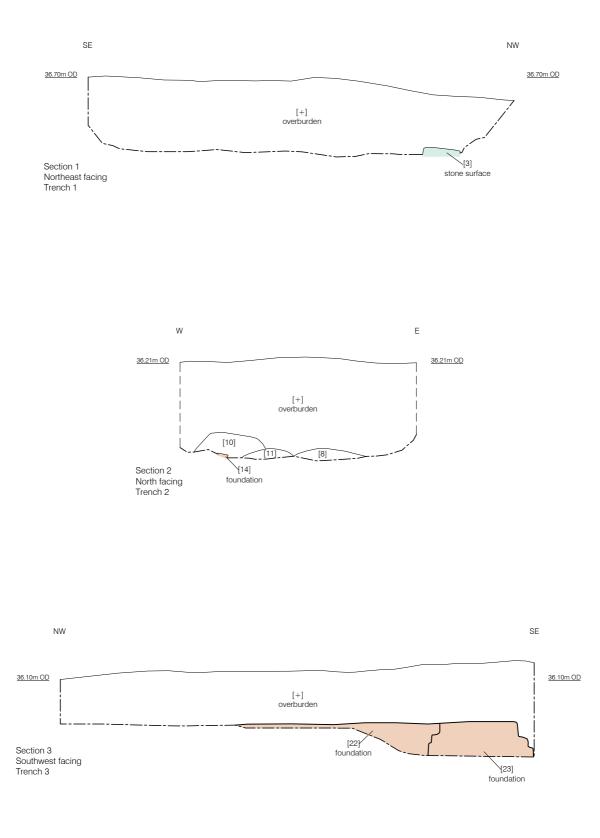


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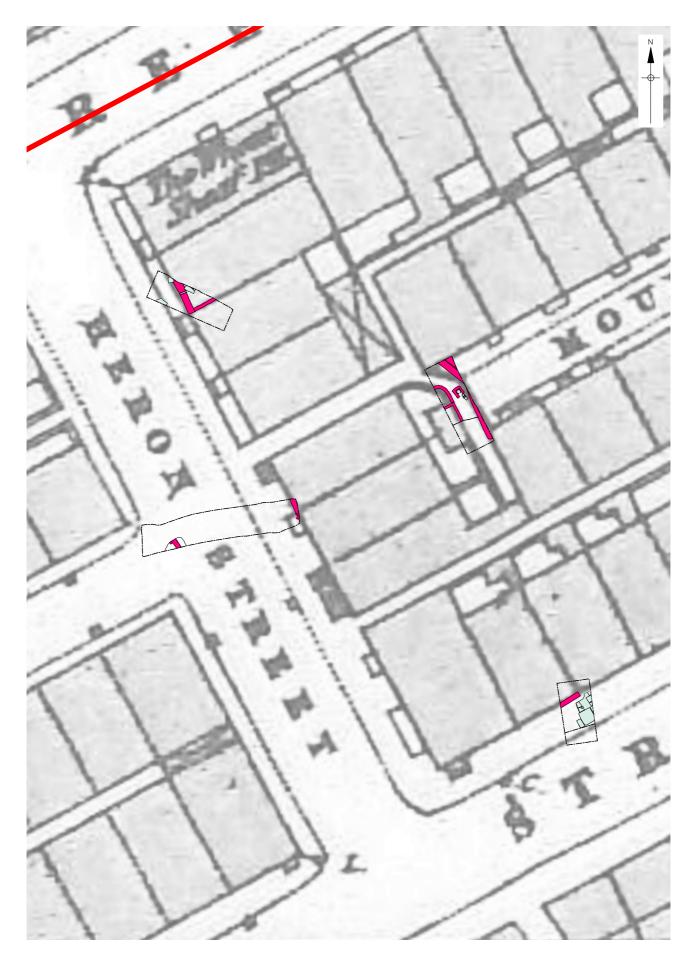


2m



10m

Figure 5 Masonry features overlain on an extract from Bancks & Cos. Plan of Manchester and Salford, 1831 1:200 at A4



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10m

5 APPENDIX 1: OASIS REPORT FORM

OASIS ID: preconst1-278668

Project details	
Project name	THE FORMER BBC SITE, OXFORD ROAD,
	MANCHESTER: PLOT 14 (MSCP)
Short description of the project	An archaeological evaluation consisting of four
	trenches. The evaluation documented several
	brick walls associated with the development of
	the area during the second quarter of the 19th
	century.
Project dates	Start: 06-02-2017 End: 10-02-2017
Previous/future work	Yes / Yes
Any associated project reference codes	ARM17 - Sitecode
Any associated project reference codes	113832/FO/2016 - Planning Application No. Field evaluation
Type of project Site status	None
Current Land use	Industry and Commerce 2 - Offices
Monument type	WALLS Post Medieval
Monument type	FLOORS Post Medieval
Significant Finds	POT Post Medieval
Significant Finds	CBM Post Medieval
Significant Finds	CTP Post Medieval
Significant Finds	GLASS Post Medieval
Methods & techniques	"Sample Trenches"
Development type	Car park (high-rise)
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)
Project location	
Country	
Site location	GREATER MANCHESTER MANCHESTER
	MANCHESTER The Former BBC Site, Oxford
Postcode	Road, Manchester: Plot 14 (MSCP) M1 7ED
Study area	1600 Square metres
Site coordinates	SJ 84395 97309 53.472029971148 -
One coordinates	2.23512232897 53 28 19 N 002 14 06 W Point
Height OD / Depth	Min: 35.31m Max: 35.67m
Project creators	
Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Greater Manchester Archaeological Advisory
	Service
Project design originator	Chris Mayo
Project director/manager	Chris Mayo
Project supervisor	Paw Jorgensen
Type of sponsor/funding body	Developer
Name of sponsor/funding body Project archives	Bruntwood
Physical Archive recipient	Manchester Museum of Science and Industry
Physical Archive ID	ARM17
Physical Contents	"Glass","Metal","Ceramics"
Digital Archive recipient	Manchester Museum of Science and Industry
Digital Archive ID	ARM17
Digital Contents	"Stratigraphic"
Digital Media available	"Database", "Images raster / digital
-	photography","Images
	vector", "Spreadsheets", "Text"
Paper Archive recipient	Manchester Museum of Science and Industry
Paper Archive ID	ARM17
Paper Contents	"Stratigraphic"

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6 APPENDIX 2: FINDS ASSESSMENTS

6.1 Pottery Assessment (ARM17)

By Chris Jarrett, Pre-Construct Archaeology Limited

6.1.1 Introduction

A small sized assemblage of pottery was recovered from the site (one box). The pottery dates entirely to the post-medieval period and particularly those types that were in production more so in the 19th century. The pottery is mostly in a good condition and no sherds are recorded as abraded or laminated. The pottery is in a fragmentary state, existing as sherd material and none of the vessels have a complete profile, while only approximately 42% of the vessels can be assigned to a specific form. The pottery appears to have been deposited under secondary, possibly tertiary circumstances, although the pottery types that are found together are mainly contemporaneous. The pottery was quantified by sherd count (SC), estimated number of vessels (ENV), besides weight. Pottery was recovered from four contexts and the sizes of the groups of the pottery are all small (fewer than 30 sherds).

In total the assemblage consists of 50 sherds, 44 ENV, 565g (of which 20 sherds/20 ENV/148g are unstratified). The assemblage was examined macroscopically and microscopically using a binocular microscope (x20), and recorded in a database format file by fabric, form and decoration. The pottery is discussed by its distribution and types. The pottery types have been classified according to the coding system used by the Museum of London (2014) or suitable alphabetical codes were cross referenced to this.

6.1.2 The pottery types

The range of pottery types and the forms that occur in these wares are shown in Table 1. The coarse earthenwares provide mostly large vessels for use in the kitchen, as represented by the blackware (BLACK) and the unstratified rounded jar, or as horticultural flower pots provided by the post-medieval redware examples, which are unstratified or recovered from context [26].

Table wares and tea wares are the main forms recorded in the industrial finewares: creamware (CREA), pearlwares (PEAR/BW/ERTH/SLIP and TR/4) and the refined white earthenwares (REFW/PNTD and TPW).

The refined stonewares pottery types occur as either tea wares, such as the glazed black basalt ware (BBASG) tea pot (context [26]) or the mid 18th century white salt-glazed stoneware (SWSG) saucer (context [17]). Otherwise this class of pottery is found as a container and recorded as an unstratified cylindrical jam or preserve jar made in English stoneware with Bristol glaze (ENGS BRST).

Pottery type	Code	Date range	sc	ENV	Wt (g)	Forms
Glazed black basalt ware	BBASG	1770-1880	1	1	9	?Tea pot
Blackware	BLACK	1600-1900	7	5	184	Rounded jar
Bone china	BONE	1794-1900	1	1	4	-

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Pottery type	Code	Date range	sc	ENV	Wt (g)	Forms
Creamware	CREA	1740-1830	3	3	17	Plate
English stoneware with Bristol glaze	ENGS BRST	1830-1900	1	1	11	Jar, cylindrical (jam etc.)
Pearlware	PEAR	1770-1840	9	8	38	Jug, plate
Pearlware with under-glaze blue-painted decoration	PEAR BW	1770-1820	3	3	29	Dinner and rectangular plates
Pearlware with under-glaze polychrome-painted decoration in 'earth' colours	PEAR ERTH	1790-1820	1	1	52	Deep rounded bowl
Pearlware with slip decoration	PEAR SLIP	1775-1840	7	5	138	Medium rounded bowl
Pearlware with transfer-printed decoration	PEAR TR	1770-1840	7	6	29	Rounded jug, plate, saucer
Pearlware with under-glaze colour transfer-printed decoration (green, mulberry, grey etc)	PEAR TR4	1825-1840	1	1	3	Saucer
Post-medieval red earthenware	PMRED		2	2	29	Flower pot
Refined white earthenware	REFW	1805-1900	2	2	8	-
Refined whiteware with under-glaze painted decoration	REFW PNTD	1805-1900	1	1	2	Bowl
White salt-glazed stoneware	SWSG	1720-1780	1	1	1	Bowl
Refined whiteware with under-glaze transfer-printed decoration	TPW	1780-1900	2	2	4	Plate
Refined whiteware with under-glaze brown or black transfer-printed decoration	TPW3	1810-1900	1	1	7	Dinner plate

Table 1. ARM17: post-medieval pottery types (and their forms) quantified by sherd count (SC), estimated number of vessels (ENV) and weight

6.1.3 Distribution

The distribution of the pottery is displayed in Table 2 and shows the contexts containing pottery, the size, number of sherds, ENV and weight, the earliest and latest date of the most recent pottery type (Context ED/LD) and a spot date for the group. All of the pottery was recovered from layers dated to Phase 2. The spot date of 1815–1835 is given to those contexts that contain as the latest items transfer-printed wares with European designs produced during that period.

Context	Description Trench Phase SC E	NV	Wt (g)	Context ED	Context LD	Fabric and forms	Spot date
1	2	1	11	1770	1840	PEAR TR (rounded jug)	1780–1840
13	16	13	292	1790	1820	BLACK, CREA, PEAR, PEAR (plate), PEAR ERTH (deep rounded bowl), PEAR SLIP (medium rounded bowl), PEAR TR (saucer)	1815–1835
17	1	1	1	1720	1780	SWSG (bowl)	1720–1780
26	11	9	113	1770	1840	BBASG (teapot), BLACK, CREA, PEAR (plate), PEAR TR (plate), PMRED (flower pot)	1815–1835

Table 2. ARM17: Distribution of the pottery showing for each context the phase it occurs in, its quantification by sherd count (SC), estimated number of vessels (ENV), weight and estimated vessel equivalents (EVEs) as well as the date range of the latest pottery type (Context ED/LD), the pottery types and forms present and a suggested spot date for the deposition of the deposit.

6.1.4 Significance, potential and recommendations for further work

The pottery has little significance at a local level consisting of fragmentary domestic wares largely of a 19th century date and frequently found in the Greater Manchester area. The pottery is comparable to other assemblages of post-medieval pottery that have been recovered from local archaeological excavations: Greengate Towers, Salford (Hughes 2007; Bradley 2014); Greengate Embankment, Salford (Jarrett 2015a) and 16 Chapel Street, Salford (Jarrett 2015b), besides previous excavations at the former BBC site, Oxford Road (Jarrett 2015c). The pottery has the potential to date the deposits it was recovered from. There are no recommendations for further work on the material at this stage and its importance should be reviewed if future archaeological work is undertaken on the site and new finds of pottery are retrieved.

- 6.1.5 References
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6.2 Glass assessment (ARM17)

By Chris Jarrett, Pre-Construct Archaeology Limited

6.2.1 There are only two glass items (308g) recorded. The first is an unstratified flat, thick walled fragment (5g) of clear glass, and probably represents part of a 19th-20th century dated window pane. It was found in the area of Trench 1. The second item is intact and was found in context [1] and consists of a moulded clear lead glass inkwell and it has a height of 42mm and a weight of 303g. The vessel has a short upright rim (28mm in diameter), which was cut at a slight angle with trimming shears, a wide rounded shoulder, a short cylindrical wall and a flat base (75mm in diameter). The base is very thick walled to prevent it from being knocked over, although the vessel has cracks in the base. The ink well would have had a copper alloy lid, which survives only as the circular mount (39mm in diameter, 7mm tall and weighing 16g) and the lower hinge

joint for the missing lid. This item dates to the 19th-20th century.

6.2.2 The assemblage is of little interest, despite the presence of the intact inkwell, which could have been used in either a clerical or domestic setting. The main potential of the glass is to date the context it was recovered from. There are no recommendations for further work on the assemblage, although if new glass is recovered from further archaeological work on the study area, then the importance of the inkwell should be reviewed.

6.3 Clay tobacco pipe assessment (ARM17)

By Chris Jarrett, Pre-Construct Archaeology Limited

6.3.1 Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (less than one box). Most fragments are in a fragmentary, although good condition indicating that the majority of the material was deposited soon after breakage. Clay tobacco pipes were found in two contexts, as small sized (fewer than 30 fragments) groups.

All of the clay tobacco pipes (fifteen fragments, of which four are unstratified) were entered in to a database format file and classified using Oswald's (1975) typologies: prefixed OS for his general types. The pipes are further coded by decoration and quantified by fragment count. The tobacco pipes have been discussed by their types and distribution.

- 6.3.2 Assemblage
- 6.3.3 The clay tobacco pipe assemblage from the site comprises three bowls and twelve stems. The pipe bowls occur only as one type dated *c*.1820–1860 and all three bowls were smoked.

The bowl types

1820-1860

OS24: three spurred bowls, with a rounded front and straight back. A fragmentary bowl (context [13]) has slight ribs on the front and back of the bowl and the spur has been trimmed. The two other bowls in the assemblage have moulded decoration. The first of these bowls (context [13]) has leaf borders on the front and back of the bowl and moulded milling (in the style of English copies of Irish bowls) around the rim and found above a band of discrete shamrock leaves. This border occurs over a rectangular panel on each side of the bowl, that contains foliage borders surrounding a shamrock, while around the base there is pin-headed fluting of the same size contained within round ended borders. The mould used to make this bowl was worn and the two halves poorly fitted, while the initials on the spur may have been deliberately removed. This bowl type has also been recovered from 74-88 Great Ancoats Street, (unstratified: SF 433) (Jarrett 2017). The second decorative bowl (context [27]) has its spur missing. On the front of this bowl is recorded graduated sized fluting giving the appearance of a scallop shell-like motif. A leaf border occurs on the back of the bowl, while on the sides are depictions of branching plants.

Stems

Four unstratified stems occur and these are fine to medium in thickness with medium sized bores and these may date to the 18th century or earlier. The eight stems found in context [13] are thin in thickness and mostly have thin bores and date to the 18th or 19th century, although they are most likely to be contemporaneous with the 19th-century bowls they were found with.

6.3.4 Distribution

	Assemblage	No. of				Context considered
Context Phase	size	fragments	Context ED	Context LD	Bowl types (makers), etc.	date
13	S	10	1820	1860	x 2 OS24 bowls, x 8 stems	1820–1860
27	S	1	1820	1860	x 1 OS24 bowl	1820–1860

Table 1. Distribution of the tobacco pipes showing the number of fragments, the size of the assemblage, the date of the latest clay tobacco pipe bowl (Context ED and LD), the range of bowl types and a deposition spot date (context considered date) for each context

6.3.5 Significance, potential and recommendations for further work

The clay tobacco pipe assemblage from the evaluation have little significance, despite the fact that decorative bowls are present, crucially none of them are maker marked. The bowl types, decoration and their general poor finish are consistent with those found in Manchester. The main potential of the clay tobacco pipes are to date the context they were recovered from. There are no recommendations for further work on the bowls. However, should further archaeological work occur on the study area then the importance of the pipes recovered from the evaluation should be reviewed in the event of new material being recovered.

6.3.6 Reference

Jarrett, C. 2017 'Clay and Bakelite tobacco pipe assessment'. In. P. Jorgensen, Blossom Street, Block A, Manchester M4 5AF. An Archaeological Evaluation. Pre-Construct Archaeology Ltd unpublished document.

Oswald, A, 1975 Clay pipes for the archaeologist, BAR 14, Oxford

6.4 Building Materials (ARM17)

By Amparo Valcarcel, Pre-Construct Archaeology Limited

6.4.1 Assemblage

Context	Fabric	Form	Size	Date range of material	Latest date	ed material	Spot date	Spot date with mortar
0	MN1; OVG	Unfrogged machine brick ; opaque vitreous glass <i>tesserae</i>	20	1800 1900) 1800	1900	1830-1910	No mortar
1	OVG;Glass	Glass and opaque vitreous tesserae	56	1800 1900) 1800	1900	1800-1910	1850-1900

The Former BBC Site, Oxford Road, Manchester: Plot 14 (MSCP): A Summary of an Archaeological Evaluation © Pre-Construct Archaeology Limited, March 2017

Context	Fabric	Form	Size	Date rar mate	-	Latest da	ated material	Spot date	Spot date with mortar
2	OVG	Opaque vitreous glass tesserae	24	1800	1900	1800	1900	1800-1910	1850-1900
4	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	1850-1900
5	MN2	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	No mortar
6	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	No mortar
7	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	No mortar
13	MN2	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	1850-1900
14	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	No mortar
15	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	1850-1900
16	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	No mortar
19	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	1850-1900
20	MN1;MN2	Unfrogged machine brick	2	1800	1900	1800	1900	1830-1900	1850-1900
21	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	No mortar
22	MN1	Unfrogged machine brick	2	1800	1900	1800	1900	1830-1900	1850-1900
23	MN1	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	1850-1900
31	MN2	Unfrogged machine brick	1	1800	1900	1800	1900	1830-1900	1850-1900

6.4.2 Review

The small assemblage (118 fragments, 49.60 kg) consists mainly of modern sample bricks (local red/orange sandy industrial bricks) and *tesserae*. The bricks are unfrogged and heavy, with sharp arises that suggests a machine manufacture. Two different fabrics are present: a red sandy fabric with small clay and iron oxide pellets inclusions (MN1); and an orange sandy fabric with flint inclusions (MN2). The bricks are bonded with a hard grey concrete dated from middle 19th to early 20th century.

A large group of *tesserae* was collected from [0] [1] and [2]. *Tesserae* are made by slate (black), marble (white), glass (golden) and opaque vitreous glass (grey, green, blue, yellow and red), and are bonded with a hard concrete. These types of mosaics were popular in high status houses at the beginning of 19th century to the beginning of 20th century, normally related to Art Nouveau.

6.4.3 Recommendations

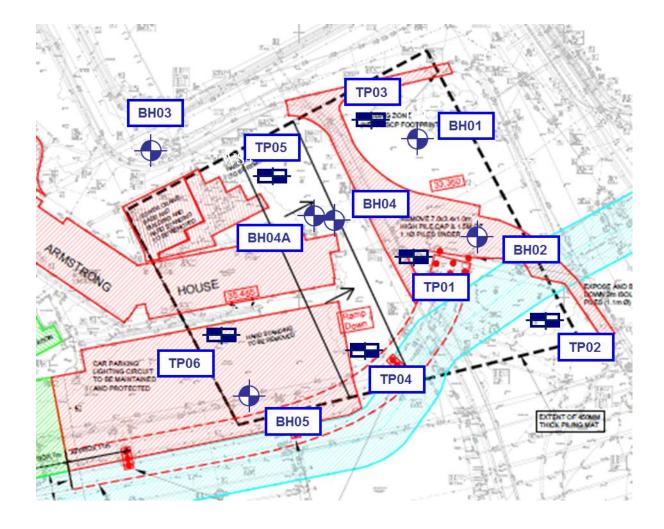
The value of this small assemblage shows an industrial activity between the early 19th century and early 20th century, probably related to the rapid industrial expansion in Manchester. The presence of *tesserae* probably indicates the existence of a high status house nearby. No further work recommended.

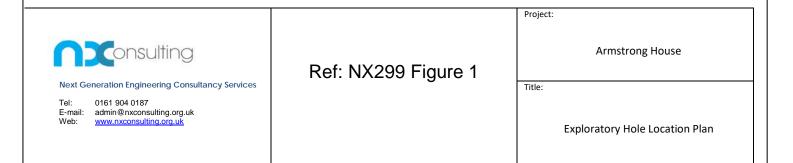
6.5 Animal bone (ARM17)

By Karen Deighton, Pre-Construct Archaeology Limited

A single bone fragment was recovered from context [24]. This was the proximal end of a cattle sized rib.

7 APPENDIX 3: RELEVANT GEOTECHNICAL RESULTS





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-6.00 - 6.45 6.00 - 6.50	B D	SPT(S) (2,) 6.00m, N 2/3,4,5,7)	N=19)						From 6.00m-8.00m	n firm to stiff					Ē	6		
									**							Ē			
									**							Ē			
_									**							Ē	7		
									•							Ē			
7.50 - 7.95	U															Ē			
																Ē			
- 8.00	D						8.00			ff brown and							8		
										avel is fine to ologies	o coars	e subangu	lar to sub	rounded o	f mixed	E E			
8.50	D					6	1.20)			- 3						Ē			
							/									Ē			
-9.00 - 9.45	D	SPT(S) 9							* 							Ē	9		
		foi	r 170mm)				9.20			ry dense red			y silty fine	to coarse	SAND	Ē			
								× ×		obably resid						F			
						(1.30)	× × -								Ē			
-								×									10		
St	art & End o	of Shift Obse	ervations		Во	rehole	Diame	ter C	asing	Diameter	Remark	Continued	next sheet						
Date		Depth (m) C		Water (m						Dia (mm)	Hand Pit	excavated to	50m bal. P)	Casing (139	7mm OD) i	nstalled t	0 10.5	i0m. Cori	na
											undertake 87mm dia	en using a PV ameter core re	VF core barr ecovered. Ir	el (120mm O Istallation co	D) in conjun mprised 0.50	ction with Im plain p	n core pipe a	liner to 19 nd 4.50m	9.50m bgl. slotted pipe
											with grave Water flus	el pack and b sh used in rot	entonite sea ary drilling w	I, finished off ill have mas	at ground le	evel with a	a flusł	o cover se	t in concret
		Chiselling			_		h	nstallatio	n		∟ngineeri	ng descriptio	ns to BS593		Strikes				
From (m) To			marks		Тор	o (m)	Base		уре	Dia (mm)	Depth Stril 3.00	ce Depth Casing 3.00	Depth Sealer		Rose To (m))		Remarks	;
											3.00	5.00	3.10	20	2.00				
[1						

				Contract		rong H	Hous	se, Mar	ncheste	r	Client:		Bruntv	vood Pl	_C		Boreho	le ID:	
NX Co	ons	sult	ing	Contract				Started:		Logged By	:	Start [Date:	E	ind Date:			BH0	3
				N)	X299		22	2/02/20)17	K	E	2	2/02/201	17	26/02	2/2017	Sheet 2	? of 3	
marknewton		nsulting		Easting:		N	lorthi	ng:		Ground Leve	el (mAOD):	Hole 1					Scale:	4.50	
www.nx	/ Drillers	S						/ Plant Use					Uá	Weather /	CUSSION Ground Con	ditions		1:50	
Taylor Drilling Serv			eklan Taylor In Situ Test			Co	ommad	ccio 205 R	totary Drillin	g Rig / Water F		Details		Weather:				Grou	ndwater
Depth	Sampl	e ID	Т	est Result		Leve (mAOI		Depth (m) Thickness)	Legend			5	Strata Dese	cription				Water Strike	Backfill/ Installatio
									× × ×								-		
18:58 - 10.95	<u> </u>	-	SRT(S) 1().50m, 50	(25 for			10.50	× × ×		(170						-		
10.50 10.50	D S		75mm/	50 for 75n	nm)				key key Incorrect incorrect inc		very (AZC	L)							
_									key key Incorrect incorrect inc key key	om om cey							- 11		
10.50 - 12.00	0	0	0					(1.50)	incorrect incorrect inc key key	om key							Ē		
									key key Incorrect incorrect inc	om							-		
									key key Incorrect incorrect inc key key	cey om cey							-		
				-				12.00	Incorrect Incorrect Inc key key	w v Verv we	ak reddisł	h hrown	fine to co	arse ara	ained SAM	NDSTONE	12		
										partially	weathere	d. Very	closely to	closely	spaced s	ubhorizonta			
											gree fract th coating					iting rough	-		
12.00 - 13.50	76	73	32					(1.50)		• • • • • • • • • • • • • • • • • • • •	30m 60 degree fra	acture planar r	ough open with	approx 30% Io	ss of core diame	ter around	-		
-										fracture				.,	dante		13		
										• • • • • • • • • • • • • • • • • • • •	30m 60 degree fra	acture planar r	ough open with	approx 30% lo	ss of core diame	ter around			
								13.50		· fracture · Weak re	ddish bro	wn fine	to mediu	m graine	d SANDS	STONE	-		
											weathere zontal to 2						-		
-										: undulatii	ng rough t	tight to c	pen clea	n. Loca	lised wea		- 14		
13.50 - 15.00	93	87	63					(1.50)		30mm ir			euuces a	suengui					
										•							-		
										•							-		
								15.00			red as red		wn coars	se GRAV	EL. Grav	/el is	15		
										assesse	ed as weal	k.					-		
										•							-		
15.00 - 16.50	80	20	0					(1.00)		:							-		
-								(1.90)		•							- 16		
										•							-		
										•							-		
								16.90		· ·				C					
-										SANDS	medium : TONE par	tially we	athered.	Very clo	sely to cl	osely	- 17		
16.50 - 18.00	96	73	68					(1.10)			subhorizo o undulatir					0, 180) ay coating			
								(1.10)		on surfa	ces.	2				-			
								10.00		:									
				1				18.00 (0.30)			red as red		wn coars	se GRAV	'EL. Grav	/el is	18		
								18.30		Weak to	medium	strong r				m grained			
18.00 - 19.50	80	60	43							closely s	spaced su	bhorizo	ntal fracti	ures (20,	120, 180	closely to) planar to			
-0.00 - 18.00	50		40					(1.20)		of up to	ng rough t 10% arou					I core loss n to very	- 19		
										: weak.							. 13		
								19.50		:									
								(0.50)	incorrect incorrect inc key key incorrect incorrect inc	NO recov	very (AZC) L)							
_								20.00	key key Incorrect incorrect inc	om							20		
0.1	TCR	SCF		Fracture		D		e Diame	tor 0		otor D		ontinued ne	ext sheet			—		~///////
Date	art & E Time		Shift Obse epth (m) C		Water (m					asing Diame th (m) Dia	(mm) Han	marks: nd Pit exca	vated to 1.2	20m bgl to	clear servic	es. Cable perc	ussion drilli	ing using 1	50mm OD
											unde	ertaken us	ing a PWF	core barre	I (120mm O	0.7mm OD) insta D) in conjunctio mprised 0.50m	on with core	e liner to 1	9.50m bgl.
											with	i gravel pa	ck and ben	tonite seal,	finished off	at ground level at any water s	with a flus		
											Eng	ineering d	escriptions	to BS5930	: 2015.	-			
From (m) To ((m)	Ch Dura	iselling tion Rer	narks		Тор) (m)	lı Base	nstallatior (m) T		· · ·	th Strike D		Depth Sealed	Time (mins)	Strikes Rose To (m)		Remarks	6
	T										3	3.00	3.00	3.10	20	2.85			

				Contract Name: Client: Armstrong House, Manchester Bruntwood PLC											Boreho	le ID:	
NX C	onsı	ulting	1	Contract	-			Started:		Logged By		Start [End Date:	_	BH0	3
		•	•	NX299	Number			/2017		KE	•		2/2017	26/02/2017			
										Ground Le				20/02/2017	Sheet 3	B of 3	
				Easting:			Northi	ıy.			vCI.	Hole T Rotar	ype: y OH & Co	re	Scale:	1:50	
Drilling Contractor								Plant Use				rtotal		ther / Ground Conditions		1.00	
Taylor Drilling Serv			lan Taylor. Situ Test			0	Commac	cio 205 R	totary Dril	ing Rig / Water		rata Details	Weat	her:		Grou	ndwater
Depth	TCR	SCR	RQD	Fracture	Fracture	Lev	el [Depth (m) Thickness)	Leger	d	51		Strata Descript	ion		Water	Backfill/
Doptil		0011	RQD	Index	Spacing	(mAC) (I	hickness)	· · · ·		medi			n fine to medium graine	d E	Strike	Installation
19.50 - 21.00	67	53	25				,	(1.00)		SANDS closely undulati	TONE spaceo ng rou	partially to d subhorizo igh tight to d	distinctly we ntal fractures open. Localis	athered. Very closely to s (20, 120, 180) planar t sed diametrical core los ength reduction to very	0		
				-				21.00	••••			End of	Borehole at 2	21.000m	21		
															- 22		
															- 23		
															- 24		
															- 25		
															- 26		
															- 27		
															28		
															29		
															- 30		
Date Sta	art & Er Time			ervations Casing (m)	Water (m		r Strike De 2.85	epth Time E				and tools to 10 PWF core barn recovered. Ins bentonite seal, rotary drilling v	1.50m bgl. PX ca rel (120mm OD) stallation comprise finished off at g	gl to clear services. Cable perc sing (139.7mm OD) installed to in conjunction with core liner to sed 0.50m plain pipe and 4.50m round level with a flush cover se any water strikes. 5930: 2015.	10.50m. Cori 19.50m bgl. 8 slotted pipe w	ng undertal 7mm diame ith gravel p	ken using a eter core ack and
Top (m) Base (e Re		lush Colou	ır To	op (m)		nstallatio (m)		(mm)						

			Contract Name:		Цоц	se, Mar	achast	or.	Client:	Bruntwoo		B	Boreho	le ID:	
NX C	onsu	lting	Contract Number			Started:		Logged By	<i>.</i>	Start Date:	End Date:			BH04	1
		5	NX299			3/02/20		K		23/02/2017	23/02/20)17			
	161 904 018	17	Easting:		Z North		, , ,			Hole Type:	20/02/20		Sheet 1 Scale:	ot 1	
marknewton		ing.org.uk	_uoung.		. toru			S. Cana LOW	((00).		Percussion			1:50	
Drilling Contracto Taylor Drilling Ser	r / Drillers		1			i / Plant Us 2000 cable		on ria		We	ather / Ground Conditio ather:	ns			
		& In Situ Tes	ting	.				1	Strata						dwater
Depth	Sample ID	Т	est Result		vel .OD)	Depth (m) (Thickness)	Legeno			Strata Descrip				Water Strike	Backfill/ Installation
- 0.00 - 1.00	В					(1.30)		🕺 cobble d	content an	rown sandy gravel Id some black orga es are brick (Made	nic matter and ro		- - - - - - - - - - - - - - - - - - -		
- 1.50 - 2.00	В) 1.50m, N=20 9/5,4,4,7)			1.30			and mediu	ey sandy gravelly m cobble content.			- 2		
- 2.50 - 3.00	В	(1,7 SPT(C) 3	2.50m, N=35 77,9,10,9) .50m, 50 (3,5/50			(3.00)							- 3		
- - - - - - - - - -		SPT(C) 4	.30m, 50 (25 for 50 for 115mm)			4.30		At 4.30	Om obstruction no	progress End of Borehole at	4.30m		- 4		
- - - - - - - - - -													- 5		
													6		
													- 7 		
													- 8		
													- 9 - - - - - -		
-													- 10		
Sta Date	Start & End of Shift Observations Borehole D Time Depth (m) Casing (m) Water (m) Depth (m) I								(mm) Har drill tern	narks: nd Pit excavated to ing using 150mm (ninated at 4.30m b jineering descriptio	DD casing and too gl due to obstruct	ols to 4.30 ion. Re-d 115.)m bgl.	Boreh	nole
From (m) To		Chiselling ration Re	marks	Т	op (m)		nstallatio (m) T		(mm) Deptł	n Strike Depth Casing Depth	Sealed Time (mins) Ros		No g	Remarks groundw countere	ater

			Contract N		ona Hoi	use, Ma	ncheste	٩r	Client:	Bruntwo	od PLC		Boreho	le ID:	
NX C	onsu	lting	Contract N			e Started:		Logged By	:	Start Date:	End Date	:		BH04	A
		-		299		24/02/2		K		24/02/2017	27/0	2/2017	Sheet 1	of 3	
	161 904 018		Easting:			hing:		Ground Leve		Hole Type:			Scale:	0.0	
	consulting.c	ng.org.uk rg.uk									le Percussio			1:50	
Drilling Contractor Taylor Drilling Serv	rices. Ian an					od / Plant Us naccio 205 I		ng Rig / Water I		W	eather / Ground Co eather:	nditions			
Depth	Samples Sample ID	& In Situ Te	sting Test Result		Level	Depth (m)	Legen	4	Strata I	Details Strata Descrip	ation			Water	ndwater Backfill
0.10 - 1.00	B		Test Result		(mAOD)	(Thickness)	Eegen		ver soft bro	own sandy gravelly		dium cobble	-	Strike	Installati
- 0.50	D							💥 content	and some	black organic mat Made Ground)					*****
-													- 1		
1.50 - 2.00	В		C) 1.50m, N= I,1/2,2,2,3)	=9		(3.20)							- 2		
2.20	D							8							
2.50 - 3.00	В		2.50m, 50 (3 or 145mm)	,7/50											
- 3.20 3.50 - 3.95	D U					3.20		slightly slightly	gravelly CL	ing stiff locally firm AY. Gravel is fine ed lithologies			3		
- 4.00 4.20	D												4		
		007/0	2) 4 E0-	15									Ē		
4.50 - 4.95 4.50 - 5.00	B D	SPT(S (1	5) 4.50m, N= 1,1/2,3,5,5)	15				€From 4	1.50m becoming st	ff			Ē		
-													5		, , , , , , , , , , , , , , , , , , ,
5.50	D					(4.80)		← ← ← From 5	5.50m-5.95m locali	y appearing firm					
-6.00 - 6.45 6.50	U D												6		
- 7.00	D												7		
7.50 - 7.95 7.50 - 8.00	B D		6) 7.50m, N= 6/7,7,10,10)	:34											
- 8.00	D					8.00 (0.50) 8.50		coarse s	subangular	sandy slightly gra to subrounded of	mixed litholog	ies	8		
-9.00 - 9.45	D		9.00m, 50 (4	,5/50		0.00				n brown clayey silt sandstone)	y fine to coars	e SAND	9		
			or 275mm)			(2.00)	× ×								
							× ×	× 1					10		
0.00 St		CR RQD			Boreh	ole Diame	ter (Casing Diame	eter Don	Continued next narks:	sheet		ŢĨ		
Date St	Time	Depth (m)	Casing (m) N	Vater (m)		m) Dia (r	nm) De	pth (m) Dia	(mm) Hand casir unde 87m with Wate	NARKS: I Pit excavated to 1.20r Ig and tools to 10.00m I traken using a PWF co n diameter core recove gravel pack and benton r flush used in rotary di neering descriptions to	bgl. PX casing (13 re barrel (120mm) red. Installation c ite seal, finished o illing will have ma BS5930: 2015.	39.7mm OD) insta OD) in conjunctio omprised 0.50m p ff at ground level sked any water st	alled to 10. n with core plain pipe a with a flus	00m. Cori e liner to 2 and 4.50m	ng 1.00m bgl. slotted pip
From (m) To		Chiselling Iration Re	emarks		Top (m		nstallatio (m)		(mm) Depth	Strike Depth Casing Dep		er Strikes s) Rose To (m) 0.00		Remarks groundw	
														counter	

NX C	ons	ulting	J				anchester ate Started	:	L		Client: Brunt	wood PLC	End Date:	Borehol	e ID: BH04	A
		-		NX299			4/02/2017			E		24/02/2017	27/02/2017	Sheet 2	of 3	
				Easting:		N	orthing:		Ģ	Fround Lev	el:	Hole Type:		Scale:		
Filling Contractor	/ Drillers					Me	ethod / Plant U	sed				Rotary OH & Co	ther / Ground Conditions		1:50	
aylor Drilling Serv	ices. Iar					Co	ommaccio 205	Rotary D	Drilling	Rig / Water Fl		Wea da Details	ther:		Grou	ndwater
Depth	TCR	SCR	RQD	Fracture Index	Fracture Spacing	Level (mAOD	Depth (m)) (Thickness) Lege	end			Strata Descrip	tion		Water Strike	Backfi
0.00	S							× ×	×					-		
							10.50	× ×	×							
							10.00	key ke Incorrectinco key ke	ey key prrectincom ev key	No recov	ery (A	ZCL)				
0.00 - 12.00	0	0	0					incorrectinco key ke	orrectincom ey key					- 11		
	0	Ŭ	Ū					key ke incorrectinco	ey key prrect incom							
								key ke Incorrectinco key ke	ey key prrectincom ey key							
							(2.30)	incorrectinco key ke	orrectincom ey key					-		
				-				key ke incorrectinco	ey key prrectincom					12		
								key ke lincorrectinco key ke	ey key prrectincom ey key							
								incorrectinco key ke	orrectincom ey key					-		
2.00 - 13.50	47	40	19				12.80	key ke lincorrectinco	ey key s grectincon							
									· · · ·	SANDST	ΌΝΕ c	istinctly to partially we	n fine to coarse grained athered. Very closely to	13		
								••••	· · · ·	200) tiaht	t to wic	le planar to rough loca	gree fractures (30, 70, Ily clay and gravel filled.			
				-					· · · ·	From 13	.20m-13.50 .30m-13.50	m subvertical fracture planar rough ope m very weak	n			
									· · ·							
									· · · · · ·					14		
3.50 - 15.00	68	62	26					••••	• • • • • •							
									• • • • • •							
							(3.70)		••••							
				-						From 15	.00m-15.20	m zone of weak gravel		15		
									· · ·					-		
									· · ·	From 15	.35m-15.50	m band of firm clay				
5.00 - 16.50	94	85	30											-		
														16		
										AFrom 16	26m 16 60	m subvertical fracture planar rough ope				
				-			16.50	••••	· · ·	Weak to	mediu	m strong reddish brow	n fine to medium grained	<u>-</u>		
									· · ·	SANDST medium s	ONE ι spaced	Inweathered to partiall I subhorizontal to 15 d	y weathered. Very close to egree fractures (40, 2000	D		
									••••	350) plan	har to u	Indulating rough tight t	o wide clean.	17		
6.50 - 18.00	93	93	80													
									· · · · · ·					-		
									· · ·							
				1			(3.00)		••••					- 18		
							(4.50)		· · ·							
			-						•••					Ē		
8.00 - 19.50	100	100	80						· · · · · ·							
									· · ·					- 19		
									••••							
				1			19.50						n fine to medium grained y weathered. Very close to			
									· · ·	medium s	spaced	l subhorizontal to 15 d	egree fractures (40, 2000	, [
					+				••••	350) plan	nar to u	Indulating rough tight t Continued next s		- 20		
Sta	art & E Time	nd of Sh	th (m)	ervations Casing (m)	Water (m) Water S	Wat	er Strike		tails VL Rema		Remarks:	gl to clear services. Cable percus	sion drilling	using 150~	1m OD 44
Bate			<u> () c</u>	<u>, aoing (iii)</u>)					a F n b	nd tools to 10.00m bgl. PX c WF core barrel (120mm OD) ecovered. Installation comprise	asing (139.7mm OD) installed to 1 in conjunction with core liner to 21 sed 0.50m plain pipe and 4.50m sl round level with a flush cover set i any water strikes.	0.00m. Corii .00m bgl. 8 otted pipe wi	ng underta 7mm diame ith gravel p	ken using eter core ack and
		lush Info				Tor		Installa			mm)					
op (m) Base (m) Flu	isn Type	e Re	eturn	Flush Colou	ir Iop	(m) Base	e (m)	Ту	pe Dia (rnm)					

				Contract Armstro		se, N	lanche	ester			Clier Brur	t: itwood PLC		Boreho		
NX C	onsı	ulting	9		t Number		Date St			Logged I	By:	Start Date:	End Date:		BH04	A
				NX299			24/02/			KE		24/02/2017	27/02/2017	Sheet 3	of 3	
				Easting:			Northin	g:		Ground I	_evel:	Hole Type: Rotary OH & Co	ore	Scale:	1:50	
Drilling Contractor	/ Drillers	and Dek	lan Tavlor				Method / I			ng Rig / Wat	er Flush	Wea	ther / Ground Conditions			
	Sampl	es & In	Situ Test	ing	Fracture							trata Details				ndwater
Depth	TCR	SCR	RQD	Index	Spacing	Lev (mAC	Del De DD) (Th	epth (m) hickness)	Legen			Strata Descrip	tion	ŀ	Water Strike	Backfill/ Installatio
19.50 - 21.00	100	100	80				2	21.00				End of Borehole at	21.000m			
														- 22		
														- 23		
														- 24		
														- 25		
														- 26		
														- 27		
														- 28		
														- 29		
														- 30		
	Start & End of Shift Observations															
Date Sta	Time	Dep	th (m) C	asing (m)	Water (m) Water	r Strike Dep	th Time E		SWL R	emarks	Remarks: Hand Pit excavated to 1.20m i and tools to 10.00m bgl. PX c PWF core barrel (120mm OD) recovered. Installation compri bentonite seal, finished off at g rotary drilling will have masket Engineering descriptions to BS	asing (139.7mm OD) installed in conjunction with core liner sed 0.50m plain pipe and 4.5 ground level with a flush cover d any water strikes.	d to 10.00m. Cori to 21.00m bgl. 8 0m slotted pipe w	ng underta 7mm diame ith gravel p	ken using a eter core ack and
Гор (m) Base (ormation e Re		Flush Colou	ır To	op (m)	Base	nstallatio (m)		ia (mm)					

			Contract		rong	Hous	se, Mar	ncheste	er	Client	:	Brun	twood P	LC		Bo	orehol	e ID:	
NX C	onsul	lting	Contract	t Number	: [Date S	Started:		Logged	By:	Sta	rt Date:	E	End Date:				BH0	5
			N	IX299		2	5/02/20	017		KE		25/02/20	017	26/02	2/2017	Sh	neet 1	of 3	
	161 904 0187 @nxconsultii		Easting:		1	Northi	ng:		Ground L	evel (mAC	D): Ho	le Type:				Sc	ale:		
	consulting.or					Method	/ Plant Us	ed				C	Cable Pe	CUSSION Ground Con	ditions			1:50	
Taylor Drilling Serv	vices. MH and		4:				2000 cable		n rig	01	-t- D-t-	1-	Weather:					0	
Depth	Samples of Sample ID	& In Situ Tes	est Result		Lev		Depth (m)	Legen	4	Sti	ata Detai	Strata De	scription					Water	ndwater Backfill/
					(mAC	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.10		💥 Tarma	acadam (round)						Strike	Installatio
0.20	D						(0.30)		Grey	fine to co	arse gra	avel (Hardo	core - Mac	de Ground	I)	Ē			
0.50 - 1.00	В						0.40					gravelly cl atter. Grav				-			
										er (Made						Ē			
_							(1.20)		8							-	- 1		
									8							Ē			
- 1.50 - 2.00	В		C) 1.50m, I				1.60				<u> </u>					-			
			,3/3,2,2,2)							prown sar er (Made (with occas	sional blac	k amorph	ious orga	nic			
<u>.</u>									8		,					Ē	- 2		
2.20	D						(1.40)		8							Ē			
2.50 - 2.95	U								8							Ē			
									8							Ē			
- 3.00	D						3.00	<u> </u>				and soft to				t ndy ‡	- 3		
3.20	D								slight	ly gravelly	y CLAY.	Gravel is thologies							
- 3.50 - 3.95 3.50 - 4.00	B) 3.50m, N 4/7,7,7,21)							rom 3.20m-3.50r	n firm to stiff					Ē			
3.50 - 4.00		(3,4	4/7,7,7,21)															
_																	- 4		
4.20	D															Ē			
4.50 - 4.95	U															Ē			
																Ē			
- 5.00	D								÷. ; •							-	- 5		• • • • •
5.50	D						(5.20)			rom 5.50m-6.00r	n soft to firm					Ē			
							(5.30)												
-6.00 - 6.45 6.00 - 6.50	B D	SPT(S) 6.00m, N ,3/5,5,6,7)	V=2 3												-	- 6		
0.00 0.00		(2)	,0,0,0,0,0,7)													Ē			
-																Ē			
																Ē			
- 7.00	D															-	- 7		
																É			
7.50 - 7.95	U								**							Ē			
																Ē			
- 8.00	D								· · · · · · · · · · · · · · · · · · ·							Ē	- 8		
							8.30					sandy gra							
8.50	D						(0.70)					subrounded				Ē			
																Ē			
-9.00 - 9.45	D						9.00	× ×				own clayey	silty fine	to coarse	SAND	Ē	- 9		
								× ×	(prop	ably resid	iuai sani	นรเปทย)				Ē			
-							(1.50)	× ×	×							Ē			
								× ×	×-							Ē			
_					1 .							Continued I	next sheet				- 10		
St Date		of Shift Obse Depth (m)		Water (m			e Diame) Dia (n		Casing Dia pth (m) E	Dia (mm)	Remark Hand Pit e	way at a d to d	1.20m bgl to	clear servic	es. Cable p	ercussio	on drilli	ng using 1	50mm OD
											casing and undertake	d tools to 10.8 n using a PW meter core re	50m bgl. PX	casing (139 el (120mm O	.7mm OD) i D) in conjur	installed	to 10.	50m. Cori liner to 21	ng .00m bgl.
											with grave	meter core re I pack and be h used in rota	entonite seai	, tinisnea oπ	at ground le	evel witr	n a flusi	nu 4.50m 1 cover se	in concret
											Engineerir	ng description	is to BS5930): 2015.					
From (m) To		Chiselling ration Re	marks		То	p (m)	Base	nstallatio (m)		Dia (mm)	Depth Strik	e Depth Casing	Depth Sealed	Time (mins)	Strikes Rose To (m	1)		Remarks	
			_	_		_				Ţ				0	0.00			groundw counter	
														0	0.00				

				Contrac		rong	Hous	se, Mar	ncheste	r	Client:	Bruntwood	I PLC	E	Borehol		
NX C	ons	ult	ing		t Number	: [Date S	Started:		Logged By	/:	Start Date:	End Date:			BH0	5
				N	IX299		2	5/02/20)17	K	Έ	25/02/2017	26/02/2	2017	Sheet 2	of 3	
T: 0 ⁻ marknewton	161 904 @nxcon		orauk	Easting:		٢	lorthi	ng:		Ground Leve	el (mAOD):	Hole Type:		5	Scale:		
www.nx Drilling Contractor	consulti	ng.org.u					lethod	/ Plant Use	he				Percussion	ons		1:50	
Taylor Drilling Serv	rices. Mł	I and G							percussio	n rig		Weat		0113			
Depth	Samp		n Situ Tes	ting est Result		Leve		Depth (m)	Legend		Strata I	Details Strata Descriptio				Water	ndwater Backfill/
Deptil	Gampio					(mAC	D) (Thickness)				Strata Descriptio			Ŀ	Strike	Installatio
									×						Ē		
10.50	D D						-	10.50	incorrect incorrect in	No reco	overy (AZC	L)			-		
									Incorrect incorrect in key key	com key					Ē		
-									incorrect incorrect in key key	com key					- 11		
10.50 - 12.00	0	0	0					(1.50)	key key Incorrect incorrect in	key com					Ē		
									key key Incorrect incorrect in	key com					Ē		
									key key lincorrect incorrect in key key	key com key					Ē		
				_				12.00	Incorrect incorrect in key key	com key	-1.1	Contraction of the second second			12		
										SANDS	TONE dist	reddish brown fine t inctly to partially wea	thered. Very clo	sely to			
												phorizontal to 20 deg ulating rough open to			Ē		
12.00 - 13.50	87	76	37					(1.50)			cm and gra				Ē		
	5,		57					(1.00)		•					13		
										€From 1	13.05m-13.15m su	bvertical fracture planar rough. Core	missing on one side of frac	ture			
								10 50		<u>At 13.40</u>	0m 60 degree undui	ating rough open fracture			Ē		
								13.50		· Weak to	o medium s	trong reddish brown ially weathered to un			Ē		
										: to mediu	um spaced	subhorizontal to 15	degree fracture	s (40,			
-											 planar to on surface 	o undulating rough op s.	en with some s	sand	- 14		
3.50 - 15.00	87	83	64					(1.50)							Ē		
										•					Ē		
										•							
								15.00				dish brown coarse GI	RAVEL. Gravel	is	15		
								(0.80)		assesse	ed as weak						
								(0.00)		•					Ē		
15.00 - 16.50	73	47	31					15.80	· · · · · ·	Weak re	eddish brov	vn fine to coarse grai		NE	-		
-										: partially	weathered	d. Very closely to clos	ely spaced sub	horizontal	16		
										: tight to v	wide with s	ures (10, 75, 200) pla ome clay coating on	surfaces. Strer	ngth			
				-						reductio	on to very w	veak up to 30mm thic	k around fractu	res			
										•					Ē		
-										•					- 17		
16.50 - 18.00	70	48	28							•					Ē		
									:::::	:					Ē		
								(3.70)	:::::	•					Ē		
			_	-						:					18		
									:::::	:					E		
															E		
18.00 - 19.50	95	87	69							•					Ē		
-															19		
										•					Ē		
								19.50		•					E		
										: SANDS	TONE part	trong reddish brown ially weathered. Very	closely to med	lium	E		
_										spaced	subhorizor	ntal to 20 degree frac rough opento wide cl	tures (40, 110, 3	300)	20		
	TCR	SCF		Fracture								Continued next she	•	50000011	÷ 20		
Sta Date	art & E Time		Shift Obse pth (m) C	ervations Casing (m)	Water (m			e Diamet) Dia (m		asing Diame oth (m) Dia		narks: I Pit excavated to 1.20m by	gl to clear services	Cable nercus	sion drilli	ng usina 1	
				5 ()		1-6					casir unde	ng and tools to 10.50m bgl. Intaken using a PWF core b	PX casing (139.7n parrel (120mm OD)	nm OD) install in conjunction	ed to 10. with core	50m. Cori liner to 21	ng I.00m bgl.
											87m with	m diameter core recovered gravel pack and bentonite	 Installation compr seal, finished off at 	rised 0.50m pl ground level w	ain pipe a /ith a flus	ind 4.50m	slotted pipe
											Wate	er flush used in rotary drillin neering descriptions to BS	ig will have masked	any water stri	kes.		
			selling			<u> </u>			nstallatio				Water St				
From (m) To	(m)	Durat	ion Rei	marks		To	o (m)	Base	(m) 1	ype Dia	(mm) Depth	Strike Depth Casing Depth S	ealed Time (mins) R	0.00		Remarks groundw	
1			1			1		1	1	1				1			ed.

				Contract							Clien				Boreł	nole	ID:	
		. 14!		Armstro									od PLC					
NX C	onsi	ulting	9	Contract	Number	: C	Date Sta	rted:		Logge	ed By:		Start Date:	End Date:			3H05	
				NX299		2	25/02/2	017		KE			25/02/2017	26/02/2017	Shee	t 3 o	f 3	
				Easting:		Ν	lorthing	:		Grour	nd Level:		Hole Type:		Scale	:		
Drilling Contractor	/ Drillere						lethod / Pl	antileo	d				Rotary OH & Core	r / Ground Conditions			1:50	
Taylor Drilling Serv	vices. M⊦	and GE					ando 200			n rig			Weathe	r:				
Depth	Sampl TCR	es & In SCR	Situ Test RQD	ing Fracture	Fracture	Leve	l Dep	th (m)	Logon	4	Si	trata D					Groun Water	Backfill/
Depth	ICR	SCR	RQD	Index	Spacing	(mAO	D) (Thic	kness)	Legen		verv weak i	up to 2	Strata Descriptior 20mm thick around fi		Ŀ		Strike	Installation
									· · · · · ·		in the second	up (0)			Ē			
19.50 - 21.00	97	92	50				(1	50)	· · · · · ·	:					Ē			
									· · · · · ·	:					Ē			
-				-			21	.00	• • • • •	•			End of Borehole at 21.	000m		1		<u>IKUKU</u>
															Ē			
-															Ę			
															Ē			
															2	2		
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-															- 3	b		
												-			-			
St Date	art & Ei Time			ervations asing (m)	Water (m) Water			Strike E	Details SWL	Remarks	Rem Hand	arks: Pit excavated to 1.20m bgl f	o clear services. Cable of	ercussion drilli	ng usi	ng 150mm	1 OD casing
					(and to PWF of	ols to 10.50m bgl. PX casir core barrel (120mm OD) in o	ng (139.7mm OD) installed conjunction with core liner	i to 10.50m. C to 21.00m bgl.	oring 87m	undertake m diamet	en using a er core
												recove	ered. Installation comprised nite seal, finished off at grou	0.50m plain pipe and 4.50 nd level with a flush cover	Om slotted pipe	e with	gravel pa	k and
												rotary Engine	drilling will have masked an eering descriptions to BS59	y water strikes. 30: 2015.				
			ormation			-			stallatio			1						
Top (m) Base	(m) Flu	sh Type	Re	eturn F	lush Colou	r Top	o (m)	Base (m) 1	Гуре	Dia (mm)	-						
L1	1		1			1	I				1	1						

		NX Co	onsı	ulting	3		NX Consulting Ltd Tel: 0161 904 0187 Mob: 07808 670068 www.nxconsulting.org.ul	k	Trial Pit No TP01	
Project Nar					Proi		Coords: E:	N:	Sheet 1 of 7 Date	1
-		, Manchester			-	299	Level:	14.	21/02/201	7
							Dimensions (m)		Scale	
Location:	N	Manchester					Depth	2.40	1:25	
Client:	В	Bruntwood PLC					1.60 0.60		Logged By	1
Sample Depth (m)		d In-Situ Tests Results	Depth (m)	Level (m OD)	Legend		Stratum De	escription		
0.40	ES		0.20			content. Gravel and	y gravelly clay with pocke d cobbles are brick and c	concrete. (Made Ground))	
1.00	В		0.90				elly sand with medium col rick and concrete and sar Trial Pit Comple	ndstone blocks (Made Gr		
								2		
										4
Remarks: Groundw		Stability: Unstable a Backfilled with exca No groundwater en	avated ar	risings on	m 1.00n comple	n bgl. Terminated at etion. Soils logged in	t 1.60m bgl due to collaps n accordance with BS593	sing sides. Excavated us 30 2015.	sing a JCB 3CX.	

	Image: Manchester MX22 Image: Manchester Bruntwood PLC Image: Manchester Depth Level Image: Manchester Depth Level Image: Manchester Depth Level Image: Manchester Depth Level Legend Image: Manchester Depth Level Legend Image: Manchester Image: Manchester Depth Level Legend Image: Manchester Image: Manchester Image: Manchester ES Depth Depth Level Image: Manchester Image: Manchester ES Depth Deph Image: Manchester						NX Consulting Ltd Tel: 0161 904 0187		Trial Pit No	
		NX C	onsı	ulting	q		Mob: 07808 670068		TP02	
				•		I	www.nxconsulting.org.u	ık	Sheet 1 of 1	
Project Nar	me				Proj	ject No.	Coords: E:	N:	Date	
Armstrong	House	, Manchester			NX	299	Level:		21/02/2017	7
		· · · · · ·					Dimensions (m)		Scale	
Location:	IV.	lanchester				I	Depth	2.40	1:25	
Client:	E	3runtwood PLC					2.00 0.60)	Logged By	
			Depth	Level	Legend	Ŀ	Stratum D	escription	1	
Depth (m)	Туре	Results	(m)	(m OD)	~~~~~			c sand with many rootlets	(topsoil - Made	
0.30			0.90			Ground)		ne matrix (25%) of ashy to	psoil and roots	1
			2.00			At 2.00m obstruction	encountered probable old conc Trial Pit Comp			2 -
										3
										4
Remarks:	:	Stability: Sides stat excavated arisings	ble during on comp	g excavat pletion. S	tion. Te oils log	erminated at 2.00m b gged in accordance w	gl due to obstruction. E vith BS5930 2015.	xcavated using a JCB 3C		
Groundy	vater:	No groundwater en		 ed.						
		J								

		NX C	onei	ultin			NX Consulting Ltd Tel: 0161 904 0187 Mob: 07808 670068		Trial Pit No)
			01131	, iiiii	5		www.nxconsulting.org.u	k		4
Project Nai	me				Proi	ect No.	Coords: E:	N:	Sheet 1 of 7 Date	1
-		, Manchester			NX				21/02/201	7
/ uniou orig		,				200	Level: Dimensions (m)		Scale	'
Location:	Ν	lanchester					Depth	2.40	1:25	
Client:	E	Bruntwood PLC					2.20 0.60		Logged By	,
Sample Depth (m)		d In-Situ Tests Results	Depth (m)	Level (m OD)	Legend		Stratum De	escription		
1.00	ES		0.40			Ground) Friable yellowish br content. Cobbles a (Made Ground)	own very sandy gravelly	el ash - Made Ground)	and low boulder	1
2.20 2.20	BES		2.20				Trial Pit Compl	ete at 2.20m		3
										4
Remarks		Stability: Sides stal	ble during	g excava	ion. Te	rminated at 2.20m b	gl due to slow progress i	n cemented pfa. Excava	ted using a JCB	3CX.
			avated a	isings or	comple	-uon. Soiis logged ii	n accordance with BS593	2013.		
Groundw	vater:	No groundwater er	countere	ed.						

		NX C	onsı	ulting	g		NX Consulting Ltd Tel: 0161 904 0187 Mob: 07808 670068 www.nxconsulting.org.ul	k	Trial Pit No TP04	
Project Nar					Broi	ject No.	Coords: E:	N:	Sheet 1 of 7 Date	1
		, Manchester			-	299		IN.	25/02/201	7
Among	FIGUSC					299	Level: Dimensions (m)		Scale	
Location:	Ν	Manchester					Depth	2.40	1:25	
									Logged By	,
Client:		Bruntwood PLC		· · · · · ·			1.70 0.60			
Sample Depth (m)		d In-Situ Tests Results	Depth (m)	Level (m OD)	Legend	L	Stratum De	escription		
Deput (m)	1990	- Ixeoute		(,		Grass over black sli Ground)	lightly clayey silty organic	sand with many rootlets	(topsoil - Made	-
0.50	ES		0.30			y fine to coarse subangul nents. (Made Ground) organic gravelly sand. G und)	-			
0.90	D		1.40			Layer of solid bricks Made Ground)	s with 1no. sandstone blo	ock in face of pit. (Possib	le old brick floor -	1
			1.70			<u>.</u>	Trial Pit Comple	ete at 1.70m		
										2
										3
										4
Remarks:	:	Stability: Sides state excavated arisings	l ble durinç on comr	g excava pletion. S	tion. Te oils log	erminated at 1.70m b gged in accordance w	ogl due to obstruction. Ex vith BS5930 2015.	cavated using a JCB 3C	X. Backfilled with	L h
Groundw	vater:	No groundwater en	lcountere	.ed.						

		use, Manchester NX2 Manchester Bruntwood PLC and In-Situ Tests Depth Level (m) (m OD) Legend (S) 0.40 0.40 (S) 2.30 0.40			NX Consulting Ltd Tel: 0161 904 0187 Mob: 07808 670068		Trial Pit No TP05			
		e ouse, Manchester Manchester Bruntwood PLC and In-Situ Tests Depth Level (m OD) Level Type Results 0.40			-		www.nxconsulting.org.u	K	Sheet 1 of 1	
Project Nar	ne				Proj	ect No.	Coords: E:	N:	Date	
Armstrong	House	, Manchester			NX:	299	Level:		21/02/2017	7
		A					Dimensions (m)		Scale	
Location:	N	lanchester					Depth	2.40	1:25	
Client:	B	Bruntwood PLC					2.80 0.60		Logged By	
Sample	s and	d In-Situ Tests		Level	Logond		Stratum De	ecription		
Depth (m)	Туре	Results	(m)	(m OD)					(1	
0.30	ES		0.40			Ground) Bricks and sandsto		sand with many rootlets		
1.00	ES						II / structure in side of pit			1
			2.30				ecomes stiff friable clay with occa			2
2.50	В		2.80				Trial Pit Comple			
										3
										5
Remarks:		on completion. Soil	s logged	d in acco	vation. dance v	L Terminated at 2.80r with BS5930 2015.	n bgl. Excavated using a	a JCB 3CX. Backfilled wi		
Groundw	ater:	No groundwater en	countere	ed.						

		NX C	onsı	ulting	g	NX Consulting Ltd Tel: 0161 904 0187 Mob: 07808 670068 www.nxconsulting.org.ul	Trial Pit No TP06 Sheet 1 of 1					
Project Nar	ne				Proj	oject No. Coords: E: N:			Date			
Armstrong	House	, Manchester			NX	299	Level:		25/02/2017			
Location: Manchester							Dimensions (m)	0.40				
							Depth	2.40	1:25			
Client: Bruntwood PLC							1.00 0.60		Logged By			
Sample Depth (m)		d In-Situ Tests Results	Depth (m)	Level (m OD)	Legend		Stratum De	scription				
			0.10			Tarmacadam (Made		na Mada (naund)				
			0.27				sand and gravel (Hardco	re - Made Ground)				
			0.27			Friable brown sand	y clay (Made Ground) struction (possible old wall) in bac	k face of pit				
0.50	ES						<u>.</u>		-			
									-			
			0.80									
			0.00			Light brown slightly Ground)	silty fine to medium sand	I (Possible service backfil	I - Made -			
			1.00			× /	Trial Pit Comple	ete at 1.00m	1			
									-			
									-			
									-			
									-			
									-			
									2 —			
									-			
									-			
									-			
									-			
									3 -			
									-			
									-			
									4 —			
									-			
									-			
									-			
									5 —			
Remarks:		backfill. Strong sig	nal from	CAT in b	ase of p	oit that wasn't appare	ent at ground level. Term	I thought to possible repr inated at 1.00m bgl due to	o suspicion of			
C manual	backfill. Strong signal from CAT in base of pit that wasn't apparent at ground level. Terminated at 1.00m bgl due to suspicion of services. Excavated using a JCB 3CX. Backfilled with excavated arisings on completion and surface tarmac reinstated. Soils logged Groundwater: Noggeordawaterith&&A2015.											
Groundw	ater:	INCERTORING	GOUNDER	ev 10.								

8 APPENDIX 4: CONTEXT INDEX

Site_Code	Context	CTX_Type	Fill_of	Trench	CTX_Inter pretation	CTX_Cate gory	CTX_Leng th	CTX_Widt h	CTX_Dept h	CTX_Level s_high	CTX_Level s_low	CCD_Start	CCD_End
ARM17	1	Layer		1	Made ground	Make-up	3.9	1.5		35.85	35.78	1850	1900
ARM17	2	Layer		1	Made ground	Make-up	1.4	1.2		35.78	35.78	1850	1900
ARM17	3	Masonry		1	Stone surface Brick	Floor	3.9	1.5		35.84	35.84		
ARM17	4	Masonry		1	foundation	Foundation	2	0.42		35.8	35.8	1850	1900
ARM17	5	Masonry		1	Brick footing Curvilinear	Wall	1.3	0.16		35.79	35.79	1830	1900
ARM17	6	Masonry		3	brick footing Fireplace set into	Wall	1.22	0.21		35.58	35.58	1830	1900
ARM17	7	Masonry		3	footing [6]	Other	1.06	0.1		35.57	35.57	1830	1900
ARM17	8	Natural		2	Natural clay Natural	Natural	3.27	1.5		35.31	35.08		
ARM17	9	Natural		2	gravel Demolition	Natural	0.56	0.54		35.18	35.18		
ARM17	10	Layer		2	deposit Brickearth	Demolition	0.56	0.78	0.27	35.48	35.27		
ARM17	11	Layer		2	like subsoil Brickearth	Other	1.12	0.52		35.31	35.18		
ARM17	12	Layer		2	like subsoil	Other	1.17	1.17		35.28	35.28		
ARM17	13	Fill	18	2	Fill of [18] Brick	Backfill	1.32	0.9	0.15	35.31	35.31	1850	1900
ARM17	14	Masonry	16	2	foundation	Foundation	0.5	0.36	0.07	35.24	35.21	1830	1900
ARM17	15	Masonry	17	2	Brick footing Constructio	Foundation Constructio	1.1	0.24	0.15	35.37	35.37	1850	1900
ARM17	16	Cut		2	n cut for [14] Constructio	n Cut Constructio	0.5	0.36	0.07	35.21	35.15	1830	1900
ARM17	17	Cut		2	n cut for [15]	n Cut	2.1	0.24	0.15	35.35	35.2	1720	-1780
ARM17	18	Cut		2	Linear cut	Other	1.34	0.9	0.15	35.35	35.35		

Site_Code	Context	CTX_Type	Fill_of	Trench	CTX_Inter pretation	CTX_Cate gory	CTX_Leng th	CTX_Widt h	CTX_Dept h	CTX_Level s_high	CTX_Level s_low	CCD_Start	CCD_End
ARM17	19	Masonry		3	Drain support	Drain	0.49	0.1		35.6	35.6	1850	1900
ARM17	20	Masonry		3	Brick footing	Foundation	1.77	0.33		35.59	35.59	1850	1900
ARM17	21	Masonry		3	Brick footing	Foundation	0.87	0.24		35.59	35.59	1830	1900
ARM17	22	Masonry		3	Brick footing	Foundation	2.1	0.21		35.66	35.66	1850	1900
ARM17	23	Masonry		3	Brick footing Rubble fill inside	Foundation	0.92	0.24		35.66	35.66	1850	1900
ARM17	24	Layer		3	fireplace [7] Backfill of	Demolition	0.96	0.48		35.54	35.54		
ARM17	25	Layer		3	cellar Made	Demolition	1.06	0.46		35.57	35.57		
ARM17	26	Layer		3	ground Redeposite	Make-up	3.48	1.8		35.54	35.53	1815	1835
ARM17	27	Layer		2	d brickearth Bedding for	Make-up	1.32	0.9	0.14	35.44	35.35	1820	1860
ARM17	28	Layer		4	[29]	Bedding	0.94	0.9	0.18	35.85	35.85		
ARM17	29	Masonry		4	Stone floor	Floor	0.9	0.6	0.06	35.93	35.93		
ARM17	30	Masonry		4	Stone floor	Floor	0.5	0.2	0.06	35.82	35.82		
ARM17	31	Masonry		4	Brick footing	Foundation	1.1	0.12		35.68	35.68	1850	1900

PCA

PCA SOUTH

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