PORT OF TILBURY LONDON

PLANNING ACT 2008
INFRASTRUCTURE PLANNING
(APPLICATIONS: PRESCRIBED FORMS AND PROCEDURE) REGULATIONS 2009
REGULATION 5(2) (a)

PROPOSED PORT TERMINAL AT FORMER TILBURY POWER STATION

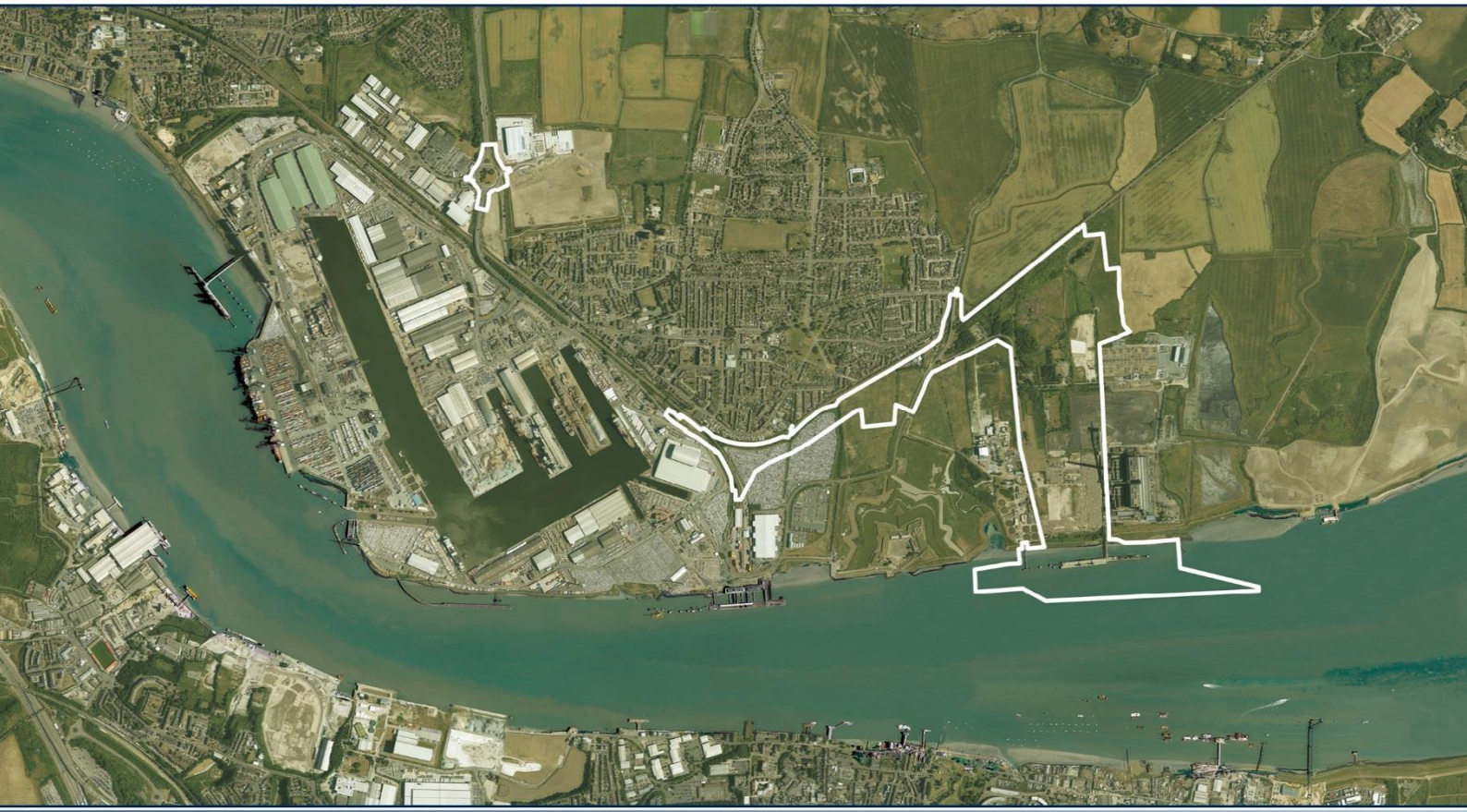
TILBURY2

TR030003

VOLUME 6 PART B

ES APPENDIX 15.C: ASBESTOS INVESTIGATION AND RECOMMENDATIONS REPORT

DOCUMENT REF: 6.2 15.C



TILBURY2

ASBESTOS INVESTIGATION AND RECOMMENDATIONS
TILBURY 2
TILBURY
PORT OF TILBURY (LONDON) LTD
AIR-20752-17-246
OCTOBER 2017

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ASBESTOS INVESTIGATION AND RECOMMENDATIONS
TILBURY 2
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PORT OF TILBURY (LONDON) LTD
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OCTOBER 2017

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Document Revisions

Rev	Date	Author	Approved	Issued	Remarks
DRAFT	06/07/17	NTD	RJG	NTD	DRAFT awaiting drawings
-	07/07/17	NTD	RJG	NTD	
A	14/08/17	NTD	SMJ	NTD	
B	28/09/17	NTD	RJG	NTD	
C	06/10/2017	NTD	RJG	NTD	
D	18/10/17	NTD	RJG	NTD	

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SECTION 1 INTRODUCTION

1.1 Port of Tilbury (London) Ltd (Port of Tilbury) proposes to redevelop an area of land located at the former Tilbury Power Station site. Idom Merebrook Limited (Merebrook) has been commissioned by Port of Tilbury to undertake an asbestos investigation and to advise on the implications of asbestos contamination to the redevelopment of the site.

1.2 The development will comprise a new infrastructure corridor (road/rail/cycle lane/footways), new road over rail bridge, culverting, landscaping/ecology corridors, new RoRo terminal comprising rail network, ground remediation, pavements, duct works, drainage, lighting, fencing, associated gate houses, security systems and amenity office buildings and new warehousing. In addition, the development will include a new bulk terminal.

1.3 The proposed infrastructure corridor has yet to be investigated, but given the current land uses (including vehicle servicing and maintenance facility, car park and railway terminal), made ground is likely to be encountered. Where made ground is encountered, there is the potential for asbestos within the soil. Buildings along the proposed infrastructure corridor have the potential to contain asbestos, which may lead to asbestos fragments at the surface.

1.4 During the investigation, it was not possible to access Zone 4A, Zone 4B or Zone 8 (RWE areas west of the main Power Station building). These will be investigated at a later date and reported under separate cover.

1.5 A further phase of investigation will be conducted in due course and reported as an addendum to this report.

1.6 The objectives of the investigation are to:

i. Review the available asbestos data from previous site investigations;

ii. Assess surface and sub-surface ground for asbestos (no other contaminants will be considered in this report);

iii. Evaluate the risks associated with asbestos onsite; and

iv. Provide recommendations for the mitigation of any significant risks identified and remediation.

1.7 This report presents the findings of the asbestos investigation and the implications with respect to development.

1.8 This report has been prepared for Port of Tilbury for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties making reference to the report should consult Port of Tilbury and Merebrook as to the extent to which the findings may be appropriate for their use.

SECTION 2 SITE BACKGROUND

2.1 SITE LOCATION AND SETTING

2.1.1 The site is located at the site off the former Tilbury Power Station site off Fort Road.

2.1.2 The site occupies an area of approximately 58.5 hectares located at National Grid Reference 565968, 175702 and indicated on drawings 20752-304-001, 20752-304-002 and 20752-304-003 presented in Appendix 1 of this report.

2.1.3 The site is boarded by a railway line to the north, with residential properties beyond. To the northeast of site are open fields, while Tilbury Power Station and associated infrastructure is located to the east of the site. The River Thames runs to the south of the site, a sewage works, Tilbury Fort and commercial developments lie to the southwest.

2.1.4 The site has been used for power generation for more than 50 years. Most of the above ground structures have now been decommissioned, with the site now largely covered by vegetation in the north and hardstanding in the south. During a site walkover, fragments of asbestos containing cement sheet were noted within the former Lytag area.

2.2 GEOLOGY

2.2.1 The published geological map indicates the presence of superficial drift deposits of Alluvium. The Alluvium is described as generally silt and clay with local inclusions of peat. The underlying bedrock geology comprises Cretaceous Upper Chalk which is described as soft, white with coarse flint gravel and cobbles.

2.2.2 Previous investigations have encountered variable thicknesses of made ground (generally in the range 0.5 to 2.5 m) above the superficial deposits.

2.2.3 The Alluvial deposits in previous investigations have been found to be variable in nature, but generally comprise very soft clay to soft silty clay interbedded with fibrous peat. The typical thickness of Alluvium was found to be 12 to 17 m. Deposits of sand and gravel, known as the Kempton Park Gravel are expected beneath the Alluvium (generally 2.0 to 9.0 m thick).

2.2.4 The Seaford and Newhaven Chalk Formations are known to underlie the Kempton Park Gravel. The formation has been encountered at depths of approximately 20 metres below ground level (m bgl) in previous reports.

2.3 HYDROGEOLOGY

2.3.1 The Alluvium beneath is identified by the Environment Agency as a Secondary (undifferentiated) aquifer and the River Terrace Deposits are a Secondary A aquifer. The Chalk bedrock at the site has been classified as a Principal Aquifer.

2.3.2 No Environment Agency Groundwater Source Protection Zones (SPZ) were identified on site, the closest was identified 0.9 km to the north of site.

2.3.3 It is understood that three groundwater abstraction licences were operated at the Power Station site. These are thought to relate to a single borehole advanced into the underlying Chalk, used for the occasional top-up of process water onsite. In addition, licences were held for a tidal abstraction and a surface water abstraction from the River Thames. RWE have advised that there are no abstraction boreholes within the Tilbury 2 site.

2.4 HYDROLOGY

2.4.1 The site lies on the northern bank of the River Thames. Two ponds and shallow ditches are located on site – the majority of the site drains into artificial channels and then to the Thames *via* a series of interceptors.

2.5 PREVIOUS INVESTIGATIONS

2.5.1 Numerous phases of investigation have been conducted by others, those with relevance to asbestos contamination of soil are considered here. Notably the other site investigations not discussed did not include testing or screening for asbestos and, given the aims of this assessment, have not been considered further.

2.5.2 Jacobs 2008

2.5.2.1 Suspected asbestos containing material (ACM) was identified in the form of roof tiles at the location of the former Lytag building. A limited number of samples were recovered but asbestos was not identified in any of the samples.

2.5.2.2 The report also referred to the suspected presence of buried asbestos within the former coal yard.

2.5.3 Structural Soils 2011

2.5.3.1 Suspected ACMs were encountered at two locations (B-BH1 and B-BH2), samples were not recovered to confirm if this was the case.

2.5.4 Structural Soils 2012

2.5.4.1 Structural Soils encountered suspected asbestos containing material at WS6 and WS13. Samples of these materials confirmed the presence of asbestos.

2.5.4.2 RPS, August 2015 – Ground Investigation Interpretative Report (JER6376)

2.5.4.3 Suspected Asbestos Containing Material (ACM) was encountered at TP-Z11-01 and TP-Z11-02 at 1.0 m and 0.7 m respectively. Samples of the suspected ACM were found to comprise amosite asbestos.

2.5.4.4 The results of soil sample analysis are summarised in Table 1 below. It should be noted that RPS only conducted an asbestos screen with no quantification or assessment of the prevalence of asbestos.

2.5.4.5 RPS was able to attribute the occurrence of asbestos to suspected sources as detailed below:

i. TP-Z11-01 to 03 – within an area where asbestos was believed to have been buried historically (in the former coal yard);

ii. TP-Z19-14 to TP-Z19-19 – where suspected fibrous asbestos was encountered by Structural Soils in 2011 and the presence of demolition arisings was noted by RPS in 2015

Table 1: Asbestos encountered in previous investigations

SAMPLE ID	TYPE OF ASBESTOS	MATERIAL	CONCENTRATION OF ASBESTOS (%)	INVESTIGATION
TP-Z19-09 1.0m	Amosite			RPS 2015
TP-Z19-14 0.8m	Amosite			RPS2015
TP-Z19-19 0.6m	Amosite			RPS2015
TP-Z19-15 0.9m	Amosite			RPS2015
TP-Z19-16 0.9m	Amosite			RPS2015
TP-Z19-18 0.9m	Amosite			RPS2015
TP-Z19-17 1.9m	Crocidolite			RPS2015
TP-Z19-12 0.8m	Amosite			RPS2015
B-BH1	Suspected ACM		No sample taken	Structural Soils 2011
B-BH2	Suspected ACM		No sample taken	Structural Soils 2011
WS-Z12-01 1.8m	Amosite			RPS2015
WS-Z13-01 1.0m	Amosite			RPS2015
WS6 2.1m	Amosite	Board	90*	Structural Soils 2012
TP-Z11-05 1.4m	Amosite			RPS2015
TP-Z11-03 0.8m	Amosite			RPS2015
WS13 0.65-2.0m	Amosite	Fibres	5.65*	Structural Soils 2012
WS13 1.2-2.0m	Amosite	Fibres/board	8.74*	Structural Soils 2012

SAMPLE ID	TYPE OF ASBESTOS	MATERIAL	CONCENTRATION OF ASBESTOS (%)	INVESTIGATION
WS13 1.2-2.0m	Amosite	Fibres/board	Fragment	Structural Soils 2012
TP-Z11-01 1.0m	Amosite	Lagging/insulation	Fragment	RPS2015
TP-Z11-02 0.7m	Amosite	Lagging/insulation	Fragment	RPS2015
TP-Z17-01 0.3m	Amosite			RPS2015
TP-Z7-09 0.6m	Anthophylite			RPS2015
TP-Z7-07 0.6m	Amosite			RPS2015
TP-Z7-01 1.4m	Amosite			RPS2015
TP-Z7-02 0.8m	Amosite			RPS2015
WS-Z4-10 0.8m	Amosite and Chrysotile			RPS2015
WS-Z4-04 0.7m	Crocidolite			RPS2015
WS-Z4-08 0.2m	Amosite			RPS2015
WS-Z4-02 0.6m	Amosite			RPS2015
WS-Z4-05 0.35m	Amosite			RPS2015
BH-Z7-02 0.6m	Chrysotile			RPS2015

* it is considered that the asbestos in soil concentrations encountered by Structural Soils represent bulk samples of the asbestos product only

SECTION 3 SITE INVESTIGATION

3.1 INTRODUCTION

3.1.1 Intrusive sampling locations were chosen on the basis of providing broad spatial coverage of the site and targeting areas where asbestos had been encountered by previous investigations. All Merebrook staff involved in the investigation were asbestos awareness trained.

3.1.2 Reassurance air monitoring was conducted during the site investigation. Fibre concentrations were less than the level of detection in all tests. Monitoring data is contained in Appendix 4.

3.2 SITE INVESTIGATION METHODS

3.2.1 An intrusive investigation was carried out by Merebrook on 5 to 9 June 2017 and comprised the following scope of work:

i. Seventy five machine-dug trial holes (MTP1 to MTP75 to a depth of 3.5-4.0 m bgl); and

ii. Sixteen hand-dug trial holes (MHP1 to MHP16 to a depth of 1.5 m bgl).

3.2.2 Exploratory hole locations are indicated on drawings 20752-304-001, 20752-304-002, 20752-304-003 in Appendix 1. Logging of exploratory holes was undertaken by a Merebrook Officer. Exploratory hole logs are contained in Appendix 2.

3.2.3 Areas of the site where asbestos was previously identified were targeted (eg. the Lytag building where asbestos was identified at the surface). Investigation locations across the remainder of the site were positioned to provide broad spatial coverage. It should be noted that some locations were relocated due to access issues and services.

3.2.4 Made ground or reworked natural soils were sampled to provide an accurate representation of the surrounding soils at that location. Samples were recovered with a trowel that was cleaned between samples or collected with a gloved hand (disposable gloves were changed between samples). Sampling was carried out at various depths and strata to assess the potential for asbestos contamination to be present. Soil samples were submitted to an MCERTS/ UKAS accredited laboratory for an asbestos screen (asbestos quantification was carried out if asbestos was encountered). The results are provided in Appendix 4.

SECTION 4 GROUND CONDITIONS

4.1 SURFACE GROUND CONDITIONS

4.1.1 Most of the above ground structures have now been decommissioned, with the site now largely covered by vegetation in the north and hardstanding in the south. Sporadic asbestos containing material in the form of cement sheeting was encountered on concrete hardstanding at the former lytag factory (SS1 and SS2). Further asbestos fragments were encountered on the surface at MTP29 and MTP40. Suspected ACM was encountered at the bund (at the surface), close to MTP38, however it was not possible to sample this material.

4.2 SUB-SURFACE GROUND CONDITIONS

4.2.1 A summary of the ground conditions encountered is presented in Table 2, whilst a more detailed assessment of the strata is contained in the following sections of the report.

Table 2: Summary of Sub-surface Ground Conditions

STRATA	DEPTH TO TOP RANGE (m bgl)	THICKNESS RANGE (m)
Topsoil	0.0	0.1-0.25
Made Ground	0.0-0.25	0.6-3.0
Alluvium	0.25-4.2	2.9+

4.2.2 Topsoil

4.2.2.1 Topsoil was encountered at MHP1, MHP7, MHP8, MHP11, MHP12, MTP57 and MTP59. The topsoil generally comprised silty clayey sand to dark silty clay with inclusions of flint and brick.

4.2.3 Made Ground

4.2.3.1 Made ground was present in the majority of locations from ground level or below topsoil. Made ground was not encountered at MTP25 (topsoil was directly over probable natural soils).

4.2.3.2 The following table shows the locations in which reworked natural soils were encountered and their depth in metres below ground level (m bgl).

Table 3: Reworked natural soils

LOCATION	DEPTH TO TOP (m bgl)	THICKNESS (m)
MTP5	1.3	1.0
MTP10	1.8	Not proven
MTP16	1.7	0.7
MTP26	1.6	0.4
MTP30	0.5	Not proven
MTP32	1.0	0.4
MTP34	1.4	0.3
MTP37	0.6	0.5
MTP44	0.7	Not proven
MTP46	0.5	1.3
MTP50	1.8	Not proven
MTP55	1.2	0.1
MTP65	1.2	Not proven
MTP69	0.6	1.4

4.2.4 The made ground was found to comprise medium brown silty sandy clay to black sand with variable amounts of flint, chalk, brick and concrete gravel and cobbles.

4.2.5 Coal, clinker, lytag and bituminous surfacing were recorded locally, whilst minor amounts of other materials including wood, metal, wire, glass and pottery fragments. Not surprisingly, lytag in the form of sand and gravel was most prevalent in the vicinity of the former Lytag factory.

4.2.6 Asbestos insulation board (AIB) fragments were encountered within made ground at MTP57 (0.5m) and MHP8 (0.4m). Asbestos fragments encountered at the surface are detailed in section 4.1.1.

4.2.7 Trial Pits, MTP72 to MTP74 were aborted due to thick concrete, whilst MTP75 was aborted due to the presence of sheet piles.

4.2.8 Natural ground

4.2.9 Natural soils were found to comprise stiff dark grey clay to soft silty clay. Lenses of peat were commonly encountered.

SECTION 5 ENVIRONMENTAL ASSESSMENT

5.1 SOIL QUALITY

5.1.1 A total of one hundred and twenty four soil samples were submitted to the laboratory for chemical analysis for an asbestos screen and quantification, where identified. The laboratory chemical analysis certificates are contained in Appendix 4. The results of the analysis are summarised in Table 4.

5.1.2 In addition, samples of ACM were recovered from the surface at the former Lytag factory (SS1 and SS2). Further asbestos fragments were encountered at MTP40 and MTP29. Asbestos insulation board (AIB) fragments were encountered within made ground at MTP57 (0.5m) and MHP8 (0.4m).

5.1.3 Suspected ACM was encountered at the bund (at the surface), close to MTP38, however it was not possible to sample this material.

Table 4: Summary of the asbestos encountered

SAMPLE ID	TYPE OF ASBESTOS	MATERIAL	CONCENTRATION OF ASBESTOS (%)
MTP1 0.1-0.2m	Chrysotile	Loose Fibres	0.002
MTP1 1.0-1.1m	Chrysotile	Loose Fibres	< 0.001
MTP1 2.7-2.8m	Chrysotile	Loose Fibres	< 0.001
MTP2 0.1-0.2m	Chrysotile	Loose Fibres	< 0.001
MTP2 0.7-0.8m	Chrysotile, Amosite & Crocidolite	Loose Fibres & Hard/Cement Type Material	0.005
MTP4 0.1-0.2m	Chrysotile & Amosite	Loose Fibres & Hard/Cement Type Material	0.002
MTP5 0.4-0.5m	Chrysotile	Loose Fibres	< 0.001
MTP17 0.2-0.3m	Amosite, Crocidolite	Loose Fibres	< 0.001
MTP28 0.2-0.3m	Chrysotile & Crocidolite	Loose Fibrous Debris	0.008
MTP45 0.2-0.3m	Chrysotile & Amosite	Loose Fibres & Hard/Cement Type Material	0.001
MTP46 0.5-0.6m	Amosite & Crocidolite	Loose Fibres	0.004
MTP51 1.3-1.4m	Amosite	Loose Fibrous Debris	<0.001

SAMPLE ID	TYPE OF ASBESTOS	MATERIAL	CONCENTRATION OF ASBESTOS (%)
MTP59 0.0-0.15m	Amosite	Loose Fibres	<0.001
MTP61 0.5-0.6m	Chrysotile & Amosite	Loose Fibres	<0.001
MTP62 0.05-0.15m	Chrysotile	Loose Fibrous Debris	0.003
MTP67B 0.2-0.3m	Chrysotile	Loose fibres	< 0.001
MTP67B 0.65-0.75m	Amosite	Loose Fibres	<0.001
MTP70 0.3-0.4m	Chrysotile & Amosite	Loose Fibrous Debris & Sheeting/Board Debris	0.004
MHP2 0.05-0.15m	Chrysotile	Sheeting/Board Debris	< 0.001
MHP2 0.15-0.25m	Amosite	Hard/Cement Type Material	0.003
MTP11 0.2-0.3m	Chrysotile & Amosite	Loose Fibres	0.001
MTP12 0.2-0.4m	Chrysotile & Amosite	Loose Fibres & Sheeting/Board Debris	< 0.001
MTP18 1.25-1.4m	Amosite	Loose Fibres	< 0.001
MTP19 0.1-0.3m	Chrysotile & Amosite	Loose Fibres	< 0.001
MTP390.1-0.2m	Chrysotile	Loose Fibres	< 0.001
MTP40 0.6-0.8m	Amosite	Loose Fibres	< 0.001
MTP42 0.05-0.15m	Chrysotile & Amosite	Sheeting/Board Debris	0.001
MTP47 1.0-1.5m	Chrysotile & Amosite	Loose Fibres & Loose Fibrous Debris	0.026
MTP54 0.1-0.2m	Chrysotile	Loose Fibres	< 0.001
MTP54 0.3-0.5m	Chrysotile	Loose Fibres & Hard/Cement Type Material & Loose Fibrous Debris	0.004
MTP73 0.1-0.3m	Chrysotile & Amosite	Loose Fibres	< 0.001
MTP75 0.1-0.5m	Chrysotile & Amosite	Loose Fibres & Hard/Cement Type Material	0.069
MTP72 0.0-0.2m	Chrysotile & Amosite	Loose Fibres	< 0.001
MHP6 0.0-0.4m	Amosite	Loose Fibres	< 0.001
MHP8 0.1-0.4m	Chrysotile & Amosite	Loose Fibres	< 0.001

SAMPLE ID	TYPE OF ASBESTOS	MATERIAL	CONCENTRATION OF ASBESTOS (%)
MHP10 0.1-0.2m	Chrysotile & Amosite	Loose Fibres	0.002
MHP10 0.3-0.5m	Chrysotile & Amosite	Loose Fibres & Loose Fibrous Debris	0.003
MHP13 0.1-0.3m	Amosite	Loose Fibres	< 0.001
MHP15 0.05-0.2m	Amosite	Loose Fibres	< 0.001
MHP15 0.4-0.5m	Chrysotile & Amosite	Loose Fibres	< 0.001
MHP4 0.0-0.4m	Chrysotile & Amosite	Loose Fibrous Debris & Loose Fibres	< 0.001
MHP5 0.0-0.4m	Chrysotile	Loose Fibrous Debris	0.002
MHP16 0.0-0.5m	Amosite	Loose Fibres	< 0.001
SS1	Chrysotile	Cement type material	Fragment
SS2	Chrysotile	Cement type material	Fragment
MTP29 (0m)	Chrysotile and crocidolite	Cement type material	Fragment
MTP40 (0m)	Chrysotile	Cement type material	Fragment
MTP57 (0.5m)	Chrysotile	Insulation/board tile	Fragment
MHP8 (0.4m)	Chrysotile	Insulation/board tile	Fragment
A suspected ACM fragment was encountered close to MTP38	Suspected asbestos cement	Cement type material	Fragment

Note: The concentration of asbestos in each sample relates to the concentration of fibres and/or solid material in a sample.

5.1.4 Asbestos was encountered in forty three samples – this equates to 35% of the samples taken. Visible asbestos fragments (chrysotile cement) were encountered on hardstanding at the former Lytag plant (SS1 and SS2), further surface fragments of cement were encountered at MTP40 and MTP29. Furthermore insulation board was encountered within the soil at MTP57 (0.5m) and MHP8 (0.4m) this would potentially lead to a Hazardous classification for waste disposal purposes. Asbestos concentrations in all soil samples were below the hazardous waste classification (0.1%).

5.1.5 Laboratory test results indicate a likely waste classification of non-hazardous would be applicable based on asbestos fibre concentrations in the soil. If ACM is present in the form of visible fragments (eg board/tile/cement/sheeting) then the material that contains these items would be automatically considered hazardous (As per EA document WM3).

SECTION 6 CONCEPTUAL MODEL

6.1 The conceptual model (Table 5) identifies a number of potential sources of asbestos contamination which could present a risk to human health and the environment. However, the level of risk depends upon the availability of pathways for asbestos contamination to reach vulnerable receptors including site users and the environment. In the site's current form, potential pathways for subsurface asbestos are limited by hardstanding and thick vegetation meaning that the risk is considered to be Low. Where asbestos has been encountered at the surface the risk is considered to be Medium due to the number of current site users.

6.2 The areas referred to in table 5 are indicated on drawing indicated on drawing 20752-304-001 contained in Appendix 1.

Table 5: Conceptual Model (without mitigation)

Possible Pollutant Linkage			**Risk Characterisation**
Potential Sources (origin)	**Pathways**	**Receptors**	
ACM within soil and at the surface – excluding the former Lytag facility and fields in the east	Inhalation of loose fibres, **prior to works**	Human health Site Personnel and visitors • Current workers on-site visitors to the former Tilbury A Power Station, Security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**ACM within the soil matrix: Low** The site is surfaced with hardstanding or thick vegetation, minimising the possibility of exposure.
			ACM at the surface: Medium ACM fragments at the surface were rare and in the form of cement – making fibre release less likely. The fragments were amongst vegetation.
	Migration of loose fibres to adjacent land **prior to works**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	**Low** The presence of vegetation and hardstanding limits the exposure to fibres in the soil matrix. ACM fragments at the surface were rare and in the form of cement – making fibre release less likely and minimising the risk to adjoining land.
	Inhalation of loose fibres **during groundworks**	Human health Site Personnel and visitors • Construction workers, visitors to site, security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Medium** ACM including lagging and AIB were recorded in this area within the soil matrix. These materials pose a risk of fibre release and mobilisation during materials handling, in the absence of appropriate controls.

Possible Pollutant Linkage			Risk Characterisation
Potential Sources (origin)	**Pathways**	**Receptors**	
	Migration of loose fibres to adjacent land **during groundworks**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	
	Inhalation of loose fibres, **following completion**	Human health Future site users • Workers at/visitors to the new port facilities, security staff. • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Low (see Table 6)** The proposed redevelopment includes the use of hard standing over the majority of the site. Areas of soft landscaping should be formed of clean soils over a geomembrane. Areas where asbestos is known to be present and is to be left in situ should be covered with a cap as detailed in Section 10.2.4. In the absence of mitigation measures the potential risk to future site users is considered to be medium.
	Migration of loose fibres to adjacent land **following completion**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	
ACM within soil and at the surface - at the former Lytag facility	Inhalation of loose fibres, **prior to works**	Human health Site Personnel and visitors • Current workers on-site visitors to the former Tilbury A Power Station, Security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**ACM within the soil matrix: Low** The site is surfaced with hardstanding or thick vegetation, minimising the possibility of exposure. **ACM at the surface: Medium** Sporadic fragments of ACM were encountered on concrete hardstanding at the surface. Fragments were in the form of cement – making fibre release less likely.
	Migration of loose fibres to adjacent land **prior to works**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	**Low** The presence of vegetation and hardstanding limits the exposure to fibres in the soil matrix. ACM fragments at the surface were rare and in the form of cement – making fibre release less likely and minimising the risk to adjoining land.

Possible Pollutant Linkage			Risk Characterisation
Potential Sources (origin)	**Pathways**	**Receptors**	
	Inhalation of loose fibres **during groundworks**	Human health Site Personnel and visitors • Construction workers, visitors to site, security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Medium** Cement sheeting has been found at the surface on hardstanding This material poses a risk of fibre release and mobilisation during the breaking out of concrete hardstanding.
	Migration of loose fibres to adjacent land **during groundworks**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	
	Inhalation of loose fibres, **following completion**	Human health Future site users • Workers at/visitors to the new port facilities, security staff. • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Low (see Table 6)** The proposed redevelopment includes the use of hard standing over the majority of the site. Areas of soft landscaping should be formed of clean soils over a geomembrane. Areas where asbestos is known to be present and is to be left in situ should be covered with a cap as detailed in Section 10.2.4. In the absence of mitigation measures the potential risk to future site users is considered to be medium
	Migration of loose fibres to adjacent land **following completion**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	
Fields in the east of site	Inhalation of loose fibres, **prior to works**	Human health Site Personnel and visitors • Current workers on-site visitors to the former Tilbury A Power Station, Security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Low** No asbestos has been encountered.
	Migration of loose fibres to adjacent land **prior to works**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	**Low** No asbestos has been encountered.

Possible Pollutant Linkage			Risk Characterisation
Potential Sources (origin)	**Pathways**	**Receptors**	
	Inhalation of loose fibres **during groundworks (within the fields)**	Human health Site Personnel and visitors • Construction workers, visitors to site, security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Low** No asbestos has been encountered.
	Inhalation of loose fibres **released during groundworks on other parts of the site (with the potential to migrate to the eastern fields area)**	Human health Site Personnel and visitors • Construction workers, visitors to site, security staff; • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Medium** ACM including lagging and AIB were recorded in the soil matrix and at the surface within other parts of the site. These materials elsewhere on site pose a risk of fibre release and mobilisation during materials handling, in the absence of appropriate controls to mitigate potential releases at source (parts of the site other than the eastern fields area).
	Migration of loose fibres to adjacent land **during groundworks**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	**Low** No asbestos has been encountered.
	Inhalation of loose fibres, **following completion**	Human health Future site users • Workers at/visitors to the new port facilities, security staff. • Railway maintenance workers; • Workers at the electricity substation; • Members of the public using public rights of way across the infrastructure corridor and the public footpath/cycle track along the infrastructure corridor.	**Low** No asbestos has been encountered.
	Migration of loose fibres to adjacent land **following completion**	Human health • Workers at the former Tilbury B Power Station and adjacent sewage treatment works; • Members of the public including users of the coastal path.	

Note: The risks and any mitigation measures required in relation to the infrastructure corridor, northeast lakes and RWE remediation areas are still to be confirmed following completion of further investigations.

6.3 A remedial strategy has been designed to break the identified source-pathway-receptor linkages and render the site suitable for the proposed use. It should be noted that the proposed development will include the use of hardstanding across much of the site (Areas of soft landscaping not covered by hardstanding should be

formed of clean soils and a membrane to form a cap to the underlying made ground). This will break potential pathways for the migration of asbestos and therefore the risk is considered to be Low. Table 6 shows the risk mitigation measures required in relation to the proposed surfacing. Areas of the site where capping would not be required (or needs additional testing to confirm) are indicated on drawing 20752-304-001 contained in Appendix 1. The predominant risk, therefore, will occur during groundworks and construction stages of the project where pathways remain open and ground is being disturbed. The risk to receptors during this stage is considered to be Medium and suitable precaution will be set out in the Remedial Strategy to minimise potential risk to construction workers as well as those working on adjacent land.

6.4 The physical removal of visible ACMs is considered to be non-licenced work. Where materials are found to contain a high proportion of visible ACMS or previously unidentified higher risk ACMs such as lagging which cannot be quickly removed then the works will become licenced.

6.5 The possibility of encountering previously undiscovered asbestos within the made ground is also acknowledged, and a method for dealing with this without stopping works has been put in place.

Table 6: Risk mitigation in relation to the proposed surfacing

Proposed surfacing	Risk Characterisation	Mitigation required
Hardstanding	**Low**	None – a cap will already be in place as an integral part of the proposed development design so no additional mitigation measures are required in relation to asbestos.
Soft landscaping	**Medium**	Marker layer and 150 mm of capping.
Compacted Aggregate	**Low/Medium**	Marker layer and 150 mm of capping.

SECTION 7 RECOMMENDATIONS FOR FURTHER WORKS

7.1 A suspected fragment of ACM was encountered close to MTP38. Additional excavations are therefore recommended along the bund.

7.2 Completion of site investigations in the RWE area and infrastructure corridor (see section 1.4).

7.3 Further investigation is recommended around the lake in the north east to augment the data to date (MHP11 and MHP12). This is designed to confirm that the area is free from asbestos and would not require targeted remediation/capping.

SECTION 8 MATERIALS RE-USE

8.1 Material excavated during the Site Preparation Works must be managed in accordance with a Materials Management Plan or similar. This must demonstrate a genuine requirement for the materials re-use. Furthermore, it must be demonstrated that the material can be processed safely. This section sets out the precaution for material re-use within the development in relation to asbestos. Where asbestos is not coincident with excavating, no further assessment or mitigation is required.

8.2 Excavated material will be sorted into the following categories:

i. Material containing a high proportion of ACM, or any visible pieces of highly friable ACM (such as AIB or lagging) should be segregated for off-site disposal. It would not be possible to reuse material classed as waste on site;

ii. Material containing occasional larger fragments of ACM should be disaggregated to allow removal of these fragments for off-site disposal. The remaining material can then be classed as category iii below;

iii. Material with a component of demolition/construction waste but containing no or only occasional small fragments of asbestos or other deleterious materials can be stockpiled separately for appropriate re-use on site. BS5930 (2015) states that the description of tertiary constituents should be in qualitative terms “and no definition of percentage should be given”; and

iv. Material comprised entirely of re-worked natural ground (containing no anthropogenic material) should be stockpiled separately for re-use on site.

8.3 Large fragments of other deleterious materials (such as, but not exclusively, wooden planks, concrete boulders or metal) are also unsuitable for retention in material intended for re-use on site and should be segregated for appropriate disposal, if found. Concrete or brick-and-cement boulders can, if not associated with ACM, be crushed for re-use on site.

8.4 It should be noted that the Merebrook investigation has indicated that significant concentrations of asbestos are unlikely to be encountered.

8.5 All excavations will require supervision by a suitably qualified and experienced banksman.

8.6 All material must be re-used in accordance with a Materials Management Plan and must be managed so as to prevent any potential risks to human health or the wider environment. Measures should comprise damping down of materials particularly during dry conditions and covering of any stockpiles which are going to be left *in-situ* for an extended period of time.

8.7 The location of all material containing asbestos will be recorded in the site Health and Safety file.

SECTION 9 REMEDIAL OBJECTIVES

9.1 Remedial objectives include the following:

i. To safeguard current site users, construction workers and future site users from the impacts of asbestos within soils and at the surface;

ii. To provide an environmentally sustainable and cost-effective remedial solution, avoiding the landfilling of excavated wastes as far as is practicable in line with the Landfill Directive and associated UK Regulations;

iii. To work in full compliance with the exemplary standards of Health, Safety and Environmental Compliance;

iv. To ensure the Employer is fully compliant as Waste Producer under the Duty of Care Requirements of the Environmental Protection Act 1990, and compliant with all waste pre-treatment and permitting requirements of the Environmental Permitting Regulations (England and Wales) 2011, which now incorporates the requirements of the Landfill Regulations 2005; and

v. To implement a robust Site Verification process seeking planning condition discharge and regulatory signoff.

9.2 With the implementation of the remedial strategy below, the risks set out in Table 5 can be reduced to low.

SECTION 10 REMEDIATION STRATEGY

10.1 MITIGATING RISKS TO CURRENT SITE USERS

10.1.1 Asbestos containing material at the site surface

10.1.1.1 A suitably qualified and experience asbestos operative will be required to inspect the site of the former Lytag Factory, MTP29 and MTP40 as asbestos fragments have previously be encountered at the surface in these areas. Any fragments identified during the inspection should be hand-picked and stored in a lockable skip prior to off-site disposal.

10.1.1.2 The area around MTP29 and MTP40 was heavily vegetated which will prevent asbestos fragments migrating to the surface during heavy rain.

10.1.1.3 Inspection in these areas should occur as soon as possible and can then be carried out on an *ad-hoc* basis.

10.1.2 Fragments of asbestos containing material at the site surface – Bare Made ground

10.1.2.1 Areas of bare ground where fragments were encountered (MTP57 and MHP8) should be inspected at regular intervals, depending upon works and weather

conditions, in particular subsequent to periods of heavy rain. Fragments of asbestos identified will be hand-picked and stored in a lockable skip prior to off-site disposal.

10.1.2.2 Verification of this would be through visual inspection and it represents a temporary measure pending excavation, capping or remediation.

10.1.3 **Fragments of asbestos containing material at the site surface – Bund**

10.1.3.1 Suspected ACM was encountered at one location close to MTP38, it was not possible to test the material. It should be noted that soil samples recovered from the bund did not encountered any asbestos. It is recommended that further investigation is carried out in this area.

10.2 **DURING THE CONSTRUCTION PHASE**

10.2.1 **Asbestos containing material within the soil matrix – Bare Made ground**

10.2.1.1 Areas of bare ground where fragments were encountered (MTP57 and MHP8) should be inspected at regular intervals, depending upon works and weather conditions, in particular subsequent to periods of heavy rain. Fragments of asbestos identified will be hand-picked and stored in a lockable skip prior to off-site disposal.

10.2.1.2 Verification of this would be through visual inspection and it represents a temporary measure pending excavation, capping or remediation.

10.2.2 **Asbestos containing material at the Former Lytag Factory**

10.2.2.1 Inspection and hand-picking should be undertaken prior to vegetation clearance to prevent the spread of asbestos by vehicle tracking.

10.2.2.2 The concrete hardstanding should be thoroughly inspected prior to breaking out the slab. Furthermore, an experienced banksman should inspect the concrete slab while it is being removed.

10.2.3 **Made ground containing fragments of ACM**

10.2.3.1 During the excavation of made ground, there is the potential to encounter soils containing multiple fragments of asbestos, but not at sufficient density to prevent re-use. In such instances, it will not be possible to remove each fragment in isolation.

10.2.3.2 The methodology for dealing with this material will involve the disaggregation and segregation of the material in accordance with the Materials Re-use protocol set out in Section 8 of this report. As specified, occasional small fragments of ACM will be acceptable in material intended for re-use on site, at depth beneath a capping layer. BS5930 (2015) states that the description of tertiary constituents should be in qualitative terms “and no definition of percentage should be given”.

10.2.3.3 Subsequent validation of excavated areas would need to take place in accordance with the Verification Plan presented in Section 13. Reduced levels soils will be validated by visual inspection.

10.2.3.4 Deleterious materials within the made ground, such as metal, plastic or wood should be segregated for disposal, in accordance with a Site Waste Management Plan.

10.2.3.5 All material intended for reuse on site must be undertaken in accordance with and tracked *via* the Materials Management Plan.

10.2.4 **Material left *in Situ***

10.2.4.1 Control measures will need to be in place where materials known to be contaminated by asbestos are to be left *in situ* (i.e. material below the development platform or beneath permanent car parks and access roads). This should include provision of hard standing such as concrete or tarmac, or a marker layer overlain by a minimum of 150 mm of capping material. These measures are particularly important to prevent the tracking or spreading of materials through vehicle movements.

10.2.4.2 This will include the provision of clean capping in soft landscaped areas and clean material in drain runs.

10.2.4.3 Material used as capping should be free from asbestos and compliant with the requirements of Atkins' chemical suitability criteria.

10.2.4.4 It is understood that the fields in the east of site have not previously been developed and no asbestos has been encountered to date. A cap will not be required in this area. Merebrook should be notified if conditions atypical to those found during the resent site investigation are encountered. The fields are indicated on drawing 20752-304-001 presented in Appendix 1.

10.2.5 **Asbestos handling**

10.2.5.1 Asbestos containing materials to be removed from site must be handled and stored in an appropriate manner; this should be either through the use of lockable skips, lined wagons or lined and sealed stockpiles.

SECTION 11 ASBESTOS CACHE PROCEDURES

11.1 To date asbestos has been found as discrete fibres and fragments and it is generally considered unlikely that significant amounts of asbestos containing materials will be encountered. Anecdotal evidence suggests that asbestos was buried at the former stockyard, investigations to date have not encountered a cache of buried ACM.

11.2 The following procedures have therefore been included as a precaution.

11.3 If the asbestos awareness trained banksman identifies a significant amount of suspected ACMs which do not normally require a licence to work with, such as cement sheet, at the excavation face, the banksman will carefully direct exploratory excavation to determine the extent of the material. Once exposed, the material may then be transferred to an on-site clearly labelled covered skip or lined and suitably labelled bulk bag prior to off-site disposal. The excavation may proceed to an alternate face until the suspected ACMs are transferred to the skip. It may be

necessary to stop the excavation so a suitably qualified person can access the situation and additional control measures (eg damping down/misting, RPE etc) as required. Environmental monitoring measures including personnel monitoring are detailed in Section 12.

11.4 If a banksman or other asbestos trained staff consider that suspected ACMs, such as pipe lagging or insulation board, have been uncovered during excavation, with further amounts identifiable within the excavation, an "*asbestos cache"* may be declared following consultation with the site supervisor and management.

11.5 Samples of the material should be collected, with the asbestos containing materials dampened and covered pending removal by a competent and licenced contractor (who will provide a method statement for the removal works). For notifiable material, this will be fourteen days subsequent to notification to the Health and Safety Executive (HSE). Notifiable asbestos will include significant quantities of degraded/friable or fibrous material (eg lagging) were the risk of fibre release is increased.

11.6 Management of the asbestos risk could include the re-introduction of the marker layer and capping.

11.7 The Contractor must provide Method Statements for the removal of asbestos containing materials.

SECTION 12 ENVIRONMENTAL MONITORING

12.1 INTRODUCTION

12.1.1 Environmental monitoring will be required for the duration of the Site Preparation Works and must be compliant with the Environmental Management Plans for the site. These should include:

12.2 DUST

12.1.1 The Site Manager or his/her representative is responsible for constant observation of dust generation. On-site roads with hard surfacing and the exit roads onto public highways are also to be regularly inspected for the build-up of soil. If excessive dust generation occurs, a water-based suppressant misting system is to be used in the affected area, to prevent the off-site migration of fugitive dust. Water bowsers are to be used to dampen down haul roads during dry weather. Wheel-washing facilities are to be provided at the site exit.

12.1.2 These measures are considered to be necessary and sufficient for the Site Preparation Works.

12.2 AIRBORNE ASBESTOS FIBRES

12.2.1 Air monitoring is to be carried out by an independent UKAS accredited specialist during excavation of asbestos-contaminated soils. Monitoring will be carried out for

the duration of works with asbestos impacted soils. Monitoring will include locations within the immediate work area, site personnel in the work area and boundary monitoring (as appropriate).

SECTION 13 VERIFICATION PLAN

13.1 Upon completion of the works as set out in this report, a Verification Report will be produced. This will provide sufficient detail to clearly demonstrate that the remedial objectives have been met and that any residual material is compliant. Compliance will be via visual inspection for visible fragments (this is considered sufficient as concentrations of asbestos (fibres/non-visible fragments) were less than 0.1%).

13.2 The Verification Report will contain the following:

i. Quantities of materials moved and their final destination (in accordance with a Materials Management Plan);

ii. Waste consignment notes (supported by a Site Waste Management Plan); and

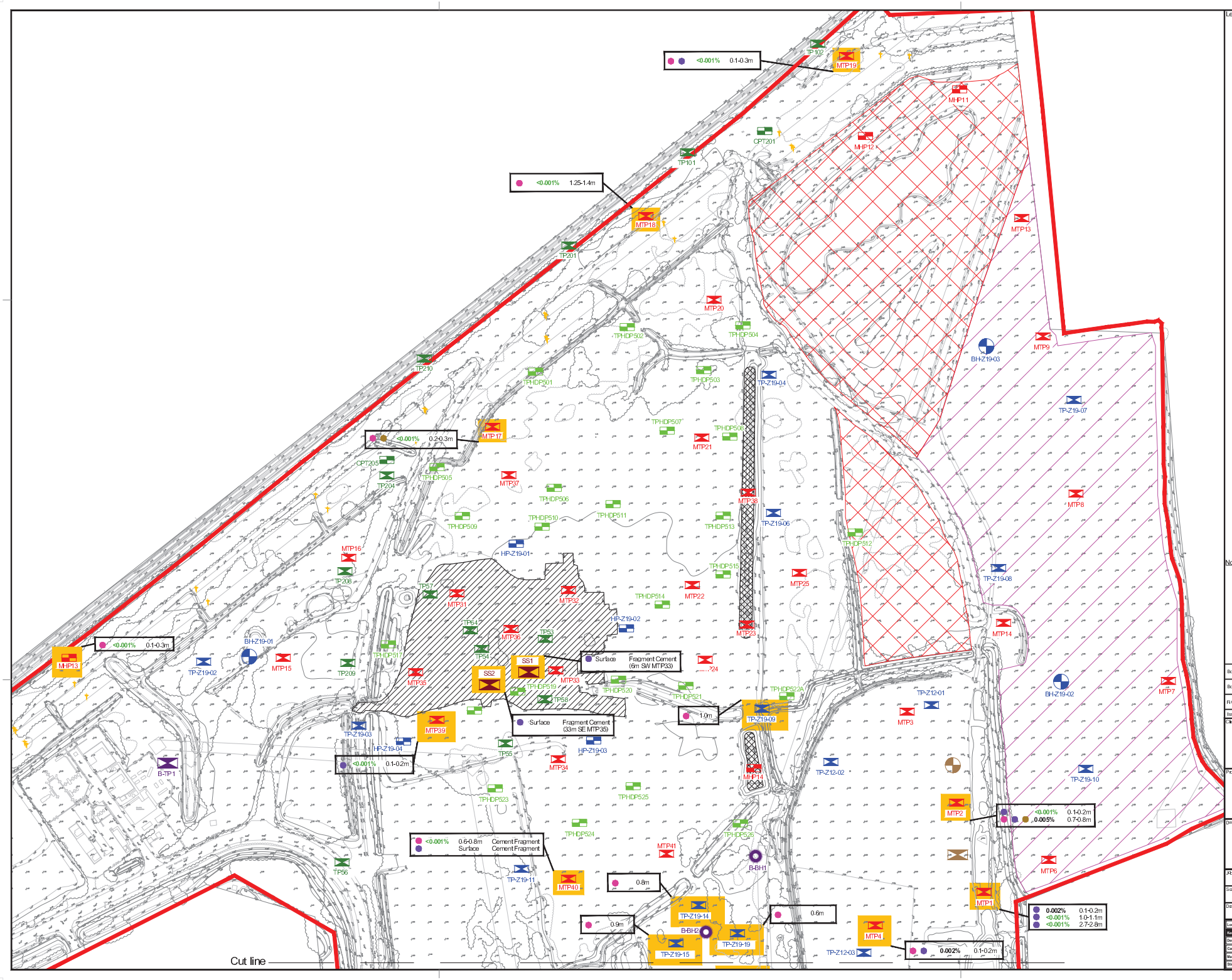
iii. Photographic records.

iv. Laboratory certification for material used in capping.

v. Drawings showing locations of areas were impacted soils have been left *in-situ*.

vi. Sample locations will be provided with x and y coordinates to enable importation into a GIS database.

APPENDIX 1 ▪ Drawings



Legend

- MTPref — Merebrook Trial Pit Locations (MTP1 - MTP75)
- MHPref — Merebrook Hand Dug Trial Pit Locations (MHP1 - MHP16)
- SSref — Merebrook Surface Bulk Sample Locations
- TPref — Previous RPS Investigation Trial Pit Locations
- HPref — Previous RPS Investigation Hand Dug Trial Pit Locations
- BHref — Previous RPS Investigation Borehole Locations
- WSref — Previous RPS Investigation Window Sample Borehole Locations
- CPBref — Previous RPS Investigation Cable Percussive Borehole Locations
- B-TPref — Previous Babcock (2011) Trial Pit Locations
- B-BHref — Previous Babcock (2011) Cable Percussive Borehole Locations
- TPHDPref — Previous Jacobs (2008) Hand Dug Trial Pit Locations
- TPref — Previous Bureau Veritas (2008) Trial Pit Locations
- CPTref — Previous Bureau Veritas (2008) Hand Dug Trial Pit Locations
- Former lytag plant
- Approximate bund location
- Asbestos encountered
- Further testing required to confirm if a cap is not needed
- Area of fields that had not been previously developed. No cap or further testing required
- Site Boundary
- Amosite
- Chrysotile
- Crocidolite

Notes:

Shows all Merebrook locations with asbestos finds highlighted.

Historical pits where asbestos is identified are also illustrated.

Suspected asbestos containing material was encountered at B-BH1, B-BH2 and close to MTP38 (but not samples were recovered)

Borehole Locations and Asbestos Levels Updated	AUG 2017		B
	EMP	NTD	NTD
Borehole Locations Updated	JUL 2017		A
	EMP	NTD	NTD
First Issue	07-07-17		-
	EMP	AS	AS
Issue Details	Dwn	Chkd	Appvd

Client: Port of Tilbury (London) Ltd

Project: Tilbury 2

Dwg Title: Site Investigation and Asbestos Distribution Sheet 1 of 3

Job no. 20752	Dwg no. 20752-304-001	Revision B
Scale 1:1000	Date JUN 2017	Frame Dimensions mm (A1) 791 x 544
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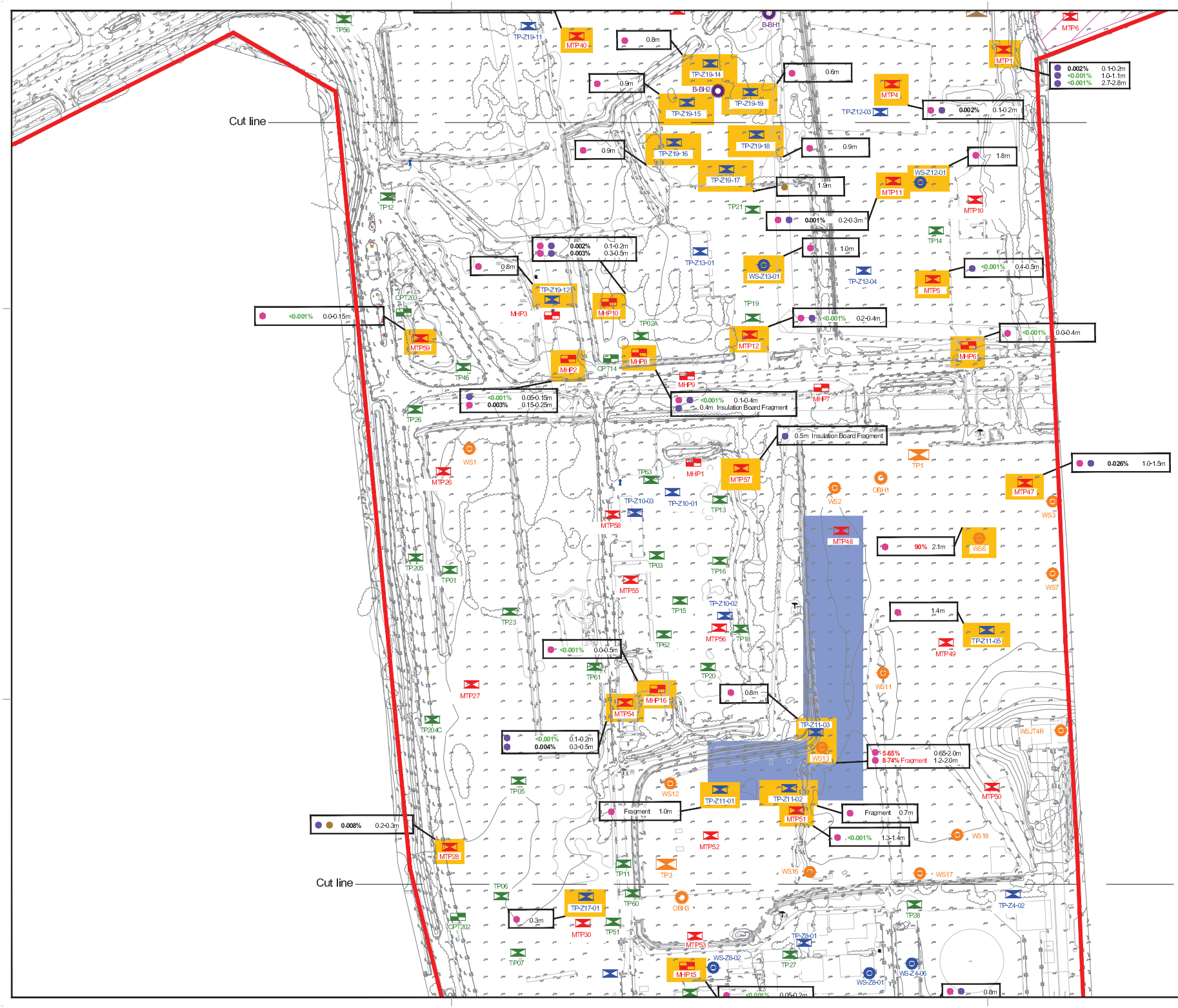

Legend

- MTPref — Merebrook Trial Pit Locations (MTP1 - MTP75)
- MHPref — Merebrook Hand Dug Trial Pit Locations (MHP1 - MHP16)
- TPref — Previous RPS Investigation Trial Pit Locations
- WSref — Previous RPS Investigation Borehole Locations
- WSref — Previous Structural Soils Investigation (2012/13) Window Sample Borehole Locations
- OBHref — Previous Structural Soils Investigation (2012/13) Cable Percussive Borehole Locations
- TPref — Previous Structural Soils Investigation (2012/13) Trial Pit Locations
- TPref — Previous Bureau Veritas (2008) Trial Pit Locations
- HDref — Previous Bureau Veritas (2008) Hand Dug Trial Pit Locations
- Previous Fugro (2007) Trial Pit Locations
- Previous Fugro (2007) Borehole Locations
- Approximate extent of possible buried asbestos - Jacobs 2008
- Asbestos encountered
- Site Boundary
- Amosite
- Chrysotile
- Crocidolite

Notes:

Shows all Merebrook locations with asbestos finds highlighted.

Historical pits where asbestos is identified are also illustrated.

Suspected asbestos containing material was encountered at B-BH1, B-BH2 and close to MTP38 (but not samples were recovered)

Borehole Locations and Asbestos Levels Updated	AUG 2017		B
	EMP	NTD	NTD
Borehole Locations Updated	JUL 2017		A
	EMP	NTD	NTD
First issue	07-07-17		-
	EMP	AS	AS
Issue Details	Dwn	Chd	Appd

Client: Port of Tilbury (London) Ltd

Project: Tilbury 2

Dwg Title: Site Investigation and Asbestos Distribution Sheet 2 of 3

Job No. 20752	Dwg No. 20752-304-002	Revision B
Scale 1:1000	Date JUN 2017	Frame Dimensions mm (A1) 791 x 544
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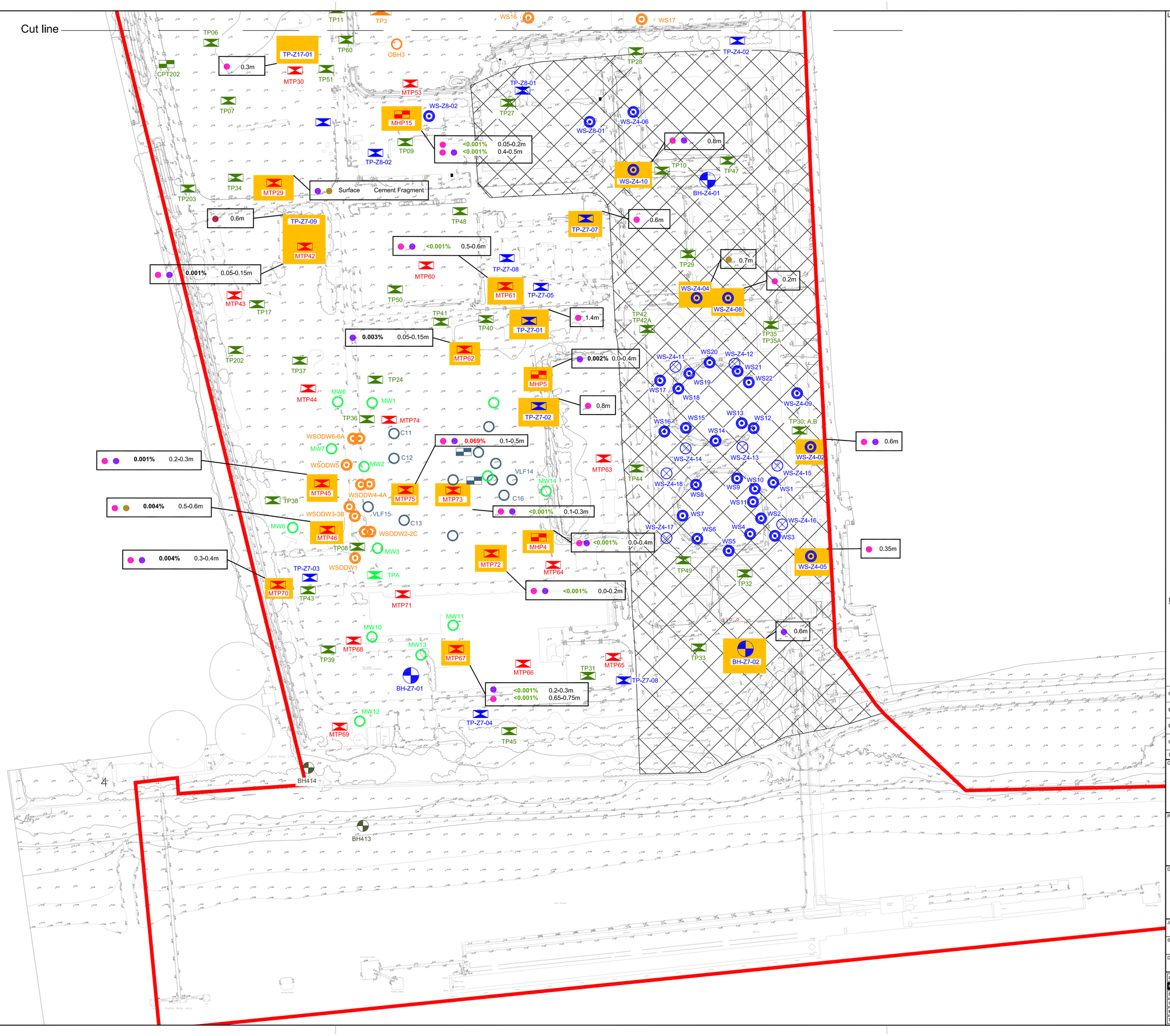

Legend

- MTPref — Merebrook Trial Pit Locations (MTP1 - MTP75)
- MHPref — Merebrook Hand Pit Locations (MHP1 - MHP16)
- TPref — Previous RPS Investigation Trial Pit Locations
- WSref — Previous RPS Investigation Window Sample Borehole Locations
- CPBref — Previous RPS Investigation Cable Percussive Borehole Locations
- WSref — Previous RPS Investigation Hand-Held Window Sample Borehole
- WSref — Previous Structural Soil Investigation (2012/13) Window Sample Borehole Locations
- CPBref — Previous Structural Soil Investigation (2012/13) Cable Percussive Borehole Locations
- MWref — Previous Jacobs (2008) Cable Percussive Borehole Locations
- TPref — Previous Jacobs (2008) Trial Pit Locations
- Previous Vertase FLI (2013/14) Cable Percussive Borehole Locations
- Previous Vertase FLI (2013/14) Trial Pit
- TPref — Previous Bureau Veritas (2008) Trial Pit Locations
- HDref — Previous Bureau Veritas (2008) Hand Dug Trial Pit Locations
- BHref — Previous Norwest Holst (2002) Borehole Locations
- Asbestos encountered
- RWE area requiring investigation by Merebrook
- Site Boundary
- Amosite
- Anthophylite
- Chrysotile
- Crocidolite

Notes:

Shows all Merebrook locations with asbestos finds highlighted.

Historical pits where asbestos is identified are also illustrated.

Suspected asbestos containing material was encountered at B-BH1, B-BH2 and close to MTP38 (but not samples were recovered)

RWE Area Added and Legend Updated	OCT 2017		C
	EMP	NTD	NTD
Borehole Locations and Asbestos Levels Updated	AUG 2017		B
	EMP	NTD	NTD
Borehole Locations Updated	JUL 2017		A
	EMP	NTD	NTD
First Issue	07-07-17		-
	EMP	AS	AS
Issue Details	Dwn	Chd	App'd

Client: Port of Tilbury (London) Ltd

Project: Tilbury 2

Dwg Title: Site Investigation and Asbestos Distribution Sheet 3 of 3

Job No.	Dwg No.	Revision
20752	20752-304-003	C
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Drawn: EMP	Checked: AS	Approved: AS

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APPENDIX 2 ▪ Exploratory Hole Logs

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TRIAL PIT LOG

TrialPit No
MHP1
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565772.00 - 175888.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 1.50	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.50	D		1.50			MADE GROUND: Medium brown and orange brown sand and gravel. Gravel is fine to medium coarse, subrounded to subangular flint and rare chalk. Rare concrete cobbles. Occasional metal reinforcing, rare rootlets.
							End of Pit at 1.500m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP10
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565852.00 - 176069.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.50	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D					MADE GROUND: Light brown silty sand with occasional fine to medium coarse, sub rounded flint and rare concrete gravel. Rare metal fragments. Common rootlets.
	0.30 - 0.50	D		0.30			MADE GROUND: Fine black sand with rare concrete cobbles.
				0.50			End of Pit at 0.500m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP11
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565983.00 - 176751.00 Level:
Location:	Tilbury		Dimensions (m):
Equipment:	Hand-dug		Depth 0.50

Date: 09/06/2017
Scale: 1:25
Logged: NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.20	D		0.20			TOPSOIL: Dark grey sity clay.
				0.50			Stiff medium brown CLAY with orange brown mottling.
							End of Pit at 0.500m

1
2
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4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP12
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565939.00 - 176734.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.30	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.15	D,J					TOPSOIL. Dark brown to brown clayey gravelly SAND with rootlets. Gravel is subangular to rounded fine flint.
	0.20 - 0.30	D,J		0.20			Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine, subangular to well rounded flint.
				0.30			End of Pit at 0.300m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP13
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565447.00 - 176412.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.30	D		0.40			MADE GROUND: Coarse black sand and gravel. Gravel is medium coarse, subangular limestonse with occasional fine clinker.
							End of Pit at 0.400m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP14
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565845.00 - 176336.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.20	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.20	D,J		0.20			MADE GROUND. Dark brown slightly gravelly SAND. Sand is fine to coarse. Gravel is fine, subrounded lytag and flint.
							End of Pit at 0.200m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP15
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565781.00 - 175724.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 1.20	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.20	D		0.20			MADE GROUND: Dark grey silty sand with occasional fine to medium coarse, subrounded to subangular flint and rare clinker/bituminous surfacing.
	0.40 - 0.50	D					MADE GROUND: Medium brown to orange brown and dark brown clayey sand and gravel. Gravel is common fine to medium coarse subrounded to subangular flint, rare concrete and brick.
				1.20			End of Pit at 1.200m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP16
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: - Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.50	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.50	D		0.50			MADE GROUND: Brick and concrete gravel and cobbles with medium brown sand.
							End of Pit at 0.500m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP2
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565749.00 - 176000.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.25	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.15 0.15 - 0.25	D,J D,J		0.25			TOPSOIL. Dark brown gravelly SAND. Sand is fine to coarse. Gravel is fine, well rounded flint.
				1.50			MADE GROUND. Dark gravelly cobbly SAND. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular concrete and bricks.
							End of Pit at 0.250m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP3
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565701.00 - 176108.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.60	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.20	D		0.25			MADE GROUND: Dark grey silty clay with rare fine chalk gravel. Common fine rootlets.
	0.50 - 0.60	D		0.50			MADE GROUND: Medium brown silty clay with orange brown mottling and rare fine chalk gravel. Rare fine rootlets.
				0.60			MADE GROUND: Medium brown to dark brown silty clay with occasional fine to medium coarse chalk and rare brick gravel.
							End of Pit at 0.600m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MHP4
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565895.00 - 175491.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.40	D		0.40			MADE GROUND: Dark brown sand with common fine to medium coarse brick gravel, rare brick cobbles. Rare wood and metal fragments.
							End of Pit at 0.400m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP5
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565876.00 - 175596.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.40	D		0.40			MADE GROUND: light brown silty sand with occasional fine to medium coarse brick, bituminous surfacing and flint gravel. Rare metal reinforcing.
							End of Pit at 0.400m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP6
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565981.00 - 176081.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.40 0.10 - 0.40	D D		0.40			MADE GROUND: Dark grey silty clayey sand with occasional fine to medium coarse, subrounded to subagular flint, rare chalk and coal gravel. End of Pit at 0.400m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP7
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565925.00 - 176075.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.30	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15 - 0.25	D,J		0.30			TOPSOIL. Dark brown clayey SAND with roots and rootlets. Sand is fine to coarse. Rare fine, angular to well rounded flint gravels noted.
							End of Pit at 0.300m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MHP8
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565801.00 - 176077.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.50	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.40	D		0.10			TOPSOIL: Dark brown silty clayey sand with rare fine to medium coarse brick gravel.
	0.40	B		0.50			MADE GROUND: Grey to dark brown clayey sand with occasional fine to medium coarse, subrounded to subangular flint, common fine chalk gravel and rare fine brick. Suspected ACM at 0.4mbgl.
							End of Pit at 0.500m

1
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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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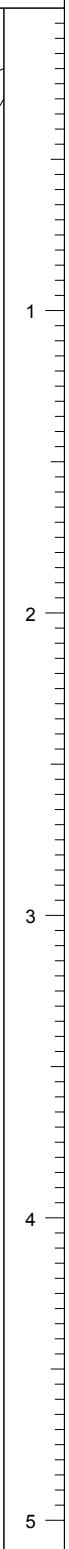
TRIAL PIT LOG

TrialPit No
MHP9
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: - Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	Hand-dug	Depth 0.30	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			TOPSOIL. Dark brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded flint.
				0.30			MADE GROUND. GRAVELS comprised of fine to coarse, subrounded brick chalk and flint.
							End of Pit at 0.300m



D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP1
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565978.00 - 176248.00 Level:
Date	05/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 × 0.60, Depth 3.10	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	D		0.00			MADE GROUND. Loose black gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, angular to well rounded flint and coal. Some ash was encountered.
	1.00 - 1.10	D					
	1.30 - 1.40	D		1.20			REWORKED NATURAL. Soft brown slightly silty slightly sandy CLAY with the occasional fine to medium, subangular to subrounded chalk gravel. Sand is fine to coarse.
				1.70			Brown gravelly SAND with rootlets. Sand is medium to coarse. Gravel is fine to medium, angular to well rounded brick, concrete and flint. Rare cobbles noted.
							REWORKED ALLUVIAL. Soft greenish grey mottled black slightly gravelly CLAY. Gravel is fine to coarse, angular to well rounded brick. Occasional concrete boulder.
	2.70 - 2.80	D		2.80			ALLUVIAL. Soft greenish grey mottled black CLAY.
				3.10			End of Pit at 3.100m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP10
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565954.00 - 176162.00 Level:
Location:	Tilbury		Dimensions (m):
Equipment:	JCB 3CX		Depth 3.10

Date: 05/06/2017
Scale: 1:25
Logged: NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.13			Concrete
	0.20 - 0.40	D		0.40			MADE GROUND: Dark grey sand and gravel. Gravel is fine to medium coarse sub angular limestone, occasional flint, rare concrete and brick. Rare metal fragments. Geotextile at base.
				0.60			MADE GROUND: Coarse black sand with occasional fine to medium coarse clinker gravel.
	0.85 - 1.00	D		0.80			MADE GROUND: Medium brown gravelly sand. Gravel is occasional fine to medium coarse flint, brick and concrete.
				1.40			MADE GROUND: Coarse black gravelly sand. Gravel is occasional fine to medium coarse coal, rare fine to medium coarse, subrounded flint.
				1.80			MADE GROUND: Light brown and off white silty gravelly clay. Gravel is sub angular, fine to medium coarse chalk.
				3.10			PROBABLY REWORKED: Dark grey/bluey grey silty gravelly clay. Gravel is rare fine to medium coarse flint and fine chalk.
							End of Pit at 3.100m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP11
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565919.00 - 176235.00 Level:
Date	05/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.12			Reinforced concrete
	0.20 - 0.30	D		0.30			MADE GROUND: Medium brown and occasional fine to medium coarse, subrounded to sub angular flint gravel. Ashy lenses at the base of the stratum.
	0.50 - 0.70	D		0.70			MADE GROUND: Medium brown to grey silty clay with common sub angular chalk gravel and cobbles. Rare flint cobbles.
	1.10 - 1.25	D		1.10			MADE GROUND: Dark brown and medium brown silty clay with occasional fine, sub angular chalk gravel. Occasional yellow brown chalky lenses.
				1.30			MADE GROUND: Medium brown sandy clay with occasional brick cobbles and whole bricks. Occasional dark grey clay with fine chalk gravel. Rare rootlets.
				2.20			MADE GROUND: Dark grey silty clay with rare fine brick gravel and cobbles. Rare lenses of green brown sandy clay. Rare rootlets.
				3.30			Dark grey silty CLAY with faint yellow brown mottling.
				3.40			Light grey and orange brown mottled silty CLAY.
							End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP12
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565839.00 - 176100.00 Level:
Date	05/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.10	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.40	D		0.01			Bituminous surfacing MADE GROUND: Dark brown to grey with occasional fine to medium coarse brick gravel and occasional brick cobbles.
				0.40			MADE GROUND: Green grey silty clay with common fine to medium coarse, sub angular chalk gravel
	1.00 - 1.10	D		0.90			MADE GROUND: Grey sand with rare fine brick and chalk gravel. Occasional flint cobbles.
	1.40 - 1.50	D		1.30			Black silty peaty CLAY with common organic inclusions.
				1.70			Dark grey silty CLAY, becoming blue grey with yellow mottling.
				3.10			End of Pit at 3.100m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Standing water at 2.3mbgl.

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TRIAL PIT LOG

TrialPit No
MTP13
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 566020.00 - 176729.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 × 0.60 Depth 3.60	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D					Soft dark brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine, well rounded flint.
				0.30			
	0.50 - 0.60	D					Soft brown mottled grey slightly sandy CLAY. Sand is fine to coarse.
▼				1.40			ALLUVIAL. Very soft turning soft grey CLAY.
				3.60			End of Pit at 3.600m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP14
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565993.00 - 176428.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.00	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.30	D		0.30			MADE GROUND: Light brown sand with occasional fine to medium coarse flint and concrete, rare brick gravel and concrete cobbles. Geo-grid and geotextile at 0.3mbgl.
				0.80			MADE GROUND: Medium brown and orange brown slightly sandy clay.
	1.20 - 1.30	D		1.20			Light grey silty CLAY.
				1.30			Black silty peaty CLAY with common organic inclusions.
	2.20	B		2.00			Dark grey CLAY with fine, sub angular chalk gravel.
				3.00			Soft bluey grey silty sandy CLAY
							End of Pit at 3.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP15
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565576.00 - 176398.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 x 0.60 Depth 3.90	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D					MADE GROUND. Loose dark brown gravelly SAND. Sand is fine to coarse. Gravel is fine, subangular to well rounded brick and lytag.
				0.30			
	0.40 - 0.50	D					MADE GROUND. Dense grey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, well rounded lytag.
▼							*Water content increases.*
				2.40			ALLUVIAL. Soft greenish grey mottled black and brown CLAY. Occasional wood fragments.
							Water content increases.
				3.90			End of Pit at 3.900m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP16
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565598.00 - 176423.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.60 x 0.60 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.30			MADE GROUND. Loose dark brown gravelly SAND. Sand is fine to coarse. Gravel is fine, subangular to well rounded brick, flint and lytag.
	0.50 - 0.60	D		1.70			MADE GROUND. Dense grey gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, angular to well rounded flint, lytag and ash.
							Cable and geotextile at 0.90m.
				2.40			Soft brown slightly gravelly sandy CLAY with occasional rootlets. Sand is medium to coarse. Gravel is fine to medium, subangular to subrounded brick. Occasional reddish oxidation spots were noted.
				3.50			ALLUVIAL. Soft greenish grey CLAY.
							End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP17
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565647.00 - 176522.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	2.50 × 0.60
Scale	1:25		
Equipment:		Depth 4.00	
Logged	AS		

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Loose blackish gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, subangular to well rounded flint and lytag.
	0.60 - 0.70	D		0.50			MADE GROUND. Loose orangish yellow slightly clayey gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, angular to subangular flint.
				1.50			ALLUVIAL. Soft greeninh grey mottled black and brown CLAY.
				2.70			PEAT. Soft brown silty SAND with wood fragments. Water associated to this strata.
				3.10			ALLUVIAL. Soft greenish grey mottled black and brown CLAY.
				4.00			End of Pit at 4.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP18
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565739.00 - 176636.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.30	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15 - 0.40	D		0.15			MADE GROUND: Railway sleepers and dark grey sandy limestone gravel.
				0.40			MADE GROUND: Coarse black sand with common fine to medium coarse clinker gravel.
				0.65			MADE GROUND: Medium brown and orange brown sand and gravel. Gravel is fine to medium coarse, subrounded to sub angular flint.
	0.80 - 1.00	D		0.70			MADE GROUND: Dark grey clayey sand/sandy clay with common fine to medium coarse, subrounded to sub angular flint and rare brick gravel.
							MADE GROUND: Orange brown sand and gravel. Gravel is fine to medium coarse, subrounded flint.
	1.25 - 1.40	D		1.25			MADE GROUND: Coarse black sand with common fine to medium coarse clinker gravel.
				1.40			Stiff dark grey CLAY.
▼				2.50			Firm bluey grey silty CLAY/clayey silt.
				3.30			End of Pit at 3.300m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 2.5mbgl.

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TRIAL PIT LOG

TrialPit No
MTP19
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565824.00 - 176710.00 Level:	Date 06/06/2017
Location:	Tilbury		Dimensions (m): Depth 2.90	Scale 1:25
Equipment:	JCB 3CX			Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.30	D					MADE GROUND: Coarse black sand with common fine to medium coarse clinker gravel.
				0.35			
	0.50 - 0.70	D					MADE GROUND: Light brown to orange brown gravelly sand. Gravel is fine to medium coarse, subrounded to sub angular flint. Rare flint cobbles.
				0.80			
				0.90			MADE GROUND: Coarse black sand with occasional fine to medium coarse clinker gravel.
	1.00 - 1.20	D					MADE GROUND: Dark brown to red brown silty clay.
				1.30			
	1.40 - 1.60	D					MADE GROUND: Soft to firm light grey and yellow brown mottled clay with rare ashy inclusions, fine brick gravel and shell fragments.
				1.90			Stiff bluey grey and dark grey silty CLAY.
				2.90			End of Pit at 2.900m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP2
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565965.00 - 176278.00 Level:
Date	05/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 x 0.60 Depth 3.40	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D					MADE GROUND. Loose greyish brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, subangular to well rounded flint.
	0.40 - 0.50	D		0.35			MADE GROUND. Brown sandy cobbly GRAVEL. Sand is fine to coarse. Gravel is fine to coarse brick and concrete with the occasional tarmac fragment.
▼	0.70 - 0.80	D		0.60			MADE GROUND. Brown gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, well rounded flint. *Black plastic net at 0.60m.*
	1.40 - 1.50	D		1.20			MADE GROUND. Brown sandy gravelly CLAY with some black ash. Sand is fine to coarse. Gravel is fine to medium, subrounded to well rounded flint. *Brick gravels noted.*
				1.70			ALLUVIAL. Soft to stiff greenish grey mottled black CLAY. Occasional gravel content was noted at the top of the strata, and comprised of fine angular to well rounded flint gravel. *Peat peat layers, comprised of brown silty SAND with wood fragments.*
▼				3.40			End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP20
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565848.00 - 176604.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 x 0.60 Depth 4.20	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			Dark brown gravelly SAND with rootlets. Sand is medium to coarse. Gravel is fine to medium, angular to subrounded flint.
	0.30 - 0.40	D					MADE GROUND. Loose dark brown to brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded brick, concrete, chalk and rare coal.
				0.70			
	0.80 - 0.90	D					MADE GROUND. Loose greyish brown gravelly SAND. Sand is fine to medium. Gravel is fine, subrounded to well rounded lytag.
				1.40			Soft brownish grey CLAY.
				3.00			PEAT. Soft brown silty SAND with wood fragments. Water associated to this strata.
				3.20			ALLUVIAL. Soft greenish grey CLAY.
				4.20			End of Pit at 4.200m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP21
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565825.00 - 176502.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.30	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.40	D					MADE GROUND: Dark grey/dark brown sand with common rounded lytag gravel (less common with depth) and rare fine brick gravel.
	0.80 - 1.20	D					
				1.20			Dark grey CLAY with common lenses of peat. Common fine rootlets.
				1.40			Stiff light grey and medium brown mottled CLAY, lenses of peat from 3.0mbgl.
				3.05			Stiff bluey grey silty CLAY.
				3.30			End of Pit at 3.300m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 2.3mbgl.

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TRIAL PIT LOG

TrialPit No
MTP22
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565823.00 - 176420.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 x 0.60 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30 - 0.40	D		0.10			Dark brown gravelly SAND with rootlets. Sand is medium to coarse. Gravel is fine to medium, angular to subrounded flint. MADE GROUND. Dense greyish slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, rounded lytag.
	0.80 - 0.90	D		1.80			ALLUVIAL. Soft greenish grey CLAY.
				2.80			PEAT. Soft brown silty SAND with wood fragments. Sand is fine to coarse. Water associated to this strata.
				3.00			ALLUVIAL. Soft greenish grey mottled brown slity sandy CLAY. Sand is fine to coarse.
				3.50			End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP23
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565840.00 - 176415.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 1.50	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.50	D					MADE GROUND: Grey sand with common rounded lytag gravel, plastic and rubber flexible pipes at 0.4mbgl.
	1.20 - 1.30	D		1.20			MADE GROUND: Light grey sand and rare rounded lytag gravel. Rare rootlets.
				1.30			MADE GROUND: Railway sleepers, metal track and dark grey sandy limestone gravel.
				1.50			End of Pit at 1.500m

1
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4
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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Within bunded material

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TRIAL PIT LOG

TrialPit No: MTP24
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565793.00 - 176393.00 Level:	Date 06/06/2017
Location:	Tilbury		Dimensions (m): 2.50 x 0.60 Depth 3.80	Scale 1:25
Equipment:				Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.20			Dark brown gravelly SAND with rootlets. Sand is medium to coarse. Gravel is fine to medium, angular to subrounded flint.
	0.30 - 0.40	D					MADE GROUND. Dense grey very gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, well rounded lytag.
							Plastic pipe at 1.30m.
▼				1.90			ALLUVIAL. Very soft turning soft greenish grey mottled brown CLAY. Occasional peat lenses and wood fragments noted.
				3.80			End of Pit at 3.800m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP25
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565859.00 - 176437.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.00	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.25			TOPSOIL: Dark brown to medium brown silty clay with common fine rootlets.
				1.80			Light brown sandy clay SILT/silty clay.
	2.30	D		2.20			Soft dark grey to bluey grey silty CLAY.
				2.40			Dark brown peaty CLAY with common organic material strong sulphur odour.
				3.00			Soft bluey grey silty CLAY.
							End of Pit at 3.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 1.7mbgl.

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TRIAL PIT LOG

TrialPit No
MTP26
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565643.00 - 175992.00 Level:
Location:	Tilbury	Dimensions (m): 2.60 x 1.00 Depth 3.50	Date 07/06/2017 Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D		0.20			Dark brown clayey fine to medium SAND.
	0.60 - 0.70	D					MADE GROUND. Soft brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, subangular to rounded chalk, rare flint and brick. *Band of black ash and gravel. Gravel is angular to subrounded fine to medium flint, ash and coal.*
	1.20 - 1.30	D					*Band of black ash and gravel. Gravel is angular to subrounded fine to medium flint, ash and coal.*
				1.60			Black sandy CLAY. Sand is fine to coarse.
				2.00			ALLUVIAL. Soft greenish grey mottled brown CLAY. Occasional peat lenses and wood fragments noted.
				3.50			End of Pit at 3.500m

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP27
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565663.00 - 175882.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m):	2.50 × 0.60
Scale	1:25		
Equipment:		Depth 3.50	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.10			Dark brown clayey fine to medium SAND.
	0.30 - 0.40	D					MADE GROUND. Soft brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, subangular to rounded chalk and ash.
							Brown CLAY with orangish-red medium sand size mottles.
▼				1.20			ALLUVIAL. Soft turning stiff grey mottled brown CLAY. Occasional peat lenses and wood fragments noted.
				3.50			End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP28
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565666.00 - 175811.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 x 0.60 Depth 4.00	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10			Dark brown clayey fine to medium SAND.
	0.20 - 0.30	D					MADE GROUND. Brown and black gravelly SAND. Gravel is fine to medium, angular to subrounded flint, brick and ash.
	0.60 - 0.70	D					
				1.00			ALLUVIAL. Soft turning stiff grey mottled brown CLAY. Occasional peat lenses and wood fragments noted.
▼				3.70			PEAT. Soft brown silty SAND with wood fragments. Sand is fine to coarse.
				4.00			End of Pit at 4.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP29
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565712.00 - 175702.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m): 2.30 x 0.60 Depth 3.60	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.10			Dark brown clayey fine to medium SAND.
	0.70 - 0.80	D					MADE GROUND. Brown slightly clayey gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, subangular to well rounded flint. *Band of grey ash with chalk coarse sand and fine gravel.*
				1.20			ALLUVIAL. Soft turning stiff grey mottled black and brown CLAY. Occasional peat lenses and wood fragments noted.
				3.60			End of Pit at 3.600m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP3
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565929.00 - 176382.00 Level:
Date	05/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 × 0.60, Depth 2.90	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Loose greyish brown gravelly SAND. Sand is fine to medium. Gravel is fine, angular to subrounded flint and brick.
	0.40 - 0.50	D					
				0.60			MADE GROUND. Loose brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded chalk and flint.
	0.90 - 1.00	D					
				1.30			ALLUVIAL. Soft greenish grey mottled black CLAY.
							Peat lenses becoming a peat layer, comprised of brown silty SAND with wood fragments.
				2.90			End of Pit at 2.900m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP30
Sheet 1 of 1

Project Name: Tilbury 2	Project No. 20752	Co-ords: 565734.00 - 175743.00 Level:	Date 07/06/2017
Location: Tilbury		Dimensions (m): 3.40 × 0.60 Depth 1.30	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.10			Dark brown clayey SAND with rootlets. Sand is fine to medium.
	0.30 - 0.40	D					MADE GROUND. Soft brown slightly gravelly sandy CLAY. Sand is grey medium to coarse. Gravel is fine, subrounded fine ash.
				0.50			*Wood, timber and some clak fine gravel.*
							REWORKED ALLUVIAL. Soft brown sandy CLAY. Sand is fine to coarse.
				1.30			End of Pit at 1.300m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP31
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565661.00 - 176460.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m): 2.30 x 0.60 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.01			MADE GROUND. Tarmac. MADE GROUND. Loose black and grey clayey fine SAND. Sand is fine to coarse.
	1.20 - 1.30	D		1.20			Black sandy CLAY. Sand is fine to coarse.
				1.50			ALLUVIAL. Grey mottled black sandy CLAY with occasional peat and sand lenses and wood fragments noted. Sand is fine to coarse.
				3.50			End of Pit at 3.500m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP32
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565733.00 - 176456.00 Level:	Date 07/06/2017
Location:	Tilbury		Dimensions (m): 2.50 x 0.60 Depth 3.90	Scale 1:25
Equipment:				Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.00			MADE GROUND. Concrete with lytag.
	0.20 - 0.30	D		0.15			MADE GROUND. Dense black fine SAND. Some coal and ash was noted at the top of the formation.
							HC smell.
	0.50 - 0.60	D					
	1.00 - 1.10	D		1.00			Soft black sandy CLAY with rootlets. Sand is fine to coarse.
				1.40			ALLUVIAL. Greenish grey CLAY with occasional sand and peat lenses.
▼	2.40 - 2.50	D					*HC smell.*
				3.90			End of Pit at 3.900m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP33
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565738.00 - 176398.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 x 0.60 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.01			MADE GROUND. Concrete. MADE GROUND. Grey SAND. Sand is fine to coarse.
	0.60 - 0.80	D					
	1.20 - 1.30	D		1.20			Soft grey sandy CLAY. Sand is fine to coarse.
				1.40			ALLUVIAL. Greenish grey CLAY with occasional sand and peat lenses.
▼							
▼	3.30 - 3.40	D		3.30			PEAT. Soft brown silty SAND with wood fragments. Sand is fine to coarse.
				3.60			End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP34
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565746.00 - 176367.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 x 0.60 Depth 3.60	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.40	D					MADE GROUND. Loose to dense black SAND with lytag. Sand is fine to coarse.
	0.60 - 0.80	D		0.60			MADE GROUND. Dense greyish black clayey fine SAND. Sand is fine to coarse.
				1.40			REWORKED ALLUVIAL. Soft greyish black sandy CLAY with rootlets.Sand is fine to coarse.
				1.70			ALLUVIAL. Greenish grey mottled brown and black CLAY with occasional sand and peat lenses.
▼				3.60			End of Pit at 3.600m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP35
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565659.00 - 176381.00 Level:	Date 07/06/2017
Location:	Tilbury		Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX		Depth 3.20	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.07			Bituminous surfacing
							MADE GROUND: Compacted dark grey silty sand.
				0.30			
	0.40 - 0.50	D					MADE GROUND: Compacted light grey silty sand with rare fine chalk gravel.
	1.10 - 1.20	D		1.10			Black peaty CLAY with orange mottling and a slightly burnt odour.
▼				1.20			Firm bluey grey and black mottled CLAY.
				1.50			Firm bluey grey CLAY with yellow brown mottling and occasional peaty lenses.
▼							
				3.20			End of Pit at 3.200m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Rapid water ingress from 2.4mbgl.

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TRIAL PIT LOG

TrialPit No
MTP36
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565699.00 - 176414.00 Level:	Date 07/06/2017
Location:	Tilbury		Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX		Depth 3.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.08			Concrete
	0.20 - 0.40	D		0.20			MADE GROUND: Coarse dark grey silty sand. Wood fragment at 1.5mbg. MADE GROUND: Dark grey silty sand. Rare rootlets and wire fragments.
	1.20 - 1.50	D		1.20			Soft to firm dark blue CLAY with peaty lenses.
▼				1.50			Stiff bluey grey/light grey silty CLAY.
				3.00			Stiff bluey grey/light grey silty CLAY with lenses of dark brown peat with common organic material and a strong sulphur odour.
				3.40			End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Rapid water ingress from 2.4mbgl.

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TRIAL PIT LOG

TrialPit No
MTP37
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565720.00 - 176494.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.10	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.10	D		0.12			MADE GROUND: Dark grey to dark brown silty sand with common rounded lytag gravel.
	0.30 - 0.60	D		0.25			MADE GROUND: Light grey silty sand with occasional rounded lytag gravel.
							MADE GROUND: Compacted dark bluey grey silty sand.
	0.70 - 0.80	D		0.60			REWORKED: Soft light grey and yellow brown clay with rare black mottling and rare lytag gravel.
▼				1.10			Stiff dark grey silty CLAY with rare yellow brown mottling.
				3.00			Soft black silty CLAY.
				3.10			End of Pit at 3.100m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 2.1mbgl.

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TRIAL PIT LOG

TrialPit No
MTP38
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565835.00 - 176491.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 x 0.60 Depth 3.30	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.00			MADE GROUND. Dense slightly gravelly SAND with lytag. Sand is fine to coarse. Lytag content increases in depth.
	0.40 - 0.50	D					
	0.50	D					
▼	1.40 - 1.50	D					
				1.50			MADE GROUND. Loose to dense black gravelly SAND with rootlets. Sand is fine to coarse. Gravel is fine, subrounded ash and rare flint.
							ALLUVIAL. Greenish grey mottled brown and black CLAY with occasional sand and peat lenses.
				3.30			End of Pit at 3.300m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP39
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565650.00 - 176365.00 Level:	Date 07/06/2017
Location:	Tilbury		Dimensions (m): Depth 3.40	Scale 1:25
Equipment:	JCB 3CX			Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.20			MADE GROUND: Black silty sand with rare fine to medium coarse limestone and lytag gravel.
				0.30			MADE GROUND: Light silty sand with occasional rounded lytag gravel.
	0.45 - 0.60	D					MADE GROUND: Compacted bluey grey silty sand recovered as sand and sub angular gravel. Rare silty brown silty clay lenses.
	0.60 - 0.70	D		1.00			Soft to firm light grey/medium brown CLAY with lenses of peat.
▼				1.60			Stiff bluey grey CLAY with yellow brown mottling.
				2.60			Soft to firm dark bluey grey silty CLAY.
				3.40			End of Pit at 3.400m

1
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4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 2.1mbgl.

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TRIAL PIT LOG

TrialPit No
MTP4
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565930.00 - 176382.00 Level:	Date 05/06/2017
Location:	Tilbury		Dimensions (m): 2.70 x 0.60 Depth 3.40	Scale 1:25
Equipment:				Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.30			MADE GROUND. Loose greyish brown gravelly SAND. Sand is fine to medium. Gravel is fine, angular to subrounded flint and brick.
	0.50 - 0.60	D		1.00			MADE GROUND. Brown sandy gravelly CLAY with some black ash. Sand is fine to coarse. Gravel is fine to medium, subrounded to well rounded flint.
	1.10 - 1.30	D		1.30			MADE GROUND. Loose brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded chalk and flint.
				2.90			ALLUVIAL. Soft greenish grey mottled black CLAY.
				3.40			ALLUVIAL. Soft greenish grey mottled black sandy CLAY. Sand is fine to coarse. *Peat lenses becoming a peat layer, comprised of brown silty SAND with wood fragments.*
							End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP40
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565720.00 - 176302.00 Level:	Date 07/06/2017
Location:	Tilbury		Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX		Depth 3.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.30	D		0.30			MADE GROUND: Coarse dark grey silty sand with occasional fine to medium coarse subrounded clinker gravel, and rare coal fragments. Rare fragments of electrical wire and wood.
	0.60 - 0.80	D		0.65			MADE GROUND: Compacted light grey silty sand recovered as sand and sub angular gravel with occasional rounded lytag gravel at the base of the stratum.
				0.85			MADE GROUND: Dark grey to black silty peaty clay with rare brick cobbles and occasional fine rootlets. Thickness variable.
							Stiff light grey and light brown mottled CLAY
				1.90			Stiff bluey grey CLAY with medium brown mottling and rare soft peaty lenses.
				3.40			End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP41
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565793.00 - 176275.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.00	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.30	D					MADE GROUND: Coarse black silty sand with occasional fine to medium coarse clinker and rare fine brick, rounded lytag gravel. Rare wood fragments, lenses of lytag gravel at the base of the stratum.
				0.40			MADE GROUND: Light grey silty sand with occasional rounded lytag gravel.
				1.30			MADE GROUND: Firm grey to bluey grey clay with rare yellow brown mottling. Cylindrical concrete boulder (0.5-0.4m) at 1.6-2.0mbgl (probable fence post).
	1.60 - 2.00	D					
				2.00			Stiff bluey grey CLAY with medium brown mottling.
				3.00			End of Pit at 3.000m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP42
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565743.00 - 175661.00 Level:
Date	07/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 2.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.15	D		0.02			MADE GROUND: Dark brown silty sand.
	0.20 - 0.40	D		0.20			MADE GROUND: Light brown sand with occasional fine to medium coarse flint and brick gravel. Occasional concrete and brick cobbles.
				0.40			MADE GROUND: Coarse dark grey sand with rare fine to medium coarse flint and brick gravel. Rare concrete cobbles.
				0.60			MADE GROUND: Orange brown sandy clay with common subrounded flint gravel. Metal reinforcing at 0.45mbgl.
				0.90			MADE GROUND: Dark grey silty clay with orange brown mottling. Occasional fine to medium coarse concrete gravel.
	1.00 - 1.30	D					MADE GROUND: Dark grey to bluey grey clay with black mottling. Concrete obstruction a 1.3mbgl (dug around) and possible land drain at 1.1mbgl.
				1.40			Soft dark grey/blue grey silty CLAY.
				2.40			End of Pit at 2.400m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 1.4mbgl, possibly from a land drain.

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TRIAL PIT LOG

TrialPit No
MTP43
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565718.00 - 175600.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.60 x 1.00 Depth 4.00	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.25	D					MADE GROUND. Brown gravelly cobbly SAND. Sand is medium to coarse. Gravel and cobbles are fine to coarse, angular to subrounded flint, concrete and bricks. Some rebar and metal fragment.
	0.40 - 0.50	D					
	0.40 - 0.60	D					
				0.90			
	1.00 - 1.10	D					Loose brownish grey gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded flint.
▼	1.00 - 1.50	D					
				1.20			ALLUVIAL. Soft greenish grey mottled brown silty CLAY. Rare peat lenses noted.
				4.00			End of Pit at 4.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP44
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565746.00 - 175580.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.20 × 0.60 Depth 1.40	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30 - 0.40	D					MADE GROUND. Loose brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded chalk, brick , concrete and flint.
							Metal encountered at 0.50m
	0.80 - 0.90	D		0.70			REWORKED ALLUVIAL. Soft grey mottled brown slightly sandy CLAY. Sand is fine to coarse chalk and brick.
				1.40			End of Pit at 1.400m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP45
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565748.00 - 175547.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.30 x 0.60 Depth 4.00	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Loose greyish brown gravelly SAND. Sand is fine to medium. Gravel is fine to medium, angular to subrounded flint, brick and concrete. *Vegetal soil noted. Comprised of brown gravelly SAND with rootlets. Gravel is subangular to subrounded fine flint.*
				0.40			MADE GROUND. Soft dark brown sandy CLAY with reddish orange oxidation stains. Sand is fine to coarse.
	0.80 - 0.90	D		0.70			Yellowish brown gravelly cobbly SAND. Sand is fine to coarse. Gravels and cobbles are fine to coarse, angular to subangular bricks, concrete, flint and tarmac. *Rebar, wood and bricks encountered.*
				1.20			ALLUVIAL. Soft turning stiff greenish grey mottled brown silty CLAY. Peat lenses were noted from 3.40 m bgl to the end of the pit.
	1.70 - 2.10	D					
				4.00			End of Pit at 4.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP46
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565751.00 - 175501.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.40 × 0.60	Scale 1:25
Equipment:		Depth 3.50	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Loose greyish brown gravelly SAND. Sand is fine to medium. Gravel is fine to medium, angular to subrounded flint, brick and concrete. Some rebar and metal fragments.
							Plastic net and textile at 0.40m.
	0.50 - 0.60	D		0.50			Loose black gravelly SAND. Sand is fine ash. Gravel is fine to coarse, subrounded flint. One flint boulder.
				0.70			Yellowish gravelly medium to coarse SAND. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded flint.
				1.00			Soft black CLAY.
▼				1.30			ALLUVIAL. Soft turning stiff greenish grey mottled brown and black silty CLAY. Peat lenses noted from 3.40 m bgl to the end of the pit.
				3.50			End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP47
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565806.00 - 175795.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.20	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.25	D		0.05			MADE GROUND: Black silty sand of coal with occasional fine to medium coarse coal fragments.
				0.30			MADE GROUND: Medium brown sand with occasional fine to medium coarse brick gravel and occasional brick cobbles.
	0.40 - 0.60	D					MADE GROUND: Grey silty clay with common fine to medium coarse chalk gravel.
				0.60			MADE GROUND: Compacted dark grey silty clay with black mottling. Rare fine to medium coarse brick gravel and metal fragments.
	1.00 - 1.50	D					
				1.90			Stiff grey CLAY with black mottling.
				2.40			Stiff light brown to light grey CLAY with black mottling.
				3.20			End of Pit at 3.200m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP48
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565884.00 - 175984.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 2.80	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.05	D		0.05			MADE GROUND: Black silty sand of coal with occasional fine to medium coarse coal fragments.
				0.22			MADE GROUND: Compacted coarse light grey sand.
	0.25 - 0.50	D					MADE GROUND: Dark grey silty sand.
				0.50			MADE GROUND: Medium brown sand with occasional fine to medium coarse brick and concrete gravel. Rare brick and concrete cobbles.
				0.80			MADE GROUND: Dark grey silty sand.
▼				0.90			MADE GROUND: Subrounded to sub angular flint cobbles and rare brick cobbles. Rare pockets of dark grey silty clay with rare brick.
	1.50 - 2.00	D					
				2.40			Stiff light grey and dark grey mottled CLAY.
				2.80			End of Pit at 2.800m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability
Sides of the trench were unstable.

Remarks
Standing water at 1.0mbgl with a slight sheen.

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TRIAL PIT LOG

TrialPit No: MTP49
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565951.00 - 175916.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.20	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.15	D		0.05			MADE GROUND: Dark grey sand with rare roots and rootlets.
	0.20 - 0.40	D		0.15			MADE GROUND: Medium brown and reddy brown sand with fine to medium coarse brick gravel. Occasional brick cobbles and whole bricks.
							MADE GROUND: Soft medium brown/light brown clayey sand/sandy clay with occasional fine chalk gravel.
				0.90			MADE GROUND: Dark grey silty clayey sand/sandy clay with rare fine to medium coarse flint gravel.
	1.10 - 1.20	D		1.10			MADE GROUND: Black ashy sand with common fine to medium coarse clinker gravel.
				1.20			MADE GROUND: Medium brown and dark brown sand with common fine brick gravel, rare fine to medium coarse concrete and occasional clinker gravel. Common brick cobbles and whole bricks within the to 0.15m. Rare wood and slate fragments.
	1.40 - 1.50	D					
				1.60			MADE GROUND: Coarse black sand and gravel of coal.
				1.90			MADE GROUND: Soft off white chalk with fine to medium coarse sub angular chalk gravel. Rare boulder size flint nodules.
▼							
				3.00			Dark grey silty CLAY with occasional fine relict rootlets. Slight sulphur odour.
				3.20			End of Pit at 3.200m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 2.4mbgl.

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TRIAL PIT LOG

TrialPit No
MTP5
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565922.00 - 176140.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 × 0.60 Depth 3.30	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND. Loose grey gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, subangular to well rounded flint, concrete and brick.
	0.40 - 0.50	D		0.35			MADE GROUND. Loose black gravelly SAND. Sand is fine to coarse. Gravel is fine, angular to subrounded flint and coal.
	0.60 - 0.70	D					*Thin layer comprised of brick, concrete and chalk angular to subangular fine to coarse GRAVELS. Occasional brick cobble.*
				0.70			MADE GROUND. Brown clayey gravelly SAND. Gravel is fine to medium, angular to subrounded flint, chalk and brick.
				1.30			REWORKED ALLUVIAL. Soft greenish grey mottled black CLAY. Occasional lenses of fine to medium sand.
							Some sand lenses affected by hydrocarbons.
				2.30			ALLUVIAL. Soft turning stiff greenish grey mottled black CLAY. Rare gravel content comprised of fine angular flint gravel.
				3.00			End of Pit at 3.300m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP50
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565967.00 - 175841.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 × 0.60	Scale 1:25
Equipment:		Depth 2.20	Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Dense black and grey fine SAND with ash. Sand is fine to coarse.
				0.50			MADE GROUND. Brickworks and concrete. *Concrete wall running in diagonal in one of the pit walls.*
	0.90 - 1.00	D		0.80			MADE GROUND. Grey SAND with some black ash and occasional flint gravel. Sand is fine to coarse.
▼				1.80			Brownish grey gravelly CLAY. Gravels are fine to coarse, subangular to subrounded flint gravels. *Concrete slab found at 1.80. Fragments of cast iton pipe. Water ingress.*
				2.20			End of Pit at 2.200m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP51
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565833.00 - 175801.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.20 x 0.60 Depth 2.00	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30 - 0.40	D					MADE GROUND. Black slightly clayey gravelly SAND. Sand is fine to medium. Gravel is fine to coarse, angular to subrounded concrete, brick and flint. Occasional cobbles.
	0.80 - 0.90	D		0.70			MADE GROUND. Greenish brown and orangish brown clayey SAND AND GRAVEL. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded flint.
▼	1.30 - 1.40	D		1.20			MADE GROUND. Dense black SAND AND GRAVEL. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded flint, brick, ash and melted metal. *Water ingress. Pit abandoned at 2.00 due to the water.*
				1.70			ALLUVIAL. Soft greenish grey silty CLAY with some rootlets.
				2.00			End of Pit at 2.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP52
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565800.00 - 175801.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 x 0.60 Depth 3.20	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30 - 0.40	D					MADE GROUND. Greenish brown mottled orangish brown clayey SAND AND GRAVEL. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded brick, concrete and flint. *Black sand and ash with concrete, flint and coal angular to rounded fine gravel.*
▼				0.80			
▼	0.90 - 1.00	D					MADE GROUND. Black SAND AND GRAVEL. Sand is fine ash. Gravel is fine, subangular to rounded brick and flint.
				1.40			ALLUVIAL. Soft to stiff greenish grey mottled brown and black silty CLAY.
				3.20			End of Pit at 3.200m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP53
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565781.00 - 175743.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.60 x 0.60 Depth 3.70	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND. Reinforced concrete.
	0.50 - 0.60	D		0.40			MADE GROUND. Black SAND AND GRAVEL. Sand is fine to coarse. Gravel is fine to medium angular to subrounded flint.
▼	0.90	D		1.00			ALLUVIAL. Soft turning stiff greenish grey mottled black silty CLAY. Peat lenses observed from 3.30 m bgl to the end of the pit.
				3.70			End of Pit at 3.700m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP54
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565767.00 - 175960.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.50	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.20			MADE GROUND: Dark brown silty sandy clay with occasional fine to medium coarse flint and brick gravel.
	0.30 - 0.50	D		0.60			MADE GROUND: Orange brown sand and common fine to medium coarse subrounded flint gravel. Occasional brick cobbles and concrete boulders. Rare wood and metal fragments. Plastic drain at 0.5mbgl.
				0.70			MADE GROUND: Orange brown sand.
				0.90			MADE GROUND: Coarse black ashy sand with occasional fine to medium coarse clinker gravel.
▼				1.10			MADE GROUND: Medium brown sand with occasional fine to medium coarse flint gravel.
				2.70			Stiff dark grey silty CLAY with rare black peaty lenses.
				3.50			Soft to firm bluey grey CLAY.
							End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Slight water ingress from 2.1mbgl, standing water at the base of the trench.

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TRIAL PIT LOG

TrialPit No
MTP55
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565765.00 - 175993.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.40	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.08	D		0.08			MADE GROUND: Dark grey sand and sub angular medium coarse limestone gravel.
				0.20			MADE GROUND: Coarse reddy brown sand and medium coarse sub angular limestone gravel.
	0.45 - 0.65	D		0.45			MADE GROUND: Orange brown sand and gravel. Gravel is fine to medium coarse subrounded to sub angular flint. Rare concrete cobbles.
				0.90			MADE GROUND: Dark brown sand and gravel. Gravel is fine to medium coarse subrounded to sub angular flint. Rare concrete boulders and metal reinforcing.
				1.10			MADE GROUND: Coarse black sand with common fine to medium coarse clinker gravel.
	1.20 - 1.30	D		1.20			MADE GROUND: Green brown sand.
				1.30			REWORKED: Dark grey peaty clay with rare fine brick gravel.
				1.80			Stiff dark grey CLAY with rare dark grey silty peat lenses.
				2.80			Stiff bluey grey CLAY.
				3.40			Stiff light grey silty CLAY.
							End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP56
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565813.00 - 175922.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.00	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.15	D		0.02			MADE GROUND: Black silty clay with rare fine to medium coarse flint gravel. Rare rootlets.
				0.35			MADE GROUND: Medium brown to dark brown sand and gravel. Gravel is fine to medium coarse, subrounded flint. Rare rootlets.
	0.50 - 0.70	D		0.50			MADE GROUND: Orange brown sand and gravel. Gravel is fine to medium coarse, subrounded flint. Rare concrete cobbles from 0.5mbgl.
				0.70			MADE GROUND: Medium brown to dark brown sand and gravel. Gravel is fine to medium coarse, subrounded flint.
▼	0.80 - 1.00	D					MADE GROUND: Coarse black sand with medium coarse clinker and rare coal gravel.
				1.40			Stiff bluey grey to dark grey silty CLAY with occasional black peaty lenses and streaking.
				3.00			End of Pit at 3.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Water ingress from 1.1mbgl.

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TRIAL PIT LOG

TrialPit No: MTP57
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565805.00 - 176022.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.00	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.40	D		0.06			TOPSOIL: Dark grey silty sand with occasional fine to medium coarse, subrounded to sub angular flint gravel. MADE GROUND: Orange brown sand and gravel, becoming medium brown with depth. Gravel is fine to medium coarse, subrounded to sub angular flint. Rare concrete cobbles and pottery fragments. A fragment of suspected ACM was encountered at 0.5mbgl.
	0.50	B					
	0.60 - 0.80	D		0.60			MADE GROUND: Coarse ashy sand with common fine to medium coarse clinker gravel.
				0.80			MADE GROUND: Coarse orange brown sand with rare fine to medium coarse, subrounded to sub angular flint gravel.
				1.10			MADE GROUND: Dark grey sand with rare fine to medium coarse, sub angular chalk gravel and occasional cobbles.
				1.50			Dark grey silty CLAY with rare peaty lenses.
				3.00			End of Pit at 3.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP58
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565765.00 - 175994.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m): 2.00 x 0.60 Depth 3.00	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			MADE GROUND. Concrete slab beneath medium to coarse rounded flint GRAVEL. *Clay pipe.*
				0.70			MADE GROUND. Yellowish and orangish brown clayey gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, subangular to rounded flint.
				1.40			MADE GROUND. Black and grey sandy GRAVEL. Sand is medium to coarse. Gravel is fine to coarse subangular to rounded flint, ash and melted metal.
				3.00			ALLUVIAL. Soft greenish grey mottled black silty CLAY.
							End of Pit at 3.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP59
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565642.00 - 176086.00 Level:
Date	08/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.80	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.15	D		0.15			TOPSOIL: Dark grey silty sand with rare fine to medium coarse, subrounded to sub angular flint gravel. Occasional rootlets and rare glass fragments.
	0.20 - 0.30	D		0.30			MADE GROUND: Light brown sand with occasional fine to medium coarse flint and rare clinker gravel. Rare glass fragments.
							MADE GROUND: Compacted coarse dark grey sand.
				0.75			MADE GROUND: Friable dark grey silty clay with occasional rootlets.
	1.20 - 1.40	D		1.20			MADE GROUND: Firm dark grey silty clay with occasional fine to medium coarse, subrounded to sub angular flint and rare chalk gravel.
				1.40			MADE GROUND: Reinforced concrete cobbles and boulders in a dark brown silty sand matrix.
	1.85 - 2.00	D		1.80			MADE GROUND: Light grey silty sand with rare fine to medium coarse, subrounded to sub angular flint gravel.
	2.20 - 2.50	D		2.20			MADE GROUND: Medium brown and orange brown clay with rare fine to medium coarse flint, brick and chalk gravel. Concrete protruded into the trench at 2.4mbgl. Inclusions of wood from 2.7mbgl.
				3.80			End of Pit at 3.800m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP6
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 566025.00 - 176269.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.70 × 3.60 Depth 3.60	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Soft dark brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine, well rounded flint.
				0.30			Soft brown slightly sandy CLAY. Sand is fine to coarse.
				1.50			ALLUVIAL. Soft greenish grey mottled black CLAY with the occasional peat lenses and wood fragments. Rare fine sand lenses were also observed.
				3.60			End of Pit at 3.600m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP60
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565784.00 - 175784.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.00 × 0.60 Depth 3.40	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.03			MADE GROUND. Tarmac and reinforced concrete.
	0.30 - 0.40	D					MADE GROUND. Brown slighlty clayey sandy GRAVEL with concrete cobbles and rare concrete boulders. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded flint and brick. One glass bottle and timber fragments noted.
				0.50			
	0.60 - 0.70	D					MADE GROUND. Black gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, subangular to rounded flint and chalk.
				1.00			ALLUVIAL. Stiff greenish grey silty CLAY becoming softer in depth.
▼				3.40			End of Pit at 3.400m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

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TRIAL PIT LOG

TrialPit No
MTP61
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565859.00 - 175633.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.60 x 0.60 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Greyish black gravelly SAND. Sand is fine to medium. Gravel is fine, angular to subrounded flint and ash.
	0.50 - 0.60	D		0.50			MADE GROUND. Orangish brown gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded flint and concrete.
				0.80			Brown sandy GRAVEL. Sand is fine to coarse. Gravel is fine to medium, subangular to well rounded flint.
▼				1.30			ALLUVIAL. Soft greenish grey mottled black silty CLAY.
				3.50			End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP62
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565858.00 - 175601.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 × 0.60 Depth 0.15	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05 - 0.15	D		0.15			MADE GROUND. Brown slighlty clayey gravelly SAND with rootlets. Sand is medium to coarse. Gravel is fine, angular to subrounded flint. Rare brick and concrete gravel.
							End of Pit at 0.150m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP63
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565904.00 - 175517.00 Level:
Location:	Tilbury		Dimensions (m): 2.20 x 0.60 Depth 0.35
Equipment:			

Date: 09/06/2017
Scale: 1:25
Logged: AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.35			MADE GROUND. Greyish brown gravelly SAND. Sand is medium to coarse. Gravel is fine to coarse, angular to subrounded concrete, brick and flint.
							End of Pit at 0.350m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP64
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565904.00 - 175473.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.30 × 0.60 Depth 1.50	Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND. Loose black and grey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded concrete, brick, flint, coal and ash.
▼	0.90 - 1.00	D		0.70			MADE GROUND. Yellowish brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded flint.
				1.50			End of Pit at 1.500m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP65
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565916.00 - 175411.00 Level:
Location:	Tilbury		Dimensions (m): 2.30 × 0.70 Depth 2.80
Equipment:			

Date: 09/06/2017
Scale: 1:25
Logged: AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D					MADE GROUND. Yellowish brown gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, angular to rounded flint, brick and concrete. Occasional brick and concrete cobble.
	0.40 - 0.50	D					
	0.60 - 0.80	D		0.65			MADE GROUND. Soft brown CLAY with layers of ash and flint gravel.
				1.20			Soft greenish grey mottled black silty CLAY.
				2.80			End of Pit at 2.800m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP66
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565861.00 - 175395.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.60 x 0.60 Depth 3.80	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Grey SAND AND GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded brick and concrete. Occasional brick cobble. Rare boulder. Some rebar noted.
	0.60 - 0.70	D		0.50			MADE GROUND. Orangish brown gravelly SAND. Sand is medium to coarse. Gravel is fine to medium, angular to subrounded flint.
▼	1.10 - 1.20	D					*Thin layer of balck ash, coal and fine rounded flint gravel.*
				1.20			ALLUVIAL. Soft greenish grey mottled black and brown silty CLAY.
▼				3.80			End of Pit at 3.800m

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D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP67b
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565854.00 - 175428.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.10 × 0.70 Depth 0.85	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					MADE GROUND. Crushed material comprised of brownish sandy cobbley GRAVEL. Sand is medium to coarse. Gravel is fine to coarse, angular to subrounded brick flint and concrete.
							Alternation of tarmac-yellowish clayey SAND-tarmac.
	0.65 - 0.75	D					
				0.85			End of Pit at 0.850m

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4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP68
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565757.00 - 175422.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 x 0.70 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.01			MADE GROUND. Pavement. MADE GROUND. Greyish brown gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, subangular to rounded flint, concrete and brick.
	0.40 - 0.50	D					
	0.80 - 0.90	D		0.80			MADE GROUND. Grey fine, subangular to rounded flint GRAVELS impregned in hydrocarbons.
				0.80			ALLUVIAL. Soft greenish grey mottled black silty CLAY. Peat lenses with observed from 2.70 m bgl to the end of the pit.
▼				3.50			End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No: MTP69
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565761.00 - 175376.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m): 2.20 x 0.60 Depth 3.60	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D		0.01			MADE GROUND. Pavement.
							MADE GROUND. Yellowish gravelly SAND. Sand is medium to coarse. Gravel is fine, subangular to rounded flint. One concrete boulder.
				0.60			Brownish grey silty CLAY with roots.
							Plastic net.
				2.00			ALLUVIAL. Soft greenish grey silty CLAY.
				3.60			End of Pit at 3.600m

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP7
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 566097.00 - 176451.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 4.00 x 0.60 Depth 3.30	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D		0.40			Soft dark brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine, well rounded flint.
▼	1.30 - 1.40	D		1.40			Soft brown slightly sandy CLAY. Sand is fine to coarse.
							ALLUVIAL. Soft grey CLAY with occasional peat lenses and wood fragments. *Thin peat layer comprised of brown silty SAND with wood fragments.*
				3.30			End of Pit at 3.300m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP70
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565761.00 - 175465.00 Level:
Location:	Tilbury	Dimensions (m): 2.60 × 0.60 Depth 4.00	Date 09/06/2017 Scale 1:25 Logged AS
Equipment:			

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10			MADE GROUND. Tarmac.
	0.30 - 0.40	D					MADE GROUND. Greyish gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded flint, concrete, bricks and tarmac.
	0.70 - 0.80	D		0.60			Orangish brown gravellly SAND. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded flint.
				1.20			ALLUVIAL. Soft turning very soft greenish grey silty CLAY. Occasional peat lenses from 3.5 m bgl.
				4.00			End of Pit at 4.000m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

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TRIAL PIT LOG

TrialPit No
MTP72
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565866.00 - 175483.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 0.55	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.20	D		0.50			MADE GROUND: Light brown sand with common fine to medium coarse brick and flint gravel. Rare metal fragments, plastic sheeting and fragments of plastic tubing. Concrete boulders from 0.2mbgl
				0.55			Concrete slab End of Pit at 0.550m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Hole aborted

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TRIAL PIT LOG

TrialPit No
MTP73
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565832.00 - 175514.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 0.80	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.30	D		0.80			MADE GROUND: Light brown sand, gravel and cobbles. Gravel is fine to medium coarse, subrounded to sub angular brick and concrete with common cobbles of brick and concrete. Rare inclusions of metal reinforcing and wood fragments.
							End of Pit at 0.800m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

Hole aborted. The trench appeared to be within a concrete service run that had been backfilled with crush. Standing water from 0.2mbgl.

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TRIAL PIT LOG

TrialPit No
MTP74
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565788.00 - 175560.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 0.30	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30			Reinforced concrete
							End of Pit at 0.300m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Hole aborted.

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TRIAL PIT LOG

TrialPit No
MTP75
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 565828.00 - 175513.00 Level:
Date	09/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 1.00	Logged NTD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.50	D		1.00			MADE GROUND: Light brown sand, gravel and cobbles. Gravel is fine to medium coarse, subrounded to sub angular brick and concrete, occasional flint with common cobbles of brick and concrete. Rare concrete boulders. Rare inclusions of metal reinforcing. Sheet piling from 0.8mbgl and 30mm metal reinforcing.
							End of Pit at 1.000m

1
2
3
4
5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Hole aborted

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TRIAL PIT LOG

TrialPit No
MTP8
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 566024.00 - 176533.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m):	Scale 1:25
Equipment:	JCB 3CX	Depth 3.20	Logged NTD

Water Strike	Samples & In Situ Testing Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.30	D					MADE GROUND: Dark brown sandy clay with rare fine to medium coarse chalk and brick. Occasional fine rootlets.
	0.30 - 0.40	D		0.30			Medium brown and light grey mottled CLAY with rare fine, sub angular ironstone gravel.
				0.50			Stiff light grey and yellow brown mottled CLAY.
▼				1.60			Black silty peaty CLAY with common organic inclusions.
				1.80			Stiff bluey grey sandy clayey SILT/silty clay
				3.20			End of Pit at 3.200m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks
Rapid water ingress from 1.3mbgl.

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TRIAL PIT LOG

TrialPit No
MTP9
Sheet 1 of 1

Project Name:	Tilbury 2	Project No. 20752	Co-ords: 566034.00 - 176597.00 Level:
Date	06/06/2017		
Location:	Tilbury	Dimensions (m): 2.50 x 0.60 Depth 3.50	Scale 1:25
Equipment:			Logged AS

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D		0.30			Soft dark brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine, well rounded flint.
▼				1.20			Soft brown slightly sandy CLAY. Sand is fine to coarse.
				1.50			PEAT. Soft brown silty SAND with wood fragments. Sand is fine to coarse. Water associated to this strata.
				3.50			ALLUVIAL. Very soft turning soft grey CLAY with occasional peat lenses and wood fragments.
							End of Pit at 3.500m

1 2 3 4 5

D = small disturbed sample (tub)
J = organic sample (amber glass jar)
V = volatile sample (amber glass vial)
B = bulk bag sample
HSV = hand shear vane (kPa)
PP = pocket penetrometer (kg.cm2)
PID = photoionisation detector (ppm)

Stability

Remarks

APPENDIX 3 ▪ Laboratory Certificates

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Analytical Report Number : 17-51321

Project / Site name:	Tilbury 2, Tilbury	**Samples received on:**	12/06/2017
Your job number:	20752	**Samples instructed on:**	14/06/2017
Your order number:	17-S14-FDO-LABS	**Analysis completed by:**	21/06/2017
Report Issue Number:	1	**Report issued on:**	21/06/2017
Samples Analysed:	56 soil samples - 4 bulk samples		

Signed: [redacted]

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765728	765729	765730	765731	765732
Sample Reference				MTP10	MTP11	MTP11	MTP12	MTP14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.85-1.00	0.20-0.30	0.50-0.70	0.20-0.40	0.05-0.30
Date Sampled				05/06/2017	05/06/2017	05/06/2017	05/06/2017	06/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	Chrysotile & Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.001	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.001	-	< 0.001	-

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765733	765734	765735	765736	765737
Sample Reference				MTP8	MTP18	MTP19	MTP19	MTP21
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.25-1.40	0.10-0.30	0.50-0.70	0.80-1.20
Date Sampled				06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite	Chrysotile & Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	< 0.001	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	< 0.001	-	-

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765738	765739	765740	765741	765742
Sample Reference				MTP23	MTP23	MTP25	MTP31	MTP36
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.50	1.20-1.30	0.10-0.20	0.10-0.40	0.20-0.40
Date Sampled				06/06/2017	06/06/2017	06/06/2017	07/06/2017	07/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765744	765746	765747	765748	765749
Sample Reference				MTP35	MTP37	MTP39	MTP39	MTP40
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.10-1.20	0.05-0.10	0.10-0.20	0.60-0.70	0.60-0.80
Date Sampled				07/06/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	-	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	-	< 0.001

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765750	765751	765752	765753	765754
Sample Reference				MTP41	MTP42	MTP42	MTP47	MTP47
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	0.05-0.15	1.00-1.30	0.40-0.60	1.00-1.50
Date Sampled				07/06/2017	07/06/2017	07/06/2017	08/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	-	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.001	-	-	0.026
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.001	-	-	0.026

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765755	765756	765757	765758	765759
Sample Reference				MTP48	MTP48	MTP49	MTP49	MTP54
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.05	0.25-0.50	0.05-0.15	1.10-1.20	0.10-0.20
Date Sampled				08/06/2017	08/06/2017	08/06/2017	08/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	< 0.001

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765760	765761	765762	765763	765764
Sample Reference				MTP54	MTP56	MTP56	MTP55	MTP57
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.50	0.05-0.15	0.80-1.00	0.45-0.65	0.10-0.40
Date Sampled				08/06/2017	08/06/2017	08/06/2017	08/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.004	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.004	-	-	-	-

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765766	765767	765768	765769	765770
Sample Reference				MTP57	MHP1	MHP3	MTP73	MTP75
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	None Supplied	0.05	0.10-0.30	0.10-0.50
Date Sampled				08/06/2017	08/06/2017	08/06/2017	09/06/2017	09/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile & Amosite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	< 0.001	0.069
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	< 0.001	0.069

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765771	765772	765773	765775	765776
Sample Reference				MTP72	MHP6	MHP8	MHP10	MHP10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.20	0.00-0.40	0.10-0.40	0.10-0.20	0.30-0.50
Date Sampled				09/06/2017	09/06/2017	09/06/2017	09/06/2017	09/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Amosite	Amosite	Chrysotile & Amosite	Chrysotile & Amosite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	0.002	0.003
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	0.002	0.003

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765777	765778	765779	765780	765781
Sample Reference				MHP11	MHP13	MHP15	MHP15	MHP4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.05-0.20	0.10-0.30	0.05-0.20	0.40-0.50	0.00-0.40
Date Sampled				09/06/2017	09/06/2017	09/06/2017	09/06/2017	09/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite	Amosite	Chrysotile & Amosite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	< 0.001	< 0.001	< 0.001

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765782	765783	765784	765785	765786
Sample Reference				MHP5	MTP58	MTP58	MHP16	MTP6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.40	0.80-0.90	0.30-0.40	0.00-0.50	0.10-0.20
Date Sampled				09/06/2017	08/06/2017	08/06/2017	09/06/2017	05/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	-	Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.002	-	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.002	-	-	< 0.001	-

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765787				
Sample Reference				MTP6				
Sample Number				None Supplied				
Depth (m)				0.40-0.50				
Date Sampled				05/06/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-				
Asbestos Quantification Total	%	0.001	ISO 17025	-				

Analytical Report Number: 17-51321
Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
765729	MTP11	0.20-0.30	199	Loose Fibres	**Chrysotile & Amosite**	0.001	**0.001**
765731	MTP12	0.20-0.40	200	Loose Fibres & Sheeting/Board Debris	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765734	MTP18	1.25-1.40	248	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765735	MTP19	0.10-0.30	185	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765747	MTP39	0.10-0.20	195	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
765749	MTP40	0.60-0.80	114	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765751	MTP42	0.05-0.15	239	Sheeting/Board Debris	**Chrysotile & Amosite**	0.001	**0.001**
765754	MTP47	1.00-1.50	175	Loose Fibres & Loose Fibrous Debris	**Chrysotile & Amosite**	0.026	**0.026**
765759	MTP54	0.10-0.20	225	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
765760	MTP54	0.30-0.50	274	Loose Fibres & Hard/Cement Type Material & Loose Fibrous Debris	**Chrysotile**	0.004	**0.004**
765769	MTP73	0.10-0.30	203	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765770	MTP75	0.10-0.50	171	Loose Fibres & Hard/Cement Type Material	**Chrysotile & Amosite**	0.069	**0.069**
765771	MTP72	0.00-0.20	235	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765772	MHP6	0.00-0.40	197	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765773	MHP8	0.10-0.40	203	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765775	MHP10	0.10-0.20	165	Loose Fibres	**Chrysotile & Amosite**	0.002	**0.002**

Analytical Report Number: 17-51321
Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
765776	MHP10	0.30-0.50	127	Loose Fibres & Loose Fibrous Debris	**Chrysotile & Amosite**	0.003	**0.003**
765778	MHP13	0.10-0.30	238	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765779	MHP15	0.05-0.20	189	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765780	MHP15	0.40-0.50	274	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**

Analytical Report Number: 17-51321
Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
765781	MHP4	0.00-0.40	212	Loose Fibrous Debris & Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765782	MHP5	0.00-0.40	140	Loose Fibrous Debris	**Chrysotile**	0.002	**0.002**
765785	MHP16	0.00-0.50	173	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 17-51321

Project / Site name: Tilbury 2, Tilbury

Lab Sample Number				765743	765745	765765	765774	
Sample Reference				SS1	SS2	MTP57	MHP8	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	0.50	0.40	
Date Sampled				07/06/2017	07/06/2017	08/06/2017	09/06/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material	Chrysotile-Hard/Cement Type Material	Chrysotile-Insulation board/tile	Chrysotile-Insulation Board/Tile	

Analytical Report Number : 17-51321

Project / Site name: Tilbury 2, Tilbury

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in ouse method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 17-51313

Project / Site name:	Tilbury 2, Tilbury	**Samples received on:**	13/06/2017
Your job number:	20752	**Samples instructed on:**	13/06/2017
Your order number:	17-S14-FDO-LABS	**Analysis completed by:**	21/06/2017
Report Issue Number:	1	**Report issued on:**	21/06/2017
Samples Analysed:	68 soil samples - 2 bulk samples		

Signed: [redacted]

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765612	765613	765614	765615	765616
Sample Reference				MTP1	MTP1	MTP1	MTP2	MTP2
Sample Number				BUND	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.10	1.00-1.10	2.70-2.80	0.10-0.20	0.70-0.80
Date Sampled				05/06/2017	05/06/2017	05/06/2017	05/06/2017	05/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	Chrysotile	Chrysotile & Amosite & Crocidolite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.002	< 0.001	< 0.001	< 0.001	0.005
Asbestos Quantification Total	%	0.001	ISO 17025	0.002	< 0.001	< 0.001	< 0.001	0.005

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765617	765618	765619	765620	765621
Sample Reference				MTP3	MTP4	MTP4	MTP5	MTP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.50	0.10-0.20	1.10-1.30	0.40-0.50	0.20-0.30
Date Sampled				05/06/2017	05/06/2017	05/06/2017	06/06/2017	06/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.002	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.002	-	< 0.001	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765622	765623	765624	765625	765626
Sample Reference				MTP7	MTP9	MTP13	MTP15	MTP16
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.30-1.40	0.10-0.20	0.50-0.60	0.40-0.50	0.10-0.20
Date Sampled				06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765627	765628	765629	765630	765631
Sample Reference				MTP17	MTP20	MTP20	MTP22	MTP24
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.30	0.30-0.40	0.80-0.90	0.80-0.90	0.30-0.40
Date Sampled				06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite, Crocidolite	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	-	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765632	765633	765634	765635	765636
Sample Reference				MTP26	MTP26	MTP27	MTP27	MTP28
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.30	1.20-1.30	0.10-0.20	0.30-0.40	0.20-0.30
Date Sampled				07/06/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile & Crocidolite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	0.008
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	0.008

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765637	765638	765639	765640	765641
Sample Reference				MTP29	MTP30	MTP31	MTP32	MTP32
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.20	0.30-0.40	1.20-1.30	0.20-0.30	0.50-0.60
Date Sampled				07/06/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765642	765643	765644	765645	765646
Sample Reference				MTP33	MTP34	MTP38	MTP38	MTP43
Sample Number				None Supplied	None Supplied	BUND	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.60-0.80	0.50-0.40	1.40-1.50	1.00-1.10
Date Sampled				07/06/2017	07/06/2017	07/06/2017	07/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765647	765648	765649	765650	765651
Sample Reference				MTP44	MTP45	MTP46	MTP50	MTP50
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80-0.90	0.20-0.30	0.50-0.60	0.20-0.30	0.90-1.00
Date Sampled				08/06/2017	08/06/2017	08/06/2017	08/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	Amosite & Crocidolite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.001	0.004	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.001	0.004	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765652	765653	765654	765655	765656
Sample Reference				MTP51	MTP51	MTP52	MTP53	MTP59
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80-0.90	1.30-1.40	0.90-1.00	0.80-0.90	0.00-0.15
Date Sampled				08/06/2017	08/06/2017	08/06/2017	08/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite	-	-	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	-	< 0.001

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765657	765658	765659	765660	765661
Sample Reference				MTP59	MTP59	MTP60	MTP61	MTP62
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20-1.40	1.85-2.00	0.30-0.40	0.50-0.60	0.05-0.15
Date Sampled				08/06/2017	08/06/2017	09/06/2017	09/06/2017	09/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile & Amosite	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	< 0.001	0.003
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	< 0.001	0.003

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765662	765663	765664	765665	765666
Sample Reference				MTP63	MTP64	MTP65	MTP65	MTP65
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.20	0.90-1.00	0.10-0.20	0.40-0.50	0.70-0.80
Date Sampled				09/06/2017	09/06/2017	09/06/2017	09/06/2017	09/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765667	765668	765669	765670	765671
Sample Reference				MTP66	MTP67B	MTP67B	MTP68	MTP68
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.70	0.20-0.30	0.65-0.75	0.10-0.20	0.80-0.90
Date Sampled				09/06/2017	09/06/2017	09/06/2017	09/06/2017	09/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	< 0.001	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	< 0.001	-	-

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765672	765673	765674	765675	765676
Sample Reference				MTP69	MTP70	MTP70	MHP2	MHP2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.30	0.30-0.40	0.70-0.80	0.05-0.15	0.15-0.25
Date Sampled				09/06/2017	09/06/2017	09/06/2017	08/06/2017	08/06/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite & Chrysotile	-	Chrysotile	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.004	-	< 0.001	0.003
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.004	-	< 0.001	0.003

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Lab Sample Number				765677	765678	765679		
Sample Reference				MHP12	MHP14	ACM MTP1		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20-0.30	0.00-0.20	None Supplied		
Date Sampled				09/06/2017	09/06/2017	05/06/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-		
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-		

Analytical Report Number: 17-51313
Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
765612	MTP1	0.20-0.10	229	Loose Fibres	**Chrysotile**	0.002	**0.002**
765613	MTP1	1.00-1.10	208	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
765614	MTP1	2.70-2.80	151	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
765615	MTP2	0.10-0.20	169	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
765616	MTP2	0.70-0.80	238	Loose Fibres & Hard/Cement Type Material	**Chrysotile & Amosite & Crocidolite**	0.005	**0.005**
765618	MTP4	0.10-0.20	166	Loose Fibres & Hard/Cement Type Material	**Chrysotile & Amosite**	0.002	**0.002**
765620	MTP5	0.40-0.50	133	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
765627	MTP17	0.20-0.30	222	Loose fibres	**Amosite, Crocidolite**	< 0.001	**< 0.001**
765636	MTP28	0.20-0.30	161	Loose Fibrous Debris	**Chrysotile & Crocidolite**	0.008	**0.008**
765648	MTP45	0.20-0.30	154	Loose Fibres & Hard/Cement Type Material	**Chrysotile & Amosite**	0.001	**0.001**
765649	MTP46	0.50-0.60	145	Loose Fibres	**Amosite & Crocidolite**	0.004	**0.004**
765653	MTP51	1.30-1.40	137	Loose Fibrous Debris	**Amosite**	< 0.001	**< 0.001**
765656	MTP59	0.00-0.15	157	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765660	MTP61	0.50-0.60	188	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
765661	MTP62	0.05-0.15	129	Loose Fibrous Debris	**Chrysotile**	0.003	**0.003**
765668	MTP67B	0.20-0.30	141	Loose fibres	**Chrysotile**	< 0.001	**< 0.001**
765669	MTP67B	0.65-0.75	156	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
765673	MTP70	0.30-0.40	202	Loose Fibrous Debris & Sheeting/Board Debris	**Amosite & Chrysotile**	0.004	**0.004**

Analytical Report Number: 17-51313
Project / Site name: Tilbury 2, Tilbury
Your Order No: 17-S14-FDO-LABS

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
765675	MHP2	0.05-0.15	151	Sheeting/Board Debris	**Chrysotile**	< 0.001	**< 0.001**
765676	MHP2	0.15-0.25	157	Hard/Cement Type Material	**Amosite**	0.003	**0.003**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 17-51313

Project / Site name: Tilbury 2, Tilbury

Lab Sample Number				765680	765681			
Sample Reference				ACM MTP29	ACM MTP40			
Sample Number				None Supplied	None Supplied			
Depth (m)				None Supplied	None Supplied			
Date Sampled				07/06/2017	09/06/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Hard/Cement Type Material- Chrysotile & Crocidolite	Hard/Cement Type Material- Chrysotile			

Analytical Report Number : 17-51313

Project / Site name: Tilbury 2, Tilbury

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in ouse method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

APPENDIX 4 ▪ Reassurance Air Monitoring Certificates

JOB DETAILS			
Lab reference: J031070/BC01	Date: 9 Jun 2017	Issue Number: 2	Page: 1 of 3

JOB DETAILS

Client: Idom Merebrook Ltd	Contractor: Idom Merebrook Ltd
Site Address: Tilbury Power Station Fort Road Tilbury Essex RM18 8UJ	Location of Works: Excavation Area. Name and job title: Alejandro sanchez - Surveyor.
Nature of testing: Personal air monitoring during the sampling of soil from excavations.	
Nature of works: Personal ran during taking samples of soil from different depths using trowls and pots.	
Summary: Result satisfactory < 0.07 f/ml.	

Analyst: Daniel Gold	Signature: 
Comments read and agreed by: Nathan Dellow.	Signature: 

Vintec

UKAS TESTING 1249

DETERMINATION OF AIRBORNE FIBRE CONCENTRATION			
Lab reference: J031070/BC01	Date: 9 Jun 2017	Issue Number: 2	Page: 2 of 3

Time on site:	07:45	Fibre counting location:	Site
Temperature (^{O}C):	17.9	Pressure (MB):	1018
Microscope centred:	YES	NPL Test slide band 5/6:	YES
Eyepiece graticule (µm):	100	Exposed filter diameter (mm):	22.0
Field blank taken:	NO	Field blank counted:	NO

As per 'HSG248' and our in House procedures P006, P009 & P022

The current control limit for the most common airborne asbestos fibres is 0.1 fibres/ml of air averaged over a continuous period of four hours. This is the maximum allowed exposure. At all times the concentration of fibres in the atmosphere must be kept as low as reasonably practicable and for clearance purposes following completion of asbestos removal works a concentration of less than 0.01 fibre/ml should be achieved. Vintec is a participant in R.I.C.E with current satisfactory classification. Any comments, opinions, or interpretations expressed herein are outside the scope of our UKAS accreditation (accreditation number 1249), and are subjective comments only whose accuracy we do not guarantee and which should be verified by the client.

Name and job title: Alejandro sanchez - Surveyor.

Field Reference	Pump No.	Head No.	Start		End		Mean Flow (litres/min)	Total Test Duration (mins)	Total Volume (litres)	Fibres	Fields	Limit of Quantification	Fibre Concentration (fibres/ml)
			Time	Flow (litres/min)	Time	Flow (litres/min)							
BC000475	079	DG05	11:05	2.00	12:11	2.00	2.00	66	132	7	100	0.073	< 0.073
	Test ran during surveying the ground.												

Analyst:	Signature:
Daniel Gold	[redacted]

Photograph No.177577 –
Personal - Alejandro Sanchez.

JOB DETAILS			
Lab reference: J031070/BC03	Date: 09 Jun 2017	Issue Number: 1	Page: 1 of 3

JOB DETAILS

Client: Idom Merebrook Ltd	Contractor: Idom Merebrook Ltd
Site Address: Tilbury Power Station Fort Road Tilbury Essex RM18 8UJ	Location of Works: Excavation trial pits. Name and job title: Nathan Dellow - Surveyor.
Nature of testing: Personal air monitoring during excavations/trial pits.	
Nature of works: Test ran on surveyor during the taking of soil samples from trial pits.	
Summary: Result saisfactory < 0.07 f/ml.	

Analyst: Daniel Gold	Signature: 
Comments read and agreed by: Nathan Dellow.	Signature: 

Vintec

UKAS TESTING 1249

DETERMINATION OF AIRBORNE FIBRE CONCENTRATION			
Lab reference: J031070/BC03	Date: 09 Jun 2017	Issue Number: 1	Page: 2 of 3

Time on site:	07:45	Fibre counting location:	MT65AVR	As per 'HSG248' and our in House procedures P006, P009 & P022 The current control limit for the most common airborne asbestos fibres is 0.1 fibres/ml of air averaged over a continuous period of four hours. This is the maximum allowed exposure. At all times the concentration of fibres in the atmosphere must be kept as low as reasonably practicable and for clearance purposes following completion of asbestos removal works a concentration of less than 0.01 fibre/ml should be achieved. Vintec is a participant in R.I.C.E with current satisfactory classification. Any comments, opinions, or interpretations expressed herein are outside the scope of our UKAS accreditation (accreditation number 1249), and are subjective comments only whose accuracy we do not guarantee and which should be verified by the client.
Temperature (^{O}C):	19.2	Pressure (MB):	1019	
Microscope centred:	YES	NPL Test slide band 5/6:	YES	
Eyepiece graticule (µm):	100	Exposed filter diameter (mm):	22.0	
Field blank taken:	NO	Field blank counted:	NO	
Name and job title: Nathan Dellow - Surveyor.				

Field Reference	Pump No.	Head No.	Start		End		Mean Flow (litres/min)	Total Test Duration (mins)	Total Volume (litres)	Fibres	Fields	Limit of Quantification	Fibre Concentration (fibres/ml)
			Time	Flow (litres/min)	Time	Flow (litres/min)							
BC000476	079	DG01	13:24	2.00	14:35	2.00	2.00	71	142	5	100	0.068	< 0.068
	Test ran during soil sampling.												

Analyst: Daniel Gold	Signature: [redacted]

No photographic evidence	Photograph No. – Personal - Nathan Dellow.

JOB DETAILS			
Lab reference: J031070/BC02	Date: 09 Jun 2017	Issue Number: 1	Page: 1 of 5

JOB DETAILS

Client: Idom Merebrook Ltd	Contractor: Idom Merebrook Ltd
Site Address: Tilbury Power Station Fort Road Tilbury Essex RM18 8UJ	Location of Works: Excavation Areas.
Nature of Works: Reassurance air monitoring down - wind and in close proximity to trial excavations during a land survey,	
COMMENTS: All tests satisfactory <0.01 fibre/ml.	

Analyst: Daniel Gold	Signature: 
Comments read and agreed by: Nathan Dellow.	Signature: 

Vintec

UKAS TESTING 1249

DETERMINATION OF AIRBORNE FIBRE CONCENTRATION			
Lab reference: J031070/BC02	Date: 09 Jun 2017	Issue Number: 1	Page: 2 of 5

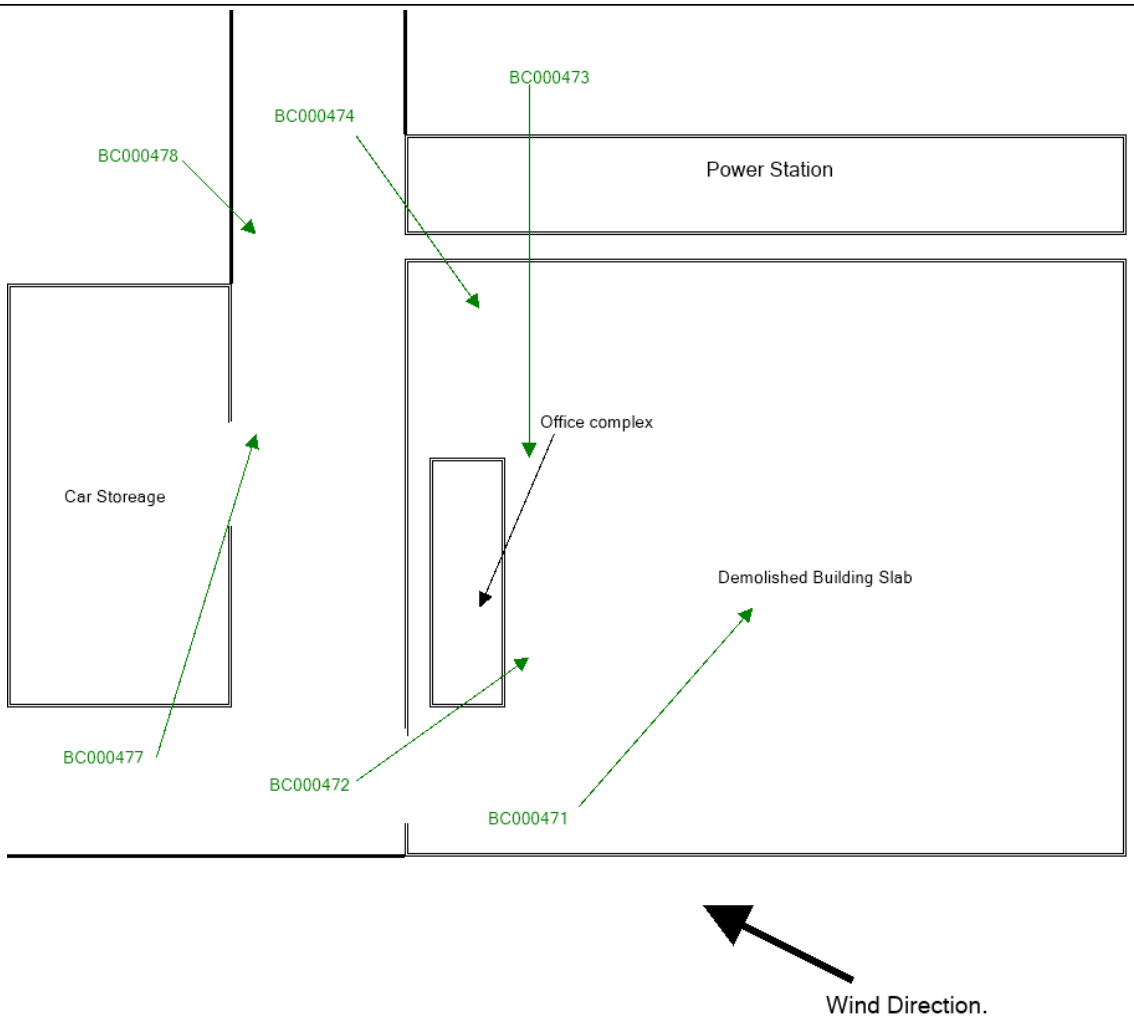
Time on site:	07:45	Fibre counting location:	MT65AVR
Temperature (^{O}C):	14.5	Pressure (MB):	1019
Microscope centred:	YES	NPL Test slide band 5/6:	YES
Eyepiece graticule (µm):	100	Exposed filter diameter (mm):	22.0
Field blank taken:	YES	Field blank counted:	NO

Pump No.	Head No.	Field Reference	Sample Location	Start		End		Mean Flow (litres/min)	Total Test Duration (mins)	Total Volume (litres)	Fibres	Fields	Limit of Quantification	Fibre Concentration (fibres/ml)
				Time	Flow (litres/min)	Time	Flow (litres/min)							
055	DG01	BC000471	Adj to CCTV mast.	08:53	5.0	10:40	5.0	5.00	107	535	2	200	0.01	< 0.01
056	DG02	BC000472	Adj to the waste skip.	09:00	5.0	10:44	5.0	5.00	104	520	2.5	200	0.01	< 0.01
121	DG03	BC000473	Adj to the office complex.	09:08	5.0	10:46	5.0	5.00	98	490	2	200	0.01	< 0.01
122	DG04	BC000474	Adj to lamp post/road to power station.	09:11	5.0	10:49	5.0	5.00	98	490	5	200	0.01	< 0.01
121	DG02	BC000477	Adj to Car store hardstanding entrance.	13:20	8.0	14:20	8.0	8.00	60	480	3	200	0.01	< 0.01
122	DG03	BC000478	Adj to utility excavation.	13:22	8.0	14:22	8.0	8.00	60	480	5	200	0.01	< 0.01
N/A	DG09	BC000479	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Field Blank	

As per 'HSG248' and our in House procedures P006, P009 & P022

The current control limit for the most common airborne asbestos fibres is 0.1 fibres/ml of air averaged over a continuous period of four hours. This is the maximum allowed exposure. At all times the concentration of fibres in the atmosphere must be kept as low as reasonably practicable and for clearance purposes following completion of asbestos removal works a concentration of less than 0.01 fibre/ml should be achieved. Vintec is a participant in R.I.C.E with current satisfactory classification. Any comments, opinions, or interpretations expressed herein are outside the scope of our UKAS accreditation (accreditation number 1249), and are subjective comments only whose accuracy we do not guarantee and which should be verified by the client.

Analyst: Daniel Gold	Signature: 



Analyst: Daniel Gold	Analyst Signature: [redacted]

Photograph No.442 –
Test location - Waste Skip.

No photographic evidence

Photograph No. –
Test location - CCTV mast.

Photograph No.440 –
Test location - Office Complex.

Photograph No.441 –
Test location - Lamp Post.

Photograph No.445 –
Test location - Car storeage entrance.

Photograph No.444 –
Test location - Utillity Excavation.

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