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VERTASE FLI LIMITED

**LAND BETWEEN TEN ACRES LANE AND MITCHELL STREET,
NEWTON HEATH, MANCHESTER**

FACTUAL SITE INVESTIGATION REPORT

JULY 2019

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VERTASE FLI LIMITED

**LAND BETWEEN TEN ACRES LANE AND MITCHELL STREET, NEWTON HEATH,
MANCHESTER**

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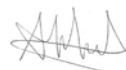
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SH12254-003	Exploratory Hole Location Plan	1:2,500
SH12254-004	Made Ground Contour Plan	1:2,500

1 INTRODUCTION

Instructions

- 1.1 This report has been prepared in accordance with written instructions from Mr Steve Edgar of Vertase FLI Limited, 19 Napier Court, Barlborough Links, Barlborough, Sheffield, S43 4PZ, dated 18th June 2019. The instruction follows a proposal dated 17th June 2019.

Site Location

- 1.2 The site is located between Ten Acres Lane and Mitchell Street, Newton Heath, Manchester and is located as shown on Drawing SH12254-001 (1:25,000 scale). A more detailed site plan is shown on Drawing SH12254-002 (1:12,500 scale). The site is roughly rectangular in shape and comprises approximately 19 hectares of derelict and densely vegetated land. The site is bound by the Rochdale Canal to the north, Mitchell Street and residential properties to the east, residential properties and a school to the south and Ten Acres Lane and a sports centre to the west. The site is located approximately 4km to the north east of Manchester City Centre and is located at National Grid Reference E387599, N400309.

Scope and Objectives

- 1.3 The purpose of this report is to present the findings of an intrusive site investigation that was carried out for a predominantly geotechnical assessment/validation of the ground conditions described in a previous site investigation that was undertaken at the site (Celtic Interpretative Report [R1077/08/3328] dated February 2008). The investigation was also to include a determination/validation of the depth of the Made Ground at the site and the production of a Made Ground Contour Plan (refer to drawing SH12254-004).

Proposed Site Use

- 1.4 At this preliminary stage it is envisaged that the site is to be subject to remedial works to make way for an eventual redevelopment of the site that is envisaged to comprise a mixed commercial and residential land use.

2 PREVIOUS INVESTIGATIONS

2.1 Several previous reports have been undertaken at the site including:

- *Desk Study, Ten Acres Lane, Newton Heath, Greater Manchester*, CELTIC, July 2006 (report ref: R1077/06/2958);
- *Interpretative Report, Former Jacksons Brickworks, Ten Acres Lane, Newton Heath, Greater Manchester*, CELTIC, February 2008 (report ref: R1077/08/3328); and
- *Environmental Statement, Former Jacksons Brickworks, Ten Acres Lane, Newton Heath, Manchester*, GL Hearn, February 2012. This includes the above, as well as several ecological, archaeological and other documents required for planning.

2.2 These reports were reviewed for due diligence purposes prior to the site investigation works. However, it is beyond the scope of this report to undertake a comprehensive review of these documents and to summarise the findings.

3 GENERAL BACKGROUND INFORMATION

Introduction

- 3.1 A brief review of freely available information has been undertaken and this has been summarised below. As per the instructions from Vertase FLI Limited, a comprehensive desk study review is beyond the scope of this report.

History

- 3.2 Since the late 1890's it is understood that the site has historically operated as a brickworks with 2 No. large clay extraction pits. Between the late 1940's and early 1990's the brickworks had ceased to operate and the clay extraction pits were infilled and designated as a registered landfill. The site has remained derelict to the present day.

Geology

- 3.3 The geology beneath the site is recorded to comprise Made Ground, underlain by Glacial Till, which is in turn underlain by various solid geological strata that includes the Chester Formation and Manchester Marls Formation within the westernmost section of the site and the Collyhurst Sandstone Formation across the remainder of the site. A north north east to south south west trending fault crosses the westernmost section of the site.

Hydrogeology

- 3.4 This information indicates that the site is underlain by natural superficial deposits, which are classified as a Secondary Undifferentiated Aquifer and bedrock, which is classified as a Principal Aquifer.
- 3.5 The site does not lie within a groundwater source protection zone.

Hydrology

Surface Water Features

- 3.6 The nearest graded surface watercourse is the Rochdale Canal which forms the northern boundary of the site.

Flooding

Flooding – Existing Use

- 3.7 For existing land use, the site is within a very low risk area based on the Environment Agency map entitled Risk of Flooding from Rivers and Sea. The chance of flooding each year is between less than 1 in 1000 (0.1%).

Flooding – Planning Purposes

- 3.8 For planning purposes, the site is within Zone 1 and has a low probability of flooding. The chance of flooding each year is less than 0.1% (1 in 1,000), based on flood zones identified in National Planning Policy Guidance (2014) attached to the National Planning Policy Framework (2012) and the EA map entitled Flood Map for Planning (Rivers and Sea). The Flood Map for Planning would only apply if the site was intended for redevelopment.

Mining and Quarrying

Surface Workings

- 3.9 Research of topographical, geological and other archive mining records has indicated that the site has historically been subject to surface extractions for clay. Numerous overlapping clay pits were present at the site and that these excavations formerly worked the underlying Glacial Till by opencast methods.

Underground Workings

- 3.10 The site lies within a Coal Mining Reporting Area. A review of the available BGS Geological Maps indicates that Coal Measures strata is present beneath the site, but at depths in excess of between 200m and 500m beneath the site.
- 3.11 Previous reporting at the site indicates that a Coal Authority Mining Report was obtained, and this suggests that the site is within the likely zone of influence on the surface from workings in one coal seam at a depth of 1,040m, the last date of working being 1954. The report states that ground movement from the above workings should by now have ceased and that no mining shafts or adits were identified at the site or within 20m of the site boundary.

4 SITE INVESTIGATION

Introduction

- 4.1 In June 2019, an intrusive site investigation was carried out to predominantly assess the geotechnical nature of the ground, to validate previous site investigation works and to determine/validate the depth of the Made Ground that has previously been recorded at the site.
- 4.2 The site investigation comprised trial pits, cable percussive boreholes and window sample holes across the site area at locations determined by Vertase FLI Limited. Site investigation locations are shown on Drawing SH12254-003 (1:2,500 Scale).
- 4.3 The investigating and sampling works were carried out in general accordance with BS5930:2015, Code of Practice for Ground Investigations and BS10175:2011+A2:2017 Investigation of potentially contaminated sites. As requested by Vertase FLI Limited, the logging of trial pits has been undertaken to provide an approximate volumetric percentage of the various constituent's present.
- 4.4 Prior to the intrusive site investigation works commencing, concerns were raised by Wardell Armstrong regarding potential ecological constraints at the site (e.g. nesting birds and the presence Japanese Knotweed). Consequently, a Wardell Armstrong ecologist was deployed to the site on 19th June 2019 in order to assess these constraints. This included an ecological toolbox talk to the various contractors involved in the site investigation works and an assessment of the proposed routes across the site and the exploratory hole locations. The ecologists correspondence is included within Appendix IV.

Scope

- 4.5 The investigation was designed as a series of tasks that are summarised below in Table I.

TABLE I: SUMMARY OF TASKS		
Task	Summary	Date(s)
Preparatory Work	Setting up site investigation, service enquiries, scoping and pricing the site investigation works, health & safety documents, meetings and liaison with contractors/Vertase FLI Limited, supervision for pre-site investigation surveys (e.g. services and GPS survey) and the provision of ecologist to assess access routes and exploratory hole locations for ecological constraints.	11 th – 19 th June 2019

TABLE I: SUMMARY OF TASKS		
Task	Summary	Date(s)
Intrusive site investigation	The scope of the works involved the production of detailed logs, photographs and limited in-situ testing (e.g. standard penetration tests); no geotechnical laboratory testing was to be undertaken. The works included 6 No. cable percussive boreholes to depths of between 5.70m and 11.50m, 3 No. window sample holes to depths of between 2.00m and 8.00m. and 35 No. trial pits to depths of between 0.80m and 6.70m.	19 th – 28 th June 2019
Laboratory analysis	As instructed, limited sampling for environmental/chemical laboratory testing was undertaken only when significant visual and/or olfactory evidence of contamination was encountered. Samples obtained included 4 No. soil samples and 2 No. groundwater samples. Environmental/chemical testing within an accredited laboratory was undertaken by Vertase FLI Limited and has not been included as part of this report.	19 th – 28 th June 2019
Ground Gas Monitoring Installations	As instructed, monitoring wells were only to be installed if any potential ground gas sources were encountered during the construction of the cable percussive boreholes. 4 No. ground gas monitoring wells were installed within cable percussive boreholes. Any future ground gas monitoring, if required, is to be undertaken at a later date, as requested by Vertase FLI Limited.	19 th – 28 th June 2019

4.6 The investigation was completed in accordance with Construction (Design and Management) (CDM) Regulations 2015 and a site-specific Health & Safety plan. The Principal Contractors for this project were Geotron UK Limited (drillers) and they were responsible for the various contractors on-site and this included; Total Plant Hire (machine and operator for trial pits), Wardell Armstrong (trial pits) and i2 Analytical (geochemical analysis). Drilling was completed using a variety of methods and these are discussed in more detail below.

4.7 Both prior to and during the proposed investigation, several changes were made to the original scope of works. Following discussions with Vertase FLI Limited and Geotron UK Limited (Principal Contractor) these were as follows:

- Due to extremely dense vegetation and those ecological constraints identified during the pre-site investigation surveys, all the exploratory holes either had to be relocated to some extent and some had to be abandoned.

- Exploratory holes had to be terminated shortly after natural ground had been encountered.
- During the second week of the site investigation works, Vertase FLI Limited contracted Geotron UK Limited to undertake 8 No. window sample holes across the southern central section of the site. This work was undertaken on the 26th June 2019 to gain access to an area that could not be accessed by other methods, due to dense vegetation and/or ecological constraints.
- Due to security concerns at the site the trial pitting works were terminated prior to the proposed completion date of 3rd July 2019. Consequently, some of the proposed intrusive locations could not be completed.

Cable Percussion Boreholes

- 4.8 Light cable percussion boreholes were completed under the full-time supervision of a Geotron UK Limited engineer. Six light cable percussion boreholes (BH01 to BH06) were drilled to a depth of between 5.70m and 11.50m below ground level (bgl).
- 4.9 Locations of the boreholes are as shown on Drawing No. SH12254-003, positioned across the central area of the site to validate the increased thickness of the Made Ground identified during previous site investigation works and to allow for the installation of ground gas monitoring wells.
- 4.10 Light cable percussion borehole logs are attached at Appendix I.

Window Sample Boreholes

- 4.11 Window sample boreholes were also completed under the full-time supervision of a Geotron UK Limited engineer. Three window sample boreholes (WS01 to WS03), were drilled to depths of between 2.00m and 8.00m bgl.
- 4.12 Locations of the boreholes are shown on Drawing No. SH12254-003, positioned across the southern central section of the site to attempt to gain some ground information for those extremely dense area of vegetation that could not be accessed by the other exploratory hole methods.
- 4.13 Five proposed window sample hole locations (WS04 to WS08) could not be completed due to time constraints. WS03 was also terminated at 2.00m bgl due to time constraints.
- 4.14 Window sample borehole logs are attached at Appendix II.

Trial Pit Excavations

- 4.15 Trial pit excavations were completed under the full-time supervision of a Wardell Armstrong engineer. 35 No. trial pits were excavated to depths of between 0.80m and 6.70m bgl using a JCB 3CX hydraulic excavator (19th to 21st June 2019) and a 22 tonne Komatsu PC210 tracked excavator (24th to 28th June 2019).
- 4.16 Locations of the trial pits are shown on Drawing No. SH12254-003, positioned to provide a widespread coverage across the site and to enable for an assessment/validation of the various Made Ground materials encountered during previous site investigation works at the site.
- 4.17 20 No. proposed trial pit locations [TP05, TP08 to TP11, TP13, TP31 to TP33, TP37, TP42 to TP43, TP47 to TP48, TP50 to TP52, TP55 to TP57] were abandoned primarily due to dense vegetation and/or ecological constraints or because a wider spacing between the trial pit locations was warranted due to similar ground conditions being encountered. Three proposed trial pit locations [TP20, TP21 and TP28] were not undertaken due to time constraints.
- 4.18 Trial pit logs are included at Appendix III.

Ground Gas and Groundwater Monitoring Standpipes

- 4.19 Four ground gas monitoring standpipes were installed in boreholes BH02, BH04, BH05 and BH06.
- 4.20 The standpipes were completed with 50mm diameter screen and casing between 4.00m and 7.00m bgl, with the screened section extended from the base to depths of between 2.00m and 6.00m bgl. A filter pack of 4-6 mm washed gravel was placed in each well annulus to just above the screened section. Thereafter the annulus was sealed to the surface with bentonite. Installations were completed with raised covers and concreted headworks to protect the inner casing and gas valves. All installations were supervised by a Wardell Armstrong engineer on a part-time basis.

Sampling and Testing

Sampling and Chemical Analysis of Soils

- 4.21 Four disturbed samples of material from beneath the site were collected for laboratory analysis. Limited sampling was only undertaken when significant visual

and/or olfactory evidence of contamination was encountered, as per the instructions of Vertase FLI Limited.

- 4.22 Samples scheduled for analysis of organic contaminants were placed in amber bottles with a minimum of headspace. The bottles were immediately sealed with polytetrafluoroethylene (PTFE) lined caps and labelled. The remaining small disturbed samples were placed in polypropylene tubs with a minimum of headspace, sealed with airtight polypropylene 'snap-on' lids and labelled. The labels detailed individual sample number, location, depth and sampler identity.
- 4.23 Collected samples were stored away from sunlight in temperature-controlled conditions and transported by i2 Analytical. Chain of custody forms were completed for all samples sent to the laboratory. The forms detailed individual bottle identification number and sample location.
- 4.24 The laboratory analyses scheduling itself was undertaken by Vertase FLI Limited, as per their request, and is beyond the scope of this report.

Sampling and Chemical Analysis of Groundwater

- 4.25 Two groundwater samples were collected during the construction of the exploratory holes.
- 4.26 Water samples were placed in laboratory prepared amber bottles with a minimum of headspace. The bottles were immediately sealed with polytetrafluoroethylene (PTFE) lined caps and labelled. The labels detailed individual sample number, location, depth and sampler identity.
- 4.27 Collected samples were stored away from sunlight in temperature-controlled conditions and transported by i2 Analytical. Chain of custody forms were completed for all samples sent to the laboratory. The forms detailed individual bottle identification number and sample location.
- 4.28 The laboratory analyses scheduling was undertaken by Vertase FLI Limited, as per their request, and is beyond the scope of this report.

Limitations of Site Investigation

- 4.29 It should be noted that the interpretation of the results of the physical site investigation is based on a limited number of investigation points. The locations and numbers of the investigation locations were governed by the physical state of the site and the location of known services at the time of the investigation. Although reasonable inferences have been made during the interpretation, it is possible that variances in the thickness, distribution and physical / chemical characteristics of the strata present will exist.

5 RESULTS OF SITE INVESTIGATION

General Site Observations

- 5.1 The site comprises a large area of derelict land that falls gently from the north east (approximately 85m Above Ordnance Datum) to the south west (approximately 75m Above Ordnance Datum). The eastern two thirds of the site were densely vegetated / overgrown with mature trees and shrubs. In comparison the western section of the site comprised rough grassland with thickets of semi-mature trees. No buildings were present on-site, although a large concrete slab was present within the north easternmost section of the site. Access to the site was obtained via Mitchell Street that forms the sites north eastern boundary and a temporary access way was created by digging through a bund that was present in this area. This bund was reinstated at the end of each working day. Whilst fencing was present around parts of the site boundary, the site was freely accessible to the public.

Observations of contamination

- 5.2 During the intrusive site investigation works visual and olfactory evidence of contamination was generally restricted to the various Made Ground strata that were encountered beneath the site. Visual and / or olfactory evidence of contamination of note encountered during the site investigation is outlined below in Table II.

TABLE II: SUMMARY OF NOTABLE CONTAMINATION		
Contamination	Location	Depth Range (m bgl)
Black staining and hydrocarbon odour to water	TP06	4.70
Hydrocarbon odour to soil	TP06	4.20 – 5.00
Strong degraded hydrocarbon odour and iridescent sheen to water	TP07	3.00
Hydrocarbon/diesel odour to soil	TP09	0.60 – 1.10
Black coloured and rotten egg odour to water	TP14	1.40
Hydrocarbon odour to water	TP16	3.00
Hydrocarbon odour to soil	TP17	0.10 – 0.60
Strong hydrocarbon odour and iridescent oil sheen to water	TP17	2.60
Strong hydrocarbon odour to soil	TP17	3.00 – 4.00
Hydrocarbon odour and iridescent oil sheen to water	TP18	2.40
Hydrocarbon odour to soil	TP18	2.20 – 2.80

TABLE II: SUMMARY OF NOTABLE CONTAMINATION		
Contamination	Location	Depth Range (m bgl)
Very strong, degraded hydrocarbon odour from red dye material.	TP26	1.20 – 2.50
Hydrocarbon odour to soil	TP26	2.50 – 3.30
Iridescent oil sheen to water	TP35	3.50
Strong hydrocarbon odour and black viscous staining throughout soil	TP36	3.30 – 5.50
Strong hydrocarbon odour and iridescent oil sheen to water	TP36	4.30
Acrid odour to soil	TP38	3.80 – 5.00
Iridescent oil sheen to water	TP44	5.30
Hydrocarbon odour to water	TP45	5.00
Strong sewage/rotten egg odour and low pH indicated to water	TP49	1.50
Acrid odour to soil	TP53	0.60 – 1.10
Black colouring, strong hydrocarbon and sewage/rotten egg odour and iridescent oil sheen to water	TP53	2.40

- 5.3 It should be noted that the visual and/or olfactory evidence of contamination outlined above in Table II is not exhaustive. Further and/or more detailed observations of contamination are presented on the cable percussive borehole, trial pit and window sample hole logs (Appendices I, II and III, respectively).

Ground Conditions

Made Ground

- 5.4 Made Ground was present in all the exploratory hole locations on the site to depths of between 0.30m to 10.80m bgl and varied in thickness from 0.30m in TP23 and TP24 to 10.80m in BH01. The depth of the Made Ground across the site is indicated on the Made Ground Contour Plan (please refer to drawing SH12254-004).
- 5.5 The Made Ground present at the site was generally heterogenous, but typically comprised dark brown to black, very sandy/ashy GRAVEL to a very gravelly SAND/ASH with varying proportions of very coarse constituents that generally included whole and half red brick, timber beams/laths, suspected slag fragments, various plastics and tile/slate fragments. The gravel sized constituents generally comprised of red brick,

clinker, timber and suspected slag. However, in some areas the Made Ground was far more variable and the most notable types and their general locations (where positively identified) have been summarised in Table III below.

TABLE III: NOTABLE MADE GROUND STRATA ENCOUNTERED						
Strata (thickness m)	Typical Description	Depth Range (m bgl)				Locations
		Top		Base		
		Min	Max	Min	Max	
Suspected Commercial/ Light Industrial Waste (0.50 – 1.40)	Recovered as predominantly cobble to boulder sized constituents of various proportions (including timber beams/laths/frames, hardboard, frayed rope/carpet strands, whole and half red brick, plastic sheeting/bags/bottles, fabric/rags and metal) in a matrix of wet, dark grey, very sandy/ashy, clayey GRAVEL.	1.10	1.40	1.90	2.50	TP14, TP49 & TP53
Suspected Construction/ Demolition Waste (1.70 – 4.90)	Recovered as dark brown to black, gravelly, clayey SAND or SAND/ASH with high cobble content. Gravel and cobble sized constituents comprised red brick, timber beams/lath fragments, tile fragments, slate fragments, plastic sheeting/bags, concrete, bottles, metal and hardboard.	0.30	2.50	4.10	5.50	TP07, TP35-36 & TP38
Suspected Colliery Spoil (4.10 – 6.20)	Recovered as dark grey, weathered orangish brown in places, clayey to very clayey GRAVEL with high cobble content. Gravel and cobble sized constituents comprised extremely weak to weak, residually weathered to firm in places, dark grey, weathered orangish brown in places, mudstone, siltstone and sandstone.	0.40	0.70	5.80	6.80	TP39-41, TP45-46 & BH06
Suspected Combustion Waste (0.20 – 4.80)	Recovered as orangish brown to black, very sandy/ashy GRAVEL with medium cobble content. Gravel and cobbles size constituents comprised angular of suspected slag and clinker.	0.10	0.50	0.40	4.80	TP12, TP16-19, TP25-27, TP29-30 & TP58

Italics denote those depths in which the base of the strata was not fully penetrated and/or the thickness has not been proved.

- 5.6 For more detailed descriptions of the above and where other types of Made Ground are present, please refer to the cable percussive borehole, trial pit and window sample hole logs (Appendices I, II and III, respectively).
- 5.7 An area of concrete hardstanding is present within the north easternmost section of the site. At the location of TP02 the concrete was generally 0.20m thick and comprised strong light grey CONCRETE comprising 40% aggregate of angular fine to coarse, red brick gravel and 10% small voids and was underlain by black, very sandy GRAVEL.
- 5.8 The thickness of the Made Ground was unproven in several trial pit locations (TP07, TP14, TP27, TP39-41, TP44-45, TP49, TP53, WS01 and WS03) due to either/and/or the base of the Made Ground extending beyond the reach of the excavator, collapses of the pit side walls or the presence of significant contamination that had to result in termination.

Natural Strata

- 5.9 Natural soils were encountered beneath Made Ground in most of the exploratory hole locations on site, the exception being those exploratory holes noted above in 5.8. The natural materials on site were generally homogenous and were encountered at depths ranging from 0.30m at TP23 to TP24 to a maximum depth of 11.50m at BH01. It should be noted that the total thickness of the natural strata was not proved in any of the exploratory holes.
- 5.10 Most of the natural strata comprised firm to stiff, fissured, dark brown and grey mottled, slightly sandy, slightly gravelly CLAY. However, in some places the natural strata were more variable and comprised firm to stiff, brown, grey and orange brown mottled, sandy CLAY with occasional coarse gravel to cobble sized inclusions of light brown or grey, clayey, medium SAND (TP01, TP03, TP04, TP12, TP23 and TP30), light grey or dark brown, clayey in places, medium SAND (TP15 and TP53) and firm to stiff, laminated in places, brown to dark grey, silty CLAY (TP15, TP25, TP26, TP36 and TP53). The gravel consisted of predominantly subangular to rounded, fine to coarse natural mixed lithologies.

Groundwater

5.11 Groundwater was encountered during the intrusive investigation works with groundwater strikes encountered in 23 No. locations at depths of between 0.10m and 7.00m bgl. Specific water strikes encountered during the site investigation are outlined below in Table IV.

TABLE IV: WATER STRIKES			
Location	Depth m bgl	Strata	Remarks
TP03	1.00	MADE GROUND	Fast ingress
TP06	4.70	MADE GROUND	Fast Ingress
TP07	3.00	MADE GROUND	Fast ingress
TP14	1.40	MADE GROUND	Fast ingress
TP16	3.00	MADE GROUND	Fast ingress
TP17	2.60	MADE GROUND	Fast ingress
TP18	2.40	MADE GROUND	Fast ingress
TP19	3.00	MADE GROUND	Fast ingress
TP22	0.10	MADE GROUND	Ingress
TP26	2.50	MADE GROUND	Fast ingress
TP27	2.40	MADE GROUND	Fast ingress from the eastern side of excavation and from beneath the brick wall
TP35	3.50	MADE GROUND	Fast ingress
TP36	4.30	MADE GROUND	Fast inflow
TP38	5.00	MADE GROUND	Fast ingress
TP44	5.30	MADE GROUND	Fast ingress
TP45	5.00	MADE GROUND	Fast ingress
TP49	1.50	MADE GROUND	Fast upwelling (bubbling)
TP53	2.40	MADE GROUND	Fast ingress from northern face of the excavation
TP58	2.60	MADE GROUND	Fast ingress from the eastern section of the excavation
BH01	3.00	MADE GROUND	N/A
BH02	7.00	MADE GROUND	N/A
WS01	4.00	MADE GROUND	N/A
WS02	2.60	MADE GROUND	N/A

6 GEOTECHNICAL RESULTS

Introduction

- 6.1 Site investigation works have identified up to 10.80m of Made Ground at the site. This is underlain by natural deposits that typically comprise firm to stiff, fissured, dark brown and grey mottled, slightly sandy, slightly gravelly CLAY.

Standard Penetration Testing

- 6.2 In situ standard penetration tests were carried out during the site investigation.
- 6.3 N-values within the Made Ground were highly variable and ranged from between 4 and 50+ (refusal). It should be noted that very coarse constituents such as brick and cobbles are likely to have resulted in the recorded refusals and possibly some of the higher N-values recorded.
- 6.4 N-values obtained within underlying natural strata ranged from between 7 and 23.

7 CONCLUSIONS

- 7.1 Based on previous (Celtic Ltd) information and our limited site investigation findings a Made Ground Contour Plan has been produced and this is shown on drawing SH12254-004. This drawing indicates that the shallowest areas of Made Ground (between 1.00m and 2.00m bgl) are generally located within the south westernmost, the north easternmost and the central northernmost sections of the site. The deepest areas of Made Ground (in excess of 8.00m bgl) are generally located within the central, central north eastern and south easternmost sections of the site.
- 7.2 An area of suspected commercial/light industrial waste was indicated within the central south western section of the site (TP14, TP49 and TP53) to depths of between at least 1.90m and at least 2.50m bgl (between at least 0.50m and at least 1.10m thick). Similar deposits may also have been encountered at the location of WS02, but due to the poor recovery this is uncertain. Shallow suspected perched waters were also encountered at these locations at depths of between 1.40m and 2.40m bgl.
- 7.3 An area of suspected construction/demolition waste was indicated for the central northern section of the site (TP07, TP35, TP36 and TP38) to depths of between at least 4.10m and 5.50m (between at least 1.70m and 4.90m thick). Suspected perched waters were encountered at these locations at depths of between 3.00m and 5.00m bgl.
- 7.4 An area of suspected colliery spoil was indicated for the eastern section of the site (TP39, TP40, TP41, TP45, TP46 and BH06) to depths of between 5.80m and 6.80m bgl (between 4.10m and 6.20m thick). Most of these exploratory hole locations were noted to be dry except for TP45, where water was encountered at 5.00m bgl.
- 7.5 An area of suspected combustion waste was indicated for the north western section of the site (TP12, TP16-19, TP25-27, TP29-30 and TP58) to depths of between 0.40m and 4.80m (between 0.20m and 4.8m thick). Suspected perched waters were encountered at these locations at depths of between 2.40m and 3.00m bgl.
- 7.6 It should be noted that above information is of a preliminary nature, as a detailed assessment of the ground conditions was beyond the scope of this report.

Appendix I - Borehole Logs

		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log				Borehole Reference BH01		
		Project Number	J2013					Site Location	Newton Heath	

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Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl
		Depth	Type	Results				
							Dark brown, gravelly, slightly sandy SILT. Gravel is angular to sub-angular, fine to coarse, brick fragments. Some wood fragments present. – MADE GROUND.	0.0
		1.20	CPT	8,10,9,9,10,8 (n36)			1.0	
		2.00	CPT	5,13,13,12,9,8 (n42)			2.0	
		3.00	CPT	25/10mm. 50/75mm			3.0	
		4.00	CPT	4,4,3,3,3,4 (n10)			4.0	
		5.00	CPT	7,6,6,5,4,5 (n20)			5.0	
		6.50	CPT	1,2,4,4,3,4 (n15)			6.0	
					3.60	Wet slightly clayey, sandy, angular to sub-angular, fine to coarse, GRAVELS of brick, sandstone brick, wood fragments and plastic waste present. At 6.00m carpet and fabric waste present. From 6.50m pockets of soft black, gravelly, clayey SILT. Gravel is sub-angular to rounded, fine to medium, mudstone, flint and brick fragments. – MADE GROUND.	4.0	
					7.00	Black, slightly clayey, sandy, angular to sub-angular, fine to medium, GRAVELS of limestone, brick fragments. Between 9.00m – 9.30m black gravelly TARMAC. – MADE GROUND.	7.0	
						8.00	50/75mm	8.0
						9.00	5,6,7,7,9,8 (n31)	9.0
								10.0

Well Information	Additional Comments (BH diameter, pit depth, general notes etc.)
Bentonite backfill – 0.00m to 11.50m	



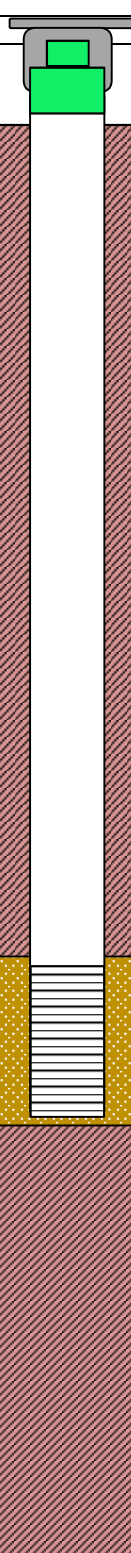
Environmental. Geotechnical.

		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log				Borehole Reference		
								BH01		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	24/06/2019	Hole Type	CP

Page 2 of 2

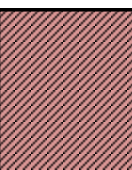
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	m bgl
		Depth	Type	Results				
		10.50	CPT	6,6,5,5,6,7 (n23)		10.80	Firm to stiff dark brown, slightly silty, slightly gravelly CLAY. Gravel is sub-angular to rounded, fine to medium, of various lithologies.	10.0
						11.50		11.0
							Borehole terminated due to presence of natural strata.	12.0
								13.0
								14.0
								15.0
								16.0
								17.0
								18.0
								19.0
								20.0

Well Information	Additional Comments (BH diameter, pit depth, general notes etc.)
	

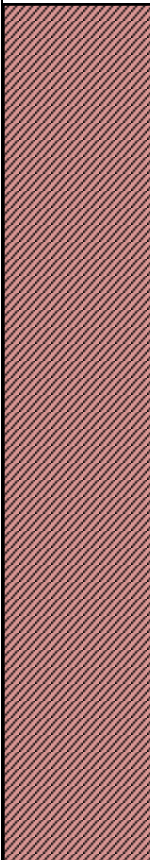
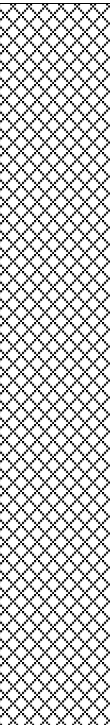
		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk						Borehole Log				Borehole Reference	
												BH02	
Project Number	J2013	Site Location	Newton Heath			Client	Vertase	Date(s)	20-21/06/2019		Hole Type	CP	
Page 1 of 2													
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl					
		Depth	Type	Results									
									0.0				
		1.00	CPT	50/75mm			Dark brown gravelly, slightly silty CLAY. Gravel is angular to sub-angular, fine to coarse, brick and concrete fragments. Frequent angular glass fragments present. Frequent wood chippings present. – MADE GROUND.	1.0					
		2.00	CPT	50/75mm				2.0					
		3.00	CPT	50/75mm				3.0					
		4.00	CPT	3,2,2,3,2,3 (n10)		4.00	Black gravelly ashy sand CLAY. Gravel is angular to sub-angular, fine to coarse, ash, brick and glass fragments. Some sub-angular to sub-rounded mudstone cobbles present. High concentration of glass fragments. – MADE GROUND.	4.0					
		5.00	CPT	0,0,0,2,3,3 (n8)				5.0					
						5.50	Firm dark brown gravelly, silty CLAY. Gravel is angular to sub-angular, fine to coarse, ash, clinker and brick fragments. – MADE GROUND. Between 6.00m and 7.50m high concentration of matted plastic waste, brick fill and wood fragments present.	6.0					
		6.50	CPT	0,0,0,2,3,4 (n9)				7.0					
		8.00	CPT	2,1,1,2,4,3 (n10)				8.0					
		9.50	CPT	1,1,2,2,3,2 (n9)				9.0					
							10.0						
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)								
Bentonite seal – 0.10m to 6.00m 63 mm OD pipe (plain) – 0.10m to 6.00m 63mm OD pipe (screen) – 6.00m to 7.00m Bentonite backfill – 7.00m to 10.60m													

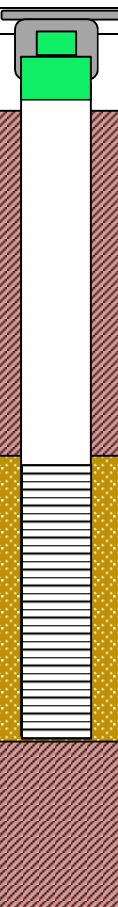
 T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log						Borehole Reference		
								BH02		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	20-21/06/2019	Hole Type	CP

Page 2 of 2

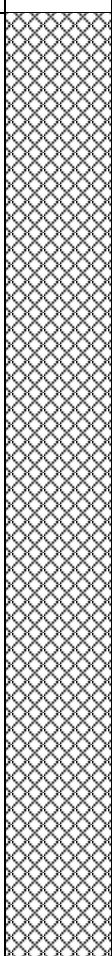
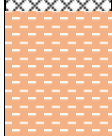
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	m bgl
		Depth	Type	Results				
								10.0
						10.40	Soft to firm dark brown, slightly gravelly, sandy SILT. Gravel is sub-angular to rounded of various lithologies including limestone and some flint.	11.0
						10.60	Borehole terminated due to presence of natural strata.	12.0
								13.0
								14.0
								15.0
								16.0
								17.0
								18.0
								19.0
								20.0

Well Information	Additional Comments (BH diameter, pit depth, general notes etc.)
	 Environmental. Geotechnical.

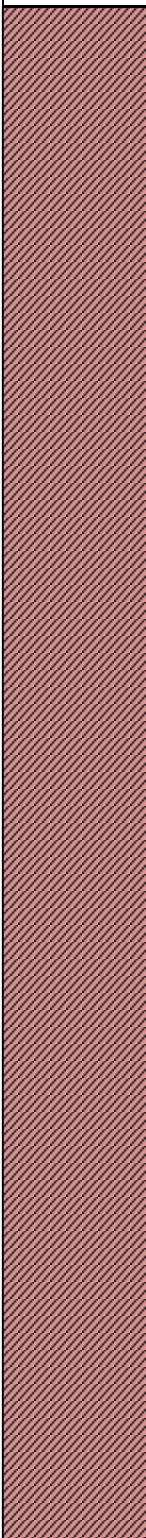
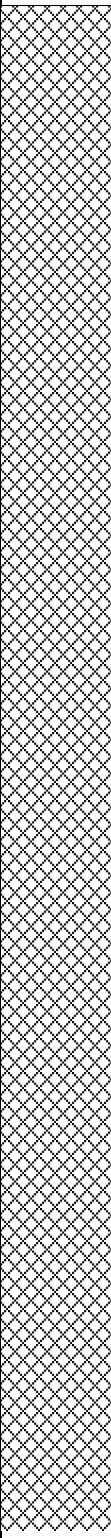
	T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log					Borehole Reference		
								BH03		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	25/06/2019	Hole Type	CP
Page 1 of 1										
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl		
		Depth	Type	Results						
							Dark brown, gravelly, slightly sandy, clayey SILT. Gravel is angular to sub-angular, fine to coarse, sandstone, limestone and brick fragments. Some rootlets present. – MADE GROUND.	0.0		
		1.20	CPT	7,7,6,7,8,8 (n29)			1.0			
		2.00	CPT	25/75mm			2.0			
		3.00	CPT	8,7,8,10,9,7 (n34)		2.50	Black very gravelly, silty CLAY. Gravel is angular to sub-angular, fine to coarse, brick fragments and sandstone. Frequent wood fragments. Some fabric, rags present. – MADE GROUND.	3.0		
		4.00	CPT	3,3,4,4,5,4 (n17)		4.30		4.0		
		5.00	CPT	2,2,1,2,3,4 (n10)		4.70	Red angular to sub-angular, fine to coarse, GRAVEL of brick and brick fragments. – MADE GROUND.	5.0		
							Stiff to very stiff dark brown, slightly gravelly, slightly clayey SILT. Gravel is sub-angular to rounded of various lithologies, including mudstone and limestone, thinly laminated in places. Some pockets of fine to coarse sand present.	6.0		
						5.70	Borehole terminated due to presence of natural strata.	10.0		
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
Bentonite backfill – 0.00m to 5.70m										
					 Environmental. Geotechnical.					

		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log				Borehole Reference		
								BH04		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	19/06/2019	Hole Type	CP
Page 1 of 1										
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl		
		Depth	Type	Results						
									0.0	
		1.00	SPT	7,7,10,11,11,15 (n47)		1.00	Dark brown gravelly, slightly sandy, silty CLAY. Gravel is angular to sub-angular, fine to coarse, brick fragments, ash and clinker. Some medium to coarse cobbles of concrete present. – MADE GROUND.	1.0		
		2.00	SPT	6,7,7,7,8,9 (n31)			Clayey angular to sub-angular, fine to coarse, SANDS and GRAVELS of brick and concrete. High cobble content. Coarse wood fragments present. – MADE GROUND.	2.0		
		3.00	SPT	50/75mm				3.0		
		4.00	CPT	1,1,2,2,2,3 (n9)		4.00	Firm to stiff dark brown, slightly gravelly, silty CLAY. Gravel is angular to sub-angular, fine to medium, brick fragments. Some pockets of organic matter present. – MADE GROUND.	4.0		
		5.00	CPT	1,2,1,2,2,2 (n7)		5.00	Stiff to very stiff dark brown, slightly gravelly, silty CLAY. Gravel is sub-angular to rounded of various lithologies. Some rootlets present.	5.0		
						6.00	Borehole terminated due to presence of natural strata.	6.0		
								7.0		
								8.0		
								9.0		
							10.0			
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
Bentonite seal – 0.10m to 3.00m 63 mm OD pipe (plain) – 0.10m to 3.00m 63mm OD pipe (screen) – 3.00m to 5.00m Bentonite backfill – 5.00m to 6.00m					 Environmental. Geotechnical.					

		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log				Borehole Reference		
								BH05		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	19-20/06/2019	Hole Type	CP
Page 1 of 1										
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl		
		Depth	Type	Results						
							Soft to firm dark grey, slightly gravelly, clayey SILT. Gravel is angular to sub-angular, fine to coarse, brick and sandstone brick fragments. Frequent tarmac and organic pockets present. – MADE GROUND.	0.0		
		1.00	SPT	2,4,13,8,10,2 (n33)		1.50		1.0		
		2.00	SPT	25/75mm		2.10	Firm to stiff brown mottled grey, slightly gravelly, silty CLAY. Gravel is angular to sub-angular, brick fragments, tarmac and concrete fragments. Some organic matter present. – MADE GROUND.	2.0		
		3.00	SPT	2,4,4,3,2,1 (n10)			Dark brown very gravelly, clayey, fine to coarse SAND. Gravel is angular to sub-angular, fine to coarse, brick, ash and clinker. Some fragments of wood, clay pipe and nails present. Some pockets of black organic matter present. – MADE GROUND.	3.0		
		4.00	SPT	3,3,5,2,2,2 (n11)				4.0		
		5.00	SPT	0,1,1,2,0,1 (n4)		5.00	Firm brown mottled grey very gravelly, slightly silty CLAY. Gravel is angular to sub-angular, fine to medium, brick fragments, ash and clinker. Frequent wood fragments. Pockets of black organic matter present. – MADE GROUND.	5.0		
		6.00	SPT	2,2,3,3,3,2 (n11)		6.40	Firm to stiff dark grey slightly gravelly, silty CLAY. Gravel is sub-angular to sub-rounded, fine to medium, brick and ash. Pockets of black organic matter present. – MADE GROUND.	6.0		
		7.00	SPT	1,2,2,3,4,3 (n12)		7.30	Stiff to very stiff dark brown slightly gravelly, silty CLAY. Gravel is sub-angular to rounded, fine to medium of various lithologies. Some pockets of sand present. Occasional rootlets present.	7.0		
						8.00	Borehole terminated due to presence of natural strata.	8.0		
								9.0		
								10.0		
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
Bentonite seal – 0.10m to 3.50m 63 mm OD pipe (plain) – 0.10m to 3.50m 63mm OD pipe (screen) – 3.50m to 6.00m Bentonite backfill – 6.00m to 8.00m					 Environmental. Geotechnical.					

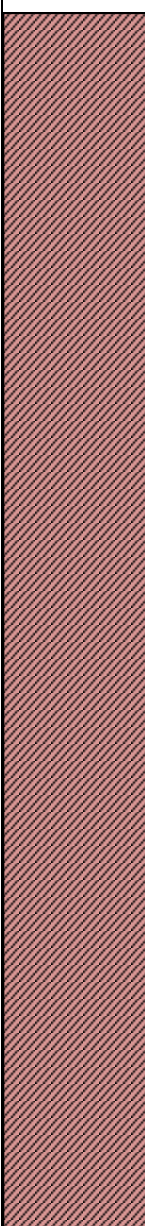
		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log				Borehole Reference		
								BH06		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	20-21/06/2019	Hole Type	CP
Page 1 of 1										
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl		
		Depth	Type	Results						
										
		1.00	SPT	4,4,3,5,4,4 (n16)		0.60	Dark reddish brown, gravelly, slightly silty, ash SAND. Gravel is angular to sub-angular, fine to coarse, brick, ash and clinker. High cobble content of angular to sub-angular, brick and concrete. Some glass fragments present. – MADE GROUND.	0.0		
		2.00	SPT	2,2,4,3,6,7 (n20)			Dark grey, gravelly, friable silty CLAY. Gravel is angular to sub-angular, fine to medium, ash, clinker and coal fragments. Pockets of black organic matter present. Some angular to sub-angular cobbles of laminated mudstone present. – MADE GROUND.	1.0		
		3.00	SPT	2,2,2,3,2,2 (n9)				2.0		
		4.00	SPT	3,4,5,4,4,5 (n18)				3.0		
		5.00	SPT	4,3,4,5,4,5 (n18)				4.0		
		6.00	SPT	2,2,3,2,3,3 (n11)				5.0		
	7.00	SPT	2,2,2,4,4,4 (n14)		6.80	Stiff to very stiff dark brown, slightly gravelly CLAY. Gravel is sub-angular to rounded, fine to medium of various lithologies. Some pockets of coal fragments present.	6.0			
					7.45	Borehole terminated due to presence of natural strata.	7.0			
								8.0		
								9.0		
								10.0		
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
Bentonite seal – 0.10m to 2.00m 63 mm OD pipe (plain) – 0.10m to 2.00m 63mm OD pipe (screen) – 2.00m to 4.00m Bentonite backfill – 4.00m to 7.45m					 Environmental. Geotechnical.					

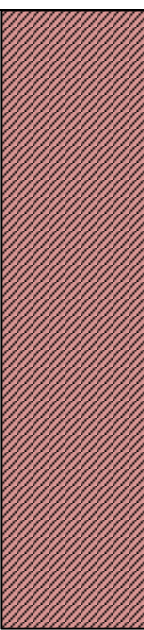
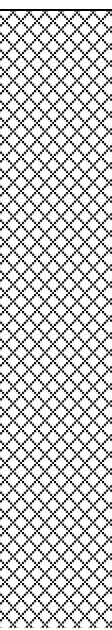
Appendix II - Window Sample Logs

		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log					Borehole Reference			
									WS01			
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	26/06/19	Hole Type	WS		
Page 1 of 1												
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	m bgl				
		Depth	Type	Results								
							Firm dark brown gravelly, slightly silty CLAY. Gravel is angular to sub-angular, fine to coarse, brick fragments and sandstone brick. Occasional pockets of black organic matter. Some rootlets present. Some plastic waster present. – MADE GROUND.	0.0				
						0.30	Black to dark brown, gravelly, ashy SAND. Gravel is angular to sub-angular, fine to coarse, brick fragments. Some rootlets present. From 0.50m colour change to dark brown. – MADE GROUND.	0.5				
						1.10	Firm dark grey/brown, gravelly, silty CLAY. Gravel is angular to sub-angular, fine to coarse, brick fragments and sandstone brick. Occasional rootlets present. Some pockets of dark brown firm clay with rootlets present. – MADE GROUND.	1.0				
						1.80	Firm dark grey mottled brown, slightly gravelly CLAY. Gravel is angular to sub-angular, fine to medium, brick fragments. Pockets of black organic matter present. Pockets of light brown sandy SILT. Some wood fragments present. – MADE GROUND.	1.5				
						2.30	Firm dark grey mottled brown, slightly gravelly CLAY. Gravel is angular to sub-angular, fine to medium, brick fragments. Pockets of black organic matter present. Pockets of light brown sandy SILT. Some wood fragments present. – MADE GROUND.	2.0				
						2.80	Soft to firm black mottled reddish brown, slightly gravelly, sandy CLAY. Gravel is angular to sub-angular, fine to medium, sandstone and brick fragments. – MADE GROUND. At 2.70m lens of black silty organic matter. At 2.75m yellow brown, slightly gravelly, sand band.	2.5				
						3.00	Soft to firm dark grey, slightly gravelly, sandy SILT. Gravel is angular to sub-angular, fine to medium, sandstone brick and brick fragments. – MADE GROUND. No recovery – assumed to be dark grey, slightly gravelly, sandy SILT.	3.0				
						3.80	Soft to firm dark grey, slightly gravelly, sandy SILT. Gravel is angular to sub-angular, fine to medium, sandstone brick and brick fragments. – MADE GROUND. From 4.00m soft to very soft gravelly CLAY. Gravel is angular to sub-angular, brick fragments and sandstone fragments.	3.5				
						5.00	Borehole terminated due to hole collapse from 3.10m	4.0				
								4.5				
								5.0				
		Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
		Bentonite backfill 0.00m to 5.00m					Unable to case borehole due to high cobble content causing casing to deviate from vertical.					



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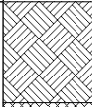
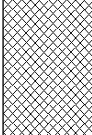
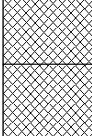
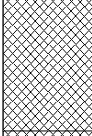
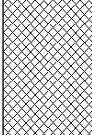
		T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log					Borehole Reference	
									WS02	
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	26/06/2019	Hole Type	WS
Page 1 of 1										
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	mbgl		
		Depth	Type	Results						
									0.0	
						0.50	Dark brown slightly gravelly TOPSOIL. Gravel is angular to sub-angular, fine to coarse, brick fragments and concrete. Frequent rootlets present. - MADE GROUND.			
							Light grey very gravelly, slightly clayey, ash SAND. Gravel is angular to sub-angular, fine to coarse, brick and concrete fragments. – MADE GROUND. At 0.90m angular to sub-angular concrete cobble present. At 1.40m angular, coarse brick cobble.		1.0	
						1.50			2.0	
							Soft to firm dark grey gravelly, slightly sandy SILT. Gravel is angular to sub-angular, fine to coarse, brick and coal fragments. Some pockets of black organic matter present. – MADE GROUND. Between 1.50m and 1.80m some rootlets present.		3.0	
						2.60	Black slightly clayey, ashy, angular to sub-angular, fine to coarse, GRAVELS of coal fragments. Frequent wood fragments present. Strong acrid organic odour present. – MADE GROUND. (possible decomposed wood fill).		4.0	
						3.20	Firm to stiff greyish brown, gravelly, slightly silty CLAY. Gravel is angular to sub-angular, fine to coarse, brick and sandstone fragments. Pockets of silty sand present. – MADE GROUND.		5.0	
							Soft dark grey, gravelly, slightly clayey SILT. Gravel is angular to sub-angular, fine to medium, limestone, sandstone and brick fragments. Occasional wood fragments present. Frequent pockets of black organic matter. – MADE GROUND. At 4.70m pushing cobble?		6.0	
									7.0	
							7.40	Stiff to very stiff, slightly gravelly, silty CLAY. Gravel is sub-angular to rounded, various lithologies, including limestone and sandstone.		8.0
					8.00			9.0		
								10.0		
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
Bentonite backfill – 0.00m to 8.00m					Between 4.00m to 4.70m – No Recovery – assumed grey clayey SILT. Between 5.00m to 5.90m – No Recovery – assumed grey clayey SILT. Between 6.00m to 6.90m – No Recovery – assumed grey clayey SILT.					
GeotronUK Environmental. Geotechnical.										

 T: 01457 833910 e. info@geotronuk.co.uk w. www.geotronuk.co.uk		Borehole Log						Borehole Reference		
								WS03		
Project Number	J2013	Site Location	Newton Heath		Client	Vertase	Date(s)	26/06/19	Hole Type	WS
Page 1 of 1										
Well	Water Strike	Samples and In-situ testing			Legend	Depth (mbgl)	Stratum Description	m bgl		
		Depth	Type	Results						
						0.10	Dark brown gravelly, slightly sandy, clayey TOPSOIL. Rootlets present.	0.0		
						0.70	Dark brown gravelly, slightly clayey, ash SAND. Gravel is angular to sub-angular, fine to coarse, brick fragments and sandstone brick fragments. Some plastic waste present. Occasional pockets of black organic matter. – MADE GROUND.	0.5		
						1.40	Dark brown slightly gravelly, silty SAND. Gravel is angular to sub-angular, fine to coarse, brick fragments and sandstone brick fragments. Some rootlets present. – MADE GROUND. At 1.10m wood fragments present. At 1.30m angular to sub-angular brick cobble.	1.0		
						1.80	Black gravelly, slightly silty SAND. Gravel is angular to sub-angular, fine to coarse, sandstone brick and brick fragments. – MADE GROUND.	1.5		
						2.00	Dark grey slightly gravelly, silty SAND. Gravel is angular to sub-angular, fine to coarse, sandstone brick. – MADE GROUND.	2.0		
							Borehole terminated due to time constraints.	2.5		
								3.0		
								3.5		
								4.0		
								4.5		
								5.0		
Well Information					Additional Comments (BH diameter, pit depth, general notes etc.)					
Bentonite backfill 0.00m to 2.00m					Borehole terminated due to time constraints on site.					

Appendix III - Trial Pit Logs

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387855.87 N400451.37	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP01	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

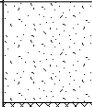
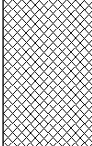
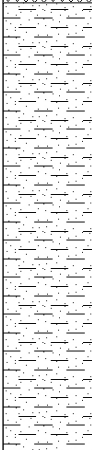
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Dark brown, gravelly, very clayey SAND with occasional rootlets. Gravel is angular to subrounded fine to medium of red brick (30%), clinker (20%) and mixed lithologies (50%). TOPSOIL FILL	
					0.60			Recovered as 70% dark brown to black, very gravelly, medium SAND; 20% whole and half brick fragments and 10% cobble sized concrete fragments. Gravel is angular to subrounded of fine to coarse red brick (30%), clinker (30%), concrete (20%) and mixed lithologies (20%). MADE GROUND	
					1.00			Reddish brown, very sandy, slightly clayey, angular to subrounded, fine to coarse GRAVEL of red brick (60%) and tile (40%). MADE GROUND	
					1.50			Firm, dark grey, slightly gravelly, silty CLAY with rare plant remains. Gravel is angular to subrounded of fine to medium red brick (40%) and mixed natural lithologies (60%). Organic odour. MADE GROUND	1
					1.70			Recovered as firm, light brown and grey mottled, slightly sandy, slightly gravelly CLAY with occasional sand sized inclusions of light grey, clayey, medium sand. Gravel is subrounded of fine to coarse mixed natural lithologies. GLACIAL TILL	
								End of Borehole at 1.700m	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
4.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387902.05 N400391.08	
Project No. : SH12254		Crew Name:		Equipment:	
Location Number TP03	Location Type TP	Level	Logged By	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Strong light grey CONCRETE comprising aggregate of angular fine to coarse gravel of red brick (40%) and small voids (10%). MADE GROUND	
					0.50			Black, very sandy, angular to rounded, fine to coarse GRAVEL of clinker (40%), coal (20%), charcoal (20%) and mixed lithologies (20%). MADE GROUND <i>Brick footing in south eastern section of excavation at 0.20m. A single metal bar (10mm diameter), a single plastic bin bag and occasional large trees roots (20-30mm diameter) at 0.30m.</i>	
					1.40			Firm to stiff, fissured, light grey and orangish brown mottled, slightly sandy, slightly gravelly CLAY with occasional plant remains and occasional coarse gravel sized inclusions of light grey, medium sand. Gravel is rounded of fine to coarse mixed natural lithologies. Fissures are subvertical, extremely close to close spaced, undulating to stepped, smooth, tight to partly open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL	1
								End of Borehole at 1.400m	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	1.60	Stable	None				

Remarks
Fast ingress of water at 1.00m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387926.16 N400360.42	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP04-A	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

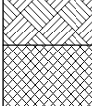
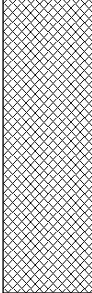
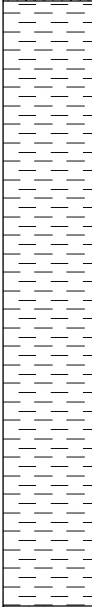
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly gravelly, sandy CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (30%), clinker (30%), ceramics (20%) and mixed lithologies (20%). TOPSOIL FILL	
					0.80			Recovered as 90% black, very sandy GRAVEL and 10% whole and half red brick. Gravel is angular to rounded of fine to medium suspected slag (40%), clinker (30%), red brick (20%) and mixed lithologies (10%). MADE GROUND 3 No. large boulder sized sandstone blocks (600mm by 600mm by 200mm to 600mm by 350mm by 200mm) at 0.40m. Occasional cobble sized suspected fused slag fragments at 0.70m.	1
					1.60			Recovered as 70% black, very sandy GRAVEL and 30% cobble sized inclusions of soft to firm, dark grey, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to medium suspected slag (40%), clinker (30%), red brick (20%) and mixed lithologies (10%). MADE GROUND Suspected brick footing at 1.20m to 1.40m within the south western section of the excavation.	
					2.70			Soft to firm, dark grey, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded of fine to medium suspected slag (30%), clinker (30%), red brick (20%) and mixed lithologies (20%). Organic odour. MADE GROUND	2
					2.80			Recovered as stiff, light brown and light grey mottled, slightly sandy CLAY with occasional cobble sized inclusions of light grey, medium sand. GLACIAL TILL End of Borehole at 2.800m	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	1.60	Stable	None				

Remarks
Trial pit log describes the western section of the excavation.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387926.16 N400360.42	
Project No. : SH12254		Crew Name:		Equipment:	
Location Number TP04-B	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly gravelly, sandy CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (30%), clinker (30%), ceramics (20%) and mixed lithologies (20%). TOPSOIL FILL	
					0.80			Recovered as 90% black, very sandy GRAVEL and 10% whole and half red brick. Gravel is angular to rounded of fine to medium suspected slag (40%), clinker (30%), red brick (20%) and mixed lithologies (10%). MADE GROUND 3 No. large boulder sized sandstone blocks (600mm by 600mm by 200mm to 600mm by 350mm by 200mm) at 0.40m. Occasional cobble sized suspected fused slag fragments at 0.70m.	
					2.00			Stiff, fissured, light brown and light grey mottled CLAY with rare plant remains. Fissures are subvertical, very close to close spaced, undulating to stepped smooth, open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL	1
					2.80			Recovered as stiff, light brown and light grey mottled, slightly sandy CLAY with occasional cobble sized inclusions of light grey, medium sand. GLACIAL TILL	2
								End of Borehole at 2.800m	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	1.60	Stable	None Stable				

Remarks
Trial pit logs describes the eastern section of the excavation.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387886.20 N400325.57	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP06	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark grey, slightly gravelly, sandy CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (20%) and mixed lithologies (80%). TOPSOIL FILL	
					0.30			Recovered as 80% dark grey, very gravelly, fine to medium SAND; 15% whole and half red brick and 5% bone fragments. Gravel is angular to subrounded of fine to coarse of clinker (30%), red brick (20%), ceramic (20%), glass (10%) and mixed lithologies (20%). MADE GROUND	
					0.40			Recovered as 80% dark grey, very gravelly, fine to medium SAND; 15% whole and half red brick and 5% bone fragments. Gravel is angular to subrounded of fine to coarse of clinker (30%), red brick (20%), ceramic (20%), glass (10%) and mixed lithologies (20%). MADE GROUND	
					0.60			Stiff, fissured, brown and grey mottled, slightly sandy CLAY with occasional rootlets. Fissures are subvertical, very close to close spaced, undulating to stepped smooth tight to open infilled with firm, grey, silty clay. MADE GROUND	
					0.80			Recovered as 85% dark grey, very clayey GRAVEL and 15% cobbles of extremely weak to very weak, grey, weathered dark orangish brown siltstone with fossil plant remains. Gravel is angular to subrounded of fine to coarse grey mudstone and siltstone. MADE GROUND	1
								Black, very sandy, angular to subrounded, fine to coarse GRAVEL of suspected slag (30%), clinker (30%), coal (20%) and mixed lithologies (20%). MADE GROUND	
								Recovered as 50% dark brown and dark grey, very gravelly SAND/ASH, 30% cobble to boulder sized inclusions of firm, dark grey CLAY and 20% cobble sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (30%), clinker (20%), timber (20%), glass (10%) and suspected acetate flakes (20%). MADE GROUND	
					1.60			Dark grey, very gravelly, slightly clayey, fine to medium SAND/ASH. Gravel is angular to sub rounded of fine to coarse suspected acetate flakes (40%), suspected slag (20%), timber (20%), and glass (20%). MADE GROUND	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks
Fast ingress of water at 4.70m. Stained black with a strong hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387886.20 N400325.57	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP06	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.50			Dark grey, very gravelly, slightly clayey, fine to medium SAND/ASH. Gravel is angular to sub rounded of fine to coarse suspected acetate flakes (40%), suspected slag (20%), timber (20%), and glass (20%). MADE GROUND <i>Occasional cobble sized slate fragments, occasional cobble sized tile fragments and occasional whole and half bricks at 3.00m.</i>	
					4.20			Recovered as 80% dark grey and dark orangish brown mottled, very gravelly SAND/ASH; 10% cobble sized timber beam/lath fragments; 5% ceramic plates and 5% cobbles sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (60%), timber (30%) and mixed lithologies (10%). MADE GROUND	4
					5.00			Recovered as 80% dark grey, stained black in places, very gravelly, slightly clayey SAND/ASH; 10% cobble sized timber beam/lath fragments and 10% cobbles sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse suspected acetate flakes (40%), suspected slag (30%) and timber (20%). Hydrocarbon odour. MADE GROUND	
					5.30			Firm, damp, light brown and light grey mottled, slightly gravelly, sandy CLAY. Gravel is subangular to rounded of fine to medium mixed natural lithologies. GLACIAL TILL	5
								End of Borehole at 5.300m	6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Fast ingress of water at 4.70m. Stained black with a strong hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387835.79 N400317.57	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP07	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly sandy, slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (20%), ceramics (10%) and mixed lithologies (70%).	
					0.20			TOPSOIL FILL Stiff, dark brown, mottled light grey, slightly sandy, slightly gravelly CLAY with rootlets. Gravel is angular to subrounded of fine of red brick (20%) and mixed lithologies (80%).	
					0.80			MADE GROUND Recovered as 80% dark brown, very gravelly, medium SAND; 20% whole and half red brick; 5% cobble sized hardboard fragments and 5% cobble sized concrete fragments. Gravel is angular to subrounded of fine to coarse red brick (30%), tile (10%), glass (10%), hardboard (10%), timber (10%) and mixed lithologies (30%).	
					1.00			MADE GROUND A single boulder sized inclusion of 90% black, very gravelly, fine to medium SAND/ASH; 5% metal frame and 5% whole and half red brick was encountered within the eastern section of the excavation from 0.60m to 0.80m. Gravel is angular to subrounded of fine to medium suspected slag (20%), clinker (20%) and mixed lithologies (60%).	1
					1.50			Recovered as 70% dark brown, very gravelly, clayey, fine to medium SAND; 20% cobble sized inclusions of firm, dark brown CLAY; 5% boulder sized concrete fragments and 5% whole and half red brick. Gravel is angular to subrounded of fine to coarse red brick (40%), tile (20%) and mixed lithologies (40%).	
					1.50			MADE GROUND Recovered as 80% black, dark orangish brown in places, very gravelly fine to medium SAND/ASH; 15% whole and half red brick and 5% cobble sized concrete fragments. Gravel is angular to subrounded of fine to coarse suspected slag (30%), clinker (30%), glass (10%), metal (10%), timber (10%) and tile (10%).	
					2.50			MADE GROUND Occasional cobble to boulder sized inclusions of stiff, brown, slightly sandy, slightly gravelly CLAY at 1.20m. Gravel is angular to subrounded of fine to coarse red brick (20%), timber (20%) and mixed lithologies (60%). A single light bulb, occasional glass fragments, occasional metal wire, occasional cobble sized fragments of metal and occasional metal bar (10mm diameter) at 1.40m.	
					2.50			Recovered as 30% black, very gravelly, SAND/ASH; 20% light brown and dark orangish brown, very gravelly, medium SAND; 20% cobble to boulder sized inclusions of firm, brown and orangish brown mottled, stained black, slightly sandy CLAY; 10% whole and half red brick; 5% cobble sized tile fragments; 5% cobble sized metal fragments; 5% cobble sized timber beam/lath fragments and 5% cobble sized inclusions of wire mesh. Gravel is angular to subrounded of fine to coarse red brick (20%), timber (20%), suspected slag (20%), glass (20%) and metal (20%).	2
					2.50			MADE GROUND Frequent cobble sized slate fragments at 2.00m. Degraded hydrocarbon odour. Occasional boulder sized (300mm x 300mm x 200mm) concrete blocks at 2.40m.	
					2.50			Recovered as 60% dark brown, very sandy GRAVEL; 25% whole and half red brick and 15% glass bottles. Gravel is angular to subrounded of fine to coarse red brick (40%), glass (30%) and mixed lithologies (30%).	
					2.50			MADE GROUND A single large timber beam (1000mm x 200mm x 50mm) was encountered at 2.60m. A single large masonry/concrete block (600mm x 500mm x 200mm) was encountered at 2.70m.	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Collapse of entire southern face at 4.20m.	None				

Remarks

Fast ingress of water at 3.00m. Strong degraded hydrocarbon odour and iridescent sheen.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387835.79 N400317.57	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP07	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.40			Recovered as 60% dark brown, very sandy GRAVEL; 25% whole and half red brick and 15% glass bottles. Gravel is angular to subrounded of fine to coarse red brick (40%), glass (30%) and mixed lithologies (30%). MADE GROUND	
					4.20			Recovered as 70% whole and half red brick; 20% wet, dark brown, very sandy, angular, fine to coarse GRAVEL of red brick; 5% timber beam/lath fragments (200mm by 50mm by 20mm) and 5% cobble sized slate fragments. MADE GROUND <u>Sewage/organic odour at 3.40m.</u> <u>Occasional pieces of rubber tubing (50mm diameter) at 3.60m.</u> <u>A single large railway/tramway timber sleeper with metal rivets (2700mm x 250mm x 200mm) was encountered at 3.80m. Heavily hydrocarbon stained and with an iridescent oil sheen.</u>	4
								End of Borehole at 4.200m	5
									6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Collapse of entire southern face at 4.20m.	None				

Remarks

Fast ingress of water at 3.00m. Strong degraded hydrocarbon odour and iridescent sheen.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 19/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387621.98 N400421.70	
Project No. : SH12254		Crew Name:		Equipment: JCB 3CX hydraulic excavator	
Location Number TP09	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.15			Firm, dark brown, slightly sandy, slightly gravelly CLAY with occasional roots (10mm diameter) and rootlets. Gravel is angular to subrounded of fine to coarse red brick (60%), timber (20%) and mixed lithologies (20%). TOPSOIL FILL Recovered as 65% dark brown to black, gravelly, fine to medium SAND/ASH; 10% whole and half red brick; 10% cobble sized concrete fragments; 10% plastic sheeting/bags and 5% cobble sized twisted metal fragments and metal bar. Gravel is angular to subrounded of fine to coarse red brick (40%), timber (30%), glass (10%) and mixed lithologies (20%). MADE GROUND	
					0.70			Recovered as 60% dark brown to black, orangish brown mottled in places, gravelly, fine to medium SAND/ASH; 20% plastic disposable cups and yoghurt pots; 10% whole and half red brick and 10% plastic sheeting/bags. Gravel is angular to subrounded of fine to coarse red brick (40%), timber (30%), ceramics (20%) and glass (10%). MADE GROUND	1
					1.20			Recovered as 60% black, white mottled in places, gravelly, fine to medium SAND/ASH; 10% cobble sized concrete fragments; 10% plastic sheeting; 10% roots; 5% cobble sized leather fragments and 5% metal wire. Gravel is angular to subrounded of fine to coarse mixed lithologies of the above. Hydrocarbon/diesel odour. MADE GROUND	
					1.80			Recovered as 85% dark greyish brown, gravelly, slightly clayey SAND; 10% cobble sized fused concrete fragments and 5% rubber tubing (20mm diameter). Gravel is angular to subrounded of fine to coarse red brick (30%), timber (20%), concrete (20%), suspected slag (10%) and mixed lithologies (20%). MADE GROUND	2
					2.10			2 No. stained black, timber beams (1000mm x 100mm x 100mm) and a single timber post at 1.90m. Hydrocarbon odour.	
					2.20			A single ceramic pipe (100mm diameter) and occasional cobble to boulder sized suspected slag fragments at 2.00m. Dark brown, clayey, fine to medium SAND with occasional rootlets. MADE GROUND Recovered as firm, brownish grey, sandy CLAY with occasional cobble sized inclusions of light greyish brown, clayey, slightly sandy silt. Occasional plant remains. GLACIAL TILL <u>Organic odour at 2.20m.</u>	
					3.00			End of Borehole at 3.000m	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
2.00	1.00	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387440.76 N400298.59	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP12A	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark brown, gravelly, very clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to medium suspected clinker (40%), suspected slag (30%), red brick (20%) and mixed lithologies (10%). TOPSOIL FILL	
								Recovered as 80% black, mottled orangish brown and white in places, very sandy/ashy GRAVEL and 20% cobble sized suspected slag/obsidian like material. Gravel is angular to rounded of fine to coarse suspected slag (60%) and clinker (40%). MADE GROUND	
								A single large boulder sized inclusion (1200m x 500mm x 500mm) of cobble sized slate fragments encountered within the eastern face of the excavation between 1.30m and 1.80m.	1
					1.80			Stiff, friable, dark brown and light grey mottled, slightly sandy to sandy CLAY with occasional cobble sized inclusions of damp, light brown clayey medium sand. GLACIAL TILL	
					1.90			A single large boulder sized inclusion (1200m x 500mm x 500mm) of cobble sized slate fragments encountered within the eastern face of the excavation between 1.30m and 1.80m. End of Borehole at 1.900m	2
									3

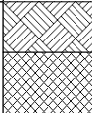
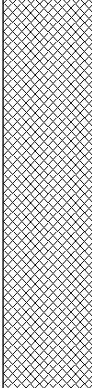
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Small collapse in eastern face of the northern section of the excavation between 1.30 and 1.80m.	None				

Remarks

This trial pit log describes the north section of TP12.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387440.76 N400298.59	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP12B	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark brown, gravelly, very clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to medium suspected clinker (40%), suspected slag (30%), red brick (20%) and mixed lithologies (10%). TOPSOIL FILL	
					1.00			Recovered as 80% black, mottled orangish brown and white in places, very sandy/ashy GRAVEL and 20% cobble sized suspected slag/obsidian like material. Gravel is angular to rounded of fine to coarse suspected slag (60%) and clinker (40%). MADE GROUND	
					1.80			Stiff, friable, dark brown and light grey mottled, slightly sandy to sandy CLAY with occasional cobble sized inclusions of damp, light brown clayey medium sand. GLACIAL TILL	1
								End of Borehole at 1.900m	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Small collapse in eastern face of the northern section of the excavation between 1.30 and 1.80m.	None				

Remarks

This trial pit log describes the southern section of TP12.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387562.68 N400110.06	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP14	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark brown, gravelly, silty, very clayey, fine to medium SAND with frequent rootlets. Gravel is angular to subrounded of fine to coarse red brick (20%), glass (20%) and mixed lithologies (60%). TOPSOIL FILL Recovered as 80% back, very sandy/ashy, clayey GRAVEL; 10% whole and half red brick and 10% cobble sized timber beams/laths fragments. Gravel is angular to subrounded of fine to coarse clinker (60%), red brick (10%), glass (10%), timber (10%) and slate (10%). MADE GROUND <i>Occasional large, stained black, timber beams (800mm x 200mm x 100mm and 1800mm x 200mm x 200m) within the centre of the excavation at 0.60m.</i>	1
					1.10			Recovered as 30% dark orangish brown, very sandy/ashy, clayey GRAVEL; 20% frayed rope/suspected frayed carpet strands; 20% cobble sized timber beam/lath fragments; 15% plastic bags/sheeting and 15% cobble sized hardboard fragments. Gravel is angular to subrounded of fine to coarse clinker (40%), timber (20%), glass (20%), slate (10%) and mixed lithologies (10%). MADE GROUND <i>Ozone/solvent odour at 1.10m.</i>	
					1.40			Recovered as 60% cobble sized timber beam/laths/frame fragments; 20% wooden doors and 20% cobble sized wooden hardboard fragments. MADE GROUND	
					2.00			Recovered as 30% cobble sized slate fragments; 30% whole and half red brick, 20% wet, dark grey, very sandy/ashy GRAVEL and 20% timber beams (600mm x 400mm x 200mm). Gravel is angular of fine to coarse red brick (60%), slate (20%) and timber (20%). MADE GROUND	2
					2.20			End of Borehole at 2.200m	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
		Multiple Collapses	None				

Remarks

Fast ingress of water at 1.40m. Black coloured with rotten egg odour.

Terminated due to pit collapsing and resident complaints.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387521.59 N400135.72	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP15	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

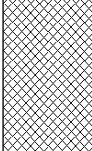
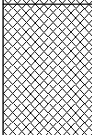
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark greyish brown, slightly gravelly, clayey, fine to medium SAND with frequent rootlets. Gravel is angular to subrounded of fine to medium mixed natural lithologies.	1
								TOPSOIL FILL	
					0.60			Recovered as 70% dark greyish brown, very gravelly, very clayey, fine to medium SAND; 25% black, very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of clinker and suspected slag and 5% whole and half red brick. Gravel is angular to subrounded of fine to coarse mixed lithologies.	
								MADE GROUND	
					0.80			Stiff, light orangish brown, sandy CLAY.	2
								MADE GROUND	
								Ceramic land drain (100mm diameter) at the north end of the excavation.	
								Very stiff, brown and light grey mottled, slightly sandy CLAY.	
					1.20			GLACIAL TILL	3
								Light grey, medium SAND.	
								GLACIAL TILL	
								Stiff, laminated, brown, silty CLAY.	
					2.60			GLACIAL TILL	
								Stiff, laminated, brown, silty CLAY.	
								GLACIAL TILL	
					2.80			End of Borehole at 2.800m	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387414.07 N400225.53	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP16	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

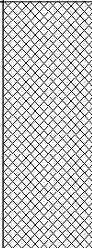
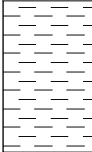
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Black, slightly clayey, silty fine to medium SAND with frequent rootlets.	
								TOPSOIL FILL	
								Recovered as 80% black, very sandy/ashy GRAVEL and 20% cobble sized inclusions of firm, light brown and light orangish brown mottled CLAY. Gravel is angular to subrounded of fine to coarse suspected slag (40%), clinker (40%), metal (10%) and timber (10%).	
					1.80			MADE GROUND	
								Recovered as 50% black, very sandy/ashy GRAVEL; 30% cobble to boulder sized inclusions of soft to hard, white CLAY/PASTE and 20% cobble sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (60%), clinker (40%).	
								MADE GROUND	
					3.00				

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks
Fast ingress of water at 3.00m. Hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387414.07 N400225.53	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP16	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.50			Recovered as 60% wet, black, very sandy/ashy GRAVEL; 30% wet, dark orangish brown, sandy, clayey GRAVEL; 10% cobble sized timber beam/lath fragments and 10% cobble sized fragments of tile/slate. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND	
					3.80			Firm, wet, dark grey, becoming brown and grey mottled CLAY. GLACIAL TILL	
								End of Borehole at 3.800m	
									4
									5
									6

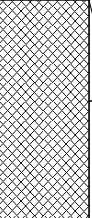
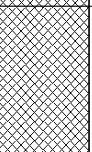
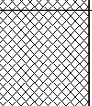
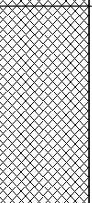
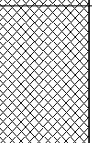
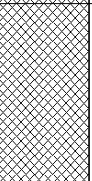
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Fast ingress of water at 3.00m. Hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387400.07 N400281.32	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP17	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

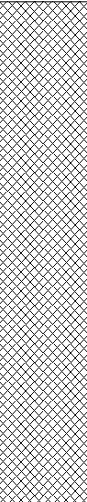
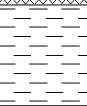
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark brown, gravelly, silty, clayey SAND with frequent roots (5mm) and rootlets. Gravel is angular to subrounded of fine to medium of mixed lithologies. TOPSOIL FILL	
					0.60			Recovered as 80% black, very sandy/ashy GRAVEL and 20% cobble to boulder sized suspected fused slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (60%) and clinker (40%). Hydrocarbon odour. MADE GROUND <i>2 No. large boulders (600m x 400mm x 200mm) of suspected fused slag at 0.30m.</i>	1
					1.10			Recovered as 80% black and dark orangish brown, very sandy clayey GRAVEL; 10% cobble sized fused slag fragments and 10% cobble sized tile fragments. Gravel is angular to subrounded of fine to coarse clinker (40%), suspected slag (30%), bitumen (20%) and tile (10%). MADE GROUND	
					1.30			Dark brown, gravelly, slightly clayey, medium SAND/ASH. Gravel is angular to subrounded of fine to medium clinker (60%) and suspected slag (40%). MADE GROUND	
					1.70			Black and dark orangish brown, very sandy/ashy, slightly clayey, angular to subrounded, fine to coarse GRAVEL of clinker (50%), suspected slag (40%) and tile (10%). MADE GROUND	
					2.60			Recovered as 80% black and dark orangish brown, very sandy/ashy GRAVEL and 20% cobble sized fused slag fragments. Gravel is angular to rounded of fine to coarse suspected slag (60%), clinker (30%) and glass (20%). MADE GROUND	2
					3.00			Recovered as 60% wet, dark orangish brown, sandy/ashy GRAVEL; 10% cobble sized suspected fused slag fragments; 10% cobble sized timber beam/lath fragments; 10% whole and half brick and 10% cobble sized tile fragments. Gravel is angular to subrounded of medium to coarse suspected slag (80%), timber (10%) and tile (10%). MADE GROUND	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses from 3.00m	None				

Remarks
Fast ingress of water at 2.60m. Strong hydrocarbon odour with iridescent oil sheen on water.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387400.07 N400281.32	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP17	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					4.00			Recovered as 40% wet, black GRAVEL; 20% cobble sized suspected fused slag fragments; 10% whole and half red brick; 10% cobble sized tile fragments; 10% cobble sized timber beam/lath fragments and 10% cobble sized slate fragments. Gravel is angular to subrounded of fine to coarse suspected slag (70%), timber (20%) and ceramics (10%). Strong hydrocarbon odour. MADE GROUND <i>3 No. timber beams (600mm x 200mm x 100mm), a single plastic bumper/wheel arch cover, a single leather boot and rare cobble sized rubber fragments at 3.80m. Frequent roots (10-20mm diameter) at 3.90m</i>	4
					4.20			Stiff, dark grey, becoming brown and grey mottled CLAY. GLACIAL TILL	
								End of Borehole at 4.200m	5
									6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses from 3.00m	None				

Remarks
Fast ingress of water at 2.60m. Strong hydrocarbon odour with iridescent oil sheen on water.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387379.89 N400325.84	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP18	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark brown, gravelly, silty clayey fine to medium SAND with frequent rootlets. Gravel is angular to subrounded of fine to coarse red brick (40%) shiny bituminous material (20%), glass(10%) and mixed lithologies (30%). TOPSOIL FILL	
					0.40			Recovered as 70% dark brown to black, very sandy/ashy GRAVEL; 10% whole and half red brick; 10% cobble sized concrete fragments and 10% cobble sized suspected fused slag fragments. Gravel is angular to rounded of fine to coarse glazed concrete (40%), glass (20%), concrete (20%) and bitumen (20%). MADE GROUND	
					0.60			Recovered as 80% black, very sandy/ashy GRAVEL and 20% cobble sized fused slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (60%), clinker (20%), red brick (10%) and bitumen (10%). MADE GROUND	
					1.10			Recovered as 80% dark brown, very gravelly, slightly clayey, fine to medium SAND; 10% fragments of whole and half red brick; 5% cobble sized suspected slag fragments and 5% cobble sized aggregate fragments. Gravel is angular of fine to coarse red brick (30%), aggregate (30%), suspected slag (20%) and clinker (20%). MADE GROUND <i>Mottled white at 1.00m.</i>	1
					2.20			Recovered as 80% dark orangish brown, very gravelly, fine to medium SAND/ASH; 10% cobble sized suspected slag fragments and 10% cobble sized masonry/brickwork fragments. Gravel is angular to rounded of fine to coarse clinker (40%), suspected slag (20%), glazed concrete (20%) and mixed lithologies (20%). MADE GROUND	2
					2.80			Recovered as 90% wet, orangish brown, very sandy/ashy, very clayey GRAVEL and 10% cobble sized fused slag fragments. Gravel is angular to rounded of fine to coarse suspected slag (40%), clinker (40%) and mixed lithologies (20%). Hydrocarbon odour. MADE GROUND	
					3.00			Stiff to very stiff, fissured, brown and grey mottled, silty CLAY. Fissures are subvertical, close spaced, undulating to stepped smooth, open and infilled with firm, grey, silty clay with root traces.	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses	None				

Remarks
Fast ingress. of water at 2.40m. Hydrocarbon odour and iridescent oil sheen.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387379.89 N400325.84	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP18	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

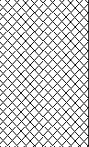
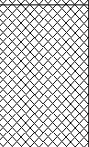
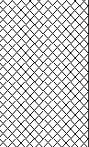
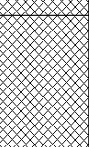
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
								Stiff to very stiff, fissured, brown and grey mottled, silty CLAY. Fissures are subvertical, close spaced, undulating to stepped smooth, open and infilled with firm, grey, silty clay with root traces. GLACIAL TILL End of Borehole at 3.000m	4
									5
									6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses	None				

Remarks
Fast ingress. of water at 2.40m. Hydrocarbon odour and iridescent oil sheen.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387340.70 N400264.26	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP19	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

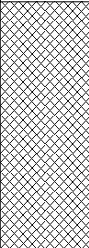
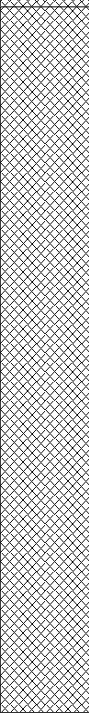
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark brown, slightly gravelly, silty, clayey, fine to medium SAND with frequent rootlets. Gravel is angular to subrounded of fine to coarse mixed lithologies.	
					0.50			Recovered as 90% black, very sandy/ ashy GRAVEL and 5% cobble to boulder sized suspected fused slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (45%), clinker (25%), ceramics (20%) and glazed concrete (10%). MADE GROUND	
					1.10			Recovered as 70% black, mottled white in places, very sandy/ashy GRAVEL; 25% gravel sized inclusions of soft, whit paste and 5% cobble to boulder sized suspected fused slag fragments. Gravel is angular to subrounded of fine to coarse suspected acetate flakes (40%), suspected slag (20%), clinker (20%), ceramics (10%) and glazed concrete (10%). MADE GROUND	1
					1.80			Recovered as 80% black, very sandy/ashy, slightly clayey GRAVEL and 20% cobble sized suspected fused slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (30%), clinker (20%), acetate flakes (20%), red brick (20%) and ceramics (10%). MADE GROUND <u>A single large boulder sized inclusion (600mm x 400mm x 200mm) of soft, white paste at 1.00m.</u> <u>A single large boulder sized inclusion (800mm x 600mm x 200mm) of soft, white paste at 1.50m.</u>	
					2.50			Recovered as 70% dark greyish brown, gravelly, slightly clayey, silty fine SAND/ASH; 20% boulder sized inclusions of soft, white, paste and 10% cobbles sized suspected fused slag fragments. Gravel is angular to subrounded of fine to medium clinker (40%), suspected slag (40%) and mixed lithologies (20%). MADE GROUND	2
					3.00			Recovered as 90% black, very sandy/ashy, very clayey GRAVEL and 10% angular cobble sized suspected fused slag fragments. Gravel is angular to subrounded of fine to coarse suspected acetate flakes (30%), wood shavings (30%), suspected sag (20%) and clinker (20%). MADE GROUND	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses	None				

Remarks
Fast ingress of water at 3.00m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387340.70 N400264.26	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP19	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.50			Recovered as 60% wet, dark orangish brown to black, very sandy/ashy GRAVEL; 20% cobble sized suspected fused slag fragments, 10% whole and half red brick; 5% cobble sized timber beam/lath fragments and 5% cobble sized slate fragments. Gravel is angular to subrounded of fine to coarse suspected slag (50%), clinker (40%) and timber (10%). MADE GROUND <i>Rare rubber shoe soles at 3.30m.</i>	
								Recovered as 60% wet, dark orangish brown to black, very sandy/ashy GRAVEL; 15% cobble sized timber beam/lath fragments; 10% cobble sized suspected fused slag fragments, 10% whole and half red brick and 5% cobble sized slate fragments. Gravel is angular to subrounded of fine to coarse suspected slag (50%), clinker (40%) and timber (10%). MADE GROUND <i>Increasing percentage of cobble sized slate fragments at 4.30m.</i> <i>Occasional glass bottles at 4.50m.</i> <i>Occasional rags/fabric, a single rolled up carpet and occasional cobble sized metal fragments covered in a light grey sludge from 4.80m to 4.90m.</i>	4
					4.90			Stiff, dark brown and light grey mottled CLAY. GLACIAL TILL	5
					5.10			End of Borehole at 5.100m	6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses	None				

Remarks

Fast ingress of water at 3.00m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387434.21 N400157.62	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP22	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, wet, black, slightly sandy, silty CLAY with frequent rootlets.	
					0.40			TOPSOIL FILL	
								Recovered as 60% wet, black, very gravelly, very clayey, fine to medium SAND/ASH; 20% whole and half red brick; 15% plastic sheeting; 10% glass bottles; 10% cobble sized timber beam/lath fragments and 5% metal bar (10mm diameter). Gravel is angular to subrounded of fine to coarse glass (20%), red brick (20%), clinker (30%), timber (20%) and mixed lithologies (10%).	
								MADE GROUND	
								Stiff, fissured, light brown and light grey mottled, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium mixed natural lithologies. Fissures are subvertical, extremely close spaced, undulating to stepped smooth, open and infilled with firm, grey, silty clay with rootlet traces.	
								GLACIAL TILL	
								<u>Possibly shear surface at 1.10m.</u>	1
					1.70			End of Borehole at 1.700m	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Ingress of water at 0.10m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387469.02 N400106.98	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP23	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

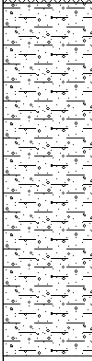
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly sandy CLAY with frequent rootlets.	1
					0.30			TOPSOIL FILL	
					0.50			Recovered as 95% dark grey, gravelly, very clayey, fine to medium SAND and 5% whole and half red brick. Gravel is angular to subrounded of fine to medium of mixed lithologies.	
					1.30			MADE GROUND	
								Firm to stiff brown, grey and orangish brown mottled, slightly sandy CLAY with occasional boulder sized pockets of light grey, medium sand.	2
								GLACIAL TILL	
								Stiff, fissured, friable, brown and light grey mottled, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium mixed natural lithologies. Fissures are subvertical, close spaced, undulating to stepped smooth, open and infilled with firm light grey, sandy clay.	3
								GLACIAL TILL	
								End of Borehole at 1.300m	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387482.11 N400073.26	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP24	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

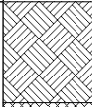
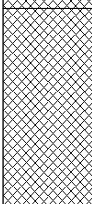
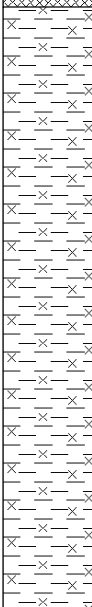
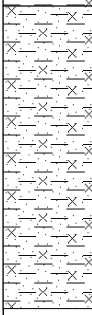
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly sandy CLAY with frequent rootlets.	
					0.30			TOPSOIL FILL Recovered as 90% firm, dark greyish brown, slightly sandy, slightly gravelly CLAY; 5% whole and half red brick and 5% plastic wrappers. Gravel is angular to subrounded of fine to medium mixed lithologies.	
					1.00			MADE GROUND Stiff, fissured, friable, brown and light grey mottled, slightly sandy, slightly gravelly CLAY with low cobble content. Cobbles are rounded of mixed natural lithologies. Gravel is subangular to rounded of fine to coarse mixed natural lithologies. Fissures are subvertical, close spaced, undulating to stepped smooth, open and infilled with firm, grey, silty clay.	
								End of Borehole at 1.000m	1
									2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387344.67 N400172.15	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP25A	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Brown, silty, clayey, fine to medium SAND with frequent rootlets. TOPSOIL FILL	
					0.40			Black, very sandy, angular to subrounded, fine to medium GRAVEKL of clinker (60%), suspected slag (20%) and mixed lithologies (20%). MADE GROUND	
					0.80			Firm to stiff, laminated, dark brown and light grey mottled, slightly sandy, slightly gravelly CLAY. Gravel is subangular to well rounded fine to coarse of red brick (10%) and mixed natural lithologies (90%). MADE GROUND	
					2.00			Firm, dark grey, silty CLAY. Organic odour. GLACIAL TILL	1
					2.60			Very stiff, fissured, friable, brown and grey mottled, slightly sandy, silty CLAY. Fissures are subvertical, extremely close to close spaced, undulating smooth, tight to partly open and infilled with firm, grey, silty clay. GLACIAL TILL	2
								End of Borehole at 2.600m	3

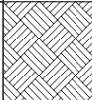
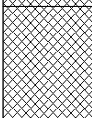
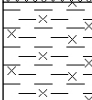
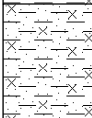
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

This trial pit logs describes the eastern section of the excavation.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387344.67 N400172.15	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP25B	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Brown, silty, clayey, fine to medium SAND with frequent rootlets. TOPSOIL FILL	
					0.40			Black, very sandy, angular to subrounded, fine to medium GRAVEKL of clinker (60%), suspected slag (20%) and mixed lithologies (20%). MADE GROUND	
								Firm to stiff, laminated, dark brown and light grey mottled, slightly sandy, slightly gravelly CLAY. Gravel is subangular to well rounded fine to coarse of red brick (10%) and mixed natural lithologies (90%). MADE GROUND	
					1.80			Firm, dark grey, silty CLAY. Organic odour. MADE GROUND	
					2.00			Very stiff, fissured, friable, brown and grey mottled, slightly sandy, silty CLAY. Fissures are subvertical, extremely close to close spaced, undulating smooth, tight to partly open and infilled with firm, grey, silty clay. MADE GROUND	
					2.60			End of Borehole at 2.600m	

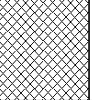
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

This trial pit log describes the western section of the excavation.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387323.48 N400219.15	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP26	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Dark grey, slightly clayey, silty, fine to medium SAND with frequent rootlets.	
					0.40			TOPSOIL FILL	
					0.40			Light brown, very gravelly, clayey, fine to medium SAND. Gravel is angular to rounded of fine to coarse suspected slag (20%), clinker (20%) and mixed lithologies (60%).	
					1.20			MADE GROUND	
					1.20			Black, very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of suspected slag (60%) and clinker (40%).	
					1.20			MADE GROUND	
					1.20			Recovered as 60% black very sandy/ashy GRAVEL; 20% cobble sized inclusions of red, silty, clayey DYE and 20% cobble sized inclusions of soft to very stiff, greyish white LIME/PASTE. Gravel is angular to subrounded of fine to coarse suspected slag (60%) and clinker (40%). Very strong, degraded hydrocarbon odour from red dye material.	
					1.20			MADE GROUND	
					2.50			Occasional cobble sized slate fragments, occasional whole and half red brick and occasional cobble sized inclusions of firm, dark grey CLAY from 2.30m to 2.50m.	
					2.50			Recovered as 80% wet, black and dark orangish brown, very sandy/ashy GRAVEL and 20% cobble to boulder sized suspected fused slag fragments. Gravel is angular to subrounded of medium to coarse suspected slag. Hydrocarbon odour.	
					2.50			MADE GROUND	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

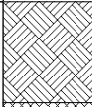
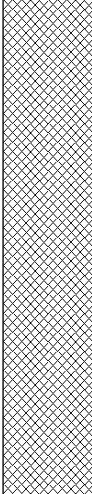
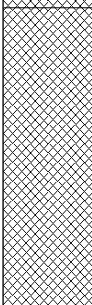
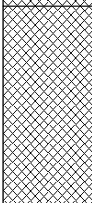
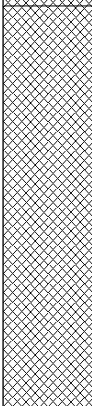
Remarks
Fast ingress of water at 2.00m.



Fast ingress of water at 2.00m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387244.67 N400221.46	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP27	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Light brown, slightly clayey, silty SAND with frequent rootlets. TOPSOIL FILL	
					1.20			Recovered as 80% black to dark brown, very sandy/ashy GRAVEL; 10% whole and half red brick and 10% cobble sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (40%), clinker (40%) red brick (10%) and tile (10%). MADE GROUND <i>Occasional coarse gravel sized inclusions of soft white paste at 0.40m.</i>	1
					1.80			Recovered as 80% black, very sandy/ashy GRAVEL and 20% cobble sized fused slag fragments. Gravel is angular to subrounded of coarse suspected slag (60%), clinker (30%) and ceramics (10%). MADE GROUND	
					2.20			Recovered as 80% reddish brown, very sandy/ashy, clayey GRAVEL and 20% whole and half red brick fragments. Gravel is angular to subrounded of fine to coarse red brick (60%), suspected slag (20%) and clinker (20%). MADE GROUND <i>Brick wall within the souther face of the excavation from 2.00m to 2.80m.</i>	2
								Recovered as 40% wet, dark reddish brown, very sandy/ashy, clayey GRAVEL; 30% whole and half brick fragments; 20% cobble to boulder sized inclusions of light grey, gravelly, very clayey SAND and 10% cobble sized inclusions of stiff, brown and greenish grey mottled CLAY. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND	3

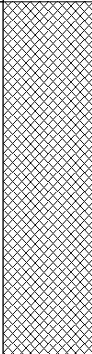
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses.	None				

Remarks

Fast ingress of water at 2.40m from the eastern side of excavation and from beneath brick wall. Water bubbling up at 3.70m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387244.67 N400221.46	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP27	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.70			Recovered as 40% wet, dark reddish brown, very sandy/ashy, clayey GRAVEL; 30% whole and half brick fragments; 20% cobble to boulder sized inclusions of light grey, gravelly, very clayey SAND and 10% cobble sized inclusions of stiff, brown and greenish grey mottled CLAY. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND	
								End of Borehole at 3.700m	4
									5
									6

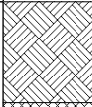
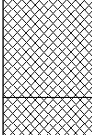
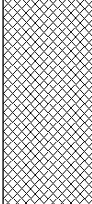
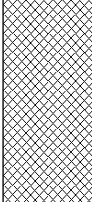
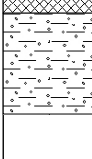
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses.	None				

Remarks

Fast ingress of water at 2.40m from the eastern side of excavation and from beneath brick wall. Water bubbling up at 3.70m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387426.88 N400357.20	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP29A	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

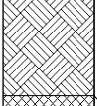
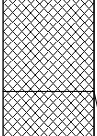
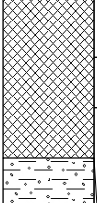
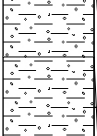
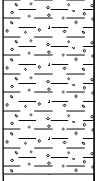
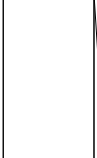
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Dark grey, gravelly, silty, clayey, fine to medium SAND with frequent rootlets. Gravel is angular to subrounded of fine to coarse suspected slag (20%), clinker (20%), glass (20%) and mixed lithologies (40%). TOPSOIL FILL	
					0.40			Black, very gravelly, fine to medium SAND/ASH with frequent roots (10mm diameter) and rootlets. Gravel is angular to rounded of fine to coarse clinker (40%), suspected slag (20%), glass (20%) and mixed lithologies (20%). MADE GROUND	
					1.30			Recovered as 70% black, dark orangish brown in places, very sandy/ashy GRAVEL; 10% angular cobble sized suspected slag fragments; 10% angular cobble sized fused concrete fragments and 10% roots (5-10mm diameter) and rootlets. Gravel is angular to subrounded of fine to coarse of clinker (40%), suspected slag (20%), ceramics (20%) and glass (20%). MADE GROUND	
					1.50			A toilet was encountered at 0.60m. A single large boulder sized inclusion (600mm x 400mm x 200mm) of light grey, very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of suspected slag (40%), clinker (40%), ceramic (10%) and glass (10%) was encountered within the southern section of the excavation at 0.70m. Rare glass bottles and occasional cobble sized ceramic fragments at 1.10m.	1
								Stiff, fissured, brown and light grey mottled, slightly gravelly CLAY. Gravel is subrounded to rounded of fine to medium mixed natural lithologies. Fissures are subvertical, close spaced, undulating to stepped smooth, partly open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL	
								End of Borehole at 1.500m	
									2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387426.88 N400357.20	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP29B	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

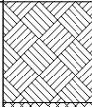
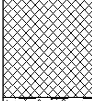
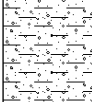
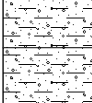
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Dark grey, gravelly, silty, clayey, fine to medium SAND with frequent rootlets. Gravel is angular to subrounded of fine to coarse suspected slag (20%), clinker (20%), glass (20%) and mixed lithologies (40%). TOPSOIL FILL	
					0.40			Black, very gravelly, fine to medium SAND/ASH with frequent roots (10mm diameter) and rootlets. Gravel is angular to rounded of fine to coarse clinker (40%), suspected slag (20%), glass (20%) and mixed lithologies (20%). MADE GROUND	
					0.80			Recovered as 70% black, dark orangish brown in places, very sandy/ashy GRAVEL; 10% angular cobble sized suspected slag fragments; 10% angular cobble sized fused concrete fragments and 10% roots (5-10mm diameter) and rootlets. Gravel is angular to subrounded of fine to coarse of clinker (40%), suspected slag (20%), ceramics (20%) and glass (20%). MADE GROUND	
					1.00			A toilet was encountered at 0.60m. A single large boulder sized inclusion (600mm x 400mm x 200mm) of light grey, very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of suspected slag (40%), clinker (40%), ceramic (10%) and glass (10%) was encountered within the southern section of the excavation at 0.70m.	1
					1.50			Firm to stiff, fissured, brown, light grey and mottled orangish brown, slightly gravelly CLAY. Gravel is subrounded to rounded of fine to medium mixed natural lithologies. Fissures are subvertical, close spaced, undulating to stepped smooth, partly open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL	
								Stiff, fissured, brown and light grey mottled, slightly gravelly CLAY. Gravel is subrounded to rounded of fine to medium mixed natural lithologies. Fissures are subvertical, close spaced, undulating to stepped smooth, partly open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL	
								Rare glass bottles and occasional cobble sized ceramic fragments at 1.10m.	
								End of Borehole at 1.500m	
									2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 27/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387446.72 N400347.53	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP30	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

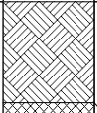
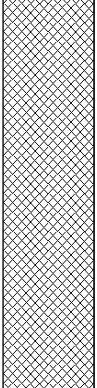
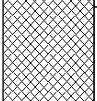
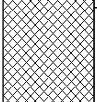
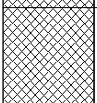
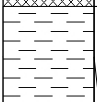
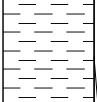
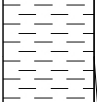
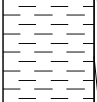
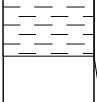
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Dark brown, gravelly, silty, clayey, fine SAND with frequent roots (5-10mm diameter) and rootlets. Gravel is angular to subrounded of fine to coarse ceramics (30%), plastic wrapper fragments (30%) red brick (20%) and mixed lithologies (20%). TOPSOIL FILL	
					0.40			Recovered as 80% dark greyish brown, very sandy/ashy, slightly clayey GRAVEL; 10% whole and half red brick, 5% cobble sized timber fragments and 5% plastic bags/ sheeting. Gravel is angular to subrounded of fine to coarse clinker (40%), red brick (20%), suspected slag (20%) and plastic wrapper fragments (20%). MADE GROUND	
					0.70			Recovered as very stiff, fissured, greyish brown and light brown mottled, slightly sandy, slightly gravelly CLAY with occasional rootlets and occasional cobble sized light orangish brown, clayey, medium sand. Fissures are subvertical, close to medium spaced, undulated to stepped smooth, open and infilled with firm, grey, silty clay. Gravel is subangular to well rounded of fine to medium mixed natural lithologies. GLACIAL TILL	1
					1.50			Very stiff, fissured, friable, orange brown and light grey mottled, slightly sandy, slightly gravelly CLAY with occasional cobble sized inclusions of damp, brown, slightly clayey medium sand. Gravel is subrounded to well rounded of fine to coarse mixed natural lithologies. Fissures are subvertical, close to medium spaced, undulated to stepped smooth, open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL	
								End of Borehole at 1.500m	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 19/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387590.15 N400412.25	
Project No. : SH12254		Crew Name:		Equipment: JCB 3CX hydraulic excavator	
Location Number TP34	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Firm, dark brown, slightly gravelly, sandy CLAY with frequent rootlets. Gravel is angular to rounded of fine to medium red brick (30%), ceramic (20%), suspected slag (20%) and mixed lithologies (30%). TOPSOIL FILL	
								Recovered as 70% dark brown, mottled white in places, gravelly, fine to medium SAND/ASH; 15% cobble sized suspected slag fragments; 5% plastic disposable cups; 5% plastic cladding and 5% cobble sized twisted metal fragments. Gravel is angular to subrounded of fine to coarse glazed ceramic (60%), red brick (20%), suspected slag (20%). MADE GROUND	
								Rare cobble sized inclusions of black, slightly clayey, silty SAND/ASH and rare one litre plastic bottles at 1.00m.	1
								2 No. boulder sized blocks of glazed decorative ceramic/ brickwork, a single rubber hose (50mm diameter), a single bag of fertilizer and rare cobble sized leather fragments at 1.20m.	
					1.40			Recovered as 60% black, gravelly, clayey, fine to medium SAND/ASH; 20% cobble sized inclusions of firm, dark grey and dark brown mottled, slightly sandy CLAY with occasional rootlets; 10% cobbles of suspected slag and 10% cobble sized glazed ceramic fragments. Gravel is angular to subrounded of fine to coarse glazed ceramic (40%), suspected slag (20%) and mixed lithologies (20%). MADE GROUND	
					1.60			A single rubber wellington boot and occasional plastic bags at 1.60m.	
					1.70			Firm, greyish brown, stained black in places, slightly sandy, silty CLAY with occasional gravel and plant remains. Gravel is angular to subrounded of fine to medium red brick (20%), glass (20%) and mixed lithologies (60%). MADE GROUND	2
					1.90			Recovered as 80% firm light orangish brown slightly sandy, silty CLAY and 20% cobble sized inclusions of firm, greyish brown, stained black in places, slightly sandy, silty CLAY. MADE GROUND	
					2.10			Firm, dark grey to black, slightly sandy, silty CLAY with occasional plant remains. MADE GROUND	
					2.30			Firm to stiff, brownish grey and orangish brown mottled CLAY with occasional plant remains. GLACIAL TILL	
					2.50			Stiff, brown and grey mottled CLAY with rare rootlet traces. GLACIAL TILL	
								End of Borehole at 2.600m	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
2.20	1.00	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 18/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387594.16 N400394.05	
Project No. : SH12254		Crew Name:		Equipment: JCB 3CX hydraulic excavator	
Location Number TP35	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Dark brown, clayey, fine to medium SAND with frequent rootlets. TOPSOIL FILL	
					0.40			Recovered as 60% dark brown, very gravelly, slightly clayey, fine to medium SAND; 15% whole and half red brick; 10% cobble sized plastic hardboard fragments; 5% cobble sized concrete fragments; 5% plastic bags and 5% rubber hose pipe. Gravel is angular to subrounded of fine to coarse red brick (60%), ceramic (20%) and mixed lithologies (20%). MADE GROUND	
					0.80			Recovered as 65% light brown, slightly clayey SAND and GRAVEL; 20% whole and half red brick; 5% glass bottles; 5% aluminium pipe and 5% plastic wrappers. Gravel is angular to subrounded of fine to coarse red brick (60%), glass (10%), ceramic (10%) and mixed lithologies (20%). MADE GROUND	
					1.60			Recovered as 55% brown, gravelly, fine SAND; 15% whole and half brick; 10% cobble sized tile fragments; 10% plastic hardboard fragments; 5% cobble sized concrete paving slabs and 5% plastic bottles. Gravel is angular to subrounded of fine to medium red brick (60%), glass/perspex (20%) and mixed lithologies (20%). MADE GROUND <i>A single large concrete boulder (500mm x 400mm x 300mm), occasional plastic bags and a rubber shoe at 1.50m.</i>	1
					2.20			Recovered as 20% brown, stained black in places, gravelly, fine SAND; 20% whole and half red brick; 15% plastic bags/sheeting; 15% cobble size tile fragments; 10% cobble sized inclusions of soft to firm, dark brown, slightly sandy, slightly gravelly CLAY; 5% cobble sized bitumen fragments; 5% rubber mats; 5% cobble sized timber beam/lath fragments; 5% rubber tyres. Gravel is angular to subrounded of fine to medium red brick (60%), glass/perspex (20%) and mixed lithologies (20%). MADE GROUND <i>2 No. large boulder sized concrete/breeze blocks (400mm x 400mm x 200mm) at 1.80m.</i> <i>2 No. large timber beams (1000mm x 100mm x 100mm) at 2.00m.</i>	2
					2.60			Recovered as 35% black, very gravelly, slightly clayey, fine SAND; 20% whole and half red brick; 10% cobble sized concrete/mortar fragments; 10% cobble sized timber beam/lath fragments; 10% plastic bags/sheeting; 5% glass bottles; 5% metal wire and 5% cobble sized leather fragments. Gravel is angular to subrounded of fine to coarse mixed lithologies of the above. MADE GROUND <i>A single suspected electronic car filter cartridge at 2.40m.</i>	
								Recovered as 35% black, orangish brown in places, gravelly, slightly clayey, silty, fine SAND/ASH; 20% whole and half red brick; 15% cobble sized timber beam/lath fragments; 10% glass bottles; 10% cobble sized concrete/mortar fragments; 5% twisted metal bar; 5% cobble sized metal fragments. Gravel is angular to subrounded of fine to coarse red brick (30%), ceramic (20%), glass (15%), polystyrene (15%)	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable					

Remarks

Fast ingress of water at 3.50m. Iridescent oil sheen noted.

Trial pit terminated at 4.10m due to reaching the depth limit of the excavator.



Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
	▽						Recovered as 35% black, orangish brown in places, gravelly, slightly clayey, silty, fine SAND/ASH; 20% whole and half red brick; 15% cobble sized timber beam/lath fragments; 10% glass bottles; 10% cobble sized concrete/mortar fragments; 5% twisted metal bar; 5% cobble sized metal fragments. Gravel is angular to subrounded of fine to coarse red brick (30%), ceramic (20%), glass (15%), polystyrene (15%) and mixed lithologies (20%). MADE GROUND <u>A single large boulder of fused tile at 2.80m.</u> <u>Occasional boulders of suspected mortar/plaster at 3.00m.</u> <u>Frequent glass bottles, frequent cobble sized MDF board and a single large timber beam (2000mm x 100mm x 100mm) at 3.80m.</u>	
					4.10		End of Borehole at 4.100m	

Remarks
Fast ingress of water at 3.50m. Iridescent oil sheen noted.
Trial pit terminated at 4.10m due to reaching the depth limit of the excavator.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 23/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387611.20 N400378.20	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP36	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Firm, dark brown, slightly sandy, slightly gravelly CLAY with occasional roots (10mm diameter) and roots. Gravel is angular to subrounded of fine to medium red brick (40%), ceramics (30%) and mixed lithologies (30%).	
					0.40			TOPSOIL FILL Made Ground comprising 80% firm to stiff, greyish brown, slightly sandy, slightly gravelly CLAY; 15% whole and half red brick and 5% cobble sized tile fragments. Gravel is angular to subrounded of fine to coarse red brick (60%) and mixed lithologies (60%).	
					0.60			MADE GROUND Made Ground comprising 80% firm, black, slightly gravelly, sandy CLAY; 10% cobble sized concrete/sandstone setts; 5% whole and half red brick and 5% plastic bags. Gravel is angular to subrounded of fine to coarse red brick (30%), tile (30%), glass (20%) and mixed lithologies (20%).	
					1.00			MADE GROUND Recovered as 60% dark brown, very gravelly, fine to medium SAND; 25% whole and half red brick; 5% cobble sized concrete/sandstone setts; 5% cobble sized metal fragments and 5% plastic bags. Gravel is angular to subrounded of fine to coarse red brick (70%), glass (10%) and mixed lithologies (20%).	1
					1.70			MADE GROUND Recovered as 65% brownish grey, very gravelly SAND; 10% whole and half red brick, 10% timber posts/planks (450mm x 100mm x 100mm); 5% damp, undecomposed fabric/rags; 5% cobble sized hardboard fragments and 5% cobble sized slate fragments. Gravel is angular to subrounded of fine to coarse red brick (40%), slate (30%), ceramic (10%) and mixed lithologies (20%). <i>Large concrete beam (700mm x 200mm x 200mm) at 1.10m. A single metal frame, a single large metal bar (400mm x 100mm x 100mm) and a single heeled rubber shoe at 1.60m.</i>	
					2.00			Recovered as 40% dark greyish brown, slightly clayey, very gravelly, fine to medium SAND; 20% whole and half red brick; 10% stained black, timber beams (300mm x 100mm x 50mm); 10% plastic bags; 10% cobble sized bitumen fragments; 5% metal brackets and 5% rubber tubing (50mm diameter). Gravel is angular to subrounded of fine to coarse red brick (30%), timber (20%), suspected slag (10%), ceramics (10%), tile (10%) and mixed lithologies (20%).	2
					2.60			MADE GROUND <i>A single metal fireplace grill and occasional metal wire/coils at 1.90m.</i> Recovered as 40% stained black, timber lats covered in a soft, whitish grey paste; 20% black, fine SAND/ASH; 10% gravel sized shredded wood; 10% industrial plastic bags; 10% hardboard and 10% cobble sized inclusions of soft, greyish white paste. <i>2 No. boulder sized industrial plastic bags full of suspected poly filler and the other with red dye, a single boulder sized crumpled metal container (strong hydrocarbon odour), a single boulder sized fragment of suspected MDF board and a single large timber beam (0.8m x 0.05m x 0.05m) at 2.40m.</i>	
		2.20	D					Recovered as 30% greyish brown, very gravelly, fine to medium SAND; 15% plastic bags; 15% timber beams/planks (300mm x 20mm x 20mm to 800mm x 20mm); 10% black, fine SAND/ASH; 10% whole and half red brick; 10% cobble sized, fibrous, white foam fragments; 5% rubber gloves and 5% rubber tubing (50mm diameter). Gravel is angular to	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses	None				

Remarks

Fast inflow of black water at 4.30m. Iridescent oil sheen and strong hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 23/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387611.20 N400378.20	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP36	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		3.50	D		3.30			Recovered as 30% greyish brown, very gravelly, fine to medium SAND; 15% plastic bags; 15% timber beams/planks (300mm x 20mm x 20mm to 800mm x 20mm x 20mm); 10% black, fine SAND/ASH; 10% whole and half red brick; 10% cobble sized, fibrous, white foam fragments; 5% rubber gloves and 5% rubber tubing (50mm diameter). Gravel is angular to subrounded of fine to coarse red brick (30%), suspected slag (20%), timber (20%) and mixed lithologies (30%). MADE GROUND A single boulder sized industrial plastic bag full of yellow dye at 2.70m. 3 No. large concrete boulders (1200mm x 800mm x 400mm to 600mm x 400mm x 200mm) and a single rubber tyre at 3.00m.	
					4.00			Recovered as 50% black, clayey, very gravelly, fine to medium SAND/ASH; 20% stained black, timber beams/planks; 10% whole and half red brick, 10% rope and 10% plastic bags/sheeting. Gravel is angular to subrounded of fine to coarse concrete (30%), red brick (20%), tile (20%), timber (20%) and mixed lithologies (10%). Strong hydrocarbon odour and black viscous staining throughout. MADE GROUND A single large concrete boulder (600mm x 200mm x 200mm) at 3.50m. A single log rubber tube (50mm diameter) at 3.70m. A single large concrete boulder (600mm x 400mm x 200mm) and occasional damp rags at 3.80m.	4
					4.50			Recovered as 40% wet, black, clayey, very gravelly, fine to medium SAND/ASH; 20% stained black timber fragments; 20% rags; 10% cobble sized metal fragments and 10% cobble sized hardboard fragments. Gravel is angular to subrounded of fine to coarse concrete (30%), red brick (20%), tile (20%), timber (20%) and mixed lithologies (10%). Strong hydrocarbon odour and black viscous staining throughout. MADE GROUND	
					5.50			Recovered as 20% wet, black, gravelly, fine to medium SAND/ASH; 20% whole and half red brick; 20% stained black timber beams; 10% cobble sized metal fragments; 10% cobble sized tile fragments; 10% cobble sized ceramic pipe fragments; 5% rope and 5% glass bottles. Gravel is angular to subrounded of fine to coarse concrete (30%), red brick (20%), tile (20%), timber (20%) and mixed lithologies (10%). Strong hydrocarbon odour and black viscous staining throughout. MADE GROUND	5
					5.70			2 No. large concrete boulders (600mm x 400mm x 200mm) and a single large rubber tyre at 5.40m. Stiff, light brown, silty CLAY. GLACIAL TILL A single large concrete boulder (1200mm x 600mm x 600mm) at 5.60m.	
								End of Borehole at 5.700m	6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses	None				

Remarks

Fast inflow of black water at 4.30m. Iridescent oil sheen and strong hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 24/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387773.34 N400417.90	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP38	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, greyish brown, slightly sandy, slightly gravelly CLAY with occasional roots (5-10mm diameter) and rootlets. Gravel is angular to subrounded of fine to medium red brick (20%), timber (20%), ceramic (20%) and mixed lithologies (40%). TOPSOIL FILL	
					0.30			Recovered as 90% firm to stiff, brown, mottled grey, slightly sandy, gravelly CLAY; 5% whole and half bricks and 5% roots (10mm diameter) and rootlets. Gravel is angular to subrounded of fine to coarse red brick (20%) and mixed lithologies (80%). MADE GROUND	
								Recovered as 75% dark brown, gravelly, very clayey, fine to medium SAND; 10% whole and half brick; 5% cobble sized paving slab fragments and 5% industrial plastic bags. Gravel is angular to subrounded of fine to coarse red brick (30%), glass (20%), tile (20%) and mixed lithologies (30%). MADE GROUND	
								A single large boulder sized paving slab (500mm x 400mm x 20mm) at 1.00m.	1
					1.20			Recovered as 60% light brown, very gravelly, medium to coarse SAND; 20% whole and half brick; 5% industrial plastic bags and 5% metal (including metal frame and bars). Gravel is angular to subrounded of fine to coarse red brick (60%), concrete (30%) and mixed lithologies (10%). MADE GROUND	
					1.40			Recovered as 70% black, gravelly, fine to medium SAND/ASH; 15% whole and half brick; 5% industrial plastic bags/ sheeting, 5% cobble sized timber beam/ lath fragments and 5% cobble sized bitumen fragments. Gravel is angular to subrounded of fine to coarse red brick (40%), timber (20%) and mixed lithologies (40%). MADE GROUND	
								A single large boulder sized rubber mat (400mm x 400mm x 10mm) at 1.60m. Occasional plastic disposable cups, occasional metal wire and a single plastic bottle at 1.80m. A single large timber beam (600mm x 200mm x 100mm) and occasional cobble to boulder sized concrete/sandstone setts at 2.00m.	2
								Occasional cobble sized inclusions of firm, light brown, silty CLAY at 2.30m.	
					2.50			A single large boulder sized paving slab (400mm x 500mm x 100mm) and occasional cobble sized slate fragments at 2.40m.	
								Recovered as 50% black, gravelly, clayey, fine to medium SAND/ASH; 15% cobble to boulder sized inclusions of firm to stiff, light brown, silty CLAY; 10% cobble size timber beam/lath fragments; 10% industrial plastic bags; 5% cobble sized slate fragments; 5% whole and half brick and 5% cobble sized concrete fragments. Gravel is angular to subrounded fine to coarse red brick (30%), timber (20%), glass (20%), plastic (20%) and mixed lithologies (10%). MADE GROUND	3

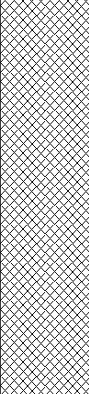
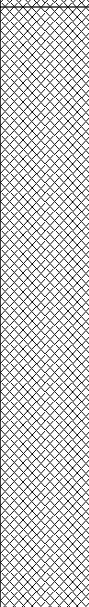
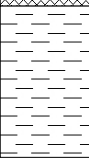
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.20	Multiple collapses	None				

Remarks

Fast ingress of water at 5.00m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 24/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387773.34 N400417.90	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP38	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.80			Recovered as 50% black, gravelly, clayey, fine to medium SAND/ASH; 15% cobble to boulder sized inclusions of firm to stiff, light brown, silty CLAY; 10% cobble size timber beam/lath fragments; 10% industrial plastic bags; 5% cobble sized slate fragments; 5% whole and half brick and 5% cobble sized concrete fragments. Gravel is angular to subrounded fine to coarse red brick (30%), timber (20%), glass (20%), plastic (20%) and mixed lithologies (10%). MADE GROUND <i>A large boulder sized inclusion of plastic bags and other plastics at 2.90m.</i> <i>Occasional cobble sized fragments of tile and occasional metal wire at 3.00m.</i> <i>Frequent fine gravel sized metal fragments, occasional cobble sized hardboard fragments, occasional cobble sized crumpled metal fragments and a single rubber pipe (20mm diameter) with fitting at 3.50m.</i>	
					5.00			Recovered as 60% black, gravelly, clayey fine to medium SAND/ASH; 10% cobble sized timber fragments; 5% whole and half brick; 5% cobble sized hardboard fragments; 5% plastic bags; 5% rubber mats and tubing; 5% metal wire and 5% cobble sized slate fragments. Gravel is angular to subrounded of fine to coarse red brick (30%), timber (30%), glass (20%) and mixed lithologies (20%). Acrid odour. MADE GROUND <i>A single cobble sized decorative brickwork fragment at 4.00m.</i> <i>A single large boulder sized inclusion of firm to stiff, greyish brown, silty CLAY at 4.20m.</i> <i>A single large timber beam (1800mm x 200mm x 100mm); a single plastic bottle; occasional cobble sized inclusions of stiff, brown CLAY and occasional cobble sized inclusions of metal mesh/barbed wire at 4.50m.</i>	4
					5.30			Firm to stiff, light brown CLAY with occasional gravel. Gravel is subangular to subrounded of fine to medium of natural mixed lithologies. GLACIAL TILL	5
								End of Borehole at 5.300m	6

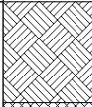
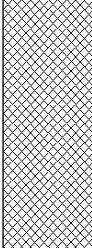
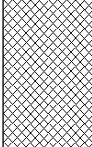
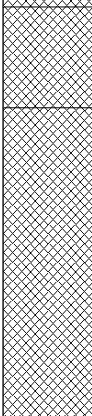
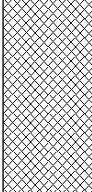
Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.20	Multiple collapses	None				

Remarks

Fast ingress of water at 5.00m.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387642.60 N400359.10	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP39	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Firm, dark brown, slightly sandy, slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to coarse red brick (30%) and mixed lithologies (70%). TOPSOIL FILL	
					1.00			Recovered as 80% firm to stiff, friable, brown, grey and orangish brown mottled, slightly sandy slightly gravelly CLAY; 10% whole and half brick fragments and 10% rounded cobbles of mixed natural lithologies. Gravel is angular to subrounded fine to coarse of red brick (40%), ceramics (15%), timber (15%) and mixed lithologies (30%). MADE GROUND <i>A single large timber beam (1200mm x 50mm x 50mm) at 0.60m.</i> <i>A single large boulder sized paving slab (300mm x 300mm x 20mm) and rare metal bar (5-10mm diameter) at 0.70m..</i>	1
					1.20			Dark grey and dark orangish brown mottled, very sandy, subrounded to rounded, fine to coarse GRAVEL of clinker. MADE GROUND	
		1.50	D					Recovered as 70% grey, weathered dark orangish brown, very clayey GRAVEL; 20% angular cobbles of weak to medium strong, grey, weathered dark orangish brown siltstone and sandstone; 10% cobble sized inclusions of residually weathered mudstone. Gravel is angular of fine to coarse residually weathered mudstone (90%) and coal (10%). Residually weathered mudstone cobbles and gravel comprise stiff to very stiff, friable, grey, mottle orangish brown CLAY. MADE GROUND <i>Frequent rootlets from 1.80m to 2.20m.</i>	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil. Large collapse at 5.80m of the entire northern face of the excavation.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387642.60 N400359.10	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP39	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					5.00			Recovered as 70% grey, weathered dark orangish brown, very clayey GRAVEL; 20% angular cobbles of weak to medium strong, grey, weathered dark orangish brown siltstone and sandstone; 10% cobble sized inclusions of residually weathered mudstone. Gravel is angular of fine to coarse residually weathered mudstone (90%) and coal (10%). Residually weathered mudstone cobbles and gravel comprise stiff to very stiff, friable, grey, mottle orangish brown CLAY. MADE GROUND	4
								Recovered as 80% grey, clayey GRAVEL and 20% angular cobbles of medium strong grey mudstone and fine grained sandstone. Gravel is angular of fine to coarse mudstone (60%), siltstone (20%), coal (10%) and sandstone (10%). MADE GROUND	5
									6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil. Large collapse at 5.80m of the entire northern face of the excavation.	None				

Remarks

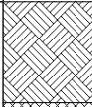
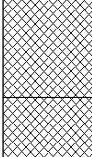
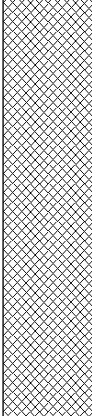
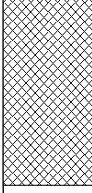


Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					6.20		Recovered as 80% grey, clayey GRAVEL and 20% angular cobbles of medium strong grey mudstone and fine grained sandstone. Gravel is angular of fine to coarse mudstone (60%), siltstone (20%), coal (10%) and sandstone (10%). MADE GROUND End of Borehole at 6.200m		
									7
							</		

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 24/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387778.30 N400421.40	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP40	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Firm, dark brown, slightly gravelly, sandy CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (20%), concrete (20%) and mixed lithologies (60%). TOPSOIL FILL	
					0.40			Recovered as 80% dark brown, gravelly, clayey, fine to medium SAND; 15% whole and half red brick and 5% cobble sized tile fragments. Gravel is angular to subrounded fine to coarse of red brick (40%), ceramic (20%) and mixed lithologies (40%). MADE GROUND	
								A single large piece of rope at 0.30m.	
								Recovered as 70% dark grey, weathered dark orangish brown, very clayey GRAVEL; 20% angular to subrounded cobbles of extremely weak to weak, dark grey, weathered dark orangish brown, siltstone, sandstone and ironstone; 10% cobble sized inclusions of residually weathered mudstone. Gravel is angular to subrounded of fine to coarse residually weathered mudstone. Residually weathered cobbles and gravel comprise stiff to very stiff, friable, dark grey, weathered dark orangish brown CLAY. MADE GROUND	1
								Increasing percentage (40%) of angular cobbles of extremely weak to to weak, dark grey, weathered dark orangish brown mudstone, siltstone, sandstone, ironstone and fissile shale from 1.20m to 1.50m.	
								Increasing percentage (40%) of angular cobbles of extremely weak to to weak, dark grey, weathered dark orangish brown mudstone, siltstone, sandstone, ironstone and fissile shale from 2.50m to 3.30m.	2
								Increasing percentage (40%) of angular cobbles of extremely weak to to weak, dark grey, weathered dark orangish brown mudstone, siltstone, sandstone, ironstone and fissile shale from 2.50m to 3.30m.	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
8.00	1.60	Multiple large collapses.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 24/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387778.30 N400421.40	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP40	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
								Recovered as 70% dark grey, weathered dark orangish brown, very clayey GRAVEL; 20% angular to subrounded cobbles of extremely weak to weak, dark grey, weathered dark orangish brown, siltstone, sandstone and ironstone; 10% cobble sized inclusions of residually weathered mudstone. Gravel is angular to subrounded of fine to coarse residually weathered mudstone. Residually weathered cobbles and gravel comprise stiff to very stiff, friable, dark grey, weathered dark orangish brown CLAY. MADE GROUND	
								Increasing percentage (40%) of angular cobbles of extremely weak to to weak, dark grey, weathered dark orangish brown mudstone, siltstone, sandstone, ironstone and fissile shale between 4.20m to 4.90m.	4
								Increasing percentage (40%) of angular cobbles of extremely weak to to weak, dark grey, weathered dark orangish brown mudstone, siltstone, sandstone, ironstone and fissile shale from 5.20m to 6.00m.	5
					6.00			End of Borehole at 6.000m	6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
8.00	1.60	Multiple large collapses.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387791.52 N400410.32	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP41	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Dark grey, gravelly, clayey SAND/ASH with occasional rootlets. Gravel is angular to subrounded fine to coarse of red brick (20%) and mixed lithologies (80%). TOPSOIL FILL	
					0.40			Recovered as 90% dark grey, gravelly, clayey SAND/ASH and 10% whole and half red brick. Gravel is angular to subrounded fine to coarse of red brick (20%) and mixed lithologies (80%). MADE GROUND	
					0.60			Very stiff, friable, light grey and orangish brown mottled, slightly gravelly CLAY. Gravel is angular to subrounded of fine to coarse of mudstone (80%), siltstone (20%) and coal (20%). MADE GROUND	
					1.20			Recovered as 70% dark grey, very clayey GRAVEL; 20% angular cobbles of very weak to weak, grey, weathered dark orangish brown, siltstone, mudstone and sandstone and 10% cobble sized inclusions of residually weathered mudstone. Gravel is angular of fine to coarse residually weathered mudstone (70%); extremely weak, dark grey siltstone (20%) and coal (10%). Residually weathered mudstone cobbles and gravel comprise stiff, friable, grey and orangish brown mottled CLAY. MADE GROUND	1
					1.60			Recovered as ark grey, very sandy, clayey, angular, fine to coarse GRAVEL of extremely weak grey mudstone (60%), weak grey siltstone (20%) and weak grey fine grained sandstone (20%). MADE GROUND	
					3.00			Recovered as 80% dark grey, sandy, very clayey, angular fine to coarse GRAVEL of residually weathered mudstone; extremely weak to weak, dark grey siltstone and coal; 20% angular cobbles of extremely weak, grey, weathered orangish brown mudstone siltstone and sandstone. Residually weathered gravel comprises stiff, friable, dark grey CLAY. MADE GROUND	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil. Large collapse of the western face of the excavation at 4.70m.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387791.52 N400410.32	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP41	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 3

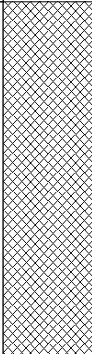
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
								Recovered as 60% damp, dark grey, very clayey GRAVEL; 20% angular cobbles of very weak to weak, grey, weathered dark orangish brown siltstone, mudstone and sandstone and 20% cobble to boulder size inclusions of residually weathered mudstone. Gravel is angular of fine to coarse residually weathered mudstone (70%), extremely weak grey siltstone (20%) and coal (10%). Residually weathered cobbles and gravel comprise very stiff, friable, grey CLAY. MADE GROUND	
									4
									5
									6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil. Large collapse of the western face of the excavation at 4.70m.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 25/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387791.52 N400410.32	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP41	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					6.70			Recovered as 60% damp, dark grey, very clayey GRAVEL; 20% angular cobbles of very weak to weak, grey, weathered dark orangish brown siltstone, mudstone and sandstone and 20% cobble to boulder size inclusions of residually weathered mudstone. Gravel is angular of fine to coarse residually weathered mudstone (70%), extremely weak grey siltstone (20%) and coal (10%). Residually weathered cobbles and gravel comprise very stiff, friable, grey CLAY. MADE GROUND	
								End of Borehole at 6.700m	7
									8
									9

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil. Large collapse of the western face of the excavation at 4.70m.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387813.71 N400266.66	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP44	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly sandy, slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (30%), ceramics (20%) and mixed lithologies (50%). TOPSOIL FILL	
					0.20			Stiff, brown and grey mottled, slightly sandy, slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to coarse red brick (30%), clay (10%) and mixed lithologies (60%). MADE GROUND	
					0.50			Recovered as 90% firm, dark greyish brown, slightly gravelly, sandy CLAY and 10% whole and half red brick. Gravel is angular to subrounded fine to coarse of red brick (30%), ceramic (20%) and mixed lithologies (50%). MADE GROUND	
					0.80			A single metal bar (10mm diameter) and a single 250ml glass bottle at 0.30m. Recovered as 90% dark brown to black, very sandy GRAVEL and 10% whole and half red brick. Gravel is angular to subrounded of fine to coarse suspected ceramics (30%), suspected slag (20%), acetate flakes (20%), metal (10%) and mixed lithologies (20%). MADE GROUND	1
					1.60			A single large suspected timber railway/tramway sleeper (2200mm x 300mm x 100mm) at 0.70m. Recovered as 70% stiff to very stiff, greyish brown and orangish brown mottled, slightly sandy, slightly gravelly CLAY; 20% cobble sized inclusions of light brown, gravelly, clayey SAND and 10% cobble sized inclusions of dark grey, gravelly, clayey SAND/ASH. Gravel is angular to well rounded of fine to coarse red brick (20%), timber (20%), glass (10%), ceramics (10%) and mixed lithologies (40%). MADE GROUND Mottled white in places at 1.20m.	
					2.20			Recovered as 70% firm to stiff, light greyish brown, slightly gravelly, sandy CLAY and 30% cobble sized inclusions of light brown, medium SAND. Gravel is angular to well rounded of fine to coarse red brick (20%), ceramics (10%) and mixed natural lithologies (70%). MADE GROUND	2
								Recovered as 50% stiff, brown, slightly sandy, slightly gravelly CLAY; 40% cobble sized inclusions of light brown, very clayey, fine to medium SAND and 10% whole and half red brick. Gravel is angular to subrounded of fine to coarse red brick (20%), suspected slag (10%), timber (10%) and mixed lithologies (60%). MADE GROUND	
								Increasing percentage of whole and half brick at 2.90m.	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks
Fast ingress of water at 5.30m. Iridescent oil sheen noted.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387813.71 N400266.66	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP44	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.60			Recovered as 50% stiff, brown, slightly sandy, slightly gravelly CLAY; 40% cobble sized inclusions of light brown, very clayey, fine to medium SAND and 10% whole and half red brick. Gravel is angular to subrounded of fine to coarse red brick (20%), suspected slag (10%), timber (10%) and mixed lithologies (60%). MADE GROUND <i>A single large boulder sized pocket (800mm x 600mm x 300mm) of damp, black, very sandy/ashy, clayey, angular to subrounded, fine to coarse GRAVEL of suspected clinker (30%), timber (20%), red brick (20%) and mixed lithologies (30%) encountered within western section of the excavation between 3.20m and 3.50m.</i> <i>A single cobble sized metal fragment at 3.50m.</i>	
								Recovered as 80% alternating light grey and dark grey, ashy GRAVEL and 20% cobble sized inclusions of greyish white, clayey, angular, fine GRAVEL. Gravel is angular to subrounded of fine to coarse light grey, low density, fragments of suspected incinerator waste (80%) and suspected slag (20%). MADE GROUND	4
					5.70				
					5.90			Very stiff to hard, greyish white CLAY (suspected lime liner). MADE GROUND	
								End of Borehole at 5.900m	6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Fast ingress of water at 5.30m. Iridescent oil sheen noted.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date:	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387810.28 N400278.09	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator.	
Location Number TP45	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly sandy, slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (40%), tile (20%) and mixed lithologies (40%). TOPSOIL FILL Recovered as 65% stiff, brown, slightly sandy, slightly gravelly CLAY; 15% whole and half red brick; 15% cobble sized inclusions of dark brown, very gravelly, clayey, fine to medium SAND and 5% cobble sized tile fragments. Gravel is angular to subrounded fine to coarse of red brick (60%), ceramic (20%), tile (10%) and mixed lithologies (10%). MADE GROUND	
					1.00			2 No. large boulder sized red brick masonry blocks (700mm x 300mm x 100mm to 400mm x 400mm x 100mm), a single large boulder sized pocket of plastic bags/sheeting, cans and plastic bottles (300mm x 300mm x 200mm) at 0.70m. A single rubber fan belt, occasional plastic bags/sheeting and occasional plastic bottles at 0.90m.	1
					1.10			Dark brown, very gravelly, fine to medium SAND/ASH. Gravel is angular to rounded of fine to medium clinker (40%), suspected slag (20%), red brick (20%) and mixed lithologies (20%). MADE GROUND	
					1.30			Recovered as reddish brown, very sandy, angular to rounded, fine to coarse GRAVEL of red brick. MADE GROUND	
					1.60			Recovered as 90% dark grey, very sandy/ashy GRAVEL and 10% whole and half red brick. Gravel is angular to subrounded of fine to coarse clinker (30%), suspected slag (20%), red brick (20%), tile (20%) and mixed lithologies (10%). MADE GROUND	
					1.70			A single crushed traffic cone and a large boulder sized strip of suspected carpet at 1.50m. Firm to stiff, light brown and light grey mottled, slightly gravelly, sandy CLAY. Gravel is angular of fine red brick (20%) and mixed lithologies (80%). MADE GROUND Recovered as 70% light grey, sandy GRAVEL and 30% cobbles. Cobbles and gravel are angular of fine to coarse, light grey, very weak to medium strong mudstone, siltstone, sandstone and coal. MADE GROUND	2
								Occasional boulder sized inclusions of residually weathered mudstone at 2.30m. Residually weathered mudstone comprises very stiff, friable, light grey, gravelly CLAY. Gravel is angular of fine to coarse, horizontally orientated, extremely weak to very weak light grey mudstone and siltstone. Machine bucket scraping and struggling at 2.40m.	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil.	None				

Remarks

Fast ingress of water at 5.00m. Hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date:	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387810.28 N400278.09	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator.	
Location Number TP45	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					4.00			Recovered as 70% light grey, sandy GRAVEL and 30% cobbles. Cobbles and gravel are angular of fine to coarse, light grey, very weak to medium strong mudstone, siltstone, sandstone and coal. MADE GROUND	
					4.20			Dark brown very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of mudstone (40%), clinker (20%), suspected slag (20%), coal (10%) and mixed lithologies (10%). MADE GROUND	4
					4.60			Black, very sandy/ashy, angular to rounded, fine to coarse GRAVEL of clinker (40%), suspected slag (40%) and mixed lithologies (20%). MADE GROUND	
								Dark orangish brown and black, very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of suspected acetate flakes (30%), clinker (30%), suspected slag (20%) and timber (20%). MADE GROUND	5
					6.00			End of Borehole at 6.000m	6

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil.	None				

Remarks

Fast ingress of water at 5.00m. Hydrocarbon odour.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387785.27 N400343.13	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP46	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Firm, dark brown, slightly gravelly, sandy CLAY with occasional rootlets. Gravel is angular to subrounded of fine to medium red brick (30%), ceramic (20%), glass (10%) and mixed lithologies (40%). TOPSOIL FILL	
					0.40			Recovered as 80% firm, dark brown, slightly gravelly, sandy CLAY; 15% whole and half red brick and 5% cobble sized clinker fragments. Gravel is angular to subrounded of fine to coarse red brick (40%), ceramic (10%), metal (10%), shale (10%), glass (10%) and mixed lithologies (20%). MADE GROUND <i>A single large boulder sized pocket of reddish brown, gravelly fine to medium sand from 0.30m to 0.70m within the south western corner of the excavation.</i>	
					0.90			Recovered as 50% dark greyish brown, slightly gravelly, sandy CLAY, 30% dark brown, very gravelly, clayey, fine to medium SAND and 20% whole and half red brick. Gravel is angular to rounded of fine to coarse red brick (40%), timber (20%), ceramics (10%), concrete (10%) and mixed lithologies (20%). MADE GROUND <i>2 No. large concrete blocks (500mm x 200mm x 100mm) at 0.40m. Occasional plastic bags/ sheeting at 0.60m.</i>	1
					1.20			Recovered as 70% grey, weathered orangish brown in places, sandy GRAVEL and 30% angular cobbles of weak to medium strong, dark grey, weathered orangish brown in places mudstone, sandstone and siltstone. Gravel is angular of fine to coarse extremely weak to weak, dark grey mudstone, siltstone and sandstone. MADE GROUND	
								Recovered as 80% damp, dark grey, sandy, clayey GRAVEL; 10% angular cobbles of extremely weak to weak, dark grey mudstone, siltstone and sandstone and 10% cobble sized inclusions of residually weathered mudstone. Gravel is angular of fine to coarse extremely weak to weak, dark grey mudstone, siltstone and sandstone. Residually weathered mudstone cobbles comprise firm to stiff, grey and orange brown mottled CLAY. MADE GROUND	2
					3.00				3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil.	None				

Remarks



Project Name: Ten Acres Lane				Client: VertaseFLI Ltd				Date: 26/06/2019			
Location: Ten Acres Lane, Newton Heath				Contractor: Geotron UK				Co-ords: E387785.27 N400343.13			
Project No. : SH12254				Crew Name:				Equipment: 22 tonne Komatsu PC210 tracked excavator			
Location Number TP46		Location Type TP		Level		Logged By JC		Scale 1:15		Page Number Sheet 2 of 3	
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
								Recovered as 70% damp, dark grey, very sandy GRAVEL and 30% angular cobbles of extremely weak to very weak, dark grey, weathered orangish brown in places mudstone, siltstone and sandstone. Gravel is angular of fine to coarse mudstone, shale, siltstone and sandstone. MADE GROUND			
					5.80					4	
					6.00					5	
										6	
Dimensions				Trench Support and Comment				Pumping Data			
Pit Length 6.00		Pit Width 1.60		Pit Stability Multiple collapses in colliery spoil.	Shoring Used None	Remarks		Date	Rate	Remarks	
Remarks											

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 26/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387785.27 N400343.13	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator	
Location Number TP46	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
								Stiff, fissured, brown and grey mottled, slightly sandy CLAY. Fissures are subvertical, very close to medium spaced, undulating to stepped smooth, partially open and infilled with firm, grey, silty clay with rootlet traces. GLACIAL TILL End of Borehole at 6.000m	7
									8
									9

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses in colliery spoil.	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387600.99 N400136.52	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP49	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly gravelly, sandy CLAY with frequent rootlets. Gravel is angular to subrounded of fine to coarse red brick (30%), ceramic (20%) glass (10%) and mixed lithologies (40%). TOPSOIL FILL Recovered as 60% dark greyish brown, very gravelly, fine to medium SAND/ASH; 20% reddish brown, gravelly, fine to medium SAND; 10% whole and half red brick and 10% cobble sized concrete fragments. Gravel is angular to subrounded of fine to coarse red brick (20%), ceramics (20%), plastic (20%), metal (10%), glass (10%) and mixed lithologies (20%). MADE GROUND <i>Occasional cobble sized fragments of metal and tile, and occasional plastic bags/sheeting from 0.60m to 0.80m.</i>	
					0.80			Recovered as 60% dark greyish brown, very gravelly, slightly clayey SAND/ASH; 15% whole and half red brick; 10% plastic bags/sheeting; 5% cobble sized timber beam/lath fragments and 5% cobble sized tile fragments. Gravel is angular to subrounded of fine to coarse red brick (20%), glass (20%), timber (20%) metal (10%), tile (10%) and mixed lithologies (20%). MADE GROUND <i>A single large boulder of concrete (1500mm x 800mm x 400mm) with 2 No. metal bars (50mm diameter) at 1.00m within the southern section of the excavation.</i>	1
					1.20			Recovered as 90% black, very sandy/ashy, angular to subrounded, fine to coarse GRAVEL of suspected slag (40%), clinker (30%) and mixed lithologies (30%). MADE GROUND <i>Rotten egg smell at 1.30m.</i>	
					1.40			Recovered as 30% wet, dark greyish brown, stained black, very sandy/ashy, clayey GRAVEL; 25% plastic bags/sheeting, 20% fabric/rags; 10% whole and half bricks, 10% cobble sized fragments of foam and 5% cobble sized metal fragments. Gravel is angular to subrounded of fine to coarse suspected slag (20%), timber (20%), glass (20%), brick (20%) and mixed lithologies (20%). MADE GROUND <i>A single large boulder sized paving slab (800mm x 600mm x 100mm) at 1.60m.</i>	
					1.90			End of Borehole at 1.900m	2
									3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple Collapses	None				

Remarks

Fast upwell (bubbling) of water at 1.50m. Strong odour of sewage/rotten egg. Low pH indicated.

Terminated due to sides collapsing and potentially contaminated waters at shallow depth.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387585.17 N400160.04	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP53	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Firm, dark brown, slightly gravelly, sandy CLAY with frequent rootlets. Gravel is angular to rounded of fine to medium red brick (30%), ceramics (20%) and mixed lithologies (50%). TOPSOIL FILL	
					0.60			Recovered as 40% dark brown, very gravelly, clayey, fine to medium SAND; 40% cobble sized inclusions of firm to stiff, light brown and light grey mottled CLAY; 10% whole and half red brick; 5% cobble sized timber beam/lath fragments and 5% plastic sheeting. Gravel is angular to subrounded of fine to coarse red brick (20%), timber (20%) and mixed lithologies (60%). MADE GROUND	
					1.10			A single large boulder of concrete (800mm x 600mm x 200mm) at 0.20m. A single large boulder sized slab of concrete with rebar (1100mm x 600mm x 200mm) at 0.50m. Recovered as 40% dark greyish brown, very gravelly, clayey SAND/ASH; 30% whole and half red brick; 10% plastic bags/sheeting; 10% cobble sized timber beam/lath fragments; 5% cobble sized hardboard fragments and 5% metal pipe (20mm diameter) and cobble sized metal fragments. Gravel is angular to subrounded of fine to coarse red brick (20%), timber (20%), metal (20%), hardboard (20%) and mixed lithologies (20%). Acrid odour. MADE GROUND	1
								Recovered as 20% dark brown, very gravelly, clayey SAND/ASH; 15% partially decomposed fabric/rags; 15% boulder sized crumpled metal fragments (possibly part of a car); 15% plastic sheeting/bags; 15% whole and half red brick; 15% cobble to boulder sized timber beam/lath fragments; 2.5% rubber tubing (20mm diameter) and 2.5% cobble sized ceramic fragments (possibly old toilet pipes). Gravel is angular of fine to coarse mixed lithologies of the above. MADE GROUND	
								A single large concrete obstruction was present within the norther face of the excavation from 1.50m to 2.00m.	
								A single large boulder of fused, fine to medium grained sandstone (800mm x 600mm x 200mm) at 1.80m.	
								Occasional plastic and metal pipe (20-30mm diameter) and occasional glass bottles from 2.00m.	2
								A single boulder sized ceramic fragment (part of an old sink) at 2.20m.	
					2.40				
					2.50			Recovered as 20% wet, dark brown, very gravelly, clayey SAND/ASH; 15% plastic sheeting/bags; 15% plastic bottles; 10% cobble to boulder sized timber beams/planks; 10% large boulder sized concrete fragments (600mm x 300mm x 200mm); 10% fabric/rope; 10% rubber tyres and 5% ceramic and metal pipe fragments. Gravel is angular to subrounded of fine to coarse mixed lithologies of the above. MADE GROUND	
								End of Borehole at 2.500m	3

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Multiple collapses.	None				

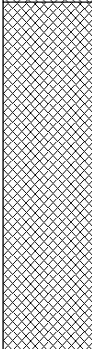
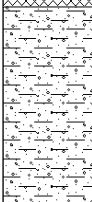
Remarks

Fast ingress of water at 2.40m from the northern face of the excavation. Black in colour with a strong hydrocarbon and sewage/rotten egg smell. Iridescent oil sheen noted.

Terminated due to sides collapsing and potentially contaminated waters at shallow depth.

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387422.49 N400189.05	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210 tracked excavator.	
Location Number TP54	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

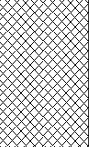
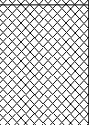
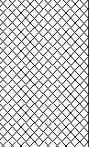
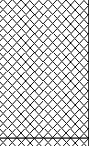
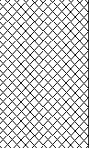
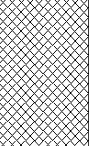
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Black, slightly clayey, silty, fine to medium SAND with frequent rootlets. TOPSOIL FILL	
					0.90			Recovered as 70% light brown, very sandy GRAVEL; 10% whole and half red brick and 10% cobble sized tile fragments. Gravel is angular to rounded of fine to coarse aggregate (80%), red brick (10%) and tile (10%). MADE GROUND	
					1.00			1 No. Boulder sized pocket of gravel sized fragments of hard white limestone	
					1.40			Recovered as 90% firm, friable, dark grey CLAY; 5% whole and half red brick and 5% cobble sized tile fragments. MADE GROUND	1
					1.40			Very stiff, light brown, light grey and light orangish brown mottled, slightly gravelly, sandy CLAY. Gravel is rounded of fine to coarse mixed lithologies. GLACIAL TILL	
					1.40			Stiff, friable, possibly sheared, light brown and light grey mottled, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to medium mixed natural lithologies. Possible shears are subhorizontal, close to medium spaced, undulating smooth and shiny. GLACIAL TILL	
								End of Borehole at 1.400m	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Trial Pit Log

Project Name: Ten Acres Lane		Client: VertaseFLI Ltd		Date: 28/06/2019	
Location: Ten Acres Lane, Newton Heath		Contractor: Geotron UK		Co-ords: E387443.02 N400201.56	
Project No. : SH12254		Crew Name:		Equipment: 22 tonne Komatsu PC210	
Location Number TP58	Location Type TP	Level	Logged By JC	Scale 1:15	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			Black, silty, clayey fine to medium SAND with frequent rootlets.	
					0.50			TOPSOIL FILL	
					0.50			Recovered as 90% damp, dark greyish brown, slightly clayey, silty fine to medium SAND and 10% whole and half red brick. Gravel is angular to subrounded of fine to coarse metal (30%), red brick (20%), slate (20%) and mixed lithologies (30%). MADE GROUND	
					1.30			Recovered as black, very gravelly, fine to medium SAND/ASH. Gravel is angular to subrounded of fine to coarse suspected slag (60%), clinker (30%) and mixed lithologies (10%). MADE GROUND	
					1.30			Recovered as 70% black, very gravelly, silty, fine to medium SAND/ASH; 20% cobble sized suspected slag fragments and 10% cobble sized timber fragments. Gravel is angular to subrounded of fine to coarse suspected slag (50%), timber (30%) and coal (20%). MADE GROUND	
					2.00			Recovered as 80% dark orangish brown and black mottled, very gravelly, silty fine to medium SAND/ASH and 20% cobble sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse suspected slag (60%) and clinker (40%). MADE GROUND	
					2.00			A single large boulder (600mm x 400mm x 300mm) of suspected slag at 2.20m.	
					2.75			Firm, wet, fissured, friable, dark grey and light brown mottled CLAY. Fissured are subvertical, close spaced, undulating to stepped smooth, open and infilled with fir, grey, silty clay with rootlet traces.	
					3.00			GLACIAL TILL	
								End of Borehole at 3.000m	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
6.00	1.60	Stable	None				

Remarks

Fast ingress of water from 2.60m from the eastern section of the excavation.

Appendix IV - Ecologists Correspondence

From: [Palmer, Tim](#)
To: [Hales, Alec](#)
Cc: [Bingle, Alex](#)
Subject: Ten Acres - ecology summary
Date: 27 June 2019 14:00:13
Attachments: [image001.jpg](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.jpg](#)

Alec

Just so you have a record on file Alex has put the summary of his site supervision/advance checking together.

The site comprises of a mix of semi mature woodland and open grassland. There is a main track leading laterally through the middle of the site that the JCB can use to access all dig sites and land rovers can use to bring drilling equipment to borehole sites, with limited impact on trees, some low hanging branches needed to be removed and a fallen tree had to be moved all under supervision. All dig sites were checked by the site ecologist ensuring the ground was clear of badger setts (within 30m) and any trees or bushes that would be impacted were clear of active bird's nest. No badger setts were discovered and in instances where nests were discovered the dig site was relocated to a location that would not impact them. Within 48 hours of the assessment all dig site will be made unsuitable for nesting birds. Japanese knotweed was discovered on site, routes were changed to avoid site vehicles passing over/close to the stands. A pressure washer is kept by the entrance of site and all contractors have been made aware that it is imperative that all vehicles are properly washed down before leaving site.

Alex – just one other thing, did you keep the signed records of tool box talk? If so can you let Alec have a copy.

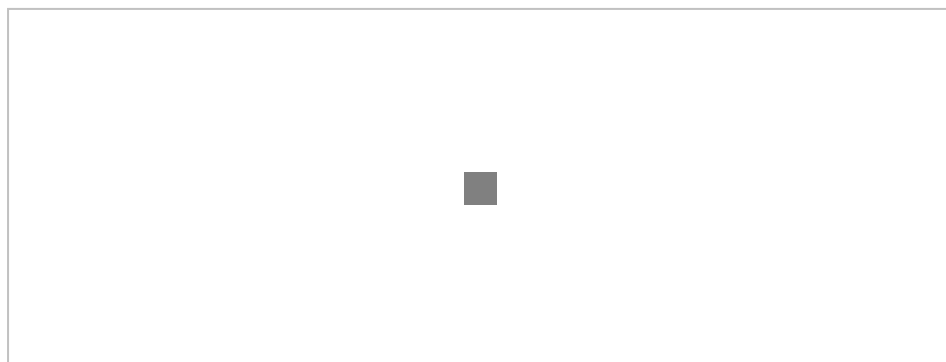
Tim

Tim Palmer | Technical Director

Wardell Armstrong LLP

36 Park Row, Leeds, LS1 5JL

t: 0113 831 5533 m: 07501 033102



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Contact Joshua Broster (Ecologist)



your earth our work

Ecological Tool Box Talk

A tool box talk was undertaken by a Wardell Armstrong Ecologist informing site personal of potential ecological constraints when undertaking site working.

Site and Job Number

Ten Acres Newton Heath	SH12254
------------------------	---------

The tool box talk was undertaken by:

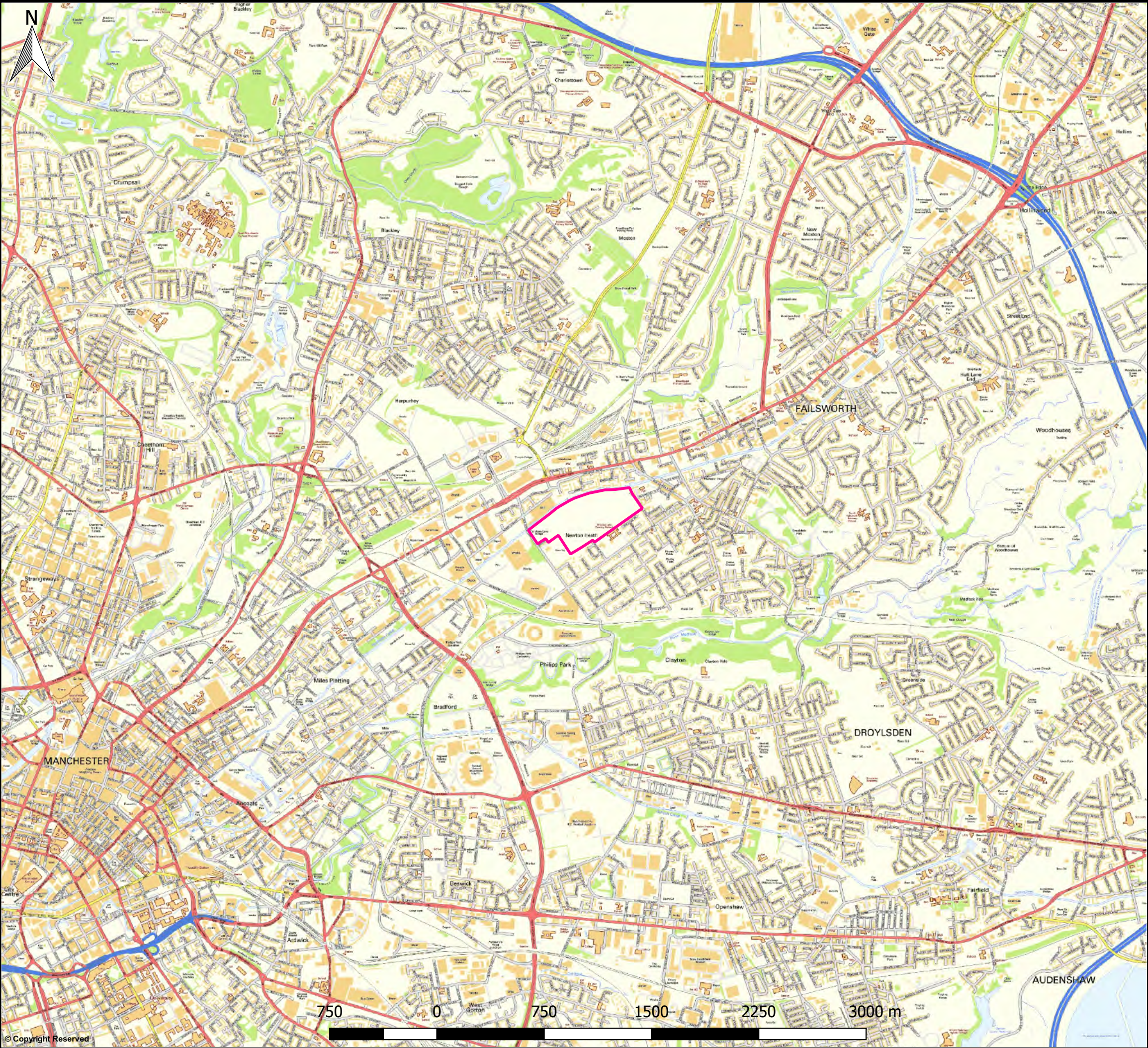
Alex Bingle	
-------------	--

The tool box talk was undertaken on :

19/6/2019

[illegible]

Drawings



DO NOT SCALE FROM THIS DRAWING

Legend

Site Boundary

Notes

Map data: Contains OS data © Crown copyright and database right (2018). Open Government License.

REVISION	DETAILS	DATE	DRN	CHKD APP'D

CLIENT	VERTASE FLI LIMITED
--------	---------------------

PROJECT	TEN ACRES LANE, NEWTON HEATH
---------	------------------------------

DRAWING TITLE	SITE LOCATION PLAN
---------------	--------------------

DRG No.	SH12254-001	REV
DRG SIZE	A3	SCALE 1:25,000
DRAWN BY	JC	CHECKED BY AH
		DATE 16/07/19
		APPROVED BY AH



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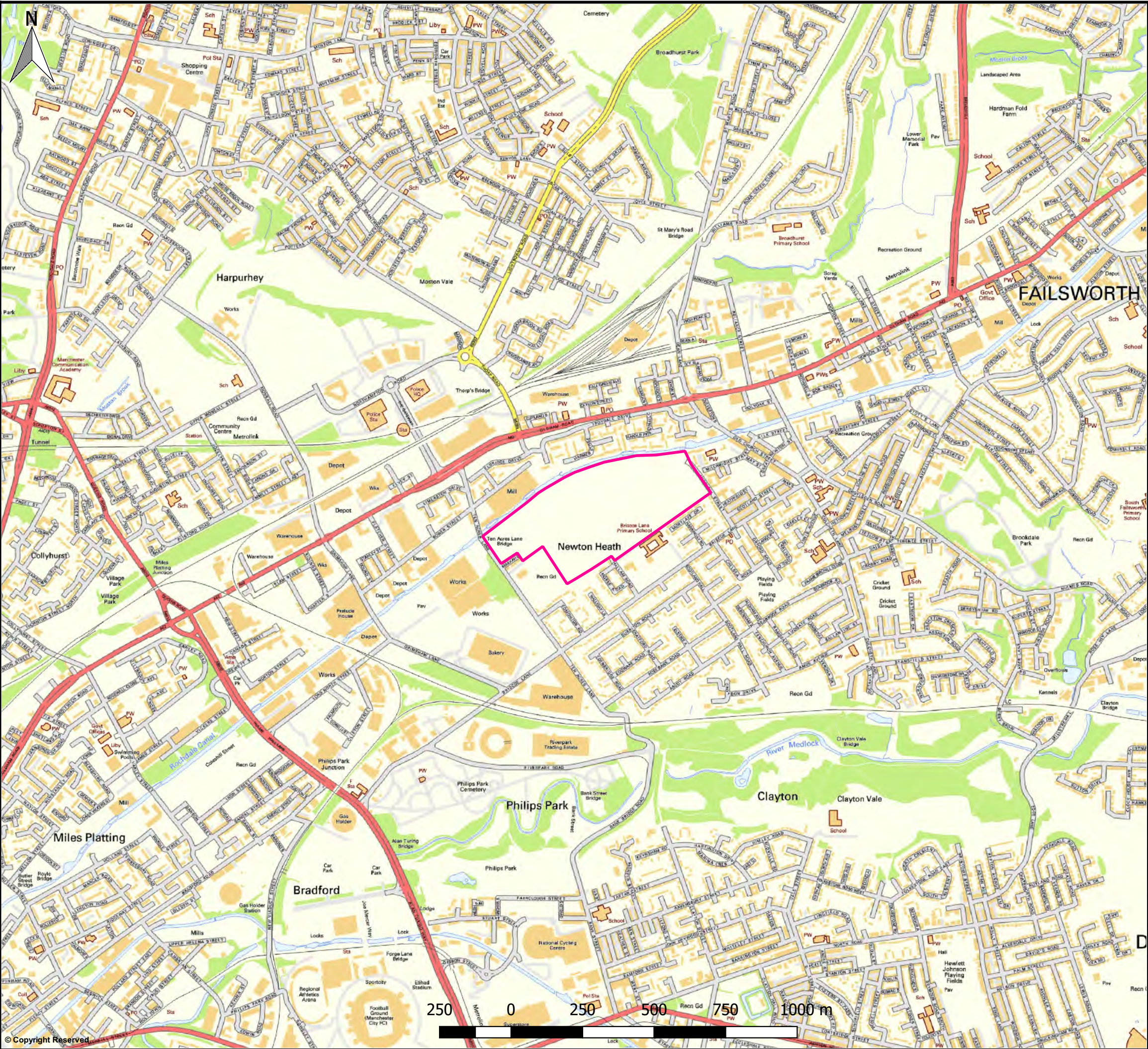
☐ GLASGOW
- ☐ LONDON

☐ MANCHESTER

☐ NEWCASTLE UPON TYNE

☐ CARDIFF

☐ STOKE ON TRENT



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Legend

Site Boundary

Notes

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REVISION	DETAILS	DATE	DRN	CHKD

CLIENT	VERTASE FLI LIMITED
--------	---------------------

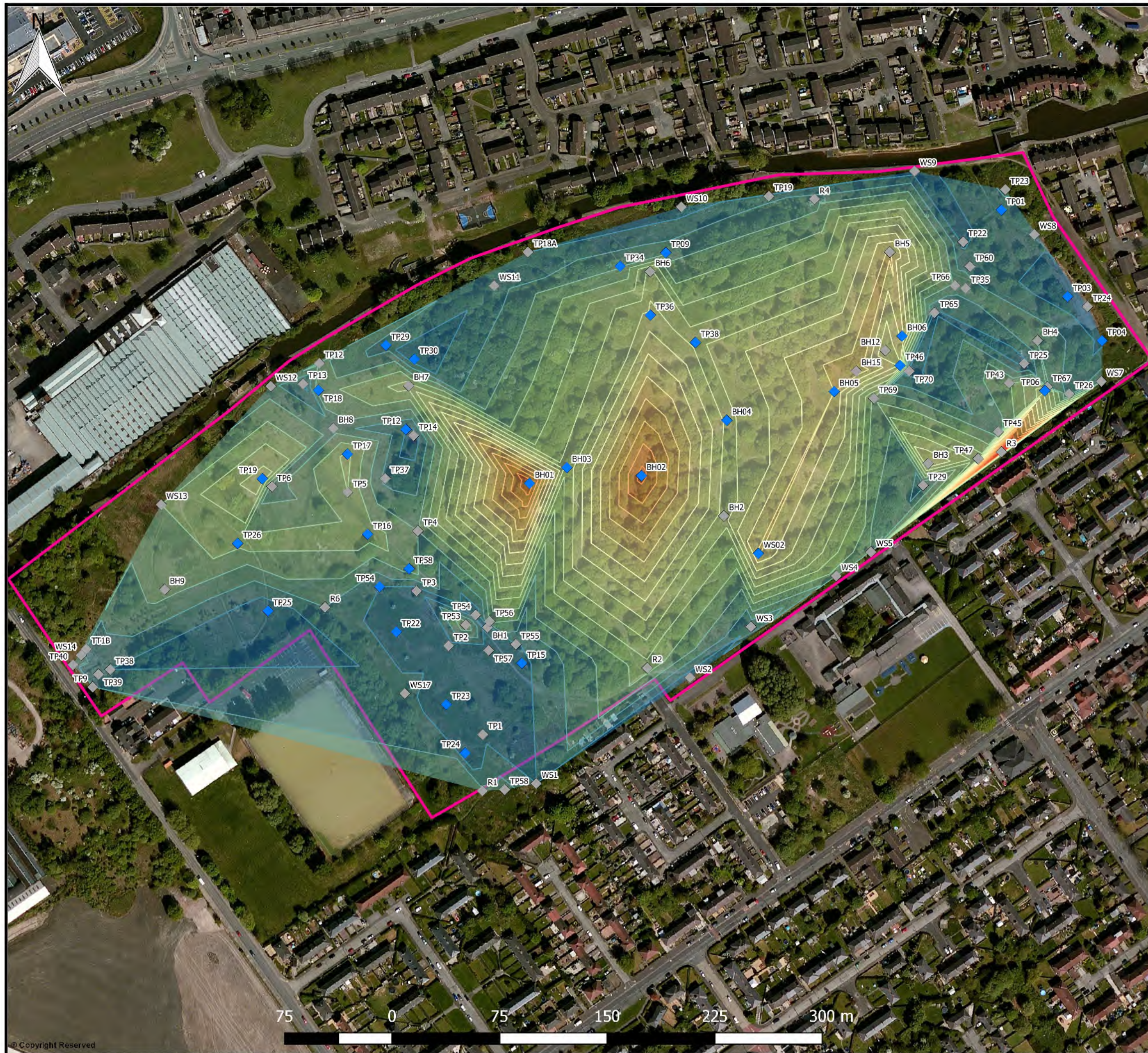
PROJECT	TEN ACRES LANE, NEWTON HEATH
---------	------------------------------

DRAWING TITLE	SITE LOCATION PLAN
---------------	--------------------

DRG No.	SH12254-002	REV
DRG SIZE	A3	SCALE 1:12,500
DRAWN BY	JC	CHECKED BY AH
		DATE 16/07/19
		APPROVED BY AH



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Legend

- ◆ Wardell Armstrong Exploratory Hole Locations
- ◆ Third Party Exploratory Hole Locations

Made Ground Base mbgl

- 0.30 - 1.00
- 1.00 - 1.70
- 1.70 - 2.40
- 2.40 - 3.10
- 3.10 - 3.80
- 3.80 - 4.50
- 4.50 - 5.20
- 5.20 - 5.90
- 5.90 - 6.60
- 6.60 - 7.30
- 7.30 - 8.00
- 8.00 - 8.70
- 8.70 - 9.40
- 9.40 - 10.10
- 10.10 - 10.80
- 10.80 - 11.50
- 11.50 - 12.20
- 12.20 - 12.90

Notes

Exploratory hole locations undertaken as part of these site investigation works are approximate only and have not been surveyed post site investigation works. In most cases the locations are as surveyed during the pre-works survey. Where exploratory holes have had to be relocated they have only been surveyed using a mobile phone GPS app.

Third party data from previous site investigation works in the public domain has been used in the production of this contour plan. The accuracy of any third party data cannot be guaranteed.

Only exploratory holes that have proved natural ground have been used in the production of this contour plan.

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REVISION	DETAILS	DATE	USER	APP'D	BY

CLIENT	VERTASE FLI LIMITED
--------	---------------------

PROJECT	TEN ACRES LANE, NEWTON HEATH
---------	------------------------------

DRAWING TITLE	MADE GROUND BASE CONTOUR PLAN
---------------	-------------------------------

DRG No.	SH12254-004	REV	
DRG SIZE	A3	SCALE	1:2,500
		DATE	16/07/19
DRAWN BY	JC	CHECKED BY	AH
		APPROVED BY	AH



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