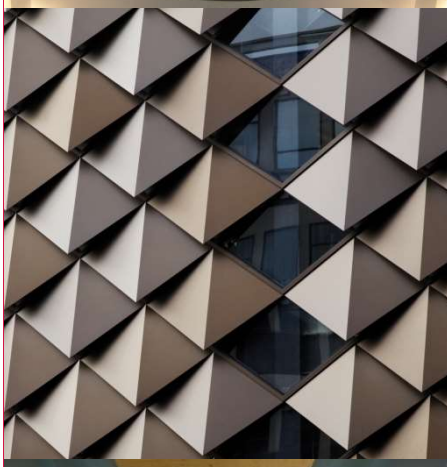








Elizabeth Street, Cheetham Hill

Phase 1 Preliminary Risk Assessment & Phase 2 Ground Investigation Report

Curtins Ref: 078695-CUR-00-XX-RP-GE-001

Revision: V03

Issue Date: 17 March 2022

Client Name: Kier Trade City LLP

Client Address: 2nd Floor, Optimum House, Clippers Quay, Salford, M503XP.

Site Address: Land off Elizabeth Street, Cheetham Hill, Manchester, M8 8BB

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Rev	Description	Issued by	Checked	Date
V01	Issue for information	CB	PDW	27 July 2021
V02	Updated following changes to site boundary	NF	NF	27 January 2022
V03	Updated with the December 2021 Ground Investigation	ZH	NF	17 March 2022

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Executive Summary

Appointment	**Curtins have been commissioned by Kier Trade City LLP to undertake an additional Phase 2 Ground Investigation and interpretative report (December 2021) to provide update to the previous combined Phase 1 Preliminary Risk Assessment (PRA) and Due Diligence Ground Investigation Report (May 2021) at a site off Elizabeth Street, Cheetham Hill, M8 8BB. The site is centred at National Grid Reference (NGR) SD 84170 00160.** **The preliminary ground investigation aimed to characterise the geo-environmental and geotechnical conditions as part of the May 2021 due diligence works to inform the potential site purchase and potential redevelopment of the site for use a commercial/light industrial end use. Following site purchase the additional December 2021 Ground Investigation aimed to further characterise the ground conditions for detailed civil and structural design and support a respective planning application. The site boundary was also extended to include a portion of land around Bridcam Street at the north of site.**
Current Site Status	The site is located to the south of Elizabeth Street in Cheetham Hill located approximately off 2km to the north Manchester City Centre. The site comprises vacant land with areas of concrete hardstanding and areas of vegetation. Access to site is off Elizabeth Street to the north. The surrounding land use is a mix of industrial, residential and commercial. The site elevation is approximately 55mAOD and is level across the site area.
Summary of Phase 1	The earliest available historical mapping (1850s) indicates the site was used as agricultural fields. On mapping dated 1892-93 and 1890-1891 residential properties are present on the northwest part of the site, two clay pits are located on the site in the east and an unlabelled pit is located in the west of the site. Offsite clay pits are located to the south and west of the site. By 1908 further development had occurred surrounding the site including a hospital located 100m to the northwest. By 1922 the claypit on the southwest of the site extends on to the site. The 1948 -1952 mapping shows a refuse heap located on the east and west of site, a pond on the south of the site and a pump house located on the southwest of the site. By 1951 a depot was located on the northwest of the site, eight small structures (assumed to be associated with the depot) are present on site and off site a shaft is located approximately 100m to the south of the site in relation to off-site brickworks. The clay pit and pond are no longer showing, it is assumed these have been infilled. By 1959 the site was labelled as a car breakers yard, a travelling crane is located on the eastern site boundary. Further development surrounding the site included printing works located in the south. The site is labelled as a recycling site on 2021 mapping. Made ground is anticipated given the site history and presence of assumed infilled clay pits. Superficial deposits are anticipated to be Devensian Till (designated as a Secondary Undifferentiated Aquifer). Geological mapping indicates bedrock is the Chester Formation Sandstone (designated as Principal Aquifer). Primary potential risks to be investigated during the intrusive investigation, as well as establishing ground conditions and geotechnical risks, included potential for land gas and risks to human health and controlled waters from made ground soils and associated with the infilled land.
Fieldworks Undertaken	The initial site investigation works were undertaken between the 4th and 7th May 2021, comprising four boreholes and ten machine excavated trial pits. A subsequent ground investigation was undertaken between the 13th and 17th December 2021 comprising four rotary open-hole boreholes, four window sample boreholes, three machine excavated trial pits and twenty-five cone penetration tests (CPTs). Gas and groundwater monitoring standpipes were installed within all four cable percussive boreholes and three of the window sample boreholes. Selected soil samples were subjected to chemical and geotechnical laboratory analysis. Four groundwater and gas monitoring visits were undertaken after each stage of site works, therefore with a total of eight visits.
Encountered Ground Conditions	**<u>Eastern Area of the Site</u>** Made ground was encountered to a maximum depth of 18m bgl on the east of site and typically comprised dark brown sandy slightly clayey gravel with a medium to high cobble content. The gravel includes a high ash content, also including brick, sandstone, concrete, glass, tarmac, plastics and possible Asbestos Containing Materials (ACM) debris. Cobbles include bricks, concrete and sandstone. Frequent metal pieces were also noted as well occasional rubber pieces. It is assumed this material is associated with the former refuse heap on site. A blackish brown slightly sandy gravelly to very gravelly clay was also noted with cobbles and boulders present. The gravel comprised glass, plastic, porcelain, brick and concrete, and cobbles and boulders of concrete and brick. **<u>Western Area of the Site</u>** Made Ground deposits on the western side were encountered to a maximum depth of 14.90m bgl and typically comprised brown silty sandy gravel with medium cobble content. The gravel fraction typically included less ash than the east as well as brick and sandstone. Cobbles typically included clinker, brick, concrete. Occasional timber was noted. A brown slightly sandy gravelly to very gravelly clay was also noted with a medium cobble and low boulder content. The gravel included concrete, brick and sandstone, and the cobbles/boulders comprised concrete and brick. The upper gravel Made Ground deposits (generally <1m in thickness) were typically underlain by further Made Ground described as a reddish brown or light brown fine to coarse sand with low cobble content. **<u>Northern Area of the Site</u>** The north of the site (around Bridcam Street) encountered a limited thickness of made ground (max depth 1.90m bgl) and therefore thought to be outside of the area of historic clay pits. An upper surface covering was encountered overlying a

	sandy gravel of brick, tarmac, concrete and ash, and a sandy gravelly clay with gravel of brick, concrete, glass, mudstone and sandstone. Below the Made Ground, natural superficial deposits comprising firm to stiff brown mottled grey slightly sandy slightly gravelly (occasionally silty) Clay (Glacial Till). The gravel comprised sandstone, mudstone and coal. To the north of the site soft to firm becoming stiff Glacial Till of the same composition was encountered directly below the Made Ground. A consistent groundwater body cannot be determined, this is likely owing to the variable areas of fill in former clay pits across the site. It is likely that perched groundwater is prevalent across the site. **Visual and Olfactory Indicators of Contamination** Hydrocarbon odours were noted in TP01, TP03, and BH04. A sulphur odour was noted in BH04. Black tar type material was found in TP09. Asbestos Containing Material (ACM) was found in TP01, TP04 and TP05.
Environmental Laboratory Testing and Ground Gas Monitoring Results	The environmental chemistry soil results have been compared with the General Assessment Criteria for soils with respect to human health against '*Commercial*' thresholds with a SOM of 6% for Made Ground soils. With respect to the proposed end-use of the site, on isolated occurrence of elevated Lead concentration has been noted in BH102 at 0.20m bgl during the December 2021 ground investigation. Additionally, ACM and asbestos fibers in soil matrix were detected in TP01, TP04 and TP01 and TP05 respectively. With respect to the two stages of monitoring, maximum methane concentrations were 2.2%v/v, and maximum carbon dioxide concentrations were recorded as 9.4 %v/v. Based on the 'borehole' scenario, a maximum Q_{hg} of 0.06l/hr was calculated for methane and 0.144l/hr for carbon dioxide in the areas of deep fill and a maximum borehole Q_{hg} 0.1456l/hr for carbon dioxide in Glacial Till soils on the north. This corresponds to a site wide classification of Characteristic Situation 2 (CS2) requiring gas protection measures.
Initial Ground Contamination and Ground Gas Assessment	A **Moderate/Low** risk rating is identified to end-users, construction workers and adjacent residents from inhalation or direct contact with contaminants within shallow site soils, this is owing to the presence asbestos in shallow soils as well as an exceedance for lead. A **Low** risk rating is identified at this stage to the nearest surface water feature and groundwater receptors considering the distance to the nearest surface water feature, the predominance of cohesive superficial soils beneath made ground on site acting to limit migration of contamination and accounting for the betterment to site conditions development will present as proposed hardstanding cover across majority of the site will act to limit any leaching of contamination. A **Moderate** risk rating is identified to site end users from ground gas, this is based on the presence of Made Ground present across the majority of the site and elevated methane and carbon dioxide recorded.
Geotechnical Assessment	The presence of deep backfill material is key constraint to the proposed development. Made ground/landfill materials are not suitable for traditional shallow foundations. It is likely that a piled foundation solution will be required for the buildings with ground level slabs of suspended construction across the majority of site. Alternatively ground improvement may be considered with shallow foundations formed on improved ground. At the north of site, Made Ground is considerably shallower and therefore shallow pad foundations may be adopted subject to building loadings. The potential for ongoing creep/consolidation settlement in areas of deeper fill may give rise to unacceptable and differential settlement.
Recommendations	Based on the findings of the ground investigation, the following geo-environmental recommendations are made: 1) Additional ground investigation is recommended around proposed Unit 1 following demolition of the existing building to ensure ground conditions are consistent with those identified to date. This should include further geotechnical and environmental chemistry analysis of soils. This report should be updated following additional ground investigation. 2) An asbestos management plan should be put in place during construction works with input from a specialist to mitigate risk to construction workers and adjacent residents/public. 3) Any re-use of site won made ground soils should be detailed in a remediation strategy and managed in accordance with a Materials Management Plan with reference to the Definition of Waste: Development Industry Code of Practice. Validation and Verification will be required during the works and recorded in a Completion Report(s). 4) Gas protection measures are recommended in proposed buildings to comply with Characteristic Situation CS2 across the site. Gas protection requirements should be further detailed in a Remediation Strategy report. 5) It is recommended that construction workers are provided with appropriate PPE and sanitary facilities, with reference to the environmental testing results presented herein and within Appendix C. 6) Should unexpected contamination be observed during construction advice should be obtained from a Geo-Environmental Engineer. Is it recommended that a Remediation Strategy is undertaken which should consider how each of the potential pollutant linkages identified in this report are mitigated. Remediation validation should subsequently be undertaken during construction works.

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1.0 Introduction

1.1 Project Background

Curtins have been commissioned by Kier Trade City LLP to undertake an additional Phase 2 Ground Investigation and interpretative report (December 2021) to provide update to the previous combined Phase 1 Preliminary Risk Assessment (PRA) and Due Diligence Ground Investigation Report (May 2021) at a site off Elizabeth Street, Cheetham Hill, M8 8BB. The site is centred at National Grid Reference (NGR) SD 84170 00160.

The preliminary ground investigation aimed to characterise the geo-environmental and geotechnical conditions as part of the May 2021 due diligence works to inform the potential site purchase and potential redevelopment of the site for use a commercial/light industrial end use. Following site purchase the additional December 2021 Ground Investigation aimed to further characterise the ground conditions for detailed civil and structural design and support a respective planning application. The site boundary was also extended to include a portion of land around Bridcam Street at the north of site.

Fletcher Rae Architects Proposed Site Plan Drawing is included in Appendix A.

1.2 Scope of Services

The Phase 1 PRA is intended to provide an overview of the geo-environmental and geotechnical setting of the site, develop both a working conceptual and ground model for the site as well as present an initial assessment of geo-environmental risks that could be presented to the development, including its intended site users and the wider environment and to determine any likely geohazards.

Preliminary ground investigations(May 2021) and additional ground investigation (December 2021) have subsequently been undertaken to address the findings of the Phase 1 PRA.

Specifically, the Phase 2 Ground Investigations are intended to determine:

- Determine the extent of the infilled land on site.
- If there is a risk of the proposed end-user being adversely impacted upon by potential contamination in shallow site soils that may be present on the site due to its known current, recent and historical use;
- If there is a risk of groundwater and/or surface water being adversely impacted upon by potential contamination that may be present on the site due to its known current, recent and historical use;
- If there is a risk to the end-user from landfill and/or soil gases including methane, carbon dioxide, carbon monoxide and hydrogen sulphide;

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- Likelihood of the proposed works being adversely impacted by potential geo-hazards across the site;
- Recommendations for the design of foundations and building ground floor slabs; and
- Recommendations for the specification of sub-structure concrete and water supply pipes.

Consideration of detailed flood risk, ecology and archaeological issues are outside of the scope of this report.

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2.0 Phase 1 Preliminary Site Assessment

2.1 Current Setting

The site's red line boundary has been updated since procurement of the Envirocheck report and first issue of this report. The site boundary shown on Envirocheck maps does not include the area at the north of the site around Bridcam Street where Unit 1 is now proposed (as included in *Figure 2.1)*. The Phase 1 Preliminary Site Assessment below has however been updated with respect to the revised site boundary.

Table 2.1 – *Site Details*

Site Address	Elizabeth Street, Cheetham Hill, M8 8BB
NGR	SD 84170 00160
Area of Site	Approximately 1.9 hectares
Current Site Use and Description	The site is located to the south of Elizabeth Street in Cheetham Hill located approximately off 2km to the north Manchester City Centre. The majority of the site comprises vacant land with areas of concrete hardstanding. Bridcam street is present at the north adjacent to a commercial building. Access to site is off Elizabeth Street to the north. The site elevation is approximately 55mAOD and is level across the site area. The surrounding land use is a mix of industrial, residential (north-west only) and commercial.

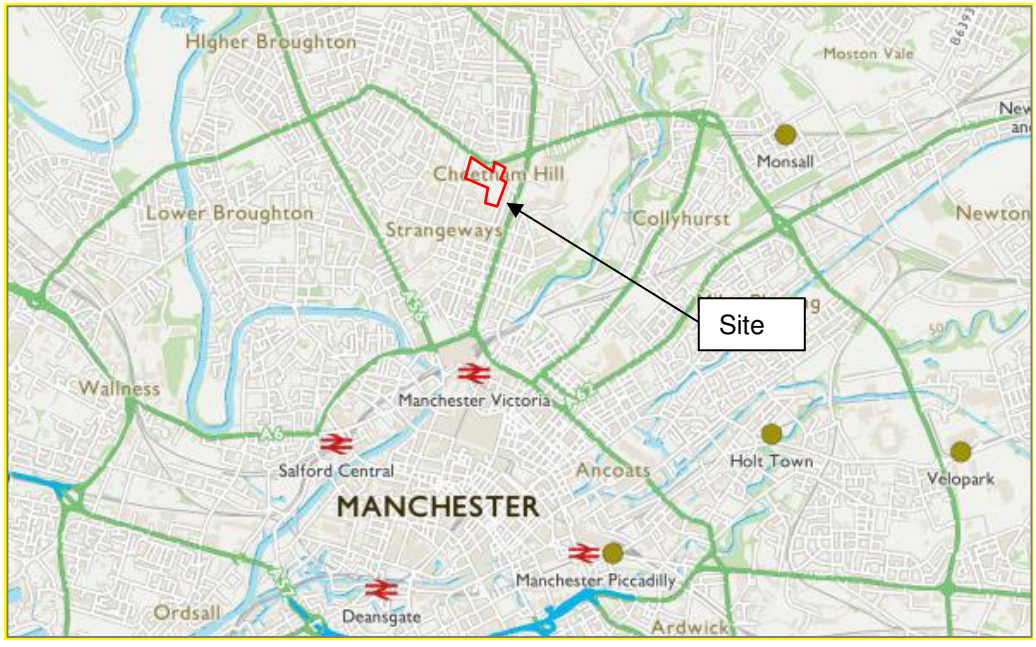


Figure 2.1 – *Site Location Plan.*
OS License Number 100022432.

2.2 Surrounding Area Details

These land uses surrounding the site are summarised in *Table 2.2.*

Table 2.2 – *Surrounding Area*

Surrounding Area	**N**	Commercial and industrial units including warehouses and fabric manufacturers.
	E	Warehouses are located to the east of the site
	S	A derelict area and derelict building are adjacent to the site in the southwest, warehouses are located to southeast of the site.
	W	Residential apartments, commercial units and place of worship.

2.3 Previous Site Use

A review of the available historical maps and other information for the site, as presented within the Envirocheck Report (Ref. 1), has been undertaken and is summarised in *Table 2.3*.

Table 2.3 – *History of Site and Surrounding Area Uses and Potential Sources of Contamination. On site uses are indicated in* ***bold.***

Date	Description	Potential Sources of Contamination
1850 1:1,056	• **The site is agricultural fields/undeveloped.** • Residential properties are present in the surrounding area however the areas adjacent to the site are undeveloped.	• **Limited potential for contamination.** • Limited potential for contamination.
1892 - 93 1:2,500 and **1890-1891** 1:500	• **Residential properties are present on site in the northwest and north as well as off site to the north and east.** • **Two clay pits located on the eastern side of the site. An unlabelled pit located on the western side of the site.** • Clay pits located adjacent to the site in the south and west. • Brick works are located approximately 100m to the south of the site.	• **Limited potential for contamination (residential properties).** • **Infill materials unknown. A potential source of ground gases and a potential risk to groundwater (clay pits on site).** • Limited potential for contamination (clay pits off site). • Limited potential for contamination (brick works off site).
1908 1:2500	• A hospital is located off site 100m to the northwest.	• Limited potential for contamination.
1922 -1933 1:2,500	• **Clay pit on the southwest of site extends on to site.**	• **Infill materials unknown. A potential source of ground gases and a potential risk to groundwater.**
1948-1952	• **Refuse heap located on the east and west of the site.**	• **Infill materials associated with the refuse heap (potential landfill material) and pond**

Date	Description	Potential Sources of Contamination
	• **Pond located on the south of the site.** • **Pump house located on the southwest of the site.** • Development on the northwest of the site associated with the Jewish hospital including a nurses home, mortuary, engineering works and tennis court. • Sawmill located off site approximately 50m to the east.	**unknown. A potential source of ground gases and a potential risk to future site users groundwater.** • **Limited potential for contamination (pump house).** • Limited potential for contamination (hospital). • Limited potential for contamination (sawmill).
1951-1963 1:1,250	• **Depot located on the northwest of the site.** • **Eight small structures located on site (assumed to be associated with the depot)** • **Clay pit, pond and refuse heap are no longer showing on mapping (assumed infilled).** • Further development off site including new warehouses to west and east. • Shaft located approximately 100m to the south of the site, in relation to brickworks.	• **Limited potential for contamination (depot).** • **Limited potential for contamination (depot structures).** • **Infill materials for clay pits, refuse heap and pond unknown. A potential source of ground gases and a potential risk to groundwater (clay pit).** • Limited potential for contamination (warehouses). • Infill material materials are unknown. A potential source of ground gases (shaft).
1958-1975 1:1250	• **Site labelled as a car breakers yard.** • **Travelling Crane located on the eastern site boundary.** • **Unlabelled buildings located on the north of the site.** • **Residential Houses around Bridcam Street at north of site replaced with an unnamed commercial building.** • Printing works located adjacent to the site in the south. • Further development off site including new warehouses surrounding the site	• **Potential for spills of fuel, oil and heavy metals to impact the site (car breakers).** • **Limited potential for contamination (crane).** • **Limited potential for contamination (unlabelled buildings).** • Limited potential for contamination (printing works). • Limited potential for contamination (new warehouses).
1978-1996 1:1,250	• **No significant changes on site** • The surrounding area is becoming more developed	

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Date	Description	Potential Sources of Contamination
2000 Aerial photography	• **No buildings are present on the site, the site appears to be largely covered in hardstanding.**	
2021 1:10,000	• **Site is labelled as a recycling site**	• **Limited potential for contamination.**

2.4 Geology and Hydrogeology

2.4.1 Geology and Hydrogeology

A study of the Envirocheck report (Ref. 1), the British Geological Survey's (BGS) Geology of Britain Viewer (Ref. 2), and BGS 1:50,000 (Ref. 4.) mapping records indicates the following geological and hydrogeological succession underlying the site:

Table 2.4.1 – *Geological/Hydrogeological Succession*

Made Ground	Associated Hydrogeological Classification
Made ground	N/A
Superficial Geology	**Associated Hydrogeological Classification**
Devensian Till	Secondary Undifferentiated[1]
Bedrock Geology	**Associated Hydrogeological Classification**
Chester Formation Sandstone	Principal Aquifer[2]

Notes:
1. These are where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
2. These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

There are no BGS borehole records onsite. The closest borehole log records (SD80SW227 and SD80SW225) located approximately 100m to the northeast of the site, recorded a sequence of boulder clay, silt and sand underlain by stiff clay to 40 m bgl and 25 m bgl respectively. The Chester Formation has not been recorded as encountered on these logs.

Three faults are indicated within 1km of the site. The nearest is located approximately 50m west, orientated north to south.

The site is not located within a source protection zone (SPZ). There are four groundwater abstractions within 500m of the site, two which are for brewery process water at the Joseph Holt Brewery located 364m south of the site and two are for Lancashire Dairies (one potable

detailed for '*Drinking, Cooking, Sanitary, Washing, (Small Garden)'*) located 370m southwest of the site. A further 21 groundwater abstractions are located within 500m to 1km of the site.

2.4.2 Mining and Quarrying

The site is located in a Coal Authority Reporting Area according to the Coal Authority Interactive Mapping (Ref. 3). The site is not located in a development high risk area. There are no mine entries within 20m of the site boundary. However, a shaft was detailed on historical mapping 100m south of the site and likely pertaining to former brickworks.

There are 4 no. BGS recorded mineral sites within 500m of the site which all relate to opencast clay and shale mining. The nearest relates to the Broughton Street Brickworks Located 38m to the southwest of the site boundary. All 4 no. entries have since ceased operations.

2.4.3 Other Ground Stability Issues

The Envirocheck report (Ref. 1) confirms that the following ground stability hazards are present on site: compressible, (very low moderate hazard), collapsible (very low moderate hazard), dissolution (no hazard), landslide (very low), running sand (very low), and shrinking or swelling clay (very low).

2.5 Land Gases

2.5.1 Landfill and Infilled Land

The Envirocheck Repot (Ref. 1) indicates a historical landfill site is present across the majority of the site area, except for the area around Bridcam Street, with the type of fill unknown. Figure 2.5.1 below presents an extract from the Envirocheck 1:50,000 Artificial Ground Geology Map showing the extent of infilled ground on and off site.

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Figure 2.5.1 – *Envirocheck 1:50,000 Artificial Ground Geology Map. OS License Number 100022432.*

It is anticipated this corresponds to the site being detailed as a refuse heap on historical mapping between the dates of 1948 until 1953 and as a result of clay pit opencast activities ceasing. BGS maps also identify the site as part of a larger area of 'infilled ground'.

A historical landfill 'Queens Road Tip' is recorded 200m northeast of the site. This landfill was used between 1955 and 1970 for a mixture of waste including inert, industrial, commercial, household, special waste and liquid sludge. Based on this, there is potential for the aforementioned waste to be present on-site.

There are a further six entries of infilled land within 250m of the site, four of which pertain to the infilling of unknown filled ground (non-water) (pit, quarry etc.), and two for infilled land (water) e.g. a pond or stream.

2.5.2 Mine Gases

The site is not located in a high-risk area therefore the risk from mine gas emissions are low.

2.5.3 Radon

The Public Health England Radon Mapping (Ref. 5) confirms the site is situated in an area where the maximum radon potential is 1-3%. On this basis it is unlikely radon protection measures will be required.

Where the new development incorporates a basement the advice of a specialist radon assessor must be obtained.

2.6 Hydrology

The nearest recorded surface water feature is River Irk located approximately 800m to the southeast of the site.

There are 2no. Pollution Incidents listed within 500m of the site. The closest pertains to a Category 3 – minor incident following the release of unknown pollutants into the River Irwell catchment located 345m to the northeast in August 1995.

There are no surface water abstractions within 500m of the site.

There are no active discharge consents recorded within 500m of the site.

2.7 Preliminary Unexploded Ordnance (UXO) Risk Assessment

A review of the Zetica Online UXO Mapping (Ref. 6) indicates that the site is situated within a moderate risk area. Moderate risk areas are indicated as having a bombing density of 15 to 49 bombs per 1000 acre.

The historical mapping does not indicate any ruins, or buildings that appear to be demolished following WWII, on or surrounding the site. No evidence exists that suggests that the site received direct strikes from ordnance. Furthermore, there were no significant military or industrial targets on or offsite. It is further noted that parts of the site the site have undergone redevelopment since WWII, which increases the likelihood of encountering UXO already and therefore reduces the likelihood of UXO being present onsite.

Based on the forgoing preliminary assessment, the likelihood of encountering UXO onsite as part of the ground investigation works is Low.

However, if unexploded ordnance is discovered, stop immediately, prevent access to the area, and inform the police. If the site boundary or location changes then the UXO risk should be reassessed.

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3.0 Preliminary Conceptual Site Model & Qualitative Risk Assessment

The preliminary conceptual site model (PCSM) and Qualitative Risk Assessment (QRA) are presented in the table presented in this section.

The PCSM details the source-pathway-receptor linkages or potential pollutant linkages (PPL) that have been identified for the site. The QRA details the associated level of risk relating to these potential pollutant linkages.

The PCSM and QRA concern risk to human health and water environment with additional, more specific risk assessment protocols contained within the main body of this reporting, as detailed in *Section 3.1*.

The QRA follows the framework outlined within CIRIA C552 (Ref. 7) which is summarised within *Appendix H.*

The 'risk rating' within the QRA refers to the risk that the source, pathway, receptor linkage or PPL is complete. Unless specifically stated it does not necessarily refer to an immediate risk and is intended to be used as a tool to assess the necessity for further assessment/investigation.

3.1 Additional Risk Assessments

The following risk assessments, listed below, are not included within the main CSM and QRA as they are not of relevance to this site. They have already been considered as listed below;

- The risk presented by Mining (specifically mine ground gases) is discussed and assessed in *Sections 2.4.2 and 2.5.2*;
- The risk presented by Radon is discussed and assessed in *Section 2.5.3*; and
- The risk presented by Unexploded Ordnance is discussed and assessed in *Section 2.7*.

Under current health and safety legislation, employers are required to carry out their own appropriate risk assessments and mitigation to protect themselves and their employees, other human receptors and the environment from potential contamination. Such risks must be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations (2015) (Ref. 8) which require that potential risks to human health and the environment from construction activities are appropriately identified and all necessary steps taken to eliminate / manage that risk. It has been assumed that any future construction works on site will be undertaken in compliance with these requirements and therefore construction workers involved in the building works at the site.



- The table below represents the first stage in the land quality risk assessment process: The Qualitative Risk Assessment.
- For a development site to be deemed 'suitable for use', the level of risk needs to be brought down to acceptable levels, i.e. low to very low risk. The purpose of each stage of risk assessment is ultimately to establish, if there is a requirement for additional levels of assessment to be made to have sufficient confidence to support a risk characterisation or management decision, e.g. remedial action.
- In the absence of specific site data, a Generic Quantitative Risk Assessment is invariably recommended.

Conceptual Site Model			Qualitative Risk Assessment			Recommended Actions
Source	**Pathway(s)**	**Receptor(s)**	**Consequence**	**Likelihood of Occurrence**	**Risk Rating**	
On-site sources of potential contamination: • **Made ground** of unknown composition associated with former buildings. • **Landfill materials** potentially comprising industrial, commercial and household waste, and liquid sludge. • Other potential contaminants may include, but are not limited to, asbestos, heavy metals and a range of organic and inorganic contaminants.	**Direct contact with contaminated soils and shallow/ surface groundwater** **Inhalation of soil derived dust, fibres or vapours** Ingestion has been discounted owing to a proposed Commercial end use.	**Site End Users** (Commercial)	**Medium** Chronic health risk.	**Low** Site users unlikely to come into contact with site soils, unless present within proposed areas of soft landscaping. No available information on site contaminants.	**Moderate/Low**	Ground Investigation and Contamination Testing Generic Quantitative Risk Assessment.
		Construction and maintenance workers	**Medium** Chronic health risk.	**Very low** Standard Health & Safety precautions likely to be adopted by construction workers which will reduce likelihood of contact with contaminated soils.	**Low**	Construction Workers should be provided with appropriate PPE during all groundwork activities. Generic Quantitative Risk Assessment.
	Inhalation of windblown dust	**Adjacent residential and commercial building users**	**Medium** Chronic health risk.	**Low** Taking into account the close proximity of the residential properties to the west and commercial buildings to the north, south and east.	**Moderate/Low**	Ground Investigation with Contamination Testing and Generic Quantitative Risk Assessment.
	Horizontal and vertical migration of contaminants	**Controlled Waters** River Irk (800m to the southeast of the site)	**Mild** Pollution of non-sensitive waters.	**Low** Given the distance from the site to River Irk.	**Low**	No further action required.
		Controlled Waters Groundwater Superficial Undifferentiated Aquifer Bedrock – Principal Aquifer	**Medium** Principal Bedrock Aquifer is a sensitive receptor however the site is not located within a Source Protection Zone.	**Low** Nearby BGS logs suggest a thick layer of clay (>40m) which, if present on site would limit migration of potential contaminants.	**Moderate/Low**	Ground Investigation with Contamination Testing and Generic Quantitative Risk Assessment to assess the risk.
Production of ground generating gases from landfill materials containing organic/putrescible content located onsite and extending offsite.	**Horizontal and vertical migration of ground gas.**	**Site End Users** (Commercial)	**Medium** Chronic health risk.	**Likely** Landfill located on and off site. Likely to contain organic/putrescible content which could lead to the production of ground gases.	**Moderate**	Ground Investigation with ground gas monitoring to assess the risk.

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4.0 Phase 2 Investigation Scope of Works

The due diligence site investigation works were undertaken between the 4th and 7th May 2021, no site investigation works were undertaken at the northern portion around Bridcam Street at this time. Additional ground investigation works were undertaken between the 13th and 17th December 2021 which also included investigation at the northern portion around Bridcam Street.

The scope of the ground investigation works was designed in general accordance with current UK guidance including the Environment Agency's Land Contamination Risk Management (Ref. 9), British Standard (BS) 10175 (Ref. 9), BS5930:2020 (Ref. 11), and BSEN1997: Part 2:2007 Eurocode 7 (Ref. 12). A summary of the scope and rationale are summarised in *Table 4.0*.

The initial May 2021 ground investigation was undertaken as part of due diligence on the site and intended to support the future planning applications of the site and inform civil and structural design, therefore the aim of the ground investigation was to characterise the ground conditions across the site and to obtain environmental and chemical samples for testing. The subsequent December 2021 ground investigation was intended to confirm the ground model and to delineate the lateral and vertical extent of deep Made Ground identified on site.

Table 4.0 – *Scope and Rationale of Fieldwork*

Site Works	Exploratory Hole Type	Exploratory Hole Ref.	Exploratory Hole Depth (mbgl)	Rationale
May 2021 Due Diligence Works	**Cable Percussive Boreholes**	BH01 BH02 BH04 BH05	11.5 8.80 9.95 7.00	• Install boreholes for ground gas and groundwater monitoring. • Investigate the depth of historical landfill materials. • Collect soil samples for chemical and geotechnical analysis. • undertake in situ geotechnical testing. • BH03 not completed due to time constraints
	Machine Excavated Trial Pits	TP01 TP02 TP03 TP04 TP05 TP06 TP07 TP08 TP09 TP10	1.50 2.70 3.00 3.10 2.80 3.00 3.50 2.80 3.20 1.80	• Collect soil samples for chemical and geotechnical analysis. • Mass characterisation of historical landfill material on-site.

Site Works	Exploratory Hole Type	Exploratory Hole Ref.	Exploratory Hole Depth (mbgl)	Rationale
December 2021 Ground Investigation Works	**Rotary Open-hole Boreholes**	BH102 BH103 BH104 BH105	18.00 22.00 15.00 13.00	• Confirm depth of Made Ground relating to the historical landfill materials and calibrate against CPT's. • Collect soil samples at shallow depths for chemical analysis. • BH101 not completed due to depth of Made Ground previously confirmed by window sample boreholes undertaken at the beginning of the site investigation.
	Window Sample Boreholes	WS101 WS102 WS103 WS104	4.45 4.45 4.45 3.45	• Confirm ground conditions at the north of the site around Bridcam Street, area not previously investigated during the May 2021 ground investigation works. • Collect soil samples for chemical and geotechnical analysis. • Undertake in situ geotechnical testing.
	Cone Penetration Testing (CPTs)	CPT101 CPT102 CPT102A CPT103 CPT104 CPT104A CPT105 CPT106 CPT107 CPT108 CPT109 CPT109A CPT110 CP111 CPT112 CPT113 CPT113A CPT114 CPT115 CPT116 CPT117 CPT118 CPT119 CPT119A CPT120 CPT120A	13.75 0.34 14.20 12.91 0.48 0.35 14.68 17.47 13.75 13.81 0.12 0.16 16.05 14.90 15.01 6.71 14.42 13.89 15.45 10.54 10.94 13.95 0.16 14.23 0.96 14.73	• Confirm depth of Made Ground relating to the historical landfill materials and calibrate against rotary boreholes. • Provide continuous in situ testing of made ground and upper natural soils to inform geotechnical design and provide data for potential ground improvement.

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Site Works	Exploratory Hole Type	Exploratory Hole Ref.	Exploratory Hole Depth (mbgl)	Rationale
	Machine Excavated Trial Pits	TP101 TP102 TP103	0.90 2.00 2.00	• Collect soil samples for geotechnical analysis. • Mass characterisation of historical landfill material on-site.

Curtins drawing ref. 078695-CUR-00-XX-DR-GE-004-V01 records the locations of both stages of ground investigation, a copy of which is included within *Appendix A*.

4.1 Soil Logging and Sampling

Exploratory hole arisings were logged onsite by a qualified Engineer and in accordance with the requirements of BS5930 (Ref. 11), including recording observed visual and olfactory indications of contamination. Exploratory hole logs are provided in *Appendix C*.

4.2 Monitoring Well Installations

Ground gas and groundwater monitoring installations (50 mm diameter) were installed in all four cable percussive boreholes (BH01, BH02, BH04 and BH05) from the May 2021 site works and three of the window sample boreholes (WS101, WS102 and WS104) from the December 2021 site works. A bentonite seal was placed above and below the screened section of the borehole to minimise potential for downward migration of contaminants and the creation of a preferential migratory pathway. A gravel surround was installed in the annulus between the sides of the borehole and the slotted sections of pipe.

As well as to undertake groundwater monitoring, the monitoring wells were also designed to assess the potential for landfill ground gas and were therefore the screened section focussed on made ground (landfill materials waste).

A summary of the response zones is presented in *Table 4.2*.

Table 4.2 – *Monitoring Well Response Zones*

Site Works	Borehole Ref.	Response Zone(s) (m bgl)	Strata Description(s)
May 2021	BH01	4.00 – 8.00	MADE GROUND
	BH02	2.00 – 6.00	MADE GROUND
	BH04	2.00 – 5.00	MADE GROUND

Site Works	Borehole Ref.	Response Zone(s) (m bgl)	Strata Description(s)
	BH05	2.00 – 5.00	MADE GROUND
December 2021	WS101	0.80 – 4.00	MADE GROUND and CLAY (Glacial Till)
	WS102	1.50 – 4.00	CLAY (Glacial Till)
	WS104	1.00 – 3.00	CLAY (Glacial Till)

Copies of borehole logs can be referred to in *Appendix C* of this report.

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5.0 Laboratory Analysis

Representative soil samples were selected for laboratory chemical analysis, based on field observations and to provide a characterisation of the Made Ground and natural strata encountered. Selected soil and groundwater samples were placed in laboratory provided containers and stored in cool boxes prior to being transported to the nominated laboratory under the laboratory's chain of custody documentation. The laboratory selected by Curtins for chemical and geotechnical analysis was i2 Analytical Laboratories (UKAS and MCERTS accredited) for the May 2021 site works, and Envirolab Ltd and Structural Soils (UKAS and MCERTS accredited) for the December 2021 site works.

Specific sources of contamination including, and notably, the historical landfill located onsite was targeted. With regard to site wide made ground soil samples were recovered across all exploratory hole locations in a non-targeted, systematic array to give adequate and representative coverage of the site accounting for the historical site use, proposed end-use and the immediate environmental setting.

5.1 Soil Analysis

The contaminants of concern potentially present on the site was considered to include, amongst others; organic matter, landfill waste/refuse, organics, hydrocarbons (e.g. fuel/oils), heavy metals and asbestos the extent of which is captured by the broad environmental testing suite listed in *Table 5.1*.

Table 5.1 – *Environmental Chemistry Analysis Suite: Soils*

Suite Ref.	Analyte	LOD
Soils Suite A	Asbestos Screen, pH and Soil Organic Matter (SOM)	-
	Arsenic, Chromium, Chromium VI, Copper, Lead, Selenium, Zinc, Nickel	1 to 1.2 mg/kg
	Boron (water soluble)	0.2 mg/kg
	Cadmium	0.2 mg/kg
	Mercury	0.3 mg/kg
	Cyanide (total)	1 mg/kg
	Sulphate as SO_4 (water soluble)	1.25 mg/l
	Total Phenols (screen)	1 mg/kg
	Speciated PAHs (USEPA 16)	0.05 to 0.1 mg/kg
	TPH CWG (Aro/Ali Split) including BTEX and MTBE	0.1 to 10 mg/kg

From the May 2021 due diligence site works ten soil samples were taken from within the Made Ground and tested for the Suite A listed above. Two additional samples of suspected Asbestos Containing Materials (ACM) were also scheduled for asbestos screen. A further sample was obtained from TP09

and scheduled for poly aromatic hydrocarbons (PAHs) (USEPA16+Coronene) to assess if the sample contained coal tar.

From the December 2021 ground investigation works six soil samples were taken from within the Made Ground and tested for the Suite A listed above. Three of these samples were obtained from the northern section of the site which had not been investigated previously.

Copies of the environmental chemistry testing certificates are presented in *Appendix D*.

5.2 Geotechnical Analysis

Soil samples for testing were prepared in accordance with BS1377: Part 1:2016 (Ref. 13) and representative sub-samples were taken for testing. The geotechnical tests carried out are listed in *Table 5.2*.

Table 5.2 – *Geotechnical Analysis: Soils*

Test Type	Quantity	Standard
May 2021 Ground Investigation		
Standard Penetration Testing	27	BS 5930: 2015+2020, Clause 41
BRE Non-pyritic Suite D	14	IS0 17025 MCERTS
Particle Size Distributions (Wet Sieve)	6	BS1377 1990, Part 2 (clause 9.2)
CBR Remoulded	2	BS1377 1990, Part 2 (clause 7)
Vibrating Hammer Compaction	1	BS1377 1990, Part 2 (clause 3.5)
Moisture Condition Value (MCV)/Moisture Content Relationship	4	BS1377 1990, Part 2 (clause 3.7)
December 2021 Ground Investigation		
Standard Penetration Testing	14	BS 5930: 2015+2020, Clause 41
Atterberg Limit	4	BS1377 1990, Part 2 (clause 4.5, 5.3 & 5.4)
Moisture Content	4	BS1377 1990, Part 2
BRE Non-pyritic Suite D	5	IS0 17025 MCERTS
Particle Size Distributions (Wet Sieve)	2	BS1377 1990, Part 2 (clause 9.2)
Moisture Condition Value (MCV)/Moisture Content Relationship	2	BS1377 1990, Part 2 (clause 3.7)
Vibrating Hammer Compaction	2	BS1377 1990, Part 2 (clause 3.5)

Test Type	Quantity	Standard
CBR Remoulded	2	BS1377 1990, Part 2 (clause 7)

The results of the geotechnical testing are summarised in *Section 10.0*. Copies of the geotechnical testing certificates are presented in *Appendix E*.

6.0 Ground Conditions

6.1 General

A summary of the ground conditions encountered during the site investigation works is summarised in Table 6.1, with detailed information presented in the exploratory hole and CPT logs included in *Appendix C*.

It should be noted that CPT Log material descriptions have been inferred based on geotechnical parameters of the ground, rather than visual observation.

Table 6.1 – *Summary of Ground Conditions Encountered*

Stratum	Depth to top of strata (m bgl)	Thickness (m)		General Description
		Min	Max	
Made Ground	0.00	0.65	18.00	**Eastern side of site:** Dark brown sandy slightly clayey gravel with a medium to high cobble content. Gravel is angular to subrounded fine to coarse of ash content, also including brick, sandstone, concrete, glass, tarmac, plastics and possible ACM debris. Cobbles include bricks, concrete and sandstone. Frequent metal pieces were also noted particularly in the top 1m. Blackish brown to black slightly sandy gravelly to very gravelly clay with low to medium cobble content and low boulder content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of glass, plastic, porcelain, brick and concrete. Cobbles and boulders are angular to subangular of brick and concrete. **Western side of site:** Brown silty sandy gravel with medium cobble content. The gravel fraction typically included less ash than the east as well as brick and sandstone. Cobbles typically included clinker, brick, concrete. Occasional timber was noted. Brown slightly sandy gravelly to very gravelly clay with a medium cobble content and low boulder content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete brick and sandstone. Cobbles are subangular of brick. Boulders are angular to subangular of brick and concrete. The upper gravel deposits (generally <1m in thickness) were typically underlain by a reddish brown or light brown fine to coarse sand with low cobble content. **Far north of site (window sample locations)**: Tarmacadam or Paving Slabs overlying;

Stratum	Depth to top of strata (m bgl)	Thickness (m)		General Description
		Min	Max	
				Black slightly sandy to sandy angular to subangular fine to coarse gravel of brick, tarmac, concrete and ash. Sand is fine to coarse; and Brownish black to greyish black slightly sandy slightly gravelly to gravelly clay. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, concrete, glass, mudstone and sandstone.
Glacial Till (Cohesive)	0.65 – 18.00	1.00[1]	6.50[1]	Soft brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of mudstone, sandstone and coal. Firm to stiff, becoming very stiff brown mottled grey slightly sandy slightly gravelly (occasionally silty) CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to medium of mudstone, sandstone and coal.

[1]-Base of deposits not proven.

6.2 Made Ground

Made Ground was encountered to a maximum depth of 18.00m bgl (BH103) at the east of the site, 10.80m bgl (BH05) at the west of the site and 1.90m bgl (CPT101) at the north of the site, with the shallowest recorded depth of Made Ground at 0.65m bgl (WS101) where the base was encountered. The base of the Made Ground was identified in BH05, BH102, BH103, BH104, BH105, CPT101, CPT102A, CPT105, CPT107, CPT108, CPT110, CPT112, CPT113A, CPT114, CPT115, CPT116, CPT117, CPT118, CPT119A and CPT120A.

The extensive and variable depth of Made Ground on site correlates with the historical presence of large clay pits across the site associated with brickworks in the area and their subsequent backfilling, with anticipated historical landfill material. BGS maps also identify the site as part of a larger area of 'infilled ground'.

The distribution and depth of made ground encountered indicates that historical clay pits extended across the majority of the site and were deepest at the south east side of site, becoming slightly shallower along the eastern boundary and generally shallower towards the west and north west. It's unlikely that clay pits extended beneath the north of the site around Bridcam Street given limited made ground was encountered in this area.

6.2.1 Surface Cover

The surface covering across the site varied. Concrete was identified in BH01, BH02, TP02, TP04, TP06, TP09, and BH102 with a thickness of 0.10m to 0.30m. Tarmacadam was identified

in WS102, WS103 and WS104 with a thickness of 0.10m and a paving slab was noted in WS101 with a 0.05m thickness. A variable gravel/ sandy surfacing in BH04, BH05, TP01, TP03, TP05, TP07 and TP10. A limited thickness of Topsoil/ grass covered Made Ground was encountered in TP08, BH103, BH104 and BH105.

6.2.2 Eastern Area of the Site

Made Ground on the east of site typically comprised dark brown sandy gravel with a medium to high cobble content. The gravel fraction was fine to coarse angular to subrounded with a high ash content, also including brick, sandstone, concrete, glass, tarmac, plastics and possible Asbestos Containing Materials (ACM) debris. Cobbles include bricks, concrete and sandstone. Frequent metal pieces were also noted particularly in the top 1.00m bgl, of varying size and type (including springs, nails, collars, steel rope, wiring) as well occasional rubber pieces including a car tyre in TP01. This is reflective of historical landfill material deposited on-site.

The Made Ground deposits become very clayey in parts, generally below 3.00m bgl, described as a greyish brown very gravelly clay in BH02 between 3.60m and 6.00m bgl with the gravel fraction similar to that described above and a brown slightly gravelly clay identified in BH01 between 10.50m and 11.50m bgl (base not encountered) with gravel including fine ash. With reference to the brown slightly gravelly clay with fine ash is likely representative of a reworked natural soil underlying the landfill deposits.

The subsequent December 2021 ground investigation identified a further cohesive Made Ground comprising blackish brown to black slightly sandy gravelly to very gravelly clay with low to medium cobble content and low boulder content in TP101, TP102 at 0.00 to 0.30m bgl and BH102, BH103 at 0.60-1.20m and 0.20-1.20m bgl respectively. The sand is fine to coarse, the gravel is angular to subangular fine to coarse of glass, plastic, porcelain, brick and concrete, and cobbles are angular to subangular of brick and concrete. BH102 and BH103 also recorded black sandy gravelly clay from 1.20m to the base of made ground deposits however it should be noted that this was logged through inspection of arisings from rotary open hole drilling.

On the east of site the base of the Made Ground was encountered between 5.60m (CPT107) and 18.00m (BH103) bgl. BH103 was located at the southeast of the site, CPT106 in this area also recorded made ground to >17.47m where a refusal was recorded. CPT107 was located at the north east of site close to the site boundary. Slightly reduced thicknesses of made ground were typically encountered close to the eastern site boundary, (close to the eastern elevation of proposed Units 2&3), in comparison to holes situated closer to the proposed western elevation of Units 2&3.

CPT testing inferred variable material descriptions for possible made ground including gravelly sand, silty clays and clayey silt of variable strength.

6.2.3 Western Area of the Site

Made Ground deposits on the western side typically comprised a limited thickness of brown silty sandy gravel with medium cobble content. The gravel fraction typically included less ash than the east as well as brick and sandstone. Cobbles typically included clinker, brick, concrete. Occasional timber was recorded, Frequent scrap metal was encountered in BH105. The upper gravel made ground deposits (generally <1m in thickness) were typically underlain further made ground described as a reddish brown or light brown fine to coarse sand with low cobble content. Further gravel deposits were identified in BH04 between 7.00m and 9.95m bgl comprising a dark brown to dark grey slightly sandy gravel of fine to coarse brick, clinker and quartz.

Re-worked Clay deposits were identified in BH04 between 4.00m and 5.00m and in BH05 between 2.50m and 6.00m bgl comprising soft sandy gravelly clay.

During the December 2021 ground investigation, further cohesive made ground deposits included a brown slightly sandy gravelly to very gravelly clay with a medium cobble content and low boulder content was recorded in TP103 (0.00-0.25m bgl), BH104 (0.00-1.20m bgl). The sand is fine to coarse, and the gravel is angular to subangular fine to coarse of concrete brick and sandstone. Cobbles are subangular of brick and boulders are angular to subangular of brick and concrete. BH104 also recorded brown sandy gravelly clay from 1.20m to the base of made ground deposits however it should be noted that this was logged through inspection of arisings from rotary open hole drilling.

The base of the Made Ground was encountered between shallower depths between 1.00m (CPT119A) and 14.90m (CPT111) bgl to the west of the site. CPT111 was situated close to the southern boundary of the site (close to proposed southern elevation of proposed unit 3). CPT119A was situated close to the northern boundary of the site (close to proposed northern elevation of proposed unit 07) and appears to be just outside of the historic clay pits.

CPT testing inferred variable material descriptions for possible made ground including gravelly sand, silty clays and clayey silt of variable strength.

6.2.4 Northern Area of the Site

At the far north of the site around Bridcam Street, the Made Ground was encountered to a shallow depth, between 0.65m and 1.90m bgl in WS101 to WS104 and CPT101 and CPT102 appearing to be just outside of the historic clay pits The Made Ground was typically tarmacadam or paving Slabs overlying a black slightly sandy to sandy angular to subangular fine to coarse gravel of brick, tarmac, concrete and ash, with sand fine to coarse and a brownish black to greyish black slightly sandy slightly gravelly to gravelly clay. The sand is fine to coarse, and the

gravel is angular to subangular fine to coarse of brick, concrete, glass, mudstone and sandstone.

6.3 Glacial Till

Deposits of Glacial Till were encountered below the Made Ground in BH05, BH102 to BH105 and WS101 to WS104. These were found to be predominantly cohesive through borehole investigation however CPT testing inferred variable material descriptions for superficial deposits including clay, silty sand, sandy silt, sand and non-descript fine grained soils, of varying strength and density within CPT101, CPT102A, CPT105, CPT107, CPT108, CPT111, CPT112, CPT113A, CPT114, CPT115, CPT117. CPT117, CPT119A and CPT120A.

6.3.1 Cohesive Glacial Till

The cohesive Glacial till was encountered in BH05, BH102, BH103, BH104, BH105, WS101, WS102, WS103 and WS104. It was typically recorded as a firm to stiff, becoming very stiff with depth, brown mottled grey slightly sandy slightly gravelly (occasionally silty) Clay. The sand is fine to coarse, and the gravel is angular to subangular fine to medium of mudstone, sandstone and coal. In WS102 and WS104 a soft brown mottled grey slightly sandy slightly gravelly Clay was noted between depths of 1.00m and 1.60m bgl. The sand is fine to coarse, and gravel is angular to subrounded fine to coarse of mudstone, sandstone and coal.

Due to the open-hole nature of the rotary boreholes completed during the December 2021 site works full description of the cohesive Glacial Till have not been recorded on the exploratory hole logs, *Appendix C.*

6.3.2 Granular Glacial Till

Granular Glacial Till deposits were not encountered on site in boreholes however CPTs infer the presence of granular soils within superficial deposits.

6.4 Bedrock

Bedrock was not identified during this site investigation, however based on historical borehole logs within the nearby area is anticipated to be at a depth of circa >40.0m bgl. However, due to presence of faults at vicinity of the site, variation on site is likely anticipated.

6.5 Obstructions/Constraints

Obstructions identified during the site investigation works are outlined in *Table 6.5*.

Table 6.5 *Obstructions Noted During Site Investigations*

Site Works	Exploratory Hole Location	Obstruction	Depth (m bgl)	Action Taken
May 2021 Due Diligence	BH02	Unknown obstruction	8.80	Chiselled for 1 hr. No movement recorded. Hole terminated.
	TP01	Possible concrete	1.50	Hole backfilled.
	TP08	Cast iron piece	1.60m	Removed and hole continued.
	TP10	Brick structure	1.80	Hole backfilled.
December 2021 Ground Investigation	WS101	Stiff stratum	4.45	Unable to progress with barrel past 4.45m and difficult to extract. Hole terminated.
	WS102	Stiff stratum	4.45	Unable to progress with barrel past 4.45m and difficult to extract. Hole terminated.
	WS104	Stiff stratum	3.45	Unable to progress with barrel past 3.45m and difficult to extract. Hole terminated.
	CPT102	Unknown obstruction	0.34	Test refused due to inclination. Moved to CPT102A.
	CPT104	Unknown obstruction	0.48	Test refused due to total pressure. Moved to CPT104A.
	CPT104A	Unknown obstruction	0.35	Test refused due to total pressure. Terminated test.
	CPT109	Unknown obstruction	0.12	Test refused due to tip resistance. Moved to CPT109A.
	CPT109A	Unknown obstruction	0.16	Test refused due to tip resistance. Test terminated.
	CPT113	Unknown obstruction	6.71	Test refused due to inclination. Moved to CPT113A.
	CPT119	Unknown obstruction	0.16	Test refused due to total pressure. Moved to CPT119A.
	CPT120	Unknown obstruction	0.96	Test refused due to inclination. Moved to CPT120A.

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6.6 Observed Potential Contamination

Visual and olfactory indicators of contamination noted during the intrusive works are summarised in Table 6.6.

No indication of visual or olfactory contamination was noted during the December 2021 intrusive works.

Table 6.6 *Summary of visual and olfactory indicators of potential contamination*

Exploratory Hole Location	Strata	Depth (m bgl)	Description
BH04	Made Ground	8.00	Rotten egg/sulphur and hydrocarbon odour
TP01	Made Ground	0.40	Asbestos Containing Materials (ACM) - Chrysotile cement
		0.0 - 1.50	Odour throughout excavation (hydrocarbon)
TP03	Made Ground	0.60 - 0.70	Odour throughout excavation (hydrocarbon)
TP04	Made Ground	2.00	Asbestos Containing Materials (ACM) – Chrysotile cement
TP09	Made Ground	0.30 - 0.50	Black tar type material

6.7 Groundwater

A summary of groundwater and perched water levels recorded during the site investigation are presented in *Table 6.7a*.

No groundwater or perched water levels were noted during the December 2021 intrusive works however wate flush was used for rotary boreholes which is likely to mask any strikes.

Table 6.7a – *Groundwater and Perched Water Noted During Site Investigation*

Exploratory Hole Location	Water Strikes	
	Strike Depth (mbgl)	Strata
BH01	6.0	Made Ground
BH02	6.5	Made Ground
BH04	6.0	Made Ground
TP10	1.2	Made Ground

Groundwater strikes in the historical landfill waste material are considered to represent perched water and with reference to the above, it is evident that a band of perched water is present circa 6.0m to 6.5m

bgl. At this stage, the potential for the above to be 'rebounding' of the groundwater table following cease of historical clay pits cannot be discounted.

Four initial rounds of groundwater monitoring were undertaken between 17th May and 17th June 2021, following the May 2021 due diligence works, the results of which are presented in *Table 6.7b*. Full details of the groundwater levels recorded during the monitoring visits are presented in *Appendix F*.

Table 6.7b – *Groundwater Monitoring Results from May 2021 Ground Investigation*

Exploratory Hole Location	Installation Strata	Response Zone(s) (m bgl)	17/05/2021 Depth (m bgl)	04/06/2021 Depth (m bgl)	11/06/2021 Depth (m bgl)	17/06/2021 Depth (m bgl)
BH01	Made Ground	4.00 – 8.00	5.36	5.6	5.56	5.55
BH02	Made Ground	2.00 – 6.00	5.80	5.93	5.93	5.95
BH04	Made Ground	2.00 – 5.00	Dry	Dry	Dry	Dry
BH05	Made Ground	2.00 – 5.00	Dry	Dry	Dry	Dry

To date four rounds of groundwater monitoring have been undertaken between 22nd December 2021 and 31st January 2022, following the December 2021 ground investigation. The boreholes from the May 2021 intrusive works have been monitored additionally. The results of are presented in *Table 6.9c*. Full details of the groundwater levels recorded during the monitoring visits are presented in *Appendix F*.

Table 6.7c – *Groundwater Monitoring Results from December 2021 Ground Investigation*

Exploratory Hole Location	Installation Strata	Response Zone(s) (m bgl)	22/12/2021 Depth (m bgl)	06/01/2022 Depth (m bgl)	20/01/2022 Depth (m bgl)	31/01/22 Depth (m bgl)
BH01	Made Ground	4.00 – 8.00	6.63	5.80	5.72	5.57
BH02	Made Ground	2.00 – 6.00	6.14	6.13	6.25	6.25
BH04	Made Ground	2.00 – 5.00	Dry	5.00	5.16	5.13
BH05	Made Ground	2.00 – 5.00	Dry	5.00	5.05	4.98
WS101	Made Ground and Clay (Glacial Till)	0.80 – 4.00	Dry	2.40	*	*
WS102	Clay (Glacial Till)	1.50 – 4.00	Dry	2.33	2.97	2.87
WS104	Clay (Glacial Till)	1.00 – 3.00	Dry	0.74	0.94	0.93

* Unable to access installation of borehole.

Perched groundwater levels within the made ground varied in the monitoring period from 4.98 to 6.63m AOD. Perched groundwater levels within the Glacial Till (clay) varied from 0.74m to 2.97m AOD.

7.0 Ground Model

The results and inferred geotechnical parameters of the CPT Logs have not been included within the ground model, however details of these are appended for reference at the end of this report in *Appendix C.*

7.1 Made Ground

Made Ground was encountered in all exploratory holes across the site during both phases of the site investigation works. The Made Ground was recorded to a maximum depth of 18.00m bgl in the east, 10.80m bgl to the west and 1.90m bgl to the north of the site. The extent of the Made ground is likely associated with the historical landfill and clay pits recorded on site, with infilled ground noted to be present across the majority of the site.

Minimal parametric geotechnical analysis has been undertaken on this stratum due to its unsuitable properties for use as a founding stratum, however geotechnical testing has been undertaken in some locations to aid in classifying soils for reuse.

The geotechnical classification test results recorded within the Made Ground are summarised in *Table 7.1.2.* Compaction, OMC/MCV and Remoulded CBR details of which are discussed in *Section 7.4*.

Table 7.1.2 – *Summary of Made Ground geotechnical test results*

Parameter	No. of Tests	Results	
In-Situ Tests			
SPT 'N' Value (1)	26	Min: 1 Max: 21 Average: 6.65	
Laboratory Tests - General			
Moisture Content (%)	6	Min: 11 Max: 18 Average: 16	
pH	32	Min: 6.40 Max: 9.22 Average: 8.23	
Water Soluble Sulphate (mg/l)	32	Min: 10 Max: 802 Average: 146.78	
Particle Size Distribution Testing	8	Cobbles: 0 to 18 Gravel: 10 to 64 Sand: 20 to 55 Clay/Silt: 7 to 57	
4.5kg Compaction	1	Max Dry Density	2.16
		Optimum Moisture Content (%)	8.3

Parameter	No. of Tests	Results
Moisture condition Value / Optimum Moisture Content (MCV/OMC) Relationship	4	*See Appendix D for details – BH02, BH05, TP06 and TP08*
Particle Density Testing	1	Assumed value: 2.65
CBR Remoulded (%)	3	Min: 1.3 Max: 49 Average: 23.93

(1) Only includes SPTs tests in which full penetration was achieved.

7.2 Glacial Till

The Made Ground and/or Reworked Ground is underlain by Glacial Till deposits and typically recorded as a cohesive stratum. No granular Glacial Till deposits were recorded on site within boreholes or trial pits and therefore has not been reported on within this section.

CPT testing inferred variable material descriptions for superficial deposits including clay, silty sand, sandy silt, sand and non-descript fine grained soils, of varying strength and density. For further information the CPT logs should be consulted enclosed in Appendix B.

7.2.1 Cohesive Glacial Till

The geotechnical test results recorded within the cohesive Glacial Till deposits are summarised in *Table 6.2.1.* However, due to the depth of Made Ground encountered across the site limited geotechnical testing was undertaken within the Glacial Till.

Table 7.2.1 – *Summary of geotechnical test results – Cohesive Glacial Till*

Parameter		No. of Tests	Results
In-Situ Tests			
SPT 'N' Value (1) – Cohesive		15	Min: 4 Max: 32 Average: 18.67
Laboratory Tests - General			
Atterberg Test	Liquid Limit (%)[2]	3	Min: 40 Max: 43 Average: 42
	Plastic Limit (%)[2]	3	Min: 19 Max: 20 Average: 19.67
	Plasticity Index (%)[2]	3	Min: 21 Max: 23 Average: 22.3
	Modified Plasticity Index (%)[3]	3	Min: 21 Max: 23 Average: 22.18
Moisture Content (%)		5	Min: 16 Max: 24

Parameter	No. of Tests	Results
		Average: 18.4
pH	3	Min: 7.99 Max: 8.54 Average: 8.34
Water Soluble Sulphate (mg/l)	10	Min: 10 Max: 30 Average: 16.67
CBR Remoulded (%)	1	15.5

(1) Only includes SPTs tests in which full penetration was achieved.
(2) Excludes non-plastic test results
(3) Modified plasticity index is the plasticity of components <425µm.

A total of three Atterberg Tests were undertaken in the cohesive material indicating the soils behave as low plasticity clays with a low to high volume change potential in accordance with guidance from NHBC Standards Chapter 4.2 (2021) (Ref. 12). Due to the limited cohort of results, these were not displayed graphically.

The SPT N results are presented on *Figure 7.2.1a*, predominantly increasing with depth.

A moderately conservative Undrained Shear Strength, Cu, of cohesive soils can be estimated from the correlation between Plasticity Indices (PI) and SPT N values (Ref. 14) using Equation 1:

$$Cu=f_1 \times SPT\ N \qquad \textbf{Equation 1}$$

Where:

Cu is the Undrained Shear Strength

f_1 is the Stroud Factor determined from Figure 1.5 (Ref. 15)

SPT N is Characteristic Standard Penetration Test Result

Due to the small cohort of plasticity index results and variability of the Glacial Till encountered on site, an f1 factor of 5.2 for an average plasticity index of 22.3%, in accordance with CIRIA C504 Engineering in Glacial Tills has been used, with Cu values ranging between 20.8 kPa and 166.4 kPa in accordance with BS5930 (2015+2020). The majority of the estimated results indicate a range of strengths from low strength to very high strength clays, see *Figure 7.2.1b*.

A moderately conservative unit weight of between 15 and 21 kN/m^3 is deemed suitable for low to very high strength cohesive soils from a review of the published values (Ref. 13).

A moderately conservative Coefficient of Consolidation, Mv, of the cohesive soils can be estimated from the correlation between Plasticity Indices (PI) and SPT N values (Ref. 14) described by Equation 2:

$$Mv=1/(f_2 \times SPT\ N) \qquad \textbf{Equation 2}$$

Where:

Mv is the coefficient of consolidation

f_2 is the Stroud Factor determined from Figure 1.5 (Ref. 15)

SPT N is Characteristic Standard Penetration Test Result

Using an f2 factor of 0.55 for an average plasticity index of 22.3%, Mv values typically range between 0.057 and 0.455 m^2/MN. The results are variable, indicating a low to high compressibility clay. The values are presented in *Figure 7.2.1c*.

The Angle of Shearing Resistance, ϕ', for the cohesive Glacial Till has been derived from the correlation with Plasticity Indices (Ref. 16). Due to the limited cohort of results, these have not been displayed graphically. Results range between 28.1° and 29.1° for ϕd, and 22.3° and 23.5° for ϕres.

The Drained and Undrained Young's Modulus, E' and Eu, can be derived through the empirical relationship with Undrained Shear Strength (Cu) (Ref. 17) described in Equation 3 and 4. An increasing with depth Young's modulus is proposed for design, according to the following relationships obtained from the ICE Manual of Geotechnical Engineering, 2012:

Eu = 330 x cu **Equation 3**

E' = 200 x cu **Equation 4**

It should be noted that care should be taken in using linear stiffness values derived from relationships as they do not necessarily reflect the non-linear nature of soil stiffness. The actual stiffness will be strain dependent and non-linear and should be considered in detailed design of sensitive structures.

Moderately conservative Drained and Undrained Young's Modulus, E' and Eu, have been estimated using this correlation and are shown on *Figure 7.2.1d*.

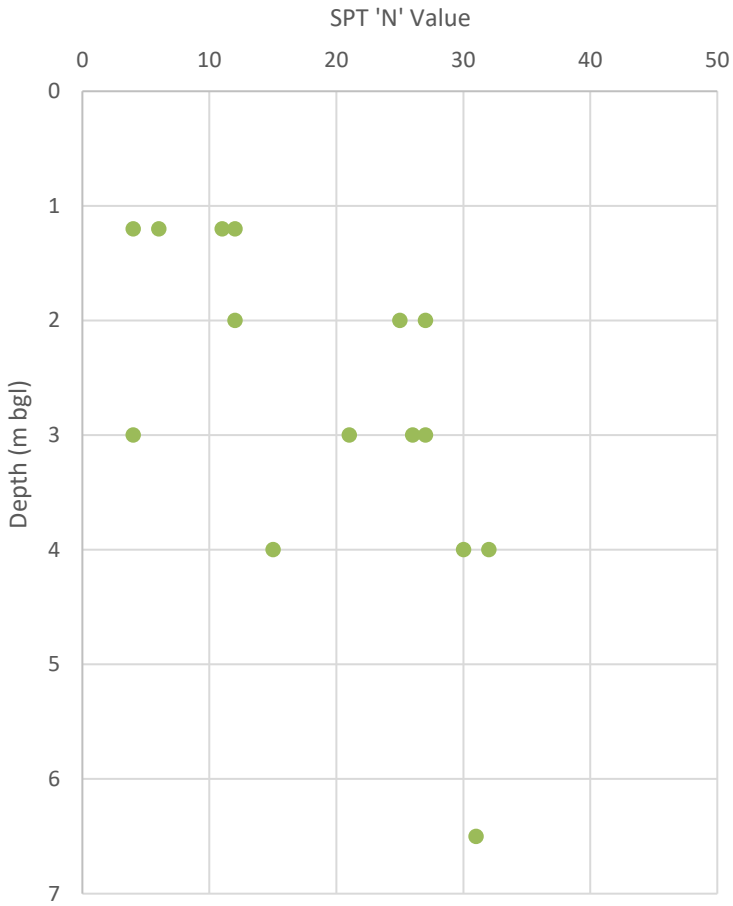


Figure 7.2.1a – *Standard Penetration Test vs. Depth - Cohesive*

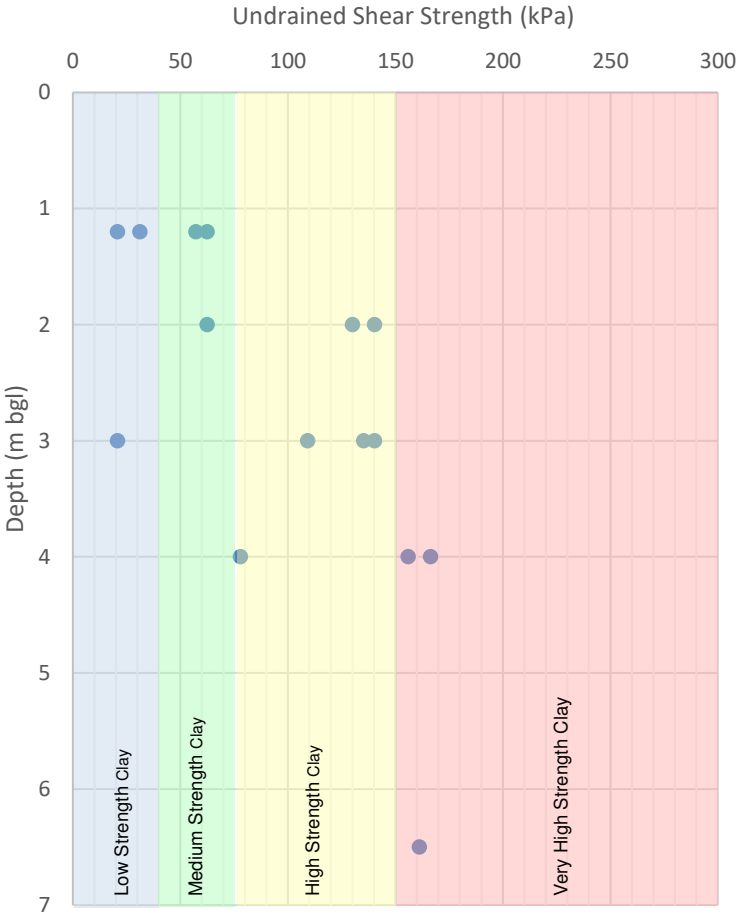


Figure 7.2.1b – *Estimated Undrained Shear Strength vs Depth*

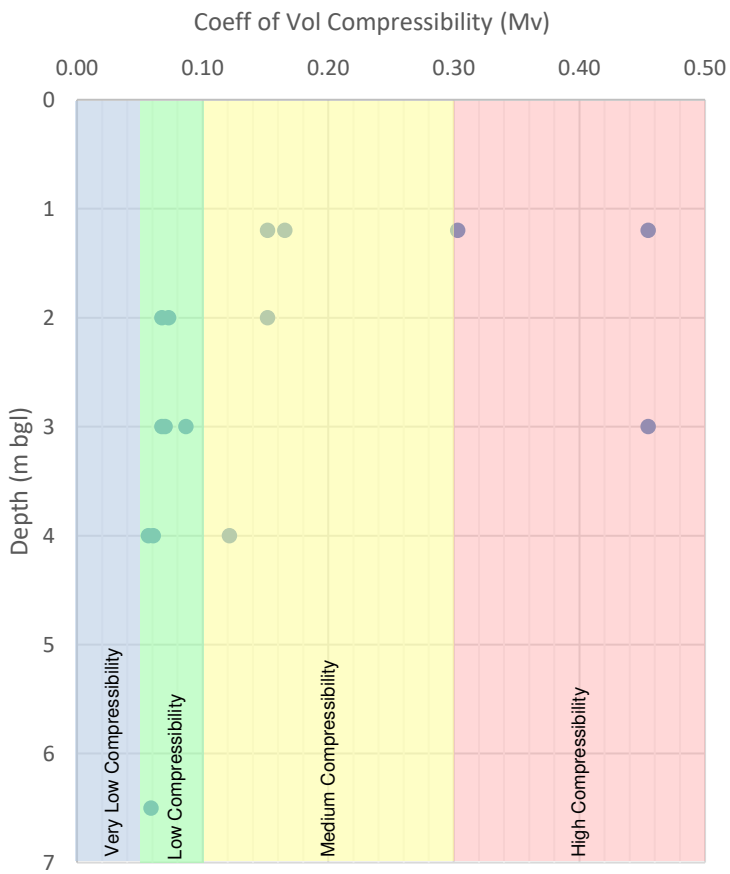


Figure 7.2.1c – *Estimated Volume Compressibility Coefficients (Mv) vs Depth*

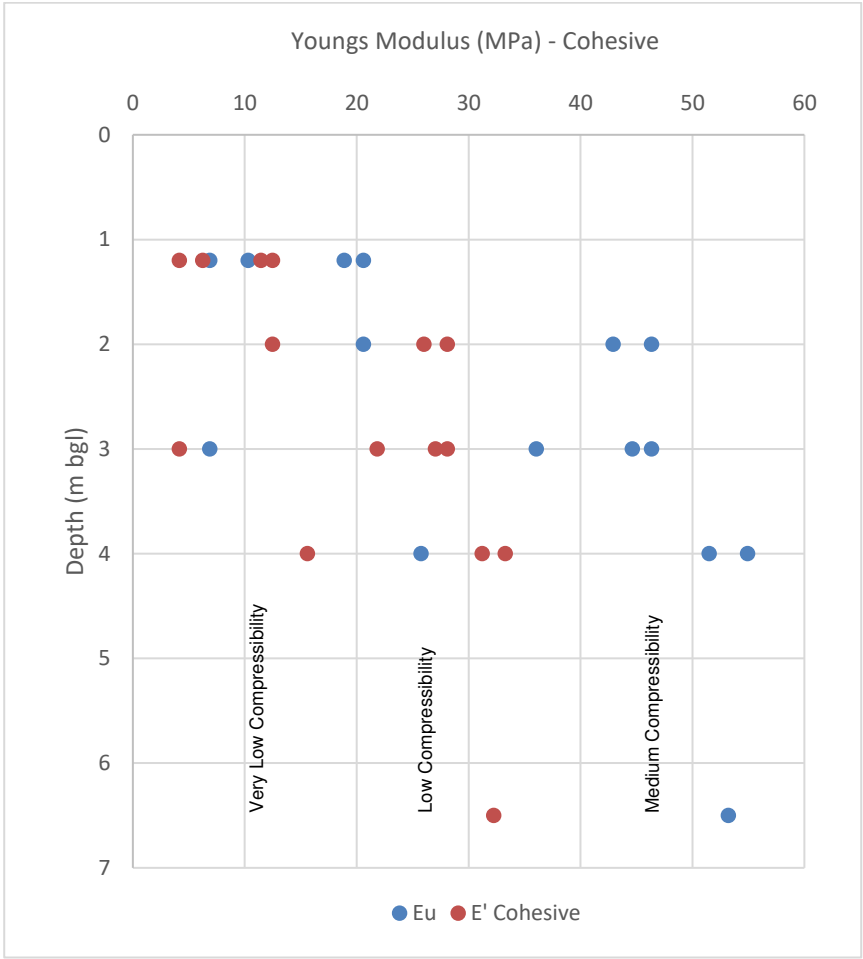


Figure 6.2.1d – *Estimated Young's Modulus (Cohesive) vs Depth*

7.3 Aggressive Ground Conditions

The classification of the site in terms of concrete in aggressive ground is based on the guidance provided in Table C2 of the Building Research Establishment (BRE) Special Digest 1, third edition of 2005 (Ref. 14). *Table 7.3* details the classification.

Table 7.3 – *Aggressive Chemical Environment for Concrete (ACEC) Site Classification*

Stratum	Design Sulphate Class	ACEC Class (1)
Made Ground (reworked natural and landfill samples)	DS-2	AC-2
Glacial Till	DS-1	AC-1

Given the variability in the landfill material is considered prudent to adopt a more conservative design class.

7.4 Earthworks – Classification of Materials

7.4.1 Geotechnical Characteristics of Shallow Site Soils

It is anticipated from the investigation that the majority of these soils will comprise predominantly cohesive and granular Made Ground with reworked ground and landfill material present. The Glacial Till underlies the Made Ground at depth, up to across the majority of the site, while at the far north of the site is underlain by Glacial Till from depths between 0.65m and 1.90m bgl.

Shallow site soils across the site have proven to be variable. Detailed descriptions of the soils encountered is presented in *Section 6.0*. At this preliminary stage, testing has been undertaken on selected samples to provide an overview of the characteristics of all shallow site soils encountered. Further variation beyond the findings of this report is likely possible.

For re-use of soils a site-specific Earthworks Specification should be undertaken defining Appendix 6/1 acceptable limits as per Series 600 SHW. The results included herein may be used in support of an Earthworks Specification. It is likely that made ground soils would require extensive sorting ahead of re-use to remove unsuitable materials.

7.4.2 Particle Size Distribution

Made Ground

Eight Particle Size Distributions tests were undertaken within the Made Ground, *Table 7.4.2a*.

Table 7.4.2a *– Made Ground Particle Size Distribution*

Exploratory Hole Location	Depth (m bgl)	Percent Passing (%)					Uniformity Coefficient
		125	75	10	2	0.063	
BH02	0.50	100	100	70	33	11	-
BH04	0.50	85	85	66	61	7	8.5
BH05	0.50	100	100	93	88	52	-
TP06	2.50	100	100	81	43	12	-
TP07	0.60	100	100	87	80	31	-
TP08	0.90	100	100	95	90	57	-
TP101	0.80	100	100	62	39	12	-
TP103	1.10	100	100	66	33	13	-

Particle Size Distribution and Uniformity Co-Efficient define the site made ground soils may be suitable as 1A/1B and 2A-2C subject to the site-specific Earthworks Specification defining Appendix 6/1 acceptable limits as per Series 600 SHW.

Cohesive Glacial Till

No Particle Size Distribution tests were undertaken within the cohesive Glacial Till.

7.4.3 Moisture Content and Optimum Moisture Content

Natural moisture content (MC) and Optimum Moisture Content (OMC) tests have been undertaken on samples obtained on site.

Made Ground

Results are presented in *Table 7.4.3a* and on *Figure 7.4.3a*.

Table 7.4.3a *– Made Ground Moisture Content*

Exploratory Hole Location	Depth (m bgl)	Moisture Content %
BH04	0.50	11
TP06	2.50	17
TP07	0.60	16
		17
TP101	0.80	17
		18

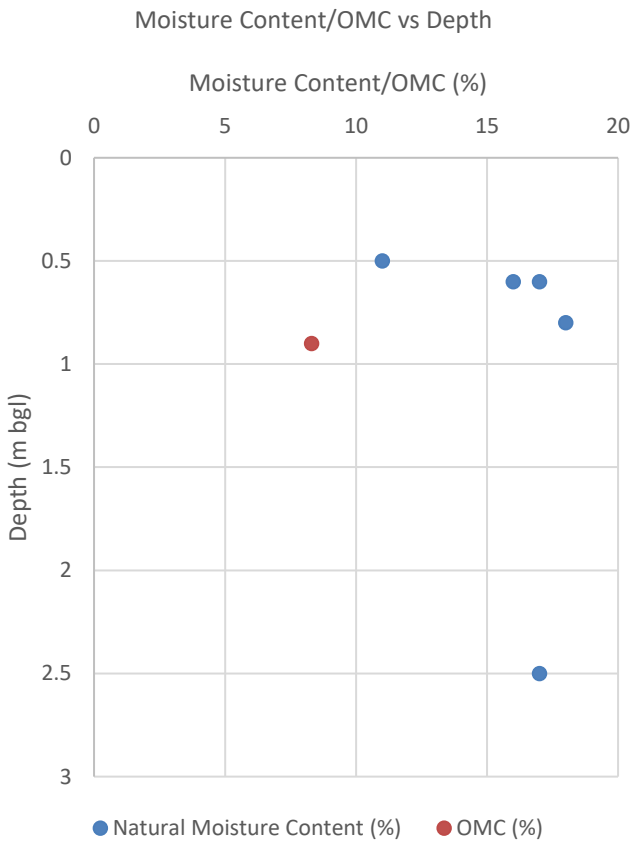


Figure 7.4.3a – *Made Ground Moisture Content and OMC vs. Depth*

Cohesive Glacial Till

Results are presented in *Table 7.4.3b* and on *Figure 7.4.3b*.

Table 7.4.3b *– Cohesive Glacial Till Deposits Moisture Content*

Exploratory Hole Location	Depth (m bgl)	Moisture Content %
BH05	6.00	17
WS101	2.00	16
		17
WS102	4.00	18
WS103	2.00	24

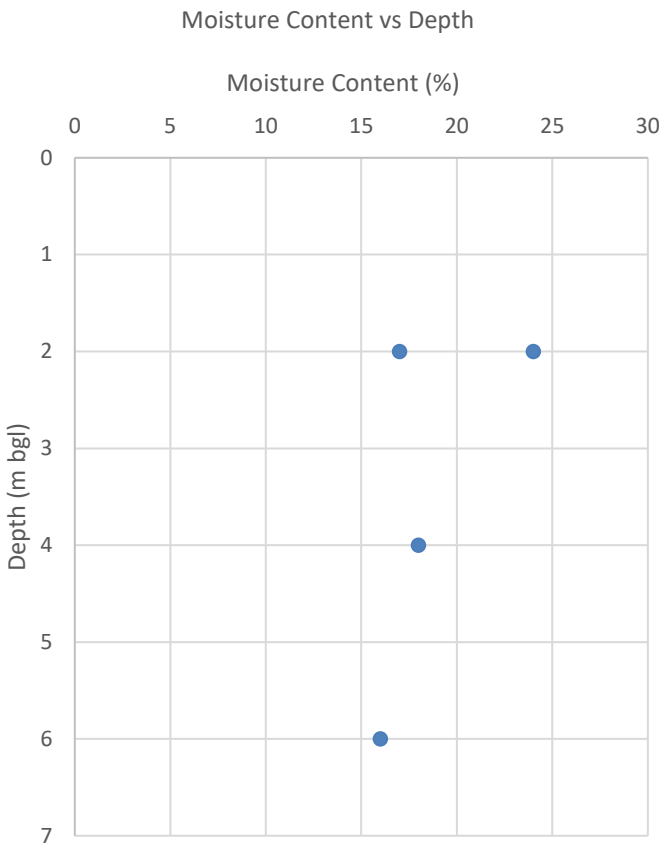


Figure 7.4.3b – *Cohesive Glaciofluvial Deposits Moisture Content vs. Depth*

In summary:

- The OMC utilising a vibrating hammer for TP08 at 0.90m (cohesive made ground) is 8.3%.
- The Maximum Dry Density (DD) utilising a 2.5kg hammer for TP08 at 0.90m is 2.16mg/m^3.
- OMC has been achieved between 5% and 10% air voids for TP08.

For detailed graphs refer to *Appendix D*.

7.4.4 Moisture Condition Value

The Moisture Conditions Value (MCV) of the samples has been determined from the MCV Relationships testing.

Made Ground

Four Moisture Condition Value tests were undertaken within the Made Ground, *Table 7.4.4a*.

Table 7.4.4a *– Made Ground Moisture Condition Value*

Exploratory Hole Location	Depth (m bgl)	Natural Moisture Content %	Moisture Condition Value(1)
BH02	0.50	22.4	5.4
BH05	0.50	13.1	9.0
TP06	2.50	17.9	5.5
TP08	0.90	10.7	9.4

(1) Values are based off Test Number 3 as an average.

Full details of the results of MC/MCV testing are presented in *Appendix D*.

7.4.5 Plasticity Indices and Liquid Limit

Cohesive Glacial Till Deposits

Plasticity Indices and Liquid Limit have been determined for shallow soils in the cohesive Glacial Till soils.

The Plasticity Indices (PI) of the deposits are determined to be between 21% and 23%.

The Liquid Limit (LL) of the deposits is determined to be between 40% and 43%.

The Plasticity Limits (PL) of the deposits were determined to be between 19% and 20%.

7.4.6 CBR Remoulded

Remoulded CBR tests have been undertaken on samples obtained on site.

Made Ground

Three CBR Remoulded tests were undertaken within the Made Ground. The results are in *Table 7.4.6a* below.

***Table 7.4.6a** – Made Ground CBR Values and Natural Moisture Content*

Exploratory Hole Location	Depth (m bgl)	Natural Moisture Content %	CBR Value (%)
TP101	8.00	17	21.5
TP06	2.50	17	49
TP07	0.60	17	1.3

Cohesive Glacial Till Deposits

One CBR Remoulded test was undertaken within the cohesive Glacial Till Deposits. The results are in *Table 7.4.6b* below.

Table 7.4.6b *– Cohesive Glacial Till CBR Results and Natural Moisture Content*

Exploratory Hole Location	Depth (m bgl)	Natural Moisture Content %	CBR Value (%)
WS101	2.00	16	15.5

7.4.7 Concrete Aggressivity

Results were obtained from laboratory testing across the site, summarised in *Section 7.3.*

In these conditions, and as a preliminary assessment and subject to further testing, it is considered that deterioration of buried concrete due to sulphate or acid attack is unlikely to occur. During the Curtins ground investigation, the preliminary design of buried concrete according to Table C2 of BRE Special Digest 1:2005 should be in accordance with Class DS-2 (AC-2) conditions assuming mobile groundwater for Made Ground and Class DS-1 (AC-1) for the Glacial Till.

8.0 Ground and Groundwater Contamination Assessment

This section of the report includes the assessment of the potential contamination, solid, liquid and gas, identified on the subject site which may present a risk to the proposed end-users, associated utilities and the wider environment.

In guidance published by the Environment Agency, the risk to human health or Water Environment is determined through an assessment of pollutant linkages between a source of contamination (within the ground or groundwater either on or off site) and a sensitive receptor such as end-users of the site, building materials, edible plants grown in gardens or groundwater abstracted for drinking. This is termed a source-pathway-receptor relationship. The same model is applied to the assessment of risk arising from ground gases as detailed within BS8576:2013 (Ref. 15).

These models have a common approach, which is one of a tiered assessment. At each stage of the assessment further detail can be applied to the conceptual site model to provide a detailed interpretation on a site-by-site basis. As part of the planning process this approach is adopted to establish either if the site is 'suitable for use' or whether additional work or else remedial work is required for the site to be deemed so.

The sub-sections hereafter therefore incorporate the first tier (Tier 1) of this approach otherwise referred to as the Generic Quantitative Risk Assessment (GQRA). The GQRA builds on the qualitative risk assessment presented in *Section 3.0* in conjunction with observations made during the ground investigation and is based solely on the results of the chemical and other testing data obtained as part of Curtins ground investigation. The GQRA is used to build/refine the Conceptual Site Model (CSM) for the site as detailed and presented in *Section 10.0* of this report.

The following sections present more detail on the risk assessment methodology rationale for the main receptors.

8.1 Human Health GQRA

Detailed guidance on human health risk assessment is available within several documents, published by both the Environment Agency and Defra. Guidance includes Contaminated Land Exposure Assessment (CLEA) v1.071 model (Ref. 16), Report SC050021/SR2: Human Health Toxicological Assessment of Contaminants in Soil (Ref. 17) and Report SC059921/SR3: Updated Technical Background to the CLEA Model (Ref. 18).

A generic quantitative risk assessment (GQRA) has been carried out for the Potential Contaminant Linkages (PCLs) investigated by screening of soil contamination data against relevant Generic Assessment Criteria (GAC) where available, including:

i) **Soil Guideline Values (SGVs):** These have been published by the Environment Agency and are trigger values for screening out low risk areas of land contamination. SGV's give an indication of representative average concentrations of chemicals in soil, below which long-term

health risks are likely to be minimal. SGVs have been published for several contaminants including arsenic, cadmium, mercury, nickel, selenium, BTEX, phenols and dioxins, furans and dioxin-like PCB substances for land uses including residential, allotments and commercial. The SGVs have been developed for a sandy loam soil with 6% soil organic matter (SOM) content;

ii) **Supplementary Screening Values (SSVs):** In addition to the SGVs developed by the EA, other third-party organisations have derived SSVs for a wider range of contaminants and land uses using the CLEA Model. Curtins have adopted these numbers where applicable, including those developed by Atkins AtriskSoil™, the LQM/CIEH Suitable for Use Levels (S4UL) and EIC/AGS/CL:AIRE published thresholds;

iii) **Category 4 Screening Levels (C4SLs):** In March 2014 Defra published C4SLs for arsenic, benzene, benzo(a)pyrene, cadmium, hexavalent chromium and lead. These values were derived to support the revised Part 2A Statutory Guidance issued in 2012 (Ref. 19) in which four categories of contaminated land are included, ranging from Category 1 (significant/high risk) to Category 4 (low risk). C4SLs are not representative of significant possibility of significant harm (SPoSH) and are low risk levels which, and therefore where the C4SLs are not exceeded, land can be demonstrated to be in Category 4 and cannot be determined as contaminated land.

8.1.1 Adopted Soil Human Health GACs Screening Methodology

It is anticipated that the end-use of the site be most analogous with a *Commercial* end-use scenario and as such an assessment has been undertaken against the following GACs, in order of preference:

1. Environment Agency Soil Guideline Values,
2. CL:AIRE, AGS, EIC. Soil Generic Assessment Criteria for Human Health Risk Assessments,
3. LQM/CIEH 2015 S4ULs for Human Health Risk Assessment, and
4. DEFRA Category 4 Screening Levels.

The soil organic matter (SOM) content has an influence on the sorption of contaminants (i.e., less organic matter means some contaminants are more leachable). SOM values for the site soils ranged from 1.4% to 68.9%.

With consideration for a calculated geometric average, Made Ground features determine an SOM of 6.19%. As such, a comparison against *Commercial* end-use General Assessment Criteria SOM of 6.0% has been adopted for the made ground. The adopted GAC's are listed in *Appendix G*.

8.1.2 Generic Assessment Criteria Screening of Soil Laboratory Results

The results of the environmental testing can be referred to in *Appendix D*.

With respect to the proposed end-use of the site, one exceedance was reported above the GAC thresholds within the 16 samples of Made Ground tested, detailed in *Table 8.1.2a*.

Table 8.1.2a – *Asbestos Identified Through Laboratory Screening*

Borehole Ref.	Depth m bgl	Determinant	Conc. (mg/kg)	Commercial GAC (mg/kg)
BH103	0.20	Lead	**2460**	2300

All were scheduled for asbestos identification, Asbestos Containing Materials (ACM's) were identified in four samples (two soil samples and two bulk fragments) during the first stage of GI, as summarised in *Table 8.1.2b*.

Table 8.1.2b – *Asbestos Identified Through Laboratory Screening*

Borehole Ref.	Depth (m bgl)	Asbestos Type	Quantification (% w/w)
TP01	0.40	Solid fragment- Chrysotile cement (ACM)	-
TP01	0.30	Loose fibres – chrysotile cement	0.194
TP04	2.00	Solid fragment- Chrysotile cement (ACM)	-
TP05	0.90	Loose fibres – chrysotile cement	<0.001%

The two soil samples which identified loose Asbestos fibres underwent quantification to determine percentage unit weight of Asbestos in the samples. The results recorded <0.001% and 0.194%, with the latter above the hazardous waste threshold (>0.1%) for Asbestos in soils. Given the above, it is evident that the historical landfill material on-site is likely to contain former building materials with Asbestos.

8.1.3 Discussion of Human Health Assessment

One exceedance of the Human Health Commercial GAC was identified in the soil samples tested for Lead. However, asbestos was detected in four samples ranging from shallow depths (<0.60m bgl) to deeper depths (>0.60m bgl).

Based on the presence of asbestos in shallow soils there is a **low/moderate** risk to site end users, construction workers and nearby public/adjacent residents from inhalation of Asbestos fibres.

Due to the presence of Asbestos in shallow soils, an appropriate cover system would be required within any proposed soft landscaping areas to mitigate against the potential risk to end users. Appropriate asbestos management measures should be put in place during construction works under an asbestos management plan.

It is also recommended that the mitigation is detailed within a remediation strategy, along with any re-use of site won soils followed by subsequent remediation verification visits.

8.2 Materials Management

8.2.1 Re-use of Site Soils

Due to the presence of Asbestos in the soils (and potentially localised hotspots of other contaminants) identified on site during the intrusive GI works, if any re-use of soils on-site is considered, this should be detailed in a Remediation Strategy followed by subsequent remediation verification visits, with inclusion of detailed records.

Asbestos (loose fibres) and ACM debris have been identified within the Made Ground in four locations across the site during the intrusive GI works. It is likely that further asbestos will be present in made ground materials in other locations on site, given identified historical landfill material site. Where asbestos is identified above 0.1% material would be classified as hazardous for off-site disposal.

The risk presented by asbestos in soils to construction workers and nearby residents should be suitably managed during construction through an asbestos management plan.

Localised contamination hotspots may be encountered requiring removal. Furthermore, where materials are to be removed from site for off-site disposal it is likely that percentage of this material may be classified as hazardous (discussed further in Section 7.2.2).

The re-use of site-won soils may therefore be undertaken if the following principles are met:

i) the geotechnical suitability of the material needs to be confirmed;
ii) the re-use of the material needs to be covered as part of the planning approval, e.g. site levels maintained within agreed limits;
iii) the volume of the material being re-used needs to be confirmed and traceable; and
iv) regulatory approval from the relevant authorities has been sought.

These principles are outlined within the CL;AIRE Definition of Waste Code of Practice (v2) (Ref. 20) and if and where the re-use of site-won soils is proposed as part of the development works. In addition, in the event of re-use being considered on-site, it is recommended that a Materials Management Plan is produced in line with the Definition of Waste Code of Practice to detail and document the process.

8.2.2 Preliminary Waste Assessment

A preliminary Waste Soils Characterisation Assessment has been undertaken using CAT-WASTE Soil. This assessment was based on the sixteen soil samples recovered and tested from the two stages of ground investigations works, considered to be representative of the variable Made Ground strata encountered. In addition, four samples were submitted for Waste Acceptance Criteria (WAC) testing as part of the preliminary assessment.

Table 8.2.2 provides a summary of the initial waste screening, derived waste code and also a preliminary classification of the results based on the CAT WASTE screening (WM3 screen) and WAC testing undertaken.

Table 8.2.2 Preliminary Waste Assessment Summary

Hole ID	Sample Depth	Strata	WM3 Screen	Waste Code	WAC Test	Preliminary Waste Classification
TP01	0.3	Made Ground – Granular	Hazardous	17 05 03	Loss on ignition >Hazardous Waste Landfill Level.	Hazardous
TP02	1.5	Made Ground – Granular	Hazardous	17 05 03	-	Hazardous
TP04	1.1	Made Ground – Granular	Hazardous	17 05 03	Total Organic Carbon > Hazardous waste landfill levels.	Hazardous
TP05	0.9	Made Ground – Granular	Hazardous	17 05 03	-	Hazardous
TP06	0.8	Made Ground – Granular	Hazardous	17 05 03	-	Hazardous
TP07	0.5	Made Ground – Granular	Non-hazardous	17 05 04	-	Non-hazardous
TP09	0.3	Made Ground – Granular	Hazardous	17 05 03	-	Hazardous
BH01	0.5	Made Ground – Granular	Non-hazardous	17 05 04	-	Non-hazardous
BH04	0.2 – 0.4	Made Ground – Granular	Non-hazardous	17 05 04	All values below inert level	Inert
TP10	0.4 – 0.6	Made Ground – Granular	Hazardous	17 05 03	Total Organic Carbon, Fluoride and Mineral Oil > Inert landfill levels.	Hazardous
WS101	0.40	Made Ground – Granular	Non-hazardous	17 05 04	-	Non-hazardous
WS102	1.20	Made Ground - Cohesive	Non-hazardous	17 05 04	-	Non-hazardous
WS103	0.90	Made Ground - Cohesive	Non-hazardous	17 05 04	-	Non-hazardous

Hole ID	Sample Depth	Strata	WM3 Screen	Waste Code	WAC Test	Preliminary Waste Classification
BH104	0.60	Made Ground - Cohesive	Non-hazardous	17 05 04	-	Non-hazardous
BH103	0.20	Made Ground - Cohesive	Hazardous	17 05 03	-	Hazardous
BH105	0.30	Made Ground – Granular	Non-hazardous	17 05 04	-	Non-hazardous

Based on the above, as a preliminary assessment, it is anticipated that the majority of soils removed from site would be considered hazardous (waste code 17 05 03) if removed from site due to the results of the WM3 screen undertaken. Select samples have been reported as hazardous based primarily on the presence of 1,3-butadiene, benzo(b)fluoranthene, hydroquinone, chromium, lead, copper, zinc, hydrocarbons, fluoranthene, PCB's, fluorene and cadmium in those samples. Although testing has revealed one sample which could be considered inert it is considered unlikely that the majority of soils at the site would be accepted as inert without further testing and liaison with the receiving site. It is recommended further testing is undertaken on any material prior to disposal.

Any inert constituents within the Made Ground easily identifiable and removable from the soil (e.g. brick and concrete fragments) should be separated prior to disposal.

Any bulk ACMs identifiable should be removed from the soil by a suitably qualified operative prior to disposal.

The results presented herein and summarised above should be provided to the proposed waste carrier/receiver and should be considered preliminary. Landfill operators are not obliged to accept waste and may require additional testing above that provided here prior to classifying and/or receiving the waste.

9.0 Ground Gas Assessment

The assessment of risk presented by ground gases is assessed with reference to guidance published by CIRIA (Assessing Risks Posed by Hazardous Ground Gases to Buildings, C665 (Ref. 21), BSI Publication (Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings BS8485:2015 (Ref.22) and other broadly accepted references such as the Ground Gas Handbook 2009 (Ref. 23).

The gas risk assessment adopts a tiered approach. In the first instance this involves a re-evaluation of the Conceptual Site Model described within *Section 3.0* and thereafter validating this conceptual model with the ground gas data, the semi-quantitative risk assessment.

9.1 Conceptual Site Model

The Conceptual Site Model presented within the Phase 1 Preliminary Site Assessment in *Section 3.0* identified significant potential ground gas sources associated with landfill waste materials attributed to the historical landfill located onsite and extending off-site.

Based on the presence of infilled land on and off site as described in *Section 2.3 and 2.5.1*, the Preliminary Conceptual Site Model in *Section 3.0* identified a **Moderate** Risk.

The Curtins ground investigations identified extensive, and variable Made Ground across the site. The Made Ground on site correlates with the historical presence of large clay pits across the site and subsequent backfilling. The maximum depth of Made Ground encountered was 18.00m bgl. Limited made ground was encountered at the north of the site around Bridcam Street, with this area appearing to be sit outside out the historic clay pit locations.

9.2 Ground Gas Monitoring Results

To characterise the site's ground gas regime and validate the qualitative assessment of ground gas risk standpipe installations were incorporated within four borehole locations as detailed in *Section 4.2*.

Four gas monitoring visits were undertaken between 17th May and 17th June 2021, following the May 2021 site works, with barometric pressure recorded between 996 and 1017mb, consequently a low atmospheric pressure event has been undertaken. A further four gas monitoring visits were undertaken between 22nd December 2021 and 31st January 2022, following the December 2021 ground investigation with barometric pressure recorded between 1010 and 1036mb, with falling barometric state recorded on two visits. Additional monitoring of the previous May 2021 installations was also undertaken in these visits. The results log sheets are contained within *Appendix F* and summarised in *Table 9.2a and 9.2b.*

Table 9.2a – *May 2021 Summary of Ground Gas Monitoring Results*

Exploratory Hole ID	Maximum Methane Concentration (%)	Maximum Steady Carbon Dioxide Concentration (%)	Minimum Steady Oxygen Concentration (%)	Maximum Peak Gas Flow (l/hr)	Maximum Steady State Gas Flow (l/hr)
BH01	<0.1	8.0	7.9	<0.1	<0.1
BH02	<0.1	7.3	4.9	<0.1	<0.1
BH04	<0.1	7.9	3.5	<0.1	<0.1
BH05	2.2	1.5	0.1	<0.1	<0.1

Table 9.2b – *December 2021 Summary of Ground Gas Monitoring Results*

Exploratory Hole ID	Maximum Methane Concentration (%)	Maximum Steady Carbon Dioxide Concentration (%)	Minimum Steady Oxygen Concentration (%)	Maximum Peak Gas Flow (l/hr)	Maximum Steady State Gas Flow (l/hr)
BH01	<0.1	7.5	8.7	-2.6	-1.6
BH02	<0.1	9.4	1.7	-3.0	-1.6
BH04	<0.1	9.3	0.4	-1.8	-1.6
BH05	2.0	1.7	0.0	-1.6	-1.6
WS101	<0.1	1.4	18.4	-1.0	-1.0
WS102	<0.1	2.9	16.9	-3.8	-1.9
WS104	<0.1	3.4	16.3	-15.3	-2.6

Methane (CH_4) and Hydrogen Sulphide (H_2S) were both recorded below the instrument's detection limit within all the monitoring wells.

Gas flow was recorded at a maximum peak flow rate of -15.3l/hr in WS104 on the second visit. The greatest steady state gas flow of -2.6/hr was recorded in the same borehole and same visit.

Elevated methane concentrations of 2.2%$^{v}/_{v}$ were recorded in one location, BH05 located on the western side of the site in the footprint of the infilled clay pit/historical landfill. Similarly, BH05 recorded concentrations of 2.0%$^{v}/_{v}$ during the subsequent rounds of gas monitoring.

Maximum steady state carbon dioxide concentrations of between 1.4% $^{v}/_{v}$ and 9.4% $^{v}/_{v}$ were recorded across both sets of gas monitoring. The highest peak concentration was 9.4% $^{v}/_{v}$ in BH02 on the second visit after the December 2021 site works, located in the northeast of the site.

During the initial four rounds of gas monitoring, barometric pressures <1000mb were recorded on the first round, with falling barometric state also recorded during this visit (17/05). Steady barometric conditions were recorded on the second visit (04/06) and a rising barometric state was recorded on the third (11/06) and fourth (17/06) visits. The subsequent rounds of gas monitoring recorded a falling

barometric state on the first (22/12/21) and second (06/01/22) visits and rising on the third (20/01/22) and fourth (31/01/22) visits.

Groundwater levels were recorded to be relatively consistent in BH01 and BH02, and no groundwater was recorded in BH04 or BH05 across both ground gas programmes. Similarly, WS101, WS102 and WS104 groundwater levels remain relatively consistent.

WS104 recorded a elevated peak flow rates of 9.6l/hr and -15.3l/hr. From a review of groundwater level monitoring (*Table 6.7b* and *Table 6.7c)* and the response zones of the monitoring wells (*Table 4.2)* it can be seen that the response zone was flooded during the monitoring period. It is considered that the high flow rates in these flooded boreholes is likely to be linked to rising shallow groundwater in the solid section of the well installation causing an increase in internal pressure within the pipework, which is released, and subsequently equalised, when the valve tap is opened, resulting in the high observed peak flows preceding the considerably lower steady flow. This is detailed within BS8485:2015 (Ref. 22) and CL:AIRE Research Bulletin RB 17 (Ref. 28).

Considering the above, and using professional judgement, the elevated peak flow readings from the affected boreholes have been omitted from the calculations used in assessment of gas risk on site, with remaining peak flow readings considered to give a more representative approach to calculating the 'worst case' scenario for the site. The highest peak flow rate recorded in unflooded boreholes was -3.8l/hr in WS102 which targeted the natural Glacial Till soils. The highest peak flow rate targeting deep made ground was -3.0l/hr, recorded in BH02.

9.3 Ground Gas Results Summary

The Conceptual Site Model presented in *Section 3.0* highlighted the Made Ground and infilled land of unknown composition as potential sources of ground gas generation. Noxious and asphyxiate gases were attributed to include, but not limited to, carbon dioxide, carbon monoxide, methane and hydrogen sulphide. The Preliminary Conceptual Site Model identified a **Moderate** Risk.

Made ground soils were encountered to maximum depths of 18.00m bgl. The ground investigation revealed a ground model generally consistent with the preliminary conceptual site model, with deep Made Ground and reworked deposits relating to the historical clay pits on site across the majority of the site but absent on the north. Made Ground in infilled clay pits comprised granular and cohesive soils, The gravel fraction included a high ash content, also including brick, sandstone, concrete, glass, tarmac, plastics and possible Asbestos Containing Materials (ACM) debris. Cobbles include bricks, concrete and sandstone. Frequent metal pieces were also noted particularly in the top 1.00m bgl on the east of the site, of varying size and type (including springs, nails, collars, steel rope, wiring) as well occasional rubber pieces including a car tyre in TP01. This is reflective of historical landfill material deposited on-site.

In accordance with BS8485:2015 (Ref. 20) consideration of the recorded soil gas flow rates, presented below, enables hazardous gas flow rates (Q_{hg}) to be evaluated. Q_{hg} can be derived for both 'borehole' and 'worst case check' scenarios and a comparison made in support of an appropriate assessment of ground gas risk. For a 'borehole' scenario (highest hazardous gas flow rate recorded in a single borehole on any one occasion) steady state flow rates and maximum gas concentrations are adopted, whilst for a 'worst case' scenario (highest Q_{hg} across the entire dataset irrespective of location and discrete monitoring events, within the same strata) peak flows and gas concentrations are adopted, discounting those which have been deemed to be unrepresentative.

Considering the varying ground conditions between the majority of the site (deep fill) and the far north (limited made ground and shallow natural soils) two gas risk assessments have been undertaken as detailed below.

9.3.1 Proposed Units 2-9

Monitoring data from BH01, BH02 BH04 and BH05 was used for this assessment.

Evaluation of the 'borehole' scenario (highest hazardous gas flow rate that is realistically possible i.e. in a single borehole) recorded a maximum Q_{hg} of 0.022 l/hr for methane in BH05 on 22/12/2021.

Evaluation of the 'worst case' scenario (highest Q_{hg} across the entire dataset irrespective of location and discrete monitoring events) recorded a maximum Q_{hg} of 0.06 l/hr for methane with the highest peak flow rate of -3.0 l/hr in BH02 recorded 06/01/2021 with a peak concentration of 2.2%$^{v}/_{v}$ recorded in BH05 17/05/2022.

Evaluation of the 'borehole' scenario (highest hazardous gas flow rate that is realistically possible i.e. in a single borehole) recorded a maximum Q_{hg} of 0.144 l/hr for carbon dioxide with the highest steady state flow rate of -1.6 l/hr in BH02 on 06/01/2022.

Evaluation of the 'worst case' scenario (highest Q_{hg} across the entire dataset irrespective of location and discrete monitoring events, within the same strata) recorded a maximum Q_{hg} of 0.282 l/hr for carbon dioxide with the highest peak flow rate of -3.0 l/hr in BH02 recorded 06/01/2022 and peak concentration of 9.4%$^{v}/_{v}$ recorded in BH02 06/01/2022.

Based on a full set of results across various atmospheric pressures, the borehole scenario has been adopted. A GSV of 0.022 l/hr for methane and 0.144 l/hr for carbon dioxide indicates a Characterisation Situation 2 (CS2) for areas where deep made ground was encountered. Furthermore, methane concentrations above 1% and carbon dioxide concentrations recorded above 5%, also indicate a Characteristic Situation 2 (CS2) gas regime.

9.3.2 Proposed Unit 1 (North of Site)

Monitoring data from WS101, WS102, WS104 was used for this assessment.

Methane was not recorded above the limits of detection of the north of the site and therefore calculation of respective GSV is not considered necessary.

Evaluation of the 'borehole' scenario (highest hazardous gas flow rate that is realistically possible i.e. in a single borehole) recorded a maximum Q_{hg} of 0.1456 l/hr for carbon dioxide with the steady state flow rate of -2.6 l/hr used in WS104 on 06/01/2022.

Evaluation of the 'worst case' scenario (highest Q_{hg} across the entire dataset irrespective of location and discrete monitoring events, within the same strata) recorded a maximum Q_{hg} of 2.128 l/hr for carbon dioxide with the highest peak flow rate of -3.8 l/hr in WS102 recorded 06/01/2022 and peak concentration of 5.6%$^{v}/_{v}$ recorded in WS104 06/01/2022.

Based on a full set of results across various atmospheric pressures, the borehole scenario Q_{hg} has been adopted as the GSV. A GSV of 0.1456 l/hr for carbon dioxide indicates a Characterisation Situation 2 (CS2) for Glacial Till soils in areas outside of deep fill at the north of site. This is further supported by the recorded peak concentrations of carbon dioxide recorded above 5% on two occasions and given the areas proximity to the deep fill/landfill.

9.3.3 Conclusions

Gas protection measures are recommended for all new buildings across the whole site in line with a Characteristic Situation 2 (CS2) Classification.

The potential risks from ground gases to the excavations are to be dealt with by the Contractor, in accordance with the Confined Space Regulations, during construction. Appropriate ground gas monitoring and safety measures should be in place during the works, as the potential presence of ground gases could pose a risk in any confined spaces of deep excavations.

10.0 Revised Conceptual Site Model

The Preliminary Conceptual Site Model (PCSM) presented in *Section 3.0* of this report has been revised following the GQRA in *Section 7.0 and 8.0* above. The Revised Conceptual Site Model (CSM) is summarised in the table overleaf.

The CSM details the source-pathway-receptor linkages or potential pollutant linkages (PPL) that have been identified as relevant for the site. The GQRA details the associated level of risk relating to these potential pollutant linkages.

The CSM follows the framework outlined within CIRIA C552 (Ref. 7) which is summarised within *Appendix H*.

The 'risk rating' within the CSM refers to the risk that the source, pathway, receptor linkage or PPL is complete. Unless specifically stated it does not necessarily refer to an immediate risk and is intended to be used as a tool to assess the necessity for further assessment/investigation.

Risks presented by Unexploded Ordnance is discussed and assessed in *Section 2.7*.

Under current health and safety legislation, employers are required to carry out their own appropriate risk assessments and mitigation to protect themselves and their employees, other human receptors and the environment from potential contamination. Such risks must be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015 (Ref. 8) which require that potential risks to human health and the environment from construction activities are appropriately identified and all necessary steps taken to eliminate / manage that risk. It has been assumed that any future construction works onsite will be undertaken in compliance with these requirements. Reference should be given to the environmental testing results discussed within *Section 7.0* and presented within *Appendix D*.

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- The table below represents the Second stage in the land quality risk assessment process; the Revised Conceptual Site Model following the Quantitative Risk Assessment.
- For a development site to be deemed 'suitable for use' the level of risk needs to be brought down to acceptable levels, i.e. low to very low risk. The purpose of each stage of risk assessment is ultimately to establish if there is a requirement for additional levels of assessment to be made to have sufficient confidence to support a risk characterisation or management decision, e.g. remedial action.
- In the absence of specific site data, a Generic Quantitative Risk Assessment is invariably recommended.

Conceptual Site Model			Qualitative Risk Assessment			Recommended Actions
Source	**Pathway(s)**	**Receptor(s)**	**Consequence**	**Likelihood of Occurrence**	**Risk Rating**	
On-site sources of potential contamination: • Historical Made Ground on-site comprising landfill material to depths of 6.0m bgl and 18.00m bgl • Lead exceedance identified during the December 2021 sit works within the Made Ground soils of Commercial screening criteria. • Asbestos loose fibres/ACM identified within four Made Ground samples during the May 2021 site works.	**Direct contact with contaminated soils and shallow/ surface groundwater** **Inhalation of soil derived dust, fibres or vapours** Ingestion has been discounted owing to a proposed Commercial end use.	**Site End Users** (Commercial)	**Medium** Chronic health risk.	**Low** Asbestos detected in shallow soils made ground in four locations during the May 2021 site works, as such a potential risk to future site users within any soft landscaping areas. No asbestos was noted during the subsequent ground investigation. However, one isolated occurrence of elevated Lead concentration (2460mg/kg) was identified in BH103 at 0.20m. A review of the development plans suggests BH103 is located within the development footprint, which would break the source-receptor pathway unless soils are re-used elsewhere. Limited investigation undertaken at the east of proposed Unit 1 due to the presence of an existing building.	**Moderate/Low**	Additional post demolition GI recommended around proposed Unit 1 at the north of site. Any re-use of site won soils should be detailed in a remediation strategy followed by subsequent remediation verification visits. Due to the presence of asbestos and exceedance for lead, an appropriate cover system for soft landscaping areas is recommended to mitigate inhalation of fibres risk. To be detailed within a Remediation Strategy.
		Construction and maintenance workers	**Medium** Chronic health risk.	**Low** Standard Health & Safety precautions likely to be adopted by construction workers which will reduce likelihood of contact with contaminated soils.	**Moderate/Low**	Construction Workers should be provided with appropriate PPE during all groundwork activities. Asbestos management plan for construction works to be put in place with input by specialist.
	Inhalation of windblown dust	**Adjacent residential and commercial building users**	**Medium** Chronic health risk.	**Low** Asbestos detected in made ground in four locations during the May 2021 site works. An isolated occurrence of elevated Lead concentration noted during the December 2021 ground investigation.	**Moderate/Low**	Asbestos control measures to be adopted in line with CDM requirements by the Principal Contractor to mitigate against the potential risks to off-site users.
	Horizontal and vertical migration of contaminants	**Controlled Waters** River Irk (800m to the southeast of the site)	**Mild** Pollution of non-sensitive waters.	**Unlikely** Given the distance from the site to River Irk	**Low**	No recommended actions.
		Controlled Waters Groundwater Superficial Undifferentiated Aquifer Bedrock – Principal Aquifer	**Medium** Principal Bedrock Aquifer is a sensitive receptor however the site is not located within a Source Protection Zone.	**Unlikely** Groundwater likely to be of a reduced quality and sensitivity with respect to the wider historical industrial uses and areas of infilled land. Boreholes undertaken suggest >22m of predominantly clay superficial deposits. BGS logs for boreholes in close proximity to the site suggest a thick layer of clay (>40m) which would limit migration of potential	**Low**	No recommended actions.

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Conceptual Site Model			Qualitative Risk Assessment			Recommended Actions
Source	**Pathway(s)**	**Receptor(s)**	**Consequence**	**Likelihood of Occurrence**	**Risk Rating**	
				contaminants. In addition, no free phase contamination encountered as part of the initial ground investigation. Proposed development will present a betterment to site conditions, proposed hardstanding cover across majority of the site will act to limit any leaching of contamination.		
Production of ground generating gases from landfill materials containing organic/putrescible content located onsite and extending offsite.	**Horizontal and vertical migration of ground gas.**	**Site End Users** (Commercial)	**Medium** Chronic health risk.	**Likely** Landfill located on and off site, recorded to be up to 18.00m bgl containing organic/putrescible content.	**Moderate**	Confirmation of gas protection measures in proposed buildings to comply with Characteristic Situation CS2 across the entire site.

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10.1 Summary of Pollutant Linkages

A **Moderate/Low** risk rating is identified to end-users, construction workers and adjacent residents from inhalation or direct contact with contaminants within shallow site soils, this is owing to the presence asbestos in shallow soils as well as an exceedance for lead. The installation of an appropriate cover system is recommended for proposed soft landscaping areas to mitigate risk to end users. An appropriate asbestos management measures should be put in place during construction which should include the provision of an asbestos management plan to mitigate risk to construction workers and adjacent residents.

A **Low** risk rating is identified at this stage to the nearest surface water feature and groundwater receptors considering the distance to the nearest surface water feature, the predominance of cohesive superficial soils beneath made ground on site acting to limit migration of contamination and accounting for the betterment to site conditions development will present as proposed hardstanding cover across majority of the site will act to limit any leaching of contamination.

A **Moderate** risk rating is identified to site end users from ground gas, this is based on the presence of Made Ground present across the majority of the site and elevated methane and carbon dioxide recorded. This corresponds with Characteristic Situation 2 (CS2) classification requiring gas protection measures in all new buildings.

11.0 Engineering Assessment and Recommendations

11.1 Introduction

This section will assess the relevant geotechnical issues for a proposed commercial development. The engineering assessment considers foundation design, bearing capacity, excavations, ground floor slabs and concrete design for the site. Structural details and loadings have not been provided. It should be noted that detail may change in the development of designs beyond the issue of this Phase 2 Report and the Construction Designer should satisfy themselves regarding the adequacy of their design and proposed approach to construction by reference to the on-going project design proposals, the site investigation information and their own examination of the site.

11.2 Summary of Ground Conditions

The ground investigation has identified, variable predominantly low strength Made Ground present to variable depths associated with backfilling of former clay pits with historical landfill material. Natural soils were encountered in the exploratory holes listed in *Section 6.1* from depths between 0.65m bgl (at the north of site) and 18.00m bgl (at the south east of site). The Made Ground is unsuitable in its current state to support ground floor slabs, foundations and external hardstanding areas such as yards due to the potential for excessive settlement.

Perched groundwater levels were recorded at variable levels across the site. Perched water, where encountered, was generally between 1.20m and 6.50m bgl within Made Ground and superficial deposits.

11.3 Foundation Design

It is understood that the site is to be developed for a commercial/light industrial end use comprising 9 units of varying size across four buildings. Loadings are currently unknown, however given the proposed development, they are not considered to be excessively high. The foundation design across the majority of the site varies compared to the far north of the site, with details outlined below.

<u>North of the Site (Unit 1)</u>

For Unit 1 at the north of the site (WS101 to WS104) the Made Ground thickness is limited, with depths between 0.65m and 1.90m bgl. Made Ground is not a suitable founding stratum for traditional shallow foundations regardless of the applied loading.

The firm to stiff cohesive Glacial Till can provide an allowable bearing capacity of 110 kN/m^2 for a 1.00m square pad at around 1.50m bgl depth, accounting for <25mm settlement, below the Made Ground and

soft Glacial Till deposits encountered above. This is subject to further post demolition ground investigation.

All foundation formations should be inspected by a qualified geotechnical engineer to ensure suitable soils are used for construction.

In areas where Made Ground or unsuitable low strength natural soils are encountered, material should be removed and replaced through its full extent with suitable engineered fill, unless alternative solutions such as piled foundations or ground improvements are adopted.

Where the allowable bearing capacity is not sufficient with traditional spread foundations consideration could be given to alternative foundation solutions.

The depth of foundations and the founding stratum should be such as to give an adequate bearing capacity for the design loads. The bearing capacities will be dependent on the formation level ground conditions and the ground within the influence zone of the foundations, as well as other factors such as foundation shapes and dimensions. The foundation designer should review these factors as part of detailed foundation design.

Additional ground investigation is recommended at proposed Unit 1 following demolition of the existing building to ensure ground conditions are consistent with those identified to date.

Majority of the Site (Units 2-9)

Given the overall variable and significant depth of Made Ground across the rest of the site, a piled foundation solution is recommended in these areas. The pile design should be undertaken by a suitably qualified piling contractor. Potential for settlement around the piles, predominantly in the made ground and the potential for ongoing creep/consolidation within the Made Ground landfill material should be considered. Underground obstructions are likely to preclude the use of driven piles. Continuous Flight Auger (CFA) piles should be considered, subject to the recommendations of a specialist piling contractor.

Alternatively, a ground improvement solution may be considered potentially utilising techniques such as techniques such as Vibro Stone Columns (VSC) or Controlled Modulus Columns (CMC). Ground improvement should extend into the natural soils. As per pile design, the design of any ground improvement should be undertaken by a specialist designer with consideration of the risks inherent with the Made Ground material identified as part of this ground investigation.

11.4 Ground Floor Slabs

Due to the variable nature and significant thickness of Made Ground, it is proposed that ground floor slabs are suspended for proposed Units 2 to 9.

Alternatively ground bearing floor slabs may be formed on improved ground subject to design of ground improvement by a suitably qualified ground improvement contractor.

For Unit 1 ground bearing floor slabs may be formed on firm Glacial Till soils subject to removal of made ground and any compressible or unsuitable materials. Alternatively suspended floor slabs may be adopted. Further GI is recommended in this area following demolition of the existing building to confirm ground conditions.

11.5 Road and Pavement Design

It is recommended that in external hard standing areas a reduced level dig is carried out, to a suitable depth, to enable removal of obstructions with subsequent replacement and compaction with suitable material to an engineering specification and inclusion of a 'geogrid' to limit any potential future ongoing creep/consolidation settlement.

Suitable material may include processed made ground, crushed demolition materials and obstruction material. Drainage measures to limit potential issues with settlement or intolerable ground movement with manholes or drainage runs, must be considered in the detailed design stage.

11.6 Utilities

Similar to the consideration for external areas and pavement design proposed utilities placed within deep fill should consider the potential for ongoing and differential settlement.

11.7 Chemical Attack on Buried Concrete

See *Section 7.3*.

11.8 Excavation and Support

Given the variable fill material it is recommended that all excavations should be considered unstable.

Any excavations progressed on the site should be undertaken in accordance with CIRIA (2001) Trenching Practice, 2nd Edition (report no. 97) (Ref. 26), taking into account the ground conditions encountered on site. Perched water may be encountered in shallow excavations.

12.0 Conclusions & Recommendations

12.1 Conclusions

A revised tabulated revised Conceptual Site Model has been derived following the findings on the Generic Quantitative Risk Assessment risk assessment and is presented in *Section 10.0*.

12.1.1 Ground Contamination

Environmental testing indicates that there is **Moderate/Low** risk to future site users, construction workers and adjacent residents. A **Low** risk to controlled water receptors was determined from levels of contaminants in the soils encountered as part of the ground investigation.

Due to the presence of asbestos and elevated lead in one location, the installation of an appropriate cover system is recommended for proposed soft landscaping areas.

It is recommended that construction workers are provided with appropriate PPE, RPE and sanitary facilities with reference to the environmental testing results presented herein, notably the presence of asbestos within the shallow soils. The risk presented by asbestos in soils to construction workers and nearby residents should be suitably managed during construction through an asbestos management plan.

The requirements of the cover system and an asbestos management plan should be detailed within a Remediation Strategy for the site. Any re-use of site won soils should be detailed in a remediation strategy followed by subsequent remediation verification visits Further investigation is recommended following demolition of the existing building on the north of the site to characterise soils in this area.

In view of the presence of elevated methane and carbon dioxide and recorded flow rates across both stages of monitoring (May and December 2021) and appraisal of the ground model it is recommended that protection measures of CS2 are adopted across the site. The design of the gas protection should be in accordance with BS8485:2015 (Ref 22) and the requirements detailed in a Remediation Strategy for the site.

12.1.2 Geotechnical Assessment

The presence of deep backfill material across the majority of the site is key constraint to the proposed development.

At the north of the site, shallow pad foundations can likely be adopted formed on the firm to stiff Glacial Till soils, providing an allowable bearing capacity of 110 kN/m^2 for a 1.00m square pad

at around 1.50m bgl depth. Ground bearing floor slabs may be formed on firm Glacial Till soils subject to removal of made ground and any compressible or unsuitable materials. Alternatively suspended floor slabs may be adopted. Further Ground Investigation is recommended in this area following demolition of the existing building to confirm ground conditions.

For the majority of the site (Units 2-9), a deep foundation solution is recommended with foundations transferring loads in to and possibly through the Glacial Till deposits. The base level of fill across the majority of site has been confirmed to a maximum depth of 18.00m bgl to the east of site and 10.80m bgl to the west of the site. It would be prudent to make allowances for piled foundations extending to up to 20.00m bgl for low rise commercial/industrial development or alternatively ground improvement could be considered. Underground obstructions are likely to preclude the use of driven piles. Continuous Flight Auger (CFA) piles should be considered, subject to the recommendations of a specialist piling contractor. Suspended ground floor slabs are recommended, supported by piled foundations.

Ground improvement methods may be considered in place of piling such as Vibro Stone Columns (VSC) or Controlled Modulus Columns (CMC) to support the ground floor slab and/or isolated wall and column foundations. Both VSC and CMC columns would also need to extend into the natural deposits. If considered, advice should be obtained from a specialist contractor to determine the suitability of the made ground soils and their stabilisation methodologies.

It is recommended that in external hard standing areas a reduced level dig is carried out, to a suitable depth, to enable removal of obstructions with subsequent replacement and compaction with suitable material to an engineering specification and inclusion of a 'geogrid' to limit any potential future ongoing creep/consolidation settlement. Suitable material may include processed made ground and obstruction material. Drainage measures to limit potential issues with settlement or intolerable ground movement must be considered in the detailed design stage.

Following the site investigation, it is recommended that proposed civil and structural design is progressed in collaboration with a geotechnical engineer.

12.2 Recommendations

Based on the findings of the ground investigation, the following geo-environmental recommendations are made, geotechnical recommendations are summarised above:

1) Additional ground investigation is recommended around proposed Unit 1 following demolition of the existing building to ensure ground conditions are consistent with those identified to date. This should include further geotechnical and environmental chemistry analysis of soils. This report should be updated following additional ground investigation.

2) An asbestos management plan should be put in place during construction works with input from a specialist to mitigate risk to construction workers and adjacent residents/public.
3) Any re-use of site won made ground soils should be detailed in a remediation strategy and managed in accordance with a Materials Management Plan with reference to the Definition of Waste: Development Industry Code of Practice. Validation and Verification will be required during the works and recorded in a Completion Report(s).
4) Gas protection measures are recommended in proposed buildings to comply with Characteristic Situation CS2 across the site. Gas protection requirements should be further detailed in a Remediation Strategy report.
5) It is recommended that construction workers are provided with appropriate PPE and sanitary facilities, with reference to the environmental testing results presented herein and within Appendix C.
6) Should unexpected contamination be observed during construction advice should be obtained from a Geo-Environmental Engineer.

Is it recommended that a Remediation Strategy is undertaken which should consider how each of the potential pollutant linkages identified in this report are mitigated. Remediation validation should subsequently be undertaken during construction works.

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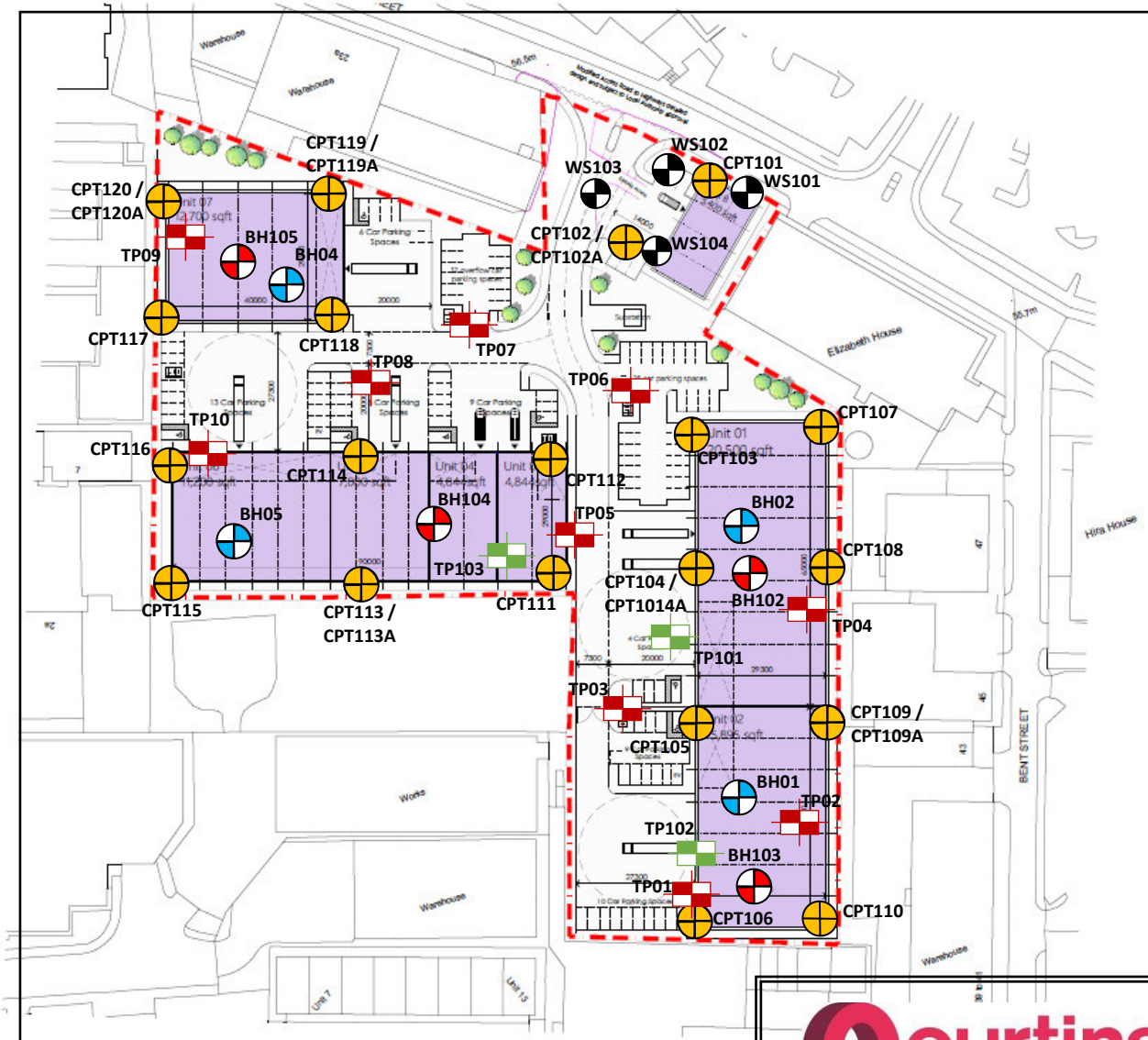
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Appendix A Drawings

- Curtins, Exploratory Hole Location Plan, drawing ref. 078695-CUR-00-XX-DR-GE-004-V01.
- Fletcher Rae Architects Proposed Site Plan Drawing.

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Key:

1st Stage May 2021 Ground Investigation

- Cable Percussive Boreholes
- Machine Excavated Trial Pits

2nd Stage December 2021 Ground Investigation

- Window Sample Boreholes
- Rotary Boreholes to base of made ground
- Machine Excavated Trial Pits

GENERAL NOTES:

Rev:	Description:	Date:	By:
--			

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Birmingham • Bristol • Cambridge • Cardiff • Douglas • Dublin • Edinburgh • Glasgow • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Project: Cheetham Hill	Status: DRAFT
Drawing Title: Exploratory Hole Location Plan 1st and 2nd Stage GI	Drawn By: ZH / Checked By: NF
	Designed By: NF / Date: 09/03/2022
	Scale: NTS

Project No: Originator: Zone: Level: Type: Discipline: Category/Number: Rev:

078695-CUR-00-XX-DR-GE-004-V01

Schedule of Areas

	GIA		GEA	
Unit 1	3,400 sqft	316 sqm	3,824 sqft	355 sqm
Total	**3,400 sqft**	**316 sqm**	**3,824 sqft**	**355 sqm**
Unit 2	14,000 sqft	1,301 sqm	14,680 sqft	1,364 sqm
FF Office @10%	1,400 sqft	130 sqm	1,532 sqft	142 sqm
Total	**15,400 sqft**	**1,431 sqm**	**16,212 sqft**	**1,506 sqm**
Unit 3	20,500 sqft	1,904 sqm	21,463 sqft	1,994 sqm
FF Office @10%	2,050 sqft	190 sqm	2,181 sqft	203 sqm
Total	**22,550 sqft**	2,905 sqm	**23,644 sqft**	2,197 sqm
Unit 4	4,844 sqft	450 sqm	5,206 sqft	484 sqm
Mezzanine	1,086 sqft	101 sqm	1,214 sqft	113 sqm
Total	**5,930 sqft**	**551 sqm**	**6,420 sqft**	**596 sqm**
Unit 5	4,844 sqft	450 sqm	5,080 sqft	472 sqm
Mezzanine	1,086 sqft	101 sqm	1,185 sqft	110 sqm
Total	**5,930 sqft**	**551 sqm**	**6,265 sqft**	**582 sqm**
Unit 6	7,000 sqft	650 sqm	7,311 sqft	679 sqm
Mezzanine	1,569 sqft	146 sqm	1,705 sqft	158 sqm
Total	**8,569 sqft**	**796 sqm**	**9,016 sqft**	**838 sqm**
Unit 7	5,500 sqft	511 sqm	5,813 sqft	540 sqm
Mezzanine	1,249 sqft	116 sqm	1,357 sqft	126 sqm
Total	**6,749 sqft**	**627 sqm**	**7,170 sqft**	**666 sqm**
Unit 8	5,500 sqft	511 sqm	5,974 sqft	555 sqm
Mezzanine	1,249 sqft	116 sqm	1,395 sqft	130 sqm
Total	**6,749 sqft**	**627 sqm**	**7,369 sqft**	**685 sqm**
Unit 9	11,000 sqft	1,022 sqm	11,743 sqft	1,091 sqm
FF Office@10%	1,100 sqft	102 sqm	1,231 sqft	114 sqm
Total	**12,100 sqft**	**1,124 sqm**	**12,974 sqft**	**1,205 sqm**
TOTAL	**87,377 SQFT**	**8,118 SQM**	**92,893 SQFT**	**8,630 SQM**
SITE AREA	**4.9 ACRES**	**20,000 SQM**		
DENSITY		**40.6%**		

Parking Allocation

	Cycle Spaces	Sheffield Hoops	Car Parking EV	DDA	Standard
Unit 1	6	3	/	1	3
Unit 2	10	5	6	1	13
Unit 3	10	5	4	1	14
Unit 4	2	1	1	1	2
Unit 5	2	1	1	1	2
Unit 6	4	2	/	1	5
Unit 7	4	2	1	1	4
Unit 8	4	2	1	1	4
Unit 9	8	4	4	1	12
Total	**50**	**25**	**18**	**9**	**59**



0 10m 25m
1:500

Proposed Site Plan
1 : 500

General Notes

Do not scale from this drawing. Only work to written dimensions.

All site dimensions shall be verified by the Contractor on site prior to commencing any works.

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PLANNING

- Development Site Boundary (*Site Area: 4.9 Acres)*
- Tree to be removed
- Tree Root Protection Area/ Tree to be retained
- Paladin Fencing
- Concrete finish in Service Yard
- Tarmac Finish
- Linear Flag Paving to Main Footpaths & Car Parking
- Soft Landscaping

Also refer to Landscape Architect's Design for further details

Rev.	Description	Date	ISS	APP
P1	Issued for Planning	21.01.22	NP	

Scale: As indicated @ A1
Status: Planning
Drawn By: NP
Checked By: BB
Date: January 2022

Client:
Kier Property

Project:
Elizabeth Street, Cheetham Hill Manchester

Sheet Name:
Proposed Site Plan

Project No. Orig. Zone Level Type Role Cls Dwg No. Rev
21039-FRA-XXXX-DR-A-10-0003-P1

fletcher|rae
Architects | Master Planners | Designers
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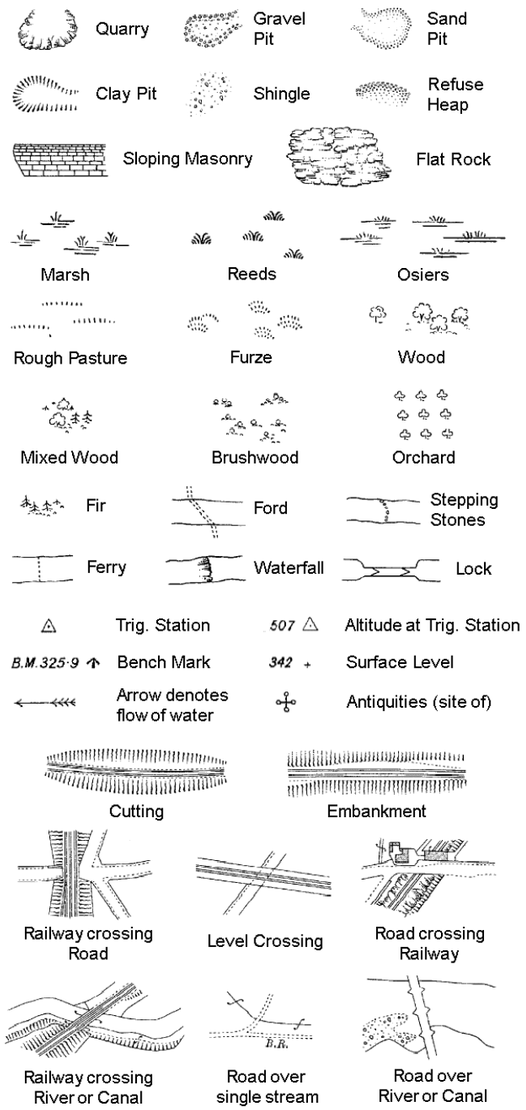
Appendix B Supporting Information

- Envirocheck Report

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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)

County & Civil Parish Boundary

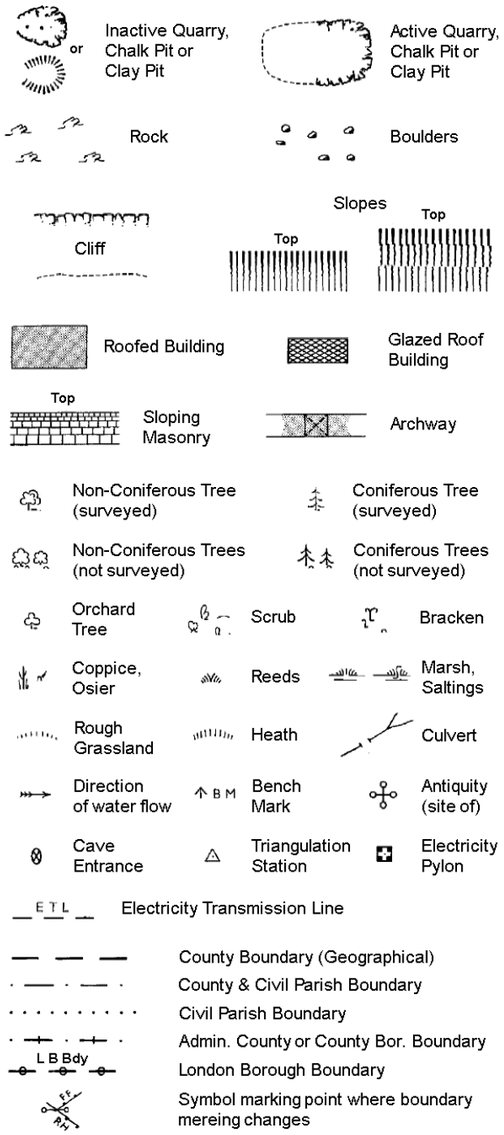
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

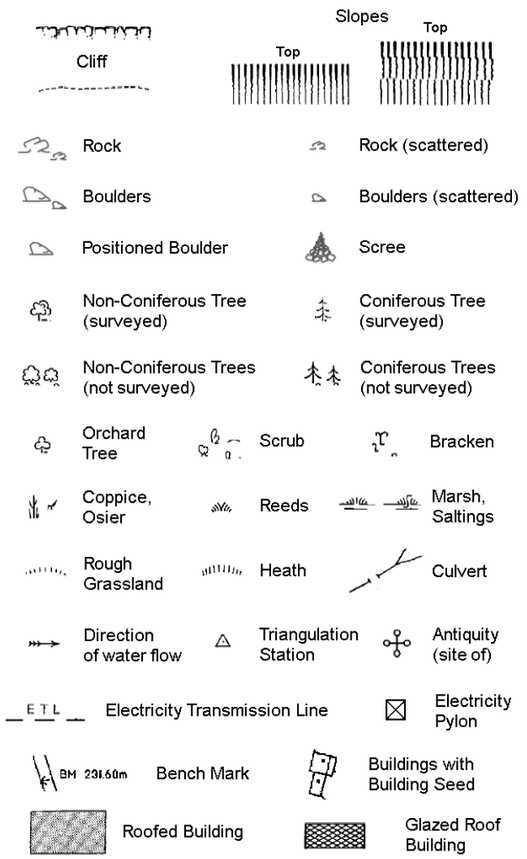
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

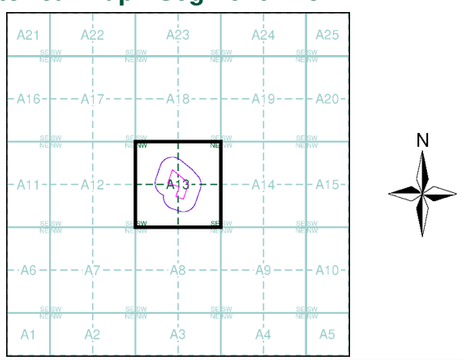
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1892 - 1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1922 - 1933	4
Ordnance Survey Plan	1:1,250	1948 - 1952	5
Ordnance Survey Plan	1:2,500	1951 - 1953	6
Ordnance Survey Plan	1:1,250	1951 - 1963	7
Ordnance Survey Plan	1:2,500	1953 - 1965	8
Ordnance Survey Plan	1:1,250	1958 - 1975	9
Ordnance Survey Plan	1:2,500	1959	10
Ordnance Survey Plan	1:2,500	1966	11
Ordnance Survey Plan	1:1,250	1968 - 1975	12
Additional SIMs	1:1,250	1978 - 1990	13
Additional SIMs	1:1,250	1988	14
Ordnance Survey Plan	1:1,250	1989	15
Large-Scale National Grid Data	1:1,250	1992	16
Large-Scale National Grid Data	1:1,250	1993 - 1994	17
Large-Scale National Grid Data	1:1,250	1996	18
Large-Scale National Grid Data	1:1,250	1996	19
Large-Scale National Grid Data	1:1,250	1996	20
Historical Aerial Photography	1:2,500	2000	21

Historical Map - Segment A13



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National Grid Reference: 384170, 400160
Slice: A
Site Area (Ha): 1.77
Search Buffer (m): 100

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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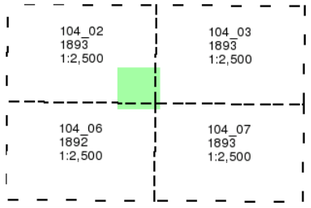
Lancashire And Furness

Published 1892 - 1893

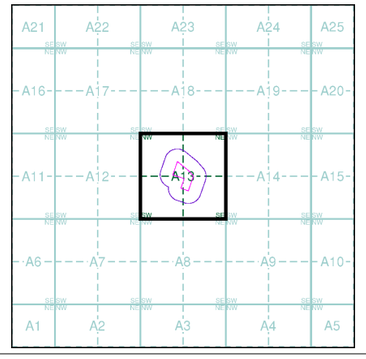
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Map Name(s) and Date(s)



Historical Map - Segment A13



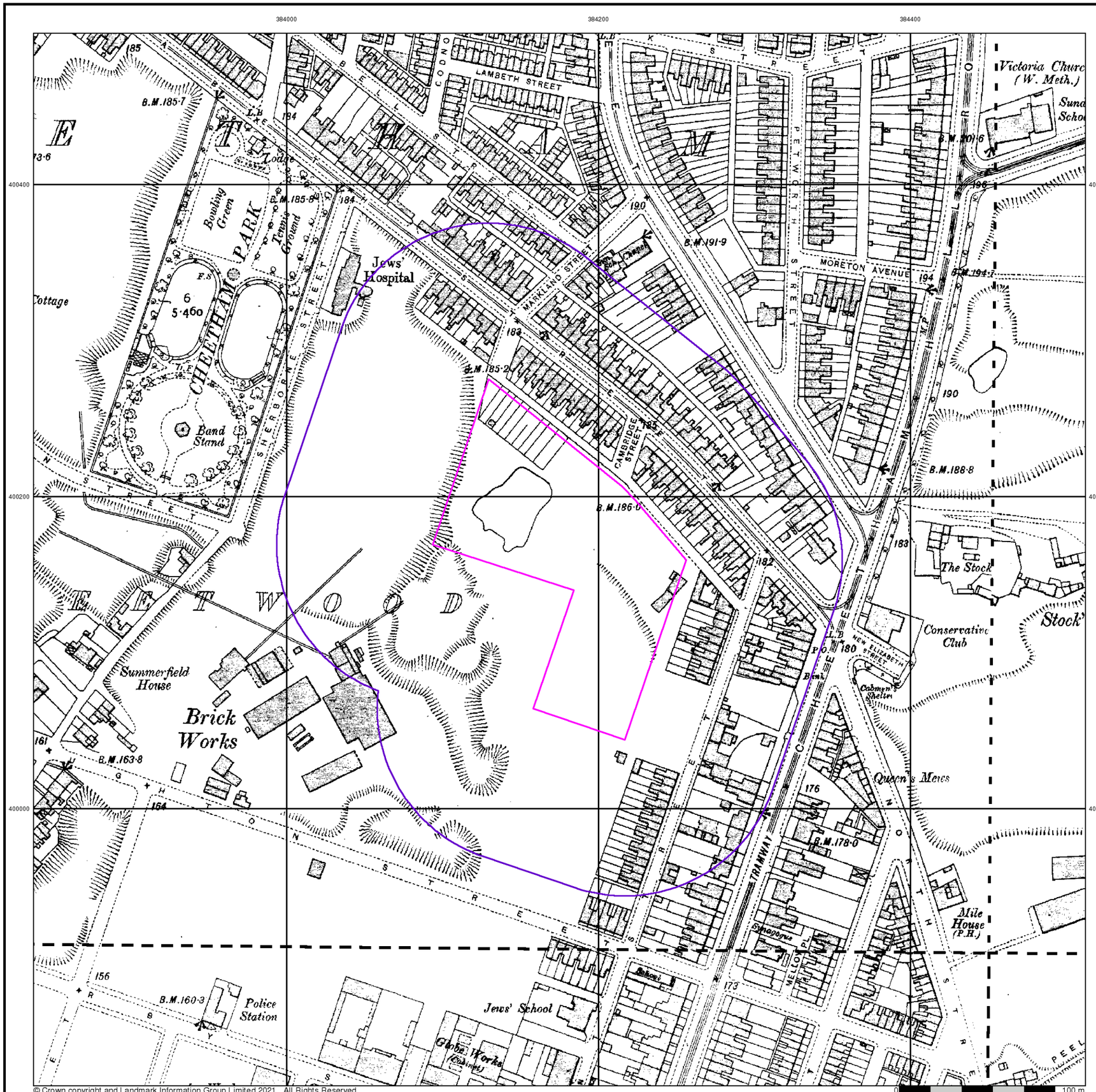
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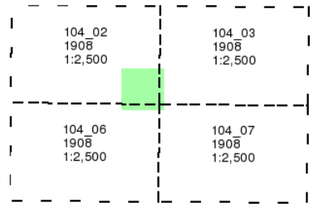
Lancashire And Furness

Published 1908

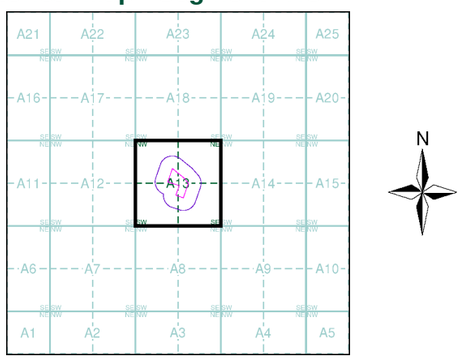
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Map Name(s) and Date(s)



Historical Map - Segment A13



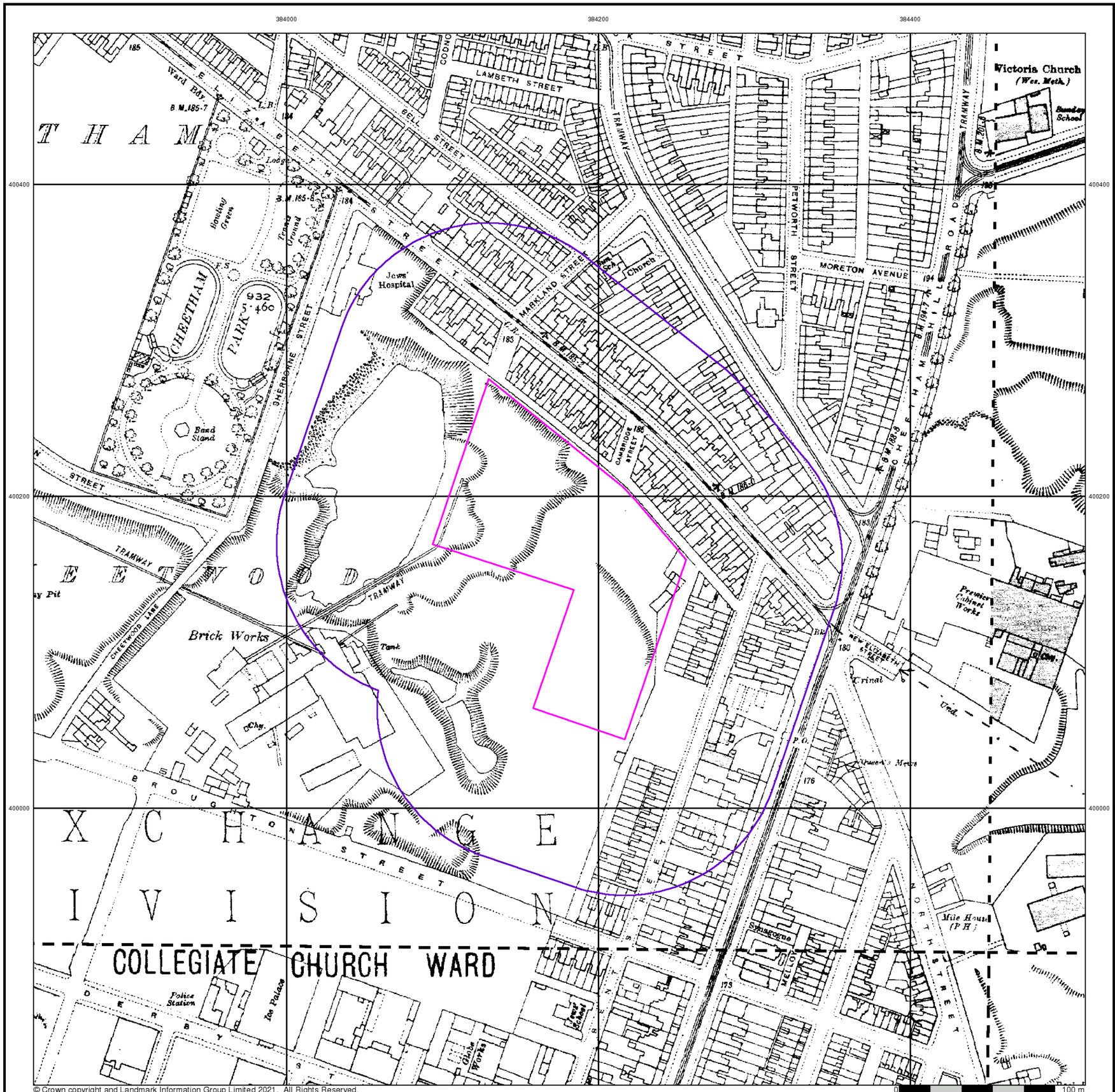
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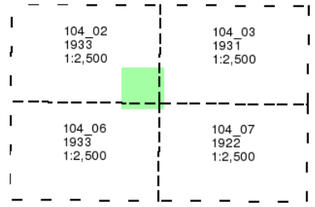
Lancashire And Furness

Published 1922 - 1933

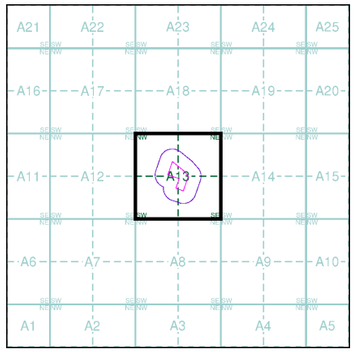
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Map Name(s) and Date(s)



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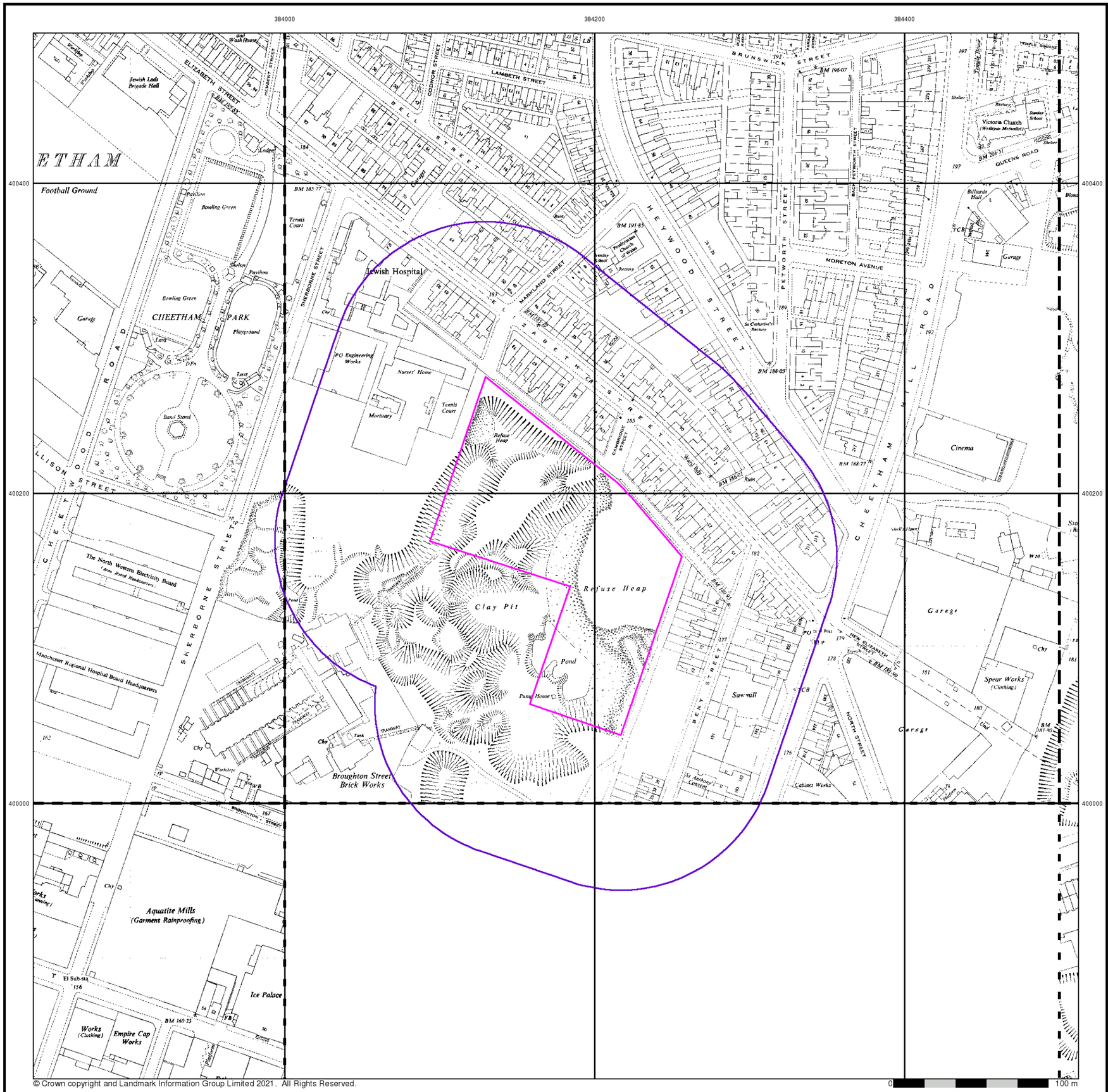
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Search Buffer (m):	100

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Ordnance Survey Plan

Published 1948 - 1952

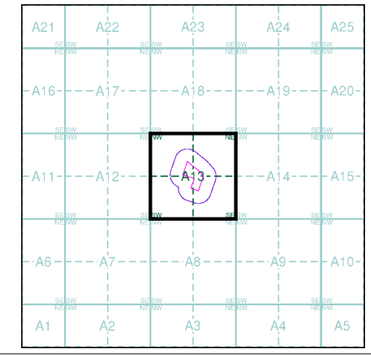
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Map Name(s) and Date(s)

	SD8300SE 1952 1:1,250	SD8400SW 1949 1:1,250	SD8400SE 1949 1:1,250
SJ8399NE 1951 1:1,250		SJ8499NE 1948 1:1,250

Historical Map - Segment A13



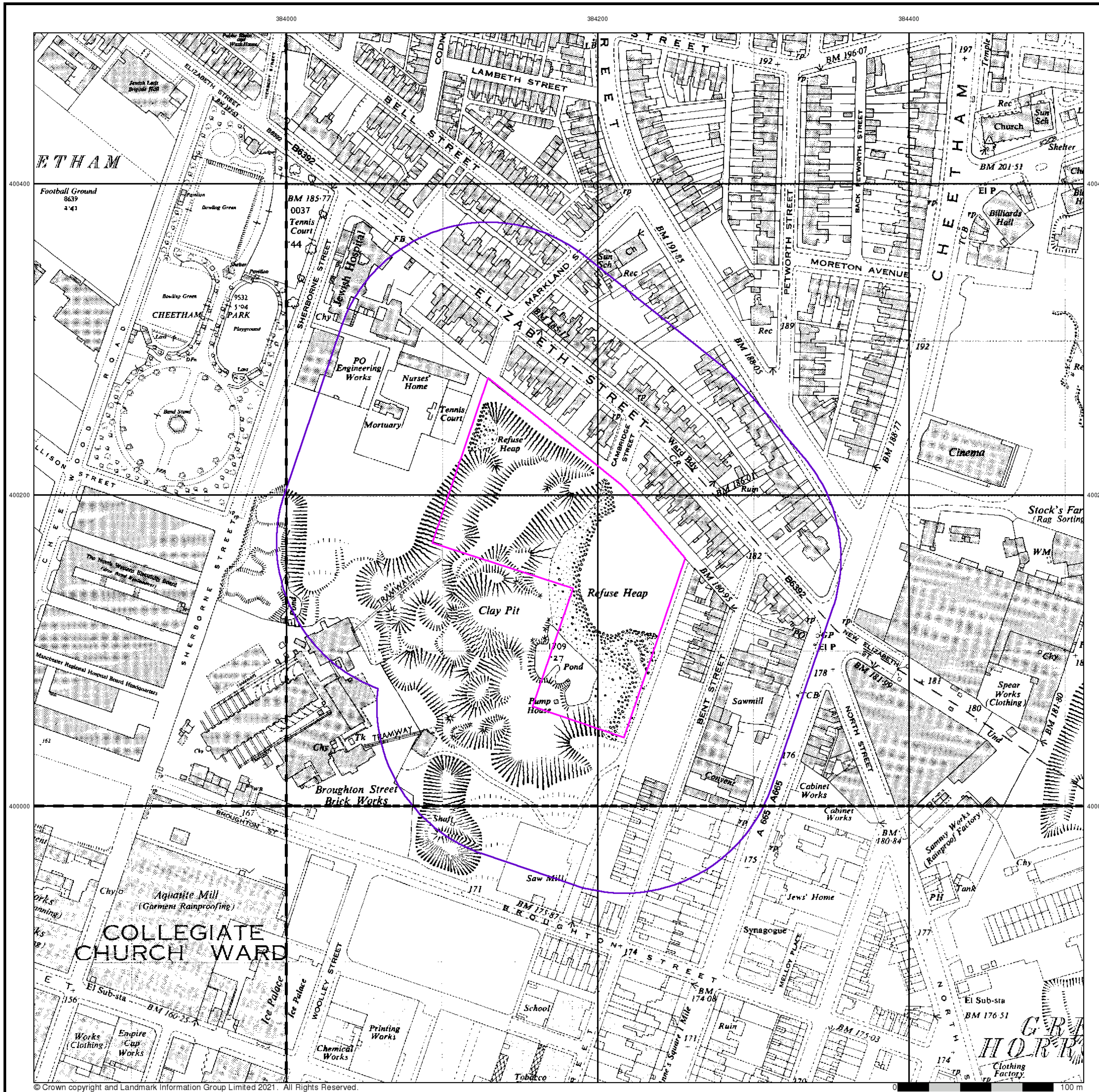
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Search Buffer (m):	100

Site Details

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Ordnance Survey Plan

Published 1951 - 1953

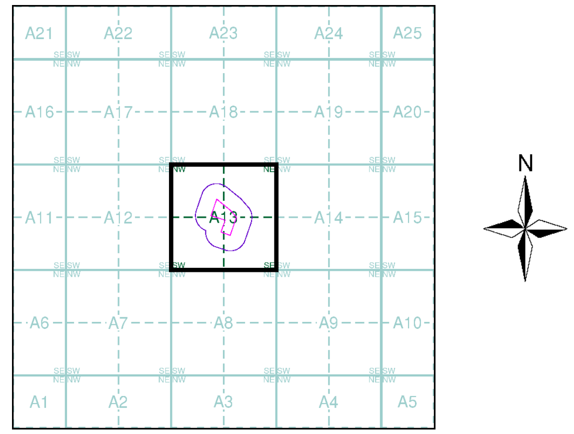
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Map Name(s) and Date(s)

SD8300 1953 1:2,500	SD8400 1951 1:2,500
SJ8399 1952 1:2,500	SJ8499 1951 1:2,500

Historical Map - Segment A13



Order Details

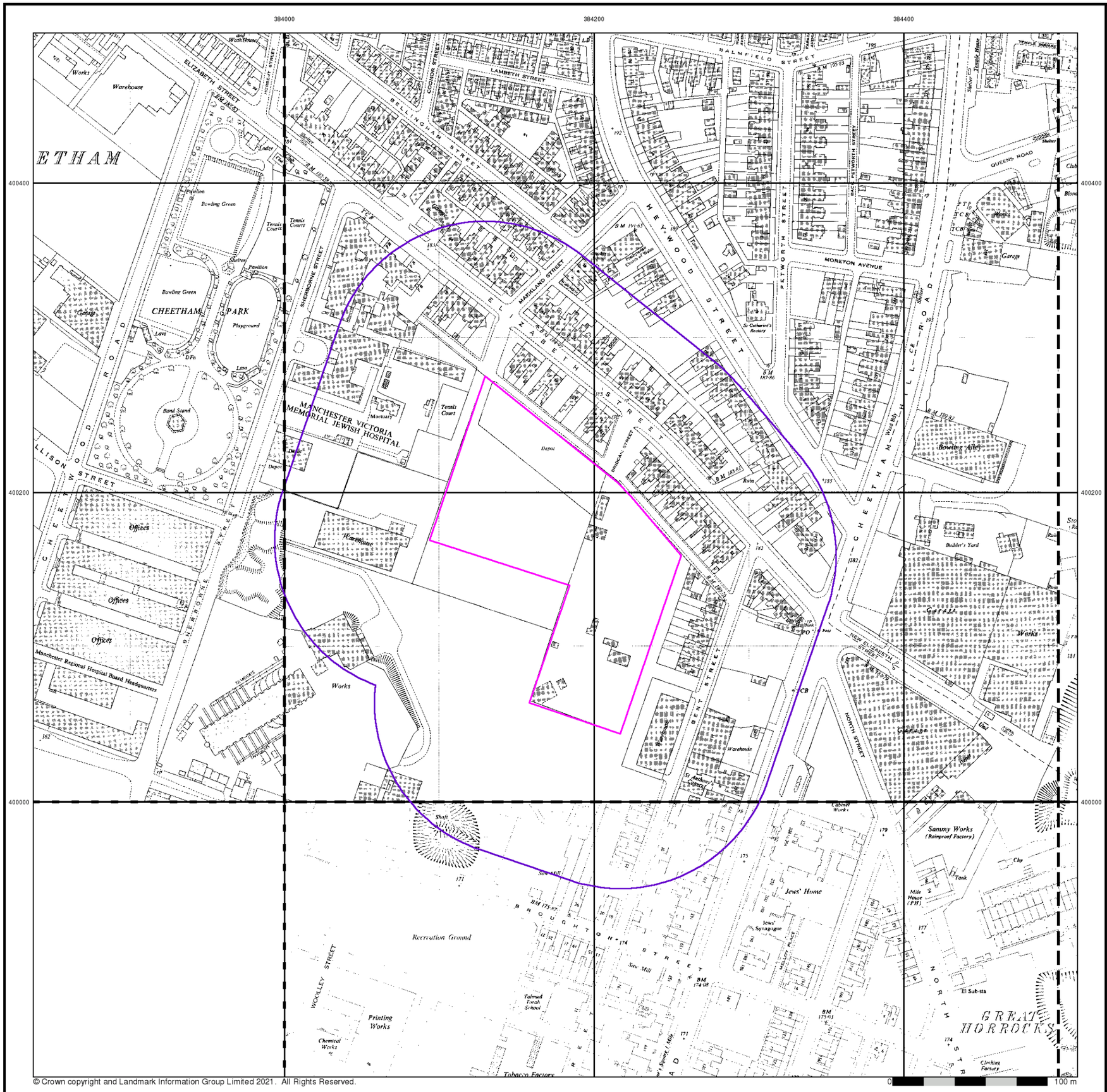
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Site Area (Ha): 1.77
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1951 - 1963

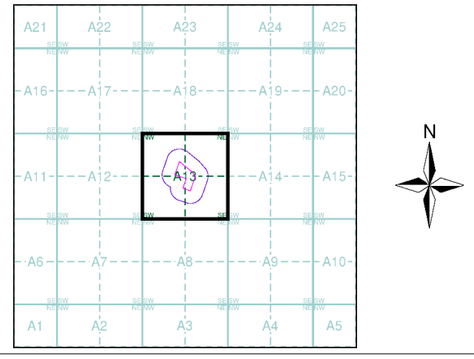
Source map scale - 1:1,250

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Map Name(s) and Date(s)

SD8300SE 1958 1:1,250	SD8400SW 1963 1:1,250	SD8400SE 1951 1:1,250
	SJ8499NW 1952 1:1,250	SJ8499NE 1952 1:1,250

Historical Map - Segment A13



Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	100

Site Details

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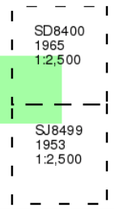
Ordnance Survey Plan

Published 1953 - 1965

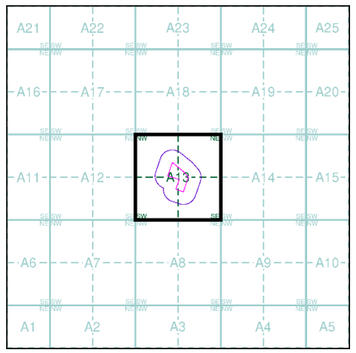
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



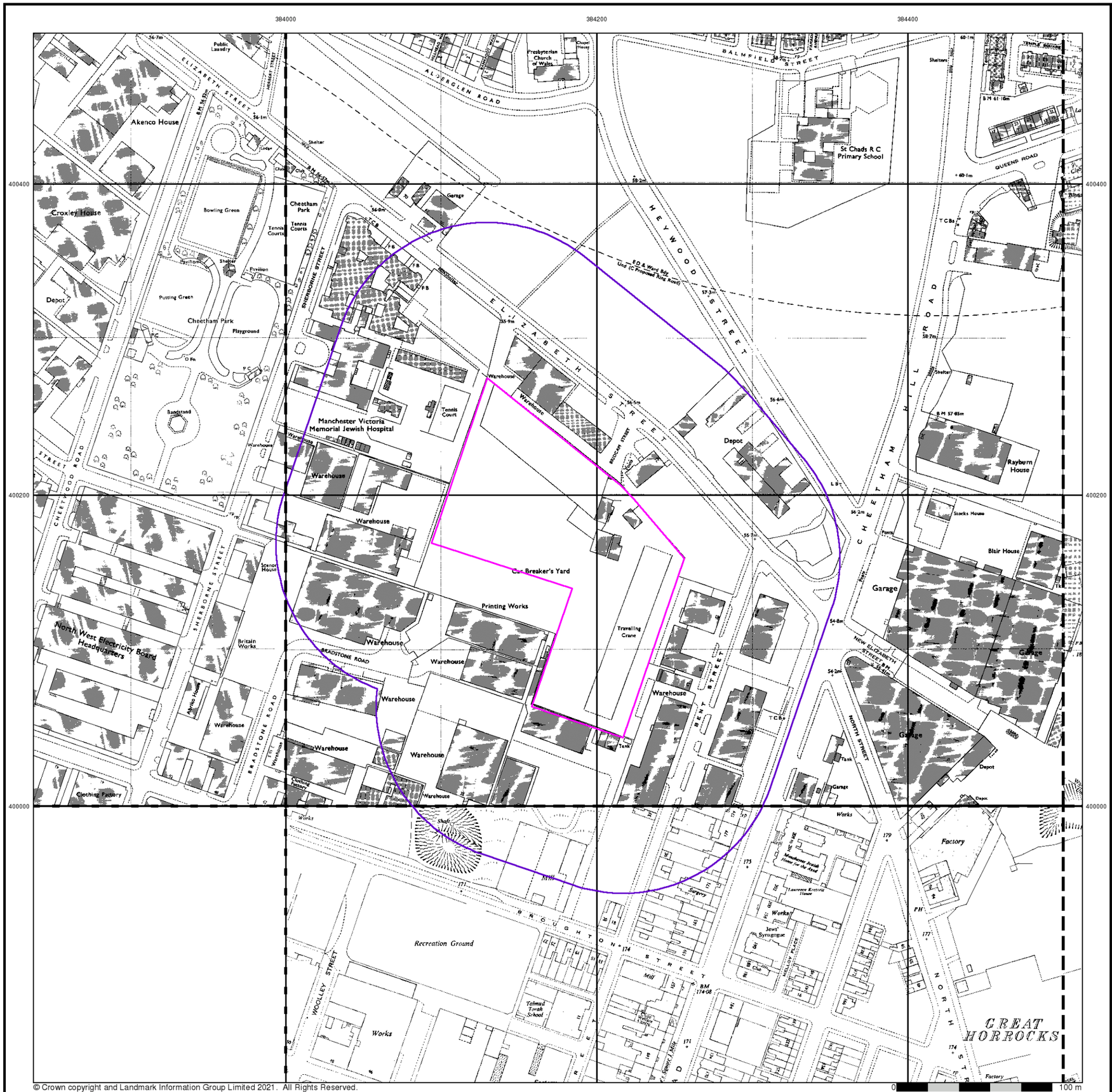
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Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	100

Site Details

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Ordnance Survey Plan

Published 1958 - 1975

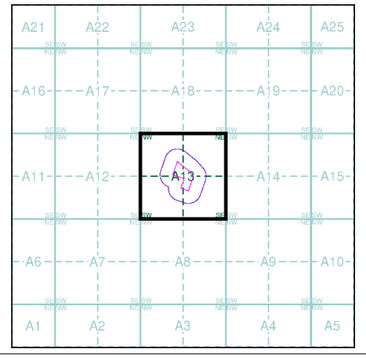
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SD8300SE 1973 1:1,250	SD8400SW 1975 1:1,250	SD8400SE 1958 1:1,250
	SJ8499NW 1958 1:1,250	SJ8499NE 1958 1:1,250

Historical Map - Segment A13

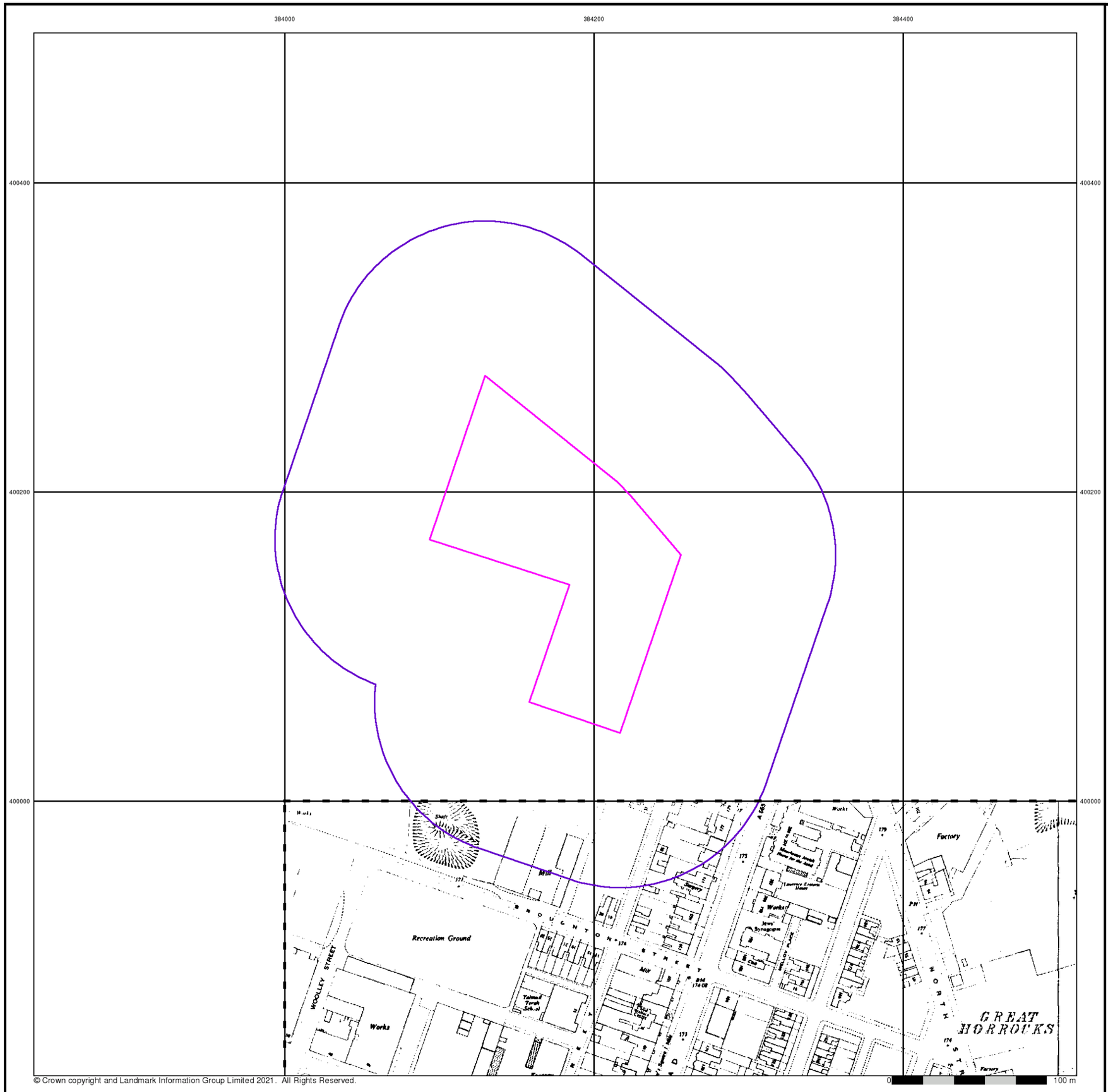


Order Details

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Site Area (Ha):	1.77
Search Buffer (m):	100

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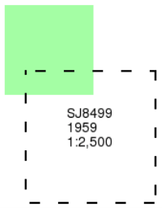
Ordnance Survey Plan

Published 1959

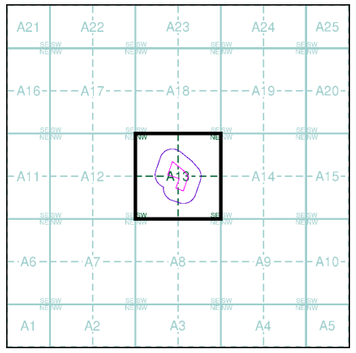
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



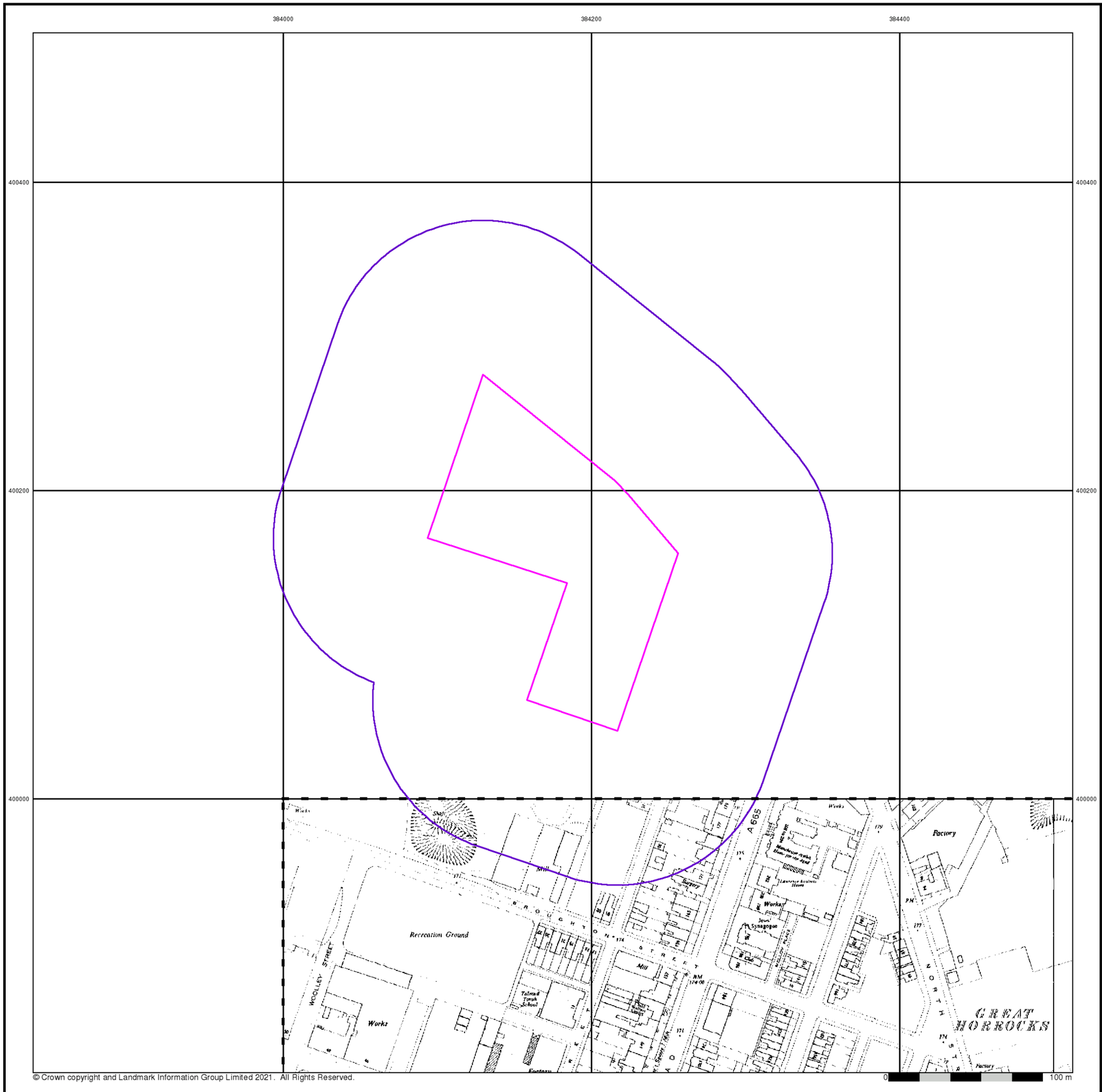
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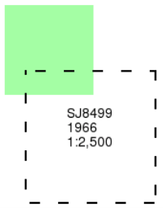
Ordnance Survey Plan

Published 1966

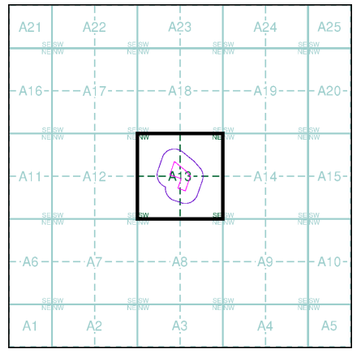
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

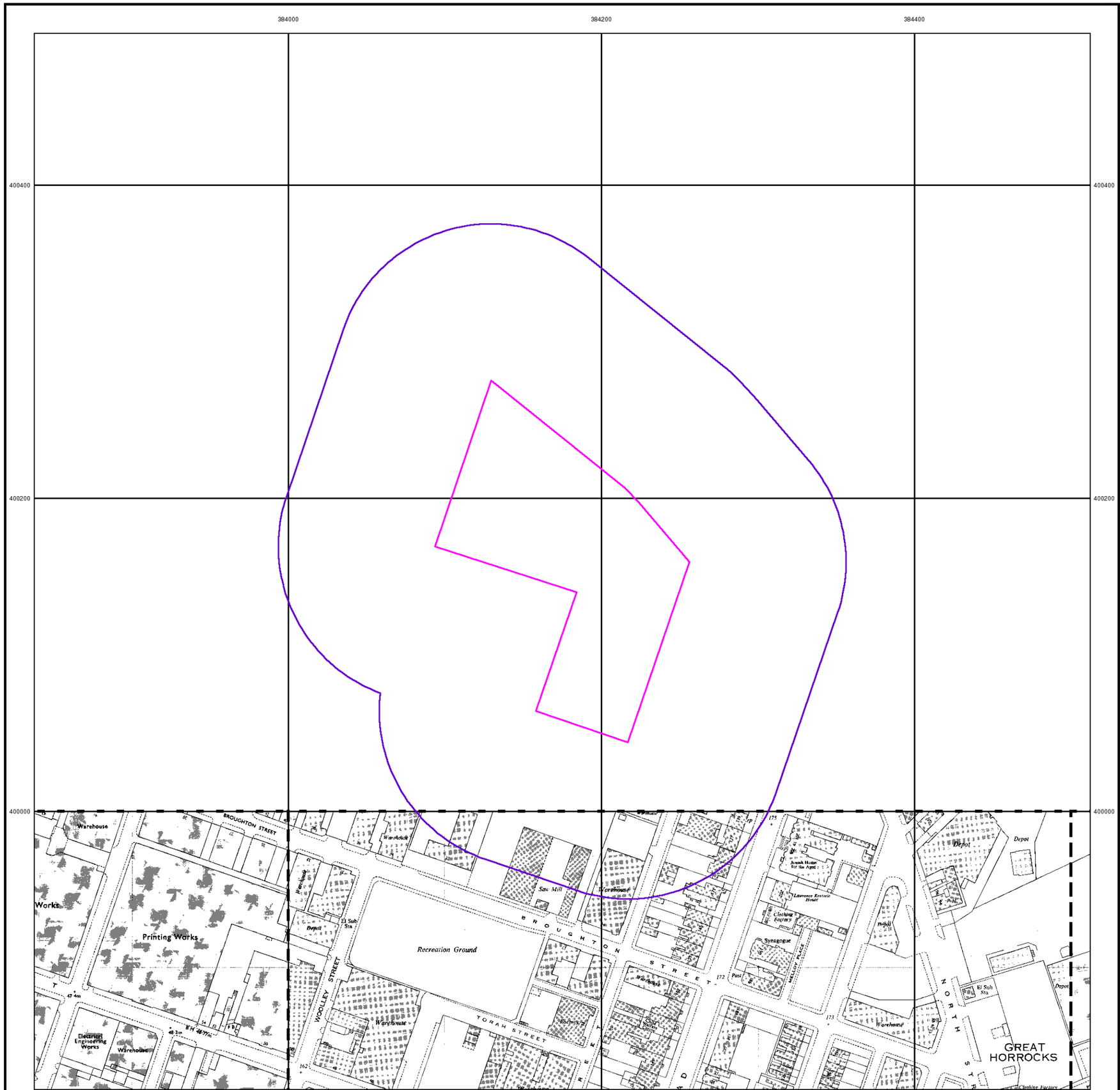
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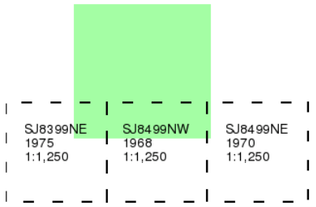
Ordnance Survey Plan

Published 1968 - 1975

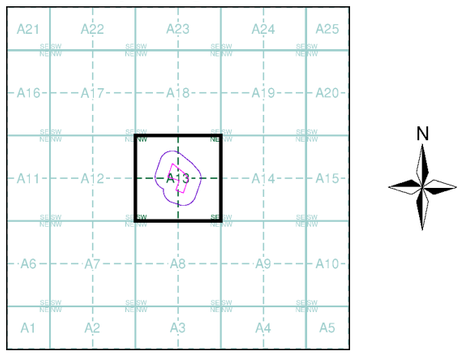
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



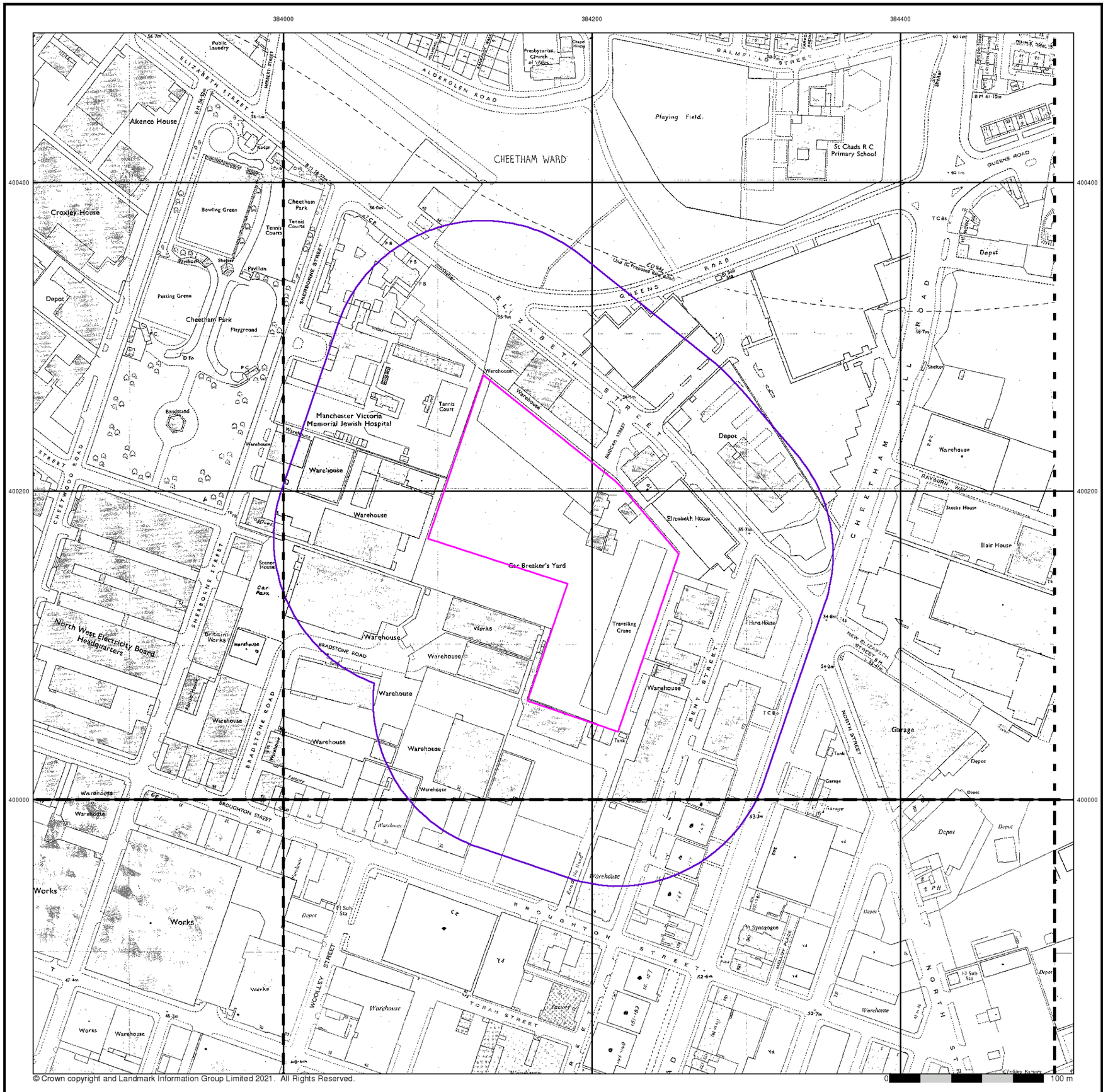
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Additional SIMs

Published 1978 - 1990

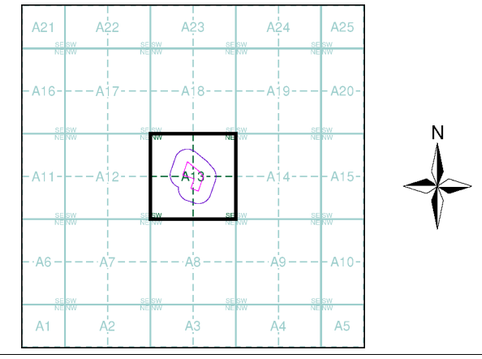
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8300SE 1978 1:1,250	SD8400SW 1982 1:1,250	
SJ8399NE 1989 1:1,250	SJ8499NW 1978 1:1,250	SJ8499NE 1990 1:1,250

Historical Map - Segment A13

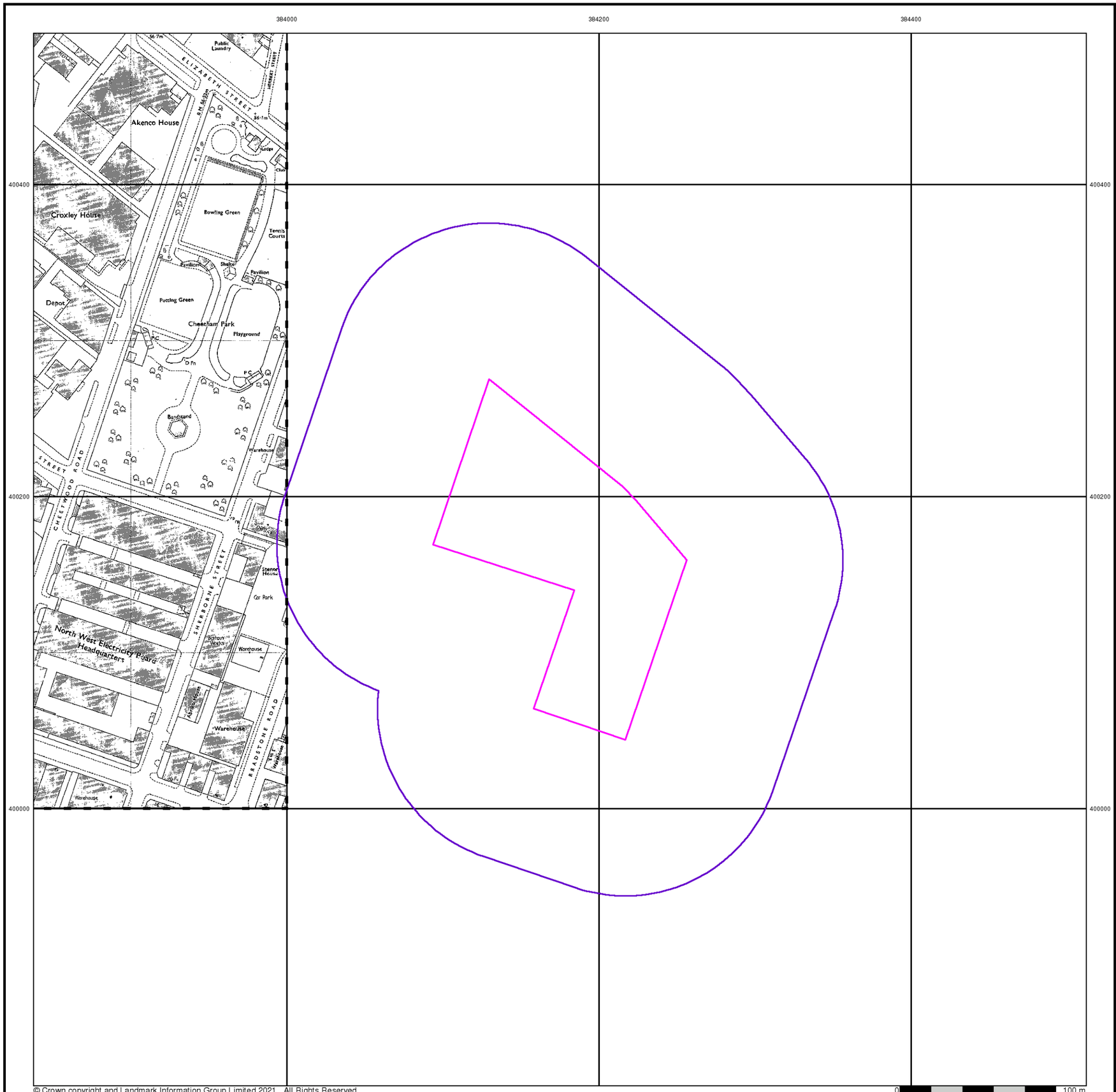


Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
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Slice:	A
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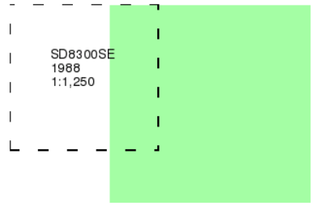
Additional SIMs

Published 1988

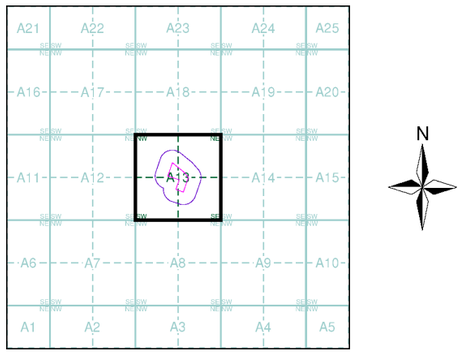
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13

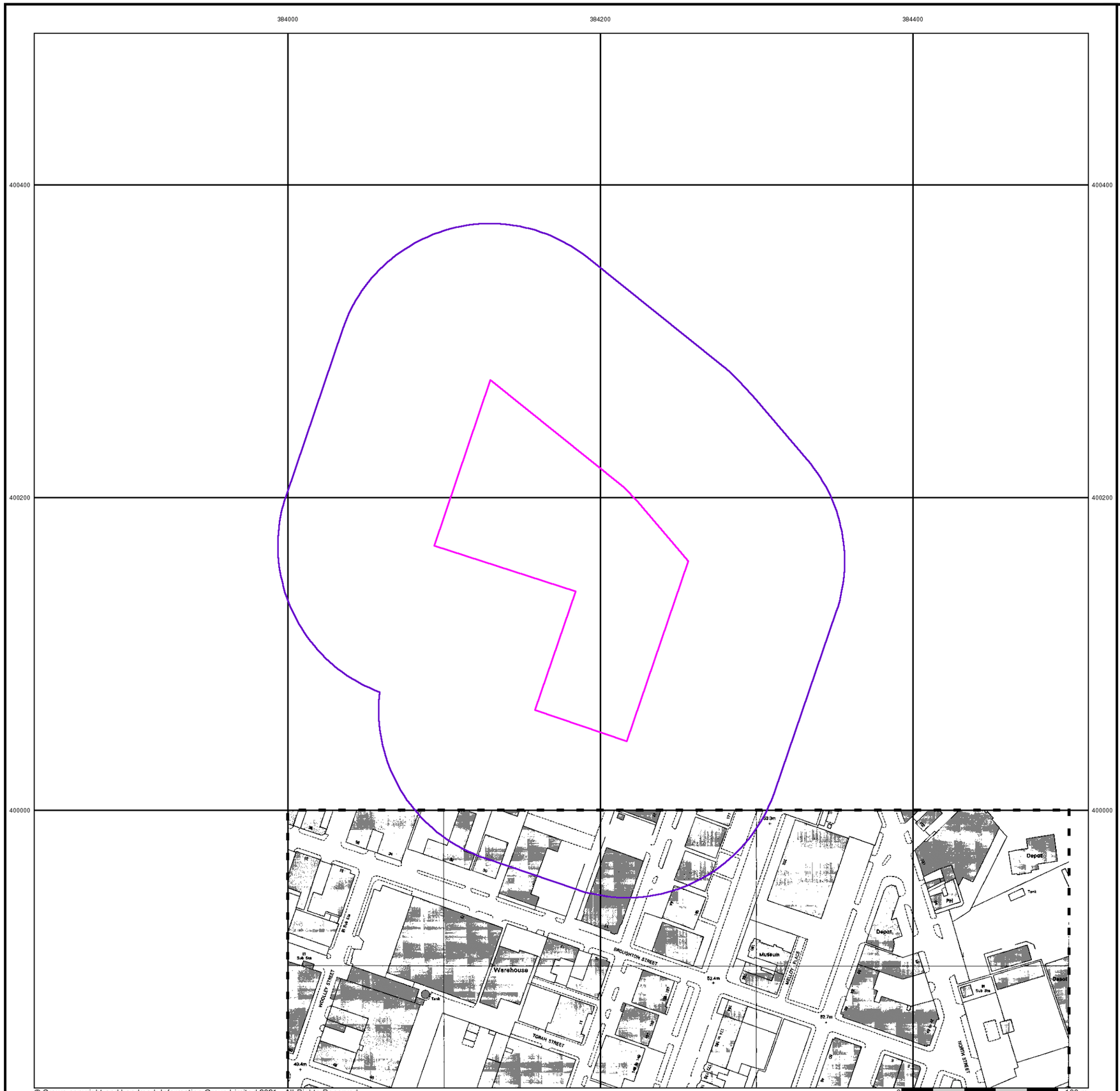


Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
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Ordnance Survey Plan

Published 1989

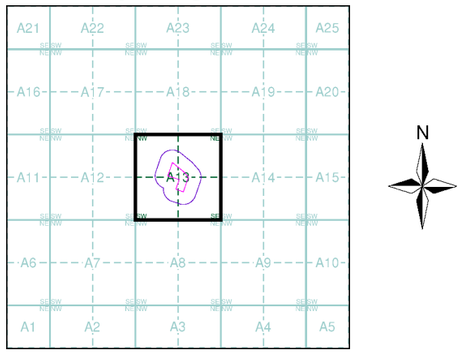
Source map scale - 1:1,250

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Map Name(s) and Date(s)

SJ8499NW
1989
1:1,250

Historical Map - Segment A13



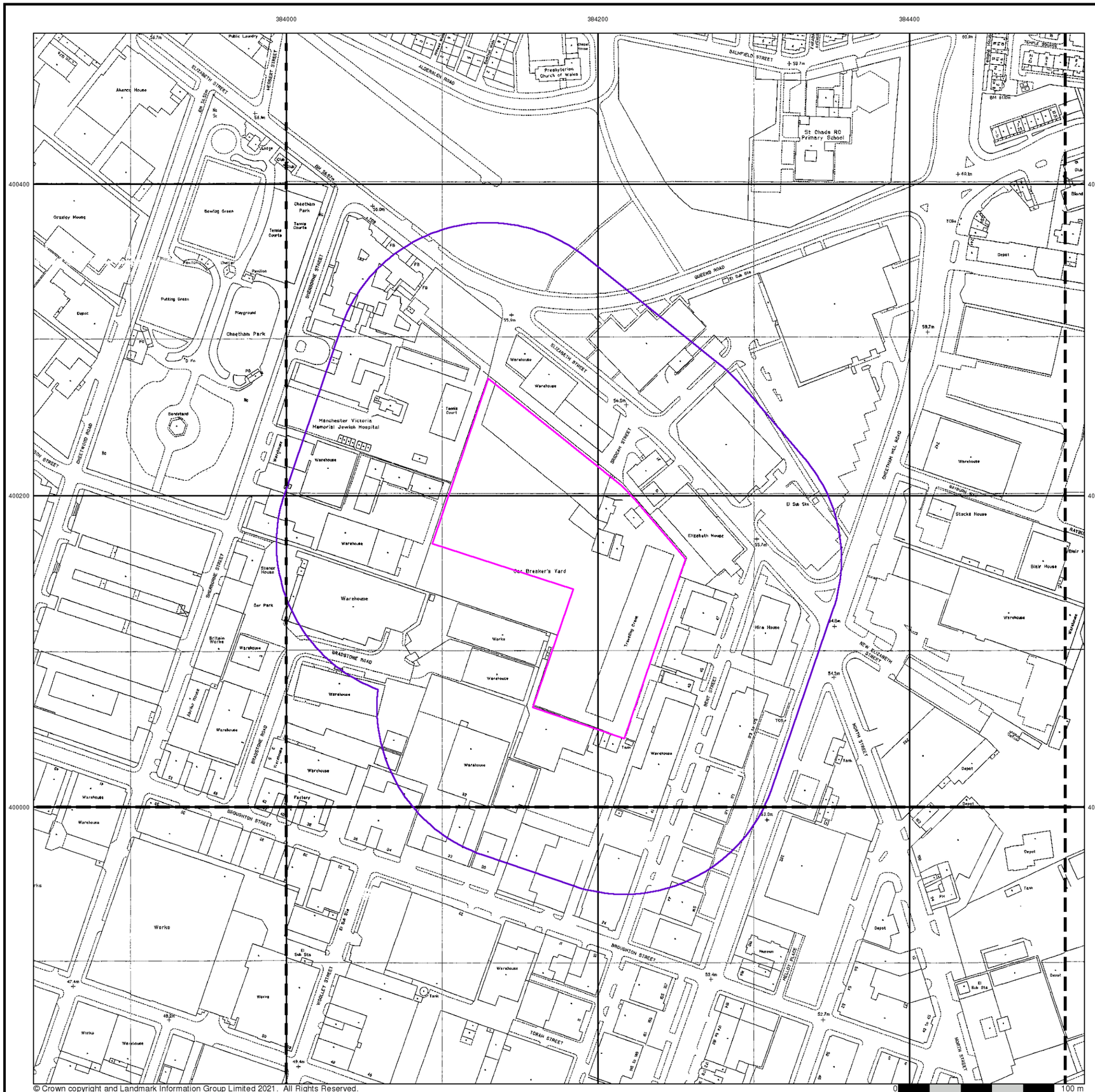
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Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	100

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Large-Scale National Grid Data

Published 1992

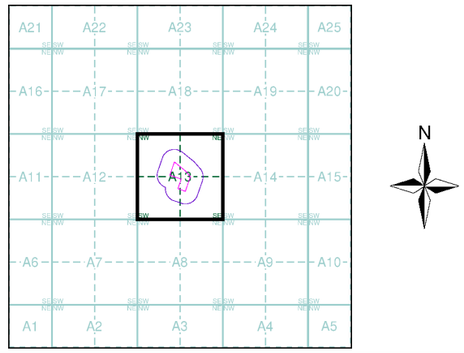
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8300SE 1992 1:1,250	SD8400SW 1992 1:1,250	SD8400SE 1992 1:1,250
SJ8399NE 1992 1:1,250	SJ8499NW 1992 1:1,250	SJ8499NE 1992 1:1,250

Historical Map - Segment A13



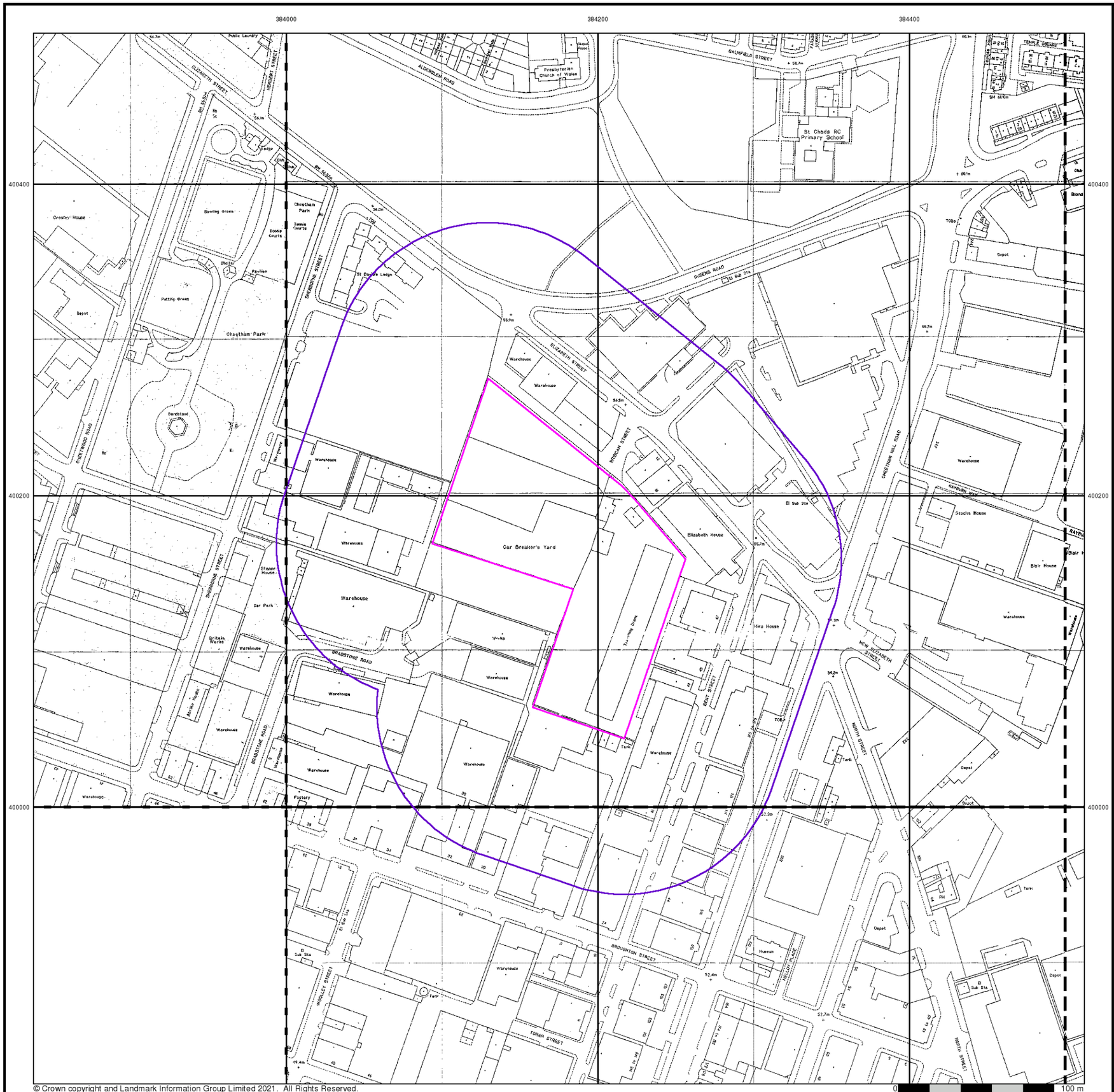
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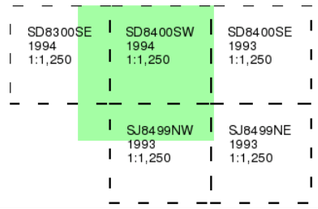
Large-Scale National Grid Data

Published 1993 - 1994

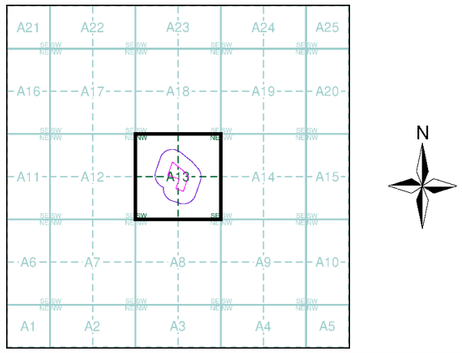
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

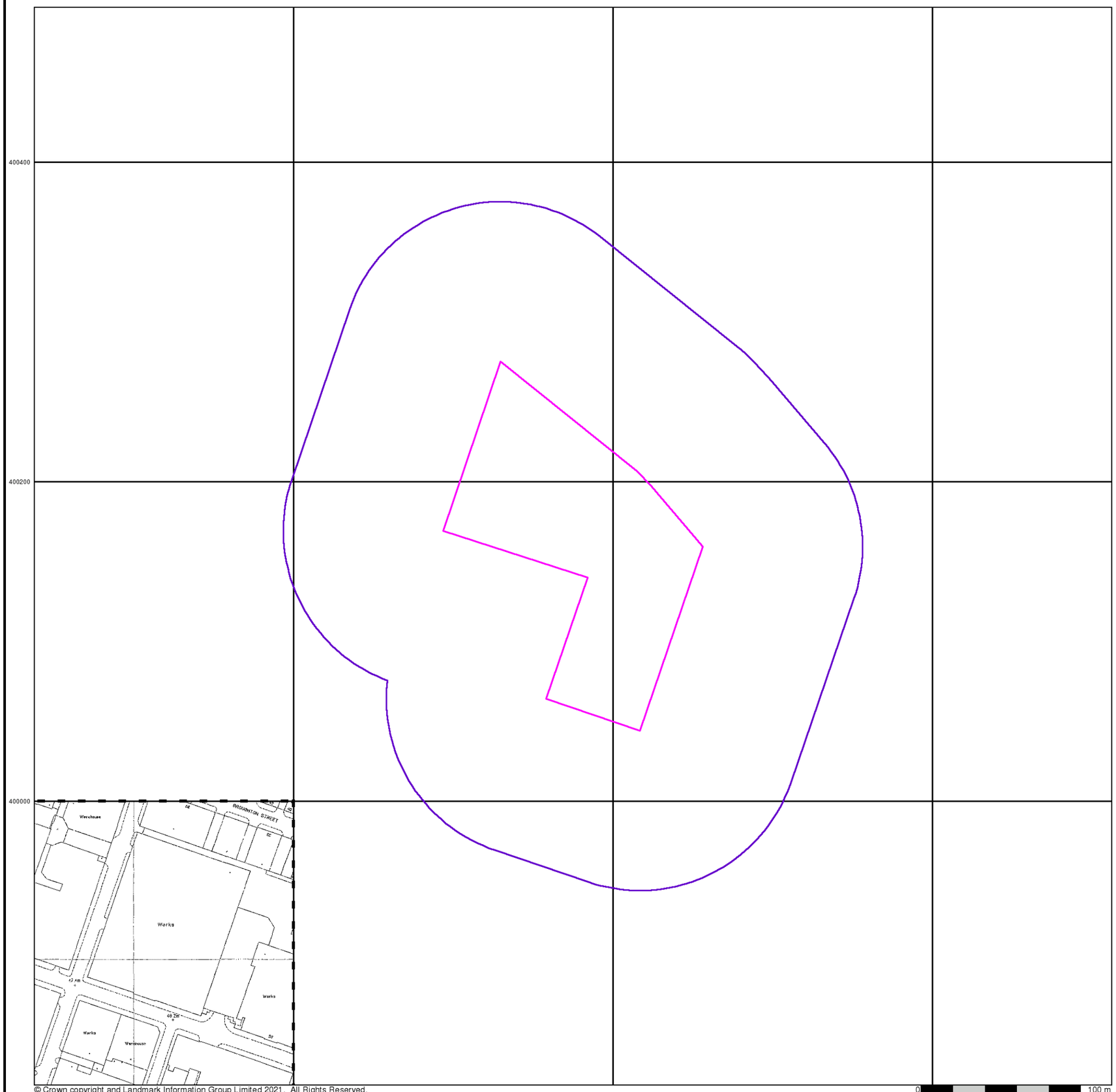
Order Number:	275906564_1_1
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Slice:	A
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Search Buffer (m):	100

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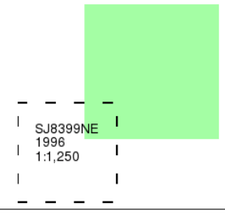
Large-Scale National Grid Data

Published 1996

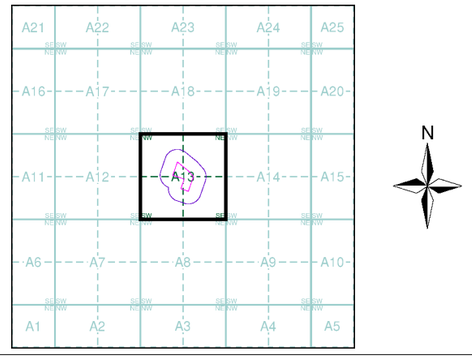
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

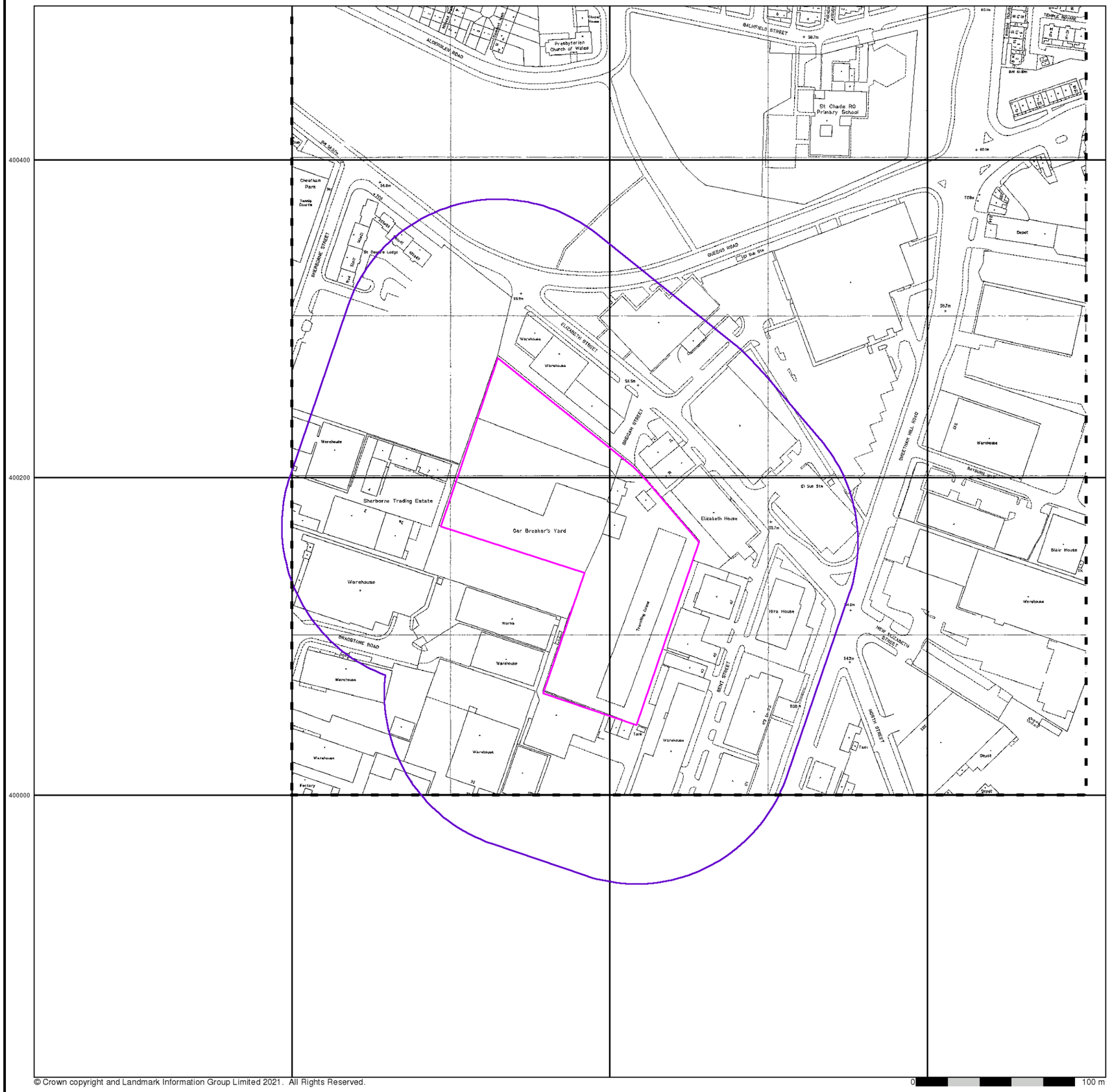
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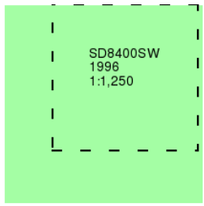
Large-Scale National Grid Data

Published 1996

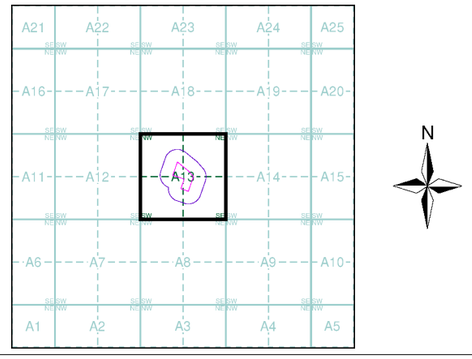
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



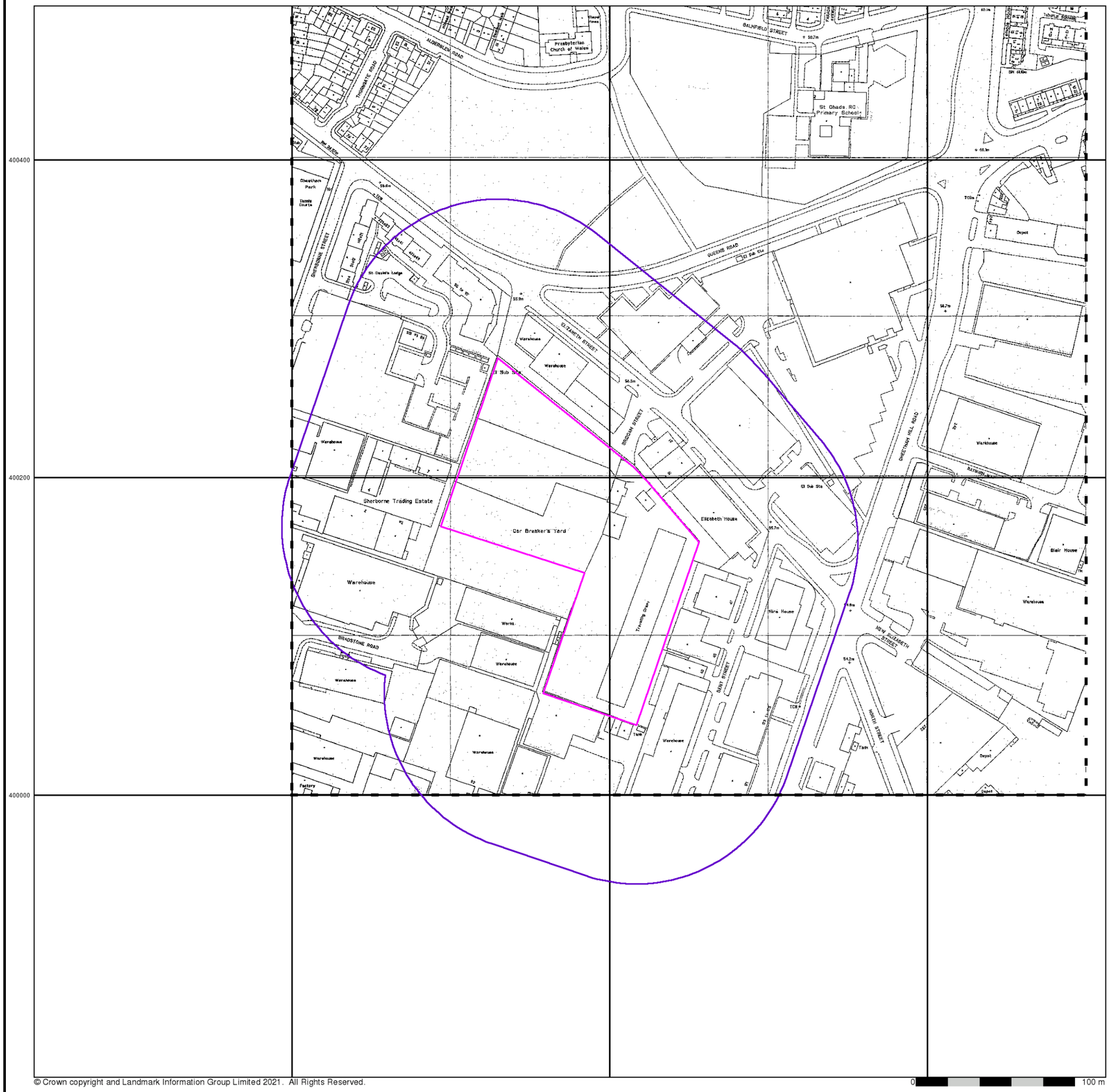
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0 100 m

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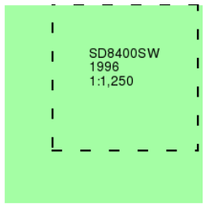
Large-Scale National Grid Data

Published 1996

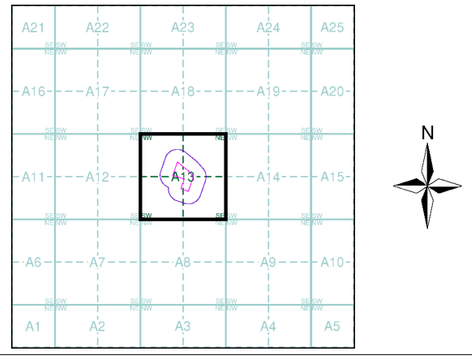
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	100

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



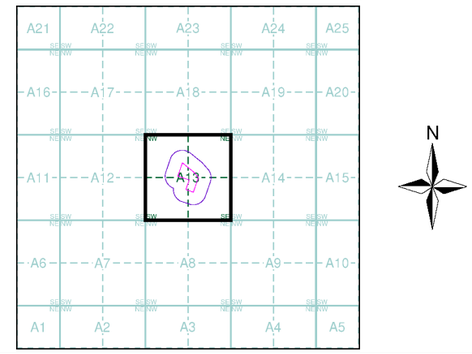
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Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13

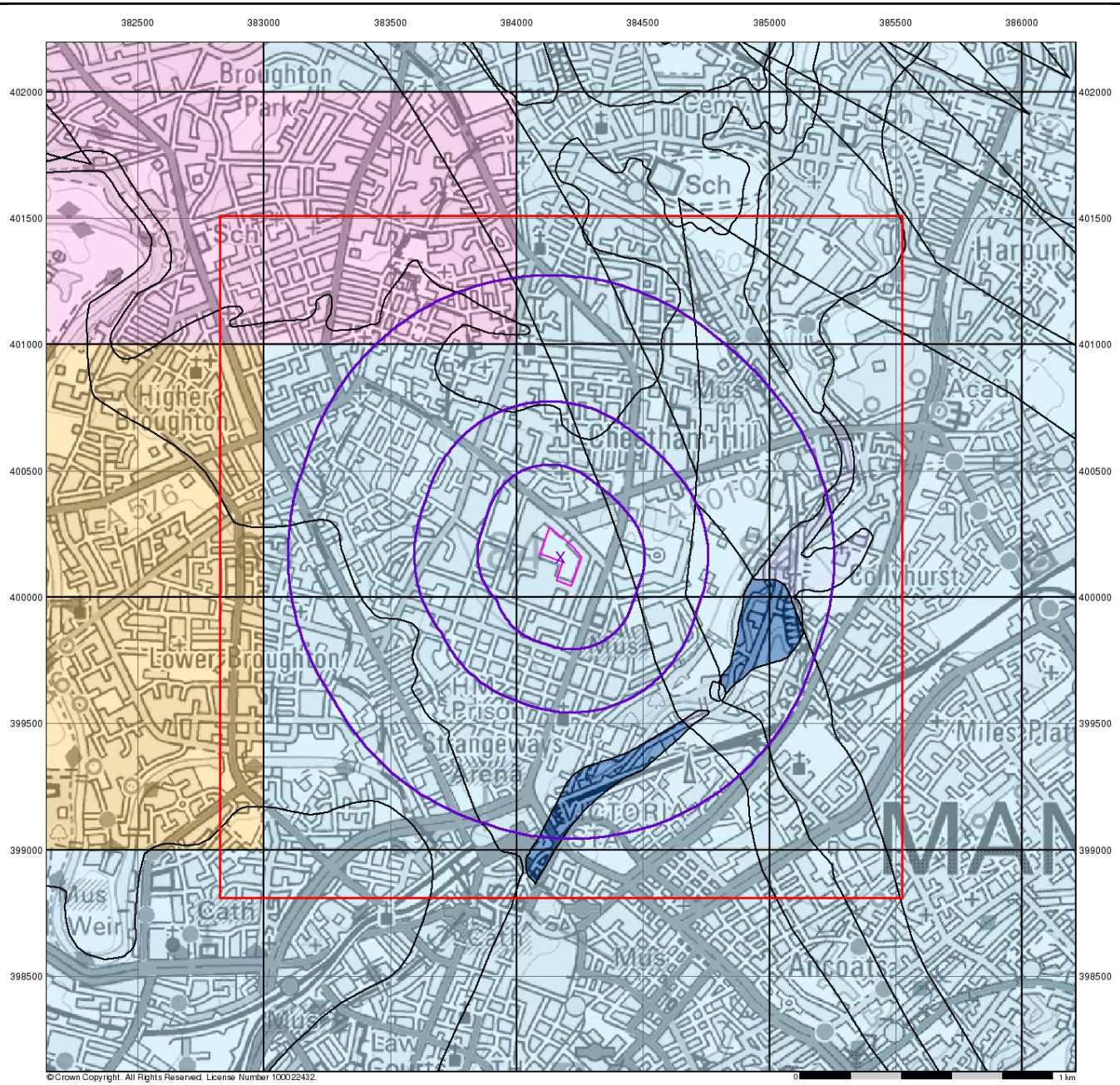


Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	100

Site Details

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Groundwater Vulnerability

General

Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

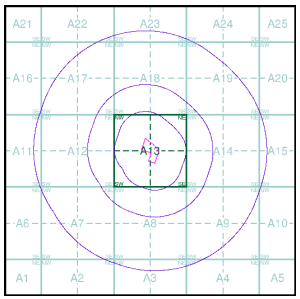
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

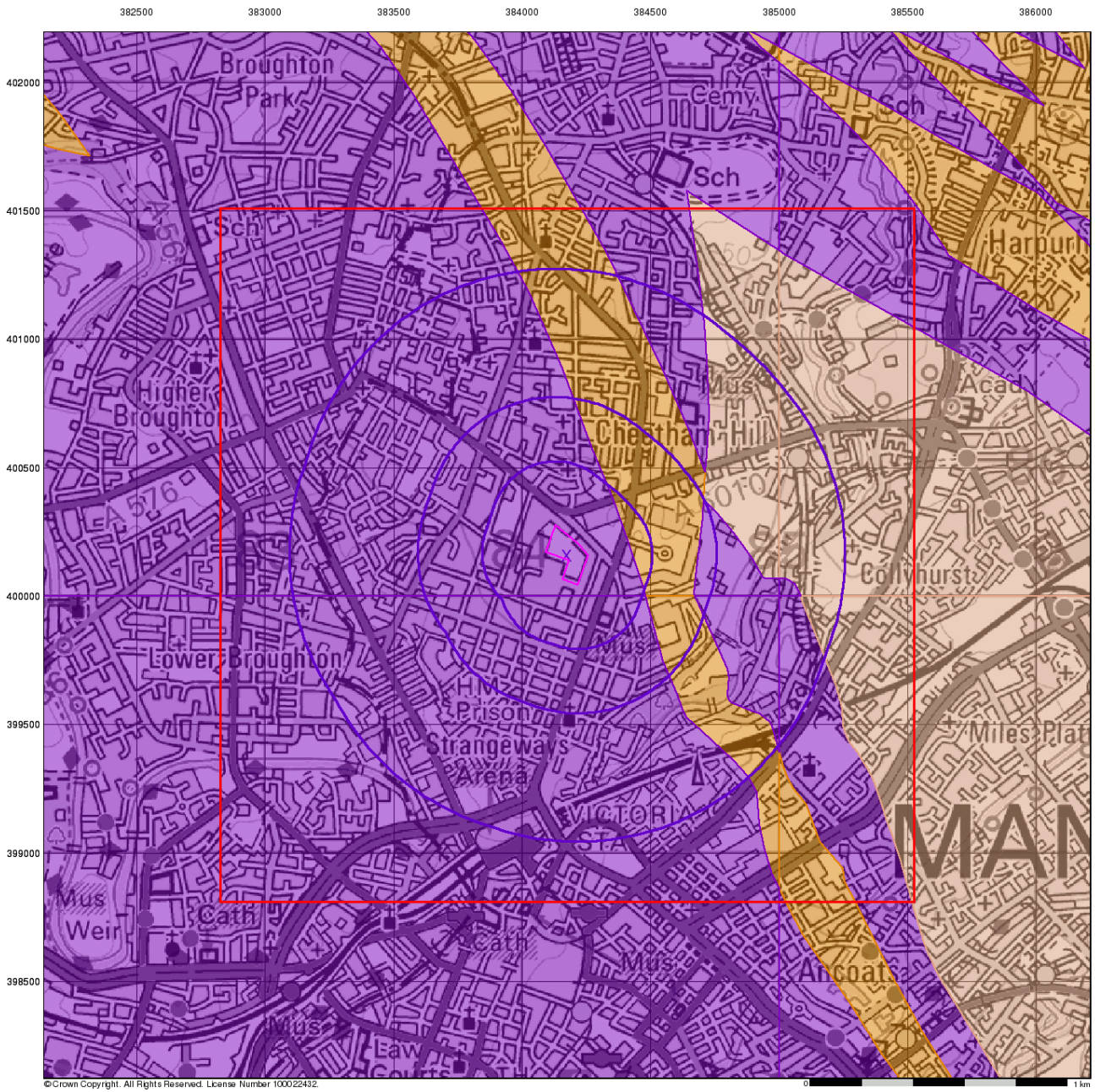
Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

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Bedrock Aquifer Designation

General

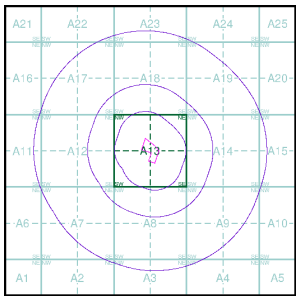
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

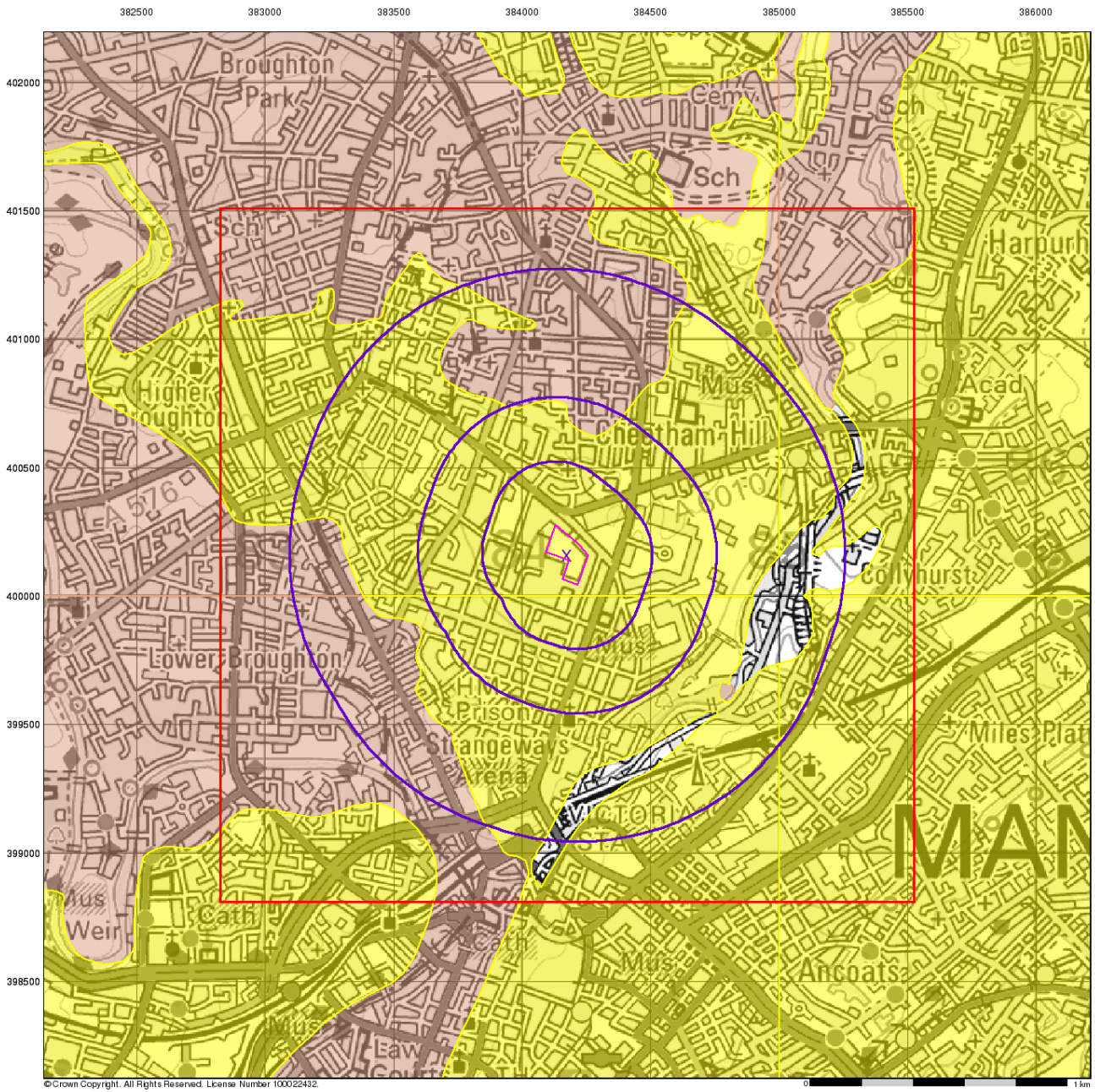


Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB



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Superficial Aquifer Designation

General

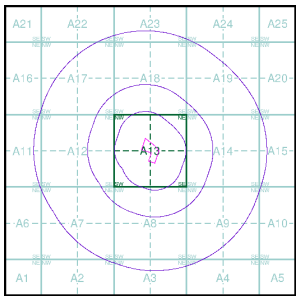
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



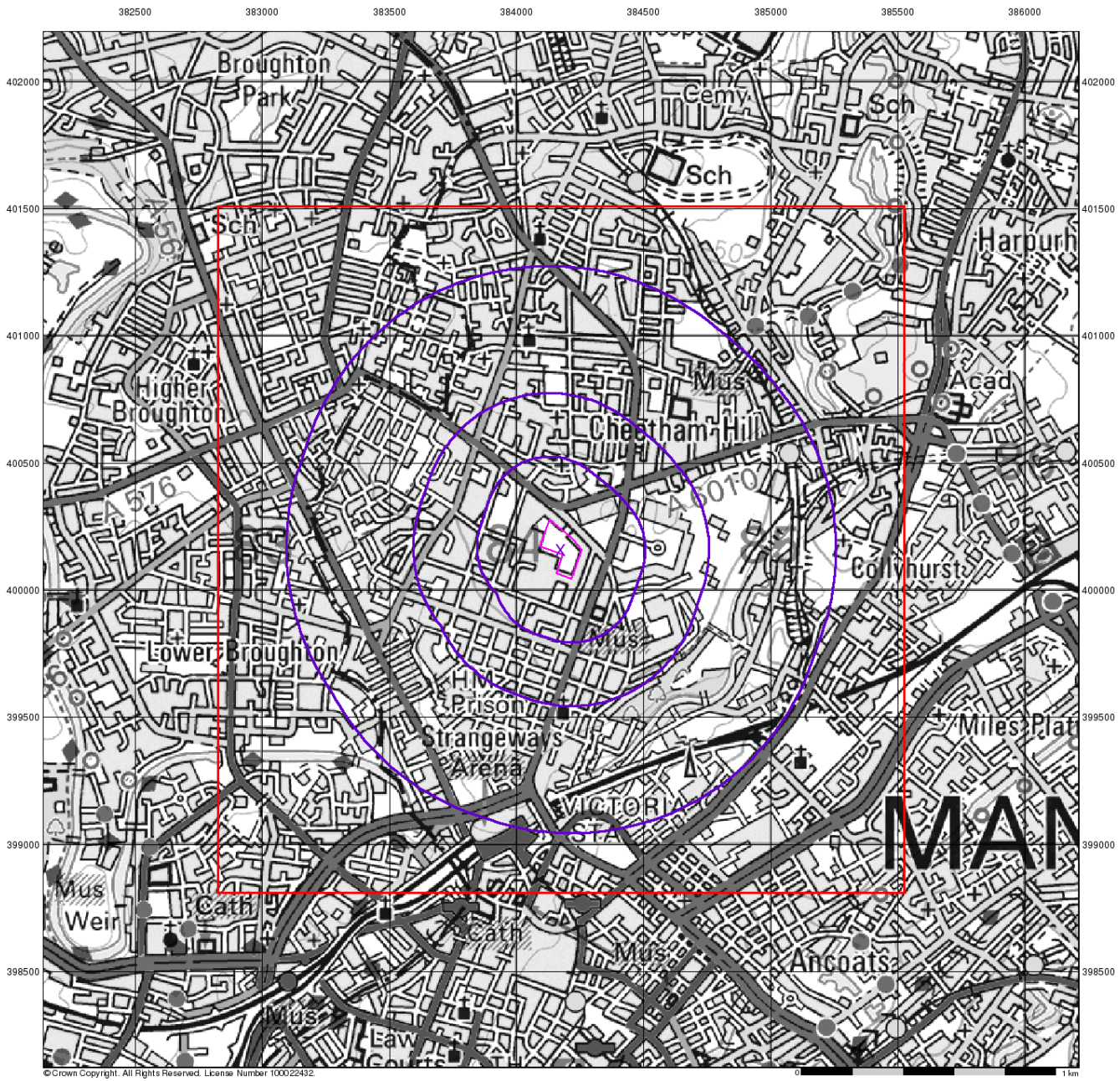
Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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Source Protection Zones

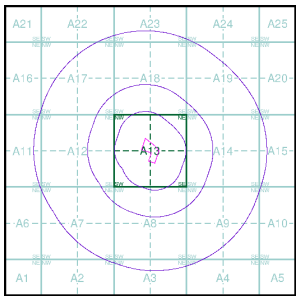
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



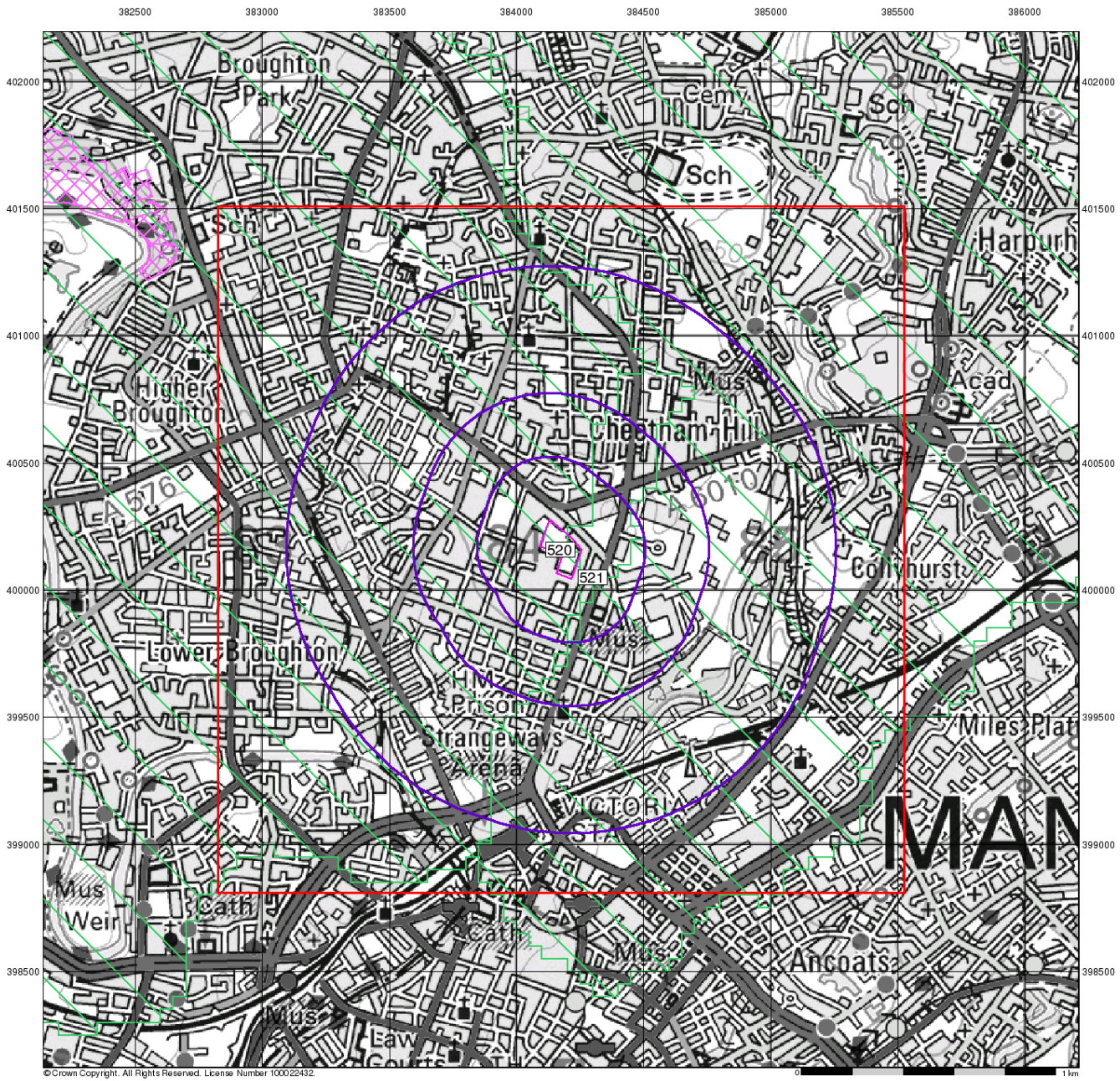
Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

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Sensitive Land Uses

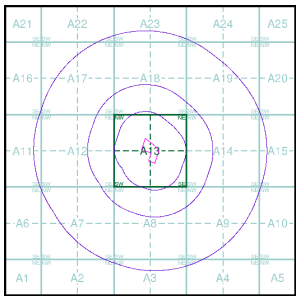
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



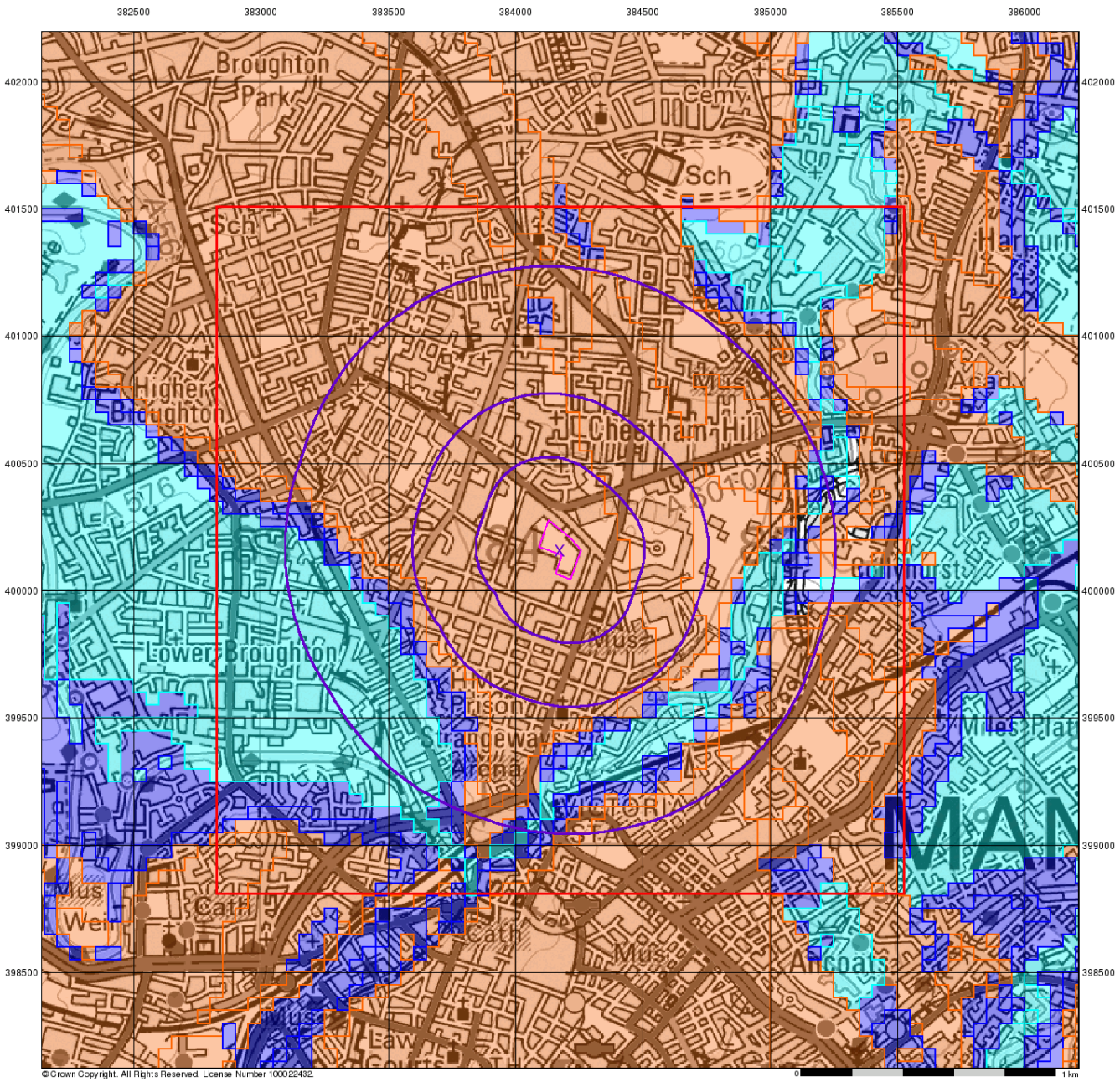
Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

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BGS Flood GFS Data

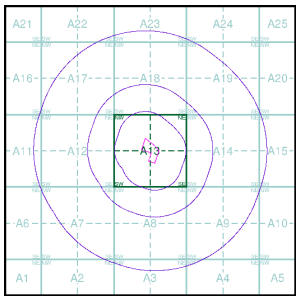
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
275906564_1_1

Customer Reference:
B078695

National Grid Reference:
384170, 400160

Slice:
A

Site Area (Ha):
1.77

Search Buffer (m):
1000

Site Details:

Site off Elizabeth Street
MANCHESTER
M8 8BB

Client Details:

Mr N Farnworth
Curtins Consulting Ltd
Rose Wharf
78-80 East Street
Leeds
West Yorkshire
LS9 8EE

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Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	36
Hazardous Substances	-
Geological	46
Industrial Land Use	59
Sensitive Land Use	128
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Data Suppliers	136
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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1				56
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 15			2	15
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 17				Yes
Pollution Incidents to Controlled Waters	pg 18			2	15
Prosecutions Relating to Authorised Processes	pg 20			1	
Registered Radioactive Substances					
River Quality	pg 21				2
River Quality Biology Sampling Points	pg 21				1
River Quality Chemistry Sampling Points	pg 22				1
Substantiated Pollution Incident Register	pg 22			3	3
Water Abstractions	pg 23			4	21 (*8)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 31	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 31	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 31	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 32			2	26

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 36				1
Historical Landfill Sites	pg 36	1	1	1	3
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 37			2	7
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 39	1	4	12	6
Potentially Infilled Land (Water)	pg 40		2	9	41
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 43			1	3
Registered Waste Treatment or Disposal Sites	pg 44			1	1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 46	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 46	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 52		1	3	15
BGS Urban Soil Chemistry	pg 55		Yes		Yes
BGS Urban Soil Chemistry Averages	pg 57	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 57	Yes	n/a	n/a	n/a
Mining Instability	pg 57	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 57	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 57	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 58	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 58	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 58	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 59		83	146	292
Fuel Station Entries	pg 103		1	1	9
Points of Interest - Commercial Services	pg 104	1	10	32	71
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 113		9	43	77
Points of Interest - Public Infrastructure	pg 124			4	26
Points of Interest - Recreational and Environmental	pg 127		1		9
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 128	1	1		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (NE)	0	1	384173 400158
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	45	1	384173 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	150	1	384350 400300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	283	1	384500 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	409	1	384650 400050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	460	1	383650 400050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	472	1	384700 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	475	1	383650 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	481	1	384400 399600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (SE)	486	1	384500 399650
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cheetham Hill Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0369 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Surface/Underground Water Receiving Water: S/W **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	535	2	384220 399510
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic St Warford St Cso 288a7 151 Dantzic Street, ., Manchester, Greater Manchester, M4 4nl Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0039 Permit Version: 4 Effective Date: 2nd August 2018 Issued Date: 2nd August 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	630	2	384598 399543

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic St Warford St Cso 288a7 151 Dantzic Street, ., Manchester, Greater Manchester, M4 4nl Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0039 Permit Version: 3 Effective Date: 22nd March 2016 Issued Date: 22nd March 2016 Revocation Date: 1st August 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	630	2	384598 399543
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic St Warford St Cso 288a7 151 Dantzic Street, ., Manchester, Greater Manchester, M4 4nl Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0039 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 21st March 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	634	2	384600 399540
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic St Warford St Cso 288a7 151 Dantzic Street, ., Manchester, Greater Manchester, M4 4nl Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0039 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	634	2	384600 399540
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic Street Cso 77 Warford Street, ., ., Manchester, M4 4dd Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982951 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: 6th December 2004 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	635	2	384650 399580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic Street Cso 77 Warford Street, ., ., Manchester, M4 4dd Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982951 Permit Version: 3 Effective Date: 1st April 2018 Issued Date: 12th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	643	2	384654 399573
3	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dantzic Street Cso 77 Warford Street, ., ., Manchester, M4 4dd Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982951 Permit Version: 2 Effective Date: 7th December 2004 Issued Date: Not Supplied Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	650	2	384650 399560
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ducal St/Dantzic St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0057 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 25th October 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	692	2	384710 399560
5	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Waterloo Road, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0070 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Broughton Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SW (SW)	693	2	383490 399830

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bromley Street Cso 281mt 41 Wiliamson Street, Near Railway Arch, Manchester, Greater Manchester, M4 4js Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982627 Permit Version: 2 Effective Date: 1st April 2018 Issued Date: 21st March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (SE)	700	2	384492 399401
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bromley Street Cso 281mt 41 Wiliamson Street, Near Railway Arch, Manchester, Greater Manchester, M4 4js Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0310 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	700	2	384490 399400
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bromley Street Cso 281mt 41 Wiliamson Street, Near Railway Arch, Manchester, Greater Manchester, M4 4js Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982627 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	705	2	384490 399395
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bromley Street/Dantzic Street Cso Bromley Street, ., Manchester, Greater Manchester, M4 4js Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0046 Permit Version: 3 Effective Date: 11th January 2017 Issued Date: 11th January 2017 Revocation Date: 27th April 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	730	2	384470 399360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bromley Street/Dantzic Street Cso Bromley Street, ., Manchester, Greater Manchester, M4 4js Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0046 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 10th January 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	730	2	384470 399360
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bromley Street/Dantzic Street Cso Bromley Street, ., Manchester, Greater Manchester, M4 4js Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0046 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	730	2	384470 399360
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Parlane St/Dantzic St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0061 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 25th October 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	730	2	384470 399360
7	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Rochdale Rd/Collyhurst, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 016993740 Permit Version: 1 Effective Date: 11th July 2005 Issued Date: 11th July 2005 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Irk **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	706	2	384910 399890

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Sherbourne St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0358 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	710	2	383630 399590
9	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dalton St/Dantzic Street Sso, Dalton St/Dantzic Street, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0264 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	735	2	384710 399500
9	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dalton St/Dantzic Street Sso, Dalton St/Dantzic Street, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982623 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 3rd December 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	739	2	384710 399495
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Roger Street/Hargreaves Street Cso Roger Street, ., Manchester, Greater Manchester, M4 4en Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0059 Permit Version: 4 Effective Date: 22nd March 2016 Issued Date: 22nd March 2016 Revocation Date: 9th March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	741	2	384441 399338

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Gould St/Jason St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0047 Permit Version: 3 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 3rd December 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	745	2	384460 399340
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Gould St/Jason St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0047 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	745	2	384460 399340
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Gould St/Jason St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0047 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	745	2	384460 399340
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Roger Street/Hargreaves Street Cso Roger Street, ., Manchester, Greater Manchester, M4 4en Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0059 Permit Version: 3 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 21st March 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	749	2	384440 399330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Roger Street/Hargreaves Street Cso Roger Street, ., Manchester, Greater Manchester, M4 4en Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0059 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	749	2	384440 399330
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Lord St & Red Bank, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0062 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 25th October 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	749	2	384440 399330
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Roger Street/Hargreaves Street Cso Roger Street, ., Manchester, Greater Manchester, M4 4en Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0059 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	749	2	384440 399330
11	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Burton St Nr Dalton St Cso 281hx 133 Collyhurst Road, ., Manchester, Greater Manchester, M40 7gx Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982622 Permit Version: 2 Effective Date: 11th April 2018 Issued Date: 11th April 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	765	2	384860 399630

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Burton St Nr Dalton St Cso 281hx 133 Collyhurst Road, ., Manchester, Greater Manchester, M40 7gx Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0263 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	765	2	384860 399630
11	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Burton St Nr Dalton St Cso 281hx 133 Collyhurst Road, ., Manchester, Greater Manchester, M40 7gx Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982622 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 10th April 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	768	2	384860 399625
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Colyhurst/Fitzgeorg St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0043 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 15th December 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Moston Brook **Status:** **Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	788	2	385030 400010
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Colyhurst/Fitzgeorg St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0043 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Moston Brook **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	788	2	385030 400010

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Smedley Road Cso Smedley Bridge, Smedley Road, Manchester, Greater Manchester, M8 0rp Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0042 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 27th October 2004 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	809	2	385040 400360
14	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Road Salford Cso Adjacent To 218 Bury New Road, ., Salford, Greater Manchester, M8 8dy Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 01SAL0024 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 20th March 2006 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	821	2	383450 399650
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aspin Lane Cso 281cj Vallea Court, 1 Red Bank, ., Manchester, M4 4fe Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0031 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	825	2	384210 399220
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aspin Lane Cso 281cj Vallea Court, 1 Red Bank, ., Manchester, M4 4fe Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0031 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	825	2	384210 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aspin Lane Cso 281cj Vallea Court, 1 Red Bank, ., Manchester, M4 4fe Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0031 Permit Version: 4 Effective Date: 25th June 2018 Issued Date: 25th June 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	831	2	384201 399214
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aspin Lane Cso 281cj Vallea Court, 1 Red Bank, ., Manchester, M4 4fe Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0031 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 24th June 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	831	2	384201 399214
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Road/Waterloo Road Cso 20-28 Waterloo Road, Manchester, ., Greater Manchester, M8 8gj Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982984 Permit Version: 1 Effective Date: 22nd June 1995 Issued Date: Not Supplied Revocation Date: 22nd October 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	844	2	383490 399550
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Verdon Street/Scotland Cso Scotland Via Red Bank, Manchester, ., Greater Manchester, M4 4ew Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982715 Permit Version: 2 Effective Date: 4th December 2019 Issued Date: 4th December 2019 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SW (S)	863	2	384116 399188

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Verdon Street/Scotland Cso Scotland Via Red Bank, Manchester, ., Greater Manchester, M4 4ew Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0265 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A8SW (S)	880	2	384120 399170
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Verdon Street/Scotland Cso Scotland Via Red Bank, Manchester, ., Greater Manchester, M4 4ew Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982715 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 3rd December 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8SW (S)	885	2	384120 399165
18	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Ashworth Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0359 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 24th November 2014 Discharge Type: Storm Water Overflow Discharge Environment: Unknown Receiving Water: Unknown Outlet **Status:** **Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	889	2	383220 400330
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Julia St/Mirghel St, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0063 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	919	2	383620 399320

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Moss Brook Court, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0045 Permit Version: 3 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 5th December 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	938	2	385170 399950
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Moss Brook Court, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0045 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	938	2	385170 399950
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Moss Brook Court, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0045 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	938	2	385170 399950
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Queens Road Combined Sewer Overflow 204 Queens Road A6010, Collyhurst, Manchester, Greater Manchester, M40 8jw Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd010957 Permit Version: 2 Effective Date: 6th November 2019 Issued Date: 6th November 2019 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Moss Brook **Status: Varied under EPR 2010** Positional Accuracy: Manually corrected supplier location	A14SE (E)	942	2	385174 399950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Moss Brook Court, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0044 Permit Version: 3 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 18th July 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A15SW (E)	967	2	385200 399950
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Moss Brook Court, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0044 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A15SW (E)	967	2	385200 399950
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Moss Brook Court, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0044 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A15SW (E)	967	2	385200 399950
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Miller Street/Corporation St Cso Miller Street, ., Manchester, Greater Manchester, M4 4dy Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0161 Permit Version: 3 Effective Date: 11th January 2017 Issued Date: 11th January 2017 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A3NW (S)	988	2	384140 399060

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Miller Street/Corporation St Cso Miller Street, ., Manchester, Greater Manchester, M4 4dy Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0161 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 10th January 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A3NW (S)	988	2	384140 399060
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Miller Street/Corporation St Cso Miller Street, ., Manchester, Greater Manchester, M4 4dy Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0161 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irk **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A3NW (S)	988	2	384140 399060
22	**Local Authority Pollution Prevention and Controls** Name: Horners Ltd Location: Harthill Street, Cheetham, MANCHESTER, M8 8DY Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/82/96/97 Dated: 1st February 1996 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	332	3	383765 400213
23	**Local Authority Pollution Prevention and Controls** Name: Trust Motors Manchester Location: 141 Waterloo Road, MANCHESTER, Lancashire, M8 8DU Authority: Manchester City Council, Environmental Health Department Permit Reference: 81/96 Dated: 1st February 1996 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	441	3	383733 400467
24	**Local Authority Pollution Prevention and Controls** Name: Tan Yard Metal Ltd Location: Hargreaves Street, Cheetham, Manchester, Lancashire, M4 4ej Authority: Manchester City Council, Environmental Health Department Permit Reference: 27/92 Dated: 18th September 1992 Process Type: Local Authority Air Pollution Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A8SE (SE)	628	3	384490 399479
25	**Local Authority Pollution Prevention and Controls** Name: Avis Rent A Car Ltd Location: Chase Street, Redbank, Cheetham Hill, MANCHESTER, Greater Manchester, M4 4FL Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/36/93 Dated: 22nd April 1994 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	632	3	384440 399453

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**Local Authority Pollution Prevention and Controls** Name: Cheetham Hill Service Station Location: 37-41 Cheetham Hill Road, Cheetham Hill, MANCHESTER, Lancashire, M4 7PA Authority: Manchester City Council, Environmental Health Department Permit Reference: Pfs/7/98 Dated: 22nd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	646	3	384083 399413
26	**Local Authority Pollution Prevention and Controls** Name: Redbank Service Station Location: 58 Cheetham Hill Road, Cheetham Hill, MANCHESTER, Lancashire, M4 4EX Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/029/06 Dated: 25th March 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	672	3	384114 399381
27	**Local Authority Pollution Prevention and Controls** Name: Place Mix Ltd Location: Hargreaves Street, Cheetham , MANCHESTER, M4 4EJ Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/100/00 Dated: 28th February 2000 Process Type: Local Authority Air Pollution Control Description: PG3/16 Mobile screening and crushing processes **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	685	3	384417 399390
27	**Local Authority Pollution Prevention and Controls** Name: Place Mix Ltd Location: Hargreaves Street, Cheetham , MANCHESTER, M4 4EJ Authority: Manchester City Council, Environmental Health Department Permit Reference: 20/92 Dated: 2nd June 1992 Process Type: Local Authority Air Pollution Control Description: PG3/16 Mobile screening and crushing processes **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	685	3	384417 399390
27	**Local Authority Pollution Prevention and Controls** Name: New Mix Concrete Location: Roger Street, Cheetham, MANCHESTER, Lancashire, M4 4EN Authority: Manchester City Council, Environmental Health Department Permit Reference: 19/92 Dated: 28th May 1992 Process Type: Local Authority Air Pollution Control Description: PG3/10 China and ball clay **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	712	3	384410 399359
28	**Local Authority Pollution Prevention and Controls** Name: Packaging Products (Coatings) Ltd Location: P O Box 2, Collyhurst Road, MANCHESTER, Lancashire, M40 7RX Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/02/06/RM Dated: 7th February 1996 Process Type: Local Authority Air Pollution Control Description: PG6/42 Bitumen and tar processes **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	699	3	384906 399899
29	**Local Authority Pollution Prevention and Controls** Name: Park Garage M/Cr Ltd Location: Cheviot Street, Strangeways, MANCHESTER, Lancashire, M3 1LW Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/57/02 Dated: 30th November 1993 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	708	3	383820 399443

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	**Local Authority Pollution Prevention and Controls** Name: Hmg Paints Ltd Location: Riverside Works, Collyhurst Road, Collyhurst, Manchester, Lancashire, M10 7ru Authority: Manchester City Council, Environmental Health Department Permit Reference: 46/93 Dated: 6th August 1993 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing **Status:** **Authorised** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	717	3	384964 400050
30	**Local Authority Pollution Prevention and Controls** Name: Hmg Paints Ltd Location: Riverside Works, Collyhurst Road, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/27/05/AW Dated: 6th August 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG6/44 Manufacture of coating materials **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	744	3	384995 400078
31	**Local Authority Pollution Prevention and Controls** Name: Horners Ltd Location: 208 Bury New Road, MANCHESTER, Lancashire, M8 8DY Authority: Manchester City Council, Environmental Health Department Permit Reference: 82/96 Dated: 1st February 1996 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status:** **Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	3	383252 400222
32	**Local Authority Pollution Prevention and Controls** Name: Synergie - Texaco Service Station Location: 25 Broughton Lane, SALFORD, Lancashire, M8 9UE Authority: Salford City Council, Environmental Health Department Permit Reference: 23160/060611 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A12SW (W)	852	4	383307 399843
33	**Local Authority Pollution Prevention and Controls** Name: Shirley Filling Station Location: 332 Cheetham Hill Road, Cheetham Hill, MANCHESTER, Lancashire, M8 7WB Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/040/06 Dated: 3rd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status:** **Authorised** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	903	3	384242 401171
34	**Local Authority Pollution Prevention and Controls** Name: Manchester Tobacco Ltd Location: Ludgate Hill, MANCHESTER, Lancashire, M4 4DA Authority: Manchester City Council, Environmental Health Department Permit Reference: Not Given Dated: 18th April 1996 Process Type: Local Authority Air Pollution Control Description: PG6/36 Tobacco processing **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A9SW (S)	910	3	384562 399203
	Nearest Surface Water Feature	A14SW (SE)	580	-	384760 399842

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: River Irwell Incident Date: 22nd August 1995 Incident Reference: 95612150 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	345	2	384400 400500
36	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Diesel And None Found Incident Date: 20th June 1996 Incident Reference: 96631339 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	409	2	384500 400500
37	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Irk Incident Date: 16th February 1995 Incident Reference: 95610309 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	546	2	384800 400200
38	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: River Irk; Sewage Incident Date: 12th January 1996 Incident Reference: 96610064 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	594	2	384700 399700
39	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Chemicals - Paints / Dyes Note: Whittle Brook; Black Dye Incident Date: 3rd April 1996 Incident Reference: 96620668 Catchment Area: Roch Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	617	2	383501 400001
40	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Sewage Treatment Works Location: Irk, Collyhurst Street, MANCHESTER Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Lots Of Foam Incident Date: 29th March 1998 Incident Reference: SO980538 Catchment Area: Irk Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	657	2	384700 399600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**Pollution Incidents to Controlled Waters** Property Type: Abandoned mine Location: Irk, Collyhurst Road, WINSFORD Authority: Environment Agency, North West Region Pollutant: Mining Water Note: Smelly And Yellow Incident Date: 17th March 1998 Incident Reference: SO980488 Catchment Area: Irk Receiving Water: Freshwater Stream/River Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	664	2	384901 400001
42	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Oils - Waste Oil Note: River Irk; Oil Incident Date: 17th April 1996 Incident Reference: 96610800 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	704	2	384500 399400
43	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Moston Brook Incident Date: 13th November 1991 Incident Reference: 91611756 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	746	2	385001 400201
44	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Detergents/Surfactant Note: River Irk Incident Date: 27th October 1994 Incident Reference: 94612365 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	762	2	385001 400001
44	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Not Given Note: Not Supplied Incident Date: 19th March 1992 Incident Reference: 92610464 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	763	2	385001 399996
44	**Pollution Incidents to Controlled Waters** Property Type: Boats/Ships Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Found Incident Date: 9th February 1994 Incident Reference: 94620262 Catchment Area: Irk Receiving Water: Groundwater Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	767	2	385006 400001

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	**Pollution Incidents to Controlled Waters** Property Type: Boats/Ships Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Unknown Incident Date: 9th February 1994 Incident Reference: 94610262 Catchment Area: Irk Receiving Water: Groundwater Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	768	2	385006 399996
45	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Not Supplied Incident Date: 28th October 1995 Incident Reference: 95612652 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	767	2	384400 399300
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 1st May 1995 Incident Reference: 95610965 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	776	2	384000 399300
47	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Not Supplied Incident Date: 24th January 1995 Incident Reference: 95610107 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	794	2	383600 399500
48	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Sewage Treatment Works Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Sewage - Treated Effluent Note: River Irk Incident Date: 3rd February 1993 Incident Reference: 93610156 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	856	2	385001 399701
49	**Prosecutions Relating to Authorised Processes** Location: 21-23 Honey Street, Cheetham Hill, Manchester, M8 8rg Prosecution Text: 150 Cubic Metres Of Demolition Waste Found Depositedon Land Without Wml Prosecution Act: Epa90 S33(1)(B) & S33(6) Hearing Date: 14th October 2002 Verdict: Guilty Fine: 8000 Costs: 875 Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	487	2	384510 399656

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Irk GQA Grade: River Quality E Reach: Moston Bk To Irwell Estimated Distance (km): 1.7 Flow Rate: Flow less than 2.5 cumecs Flow Type: River Year: 2000	A14SE (SE)	733	2	384927 399830
	River Quality Name: Irk GQA Grade: River Quality E Reach: Wince Bk To Moston Bk Estimated Distance (km): 10.3 Flow Rate: Flow less than 2.5 cumecs Flow Type: River Year: 2000	A14SE (E)	787	2	385005 399919
50	**River Quality Biology Sampling Points** Name: Irk Reach: Moston Brook To Irwell Estimated Distance: 1.70 Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Biology GQA Grade F - Bad Year: 1995 GQA Grade: River Quality Biology GQA Grade F - Bad Year: 2000 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2002 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2003 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2004 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2005 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2006 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2007 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2008 GQA Grade: River Quality Biology GQA Grade E - Poor Year: 2009 GQA Grade: River Quality Biology GQA Grade E - Poor	A14SE (E)	690	2	384900 399910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	**River Quality Chemistry Sampling Points** Name: Irk Reach: Moston Brook To Irwell Estimated Distance: 1.70 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied	A8SE (S)	745	2	384445 399335
52	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 2nd December 2010 Incident Reference: 841985 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inert : Construction / Demolition Material Pollutant: Specific Waste Materials: Commercial Waste Pollutant: Contaminated Material : Soils & Sub-soils Pollutant: Specific Waste Materials: Household Waste	A8NW (SW)	339	2	383953 399795
53	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 27th September 2001 Incident Reference: 33323 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Organic Chemicals : Solvent Based	A9NW (SE)	460	2	384519 399698

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 12th September 2008 Incident Reference: 620850 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Dust Pollutant: Atmospheric Pollutants And Effects: Effects On Humans Pollutant: Atmospheric Pollutants and Effects: Smoke	A8NE (SE)	486	2	384490 399643
55	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 13th May 2012 Incident Reference: 990313 Water Impact: Category 4 - No Impact Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inert : Construction / Demolition Material Pollutant: Specific Waste Materials: Commercial Waste Pollutant: Specific Waste Materials: Household Waste Pollutant: Specific Waste Materials: Tyres	A9NW (SE)	522	2	384581 399671
55	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 10th April 2002 Incident Reference: 70537 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inert : Construction / Demolition Material Pollutant: Specific Waste Materials: Household Waste	A9NW (SE)	523	2	384599 399688
56	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 10th December 2012 Incident Reference: 1066931 Water Impact: Category 4 - No Impact Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Asbestos Waste Pollutant: Specific Waste Materials: Commercial Waste Pollutant: Specific Waste Materials: Household Waste Pollutant: Specific Waste Materials: Tyres	A8SE (S)	617	2	384412 399459
57	**Water Abstractions** Operator: Joseph Holt Ltd Licence Number: 2569004011 Permit Version: 100 Location: Borehole At Derby Brewery, Cheetham, Manchester 3 Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 182 Yearly Rate (m3): 45460 Details: Derby Brewery, Cheetham, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th February 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8NW (S)	364	2	384100 399700
57	**Water Abstractions** Operator: Joseph Holt Ltd Licence Number: 2569004011 Permit Version: 100 Location: Borehole At Derby Brewery, Cheetham, Manchester 3 Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Derby Brewery, Cheetham, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th February 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NW (S)	364	2	384100 399700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	**Water Abstractions** Operator: Lancashire Dairies Ltd Licence Number: 2569004021 Permit Version: 100 Location: Borehole At Premises, Derby Street, Cheetham, Manchester Authority: Environment Agency, North West Region Abstraction: Dairies: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 436 Yearly Rate (m3): 159110 Details: Premises At Derby St,Cheetham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	370	2	383900 399800
58	**Water Abstractions** Operator: Lancashire Dairies Ltd Licence Number: 2569004021 Permit Version: 100 Location: Borehole At Premises, Derby Street, Cheetham, Manchester Authority: Environment Agency, North West Region Abstraction: Dairies: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Derby St,Cheetham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NW (SW)	370	2	383900 399800
59	**Water Abstractions** Operator: Packaging Products (Coatings) Ltd Licence Number: 2569005015 Permit Version: 102 Location: B/Hole, Little Green Works, Collyhurst Rd, Manchester 10 Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Little Green Works Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th February 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SE (E)	747	2	385000 400100
59	**Water Abstractions** Operator: Packaging Products Ltd Licence Number: 2569005015 Permit Version: 101 Location: B/Hole, Little Green Works, Collyhurst Rd, Manchester 10 Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Little Green Works Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th October 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SE (E)	747	2	385000 400100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**Water Abstractions** Operator: Packaging Products Ltd Licence Number: 2569005015 Permit Version: 100 Location: B/Hole, Little Green Works, Collyhurst Rd, Manchester 10 Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 1637 Yearly Rate (m3): 438689 Details: Premises At Little Green Works Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st February 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SE (E)	747	2	385001 400101
60	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 1 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (S)	871	2	383850 399250
60	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (S)	871	2	383850 399250
60	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Borehole At Strangeways, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (S)	871	2	383850 399250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 1 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (S)	871	2	383850 399250
60	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (S)	871	2	383850 399250
60	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (S)	871	2	383850 399250
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	906	2	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	906	2	383830 399220
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	906	2	383830 399220
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Borehole At Strangeways Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	906	2	383830 399220
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	906	2	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	906	2	383830 399220
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	938	2	383820 399190
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	938	2	383820 399190
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	938	2	383820 399190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	938	2	383820 399190
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 682 Yearly Rate (m3): 194755 Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	938	2	383820 399190
61	**Water Abstractions** Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SE (S)	938	2	383820 399190
	Water Abstractions Operator: City Of Manchester Licence Number: 2569005038 Permit Version: Not Supplied Location: River Irk, Collyhurst, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 546 Yearly Rate (m3): 93557 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A20SW (E)	1133	2	385300 400600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: City Of Manchester Licence Number: 2569005031 Permit Version: Not Supplied Location: Borehole, Collyhurst, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 364 Yearly Rate (m3): 124742 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A20SW (NE)	1141	2	385200 400800
	Water Abstractions Operator: British Telecommunications Plc Licence Number: 2569007070 Permit Version: 101 Location: Borehole At Dial House Chapel Street Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Dial House, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A2SE (S)	1439	2	383700 398700
	Water Abstractions Operator: British Telecom Licence Number: 2569007070 Permit Version: 100 Location: Borehole At Dial House, Chapel St, Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 30 Yearly Rate (m3): 45 Details: Premises At Dial House, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th January 1971 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A2SE (S)	1439	2	383700 398700
	Water Abstractions Operator: Threlfalls (Salford) Ltd. Licence Number: 2569006009 Permit Version: Not Supplied Location: Four Boreholes, Cook Street, SALFORD Authority: Environment Agency, North West Region Abstraction: Cooling & Manufacturing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 977 Yearly Rate (m3): 227300 Details: Additional Purpose: Cooling; Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A2SW (SW)	1587	2	383200 398800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Centertex (U K) Limited Licence Number: 2569005008 Permit Version: Not Supplied Location: Reservoir Fed By Surface Drainage, & Spring, KINGSBRIDGE ROAD Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: River Daily Rate (m3): 409 Yearly Rate (m3): 102285 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A25SW (NE)	1823	2	385500 401500
	Water Abstractions Operator: Her Majesty'S Court Service Licence Number: 2569007089 Permit Version: 2 Location: 2 Boreholes At Gartside Street Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Gartside Street Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th July 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1938	2	383335 398310
	Water Abstractions Operator: Bovis Lend Lease Ltd Licence Number: 2569007089 Permit Version: 1 Location: 2 Boreholes At Gartside Street Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Gartside Street Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th January 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1938	2	383335 398310
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A13SW (NE)	0	5	384173 400158
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13SW (NE)	0	5	384173 400158
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SW (NE)	0	5	384173 400158
	Extreme Flooding from Rivers or Sea without Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 51.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (W)	465	6	383631 400130
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 343.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (W)	500	6	383601 400088
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 103.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A14SW (SE)	587	6	384776 399867
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 110.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A14SW (E)	606	6	384841 400005
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 582.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A9NW (SE)	624	6	384605 399555
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NE (SW)	633	6	383601 399766
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 226.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	682	6	384901 399939
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 175.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A14SE (E)	703	6	384905 399884

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 411.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	703	6	384905 399884
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8SW (S)	705	6	384172 399342
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A9NW (SE)	716	6	384739 399555
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 100.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	723	6	384976 400089
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 509.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A7NW (SW)	748	6	383459 399775
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 334.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	748	6	383459 399775
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	750	6	385005 400117
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	755	6	385000 400035
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	759	6	385003 400029

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 412.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A14SE (E)	759	6	385014 400128
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.5 Watercourse Level: Underground Permanent: True Watercourse Name: Moss Brook Catchment Name: Mersey Primacy: 1	A14SE (E)	765	6	385007 400014
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Moss Brook Catchment Name: Mersey Primacy: 1	A14SE (E)	782	6	385023 400009
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 167.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Moss Brook Catchment Name: Mersey Primacy: 1	A14SE (E)	787	6	385028 400007
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 97.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SE (S)	798	6	384301 399251
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 940.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (W)	805	6	383339 399890
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 110.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SE (S)	824	6	384208 399221
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1271.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A17SW (NW)	842	6	383420 400727
87	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 453.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SW (S)	876	6	384122 399174

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 185.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	892	6	383468 399500
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 850.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Moss Brook Catchment Name: Mersey Primacy: 1	A14SE (E)	943	6	385175 399950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**BGS Recorded Landfill Sites** Site Name: H Evans Ltd Location: Queens Rd Tip, Cheetham, MANCHESTER, Gt Manchester Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A14SW (E)	507	-	384753 400061
91	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Cheetham, Greater Manchester Name: Elizabeth Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16459 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: F030	A13SW (NE)	0	2	384173 400158
92	**Historical Landfill Sites** Licence Holder: Manchester City Council Location: Cheetham, Manchester, Greater Manchester Name: Queens Road Tip - Land to South of Queens Road and North of Collingham Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16452 First Input Date: 31st December 1955 Last Input Date: 31st December 1970 Specified Waste Type: Deposited Waste included Inert, Industrial, Commercial, Household and Special Waste, and Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9728 BGS Ref: 848 Other Ref: F005,RD/LIC/241/82	A13NE (NE)	203	2	384416 400283
93	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Cheetham Hill, Manchester, Greater Manchester Name: Land at Fairy Lane Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16446 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: F015	A12NE (NW)	427	2	383709 400416
94	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Collyhurst, Greater Manchester Name: Sand Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16471 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: F027	A14SE (E)	770	2	384963 399838

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
95	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Collyhurst, Manchester, Greater Manchester Name: Land at Fitzgeorge Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD18073 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: F031	A14SE (E)	850	2	385097 400040
96	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Salford, Greater Manchester Name: Overbridge Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD17901 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: E090	A7NW (SW)	853	2	383423 399632
97	**Licensed Waste Management Facilities (Locations)** Licence Number: 53472 Location: 49 Broughton Street, Manchester, M8 8AN Operator Name: Kains Steel Drums Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Material Recycling Treatment Facilities **Licence Status: Surrendered** Issued: 17th November 1998 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 22nd August 2001 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12SE (W)	415	2	383690 400076
98	**Licensed Waste Management Facilities (Locations)** Licence Number: 50136 Location: 21-23 Honey Street, Collyhurst, Manchester, M8 8RG Operator Name: U K Skip Hire Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Revoked** Issued: 2nd January 2003 Last Modified: Not Supplied Expires: Not Supplied Suspended: 01/07/2015 Revoked: 2nd October 2017 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	497	2	384545 399671
99	**Licensed Waste Management Facilities (Locations)** Licence Number: 65243 Location: Red Bank, Cheetham Hill, Manchester, M8 Operator Name: Mel Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Mobile Plant **Licence Status: Surrendered** Issued: 17th April 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 6th February 2007 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8SE (S)	650	2	384300 399400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	**Licensed Waste Management Facilities (Locations)** Licence Number: 50017 Location: Hargreaves Street, Manchester, M4 4EJ Operator Name: Placemix Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Expired** Issued: 31st March 2000 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8SE (S)	670	2	384400 399400
101	**Licensed Waste Management Facilities (Locations)** Licence Number: 50084 Location: Land/premises At, Dulwich Street, Collyhurst, Manchester, M4 4JJ Operator Name: Ryan John Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Transferred** Issued: 15th March 2002 Last Modified: 26th July 2004 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	761	2	384690 399449
102	**Licensed Waste Management Facilities (Locations)** Licence Number: 50461 Location: Land/premises At, Warford Street, Collyhurst, Manchester, M4 4DD Operator Name: Farlam Waste Management Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Modified** Issued: 20th February 2007 Last Modified: 12th November 2010 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	777	2	384650 399400
102	**Licensed Waste Management Facilities (Locations)** Licence Number: 50118 Location: Warford Street, Collyhurst, Manchester, M4 4JJ Operator Name: Farlam Properties Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Expired** Issued: 27th August 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	777	2	384650 399400
103	**Licensed Waste Management Facilities (Locations)** Licence Number: 53620 Location: Unit 26, Caroline Street, Salford, Manchester, M7 1SS Operator Name: Gregson Ernest Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Material Recycling Treatment Facilities **Licence Status: Expired** Issued: 15th March 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	986	2	383201 399751

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	**Licensed Waste Management Facilities (Locations)** Licence Number: 50240 Location: 23 Cottenham Lane, Salford, Manchester, M7 1TH Operator Name: Motor Body Services (Salford) Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: End of Life Vehicles **Licence Status: Issued** Issued: 13th July 2004 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	987	2	383354 399493
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	7	384173 400158
	Local Authority Landfill Coverage Name: Salford Metropolitan District Council - Has no landfill data to supply		570	4	383708 400659
105	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SW (NE)	0	-	384173 400158
106	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SE (SE)	139	-	384372 400070
107	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A13SW (S)	148	-	384085 399936
108	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13NW (W)	150	-	383944 400176
109	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13NW (W)	222	-	383888 400257
110	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SW (SW)	257	-	383902 399999
111	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A13SW (SW)	284	-	384007 399824
112	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12SE (W)	336	-	383796 400016
113	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12NE (W)	348	-	383747 400183
114	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A13SW (SW)	352	-	383857 399883
115	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12NE (NW)	366	-	383794 400421

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12NE (W)	370	-	383754 400319
117	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12NE (W)	411	-	383690 400244
118	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12SE (W)	413	-	383698 400052
119	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8NW (S)	437	-	384010 399653
120	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12NE (NW)	450	-	383697 400401
121	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A7NE (SW)	474	-	383822 399731
122	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A12NE (NW)	522	-	383623 400404
123	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A19SW (NE)	644	-	384779 400534
124	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14SE (SE)	763	-	384946 399823
125	**Potentially Infilled Land (Non-Water)** Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14SE (E)	796	-	385050 400100
126	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A19NW (NE)	837	-	384567 400988
127	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A18NE (N)	889	-	384256 401155
128	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A13SE (E)	214	-	384460 400094
129	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13SW (SW)	231	-	383984 399912
130	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (N)	272	-	384170 400544
131	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (S)	315	-	384102 399751
132	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (SW)	327	-	383939 399822
133	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NE (S)	373	-	384261 399674

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
134	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (SW)	419	-	383881 399751
135	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A14NW (NE)	428	-	384549 400474
136	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (SW)	455	-	383883 399702
137	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (S)	458	-	384091 399604
138	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (S)	500	-	384064 399569
139	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (S)	513	-	384008 399574
140	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (S)	519	-	384057 399551
141	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A8NE (SE)	549	-	384466 399555
142	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NE (SE)	573	-	384440 399517
143	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17SE (NW)	584	-	383823 400772
144	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NW (SE)	594	-	384660 399649
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SW (NE)	596	-	384557 400696
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A9NW (SE)	605	-	384618 399591
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18NW (N)	606	-	384008 400869
148	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17SE (NW)	608	-	383602 400575
149	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14SE (E)	626	-	384865 400017
150	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8SW (S)	629	-	383969 399464
151	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18NW (N)	636	-	383966 400890
152	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14SE (E)	655	-	384910 400120
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NW (SE)	664	-	384815 399756
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14SE (E)	686	-	384935 400066

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14SE (E)	692	-	384946 400114
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14SE (E)	703	-	384917 399919
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SW (NE)	713	-	384703 400725
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1895	A17SW (NW)	717	-	383487 400591
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17NE (NW)	737	-	383808 400938
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17NE (NW)	752	-	383766 400933
161	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A14SE (E)	790	-	385029 400000
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1895	A17SW (NW)	791	-	383411 400605
163	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14NE (E)	810	-	385053 400303
164	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8SW (S)	812	-	383889 399299
165	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A19SE (NE)	814	-	384898 400660
166	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14NE (E)	821	-	385072 400250
167	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7NW (SW)	853	-	383411 399647
168	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (SW)	855	-	383363 399728
169	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NE (SE)	872	-	385003 399668
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (SW)	926	-	383376 399570
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NE (SE)	940	-	385103 399730
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19NW (NE)	947	-	384750 400992
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14SE (E)	952	-	385185 399955
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SE (NE)	960	-	385127 400562
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A14SE (E)	962	-	385170 399861

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NE (SE)	968	-	385131 399726
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A4NW (S)	974	-	384558 399132
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (W)	989	-	383179 399795
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19NE (NE)	999	-	384993 400835
180	**Registered Waste Transfer Sites** Licence Holder: Primechase Licence Reference: 00455/86/M2 Site Location: Elizabeth Street / Waterloo Road, Cheetham, Manchester, Greater Manchester Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1987 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Construction Ind. S Ind. Non-Haz. Inert, Non-Flammable Ind. Non-Haz. Potentially Combustible Old Cars/Trailers Etc	A17SE (NW)	414	2	383830 400560
181	**Registered Waste Transfer Sites** Licence Holder: Placemix Ltd Licence Reference: EAWML50017 Site Location: Hargreaves Street, MANCHESTER, Greater Manchester, M4 4EJ Operator Location: Hargreaves Street, MANCHESTER, Greater Manchester, M4 4EJ Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 31st March 2000 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Contaminated Soil Degradable Commercial Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.02) Degradable Household Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.01) Degradable Industrial Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.03) Inert Materials (As In Post'98 E.A.Lics And Equivalent To 21.00.00) - Comprising Maximum Storage In Licence Maximum Waste Permitted By Licence Metal Waste/Scrap Metal (As In Post'98 E.A.Lics And Equivalent To 23.00.00) Prohibited Waste: Liquid Wastes Other Waste/Waste Not Otherwise Specified Powders In Bulk Sludge Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A8SE (SE)	657	2	384485 399445

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	**Registered Waste Transfer Sites** Licence Holder: Autodec Paints (Lancs) Ltd Licence Reference: 00597/90 Site Location: Unit 1 Appian Way Industrial Estate, Bury New Road, MANCHESTER, Greater Manchester, M7 0XB Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Licence Status: Site exempt from licenceExempt Dated: 1st August 1990 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Hydrocarbons (Not Fuels/Oils/Greases) Paint Waste $	A12NW (W)	940	2	383170 400340
183	**Registered Waste Transfer Sites** Licence Holder: British Gas Plc Licence Reference: 00977 Site Location: Gould Street, Manchester, Greater Manchester Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Licence Status: Site exempt from licenceExempt Dated: 1st June 1995 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Licenced Wastes Not To Hand	A9SW (SE)	973	2	384700 399200
184	**Registered Waste Treatment or Disposal Sites** Licence Holder: T Kain t/a Kains Steel Drums Licence Reference: 80011 Site Location: 49 Broughton Street, MANCHESTER, Greater Manchester, M8 8AN Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Recycling Drums Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 17th November 1998 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Empty Used Ibcs With < 2 Litre Liq Or 10 Litre Solid Residues Which May Include Empty Used Packagescontainers With < 1%Vol Residues Which May Include Maximum Waste In Working Plan Maximum Waste Permitted By Licence Packagescontainers/Ibcs With < 10%Vol Non-Haz. Residues Which May Include Special Waste (As In Epa 1990:S62 Of 1996 Regs) Starch Based Polymers Surfactants Water Based Adhesive Wastes Prohibited Waste: Drums With Residues Of Subs In Prescribed Subs/Processes Regs 1989) Drums/Cont'Rs With Residues Of List I Subs In Eec Directive 80/68/Eec Material With Haz.Code H 1 - Explosive Material With Haz.Code H 2 - Oxidising Material With Haz.Code H 3a - Highly Flammable Material With Haz.Code H 6 - Toxic Material With Haz.Code H 7 - Carcinogenic Material With Haz.Code H 9 - Infectious Material With Haz.Code H10 - Teratogenic Material With Haz.Code H11 - Mutagenic Material With Haz.Code H12 - Can Release Toxic Gases Material With Haz.Code H14 - Ecotoxic Other Waste/Waste Not Otherwise Specified	A12SE (W)	397	2	383710 400070

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	**Registered Waste Treatment or Disposal Sites** Licence Holder: E Gregson Licence Reference: 00644 Site Location: Unit 26 Caroline Street Industrial Est, Neil Street, Salford, Greater Manchester, M7 1ss Operator Location: 47 Stapleton Street, SALFORD, Greater Manchester, M6 7NR Authority: Environment Agency - North West Region, South Area Site Category: Recycling Drums Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st March 1996 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Empty Drums/Containers Max.Waste Permitted By Licence Prohibited Waste: Special Wastes N.O.S. Waste N.O.S.	A7NW (SW)	981	2	383250 399670

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13SW (NE)	0	1	384173 400158
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SW (NE)	0	1	384173 400158
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	165	1	384403 400239
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18SW (N)	225	1	384173 400500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (E)	244	1	384500 400158
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	265	1	384481 400000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	283	1	384500 400000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (SE)	306	1	384500 399930
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (N)	377	1	384250 400632
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (N)	377	1	384272 400626
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14SW (E)	428	1	384679 400092
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (N)	479	1	384000 400736
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NW (E)	500	1	384706 400376

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14NW (NE)	560	1	384713 400483
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (SW)	571	1	383612 399861
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (NE)	607	1	384718 400552
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SE (E)	662	1	384903 400019
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 35 - 45 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NW (SE)	678	1	384776 399661
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: <15 mg/kg	A9SW (SE)	683	1	384586 399469

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: <15 mg/kg	A8SE (SE)	688	1	384500 399418
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NW (SE)	691	1	384657 399512
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NE (SW)	714	1	383586 399637
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A9SW (SE)	731	1	384686 399484
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	737	1	384000 401000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (W)	741	1	383365 400035

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A9NW (SE)	746	1	384826 399615
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NE (E)	758	1	385000 400303
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18NW (N)	769	1	384032 401038
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8SE (S)	781	1	384500 399317
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	810	1	384490 401000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19NW (NE)	836	1	384723 400871

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A19NW (NE)	850	1	384573 401000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SE (E)	855	1	385096 400000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NE (SW)	867	1	383500 399500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NW (SW)	871	1	383495 399500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NE (E)	871	1	385117 400288
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NE (E)	900	1	385154 400206

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A15NW (E)	945	1	385195 400259
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7SE (SW)	972	1	383500 399349
186	**BGS Recorded Mineral Sites** Site Name: Broughton Street Brickworks Location: Strangeways, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15070 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	38	1	384125 400120
187	**BGS Recorded Mineral Sites** Site Name: Broughton Street Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15077 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SE (W)	264	1	383830 400155
188	**BGS Recorded Mineral Sites** Site Name: Queens Road Brickworks Location: Strangeways, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15072 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14NW (E)	455	1	384690 400295
189	**BGS Recorded Mineral Sites** Site Name: North Street Brickworks Location: Strangeways, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15071 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14SW (E)	461	1	384675 399960

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
190	**BGS Recorded Mineral Sites** Site Name: Water Lane Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15074 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	532	1	383660 400525
191	**BGS Recorded Mineral Sites** Site Name: Ellison'S Brickworks Location: Strangeways, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 17338 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14NW (E)	544	1	384800 400160
192	**BGS Recorded Mineral Sites** Site Name: Sherborne Street Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15076 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	565	1	383700 399735
193	**BGS Recorded Mineral Sites** Site Name: Fairy Lane Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15075 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SW (W)	605	1	383490 400145
194	**BGS Recorded Mineral Sites** Site Name: Baronhill Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15078 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14NW (E)	610	1	384821 400390
195	**BGS Recorded Mineral Sites** Site Name: Strangeways Brick Field Location: Strangeways, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95108 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A8NW (S)	635	1	383894 399487

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
196	**BGS Recorded Mineral Sites** Site Name: Fairy Lane Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15073 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12NW (W)	712	1	383405 400350
197	**BGS Recorded Mineral Sites** Site Name: Queens Road Brickworks Location: Cheetham, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15079 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	736	1	384900 400515
198	**BGS Recorded Mineral Sites** Site Name: Collyhurst Location: Collyhurst, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 9502 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian Geology: Collyhurst Sandstone Formation (Lower Mottled Sandstone) Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	811	1	385005 399845
199	**BGS Recorded Mineral Sites** Site Name: Red Sand Delph Location: Collyhurst, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 17337 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian Geology: Collyhurst Sandstone Formation (Lower Mottled Sandstone) Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A14SE (E)	880	1	385100 399910
200	**BGS Recorded Mineral Sites** Site Name: Smedley Sand Pit Location: Crumpsall, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 243080 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Sheet Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A19NW (N)	933	1	384548 401109
201	**BGS Recorded Mineral Sites** Site Name: Collyhurst Road Brickworks Location: Collyhurst, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 17339 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A15SW (E)	966	1	385215 400045

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
202	**BGS Recorded Mineral Sites** Site Name: Alms Hill Sand Pit Location: Cheetham Hill, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95117 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A23SE (N)	982	1	384202 401254
203	**BGS Recorded Mineral Sites** Site Name: Almshill Sand Pit Location: Crumpsall, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15084 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A23SE (N)	998	1	384505 401200
204	**BGS Recorded Mineral Sites** Site Name: Collyhurst Quarry Location: Collyhurst, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15080 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Worsley Delf Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1000	1	385255 400130
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384240, 399840 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 18.10 mg/kg Cadmium Measured Concentration: 1.40 mg/kg Chromium Measured Concentration: 104.60 mg/kg Lead Measured Concentration: 288.80 mg/kg Nickel Measured Concentration: 44.90 mg/kg	A13SE (S)	206	1	384240 399840
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384780, 399670 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 33.40 mg/kg Cadmium Measured Concentration: 2.00 mg/kg Chromium Measured Concentration: 93.40 mg/kg Lead Measured Concentration: 564.60 mg/kg Nickel Measured Concentration: 49.90 mg/kg	A9NW (SE)	677	1	384780 399670

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383640, 399530 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 12.40 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 63.00 mg/kg Lead Measured Concentration: 261.90 mg/kg Nickel Measured Concentration: 19.20 mg/kg	A7NE (SW)	745	1	383640 399530
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383390, 399850 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 17.00 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 62.00 mg/kg Lead Measured Concentration: 270.90 mg/kg Nickel Measured Concentration: 22.50 mg/kg	A12SW (W)	773	1	383390 399850
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384410, 399180 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 19.40 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 63.00 mg/kg Lead Measured Concentration: 254.00 mg/kg Nickel Measured Concentration: 24.90 mg/kg	A8SE (S)	886	1	384410 399180
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383700, 399300 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 19.10 mg/kg Cadmium Measured Concentration: 2.10 mg/kg Chromium Measured Concentration: 74.20 mg/kg Lead Measured Concentration: 382.80 mg/kg Nickel Measured Concentration: 25.40 mg/kg	A7SE (SW)	891	1	383700 399300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: Manchester Count Id: 300 Arsenic Minimum Concentration: 3.00 mg/kg Arsenic Average Concentration: 28.00 mg/kg Arsenic Maximum Concentration: 1008.00 mg/kg Cadmium Minimum Concentration: 0.30 mg/kg Cadmium Average Concentration: 1.40 mg/kg Cadmium Maximum Concentration: 80.30 mg/kg Chromium Minimum Concentration: 29.00 mg/kg Chromium Average Concentration: 92.00 mg/kg Chromium Maximum Concentration: 1252.00 mg/kg Lead Minimum Concentration: 20.00 mg/kg Lead Average Concentration: 270.00 mg/kg Lead Maximum Concentration: 2687.00 mg/kg Nickel Minimum Concentration: 5.00 mg/kg Nickel Average Concentration: 32.00 mg/kg Nickel Maximum Concentration: 137.00 mg/kg	A13SW (NE)	0	1	384173 400158
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SW (NE)	0	8	384173 400158
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (NE)	0	-	384173 400158
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	45	1	384173 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	384214 400203
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	45	1	384208 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	46	1	384173 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	52	1	384256 400238
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	163	1	384373 400000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	45	1	384173 400000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	45	1	384173 400000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	45	1	384173 400000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	45	1	384173 400000
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	384173 400158

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	**Contemporary Trade Directory Entries** Name: B Sternberg & Sons (Textiles) Ltd Location: Benstern House, 23-23a, Elizabeth Street, Manchester, M8 8BB Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	13	-	384189 400243
206	**Contemporary Trade Directory Entries** Name: Go Cosmetics Ltd Location: 45, Bent Street, Manchester, Lancashire, M8 8NW Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	15	-	384249 400094
206	**Contemporary Trade Directory Entries** Name: Antique Renovating Co Location: 43, Bent Street, Manchester, M8 8NW Classification: Antiques - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	21	-	384250 400079
207	**Contemporary Trade Directory Entries** Name: The Hira Co Ltd Location: Elizabeth House, Elizabeth Street, Manchester, M8 8JJ Classification: Electrical Goods - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	19	-	384266 400177
208	**Contemporary Trade Directory Entries** Name: Arien Refrigeration Service Location: 39-41, Bent Street, Manchester, Lancashire, M8 8NW Classification: Refrigerators & Freezers - Servicing & Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	28	-	384239 400027
208	**Contemporary Trade Directory Entries** Name: Shadow Location: 39-41, Bent Street, Manchester, M8 8NW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	28	-	384239 400027
208	**Contemporary Trade Directory Entries** Name: Manchester Footware Location: 41 B Bent St, Manchester, Lancashire, M8 8NW Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	47	-	384249 400010
208	**Contemporary Trade Directory Entries** Name: Kays Warehouse Location: 171, Cheetham Hill Road, Manchester, M8 8LG Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	68	-	384266 399998
208	**Contemporary Trade Directory Entries** Name: North West Aesthetics Location: Manchester, Greater Manchester, M8 8lg Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	75	-	384260 399984
209	**Contemporary Trade Directory Entries** Name: Fortune Textiles Ltd Location: 9, Bradstone Road, Manchester, M8 8WA Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	29	-	384135 400085
209	**Contemporary Trade Directory Entries** Name: Gale Force Cases Ltd Location: 7 Bradstone Road, Manchester, Greater Manchester, M8 8WA Classification: Case Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	33	-	384139 400109

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
210	**Contemporary Trade Directory Entries** Name: Denver Knitwear Location: 60 Trading Estate,Sherborne Street, Manchester, Greater Manchester, M8 8LR Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	50	-	384057 400216
211	**Contemporary Trade Directory Entries** Name: A N Enterprise Location: Unit 2, Trading Centre, Sherborne Street, Manchester, M8 8LR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	56	-	384038 400175
211	**Contemporary Trade Directory Entries** Name: Recovery Breakdown Manchester Location: Unit 1, Trading Centre, Sherborne Street, Manchester, M8 8LR Classification: Car Breakdown & Recovery Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	87	-	384007 400172
211	**Contemporary Trade Directory Entries** Name: Finlays'S Foods Location: Unit 1, Trading Centre, Sherborne Street, Manchester, Lancashire, M8 8LR Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	87	-	384007 400172
212	**Contemporary Trade Directory Entries** Name: Little Giants Ltd Location: 49, Broughton Street, Manchester, M8 8NN Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	66	-	384145 399999
212	**Contemporary Trade Directory Entries** Name: 2030 M O T Centre Location: Raynes Way, Broughton Street, Manchester, M8 8NN Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	76	-	384136 399992
212	**Contemporary Trade Directory Entries** Name: Longslow Food Group Location: 32, Broughton Street, Manchester, M8 8NN Classification: Dairies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	91	-	384111 399987
212	**Contemporary Trade Directory Entries** Name: Longslow Dairies (North West) Location: 32, Broughton Street, Manchester, M8 8NN Classification: Dairies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	91	-	384111 399987
212	**Contemporary Trade Directory Entries** Name: Victory Trading Uk Ltd Location: 32, Broughton Street, Manchester, M8 8NN Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	91	-	384111 399987
212	**Contemporary Trade Directory Entries** Name: Euroda Footwear Ltd Location: 34, Broughton Street, Manchester, M8 8NN Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	92	-	384110 399986
212	**Contemporary Trade Directory Entries** Name: Mintini Baby Ltd Location: OM House, 32, Broughton Street, Manchester, M8 8NN Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	92	-	384110 399986

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
212	**Contemporary Trade Directory Entries** Name: Little Giants Ltd Location: Unit 2, 30, Broughton Street, Manchester, M8 8NN Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	98	-	384129 399971
212	**Contemporary Trade Directory Entries** Name: Jack 'N' Jill Ltd Location: Unit 2, 30, Broughton Street, Manchester, Lancashire, M8 8NN Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	98	-	384129 399971
212	**Contemporary Trade Directory Entries** Name: New Concept Fashion Ltd Location: Unit E1, 23, Broughton Street, Manchester, M8 8LZ Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	147	-	384110 399926
213	**Contemporary Trade Directory Entries** Name: Royale Print Location: First Floor Suite 6 Office A, The Point, 173, Cheetham Hill Road, Manchester, M8 8LG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	68	-	384291 400051
213	**Contemporary Trade Directory Entries** Name: Elite Distrubition Location: First Floor Suite 1, The Point, 173, Cheetham Hill Road, Manchester, M8 8LG Classification: Electronic Component Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	68	-	384291 400051
213	**Contemporary Trade Directory Entries** Name: Brecrest Ltd Location: The Point, 173, Cheetham Hill Road, Manchester, M8 8LG Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	69	-	384292 400051
213	**Contemporary Trade Directory Entries** Name: Brecrest Babywear Ltd Location: The Point, 173, Cheetham Hill Road, Manchester, M8 8LG Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	69	-	384292 400051
214	**Contemporary Trade Directory Entries** Name: Edge Clothing M C R Ltd Location: Unit 5, 32a, Broughton Street, Manchester, M8 8NP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	68	-	384092 400050
214	**Contemporary Trade Directory Entries** Name: Edge Clothing M C R Ltd Location: Unit 5, 32a, Broughton Street, Manchester, M8 8NP Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	68	-	384092 400050
215	**Contemporary Trade Directory Entries** Name: Bello Tyres Manchester Ltd Location: 167, Cheetham Hill Road, Manchester, M8 8LG Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	88	-	384254 399965
215	**Contemporary Trade Directory Entries** Name: M Holt (Manchester) Ltd Location: 159, Cheetham Hill Road, Manchester, M8 8LG Classification: Lingerie Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	133	-	384250 399915

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
216	**Contemporary Trade Directory Entries** Name: Express Auto Care Location: T O A House,Broughton Street, Manchester, Greater Manchester, M8 8NN Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	124	-	384059 399990
216	**Contemporary Trade Directory Entries** Name: R & Q Location: Unit 1 Raynes Way,32 Broughton Street, Manchester, Greater Manchester, M8 8NN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	124	-	384059 399990
216	**Contemporary Trade Directory Entries** Name: Lasani Apparels Ltd Location: 36a, Broughton Street, Manchester, M8 8NN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	124	-	384059 399991
216	**Contemporary Trade Directory Entries** Name: Edge Clothing Location: Unit 4,5 Broughton St, Manchester, Lancashire, M8 8NN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	124	-	384059 399991
217	**Contemporary Trade Directory Entries** Name: Dry Cleaning Centre Location: 210, Cheetham Hill Road, Manchester, M8 8LW Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	129	-	384350 400037
218	**Contemporary Trade Directory Entries** Name: Fabuline Location: 19-21 Broughton St, Manchester, Lancashire, M8 8LZ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (S)	130	-	384156 399928
219	**Contemporary Trade Directory Entries** Name: Barlinda Leathergoods (Handbags & Purses) Ltd Location: 3, Bradstone Road, Manchester, M8 8WA Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	139	-	383976 400096
220	**Contemporary Trade Directory Entries** Name: Cross Location: Sherborne St, Manchester, Lancashire, M8 8LR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	140	-	383955 400152
221	**Contemporary Trade Directory Entries** Name: Currys Pc World Location: Elizabeth Street, Manchester, M8 8BB Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	141	-	384313 400307
222	**Contemporary Trade Directory Entries** Name: Cars Of Manchester Location: 202-208 Cheetham Hill Road, Manchester, Greater Manchester, M8 8LW Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	141	-	384331 399962
222	**Contemporary Trade Directory Entries** Name: Mr Recovery Location: 202-208, Cheetham Hill Road, Manchester, M8 8LW Classification: Car Breakdown & Recovery Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	141	-	384331 399962

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
223	**Contemporary Trade Directory Entries** Name: Comet Group Plc Location: 238, Cheetham Hill Road, Manchester, M8 8LN Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	161	-	384417 400170
224	**Contemporary Trade Directory Entries** Name: Briefco Wholesale Location: 15, Broughton Street, Manchester, M8 8LZ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	162	-	384194 399885
224	**Contemporary Trade Directory Entries** Name: Quick Fit Tyres Location: 151-153, Cheetham Hill Road, Manchester, M8 8LY Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (S)	178	-	384217 399867
224	**Contemporary Trade Directory Entries** Name: Heidrun (Uk) Ltd Location: 151-153, Cheetham Hill Road, Manchester, Lancashire, M8 8LY Classification: Container Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (S)	178	-	384217 399867
224	**Contemporary Trade Directory Entries** Name: Unique Tryes & Mot Centre Ltd Location: 151-153, Cheetham Hill Road, Manchester, M8 8LY Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	178	-	384217 399867
224	**Contemporary Trade Directory Entries** Name: M & S Textiles Location: 145, Cheetham Hill Road, Manchester, M8 8LY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	203	-	384202 399842
225	**Contemporary Trade Directory Entries** Name: Elegant Collection Location: 2-4 Bradstone Rd, Manchester, Lancashire, M8 8WA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	167	-	383996 400028
225	**Contemporary Trade Directory Entries** Name: Apple Footwear Location: 42, Broughton Street, Manchester, M8 8NN Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	179	-	383989 400009
226	**Contemporary Trade Directory Entries** Name: Westzone Supplies Location: Cheetham Hill Rd, Manchester, Lancashire, M8 8LW Classification: Confectionery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	173	-	384317 399904
227	**Contemporary Trade Directory Entries** Name: First Impressions Location: 33, Broughton Street, Manchester, M8 8LZ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	186	-	384004 399960
227	**Contemporary Trade Directory Entries** Name: Manchester Hosiery Location: Unit 4 35 Broughton Street, Manchester, Greater Manchester, M8 8LZ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	207	-	383980 399959
227	**Contemporary Trade Directory Entries** Name: Vellector Ltd Location: 37, Broughton Street, Manchester, M8 8LZ Classification: Glass Fibre - Materials & Tools **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	222	-	383958 399968

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	**Contemporary Trade Directory Entries** Name: Vick Trading Ltd Location: 37, Broughton Street, Manchester, Lancashire, M8 8LZ Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	222	-	383958 399968
227	**Contemporary Trade Directory Entries** Name: R S S Edge Shoes Ltd Location: 37a Broughton Street, Manchester, Greater Manchester, M8 8LZ Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	223	-	383958 399967
227	**Contemporary Trade Directory Entries** Name: M C D M O T & Garage Services Location: Unit 12 Commerce House,54 Derby Street, Manchester, Greater Manchester, M8 8HF Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	227	-	383960 399954
228	**Contemporary Trade Directory Entries** Name: Moyee Fashion Location: 23, Broughton Street, Manchester, M8 8LZ Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	188	-	384096 399887
228	**Contemporary Trade Directory Entries** Name: Arctic Clothing Ltd Location: 23, Broughton Street, Manchester, Lancashire, M8 8LZ Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	188	-	384096 399887
228	**Contemporary Trade Directory Entries** Name: Nsi Electrical World Ltd Location: 23, Broughton Street, Manchester, M8 8LZ Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	188	-	384096 399887
228	**Contemporary Trade Directory Entries** Name: Influence Apparel Location: 21-23 Broughton St, Manchester, Lancashire, M8 8LZ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	189	-	384096 399886
228	**Contemporary Trade Directory Entries** Name: H2f Ltd Location: 46, Derby Street, Manchester, Lancashire, M8 8HN Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	212	-	384060 399877
229	**Contemporary Trade Directory Entries** Name: Pak Nylon Hosiery Co Location: 31, Broughton Street, Manchester, M8 8LZ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	189	-	384021 399936
229	**Contemporary Trade Directory Entries** Name: Baixin Trading Location: 4B Woolley St, Manchester, Lancashire, M8 8WE Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	192	-	384036 399917
229	**Contemporary Trade Directory Entries** Name: M Y Sweet Wardrobe Location: 8, Woolley Street, Manchester, M8 8WE Classification: Clothing Accessory Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	195	-	384027 399921

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
230	**Contemporary Trade Directory Entries** Name: Xited Uk Ltd Location: 48, Broughton Street, Manchester, M8 8NN Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	203	-	383958 400019
230	**Contemporary Trade Directory Entries** Name: Kashvip (Manchester) Location: 52, Broughton Street, Manchester, M8 8NN Classification: Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	216	-	383929 400030
231	**Contemporary Trade Directory Entries** Name: North Street M O T'S Ltd Location: 59-63, North Street, Manchester, M8 8RE Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	204	-	384383 399927
231	**Contemporary Trade Directory Entries** Name: H N D Kapur Textiles Ltd Location: 51, North Street, Manchester, M8 8RE Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	221	-	384385 399901
232	**Contemporary Trade Directory Entries** Name: 24 Hour Recovery Location: Hillhead Walk, Manchester, Lancashire, M8 0EG Classification: Disability Equipment - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (N)	219	-	384090 400490
233	**Contemporary Trade Directory Entries** Name: Superdrug Location: Unit 25, Manchester Fort Shopping Park, Cheetham Hill Road, Manchester, M8 8EP Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (E)	226	-	384457 400049
234	**Contemporary Trade Directory Entries** Name: Pan & Sons Ltd Location: 38d, Derby Street, Manchester, M8 8HN Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	228	-	384156 399825
234	**Contemporary Trade Directory Entries** Name: M & J Location: 38d Derby Street, Manchester, Greater Manchester, M8 8HN Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (S)	228	-	384156 399825
235	**Contemporary Trade Directory Entries** Name: A & M Trading Ltd Location: 135, Cheetham Hill Road, Manchester, M8 8LY Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A8NE (S)	228	-	384209 399817
235	**Contemporary Trade Directory Entries** Name: Sas Location: 135, Cheetham Hill Road, Manchester, M8 8LY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A8NE (S)	228	-	384209 399817
235	**Contemporary Trade Directory Entries** Name: Azam & Co Location: 141, Cheetham Hill Road, Manchester, M8 8LY Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	242	-	384216 399803

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
235	**Contemporary Trade Directory Entries** Name: L & N Bags Location: 4, Bent Street, Manchester, M8 8NF Classification: Leather Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	260	-	384180 399787
236	**Contemporary Trade Directory Entries** Name: Babywearwholesale.Com Location: Cheetwood Road, Manchester, M8 8AQ Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (W)	235	-	383882 400276
236	**Contemporary Trade Directory Entries** Name: Hexagon International Transport Ltd Location: Cheetwood Road, MANCHESTER, M8 8AQ Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	251	-	383877 400310
237	**Contemporary Trade Directory Entries** Name: Scents & Sensuality Location: 166-168, Cheetham Hill Road, Manchester, M8 8LQ Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	243	-	384285 399811
237	**Contemporary Trade Directory Entries** Name: Onyx Cosmetics Ltd Location: Onyx House, 164, Cheetham Hill Road, Manchester, M8 8LQ Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	249	-	384282 399804
237	**Contemporary Trade Directory Entries** Name: Zara'S Perfumery Location: Onyx House, 164, Cheetham Hill Road, Manchester, Lancashire, M8 8LQ Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	249	-	384282 399804
238	**Contemporary Trade Directory Entries** Name: Cintamani Lingerie Location: 54-56, Stocks Street, Manchester, M8 8QJ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	246	-	384384 399865
239	**Contemporary Trade Directory Entries** Name: Pro Cleaners Cheetham Location: 22a, Balmfield Street, Manchester, M8 0SP Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	259	-	384239 400510
239	**Contemporary Trade Directory Entries** Name: Liberty Computers Location: 86, Heywood Street, Manchester, M8 0DT Classification: Computer Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	265	-	384224 400523
240	**Contemporary Trade Directory Entries** Name: D T M Motors Location: Herbert Street, Manchester, M8 0DG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	262	-	383976 400486
240	**Contemporary Trade Directory Entries** Name: D T M Location: 1a, Herbert Street, Manchester, M8 0DG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	262	-	383976 400486
240	**Contemporary Trade Directory Entries** Name: D T M Location: 1a, Herbert Street, Manchester, M8 0DG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	262	-	383976 400486

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
241	**Contemporary Trade Directory Entries** Name: Celine J Location: Unit C-d, 50, Derby Street, Manchester, M8 8HF Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	266	-	383989 399859
241	**Contemporary Trade Directory Entries** Name: Elopak Ltd Location: Woolley Street, Manchester, M8 8WE Classification: Bottle Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A13SW (SW)	268	-	384008 399842
241	**Contemporary Trade Directory Entries** Name: Gessy Fashion Location: 39, Derby Street, Manchester, Lancashire, M8 8HW Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (SW)	287	-	384025 399810
242	**Contemporary Trade Directory Entries** Name: Sabah International Leatherwear Ltd Location: 41, Broughton Street, Manchester, M8 8AN Classification: Leather Merchants & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	270	-	383875 400012
242	**Contemporary Trade Directory Entries** Name: M I A Fashions Location: 41, Broughton Street, Manchester, M8 8AN Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	270	-	383875 400012
243	**Contemporary Trade Directory Entries** Name: Home Print Location: Park House, 21, Cheetwood Road, Manchester, M8 8AQ Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	275	-	383822 400214
243	**Contemporary Trade Directory Entries** Name: Empress Quilts & Textiles Ltd Location: Park House, 6, Cheetwood Road, Manchester, M8 8AQ Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	276	-	383822 400214
243	**Contemporary Trade Directory Entries** Name: Childrenswearwholesalers.Com Location: Cheetwood Rd, Manchester, Lancashire, M8 8AQ Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12NE (W)	276	-	383822 400214
244	**Contemporary Trade Directory Entries** Name: Manchester Plumbers Location: 5, Belton Walk, MANCHESTER, M8 0EB Classification: Boilers - Servicing, Replacements & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	279	-	384013 400529
245	**Contemporary Trade Directory Entries** Name: Ers Shopfittings Location: Unit 3, 37, Derby Street, Manchester, M8 8HW Classification: Shop Fittings Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	282	-	384047 399806
246	**Contemporary Trade Directory Entries** Name: Mucharski Bags Location: Spear Works, 33, Derby Street, Manchester, Lancashire, M8 8HW Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to an adjacent address or location	A8NW (S)	284	-	384098 399785
246	**Contemporary Trade Directory Entries** Name: Uk No1 Tyres Ltd Location: 111, Cheetham Hill Road, Manchester, M8 8PY Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	294	-	384182 399753

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
246	**Contemporary Trade Directory Entries** Name: Zafer Hosiery Co Location: 23a, Derby Street, Manchester, M8 8HW Classification: Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	297	-	384134 399759
246	**Contemporary Trade Directory Entries** Name: Sk & Associates Location: 23, Derby Street, Manchester, Lancashire, M8 8HW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	297	-	384134 399759
246	**Contemporary Trade Directory Entries** Name: Mode Handbag Location: 23a, Derby Street, Manchester, Lancashire, M8 8HW Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	297	-	384134 399759
246	**Contemporary Trade Directory Entries** Name: Shoes World Location: 23, Derby Street, Manchester, M8 8HW Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	297	-	384134 399759
247	**Contemporary Trade Directory Entries** Name: Indigo Apparel Ltd Location: 43, Broughton Street, Manchester, M8 8AN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	287	-	383851 400018
247	**Contemporary Trade Directory Entries** Name: Sabah International Leatherwear Ltd Location: Unit 5, 53, Sherborne Street, Manchester, M8 8LE Classification: Clothing Accessory Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	289	-	383862 399998
247	**Contemporary Trade Directory Entries** Name: Sublime Wear Ltd Location: 43-45, Broughton Street, Manchester, M8 8AN Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	293	-	383848 400011
247	**Contemporary Trade Directory Entries** Name: Cameo Shop Fitting Ltd Location: 47, Broughton Street, Manchester, M8 8AN Classification: Shop Fittings Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	306	-	383825 400024
247	**Contemporary Trade Directory Entries** Name: 2 C D Designs Location: 21 Cheetwood Rd, Manchester, M8 8AQ Classification: Lingerie Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	316	-	383812 400026
247	**Contemporary Trade Directory Entries** Name: Hain Celestial Location: Unit 10, Commerce House, 54, Derby Street, Manchester, Lancashire, M8 8HF Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	319	-	383836 399982
247	**Contemporary Trade Directory Entries** Name: Samson Hosiery Ltd Location: Commerce House, 54, Derby Street, Manchester, M8 8HF Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	319	-	383836 399982

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
247	**Contemporary Trade Directory Entries** Name: Wicked Nights Ltd Location: Derby St, Manchester, Lancashire, M8 8HF Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SE (SW)	319	-	383836 399982
247	**Contemporary Trade Directory Entries** Name: S R Mailing Location: Unit 32, Commerce House, 54, Derby Street, Manchester, M8 8HF Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	320	-	383835 399981
247	**Contemporary Trade Directory Entries** Name: 2nd Chance Location: Unit 20B,Commerce House,54 Derby St, Manchester, Lancashire, M8 8HF Classification: Classic Car Specialists **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	320	-	383835 399981
247	**Contemporary Trade Directory Entries** Name: Childrenswear Wholesalers Location: 8 Cheetwood Road,Cheetham Hill, Manchester, Greater Manchester, M8 8AQ Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SE (W)	340	-	383780 400040
247	**Contemporary Trade Directory Entries** Name: La Vision International Ltd Location: Cheetwood Road, Manchester, M8 8AQ Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	340	-	383780 400040
248	**Contemporary Trade Directory Entries** Name: Fundamental Textiles Location: 19, Stanley Street, Manchester, M8 8SH Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	290	-	384368 399797
248	**Contemporary Trade Directory Entries** Name: I T D Global Location: 17, Stanley Street, Manchester, M8 8SH Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	308	-	384373 399779
248	**Contemporary Trade Directory Entries** Name: Huddlespace Location: 15, STANLEY STREET, CHEETHAM, MANCHESTER, M8 8SH Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	320	-	384368 399763
248	**Contemporary Trade Directory Entries** Name: Kiss Laser Hair Location: 13, Stanley Street, Manchester, M8 8SH Classification: Electrolysis **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	322	-	384354 399753
248	**Contemporary Trade Directory Entries** Name: Storeline Fashions Ltd Location: 13, Stanley Street, Manchester, Lancashire, M8 8SH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	322	-	384354 399753
249	**Contemporary Trade Directory Entries** Name: The Tyre Mot Repair Centre Location: 1B Broughton St, Manchester, Lancashire, M8 8NN Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	294	-	384423 399835
249	**Contemporary Trade Directory Entries** Name: Direct Print Location: Record House, North Street, Manchester, Lancashire, M8 8RA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	330	-	384427 399790

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
249	**Contemporary Trade Directory Entries** Name: Premier Rainwear Location: 46, Stanley Street, Manchester, M8 8SH Classification: Waterproof Clothing & Rainwear **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	335	-	384412 399773
249	**Contemporary Trade Directory Entries** Name: Xpose Ltd Location: 52-58, Stanley Street, Manchester, M8 8SH Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	344	-	384405 399757
250	**Contemporary Trade Directory Entries** Name: Small Talk Location: Unit 2 Derby St, Manchester, M8 8HF Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	296	-	383952 399852
251	**Contemporary Trade Directory Entries** Name: J L E Fashion Location: Unit 1, Commerce House, 54, Derby Street, Manchester, M8 8HF Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	299	-	383909 399899
252	**Contemporary Trade Directory Entries** Name: Malkas Ltd Location: 148, Cheetham Hill Road, Manchester, M8 8PZ Classification: Fireplaces & Mantelpieces **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	314	-	384238 399731
252	**Contemporary Trade Directory Entries** Name: Golden Arts Printing Location: 142d, Cheetham Hill Road, Manchester, M8 8PZ Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	341	-	384236 399705
253	**Contemporary Trade Directory Entries** Name: Hasan Hangers Ltd Location: 3, Mousell Street, Manchester, M8 8HY Classification: Packaging Materials Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	333	-	384111 399729
253	**Contemporary Trade Directory Entries** Name: Evitrend Ltd Location: 28, Knowsley Street, Manchester, M8 8HQ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	334	-	384077 399739
253	**Contemporary Trade Directory Entries** Name: Lex Knitwear Ltd Location: 28, Knowsley Street, Manchester, Lancashire, M8 8HQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	334	-	384077 399739
253	**Contemporary Trade Directory Entries** Name: Saba Location: 28, Knowsley Street, Manchester, Lancashire, M8 8HQ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	334	-	384077 399739
253	**Contemporary Trade Directory Entries** Name: Freedia Fabrics Ltd Location: 28, Knowsley Street, Manchester, Lancashire, M8 8HQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	334	-	384077 399739
253	**Contemporary Trade Directory Entries** Name: Fine Shape (Clothing) Ltd Location: 28, Knowsley Street, Manchester, Lancashire, M8 8HQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	334	-	384077 399739

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
253	**Contemporary Trade Directory Entries** Name: Shak Shak Shopfitting Location: Unit 7, 30-32, Knowsley Street, Manchester, M8 8HQ Classification: Shop Fittings Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	336	-	384034 399752
253	**Contemporary Trade Directory Entries** Name: Ideal Shop Fittings Location: 7 Camberwell Street, Manchester, Greater Manchester, M8 8HG Classification: Shop Fittings Manufacturers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (S)	353	-	384043 399731
253	**Contemporary Trade Directory Entries** Name: Rather Bros Location: 26, Knowsley Street, Manchester, M8 8HQ Classification: Foam Products - Rubber & Plastics **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	357	-	384108 399705
254	**Contemporary Trade Directory Entries** Name: The Textile Centre London Location: 200, Waterloo Road, Manchester, M8 8AE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	337	-	383814 400391
254	**Contemporary Trade Directory Entries** Name: Cheetham Auto Parts Location: 170, Waterloo Road, Manchester, M8 8AE Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	344	-	383797 400365
255	**Contemporary Trade Directory Entries** Name: J C Unique Location: 55a, Derby Street, Manchester, M8 8HW Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	346	-	383898 399837
255	**Contemporary Trade Directory Entries** Name: Branco Logistics Ltd Location: 55, Derby Street, Manchester, M8 8HW Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	346	-	383898 399837
255	**Contemporary Trade Directory Entries** Name: E C Contract Division Ltd Location: 57a, Derby Street, Manchester, Lancashire, M8 8HW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	363	-	383872 399841
255	**Contemporary Trade Directory Entries** Name: E C Contract Division Ltd Location: 57A, Derby Street, Manchester, Lancashire, M8 8HW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	363	-	383872 399841
256	**Contemporary Trade Directory Entries** Name: Jessops Chapefields Location: Unit 1, Manchester Fort Shopping Park, Cheetham Hill Road, Manchester, Lancashire, M8 8EP Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	352	-	384575 400309
257	**Contemporary Trade Directory Entries** Name: A A Computer Centre Ltd Location: 18-24, Knowsley Street, Manchester, M8 8HQ Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	355	-	384120 399703

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
258	**Contemporary Trade Directory Entries** Name: Occasionwear Location: Unit 2, 30-32, Knowsley Street, Manchester, M8 8HQ Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	356	-	384016 399738
258	**Contemporary Trade Directory Entries** Name: Zumm Cargo Location: Unit 3, 30-32, Knowsley Street, Manchester, M8 8HQ Classification: Cargo Handling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	359	-	384006 399740
258	**Contemporary Trade Directory Entries** Name: Little Star Wholesale Location: Unit A,Woolley Street, Manchester, Greater Manchester, M8 8WE Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (SW)	370	-	383978 399742
259	**Contemporary Trade Directory Entries** Name: Rayburn Trading Location: 90, North Street, Manchester, M8 8RA Classification: Razor Blade Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	360	-	384556 399927
260	**Contemporary Trade Directory Entries** Name: D K Wholesale Ltd Location: 118-120 Harthill Street, Manchester, Greater Manchester, M8 8AG Classification: Clocks & Watches - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12NE (W)	362	-	383732 400174
261	**Contemporary Trade Directory Entries** Name: D M Tyres Location: 124, Waterloo Road, Manchester, M8 8AF Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	362	-	383748 400274
261	**Contemporary Trade Directory Entries** Name: Zurich Warranty Location: Brightside House, 122, Waterloo Road, Manchester, M8 8AS Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	377	-	383723 400238
262	**Contemporary Trade Directory Entries** Name: The Capital Textile Location: Unit 4,200 Waterloo Road, Manchester, Greater Manchester, M8 8AE Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A17SE (NW)	378	-	383828 400502
263	**Contemporary Trade Directory Entries** Name: Stone Catalogue Location: Hytech Industrial Park, 1, Peel Lane, Manchester, Lancashire, M8 8RJ Classification: Stone Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	381	-	384479 399769
263	**Contemporary Trade Directory Entries** Name: Iqra Ltd Location: Hytech Industrial Park, 1, Peel Lane, Manchester, Lancashire, M8 8RJ Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	381	-	384479 399769
263	**Contemporary Trade Directory Entries** Name: Lesa Collection Location: 84, North Street, Manchester, M8 8RA Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	382	-	384472 399760
264	**Contemporary Trade Directory Entries** Name: Beauty (Uk) Location: 103-105, Cheetham Hill Road, Manchester, M8 8PY Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	394	-	384149 399657

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
264	**Contemporary Trade Directory Entries** Name: Euro Shop Equipment Location: 99-101, Cheetham Hill Road, Manchester, M8 8PY Classification: Shop Fittings Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	406	-	384166 399642
264	**Contemporary Trade Directory Entries** Name: Sharma Hosiery Co Location: 97, Cheetham Hill Road, Manchester, Lancashire, M8 8PY Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	416	-	384153 399633
265	**Contemporary Trade Directory Entries** Name: Tata Shoes Location: Unit 2, 130, Broughton Street, Manchester, M8 8AN Classification: Footwear - Manufacturers and Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	398	-	383702 400104
265	**Contemporary Trade Directory Entries** Name: Vales Coaches (Manchester) Ltd Location: 49, Broughton Street, Manchester, M8 8AN Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	420	-	383687 400067
266	**Contemporary Trade Directory Entries** Name: Jordash Ltd Location: 124 Cheetham Hill Road, Manchester, Greater Manchester, M8 8PZ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	409	-	384214 399636
266	**Contemporary Trade Directory Entries** Name: Shop Fittings Manchester Ltd Location: 9a Stocks Street, Manchester, Greater Manchester, M8 8GW Classification: Shop Fittings Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	438	-	384237 399607
266	**Contemporary Trade Directory Entries** Name: Shipping Xperts Ltd Location: 116-118, Cheetham Hill Road, Manchester, M4 4FG Classification: Freight Forwarders **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	453	-	384191 399592
266	**Contemporary Trade Directory Entries** Name: I A S Leather Goods Ltd Location: 116-118, Cheetham Hill Road, Manchester, M4 4FG Classification: Leather Garments & Products **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	453	-	384191 399592
267	**Contemporary Trade Directory Entries** Name: Joseph Holt Location: The Brewery, Empire Street, Manchester, M3 1JD Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	410	-	384078 399659
267	**Contemporary Trade Directory Entries** Name: Bown Bags Ltd Location: Unit 2 Empire St, Manchester, Lancashire, M3 1JB Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (S)	437	-	384048 399640
267	**Contemporary Trade Directory Entries** Name: David John Lighting Co Location: 19-23, Empire Street, Manchester, M3 1JB Classification: Lighting Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	457	-	384054 399617
268	**Contemporary Trade Directory Entries** Name: Inka Jewellery Location: 6, Knowsley Street, Manchester, M8 8GF Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	413	-	384324 399646

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
268	**Contemporary Trade Directory Entries** Name: David Mather Supplies Ltd Location: 6, Knowsley Street, Manchester, M8 8GF Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	413	-	384324 399646
268	**Contemporary Trade Directory Entries** Name: Jenny & May Trading Location: Unit 6 Knowsley st, Manchester, Greater Manchester, M8 8HQ Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	413	-	384324 399646
269	**Contemporary Trade Directory Entries** Name: Core Shoes Ltd Location: Unit 1, 14, Cheetwood Road, Manchester, M8 8AQ Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	415	-	383723 399983
269	**Contemporary Trade Directory Entries** Name: Momokrom Location: Lawrence House, Derby Street, Manchester, M8 8AT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	416	-	383723 399983
270	**Contemporary Trade Directory Entries** Name: S & D Leisure Location: Unit 2, Hytech Industrial Park, 1, Peel Lane, Manchester, M8 8RJ Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	415	-	384559 399811
270	**Contemporary Trade Directory Entries** Name: Autocraft Location: Collingham Street, Manchester, M8 8RQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	459	-	384605 399800
270	**Contemporary Trade Directory Entries** Name: Saleem Knitwear Location: Collingham Street, Manchester, M8 8RQ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	459	-	384605 399800
270	**Contemporary Trade Directory Entries** Name: M8 Tyres Location: Unit 1, Collingham Street, Manchester, M8 8RQ Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	496	-	384640 399785
271	**Contemporary Trade Directory Entries** Name: Ats Euromaster Ltd Location: 20, Silbury Walk, Manchester, M8 8DJ Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	416	-	383701 400304
271	**Contemporary Trade Directory Entries** Name: Ats Euromaster Ltd Location: 20, Silbury Walk, Manchester, M8 8DJ Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	416	-	383701 400304
272	**Contemporary Trade Directory Entries** Name: Comet Location: Unit 2, Manchester Fort Shopping Park, Cheetham Hill Road, Manchester, M8 8EP Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	424	-	384678 400198

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
272	**Contemporary Trade Directory Entries** Name: Comet Group Plc Location: Unit 2, Manchester Fort Shopping Park, Cheetham Hill Road, Manchester, M8 8EP Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	424	-	384678 400198
272	**Contemporary Trade Directory Entries** Name: Comet Location: Unit 2, Manchester Fort Shopping Park, Cheetham Hill Road, Manchester, M8 8EP Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	424	-	384678 400198
273	**Contemporary Trade Directory Entries** Name: New Scene M C R Ltd Location: 15, Collingham Street, Manchester, M8 8RQ Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	424	-	384487 399717
273	**Contemporary Trade Directory Entries** Name: Topline Fashions (Manchester) Ltd Location: Collingham St, Manchester, Lancashire, M8 8RR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	436	-	384529 399741
273	**Contemporary Trade Directory Entries** Name: S Redfern & Co Ltd Location: Collingham Street, Manchester, M8 8RR Classification: Hose, Tubing & Fittings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	436	-	384529 399741
273	**Contemporary Trade Directory Entries** Name: Robinson Motors Ltd Location: Unit 4 Collingham Street, Manchester, Greater Manchester, M8 8RQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	467	-	384560 399729
274	**Contemporary Trade Directory Entries** Name: Eagle Eye Motor Ltd Location: 7, St. Thomas Place, Manchester, M8 8TP Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	425	-	384382 399653
274	**Contemporary Trade Directory Entries** Name: Uk Shutters Location: 7, St. Thomas Place, Manchester, M8 8TP Classification: Roller Shutter Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	425	-	384382 399653
275	**Contemporary Trade Directory Entries** Name: Buckle Shoes Ltd Location: 102-104, Waterloo Road, Manchester, M8 8AF Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	431	-	383664 400146
275	**Contemporary Trade Directory Entries** Name: Kwik-Fit Location: 102-104, Waterloo Road, Manchester, M8 8AF Classification: Exhaust & Shock Absorber Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	431	-	383664 400146
276	**Contemporary Trade Directory Entries** Name: Syd Abrams Location: 141, Waterloo Road, Manchester, M8 8BT Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	432	-	383743 400467

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
277	**Contemporary Trade Directory Entries** Name: Toptrade Ltd Location: 45, Sherborne Street, Manchester, M8 8LE Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	446	-	383785 399821
277	**Contemporary Trade Directory Entries** Name: F I Printing Co Ltd Location: 41, Sherborne Street, Manchester, M8 8LE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	471	-	383786 399776
277	**Contemporary Trade Directory Entries** Name: Abacus Media Location: 41, Sherborne Street, Manchester, M8 8LE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	471	-	383786 399776
277	**Contemporary Trade Directory Entries** Name: Sedgeford Ltd Location: Unit 3,60 Sherborne St, Manchester, Lancashire, M8 8LR Classification: Confectionery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	477	-	383812 399736
278	**Contemporary Trade Directory Entries** Name: Travelstyle Location: Central House, 32, Chatley Street, Manchester, M3 1HX Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	451	-	383975 399653
279	**Contemporary Trade Directory Entries** Name: A N K H Office Solutions Ltd Location: Unit 2 Collingham Street, Manchester, Greater Manchester, M8 8RQ Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	455	-	384470 399667
279	**Contemporary Trade Directory Entries** Name: Premier Glass Location: Unit 2, Collingham Street, Manchester, M8 8RQ Classification: Mirrors & Decorative Glass **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	456	-	384481 399673
279	**Contemporary Trade Directory Entries** Name: Z-Cars Auto Services Location: Unit 3, Collingham Street, Manchester, M8 8RQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	458	-	384492 399679
279	**Contemporary Trade Directory Entries** Name: Z Cars Auto Services Location: Unit 3, Collingham Street, Manchester, M8 8RQ Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	458	-	384492 399679
279	**Contemporary Trade Directory Entries** Name: Z Cars Auto Services Location: Unit 3, Collingham Street, Manchester, M8 8RQ Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	458	-	384492 399679
279	**Contemporary Trade Directory Entries** Name: Z Cars Auto Services Location: Unit 3, Collingham Street, Manchester, M8 8RQ Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	459	-	384493 399678
279	**Contemporary Trade Directory Entries** Name: Quick Start Location: Unit 5, Collingham Street, Manchester, M8 8RQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	466	-	384518 399689

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
280	**Contemporary Trade Directory Entries** Name: Andersen Textiles Ltd Location: Style House, 63, Knowsley Street, Manchester, M8 8HX Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	455	-	383863 399719
281	**Contemporary Trade Directory Entries** Name: Baisemark Ltd Location: 12, Stocks Street, Manchester, M8 8QG Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	456	-	384270 399592
281	**Contemporary Trade Directory Entries** Name: Barney & Taylor Ltd Location: 12 Stocks Street, Manchester, Greater Manchester, M8 8QG Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	456	-	384270 399592
281	**Contemporary Trade Directory Entries** Name: Northern Suede & Leather Location: 12, Stocks Street, Manchester, Lancashire, M8 8QG Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	456	-	384270 399592
281	**Contemporary Trade Directory Entries** Name: In Design (Uk) Ltd Location: 5, Knowsley Street, Manchester, M8 8QN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	471	-	384306 399583
281	**Contemporary Trade Directory Entries** Name: Retail Sensing Location: 10, Stocks Street, Manchester, M8 8QG Classification: Door & Gate Operating Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	478	-	384260 399568
281	**Contemporary Trade Directory Entries** Name: Hy Speed Tyre Service Ltd Location: 7-9, Stanley Street, Manchester, M8 8GQ Classification: Tyre Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	489	-	384291 399561
281	**Contemporary Trade Directory Entries** Name: Express Motor Services Location: 7-9, Stanley Street, MANCHESTER, M8 8GQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	489	-	384291 399561
281	**Contemporary Trade Directory Entries** Name: Hildy Foundations Location: 8, Stocks Street, Manchester, M8 8QG Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	503	-	384250 399543
281	**Contemporary Trade Directory Entries** Name: A J P Location: Samuel House, St. Chads Street, Manchester, Lancashire, M8 8QA Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	518	-	384278 399530
281	**Contemporary Trade Directory Entries** Name: H W J Location: St. Chads St, Manchester, M8 8QA Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NE (S)	528	-	384274 399520
282	**Contemporary Trade Directory Entries** Name: Wax & Away Location: Unit 1a Knowsley Street, Manchester, Greater Manchester, M8 8QN Classification: Car Washing & Polishing Equipment & Supplies **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	469	-	384343 399593

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
282	**Contemporary Trade Directory Entries** Name: Builder Center Location: 1, Knowsley Street, Manchester, M8 8QL Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	470	-	384343 399592
283	**Contemporary Trade Directory Entries** Name: Ganbree Garments Location: 79-87, Cheetham Hill Road, Manchester, M4 4ER Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	473	-	384136 399579
283	**Contemporary Trade Directory Entries** Name: Hurriprint & Design Studios Location: 77, Cheetham Hill Road, Manchester, M4 4ER Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	482	-	384133 399570
284	**Contemporary Trade Directory Entries** Name: Aviator 75 Location: 7 Premier Road, Manchester, M8 8HH Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	478	-	383698 399902
284	**Contemporary Trade Directory Entries** Name: Cosy Home Furnishings Ltd Location: Premier House, Premier Road, Manchester, M8 8HH Classification: Soft Furnishings - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	516	-	383663 399886
285	**Contemporary Trade Directory Entries** Name: Home Safe Location: 25, Honey Street, Manchester, Lancashire, M8 8RG Classification: Metal Products - Fabricated **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	482	-	384533 399681
285	**Contemporary Trade Directory Entries** Name: United Location: 25b, Honey Street, Manchester, M8 8RG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	482	-	384533 399681
285	**Contemporary Trade Directory Entries** Name: A M S Manchester Location: 27 Honey St, Manchester, Lancashire, M8 8RG Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	486	-	384545 399686
285	**Contemporary Trade Directory Entries** Name: United Location: 25b, Honey Street, Manchester, M8 8RG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	488	-	384535 399675
285	**Contemporary Trade Directory Entries** Name: Montgomery Garage Location: 29-31 Honey St, Manchester, M8 8RG Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	494	-	384558 399688
285	**Contemporary Trade Directory Entries** Name: Aa Autos Location: 29 Honey St, Manchester, Lancashire, M8 8RG Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	494	-	384558 399688
285	**Contemporary Trade Directory Entries** Name: Instyle Uk Ltd Location: 31, Honey Street, Manchester, M8 8RG Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	501	-	384572 399692

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
286	**Contemporary Trade Directory Entries** Name: Marble Arch Location: Honey Street, Manchester, M8 8RG Classification: Fireplaces & Mantelpieces **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A8NE (SE)	486	-	384468 399629
286	**Contemporary Trade Directory Entries** Name: Aa Autos Location: Honey St, Manchester, Lancashire, M8 8RG Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	496	-	384519 399652
286	**Contemporary Trade Directory Entries** Name: First Choice Packaging Manufacturers Ltd Location: 12, Honey Street, Manchester, M8 8RG Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	504	-	384457 399601
286	**Contemporary Trade Directory Entries** Name: M Z Fibres Ltd Location: 14, Honey Street, Manchester, M8 8RG Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	511	-	384491 399614
286	**Contemporary Trade Directory Entries** Name: Raymat Quilts & Textiles Location: 14, Honey Street, Manchester, M8 8RG Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	511	-	384491 399614
287	**Contemporary Trade Directory Entries** Name: Fields Press Ltd Location: 96-98, Waterloo Road, Manchester, M8 8AW Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	487	-	383616 400078
288	**Contemporary Trade Directory Entries** Name: Mf Handbags Ltd Location: Victoria Ho,Derby St, Manchester, M8 8HE Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	492	-	383651 399956
288	**Contemporary Trade Directory Entries** Name: Nield On Demand Location: Caplan House, Derby Street, Manchester, M8 8AT Classification: Razor Blade Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	525	-	383619 399945
289	**Contemporary Trade Directory Entries** Name: K H C Location: 7, Holborn Drive, Manchester, M8 8US Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	503	-	384669 400447
290	**Contemporary Trade Directory Entries** Name: Creamline Dairies Location: 56-58, Red Bank, Manchester, M8 8TS Classification: Dairies **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	516	-	384383 399556
291	**Contemporary Trade Directory Entries** Name: Imani The Designer Studio Location: 15, Chatley Street, Manchester, M3 1HU Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	516	-	384031 399563
291	**Contemporary Trade Directory Entries** Name: Rubitex Ltd Location: 52, Lord Street, Manchester, M3 1HN Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	531	-	384009 399554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	**Contemporary Trade Directory Entries** Name: H Smith Ltd Location: 52, Lord Street, Manchester, M3 1HN Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	531	-	384010 399554
292	**Contemporary Trade Directory Entries** Name: S N K Apparel Ltd Location: Mirage House 25-27, St. Chads Street, Manchester, M8 8QA Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	540	-	384243 399505
292	**Contemporary Trade Directory Entries** Name: Disabled Living Location: Redbank House, 4, St. Chads Street, Manchester, M8 8QA Classification: Disability Equipment - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	545	-	384272 399502
292	**Contemporary Trade Directory Entries** Name: K 2 Pleating Co Location: Mehtab House, 4, Stocks Street, Manchester, M8 8QG Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	560	-	384237 399485
292	**Contemporary Trade Directory Entries** Name: Hanley & Woods Location: 20, Lord Street, Manchester, Lancashire, M4 4FP Classification: Upholstery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	591	-	384214 399454
293	**Contemporary Trade Directory Entries** Name: Balistic Media Location: 65, Cheetham Hill Road, Manchester, M4 4ES Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	540	-	384117 399514
293	**Contemporary Trade Directory Entries** Name: Printec Studio Ltd Location: 61, Cheetham Hill Road, Manchester, M4 4FS Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	565	-	384111 399489
294	**Contemporary Trade Directory Entries** Name: Duvet Pillow & Linen Co Location: 54, Red Bank, Manchester, M8 8QF Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	554	-	384354 399508
295	**Contemporary Trade Directory Entries** Name: Feline Ltd Location: 40 Southall St, Manchester, Lancashire, M60 9AH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (SW)	569	-	383869 399575
295	**Contemporary Trade Directory Entries** Name: Svenson Commodities Ltd Location: 40 Southall St, Manchester, Lancashire, M3 1LG Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (SW)	570	-	383868 399574
296	**Contemporary Trade Directory Entries** Name: Buy Car Co Manchester Location: 67, Derby Street, Manchester, M8 8HE Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	574	-	383562 399952
296	**Contemporary Trade Directory Entries** Name: Andrew Lindsay Location: 67, Derby Street, Manchester, M8 8HE Classification: Electrical Goods - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	574	-	383562 399952

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
296	**Contemporary Trade Directory Entries** Name: Buy Car Co Manchester Location: 67, Derby Street, Manchester, M8 8HE Classification: Car Breakers & Dismantlers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	575	-	383562 399952
297	**Contemporary Trade Directory Entries** Name: A B B Ltd Location: 51 Lord St, Manchester, M3 1HL Classification: Engineers - General **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	590	-	384046 399480
297	**Contemporary Trade Directory Entries** Name: J R Hosiery Co Ltd Location: 2-12, Carnarvon Street, Manchester, M3 1JJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	615	-	384021 399462
297	**Contemporary Trade Directory Entries** Name: Y N R Instruments Ltd Location: 17, CARNARVON STREET, MANCHESTER, M3 1EZ Classification: Medical Equipment Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	645	-	383976 399445
298	**Contemporary Trade Directory Entries** Name: Urbis Lighting Ltd Location: 88, Cheetham Hill Road, Manchester, M4 4EX Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	614	-	384136 399436
299	**Contemporary Trade Directory Entries** Name: Cheetham Service Station Location: Waterloo Road, Manchester, M8 8GJ Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	621	-	383541 399887
299	**Contemporary Trade Directory Entries** Name: Rabbani Filling Station Location: Waterloo Road, Manchester, M8 8GJ Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	625	-	383535 399890
299	**Contemporary Trade Directory Entries** Name: Gulf Location: Waterloo Road, Manchester, M8 8GJ Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	625	-	383535 399890
300	**Contemporary Trade Directory Entries** Name: Dekbed Uk Ltd Location: 3, Roger Street, Manchester, M4 4EN Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	641	-	384388 399427
300	**Contemporary Trade Directory Entries** Name: L S Garments Ltd Location: 12-14, Chase Street, Manchester, M4 4EN Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	641	-	384388 399427
301	**Contemporary Trade Directory Entries** Name: Cheetham Hill Service Station Location: 33-41, Cheetham Hill Road, Manchester, M4 4FT Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	647	-	384081 399412
301	**Contemporary Trade Directory Entries** Name: S P Nayar & Co Uk Ltd Location: 9, Carnarvon Street, Manchester, M3 1EZ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	651	-	384044 399417

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
301	**Contemporary Trade Directory Entries** Name: Redbank Service Station Location: 58, Cheetham Hill Road, Manchester, M4 4EX Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	671	-	384114 399382
301	**Contemporary Trade Directory Entries** Name: Redbank Service Station Location: 58, Cheetham Hill Road, Manchester, M4 4EX Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	672	-	384114 399381
302	**Contemporary Trade Directory Entries** Name: D H L Ltd Location: Southall Street, Manchester, Greater Manchester, M60 9AH Classification: Freight Forwarders **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	649	-	383797 399526
303	**Contemporary Trade Directory Entries** Name: Fort Cleaning Solutions Location: 5, Roger Street, Manchester, M4 4EN Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	651	-	384348 399407
303	**Contemporary Trade Directory Entries** Name: Transporter Location: 5, Roger Street, Manchester, M4 4EN Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	651	-	384348 399407
303	**Contemporary Trade Directory Entries** Name: World Of Cleaning Ltd Location: 5, Roger Street, Manchester, Lancashire, M4 4EN Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	651	-	384348 399407
303	**Contemporary Trade Directory Entries** Name: Crompton Park Building Supplies Ltd Location: Roger St, Cheetham Hill, Manchester, M4 4EN Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	670	-	384338 399386
304	**Contemporary Trade Directory Entries** Name: City Support Services Location: 6, Howard Street, Manchester, Lancashire, M8 8EN Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	651	-	383562 399795
304	**Contemporary Trade Directory Entries** Name: The Toolbox Manchester Ltd Location: Sagar House, 7, Sagar Street, Manchester, M8 8EU Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	659	-	383562 399780
304	**Contemporary Trade Directory Entries** Name: Top Styles (Manchester) Ltd Location: Sagar House, 7, Sagar Street, Manchester, M8 8EU Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	659	-	383562 399780
304	**Contemporary Trade Directory Entries** Name: Dreamwise Bedding Location: 2, Howard Street, Manchester, M8 8EN Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	670	-	383545 399785
305	**Contemporary Trade Directory Entries** Name: Fairlane Productions Ltd Location: 43a, Carnarvon Street, Manchester, M3 1EZ Classification: Leather Merchants & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	654	-	383888 399469

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
305	**Contemporary Trade Directory Entries** Name: Suay Distributors Location: 45, Carnarvon Street, Manchester, M3 1EZ Classification: Bathroom Fixtures - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (SW)	672	-	383854 399466
305	**Contemporary Trade Directory Entries** Name: Arena Autos Location: Cheviot St, Manchester, Lancashire, M3 1LW Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (SW)	682	-	383842 399460
306	**Contemporary Trade Directory Entries** Name: The Concrete Barrowing Co Ltd Location: Hargreaves St, Manchester, Lancashire, M4 4EJ Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	664	-	384446 399422
306	**Contemporary Trade Directory Entries** Name: Place Mix Ltd Location: Hargreaves Street, Manchester, M4 4EJ Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	678	-	384469 399415
306	**Contemporary Trade Directory Entries** Name: Tym Ltd Location: 4, Hargreaves Street, Manchester, Lancashire, M4 4EJ Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	678	-	384469 399415
307	**Contemporary Trade Directory Entries** Name: Barricade Roller Shutters Location: Unit 23 Red Bank, Collyhurst, Manchester, M4 4HF Classification: Roller Shutter Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	667	-	384279 399381
308	**Contemporary Trade Directory Entries** Name: Texaco Location: 58 Cheetham Hill, Manchester, Greater Manchester, M4 4EX Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	676	-	384128 399375
308	**Contemporary Trade Directory Entries** Name: Texaco Location: 58 Cheetham Hill, Manchester, Greater Manchester, M4 4EX Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	676	-	384128 399375
309	**Contemporary Trade Directory Entries** Name: Linen Zone Ltd Location: UNIT 1, 39, SHERBORNE STREET, MANCHESTER, M8 8LE Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	684	-	383637 399622
309	**Contemporary Trade Directory Entries** Name: Young Sansi Location: 16, Bury New Road, Manchester, M8 8FR Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	705	-	383607 399624
310	**Contemporary Trade Directory Entries** Name: Manchester Dry Cleaners Location: 24, Red Bank, Manchester, M4 4HF Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	692	-	384281 399356
310	**Contemporary Trade Directory Entries** Name: Manchester Three Rivers Location: 21, Red Bank, Manchester, M4 4HF Classification: Distilleries **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	692	-	384281 399356

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
310	**Contemporary Trade Directory Entries** Name: City Engineering (Manchester) Location: 21, Red Bank, Manchester, M4 4HF Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	692	-	384281 399356
310	**Contemporary Trade Directory Entries** Name: City Engineering (Manchester) Location: 21, Red Bank, Manchester, M4 4HF Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	692	-	384281 399356
310	**Contemporary Trade Directory Entries** Name: Aglow Location: Unit 15 Red Bank, Manchester, Lancashire, M4 4HF Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	692	-	384266 399354
310	**Contemporary Trade Directory Entries** Name: Bell Design & Print Location: 19, Red Bank, Manchester, M4 4HF Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	715	-	384274 399332
310	**Contemporary Trade Directory Entries** Name: Reversa Projections Services Location: 23, Red Bank, Manchester, Lancashire, M4 4HF Classification: Projection Screens - Mfrs & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	715	-	384274 399332
310	**Contemporary Trade Directory Entries** Name: Bens Motor Co Location: 24, Red Bank, Manchester, M4 4HF Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	715	-	384274 399332
310	**Contemporary Trade Directory Entries** Name: Harrison Rose Location: Unit 15 Red Bank Pde,Aspin La, Manchester, M4 4HF Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	716	-	384254 399330
310	**Contemporary Trade Directory Entries** Name: Dexprime Location: 24, Red Bank, Manchester, M4 4HF Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	718	-	384267 399329
310	**Contemporary Trade Directory Entries** Name: Hna Facilities Ltd Location: 16, Red Bank, Manchester, Lancashire, M4 4HF Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	759	-	384255 399286
311	**Contemporary Trade Directory Entries** Name: Global Star Ltd Location: Sagar House, 7, Sagar Street, Manchester, M8 8EU Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	693	-	383535 399760
311	**Contemporary Trade Directory Entries** Name: Star Shop Fittings Location: 58, Bury New Road, Manchester, M8 8FJ Classification: Shop Fittings Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	702	-	383494 399805
311	**Contemporary Trade Directory Entries** Name: S J Cellular Ltd Location: 58, Bury New Road, Manchester, M8 8FJ Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	702	-	383494 399805

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
311	**Contemporary Trade Directory Entries** Name: S J Celllular Ltd Location: 58, Bury New Road, Manchester, M8 8FJ Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	702	-	383494 399805
311	**Contemporary Trade Directory Entries** Name: Digital Electronics Centre Ltd Location: 52, Bury New Road, Manchester, M8 8EL Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	723	-	383493 399767
311	**Contemporary Trade Directory Entries** Name: Manchester Wholesale Tools Location: 5, Sagar Street, Manchester, Lancashire, M8 8EU Classification: Machine Tools - Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	733	-	383501 399739
312	**Contemporary Trade Directory Entries** Name: Zappmite Location: 213, Heywood Street, Manchester, M8 0PB Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	704	-	384182 400977
312	**Contemporary Trade Directory Entries** Name: Zappjet Www Zappjet Com Location: 213, Heywood Street, Manchester, M8 0PB Classification: Blast Cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	704	-	384182 400977
312	**Contemporary Trade Directory Entries** Name: The Cleaning Zone Location: 213, Heywood Street, Manchester, M8 0PB Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	704	-	384182 400977
313	**Contemporary Trade Directory Entries** Name: Adam Heating & Plumbing Ltd Location: 87, Brideoak Street, Manchester, M8 0AY Classification: Boilers - Servicing, Replacements & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	704	-	384088 400978
314	**Contemporary Trade Directory Entries** Name: Metro Location: 6, Cheviot Street, Manchester, M3 1LW Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (SW)	706	-	383865 399422
314	**Contemporary Trade Directory Entries** Name: Portland Cars Location: 6, Cheviot Street, Manchester, M3 1LW Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (SW)	706	-	383849 399430
314	**Contemporary Trade Directory Entries** Name: Pool Automotive Location: THE DIXYLON HOUSE, Cheveiot St, Manchester, Lancashire, M3 1LW Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (SW)	707	-	383864 399422
315	**Contemporary Trade Directory Entries** Name: M R M Strange Ways Location: Cheviot Street, Manchester, M3 1LW Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	707	-	383821 399444
315	**Contemporary Trade Directory Entries** Name: Manchester Car Refurbishment Centre Ltd Location: Cheviot Street, Manchester, M3 1LW Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	707	-	383821 399444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
315	**Contemporary Trade Directory Entries** Name: Manchester Household Textiles Location: 26, Southall Street, Manchester, M3 1LG Classification: Leather Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	709	-	383791 399458
315	**Contemporary Trade Directory Entries** Name: M S C Platforms Location: 28, Southall Street, Manchester, Lancashire, M3 1LG Classification: Hydraulic Equipment & Accessories - Sales & Service **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	709	-	383791 399458
315	**Contemporary Trade Directory Entries** Name: Revolution Clothing Location: 45-51, Julia Street, Manchester, M3 1LN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	722	-	383795 399440
316	**Contemporary Trade Directory Entries** Name: Marco Services Ltd Location: 16, Robert Street, Manchester, M3 1EY Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	708	-	383921 399398
316	**Contemporary Trade Directory Entries** Name: Binette Ltd Location: Glentop House, Pimblett Street, Manchester, M3 1FU Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	724	-	383929 399377
316	**Contemporary Trade Directory Entries** Name: R & D Pleating Co Location: 12, Robert Street, Manchester, Lancashire, M3 1EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	733	-	383912 399374
317	**Contemporary Trade Directory Entries** Name: Pink Skips Manchester Ltd Location: Dulwich Street, Manchester, Lancashire, M4 4JJ Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	725	-	384676 399484
317	**Contemporary Trade Directory Entries** Name: North Western Motor Co Location: 3 Dulwich St, Manchester, M4 4JJ Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	741	-	384696 399480
318	**Contemporary Trade Directory Entries** Name: H M G Paints Ltd Location: Riverside Works, Collyhurst Road, Manchester, M40 7RU Classification: Paint Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	727	-	384937 399904
318	**Contemporary Trade Directory Entries** Name: H M G Paints Ltd Location: Riverside Works, Collyhurst Road, Manchester, M40 7RU Classification: Paint Manufacturers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	727	-	384937 399904
319	**Contemporary Trade Directory Entries** Name: Gills Office Solutions Location: 1-3, Park Place, Manchester, M4 4EZ Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	734	-	384007 399341
319	**Contemporary Trade Directory Entries** Name: Jills Office Solutions Location: 1-3, Park Place, Manchester, Lancashire, M4 4EZ Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	734	-	384007 399341

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
319	**Contemporary Trade Directory Entries** Name: Bhana Clothing Location: 3, Cowburn Street, Manchester, M3 1FS Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	756	-	383961 399333
319	**Contemporary Trade Directory Entries** Name: Jay Fashions Location: 3, Cowburn Street, Manchester, Lancashire, M3 1FS Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	756	-	383961 399333
319	**Contemporary Trade Directory Entries** Name: Super Saeed Hosiery Co Location: 12, Park Street, Manchester, M3 1ES Classification: Lingerie Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	778	-	383975 399305
319	**Contemporary Trade Directory Entries** Name: Super Saeed Hosiery Location: 12, Park Street, Manchester, M3 1ES Classification: Lingerie Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	778	-	383975 399305
319	**Contemporary Trade Directory Entries** Name: Super Saeed Hosiery Location: 12, Park Street, Manchester, Lancashire, M3 1ES Classification: Lingerie Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	778	-	383975 399305
319	**Contemporary Trade Directory Entries** Name: Super Saeed Hosiery Location: 12, Park Street, Manchester, M3 1ES Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	778	-	383975 399305
320	**Contemporary Trade Directory Entries** Name: Volker Wessels Uk Ltd Location: Metrolink House, Queens Road, Manchester, M8 0RY Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	740	-	384963 400376
320	**Contemporary Trade Directory Entries** Name: Metrolink Location: Metrolink House, Queens Road, Manchester, M8 0RY Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	740	-	384963 400376
320	**Contemporary Trade Directory Entries** Name: Metrolink Location: Metrolink House, Queens Road, Manchester, M8 0RY Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	740	-	384964 400377
321	**Contemporary Trade Directory Entries** Name: R K Sports Location: 26, Bury New Road, Manchester, M8 8EL Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	740	-	383552 399641
321	**Contemporary Trade Directory Entries** Name: Shell Location: Bury New Rd, Manchester, Lancashire, M8 8FW Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	765	-	383536 399620
321	**Contemporary Trade Directory Entries** Name: M & S Electrical Location: 17-19, Bury New Road, Manchester, M8 8FW Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	785	-	383526 399599

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
322	**Contemporary Trade Directory Entries** Name: Phillips Rubber Location: Dantzic Street, Manchester, M4 4JH Classification: Rubber & Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	743	-	384556 399384
322	**Contemporary Trade Directory Entries** Name: A T Autos Location: 45 Bromley St, Manchester, M4 4JS Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	748	-	384536 399368
322	**Contemporary Trade Directory Entries** Name: Aryan Body Shop Location: 42 Bromley St, Manchester, Lancashire, M4 4JS Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	754	-	384541 399364
322	**Contemporary Trade Directory Entries** Name: Mc Motors Location: 49 Bromley St, Manchester, Lancashire, M4 4JS Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	772	-	384556 399351
322	**Contemporary Trade Directory Entries** Name: Hughes Haulage Location: Bromley St, Manchester, M4 4JS Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	777	-	384560 399348
323	**Contemporary Trade Directory Entries** Name: Splash Location: Unit 9,116 Bury New Rd, Manchester, Lancashire, M8 8EB Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	743	-	383396 399916
324	**Contemporary Trade Directory Entries** Name: Adampol Location: Flat 2, 9, Smedley Lane, Manchester, M8 8UJ Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	745	-	384568 400877
325	**Contemporary Trade Directory Entries** Name: Single Value Ltd Location: 204, Dantzic Street, Manchester, M4 4DD Classification: Ice Cream Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	754	-	384612 399403
326	**Contemporary Trade Directory Entries** Name: Preservation Paints Ltd Location: Riverside Works, Collyhurst Road, Manchester, M40 7RU Classification: Cleaning Materials & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	761	-	385014 400093
327	**Contemporary Trade Directory Entries** Name: I A S Autopaints Location: 300, Cheetham Hill Road, Manchester, M8 0PL Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	762	-	384439 400971
328	**Contemporary Trade Directory Entries** Name: Marc Darcy Clothing Location: 85, Bury New Road, Manchester, M8 8FX Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	764	-	383421 399808
328	**Contemporary Trade Directory Entries** Name: Shahjee Electronics Ltd Location: 34-35, Moulton Street, Manchester, M8 8FQ Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	787	-	383408 399786

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
328	**Contemporary Trade Directory Entries** Name: Vital Accessories Location: 13, Broughton Lane, Manchester, Lancashire, M8 9TY Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (SW)	788	-	383387 399823
328	**Contemporary Trade Directory Entries** Name: Raj Electronics Ltd Location: 17-23, Broughton Lane, Manchester, M8 9TY Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	806	-	383365 399824
328	**Contemporary Trade Directory Entries** Name: Nt Traders Location: 36, Moulton Street, Manchester, M8 8FQ Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	808	-	383376 399800
328	**Contemporary Trade Directory Entries** Name: Vibe Centre Location: 1, Rugby Street, Manchester, M8 9SN Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	822	-	383358 399804
328	**Contemporary Trade Directory Entries** Name: K 2 Kommunications Location: 37 Moulton St, Manchester, Lancashire, M8 8FQ Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	830	-	383365 399772
328	**Contemporary Trade Directory Entries** Name: Mr Mobile Express Location: 36a, Moulton Street, Manchester, M8 8FQ Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	832	-	383354 399791
328	**Contemporary Trade Directory Entries** Name: K2 Location: 37, Moulton Street, Manchester, M8 8FQ Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	832	-	383361 399774
329	**Contemporary Trade Directory Entries** Name: Shipping & Trading B N R Ltd Location: 79, Bury New Road, Manchester, M8 8FX Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	764	-	383426 399798
329	**Contemporary Trade Directory Entries** Name: Shipping & Trading Co (Manchester) Ltd Location: 79, Bury New Road, Manchester, M8 8FX Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	764	-	383426 399798
329	**Contemporary Trade Directory Entries** Name: Sana Electrical Ltd Location: 77, Bury New Road, Manchester, M8 8FX Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	764	-	383431 399791
330	**Contemporary Trade Directory Entries** Name: Original Gear Ltd Location: 37-39, Bury New Road, Manchester, Lancashire, M8 8EQ Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	768	-	383502 399666
330	**Contemporary Trade Directory Entries** Name: Crystal Baths Location: 33, Bury New Road, Manchester, Lancashire, M8 8EQ Classification: Bathroom Fixtures - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	776	-	383502 399652

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
330	**Contemporary Trade Directory Entries** Name: Enkay Sports & Leisure Location: 10-16, Harris Street, Manchester, M8 8EG Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	798	-	383477 399649
330	**Contemporary Trade Directory Entries** Name: Handy Bags Location: 10, Lockett Street, Manchester, M8 8EE Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	816	-	383442 399674
330	**Contemporary Trade Directory Entries** Name: Paramount Clothing Ltd Location: Unit 21 Harris Street, Manchester, Lancashire, M8 8EG Classification: Waterproof Clothing & Rainwear **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7NW (SW)	827	-	383435 399663
331	**Contemporary Trade Directory Entries** Name: Breedon Aggregates Location: Queens Road, Manchester, Greater Manchester, M8 0RB Classification: Sand, Gravel & Other Aggregates **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A19SE (NE)	771	-	384901 400581
332	**Contemporary Trade Directory Entries** Name: Spoil Sports Location: 45, Bury New Road, Manchester, M8 8EF Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	773	-	383484 399688
332	**Contemporary Trade Directory Entries** Name: Anwar Location: 47, Bury New Road, Manchester, M8 8EF Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	774	-	383479 399694
332	**Contemporary Trade Directory Entries** Name: Crown Sports Location: 57-59, Bury New Road, Manchester, M8 8FX Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	775	-	383458 399727
332	**Contemporary Trade Directory Entries** Name: Hamilton Pharmaceutical Ltd Location: 3, Moulton Street, Manchester, M8 8FQ Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	781	-	383429 399760
332	**Contemporary Trade Directory Entries** Name: Lawrayne Location: 13, Lockett Street, Manchester, M8 8EE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	786	-	383449 399721
332	**Contemporary Trade Directory Entries** Name: Royle Service Location: 14 Lockett St, Manchester, Lancashire, M8 8EE Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	799	-	383457 399682
332	**Contemporary Trade Directory Entries** Name: Sportsworld Location: 9, Lockett Street, Manchester, M8 8EE Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	807	-	383431 399711
332	**Contemporary Trade Directory Entries** Name: Jk Trading Services Ltd Location: 9, Lockett Street, Manchester, M8 8EE Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	807	-	383431 399711

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
332	**Contemporary Trade Directory Entries** Name: Printec Location: 2, Moulton Street, Manchester, Lancashire, M8 8FQ Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	816	-	383419 399711
333	**Contemporary Trade Directory Entries** Name: Ace Miracle Clean Location: 128, Fairy Lane, Manchester, M8 8YD Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	773	-	383321 400146
333	**Contemporary Trade Directory Entries** Name: Halfords Autocentre Manchester Location: 184, Bury New Road, Manchester, M8 8DY Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	812	-	383283 400120
334	**Contemporary Trade Directory Entries** Name: J Walsh & Son Ltd Location: 47, Dutton Street, Manchester, M3 1LF Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (SW)	775	-	383840 399359
335	**Contemporary Trade Directory Entries** Name: Ivc Location: Collyhurst Rd, Manchester, Lancashire, M40 7RU Classification: Paint Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SE (E)	777	-	385013 399984
335	**Contemporary Trade Directory Entries** Name: M C D M O T & Garage Services Location: Manchester, Greater Manchester, M40 7rq Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14SE (E)	820	-	385057 399984
335	**Contemporary Trade Directory Entries** Name: S G Transport & Plant Hire Ltd Location: 240-248, Collyhurst Road, Manchester, M40 7RQ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	822	-	385058 399983
335	**Contemporary Trade Directory Entries** Name: Alpha Location: 240-248, Collyhurst Road, Manchester, M40 7RQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	822	-	385058 399983
336	**Contemporary Trade Directory Entries** Name: Temple Of Vendora Location: 55 Julia Street, Manchester, Greater Manchester, M3 1LN Classification: Distribution Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	785	-	383739 399401
336	**Contemporary Trade Directory Entries** Name: Riverside Outlet Ltd Location: Cortress House, Julia Street, Manchester, M3 1DQ Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	812	-	383749 399363
336	**Contemporary Trade Directory Entries** Name: Riverside Outlet Ltd Location: Cortress House,Julia Street, Manchester, Greater Manchester, M3 1DQ Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	812	-	383749 399363
336	**Contemporary Trade Directory Entries** Name: Joseph Segal Ltd Location: Cortress House, Julia Street, Manchester, M3 1DQ Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	813	-	383750 399362

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
337	**Contemporary Trade Directory Entries** Name: M8 Tyres Location: 431-433a, Cheetham Hill Road, MANCHESTER, M8 0PF Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	792	-	384275 401054
337	**Contemporary Trade Directory Entries** Name: A B S M O T Station Location: 431-433a, Cheetham Hill Road, MANCHESTER, M8 0PF Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	792	-	384275 401054
338	**Contemporary Trade Directory Entries** Name: M & M Motor Co Location: Unit 9 Red Bank Court Arches,Red Bank, Manchester, M4 4HF Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	792	-	384218 399253
339	**Contemporary Trade Directory Entries** Name: Northern Garage Location: 176, Heywood Street, Manchester, M8 0PD Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	801	-	384221 401071
339	**Contemporary Trade Directory Entries** Name: D M Tyres Location: 180, Heywood Street, Manchester, M8 0PD Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	811	-	384223 401081
339	**Contemporary Trade Directory Entries** Name: I B S Motors Location: 180, Heywood Street, Manchester, M8 0PD Classification: Diesel Fuel Injection Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	811	-	384223 401081
340	**Contemporary Trade Directory Entries** Name: Ramay Location: 27, Park Street, Manchester, M3 1EU Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	802	-	383912 399302
340	**Contemporary Trade Directory Entries** Name: V S M Location: 29, Park Street, Manchester, M3 1EU Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	808	-	383907 399296
340	**Contemporary Trade Directory Entries** Name: Arena Autos Location: 29, Park Street, Manchester, M3 1EU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	809	-	383907 399296
341	**Contemporary Trade Directory Entries** Name: Church Lane Garage Location: 39, Bromley Street, MANCHESTER, M4 4JS Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (S)	803	-	384522 399301
341	**Contemporary Trade Directory Entries** Name: Auto Bodies Location: irk,36 Gould St, Manchester, Lancashire, M4 4DL Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (S)	830	-	384525 399274
342	**Contemporary Trade Directory Entries** Name: Super Five Auto Care Location: 9-11, Park Street, Manchester, M3 1EU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	806	-	383984 399273

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
342	**Contemporary Trade Directory Entries** Name: Super Five Auto Care Location: 9-11, Park Street, Manchester, M3 1EU Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	806	-	383984 399273
342	**Contemporary Trade Directory Entries** Name: Skt Industries Location: 7, Park Street, Manchester, M3 1EU Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	807	-	383995 399269
342	**Contemporary Trade Directory Entries** Name: Wallpaperland Ltd Location: 5-11, Cheetham Hill Road, Manchester, M4 4FY Classification: Wallpapers & Wall Coverings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	817	-	384023 399251
343	**Contemporary Trade Directory Entries** Name: Phone Accessories For You Location: 173, Great Ducie Street, Manchester, M3 1FF Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	811	-	383567 399509
343	**Contemporary Trade Directory Entries** Name: Tile Mart Location: 165a, Great Ducie Street, Manchester, M3 1FF Classification: Tile Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	813	-	383594 399480
343	**Contemporary Trade Directory Entries** Name: Drywall Location: 165, Great Ducie Street, Manchester, M3 1FF Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	828	-	383590 399464
343	**Contemporary Trade Directory Entries** Name: La Sports Location: 165, Great Ducie Street, MANCHESTER, M3 1FF Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	832	-	383573 399474
344	**Contemporary Trade Directory Entries** Name: El Shaddai Location: 44 Bromley Street, Manchester, Greater Manchester, M4 4JS Classification: Garage Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	813	-	384608 399332
345	**Contemporary Trade Directory Entries** Name: Grassed Off Com Location: Arch 12, Corporation Street, Manchester, M4 4DG Classification: Floorcoverings - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	817	-	384382 399244
345	**Contemporary Trade Directory Entries** Name: Eden Utility Services Ltd Location: 142, Dantzic Street, Manchester, M4 4DN Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	835	-	384414 399233
345	**Contemporary Trade Directory Entries** Name: S K Auto'S Location: Aspin La, Manchester, M4 4DP Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (S)	871	-	384405 399194
346	**Contemporary Trade Directory Entries** Name: Irwell Garage Location: Irk Street, Manchester, M4 4JT Classification: Gearboxes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	826	-	384486 399264

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
346	**Contemporary Trade Directory Entries** Name: M J T Motors Location: Irk Street, Manchester, M4 4JT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	826	-	384485 399263
347	**Contemporary Trade Directory Entries** Name: Eurosonic Group Location: 11, Sherborne Street, Manchester, M3 1JS Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	826	-	383517 399545
347	**Contemporary Trade Directory Entries** Name: Boosterpoint Ltd Location: 12, Sherborne Street, Manchester, M3 1FE Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	850	-	383515 399510
348	**Contemporary Trade Directory Entries** Name: Quality Chair Frames Location: 38, Dalton Street, Manchester, M4 4JN Classification: Furniture - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	828	-	384841 399501
349	**Contemporary Trade Directory Entries** Name: The Runaway Brewery Location: Unit 4, Millgate, Dantzic Street, Manchester, M4 4JW Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	831	-	384364 399227
350	**Contemporary Trade Directory Entries** Name: Boom Fireworks Ltd Location: 21, Moulton Street, MANCHESTER, M8 8FQ Classification: Firework Stockists **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	837	-	383383 399728
350	**Contemporary Trade Directory Entries** Name: Reliance Location: 41, Moulton Street, Manchester, M8 8FQ Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	849	-	383354 399753
350	**Contemporary Trade Directory Entries** Name: Xl Distribution Uk Ltd Location: 11-13, Edward Street, Salford, M7 1SN Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	867	-	383358 399711
350	**Contemporary Trade Directory Entries** Name: Apex Technology Location: 11-13, Edward Street, Salford, Lancashire, M7 1SN Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	867	-	383358 399711
350	**Contemporary Trade Directory Entries** Name: Avesta Manchester Ltd Location: 11, Edward Street, Salford, M7 1SN Classification: Computer Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	868	-	383352 399718
350	**Contemporary Trade Directory Entries** Name: Manchester Phone Centre Location: 11, Edward Street, Salford, M7 1SN Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	868	-	383352 399718
350	**Contemporary Trade Directory Entries** Name: Gsm Accessories Location: 7 Edward St, Salford, Lancashire, M7 1SN Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	873	-	383343 399725

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
350	**Contemporary Trade Directory Entries** Name: Chadwick Textiles Location: 1-3, Edward Street, Salford, Lancashire, M7 1SN Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	883	-	383328 399731
351	**Contemporary Trade Directory Entries** Name: Direct Door Stores Ltd Location: Vauxhall Works, Vauxhall Street, Manchester, M40 7RZ Classification: Door Manufacturers - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	843	-	384976 399679
352	**Contemporary Trade Directory Entries** Name: Horners Location: 208, Bury New Road, Manchester, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Horners Ltd Location: 208, Bury New Road, Manchester, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Horners Ltd Location: 208, Bury New Road, Manchester, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Manchester Mitsubishi Location: 208, Bury New Road, Manchester, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Horners (Manchester) Location: 208, Bury New Road, Manchester, Lancashire, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Horners (Manchester) Location: 208, Bury New Road, Manchester, Lancashire, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Horners Location: 208, Bury New Road, Manchester, Lancashire, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
352	**Contemporary Trade Directory Entries** Name: Horners Skoda Location: 208, Bury New Road, Manchester, Lancashire, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	844	-	383252 400222
353	**Contemporary Trade Directory Entries** Name: Texaco Location: Service Station, 25, Broughton Lane, Manchester, M8 9UE Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	852	-	383307 399843
353	**Contemporary Trade Directory Entries** Name: Texaco Location: 25, Broughton Lane, Manchester, M8 9UE Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	852	-	383307 399843

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
353	**Contemporary Trade Directory Entries** Name: Boston Billy Location: 4-6, Rugby Street, Manchester, M8 9SN Classification: Clothing Accessory Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (W)	862	-	383306 399821
353	**Contemporary Trade Directory Entries** Name: Boston Billy Red Sox Location: 4-6, Rugby Street, Manchester, M8 9SN Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (W)	862	-	383306 399821
353	**Contemporary Trade Directory Entries** Name: Ocean Trading International Ltd Location: 10, Rugby Street, Manchester, M8 9SN Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (W)	872	-	383302 399803
353	**Contemporary Trade Directory Entries** Name: F T S Led Uk Ltd Location: 27, Broughton Lane, Manchester, M8 9UE Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	876	-	383284 399835
353	**Contemporary Trade Directory Entries** Name: Cream Wholesale Location: 27, Broughton Lane, Manchester, M8 9UE Classification: Abrasive Products - Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	877	-	383284 399834
353	**Contemporary Trade Directory Entries** Name: Komfort Knights Location: 49-51, Broughton Lane, Manchester, M8 9UE Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	883	-	383280 399828
353	**Contemporary Trade Directory Entries** Name: Mansam Products Location: 49-51, Broughton Lane, Manchester, M8 9UE Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	883	-	383280 399828
353	**Contemporary Trade Directory Entries** Name: I W Textiles Location: 51b, Broughton Lane, Manchester, Lancashire, M8 9UE Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	883	-	383280 399828
353	**Contemporary Trade Directory Entries** Name: Rjs Import Location: 81-83, Broughton Lane, Manchester, M8 9UE Classification: Pottery Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	883	-	383280 399828
353	**Contemporary Trade Directory Entries** Name: T & T Textiles & Hosiery Ltd Location: 51a, Broughton Lane, Manchester, M8 9UE Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	883	-	383280 399828
354	**Contemporary Trade Directory Entries** Name: Carriages Location: Arch 5, Corporation Street, Manchester, Lancashire, M4 4DG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	854	-	384294 399194
355	**Contemporary Trade Directory Entries** Name: Sen Fibre Ltd Location: 2, Dutton Street, Manchester, M3 1LE Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	856	-	383943 399233

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
355	**Contemporary Trade Directory Entries** Name: Starlit Clothing Manufacturers Location: 2, Dutton Street, Manchester, Lancashire, M3 1LE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	856	-	383943 399233
356	**Contemporary Trade Directory Entries** Name: Techno Wear Ltd Location: 10, Moulton Street, Manchester, M8 8FQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	864	-	383370 399699
356	**Contemporary Trade Directory Entries** Name: Sweatex Location: 9-10, Moulton Street, Manchester, Lancashire, M8 8FQ Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	864	-	383370 399699
356	**Contemporary Trade Directory Entries** Name: Discount Traders Location: 8, Moulton Street, Manchester, M8 8FQ Classification: Clocks & Watches - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	866	-	383370 399694
356	**Contemporary Trade Directory Entries** Name: Federal Works Location: 27, Edward Street, Salford, M7 1SN Classification: Do It Yourself Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	911	-	383322 399685
357	**Contemporary Trade Directory Entries** Name: Queens Garage Location: 209a, Queens Road, Manchester, M8 0RB Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	868	-	384995 400615
357	**Contemporary Trade Directory Entries** Name: Queens Garage Location: 209a, Queens Road, Manchester, M8 0RB Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	868	-	384995 400615
358	**Contemporary Trade Directory Entries** Name: Manchester Performance Cars Location: 193, Bury New Road, Manchester, M8 8DU Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	875	-	383219 400145
358	**Contemporary Trade Directory Entries** Name: Manchester M O T & Service Centre Location: 199, Bury New Road, Manchester, M8 8DU Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	896	-	383198 400187
358	**Contemporary Trade Directory Entries** Name: Enza Motors Ltd Location: 199, Bury New Road, Manchester, M8 8DU Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	896	-	383198 400187
358	**Contemporary Trade Directory Entries** Name: Rcc Manchester Location: 199, Bury New Road, Manchester, M8 8DU Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	896	-	383198 400187
359	**Contemporary Trade Directory Entries** Name: Rutzler Filter Europe Ltd Location: 1, Burstock Street, Manchester, M4 4JB Classification: Filtration Systems & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	876	-	384739 399341

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
359	**Contemporary Trade Directory Entries** Name: Worthington Nicholls Ltd Location: 1, Burstock Street, Manchester, M4 4JB Classification: Air Conditioning Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	876	-	384739 399341
359	**Contemporary Trade Directory Entries** Name: J Smith (Waste) Co Location: Bilbrook Street, Manchester, M4 4JE Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	917	-	384750 399299
360	**Contemporary Trade Directory Entries** Name: Goldcrest Enterprises Location: Unit 4, Trafalgar Business Park, Broughton Lane, MANCHESTER, M8 9TZ Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	880	-	383251 399918
360	**Contemporary Trade Directory Entries** Name: Parcel Core Location: Unit 7a, Trafalgar Business Park, Broughton Lane, Manchester, M8 9TZ Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	881	-	383241 399951
361	**Contemporary Trade Directory Entries** Name: Arax Location: Unit 11B Overbridge Rd, Salford, Lancashire, M7 1SL Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NW (SW)	881	-	383420 399584
362	**Contemporary Trade Directory Entries** Name: Manchester Suzuki Location: 218 Bury New Rd, Manchester, Lancashire, M8 8DY Classification: Car Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	892	-	383208 400268
363	**Contemporary Trade Directory Entries** Name: Ideal Car Imports Location: Unit 1, Millow Street, Manchester, M4 4DR Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A3NE (S)	899	-	384202 399146
364	**Contemporary Trade Directory Entries** Name: Caribbean Crush Alderley Edge Drinks Co Location: Almond House,Mary Street, Manchester, Greater Manchester, M3 1DZ Classification: Soft Drinks - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	904	-	383485 399462
364	**Contemporary Trade Directory Entries** Name: Britannic Furniture Location: 9 Domestos House,Mary Street, Manchester, Greater Manchester, M3 1DZ Classification: Homefurnishings - Manufacturers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A7SW (SW)	906	-	383483 399461
365	**Contemporary Trade Directory Entries** Name: Manchester Automotive Location: 149, Great Ducie Street, Manchester, M3 1FB Classification: Car Component Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	905	-	383670 399303
365	**Contemporary Trade Directory Entries** Name: Lekha Imports Ltd Location: 149, Great Ducie Street, Manchester, Lancashire, M3 1FB Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	905	-	383670 399303
366	**Contemporary Trade Directory Entries** Name: Esso Location: 332, Cheetham Hill Road, Manchester, M8 0PL Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SE (N)	909	-	384236 401178

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
367	**Contemporary Trade Directory Entries** Name: Pump Textile & Hosiery Ltd Location: 58-60, Rugby Street, Manchester, M8 9SN Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	910	-	383293 399737
367	**Contemporary Trade Directory Entries** Name: Global City Location: 48, Rugby Street, Manchester, Lancashire, M8 9SN Classification: Do It Yourself Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	935	-	383260 399748
368	**Contemporary Trade Directory Entries** Name: Nu-Line Manufacturing Co Location: Dickinson Street, Salford, M3 7LW Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	915	-	383441 399496
368	**Contemporary Trade Directory Entries** Name: Dickinson Street Location: Dickinson Street, Salford, M3 7LW Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	915	-	383441 399496
368	**Contemporary Trade Directory Entries** Name: Extra Range Location: 4 Dickinson St, Salford, Lancashire, M3 7LW Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	916	-	383440 399496
368	**Contemporary Trade Directory Entries** Name: A K Dyson & Co Ltd Location: Overbridge Mill, Sherborne Street West, Salford, M3 7LT Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	936	-	383425 399484
368	**Contemporary Trade Directory Entries** Name: J Milom Ltd Location: Springfield Mills, Sherborne Street, Manchester, M3 1ND Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	936	-	383425 399484
369	**Contemporary Trade Directory Entries** Name: G T Times Location: 30, Rugby Street, Manchester, M8 9SN Classification: Clocks & Watches - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (W)	917	-	383260 399788
369	**Contemporary Trade Directory Entries** Name: Wicked Nights Ltd Location: 30, Rugby Street, Manchester, Lancashire, M8 9SN Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (W)	917	-	383260 399788
370	**Contemporary Trade Directory Entries** Name: Harry Shore & Co Location: Unit 15 Red Bank Pde,Aspin La, Manchester, M4 4HF Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A3NE (S)	926	-	384314 399124
371	**Contemporary Trade Directory Entries** Name: B & J Supplies Location: 20-22 Mary Street,Strangeways, Manchester, Greater Manchester, M3 1DZ Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	929	-	383504 399405
372	**Contemporary Trade Directory Entries** Name: Cheshire Cars Location: 48, Cardinal Street, Manchester, M8 0PA Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	935	-	384611 401077

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
373	**Contemporary Trade Directory Entries** Name: A D P Coatings Ltd Location: 1, Appian Way, Salford, M7 4WZ Classification: Spraying - Paint & Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	935	-	383174 400335
373	**Contemporary Trade Directory Entries** Name: M B Handbags Location: 1-2, Appian Way, Salford, Lancashire, M7 4WZ Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	935	-	383174 400335
374	**Contemporary Trade Directory Entries** Name: Cosy Wear Ltd Location: 45, Overbridge Road, Salford, M7 1SL Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	937	-	383331 399625
374	**Contemporary Trade Directory Entries** Name: Wilfred Looker Ltd Location: 45, Edward Street, Salford, M7 1SP Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	975	-	383291 399618
375	**Contemporary Trade Directory Entries** Name: Ana Parts Express Ltd Location: 55a Broughton La, Manchester, Lancashire, M8 9UE Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	938	-	383216 399840
375	**Contemporary Trade Directory Entries** Name: A N A Motor Location: 55, Broughton Lane, Manchester, M8 9UE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	951	-	383190 399874
375	**Contemporary Trade Directory Entries** Name: A & A Express Location: 55, Broughton Lane, Manchester, M8 9UE Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	951	-	383190 399874
375	**Contemporary Trade Directory Entries** Name: Stealth Location: 55, Broughton Lane, Manchester, M8 9UE Classification: Alloys **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	951	-	383190 399874
376	**Contemporary Trade Directory Entries** Name: T & G Motors Ltd Location: 38 Gould Street, Manchester, Greater Manchester, M4 4BY Classification: Garage Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	944	-	384610 399187
376	**Contemporary Trade Directory Entries** Name: Blackjack Beers Ltd Location: 36 Gould Street, Manchester, Greater Manchester, M4 4RN Classification: Brewers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	949	-	384610 399181
377	**Contemporary Trade Directory Entries** Name: Leyland Paint Co Location: 461a, Cheetham Hill Road, Manchester, M8 9PA Classification: Painting & Decorating Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SW (N)	954	-	384117 401229
378	**Contemporary Trade Directory Entries** Name: Paris Knitwear Manufacturing Ltd Location: 2, Peary Street, Manchester, M4 4JX Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	958	-	384805 399289

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
379	**Contemporary Trade Directory Entries** Name: Cheetham M O T Station Location: 360 Cheetham Hill Road, Manchester, Greater Manchester, M8 9LS Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SW (N)	959	-	384174 401233
379	**Contemporary Trade Directory Entries** Name: Cheetham Auto Repair Centre Location: 360 Cheetham Hill Road, Manchester, Greater Manchester, M8 9LS Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A23SW (N)	959	-	384174 401233
380	**Contemporary Trade Directory Entries** Name: Gregson Drums Reconditioners Ltd Location: Unit 26, Caroline Street, Salford, Lancashire, M7 1SS Classification: Drums, Kegs, Barrels & Casks **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	976	-	383254 399674
381	**Contemporary Trade Directory Entries** Name: Novapress Ltd Location: Bromley Street, Manchester, M4 4JS Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SE (SE)	977	-	384966 399417
382	**Contemporary Trade Directory Entries** Name: Manchester Car Refurb Centre Location: 263, Bury New Road, Manchester, M8 8DY Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	985	-	383121 400321
382	**Contemporary Trade Directory Entries** Name: Manchester Car Repair Location: 263, Bury New Road, Manchester, M8 8DY Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (W)	985	-	383121 400321
382	**Contemporary Trade Directory Entries** Name: Motor Body Services Ltd Location: 263, Bury New Road, Manchester, Lancashire, M8 8DY Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	992	-	383113 400317
383	**Contemporary Trade Directory Entries** Name: Adhesive & Coating Supplies Location: Sherborne Street West, Salford, M3 7LF Classification: Adhesives, Glues & Sealants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	990	-	383406 399421
384	**Contemporary Trade Directory Entries** Name: Second Hand Hog Roast Machine Location: 19 New Mount Street, Manchester, Greater Manchester, M4 4DE Classification: Catering Equipment **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A3NE (S)	993	-	384470 399084
384	**Contemporary Trade Directory Entries** Name: M A Quality Foods Location: 23, New Mount Street, Manchester, Lancashire, M4 4DE Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	993	-	384471 399084
384	**Contemporary Trade Directory Entries** Name: A B M Cleaning Services Ltd Location: 23, New Mount Street, Manchester, Lancashire, M4 4DE Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	993	-	384471 399084
384	**Contemporary Trade Directory Entries** Name: Cap-Com Music Location: 23, New Mount Street, Manchester, Lancashire, M4 4DE Classification: Gearboxes **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	993	-	384471 399084

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
384	**Contemporary Trade Directory Entries** Name: B & M Electronics Location: 23, New Mount Street, Manchester, Lancashire, M4 4DE Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	993	-	384471 399084
384	**Contemporary Trade Directory Entries** Name: Home Maids Ltd Location: 23, New Mount Street, Manchester, Lancashire, M4 4DE Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	993	-	384471 399084
384	**Contemporary Trade Directory Entries** Name: Iron In The City Location: Unit 30,23 New Mount St, Manchester, Lancashire, M4 4DE Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	993	-	384470 399084
384	**Contemporary Trade Directory Entries** Name: Pure Music Manufacturing Ltd Location: 23, New Mount Street, Manchester, Lancashire, M4 4DE Classification: Record, Tape & CD Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3NE (S)	994	-	384471 399084
385	**Contemporary Trade Directory Entries** Name: Lookers Plc Location: 266 Bury New Road, Salford, Greater Manchester, M7 2YJ Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (W)	994	-	383136 400436
385	**Contemporary Trade Directory Entries** Name: Lookers Seat & Skoda Location: 266, Bury New Road, Salford, M7 2YJ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	994	-	383136 400436
385	**Contemporary Trade Directory Entries** Name: Lookers Seat Location: 266, Bury New Road, Salford, M7 2YJ Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (W)	994	-	383136 400436
385	**Contemporary Trade Directory Entries** Name: Lookers (Manchester) Location: 266, Bury New Road, Salford, M7 2YJ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	995	-	383136 400436
385	**Contemporary Trade Directory Entries** Name: Lookers Seat & Skoda Location: 266, Bury New Road, Salford, M7 2YJ Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	995	-	383136 400436
385	**Contemporary Trade Directory Entries** Name: Caledonia Motor Group Location: 266, Bury New Road, Salford, M7 2YJ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	995	-	383136 400436
386	**Contemporary Trade Directory Entries** Name: Ace Clothing Co (Manchester) Ltd Location: Unit 2, 92, Broughton Lane, Salford, M7 1UF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	996	-	383125 399941
386	**Contemporary Trade Directory Entries** Name: All Brand Trading Location: Unit 2, 92, Broughton Lane, Salford, M7 1UF Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	996	-	383125 399941

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
386	**Contemporary Trade Directory Entries** Name: Blackburn Fraser Ltd Location: Unit 6, Choir Street, Salford, Lancashire, M7 1ZD Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	998	-	383113 399987
387	**Contemporary Trade Directory Entries** Name: Damaz Purse Manufacturing Co Ltd Location: 18, Sharp Street, Manchester, M4 4BZ Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A4NW (S)	997	-	384543 399103
388	**Contemporary Trade Directory Entries** Name: Alpha 1 Investment Location: Cheetham Hill Rd, Manchester, Lancashire, M8 9LR Classification: Cargo Handling Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A23SW (N)	1000	-	384075 401273
389	**Fuel Station Entries** Name: Kennings Ltd Location: Cheetham Hill Road , , Manchester, Greater Manchester, M8 8LW Brand: Unbranded Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	130	-	384351 400036
390	**Fuel Station Entries** Name: Cheetham Hill Filling Station Location: 111, Cheetham Hill Road , , Manchester, Greater Manchester, M8 8PY Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A8NE (S)	294	-	384182 399753
391	**Fuel Station Entries** Name: Unique Enterprises Filling Station Location: Waterloo Road , Strangeways , Manchester, Greater Manchester, M8 8GJ Brand: Gulf Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	621	-	383541 399887
391	**Fuel Station Entries** Name: Cheetham Service Station Location: Waterloo Road , , Manchester, Greater Manchester, M8 8GJ Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	621	-	383541 399887
392	**Fuel Station Entries** Name: Cheetham Hill Service Station Location: 37-41, Cheetham Hill Road , , Manchester, Greater Manchester, M4 4FT Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A8SW (S)	647	-	384081 399412
393	**Fuel Station Entries** Name: Former Garage Location: Queens Road , Smedley , Manchester, Greater Manchester, M Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	665	-	384821 400510
394	**Fuel Station Entries** Name: Redbank Service Station Location: 58-76, Cheetham Hill Road , , Manchester, Greater Manchester, M4 4EX Brand: Texaco Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	674	-	384127 399377
395	**Fuel Station Entries** Name: Express Service Station Location: 445, Cheetham Hill Road , , Manchester, Greater Manchester, M8 0PF Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A18NE (N)	786	-	384295 401043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
396	**Fuel Station Entries** Name: Broughton Lane Service Station Location: 25, Broughton Lane Rugby Street, Strangeways , Manchester, Greater Manchester, M8 9UE Brand: TEXACO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A12SW (W)	852	-	383307 399843
397	**Fuel Station Entries** Name: Shirley Service Station Location: 332, Cheetham Hill Road , Cheetham Hill , Manchester, Greater Manchester, M8 0PL Brand: ESSO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	904	-	384241 401172
398	**Fuel Station Entries** Name: Saga Service Station Location: 229-241, Bury New Road , Salford , Manchester, Greater Manchester, M8 8DY Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A11NE (W)	945	-	383152 400241
399	**Points of Interest - Commercial Services** Name: Car Breakers Yard Location: M8 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A13NW (W)	0	9	384140 400165
400	**Points of Interest - Commercial Services** Name: The London Taxi Company Location: Raynes Way, Broughton Street, Manchester, M8 8NN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (S)	12	9	384167 400050
401	**Points of Interest - Commercial Services** Name: 2030 M O T Centre Location: Raynes Way, Broughton Street, Manchester, M8 8NN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	124	9	384059 399991
402	**Points of Interest - Commercial Services** Name: Wash & Glow Location: 210 Cheetham Hill Road, Manchester, M8 8LW Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13SE (SE)	130	9	384351 400036
402	**Points of Interest - Commercial Services** Name: Wash & Go Car Wash Location: 210 Cheetham Hill Road, Manchester, M8 8LW Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13SE (SE)	131	9	384352 400036
403	**Points of Interest - Commercial Services** Name: Unique Tyres & MOT Centre Ltd Location: 151-153 Cheetham Hill Road, Manchester, M8 8LY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (S)	178	9	384217 399867
403	**Points of Interest - Commercial Services** Name: Lunex Ltd Location: 151-153 Cheetham Hill Road, Manchester, M8 8LY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13SE (S)	178	9	384217 399867
404	**Points of Interest - Commercial Services** Name: North Street MOT Ltd Location: 59-63 North Street, Manchester, M8 8RE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	204	9	384383 399927

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
404	**Points of Interest - Commercial Services** Name: North Street M O T's Ltd Location: 59-63 North Street, Manchester, M8 8RE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	210	9	384388 399923
405	**Points of Interest - Commercial Services** Name: E & C Motor Services Location: Woolley Street, Manchester, M8 8WE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	240	9	384032 399861
406	**Points of Interest - Commercial Services** Name: Hexagon International Transport Ltd Location: Cheetwood Road, Manchester, M8 8AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	250	9	383877 400309
406	**Points of Interest - Commercial Services** Name: Hexagon International Transport Ltd Location: Cheetwood Road, Manchester, M8 8AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	251	9	383877 400310
406	**Points of Interest - Commercial Services** Name: Hexagon International Transport Ltd Location: Cheetwood Road, Manchester, M8 8AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	251	9	383877 400310
407	**Points of Interest - Commercial Services** Name: D T M Motors Ltd Location: 1a Herbert Street, Manchester, M8 0DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	262	9	383976 400486
407	**Points of Interest - Commercial Services** Name: D T M Motors Location: 1a Herbert Street, Manchester, M8 0DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	262	9	383975 400486
407	**Points of Interest - Commercial Services** Name: D T M Location: 1 Herbert Street, Manchester, M8 0DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	262	9	383976 400486
407	**Points of Interest - Commercial Services** Name: D T M Location: 1 Herbert Street, Manchester, M8 0DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	262	9	383976 400486
408	**Points of Interest - Commercial Services** Name: Big Benz Location: 111 Cheetham Hill Road, Manchester, M8 8PY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NE (S)	294	9	384182 399753
408	**Points of Interest - Commercial Services** Name: Big Benz Location: 111 Cheetham Hill Road, Manchester, M8 8PY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NE (S)	294	9	384182 399753
408	**Points of Interest - Commercial Services** Name: Big Benz Location: 111 Cheetham Hill Road, Manchester, M8 8PY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NE (S)	294	9	384182 399753

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
409	**Points of Interest - Commercial Services** Name: E & C Motors Location: Unit 22 Commerce House 52-54, Derby Street, Manchester, M8 8HF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	303	9	383909 399893
409	**Points of Interest - Commercial Services** Name: Branco Logistics Ltd Location: 55 Derby Street, Manchester, M8 8HW Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13SW (SW)	346	9	383898 399837
410	**Points of Interest - Commercial Services** Name: M C D M O T & Garage Services Location: Unit 12 Commerce House, 54 Derby Street, Manchester, M8 8HF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	320	9	383835 399981
411	**Points of Interest - Commercial Services** Name: M A Motor Services Location: 200 Waterloo Road, Manchester, M8 8AE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	337	9	383814 400391
412	**Points of Interest - Commercial Services** Name: Zumm Cargo Location: Unit 3 30-32, Knowsley Street, Manchester, M8 8HQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NW (S)	359	9	384006 399740
413	**Points of Interest - Commercial Services** Name: Iqra Ltd Location: Hytech Industrial Park, Peel La, Manchester, Lancashire, M8 8RJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NE (SE)	381	9	384479 399768
414	**Points of Interest - Commercial Services** Name: Eagle Eye Motor Ltd Location: 7 St. Thomas Place, Manchester, M8 8TP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (S)	426	9	384382 399652
415	**Points of Interest - Commercial Services** Name: Shipping Xperts Ltd Location: 116-118 Cheetham Hill Road, Manchester, M4 4FG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NE (S)	453	9	384191 399592
416	**Points of Interest - Commercial Services** Name: Z Cars Auto Services Location: Unit 3, Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	458	9	384492 399679
416	**Points of Interest - Commercial Services** Name: D Best Car Commerical Garage Location: Unit 4, Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	462	9	384506 399684
416	**Points of Interest - Commercial Services** Name: Robinson Motors Ltd Location: Unit 4, Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	462	9	384505 399684
416	**Points of Interest - Commercial Services** Name: Quick Start Location: Unit 5, Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	467	9	384520 399690

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
416	**Points of Interest - Commercial Services** Name: Quick Start Garage Location: Unit 5, Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	467	9	384520 399690
416	**Points of Interest - Commercial Services** Name: J D Robinson Ironwork Location: 25a Honey Street, Manchester, M8 8RG Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A9NW (SE)	482	9	384533 399681
416	**Points of Interest - Commercial Services** Name: United Location: 25b Honey Street, Manchester, M8 8RG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	488	9	384534 399674
416	**Points of Interest - Commercial Services** Name: United Garage Location: 25b Honey Street, Manchester, M8 8RG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	488	9	384534 399674
416	**Points of Interest - Commercial Services** Name: Aa Autos Location: 29 Honey St, Manchester, Lancashire, M8 8RG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	494	9	384558 399688
417	**Points of Interest - Commercial Services** Name: Autocraft Location: Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	459	9	384605 399800
417	**Points of Interest - Commercial Services** Name: Z Cars Auto Services Location: Unit 3, Collingham Street, Manchester, M8 8RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (SE)	488	9	384653 399827
418	**Points of Interest - Commercial Services** Name: Express Motor Services Location: 7-9 Stanley Street, Manchester, M8 8GQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (S)	489	9	384291 399561
418	**Points of Interest - Commercial Services** Name: Express Car Valeting Location: 7-9 Stanley Street, Manchester, M8 8GQ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NE (S)	489	9	384291 399561
418	**Points of Interest - Commercial Services** Name: Express Motor Services Location: 7-9 Stanley Street, Manchester, M8 8GQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (S)	489	9	384291 399561
418	**Points of Interest - Commercial Services** Name: S N K Apparel Ltd Location: Mirage House 25-27, St. Chads Street, Manchester, M8 8QA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NE (S)	540	9	384243 399505
419	**Points of Interest - Commercial Services** Name: Cheetham Motor Factors Location: 341 Cheetham Hill Road, Manchester, M8 0SF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SE (NE)	500	9	384430 400675

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420	**Points of Interest - Commercial Services** Name: Philino Culture Ltd Location: 32 Lord Street, Manchester, M3 1HF Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8NW (S)	565	9	384097 399492
421	**Points of Interest - Commercial Services** Name: Buy Car Co Manchester Location: 67 Derby Street, Manchester, M8 8HE Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A12SE (W)	575	9	383562 399952
421	**Points of Interest - Commercial Services** Name: Robinson Motors Ltd Location: Cheetham Service Station, Waterloo Road, Manchester, M8 8GJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	621	9	383541 399887
421	**Points of Interest - Commercial Services** Name: Car Wash Location: Waterloo Road, Manchester, M8 8GJ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12SE (SW)	621	9	383541 399887
422	**Points of Interest - Commercial Services** Name: 151 Products Location: Globe House 34, Southall Street, Manchester, M3 1LG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NW (SW)	593	9	383868 399547
423	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M4 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A8SE (SE)	622	9	384483 399483
423	**Points of Interest - Commercial Services** Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A8SE (SE)	625	9	384490 399483
423	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M8 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SE (SE)	634	9	384508 399482
423	**Points of Interest - Commercial Services** Name: Tym Ltd Location: 4 Hargreaves Street, Manchester, M4 4EJ Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SE (S)	678	9	384469 399415
423	**Points of Interest - Commercial Services** Name: T Y M Ltd Location: 4 Hargreaves Street, Manchester, M4 4EJ Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SE (S)	678	9	384469 399415
424	**Points of Interest - Commercial Services** Name: Wash & Shine Location: 33-41 Cheetham Hill Road, Manchester, M4 4FT Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SW (S)	647	9	384081 399412
424	**Points of Interest - Commercial Services** Name: Redbank Service Station Location: 58 Cheetham Hill Road, Manchester, M4 4EX Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SW (S)	674	9	384127 399377

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424	**Points of Interest - Commercial Services** Name: Car Wash Location: 58 Cheetham Hill Road, Manchester, M4 4EX Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SW (S)	674	9	384127 399377
425	**Points of Interest - Commercial Services** Name: Transporter Location: 5 Roger Street, Manchester, M4 4EN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	651	9	384347 399407
426	**Points of Interest - Commercial Services** Name: Zappmite Location: 213 Heywood Street, Manchester, M8 0PB Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A18NE (N)	703	9	384181 400976
427	**Points of Interest - Commercial Services** Name: Manchester Car Refurbishment Centre Ltd Location: Cheviot Street, Manchester, M3 1LW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	707	9	383821 399444
427	**Points of Interest - Commercial Services** Name: Temple of Vendora Location: 55 Julia Street, Manchester, M3 1LN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SE (SW)	723	9	383817 399427
428	**Points of Interest - Commercial Services** Name: Marco Services Ltd Location: 16 Robert Street, Manchester, M3 1EY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SW (S)	708	9	383921 399398
429	**Points of Interest - Commercial Services** Name: Adampol Location: Flat 2 9, Smedley Lane, Manchester, M8 8UJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19NW (NE)	745	9	384568 400877
430	**Points of Interest - Commercial Services** Name: The Great British Car Wash Location: 121 Dantzic St, Manchester, Lancashire, M4 4DW Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SE (S)	758	9	384438 399320
430	**Points of Interest - Commercial Services** Name: Smart Claims Location: 121 Dantzic St, Manchester, Lancashire, M4 4DW Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SE (S)	758	9	384438 399320
431	**Points of Interest - Commercial Services** Name: I A S Autopaints Location: 300 Cheetham Hill Road, Manchester, M8 0PL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	762	9	384439 400971
432	**Points of Interest - Commercial Services** Name: A B S M O T Station Location: 431 Cheetham Hill Road, Manchester, M8 0PF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	787	9	384302 401043
432	**Points of Interest - Commercial Services** Name: Abs MOT Station Location: 431-433a, Cheetham Hill Road, Manchester, M8 0PF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	792	9	384275 401054

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432	**Points of Interest - Commercial Services** Name: Abs MOT Station Location: 433 Cheetham Hill Road, Manchester, M8 0PF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	792	9	384275 401054
432	**Points of Interest - Commercial Services** Name: Abs MOT Station Location: 431-433a, Cheetham Hill Road, Manchester, M8 0PF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	792	9	384275 401054
432	**Points of Interest - Commercial Services** Name: Northern Garage Location: 176 Heywood Street, Manchester, M8 0PD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	801	9	384221 401071
432	**Points of Interest - Commercial Services** Name: Northern Garage Location: 176 Heywood Street, Manchester, M8 0PD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	801	9	384221 401071
432	**Points of Interest - Commercial Services** Name: Kwik Shine Location: 445 Cheetham Hill Road, Manchester, M8 0PF Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A18NE (N)	847	9	384219 401117
433	**Points of Interest - Commercial Services** Name: Food & Booze UK Ltd Location: 22 Briddon Street, Manchester, M3 1LS Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SE (SW)	793	9	383744 399389
434	**Points of Interest - Commercial Services** Name: Church Lane Garage Location: 39 Bromley Street, Manchester, M4 4JS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (S)	803	9	384521 399301
434	**Points of Interest - Commercial Services** Name: T & G Motors Ltd Location: 38 Gould Street, Manchester, M4 Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (S)	807	9	384516 399295
434	**Points of Interest - Commercial Services** Name: M J T Motors Location: 79, Gould Street, City Centre, Manchester, Greater Manchester, M4 4DL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	826	9	384486 399264
434	**Points of Interest - Commercial Services** Name: M J T Motors Location: Irk Street, Manchester, M4 4JT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	826	9	384485 399263
434	**Points of Interest - Commercial Services** Name: M J T Motors Location: 79 Gould Street, Manchester, M4 4DL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (S)	827	9	384516 399274
435	**Points of Interest - Commercial Services** Name: Super Five Auto Care Location: 9-11 Park Street, Manchester, M3 1EU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	806	9	383984 399273

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435	**Points of Interest - Commercial Services** Name: Super Five Auto Care Location: 9-11 Park Street, Manchester, M3 1EU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	806	9	383984 399273
435	**Points of Interest - Commercial Services** Name: Arena Autos Location: 29 Park Street, Manchester, M3 1EU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	809	9	383907 399296
436	**Points of Interest - Commercial Services** Name: Halfords Autocentre Location: 184 Bury New Road, Whitefield, Manchester, M8 Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	813	9	383283 400120
437	**Points of Interest - Commercial Services** Name: M C D M O T & Garage Services Location: 240-248 Collyhurst Road, Manchester, M40 7RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	820	9	385057 399983
437	**Points of Interest - Commercial Services** Name: Alpha Motor Engineering Location: 240-248 Collyhurst Road, Manchester, M40 7RQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	822	9	385058 399983
437	**Points of Interest - Commercial Services** Name: S G Transport & Plant Hire Ltd Location: 240-248 Collyhurst Road, Manchester, M40 7RQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	822	9	385058 399982
438	**Points of Interest - Commercial Services** Name: Europasonic Location: 11 Sherborne Street, Manchester, M3 1JS Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	826	9	383517 399545
439	**Points of Interest - Commercial Services** Name: Liberty Distributors Ltd Location: 23 Moulton Street, Manchester, M8 8FQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NW (SW)	828	9	383390 399734
439	**Points of Interest - Commercial Services** Name: XL Distribution UK Ltd Location: 11-13 Edward Street, Salford, M7 1SN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NW (SW)	867	9	383358 399711
440	**Points of Interest - Commercial Services** Name: Carriages Location: Arch 5, Corporation Street, Manchester, M4 4DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	851	9	384301 399198
440	**Points of Interest - Commercial Services** Name: Carriages Location: Arch 5, Corporation Street, Manchester, M4 4DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	854	9	384294 399194
441	**Points of Interest - Commercial Services** Name: Queens Garage Location: 209a Queens Road, Manchester, M8 0RB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	868	9	384995 400615

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441	**Points of Interest - Commercial Services** Name: Queens Garage Location: 209a Queens Road, Manchester, M8 0RB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SE (NE)	868	9	384995 400615
442	**Points of Interest - Commercial Services** Name: Parcel Core Location: Unit 7a Trafalgar Business Park, Broughton Lane, Manchester, M8 9TZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	881	9	383241 399951
443	**Points of Interest - Commercial Services** Name: R C C Manchester Location: 199 Bury New Road, Manchester, M8 8DU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	896	9	383198 400187
443	**Points of Interest - Commercial Services** Name: Manchester M O T & Service Centre Location: 199 Bury New Road, Manchester, M8 8DU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	896	9	383198 400187
444	**Points of Interest - Commercial Services** Name: Dickinson Street Garage Location: Dickinson Street, Salford, M3 7LW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	915	9	383441 399496
444	**Points of Interest - Commercial Services** Name: Dickinson Street Garage Location: Unit 3, Dickinson Street, Salford, M3 7LW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	915	9	383441 399496
445	**Points of Interest - Commercial Services** Name: Ana Parts Express Location: 55a Broughton La, Manchester, Lancashire, M8 9UE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	938	9	383216 399840
445	**Points of Interest - Commercial Services** Name: A N A Motor Location: 55 Broughton Lane, Manchester, M8 9UE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	951	9	383190 399874
445	**Points of Interest - Commercial Services** Name: A & A MOT Express Location: 55 Broughton Lane, Manchester, M8 9UE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	951	9	383190 399874
445	**Points of Interest - Commercial Services** Name: A N A M O T Express Location: 55 Broughton Lane, Manchester, M8 9UE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	951	9	383190 399874
446	**Points of Interest - Commercial Services** Name: Carspar (Manchester) Ltd Location: 229-241 Bury New Road, Manchester, M8 8DY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A11NE (W)	945	9	383152 400241
446	**Points of Interest - Commercial Services** Name: New York Carwash Location: 229-241 Bury New Road, Manchester, M8 8DY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A11NE (W)	945	9	383152 400241

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446	**Points of Interest - Commercial Services** Name: New York Carwash Location: 229-241 Bury New Road, Manchester, M8 8DY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A11NE (W)	945	9	383152 400241
446	**Points of Interest - Commercial Services** Name: Manchester Car Repair Location: 263 Bury New Road, Manchester, M8 8DY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11NE (W)	985	9	383121 400321
446	**Points of Interest - Commercial Services** Name: Motor Body Services Ltd Location: 263 Bury New Road, Manchester, M8 8DY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11NE (W)	992	9	383113 400317
446	**Points of Interest - Commercial Services** Name: Motor Body Services Salford Ltd Location: 263 Bury New Road, Manchester, M8 8DY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11NE (W)	992	9	383113 400317
446	**Points of Interest - Commercial Services** Name: Manchester Car Refurb Centre Location: 263 Bury New Road, Manchester, M8 8DY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11NE (W)	992	9	383113 400317
447	**Points of Interest - Commercial Services** Name: Cheetham Auto Repair Centre Location: 360 Cheetham Hill Road, Manchester, M8 9LS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A23SW (N)	959	9	384174 401233
447	**Points of Interest - Commercial Services** Name: Cheetham M O T Station Location: 360 Cheetham Hill Road, Manchester, M8 9LS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A23SW (N)	959	9	384174 401233
448	**Points of Interest - Commercial Services** Name: Valet Parking Location: 23 New Mount Street, Manchester, M4 4DE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A3NE (S)	993	9	384471 399084
449	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M7 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A7NW (SW)	998	9	383285 399581
449	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M7 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A7NW (SW)	1000	9	383320 399520
450	**Points of Interest - Manufacturing and Production** Name: Tank Location: M8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SE (S)	6	9	384221 400041
451	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A13SW (SW)	33	9	384139 400108

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
451	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	35	9	384136 400107
452	**Points of Interest - Manufacturing and Production** Name: Tank Location: M8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13SE (SE)	135	9	384355 400031
453	**Points of Interest - Manufacturing and Production** Name: Britain Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (W)	151	9	383956 400108
453	**Points of Interest - Manufacturing and Production** Name: Britain Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A13SW (W)	152	9	383955 400109
454	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	159	9	384011 400006
454	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A13SW (SW)	170	9	384002 399998
455	**Points of Interest - Manufacturing and Production** Name: Tank Location: M8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	196	9	384095 399879
456	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	255	9	383985 399877
456	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	259	9	383981 399876
456	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	278	9	383920 399922
457	**Points of Interest - Manufacturing and Production** Name: Tank Location: M8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	278	9	384477 399947
458	**Points of Interest - Manufacturing and Production** Name: Spear Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	299	9	384087 399773

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
458	**Points of Interest - Manufacturing and Production** Name: Spear Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	302	9	384077 399773
458	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NW (S)	333	9	384111 399729
458	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	338	9	384109 399724
459	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12NE (W)	310	9	383805 400282
459	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12NE (NW)	340	9	383791 400334
459	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	344	9	383760 400253
460	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	321	9	384417 399794
460	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	323	9	384421 399795
460	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NE (SE)	344	9	384403 399755
460	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	352	9	384410 399751
460	**Points of Interest - Manufacturing and Production** Name: Stone Catalogue Location: Hytech Industrial Park 1, Peel Lane, Manchester, M8 8RJ Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A8NE (SE)	381	9	384479 399769
461	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	347	9	383830 399945

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	355	9	383872 399854
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	358	9	383869 399853
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	389	9	383869 399804
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	393	9	383865 399803
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	397	9	383814 399867
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	400	9	383811 399866
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	439	9	383799 399812
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	443	9	383795 399811
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	459	9	383831 399743
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	462	9	383828 399742
463	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	358	9	383996 399745
464	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12NE (W)	380	9	383714 400186

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
464	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	384	9	383710 400180
465	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	389	9	383725 400048
465	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12SE (W)	390	9	383717 400070
465	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12SE (W)	394	9	383705 400108
466	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NW (SW)	401	9	383952 399721
466	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	407	9	383950 399715
466	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NW (SW)	422	9	383915 399720
466	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	425	9	383910 399720
467	**Points of Interest - Manufacturing and Production** Name: D A R Marble & Granite Ltd Location: 61 Collingham Street, Manchester, M8 8RQ Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A9NW (SE)	460	9	384604 399796
467	**Points of Interest - Manufacturing and Production** Name: Dar Marble & Granite Ltd Location: 61 Collingham Street, Manchester, M8 8RQ Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A9NW (SE)	464	9	384579 399755
467	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	466	9	384578 399750
467	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A9NW (SE)	466	9	384579 399752

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
468	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	481	9	384080 399584
468	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	483	9	384076 399583
469	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	512	9	384286 399537
469	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	513	9	384290 399537
470	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	516	9	384537 399640
470	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	516	9	384537 399640
471	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	530	9	383650 399881
471	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	533	9	383646 399881
472	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	592	9	383925 399521
473	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	609	9	384256 399437
474	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	612	9	384152 399436
474	**Points of Interest - Manufacturing and Production** Name: Factory Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	617	9	384151 399431

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
475	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	658	9	383815 399503
475	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	661	9	383819 399497
475	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7SE (SW)	674	9	383835 399473
475	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	676	9	383833 399472
475	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7SE (SW)	698	9	383785 399475
475	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	705	9	383787 399465
476	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	679	9	384409 399393
476	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	680	9	384412 399393
476	**Points of Interest - Manufacturing and Production** Name: Vale Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	687	9	384470 399406
476	**Points of Interest - Manufacturing and Production** Name: Vale Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	688	9	384470 399405
477	**Points of Interest - Manufacturing and Production** Name: Factory Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8SW (S)	682	9	384029 399389
477	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	683	9	384032 399387

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
478	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	727	9	384937 399904
478	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	730	9	384940 399905
479	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	737	9	383528 399682
479	**Points of Interest - Manufacturing and Production** Name: Factory Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7NW (SW)	796	9	383455 399692
479	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	798	9	383456 399686
480	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	740	9	384560 399389
481	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8SW (S)	751	9	383922 399352
481	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	753	9	383921 399350
481	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	810	9	383982 399269
481	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	811	9	383953 399278
481	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	813	9	383978 399268
481	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	815	9	383915 399286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
481	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	817	9	383912 399285
482	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	752	9	384894 399719
482	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	752	9	384894 399719
483	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	759	9	385011 400082
483	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	764	9	385016 400081
484	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	765	9	383825 399376
484	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	768	9	383820 399375
484	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	775	9	383841 399357
484	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (SW)	778	9	383838 399356
485	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	812	9	384792 399472
485	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	832	9	384843 399497
486	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7SE (SW)	817	9	383753 399355

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
486	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	820	9	383753 399352
486	**Points of Interest - Manufacturing and Production** Name: Tank Location: M3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A7SE (SW)	846	9	383773 399311
486	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	846	9	383773 399311
486	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	847	9	383733 399332
487	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	837	9	383533 399509
487	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7SE (SW)	846	9	383544 399483
487	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	855	9	383514 399503
487	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	870	9	383513 399481
488	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	841	9	384964 399660
489	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	871	9	384734 399344
489	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	872	9	384737 399345
489	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	939	9	384792 399303

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
490	**Points of Interest - Manufacturing and Production** Name: Trafalgar Business Park Location: M8 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	874	9	383249 399947
490	**Points of Interest - Manufacturing and Production** Name: Trafalgar Business Park Location: M8 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	895	9	383226 399952
491	**Points of Interest - Manufacturing and Production** Name: Tank Location: M3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	874	9	383872 399239
491	**Points of Interest - Manufacturing and Production** Name: Tank Location: M3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	937	9	383834 399186
492	**Points of Interest - Manufacturing and Production** Name: Tank Location: M3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	888	9	383571 399398
492	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	969	9	383510 399344
492	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7SE (SW)	971	9	383528 399326
492	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	972	9	383507 399343
492	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	979	9	383522 399321
492	**Points of Interest - Manufacturing and Production** Name: Works Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	985	9	383490 399341
493	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	939	9	384620 401076
494	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A3NE (S)	951	9	384283 399096

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
495	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A23SW (N)	951	9	384114 401226
495	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A23SW (N)	952	9	384117 401227
495	**Points of Interest - Manufacturing and Production** Name: Works Location: M8 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A23SE (N)	962	9	384178 401236
496	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A4NW (S)	973	9	384556 399133
496	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A4NW (S)	977	9	384527 399118
496	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A4NW (S)	995	9	384562 399112
497	**Points of Interest - Manufacturing and Production** Name: Tank Location: M8 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A23SE (N)	975	9	384392 401214
498	**Points of Interest - Public Infrastructure** Name: Gulf Location: Waterloo Road, Manchester, M8 8GJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	311	9	383843 400394
499	**Points of Interest - Public Infrastructure** Name: Sludge Tanks Location: M3 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	418	9	384030 399667
500	**Points of Interest - Public Infrastructure** Name: Vales Coaches (Manchester) Ltd Location: 49 Broughton Street, Manchester, M8 8AN Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A12SE (W)	420	9	383687 400067
501	**Points of Interest - Public Infrastructure** Name: Bus Depot Location: M8 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	467	9	384591 400486
502	**Points of Interest - Public Infrastructure** Name: Bus Depot Location: M8 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	566	9	384600 400621

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
503	**Points of Interest - Public Infrastructure** Name: Cheetham Service Station Location: Waterloo Road, Manchester, M8 8GJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	621	9	383541 399887
503	**Points of Interest - Public Infrastructure** Name: Rabbani Filling Station Location: Waterloo Road, Manchester, M8 8GJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	621	9	383541 399887
503	**Points of Interest - Public Infrastructure** Name: Unique Enterprises Filling Station Location: Waterloo Road, Manchester, M8 8GJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	621	9	383541 399887
504	**Points of Interest - Public Infrastructure** Name: Redbank Service Station Location: 58 Cheetham Hill Road, Manchester, M4 4EX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	674	9	384127 399377
504	**Points of Interest - Public Infrastructure** Name: Redbank Service Station Location: 58 Cheetham Hill Road, Manchester, M4 4EX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	675	9	384128 399375
504	**Points of Interest - Public Infrastructure** Name: Red Bank Service Station Location: 58 Cheetham Hill Road, Manchester, M4 4EX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	676	9	384128 399375
504	**Points of Interest - Public Infrastructure** Name: Texaco Location: 58 Cheetham Hill, Manchester, M4 4EX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	676	9	384128 399375
505	**Points of Interest - Public Infrastructure** Name: Farlam Waste Management Ltd Location: Dantzic Street, Manchester, M4 4DD Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A9SW (SE)	717	9	384657 399479
505	**Points of Interest - Public Infrastructure** Name: Waste Processing Facility Location: M4 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	756	9	384694 399458
506	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	744	9	384979 399983
506	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	746	9	384981 399983
507	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	750	9	384857 399655

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
507	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	752	9	384861 399657
508	**Points of Interest - Public Infrastructure** Name: Texaco Location: 25 Broughton Lane, Manchester, M8 9UE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SW (W)	852	9	383307 399843
508	**Points of Interest - Public Infrastructure** Name: Aleef Broughton Lane Sstn Location: Service Station 25, Broughton Lane, Manchester, M8 9UE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SW (W)	852	9	383307 399843
508	**Points of Interest - Public Infrastructure** Name: Broughton Lane Service Station Location: Service Station 25, Broughton Lane, Manchester, M8 9UE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SW (W)	852	9	383307 399843
509	**Points of Interest - Public Infrastructure** Name: Weir Location: M4 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	863	9	384123 399187
509	**Points of Interest - Public Infrastructure** Name: Weir Location: M4 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	864	9	384120 399186
509	**Points of Interest - Public Infrastructure** Name: Victoria East Junction Location: M4 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	867	9	384164 399179
510	**Points of Interest - Public Infrastructure** Name: Esso Location: 490 Cheetham Hill Road, Manchester, M8 0PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A18NE (N)	903	9	384243 401171
510	**Points of Interest - Public Infrastructure** Name: Shirley Service Station Location: 332 Cheetham Hill Road, Manchester, M8 0PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A23SE (N)	909	9	384236 401178
510	**Points of Interest - Public Infrastructure** Name: Esso Location: 332 Cheetham Hill Road, Manchester, M8 0PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A23SE (N)	909	9	384236 401178
510	**Points of Interest - Public Infrastructure** Name: Shirley Service Station Location: 332 Cheetham Hill Road, Manchester, M8 0PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A23SE (N)	909	9	384236 401178
510	**Points of Interest - Public Infrastructure** Name: Shirley Service Station Location: 332 Cheetham Hill Road, Manchester, M8 0PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A23SE (N)	909	9	384235 401178

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
511	**Points of Interest - Public Infrastructure** Name: Collyhurst Police Station Location: Collyhurst Police Station, Rochdale Road, Manchester, M4 4JA Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A9SW (SE)	963	9	384847 399316
512	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	156	9	383980 400319
513	**Points of Interest - Recreational and Environmental** Name: Playground Location: Barrow Hill Road, M8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12NE (NW)	558	9	383605 400463
514	**Points of Interest - Recreational and Environmental** Name: Playground Location: Collyhurst Road, M4 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	711	9	384775 399604
514	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	717	9	384783 399605
515	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	713	9	383791 400902
516	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	931	9	384629 401060
517	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	931	9	383610 401047
517	**Points of Interest - Recreational and Environmental** Name: Playground Location: Weatherall Street North, M7 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	935	9	383602 401047
518	**Points of Interest - Recreational and Environmental** Name: Playground Location: Smeaton Street, M8 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NE (E)	949	9	385149 400479
519	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	965	9	385170 399849

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
520	**Nitrate Vulnerable Zones** Name: Irwell / Man. Ship Canal (Kearsley To Irlam Locks) Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SW (NE)	0	5	384173 400158
521	**Nitrate Vulnerable Zones** Name: River Irk (Moston Brook To River Irwell) Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SE (SE)	77	5	384300 400050

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Environment Agency - Head Office	June 2020	Annually
Salford City Council - Environmental Health Department	November 2013	Annual Rolling Update
Trafford Metropolitan Borough Council - Renewal and Environmental Protection	November 2013	Annual Rolling Update
Bury Metropolitan Borough Council - Environmental Health Department	October 2013	Annual Rolling Update
Tameside Metropolitan Borough Council - Environmental Health Department	October 2017	Annual Rolling Update
Rochdale Metropolitan Borough Council - Environmental Health Department	October 2017	Annually
Oldham Metropolitan Borough Council - Environmental Health Department	September 2013	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - North West Region	January 2021	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - North West Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - North West Region	January 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Variable
Rochdale Metropolitan Borough Council - Environmental Health Department	July 2014	Variable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Not Applicable
Rochdale Metropolitan Borough Council - Environmental Health Department	July 2014	Annual Rolling Update
Trafford Metropolitan Borough Council - Environmental Health Department	July 2015	Annual Rolling Update
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Annual Rolling Update
Salford City Council - Environmental Health Department	March 2015	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Variable
Rochdale Metropolitan Borough Council - Environmental Health Department	July 2014	Variable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	September 2013	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - North West Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable

Agency & Hydrological	Version	Update Cycle
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	January 2021	Quarterly
Water Abstractions Environment Agency - North West Region	January 2021	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2020	Quarterly
Flood Defences Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines Ordnance Survey	September 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North West Region - South Area	January 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North West Region - South Area	January 2021	Quarterly
Local Authority Landfill Coverage		
Bury Metropolitan Borough Council	May 2000	Not Applicable
Manchester City Council - Planning Department	May 2000	Not Applicable
Oldham Metropolitan Borough Council	May 2000	Not Applicable
Rochdale Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Salford City Council - Environmental Health Department	May 2000	Not Applicable
Tameside Metropolitan Borough Council	May 2000	Not Applicable
Trafford Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Bury Metropolitan Borough Council	May 2000	Not Applicable
Manchester City Council - Planning Department	May 2000	Not Applicable
Oldham Metropolitan Borough Council	May 2000	Not Applicable
Rochdale Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Salford City Council - Environmental Health Department	May 2000	Not Applicable
Tameside Metropolitan Borough Council	May 2000	Not Applicable
Trafford Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Trafford Metropolitan Borough Council	April 2016	Variable
Bury Metropolitan Borough Council	February 2016	Variable
Manchester City Council - Planning Department	February 2016	Variable
Oldham Metropolitan Borough Council	February 2016	Variable
Rochdale Metropolitan Borough Council	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Salford City Council	June 2016	Variable
Planning Hazardous Substance Consents		
Trafford Metropolitan Borough Council	April 2016	Variable
Bury Metropolitan Borough Council	February 2016	Variable
Manchester City Council - Planning Department	February 2016	Variable
Oldham Metropolitan Borough Council	February 2016	Variable
Rochdale Metropolitan Borough Council	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Salford City Council	June 2016	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	October 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2021	Quarterly
Gas Pipelines National Grid	January 2021	
Points of Interest - Commercial Services PointX	March 2021	Quarterly
Points of Interest - Education and Health PointX	March 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2021	Quarterly
Points of Interest - Public Infrastructure PointX	March 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2021	Quarterly
Underground Electrical Cables National Grid	December 2020	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Bury Metropolitan Borough Council	June 2020	As notified
Manchester City Council	June 2020	As notified
Oldham Metropolitan Borough Council	June 2020	As notified
Rochdale Metropolitan Borough Council	June 2020	As notified
Salford City Council	June 2020	As notified
Tameside Metropolitan Borough Council	June 2020	As notified
Trafford Metropolitan Borough Council	June 2020	As notified
Areas of Unadopted Green Belt		
Bury Metropolitan Borough Council	June 2020	As notified
Manchester City Council	June 2020	As notified
Oldham Metropolitan Borough Council	June 2020	As notified
Rochdale Metropolitan Borough Council	June 2020	As notified
Salford City Council	June 2020	As notified
Tameside Metropolitan Borough Council	June 2020	As notified
Trafford Metropolitan Borough Council	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**Manchester City Council - Environmental Health Department** PO Box 463, Town Hall Extension, Albert Square, Manchester, Greater Manchester, M60 3NY	Telephone: 0161 234 4884 / 234 4873. Fax: 0161 234 4508 Website: www.manchester.gov.uk
4	**Salford City Council - Environmental Health Department** Crompton House, 100 Chorley Road, Swinton, Manchester, Greater Manchester, M27 2ES	Telephone: 0161 7370551 Fax: 0161 728 1956 Website: www.salford.gov.uk
5	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
6	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
7	**Manchester City Council - Planning Department** Town Hall, Manchester, Greater Manchester, M60 2LA	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.uk
8	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
9	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
10	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	HMGDD	Hummocky (Moundy) Glacial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Not Supplied - Quaternary
	PEAT	Peat	Peat	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CHES	Chester Formation	Sandstone	Not Supplied - Olenekian
	MM	Manchester Marls Formation	Mudstone	Not Supplied - GUADALUPIAN
	CS	Collyhurst Sandstone Formation	Sandstone	Not Supplied - Cisuralian
	HA	Halesowen Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	HTS	Holt Town Sandstone Bed	Sandstone	Not Supplied - Westphalian
	GML	Great Mine Limestone	Limestone	Not Supplied - Westphalian
	WDR	Worsley Delf Rock	Sandstone	Not Supplied - Westphalian
	PUCM	Pennine Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	NHSS	Newton Heath Sandstone	Sandstone	Not Supplied - Westphalian
	OPS	Openshaw Sandstone	Sandstone	Not Supplied - Westphalian
	PMCM	Pennine Middle Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	ETM	Etruria Formation	Sandstone and Mudstone	Not Supplied - Westphalian
		Faults		
		Rock Segments		

curtins

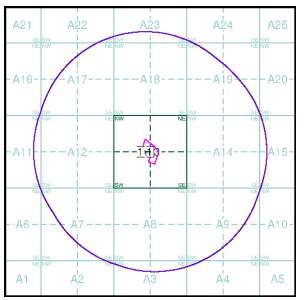
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID: 1
Map Sheet No: 085
Map Name: Manchester
Map Date: 2010
Bedrock Geology: Available
Superficial Geology: Not Available
Artificial Geology: Not Available
Faults: Not Supplied
Landslip: Not Available
Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice A



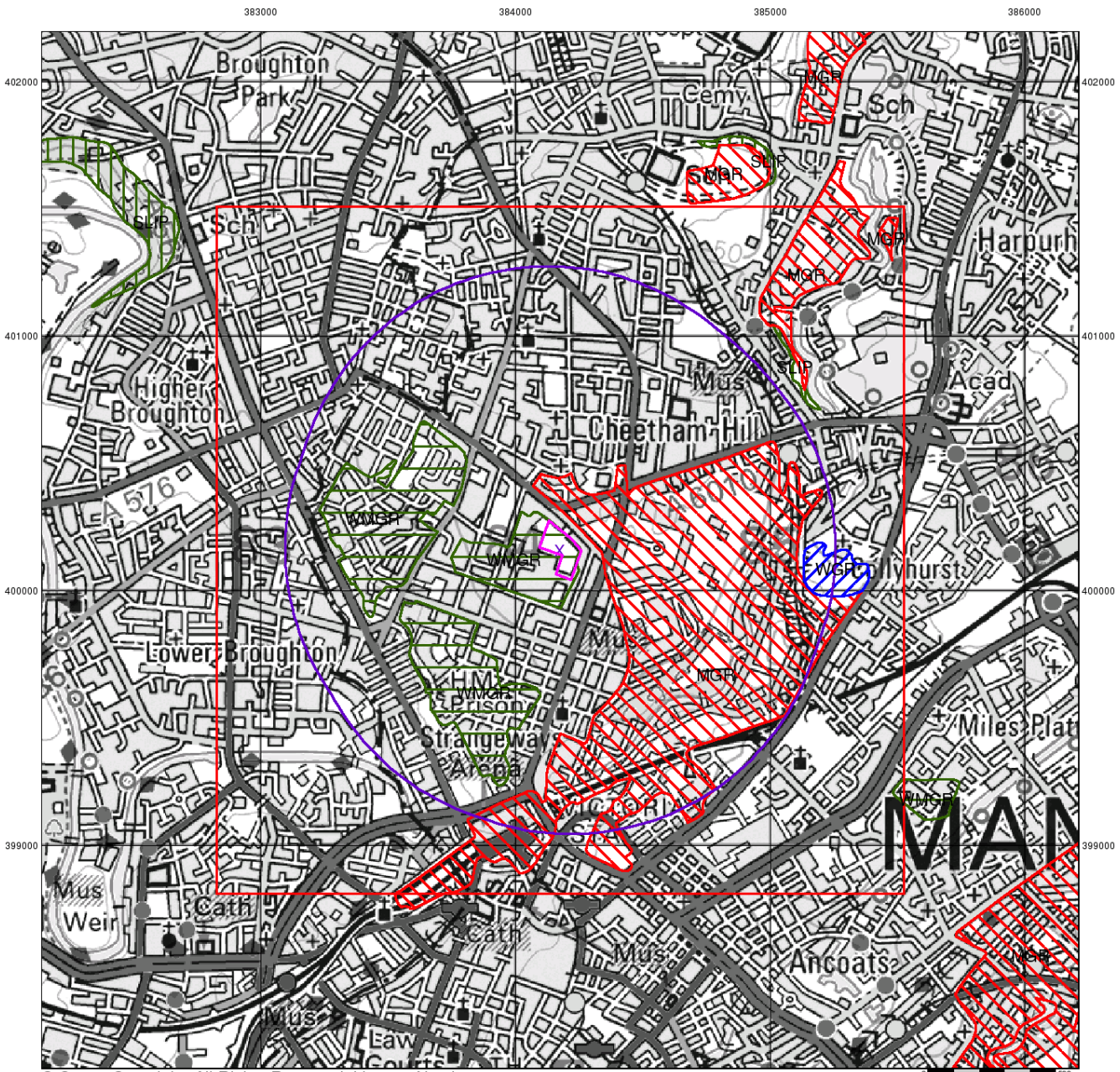
Order Details:

Order Number: 275906564_1_1
Customer Reference: B078695
National Grid Reference: 384170, 400160
Slice: A
Site Area (Ha): 1.77
Search Buffer (m): 1000

Site Details:

Site off Elizabeth Street, MANCHESTER, M8 8BB

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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curtins

Artificial Ground and Landslip

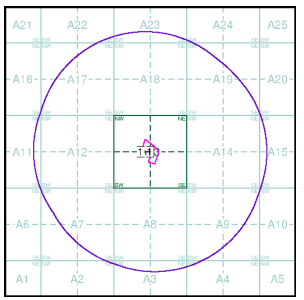
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



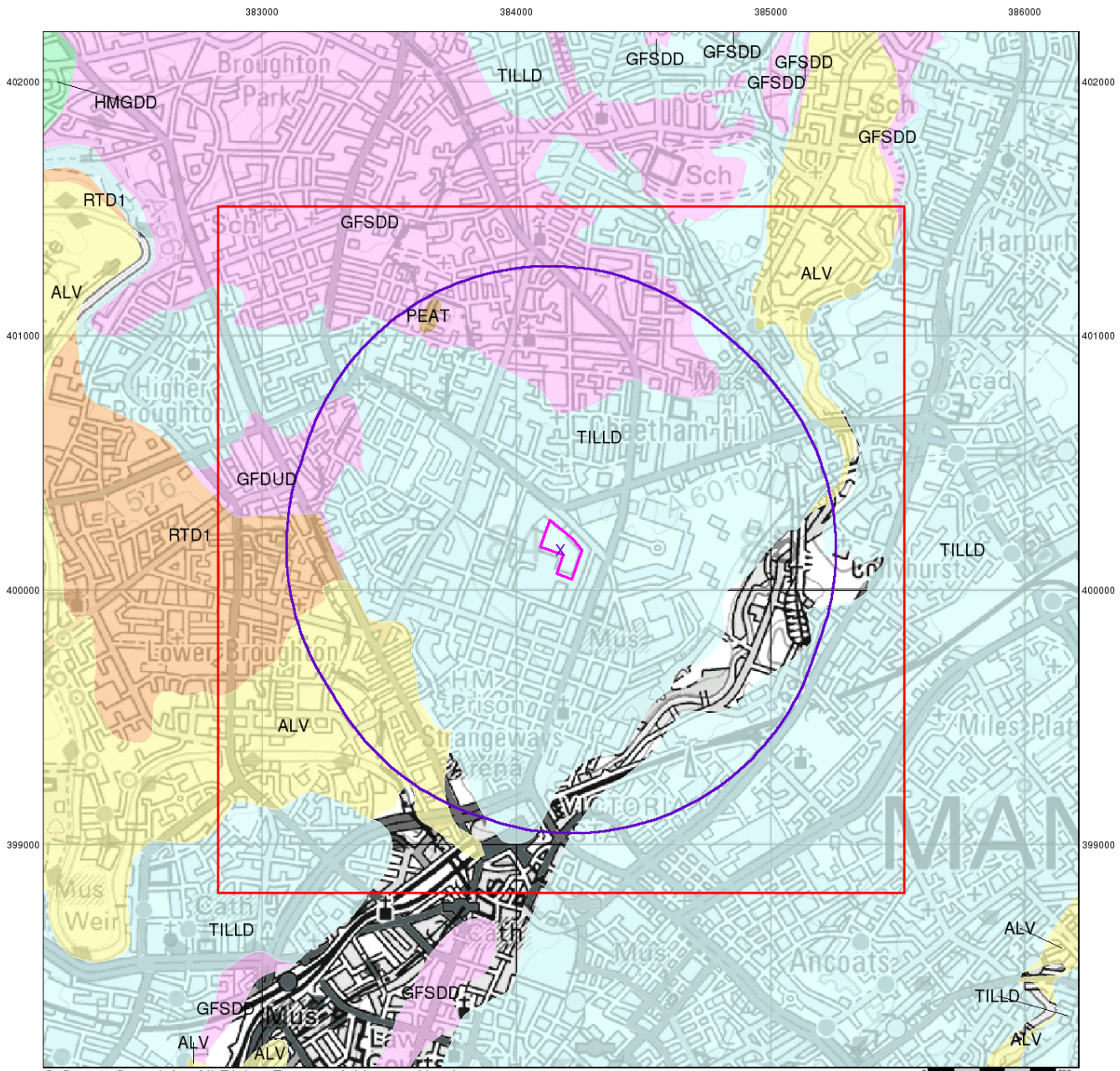
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Customer Reference:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details:

Site off Elizabeth Street, MANCHESTER, M8 8BB

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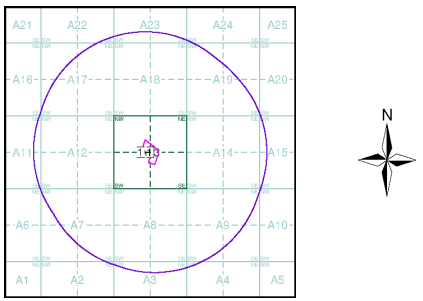
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



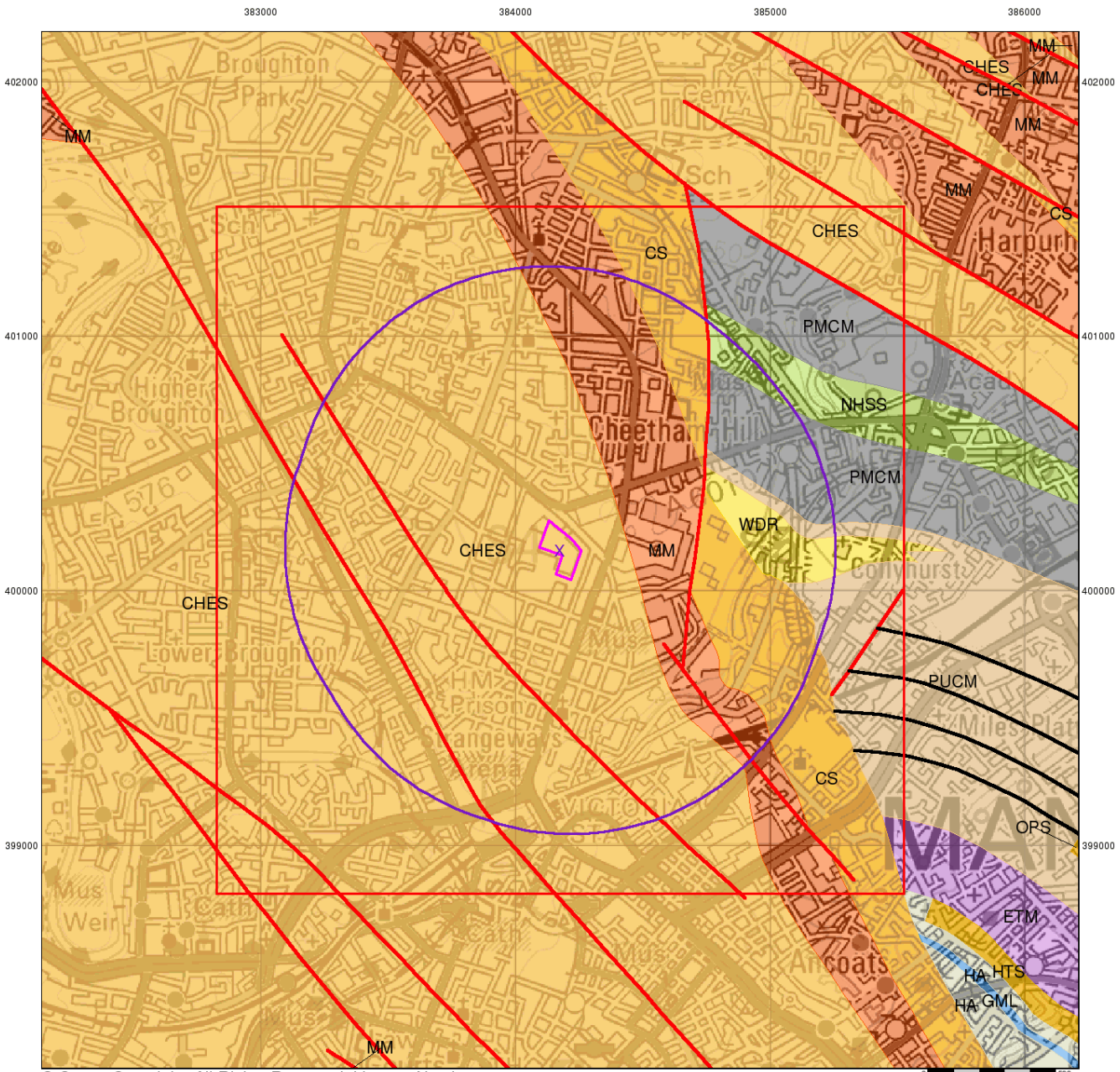
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Bedrock and Faults

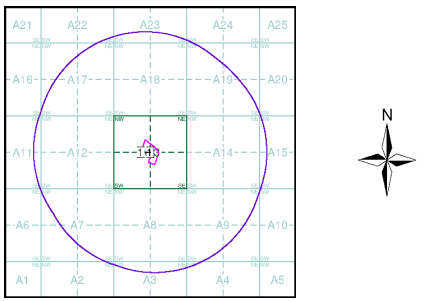
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



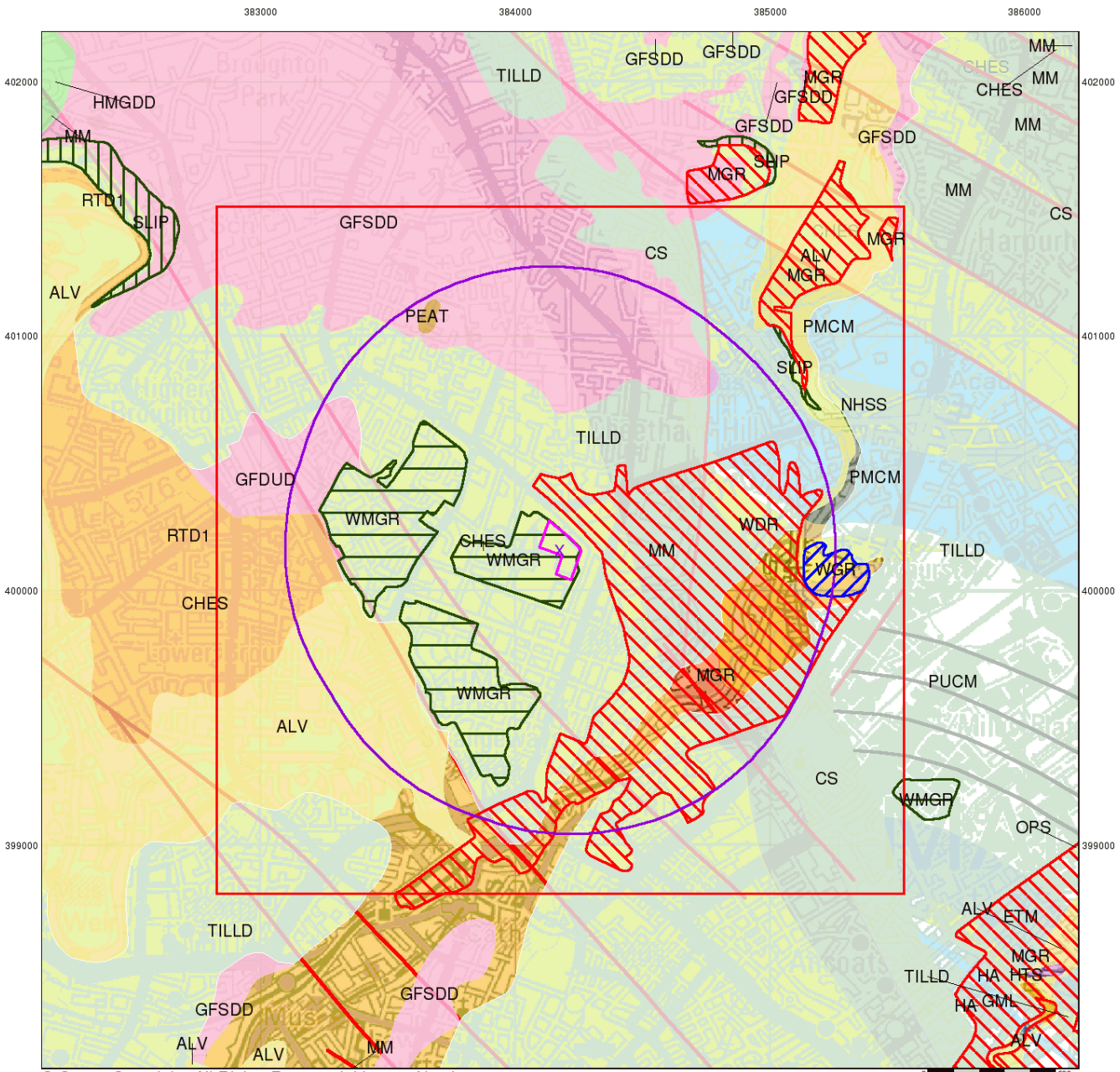
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

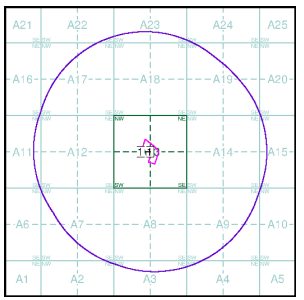
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

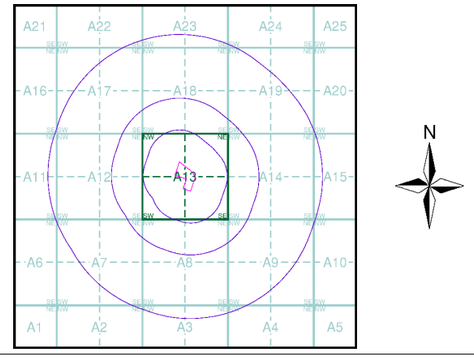
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

curtins

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894	5
Lancashire And Furness	1:10,560	1909 - 1910	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1931 - 1933	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1966 - 1968	11
Ordnance Survey Plan	1:10,000	1972 - 1979	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1980 - 1986	14
Ordnance Survey Plan	1:10,000	1985 - 1987	15
Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1990 - 1994	17
10K Raster Mapping	1:10,000	1999	18
10K Raster Mapping	1:10,000	2006	19
VectorMap Local	1:10,000	2021	20

Historical Map - Slice A



Order Details

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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Fireproof Building
- Prominent Fireproof Building
- Non-fireproof Building
- Non-fireproof Building (non-dwelling)
- Factory, mill, and flour mill, with chimneys
- Factory, mill, and flour mill, without chimneys
- Power Station, drawn to scale
- Hydroelectric Power Station
- Radio Station, drawn to scale
- Telephone Station, drawn to scale
- Abandoned Open-pit Mine or Quarry
- Open-pit Salt Mine
- Pit
- Oil Deposit or Well
- Oil Seepage
- Tailings Pile
- Fuel Storage Tanks
- Natural Gas Tank
- Bench Mark
- Drill Hole
- Burial Mound
- Triangulation Point on Burial Mound
- Single-track Railroad
- Double-track Railroad and Station Building
- Coniferous Forest
- Deciduous Forest
- Mixed Forest
- Lawns
- Citrus Orchard
- Wet Ground
- Scattered Vegetation

243,8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0,2 Velocity of the current, width of river bed, depth of river

Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	ъ (–)
Д д (D)	Л л (L)	У у (U)	ы (Y)
Е е (E)	М м (M)	Ф ф (F)	ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Partly Demolished Buildings
- Demolished Buildings
- Built-Up Area with Fireproof Buildings Predominant
- Built-Up Area with Non-Fireproof Buildings Predominant
- Individual Fireproof Building
- Prominent Industrial Building
- Individual Dwelling, Fireproof
- Ruins of an Individual Dwelling
- Factory or Mill Chimney
- Factory or Mill with Chimney
- Factory or Mill without Chimney
- Mine or Open Pit Mine
- Operating Shaft or Mine
- Non-Operating Shaft or Mine
- Salt Mine
- Tailings Pile
- Pit
- Stone Quarry
- Gas Pump or Service Station
- Fuel Storage or Natural Gas Tank
- Oil or Natural Gas Derrick
- Small Hydroelectric Power Station
- Power Station
- Transformer Station
- Cemetery
- Burial Mound (height in metres)
- Triangulation Point on Burial Mound
- Triangulation Point
- Bench Mark
- Bench Mark (monumented)
- Telegraph Office
- Telephone Station
- Radio Station
- Radio Tower
- Airfield or Seaplane Base
- Landing Strip
- Main Highway
- Highway under Construction
- Improved Dirt Road (former truck road)
- Double-track Railroad with First Class Station
- Dismantled Railroad
- Railroad Under Construction
- Shore Embankment
- River or Ditch with Embankment
- Well
- Water Reservoir or Rain Water Pit
- Spring
- Isobath with value
- Heavy (Index) Contour Line
- Contour Line and Value
- Half Contour Line
- Spot Elevation Value
- Coniferous
- Deciduous
- Mixed
- Scrub

Key to Numbers on Mapping

SD80_Manchester

No.	Description
18	Depot (Bus)
212	Printing House

SJ89_Manchester

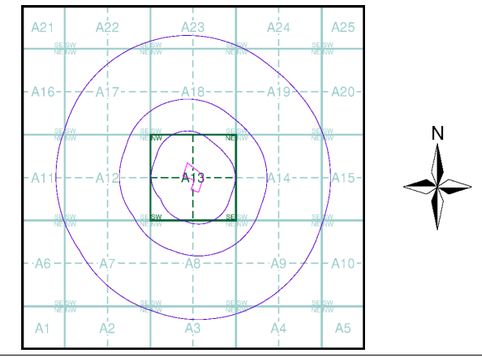
No.	Description
63	Factory (Gas)
93	Factory (Metal Works)
157	Police Station/Headquarters
211	Council/Government Buildings/Courts
216	Prison
248	Power Station (Electric)

curtins

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894	5
Lancashire And Furness	1:10,560	1909 - 1910	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1931 - 1933	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
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Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1990 - 1994	17
10K Raster Mapping	1:10,000	1999	18
10K Raster Mapping	1:10,000	2006	19
VectorMap Local	1:10,000	2021	20

Russian Map - Slice A



Order Details

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Lancashire And Furness

Published 1848

Source map scale - 1:10,560

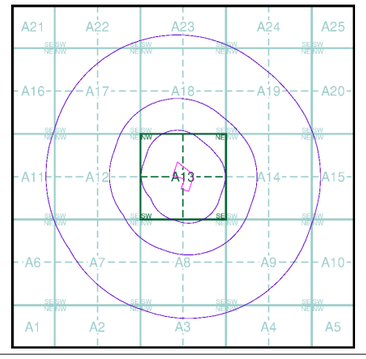
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

09600
1848
1:10,560

10400
1848
1:10,560

Historical Map - Slice A



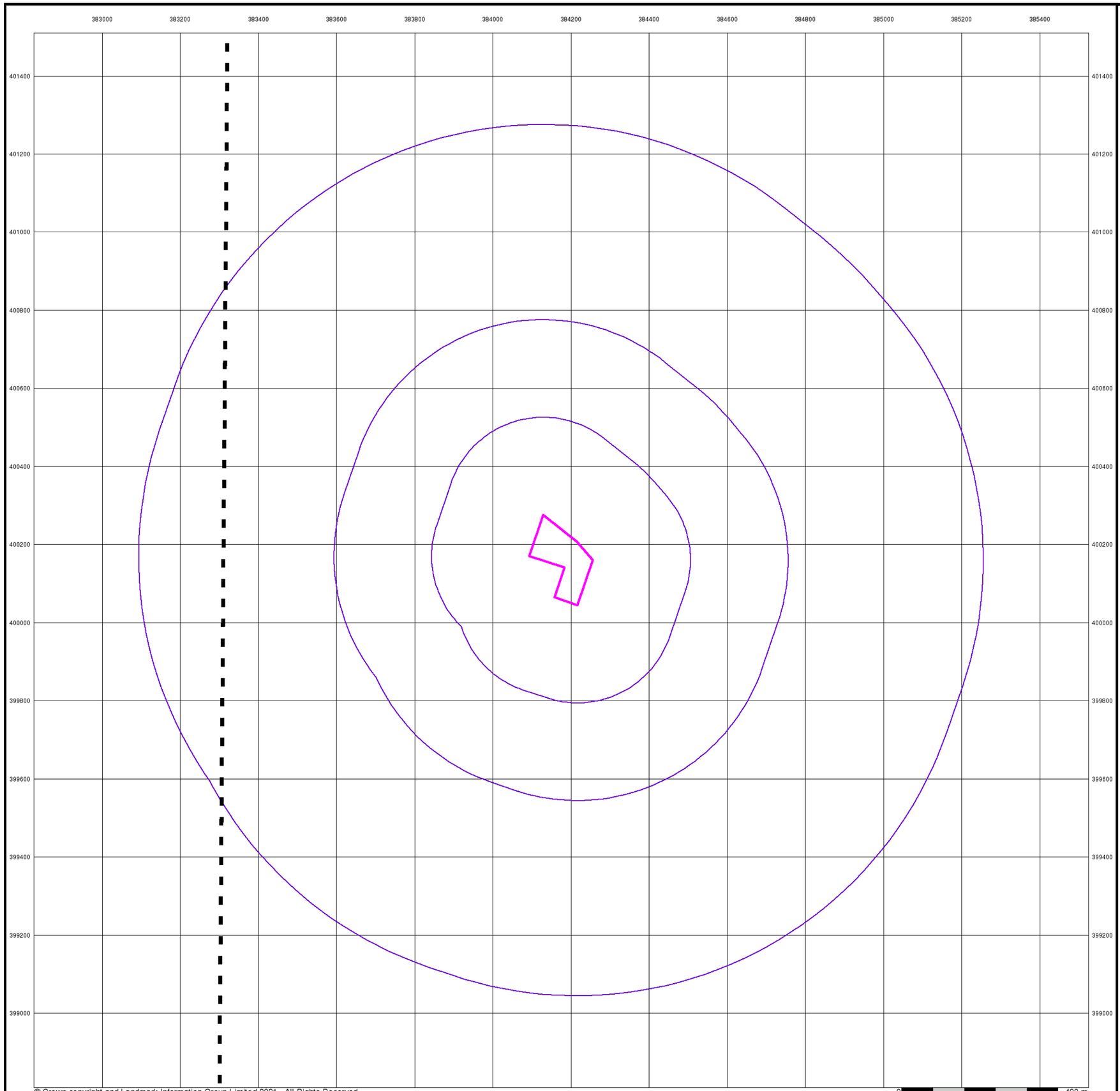
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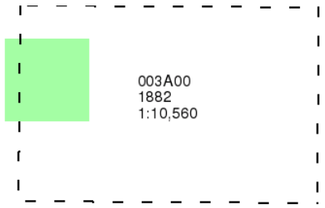
Cheshire

Published 1882

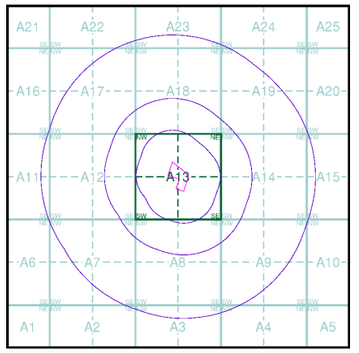
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

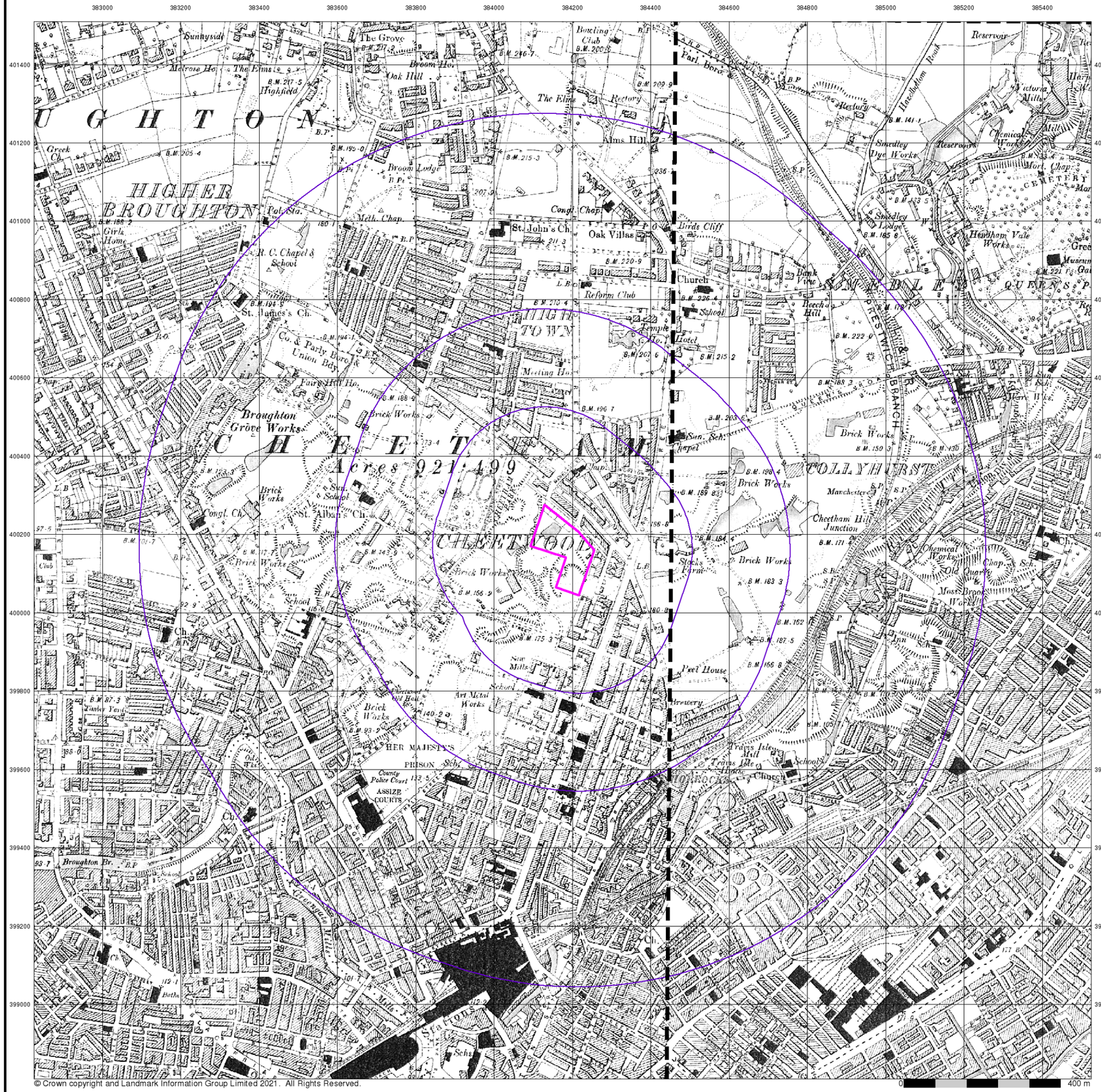
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0 400 m

curtins

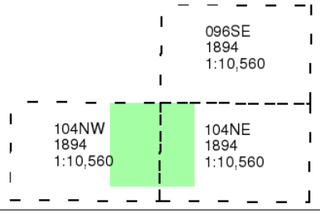
Lancashire And Furness

Published 1894

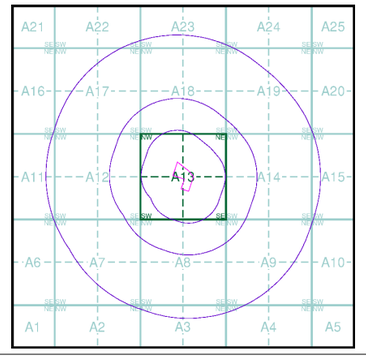
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

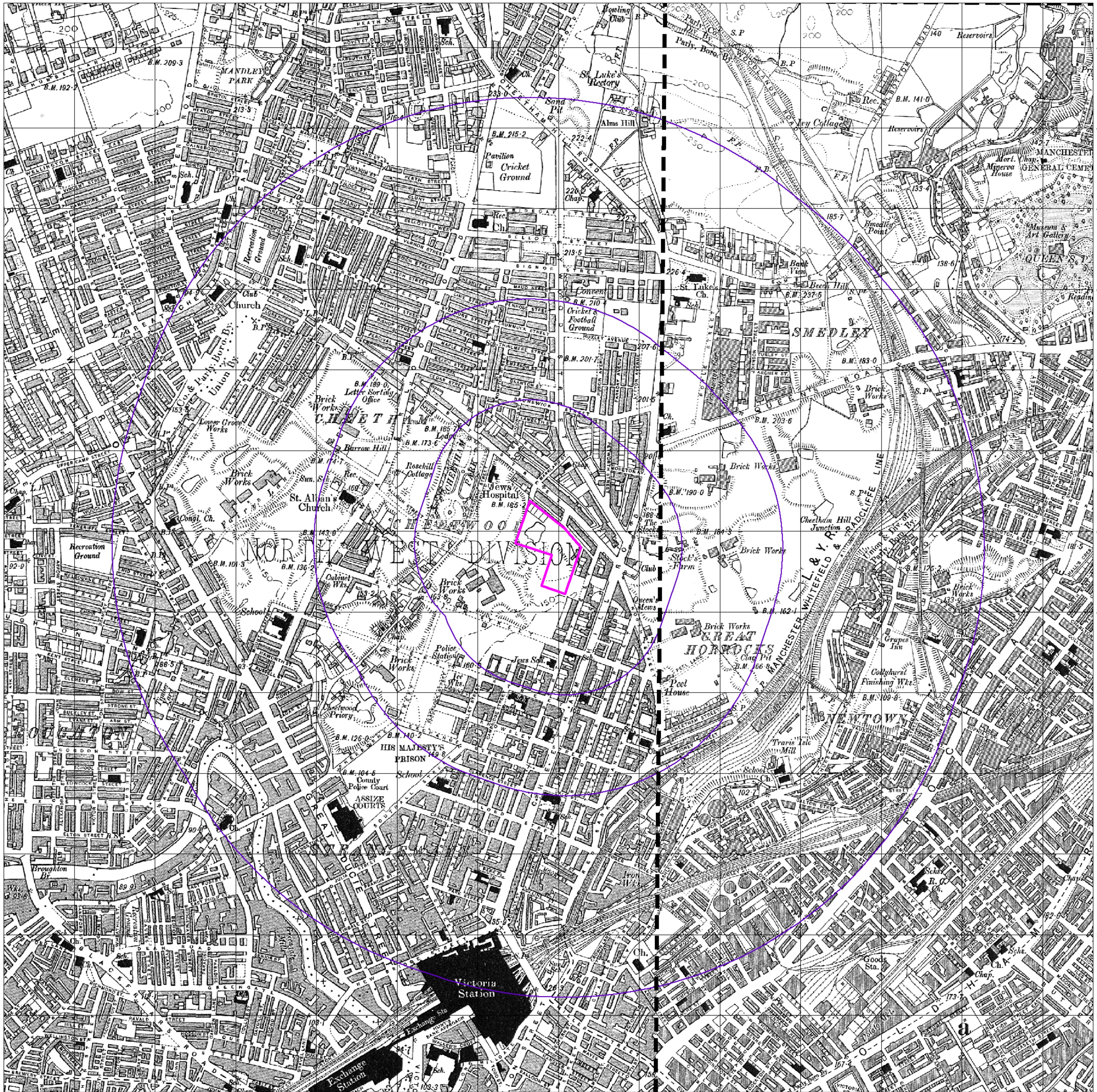
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Search Buffer (m):	1000

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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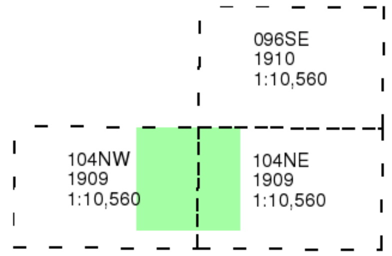
Lancashire And Furness

Published 1909 - 1910

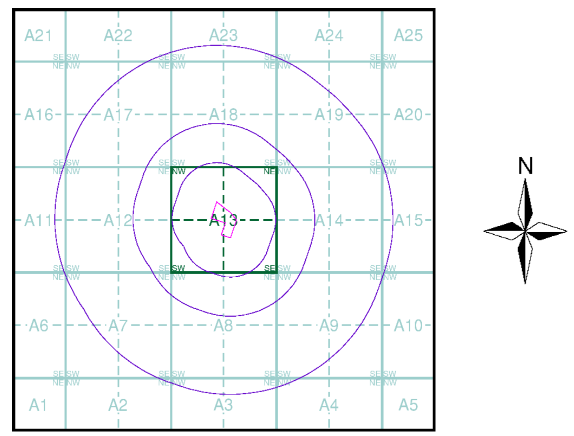
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

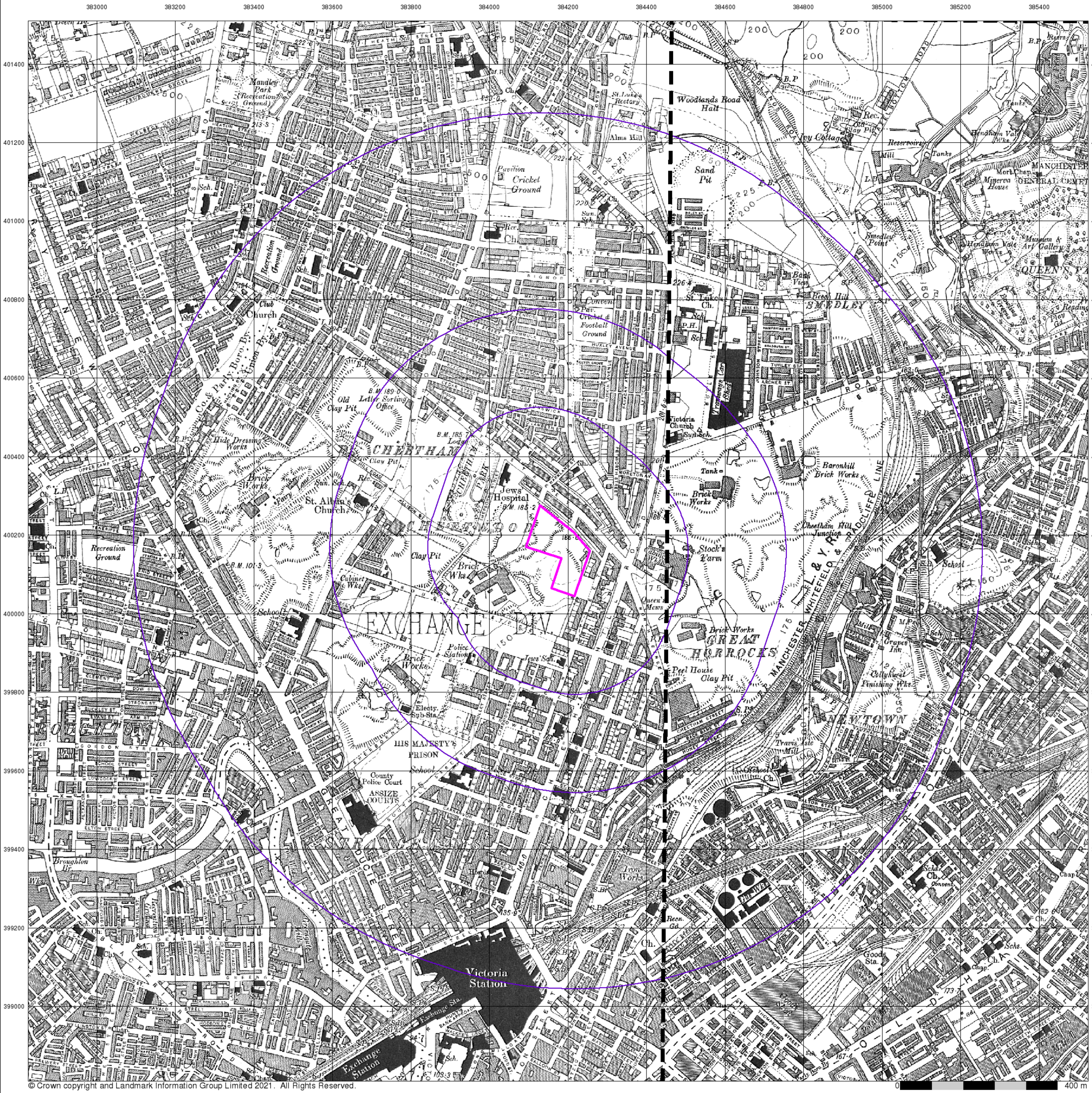


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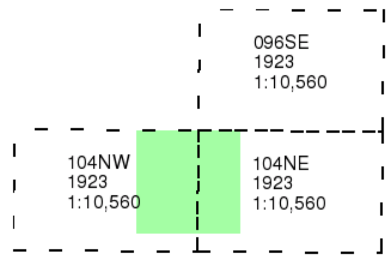
Lancashire And Furness

Published 1923

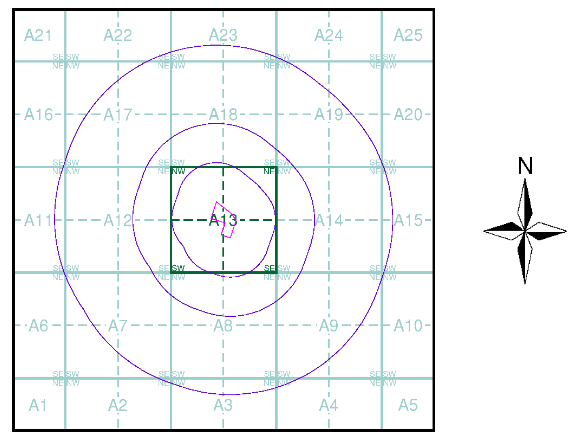
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



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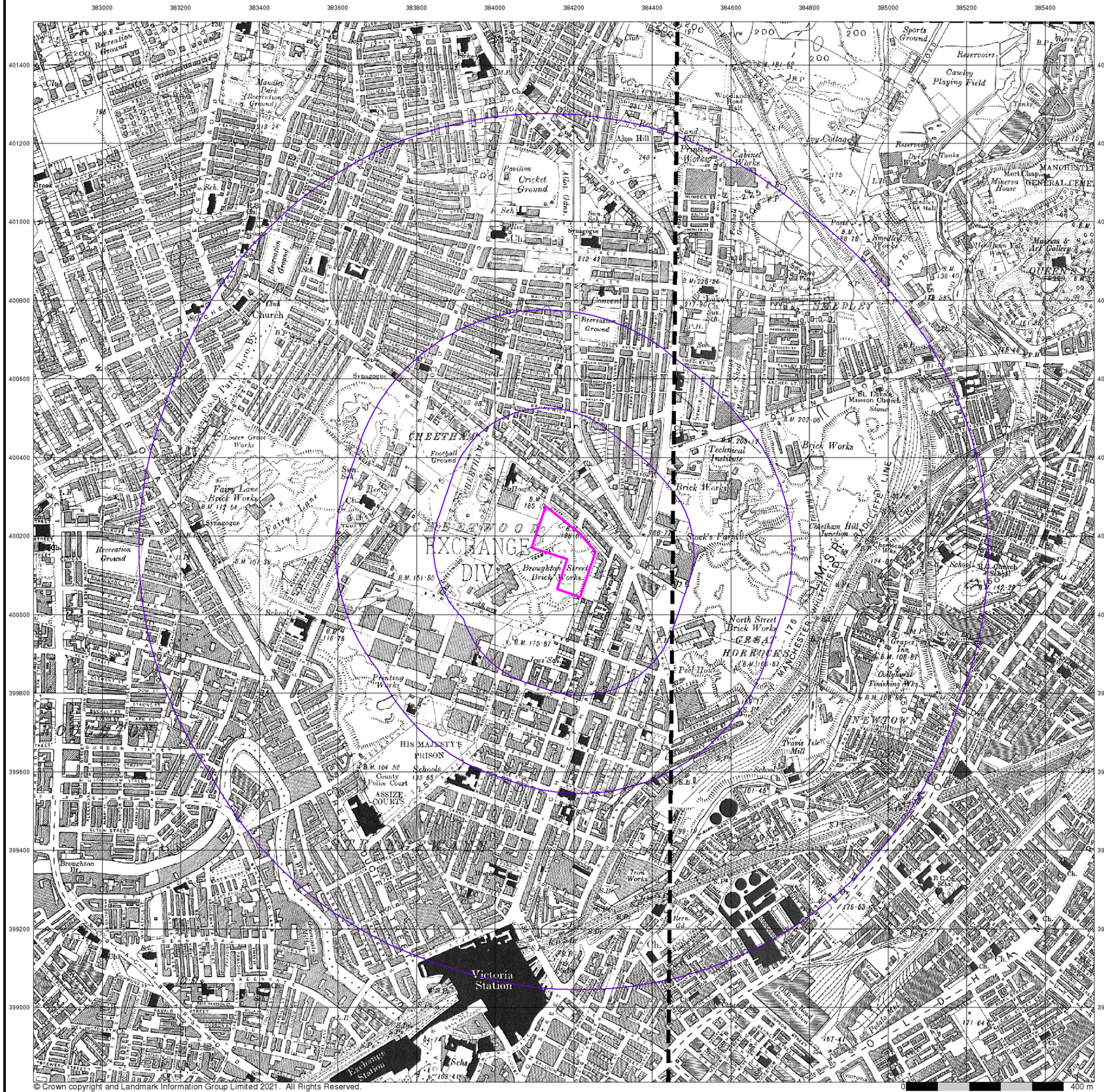
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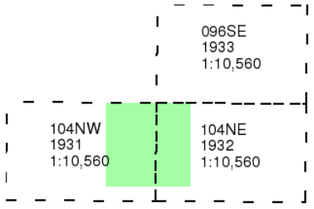
Lancashire And Furness

Published 1931 - 1933

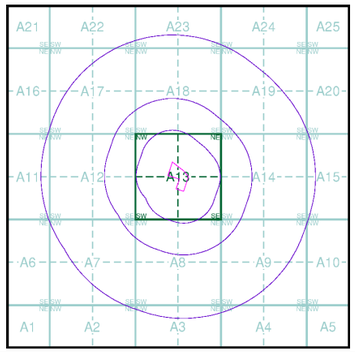
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

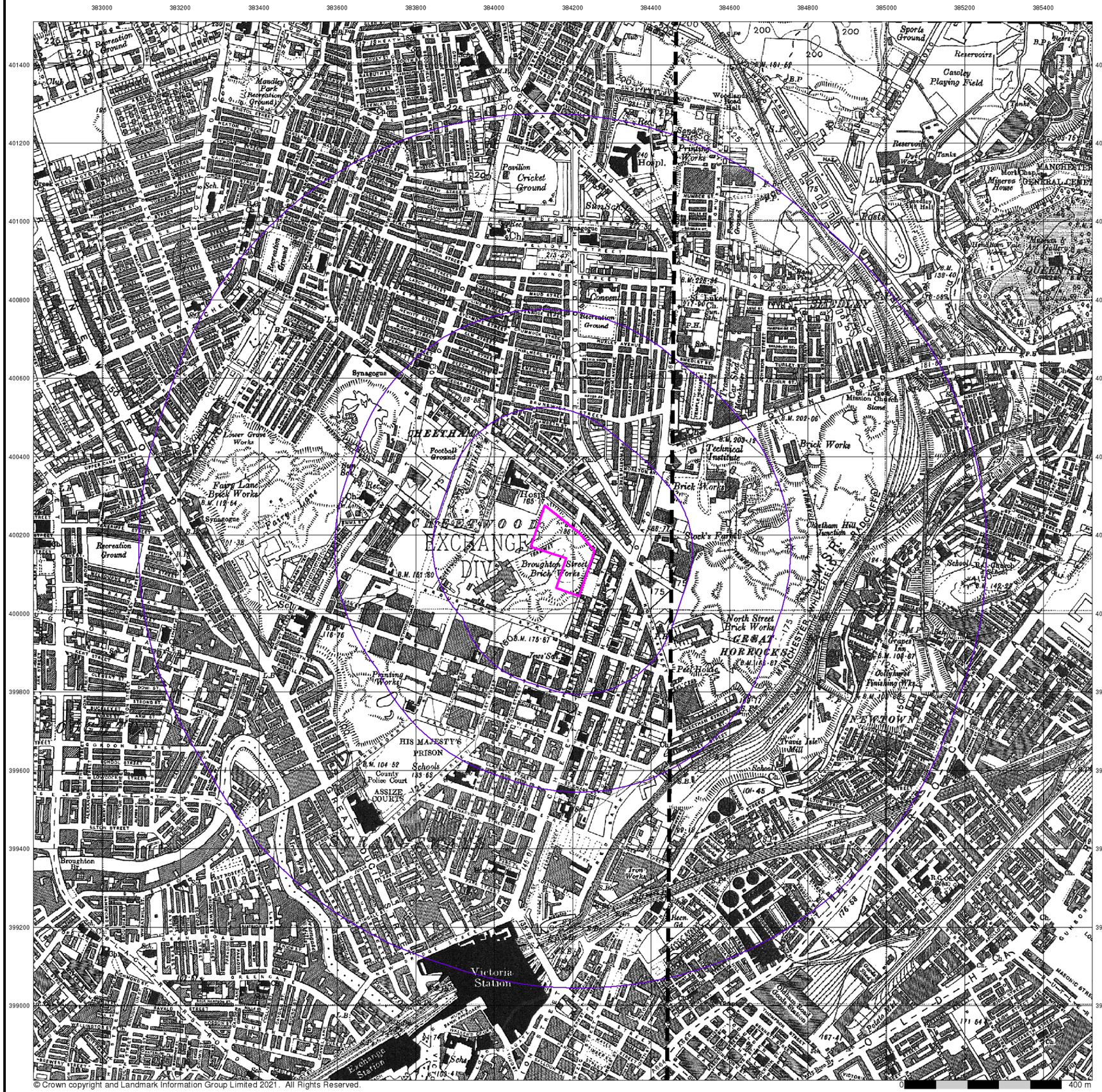
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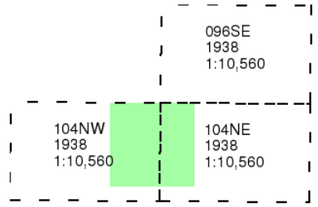
Lancashire And Furness

Published 1938

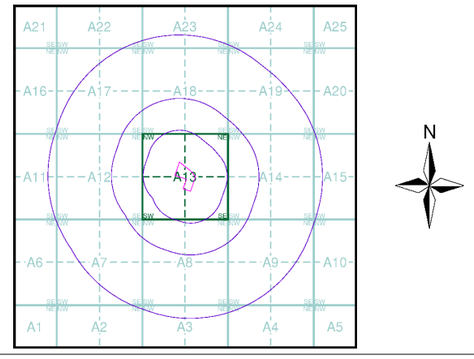
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



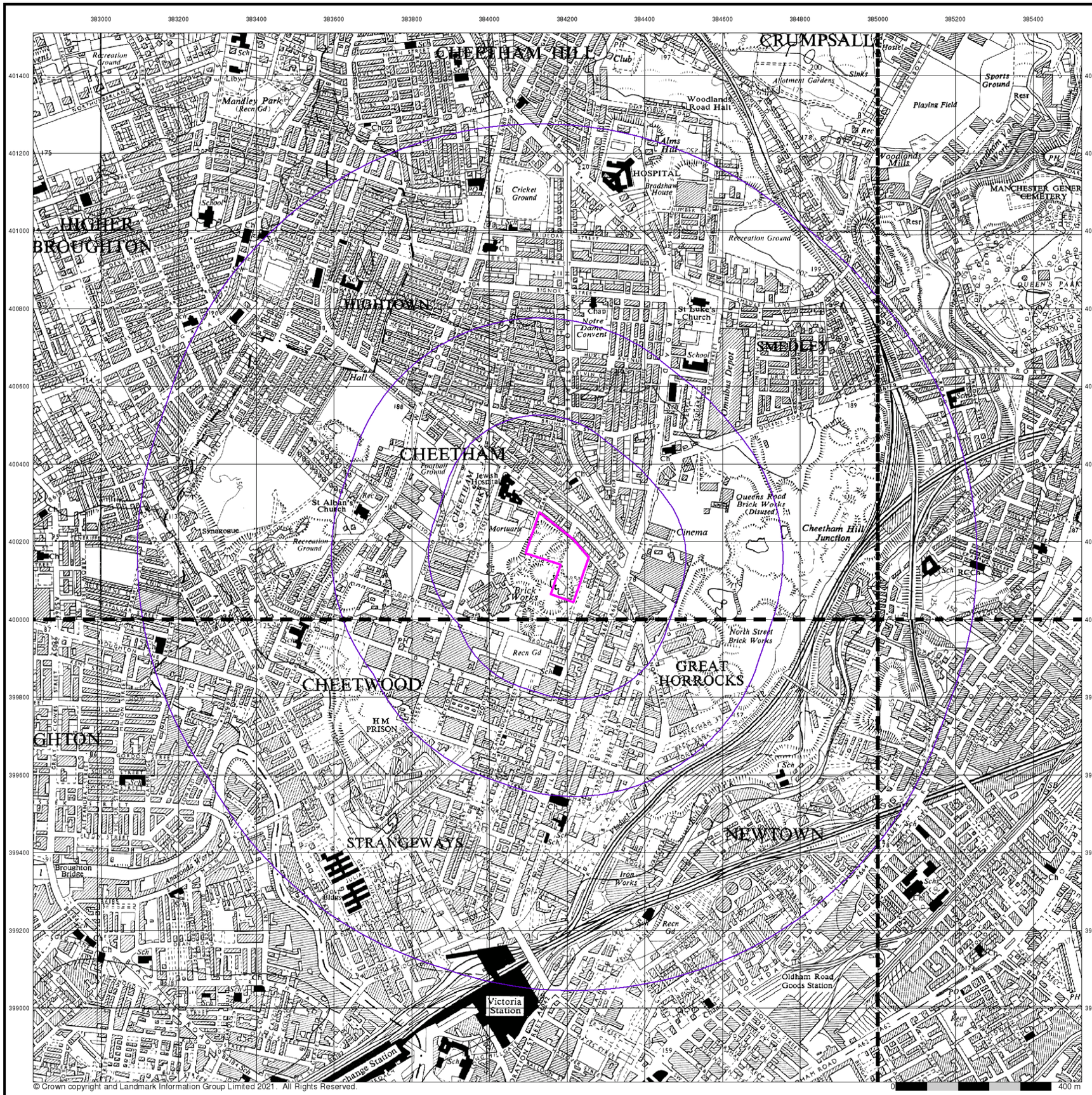
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Ordnance Survey Plan

Published 1956

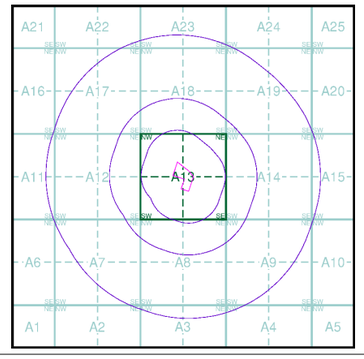
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SD80SW 1956 1:10,560	SD80SE 1956 1:10,560
SJ89NW 1956 1:10,560	SJ89NE 1956 1:10,560

Historical Map - Slice A



Order Details

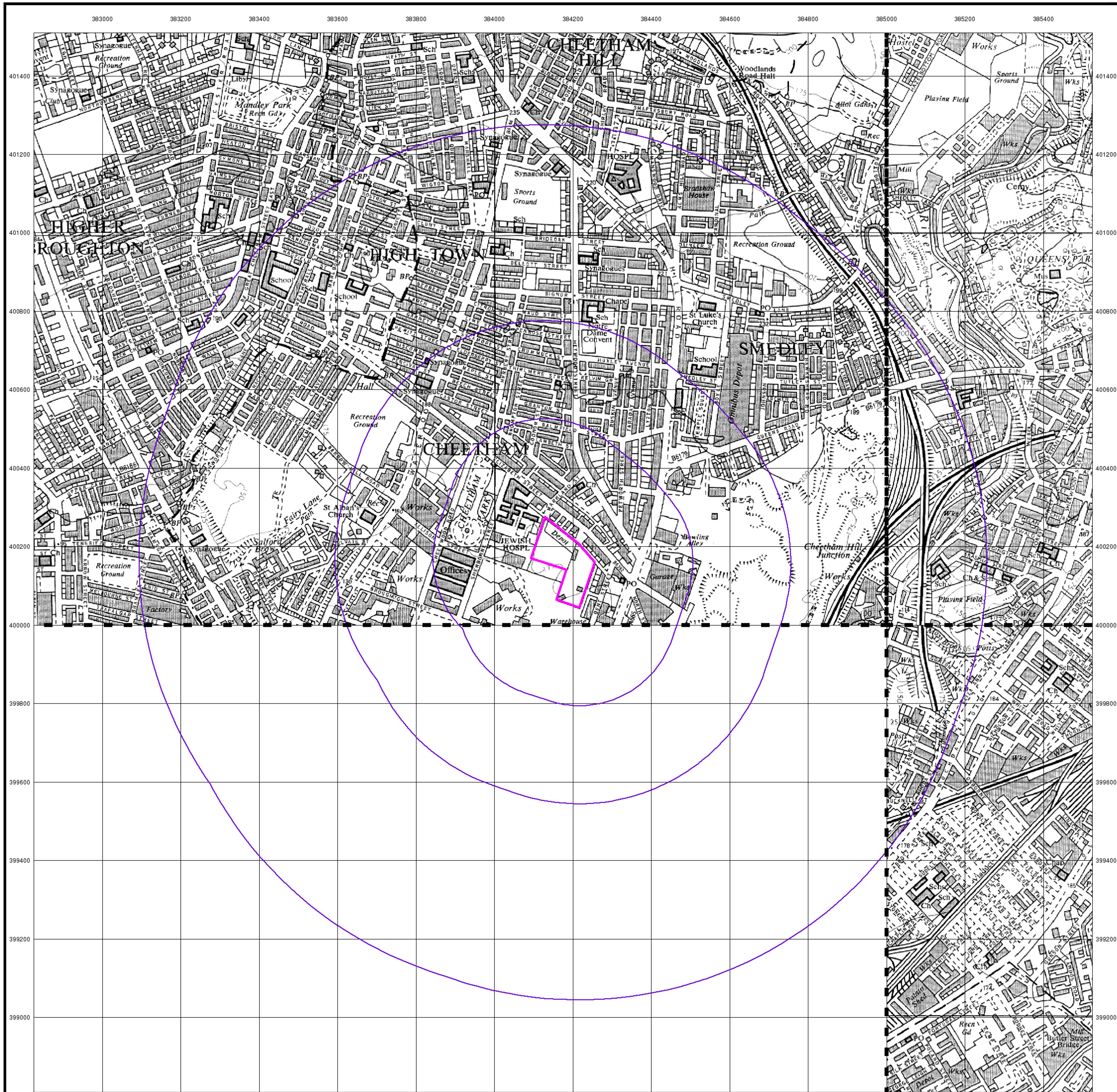
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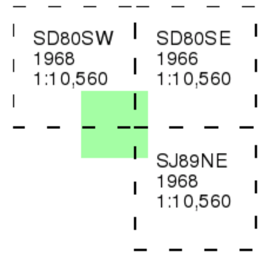
Ordnance Survey Plan

Published 1966 - 1968

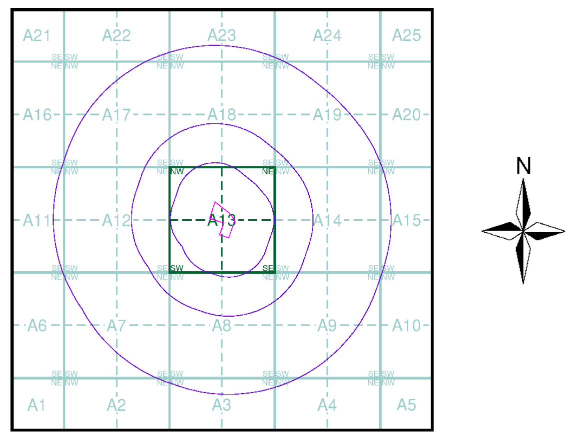
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 275906564_1_1
Customer Ref: B078695
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Ordnance Survey Plan

Published 1972 - 1979

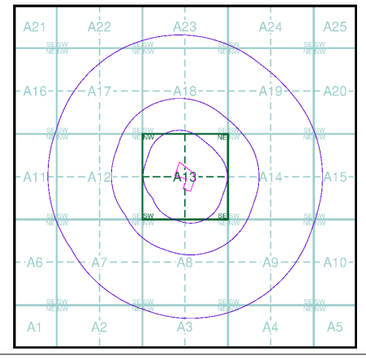
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SD80SW 1979 1:10,000
SD80SE 1978 1:10,000
SJ89NW 1972 1:10,000

Historical Map - Slice A



Order Details

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Manchester

Published 1975

Source map scale - 1:25,000

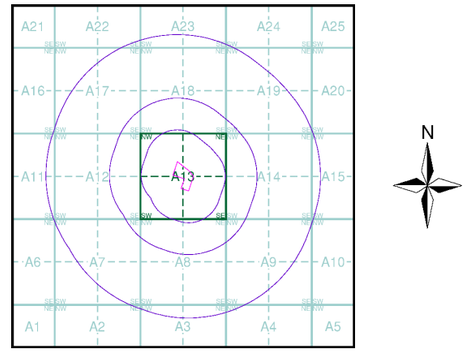
These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use.
They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)

SD80
1975
1:25,000

SJ89
1975
1:25,000

Russian Map - Slice A



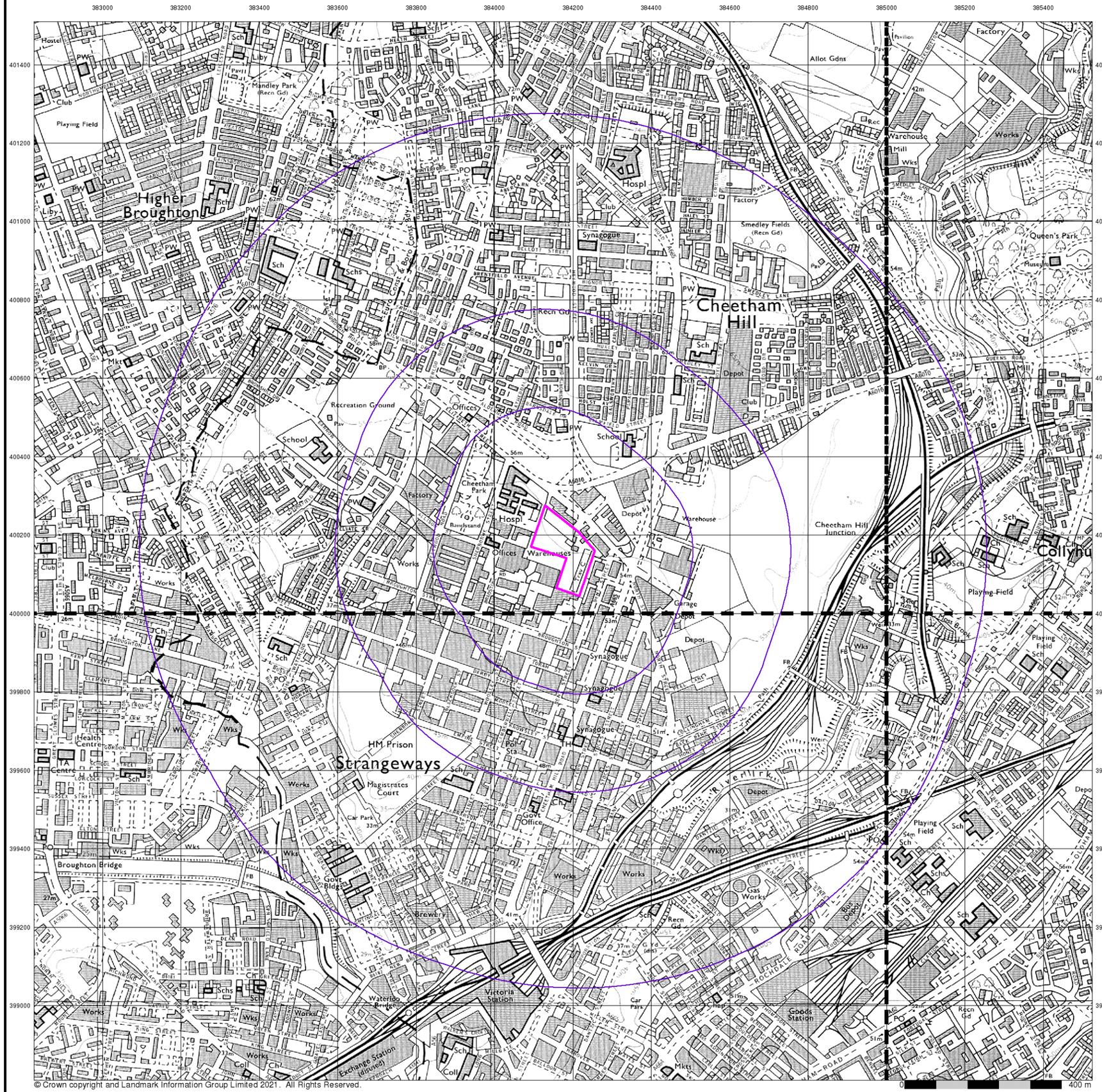
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Ordnance Survey Plan

Published 1980 - 1986

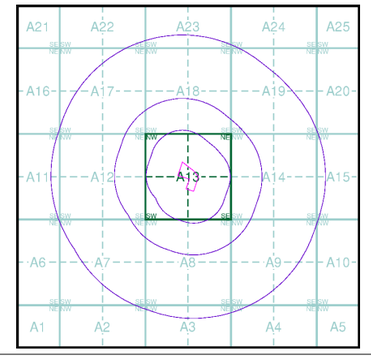
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Map Name(s) and Date(s)

SD80SW 1986 1:10,000	SD80SE 1982 1:10,000
SJ89NW 1980 1:10,000	SJ89NE 1981 1:10,000

Historical Map - Slice A



Order Details

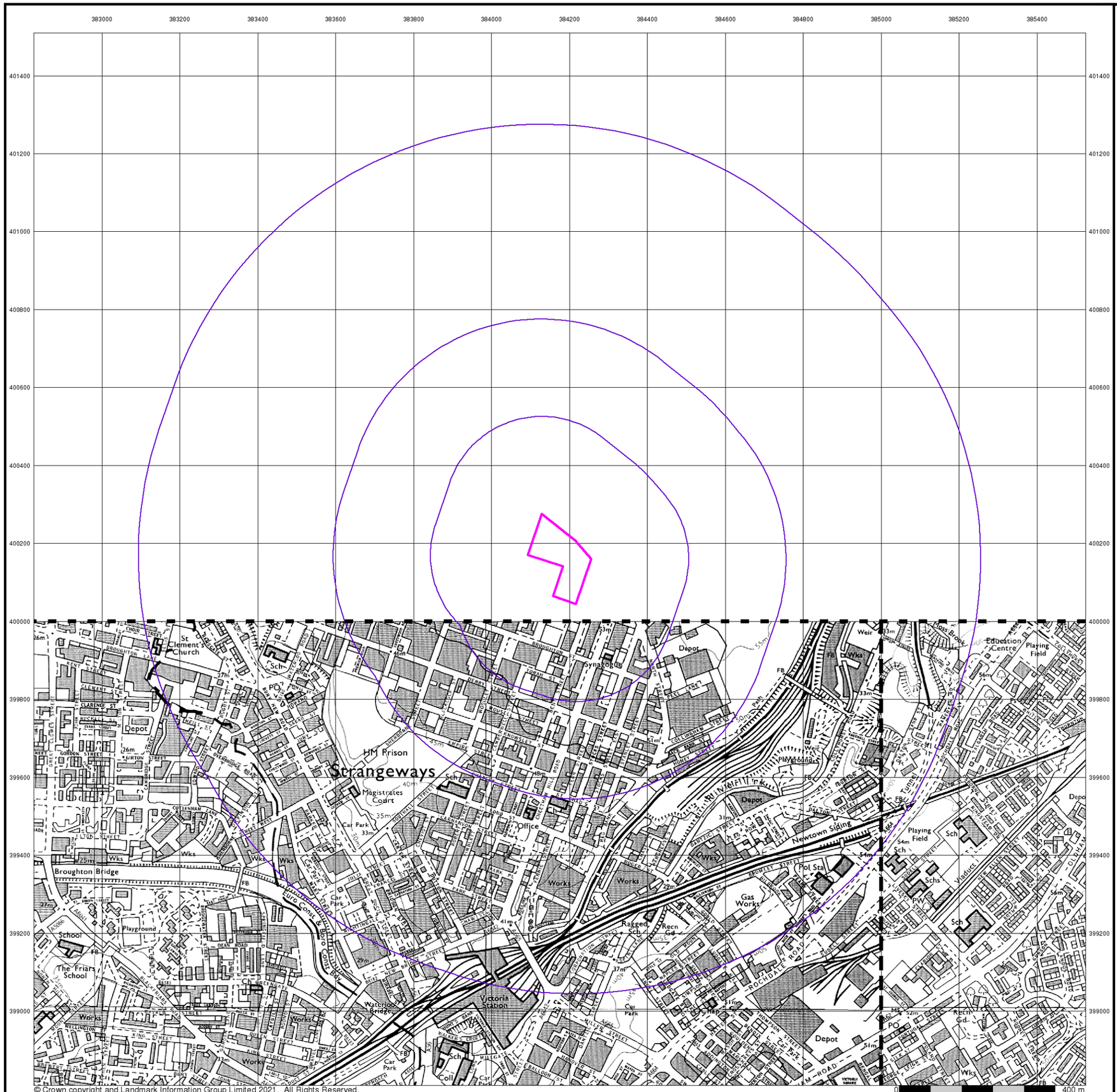
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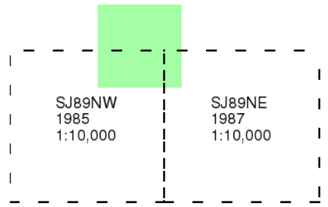
Ordnance Survey Plan

Published 1985 - 1987

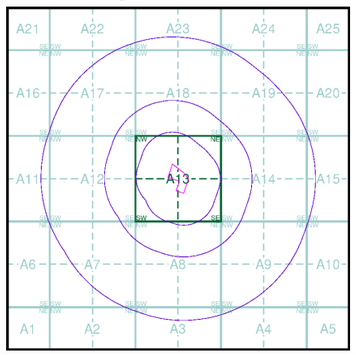
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Map Name(s) and Date(s)



Historical Map - Slice A



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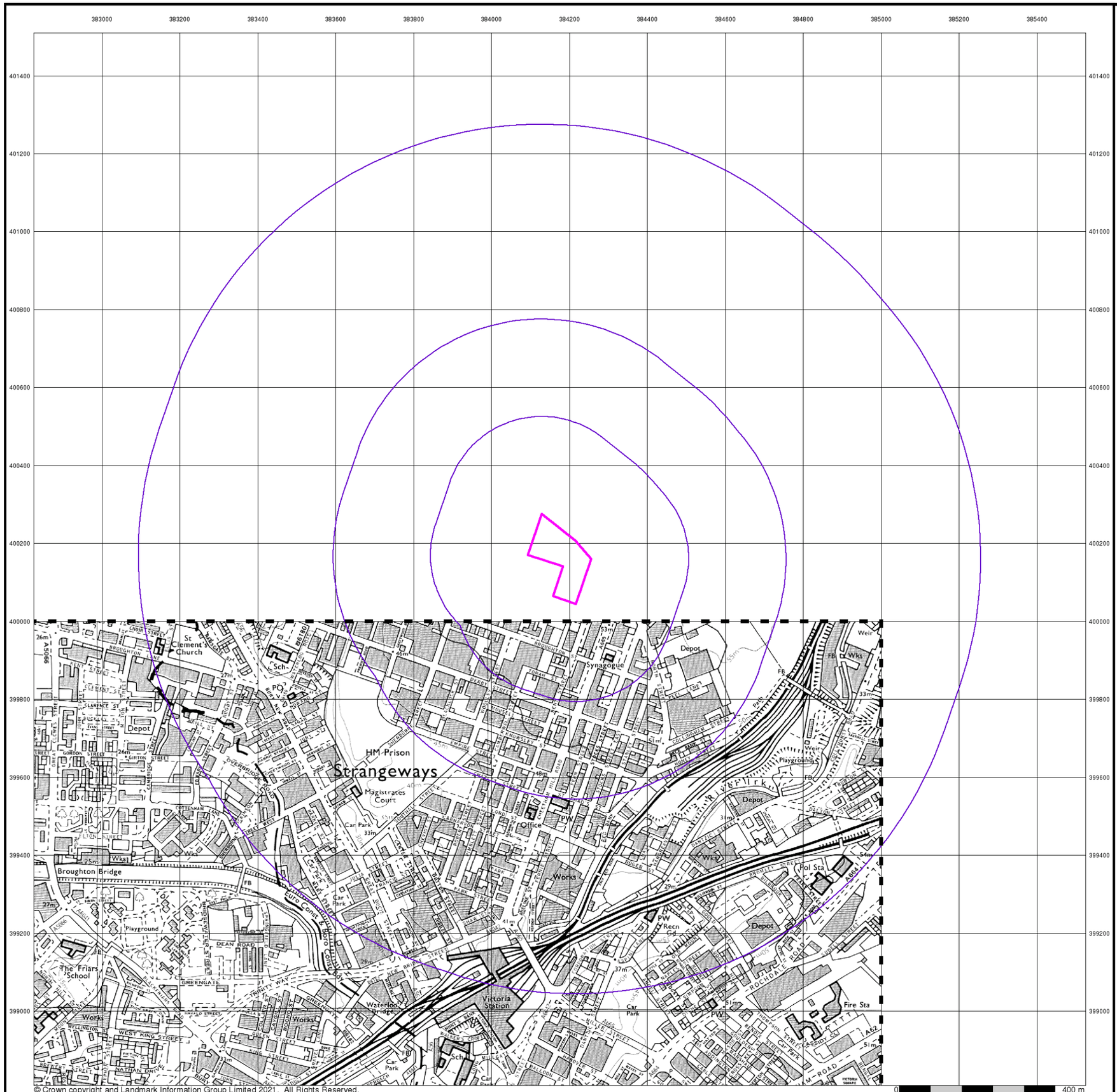
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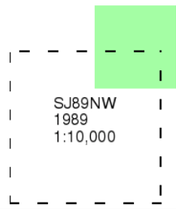
Ordnance Survey Plan

Published 1989

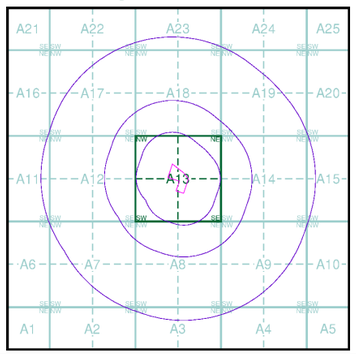
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

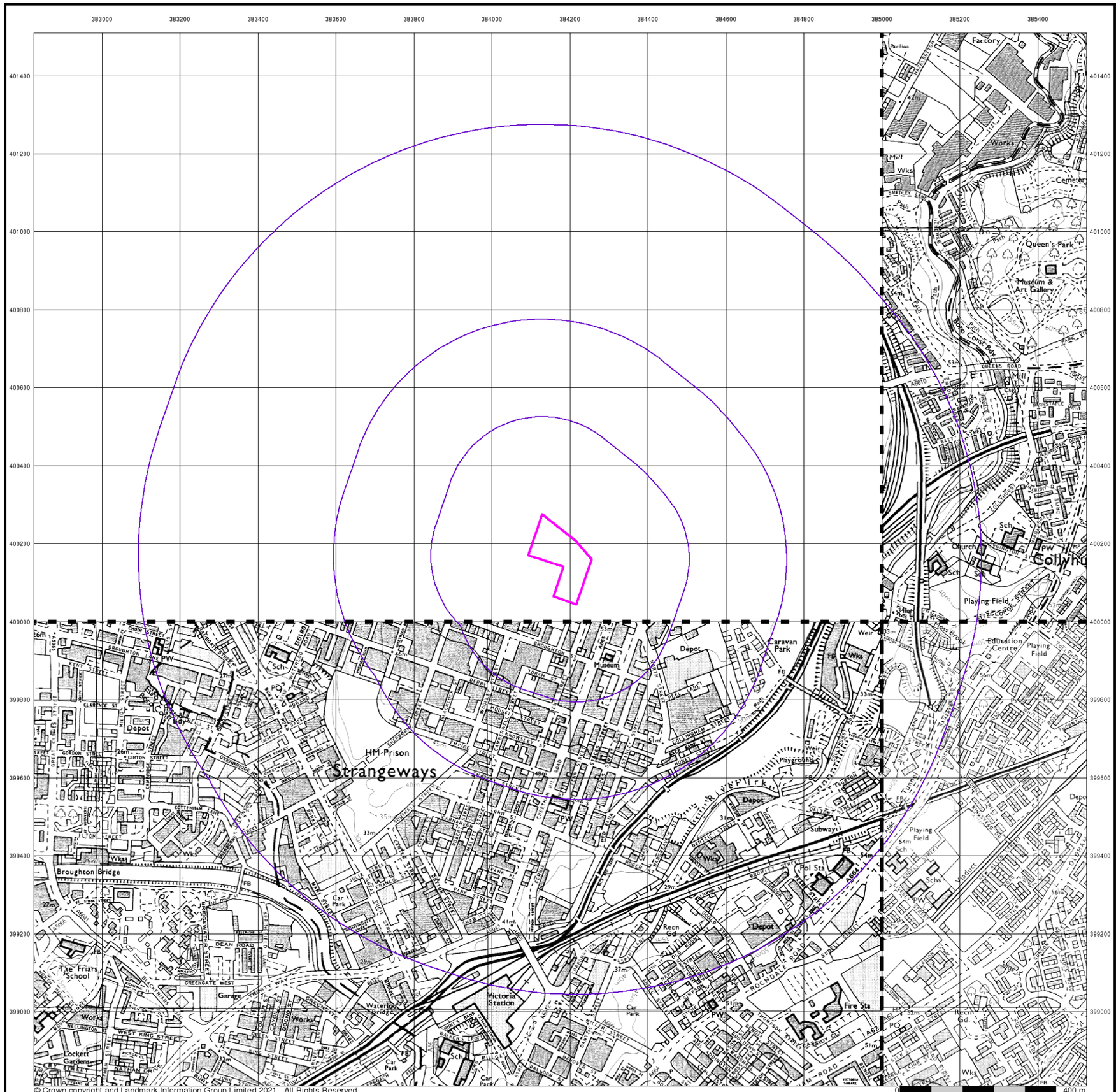
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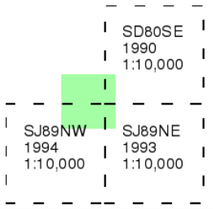
Ordnance Survey Plan

Published 1990 - 1994

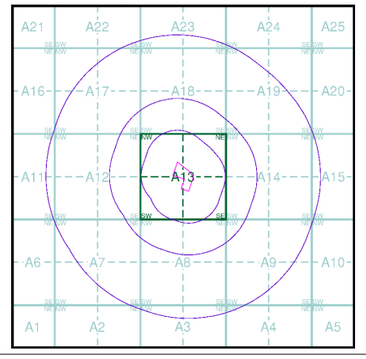
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

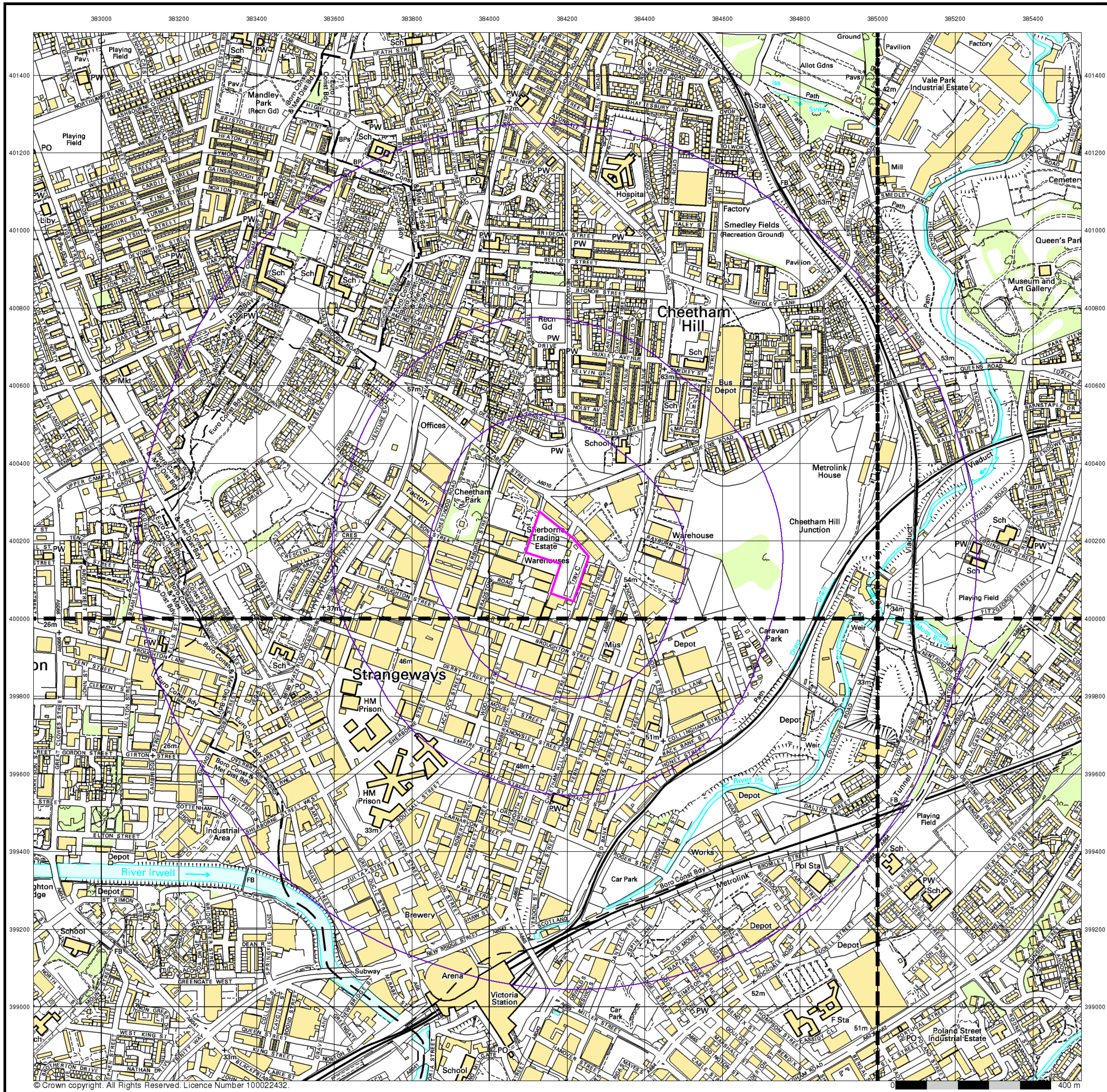
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Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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10k Raster Mapping

Published 1999

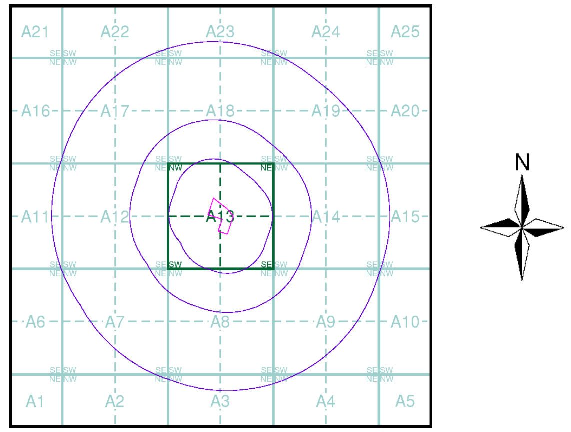
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SD80SW 1999 1:10,000	SD80SE 1999 1:10,000
SJ89NW 1999 1:10,000	SJ89NE 1999 1:10,000

Historical Map - Slice A



Order Details

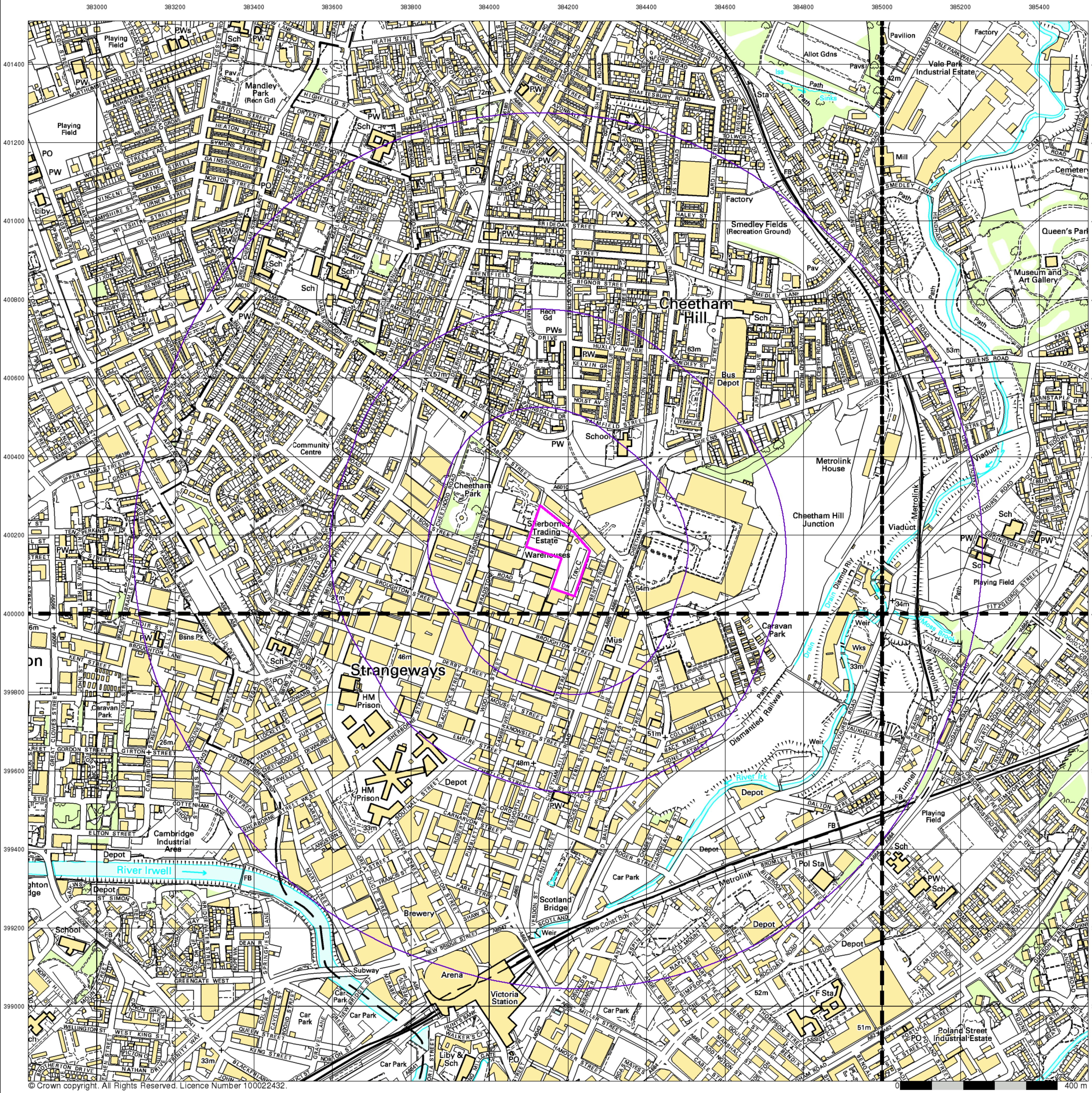
Order Number: 275906564_1_1
Customer Ref: B078695
National Grid Reference: 384170, 400160
Slice: A
Site Area (Ha): 1.77
Search Buffer (m): 1000

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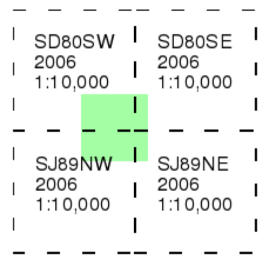
10k Raster Mapping

Published 2006

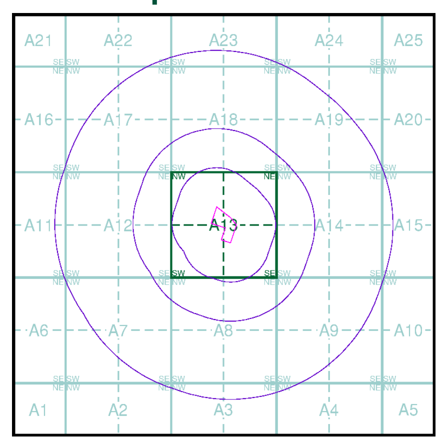
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



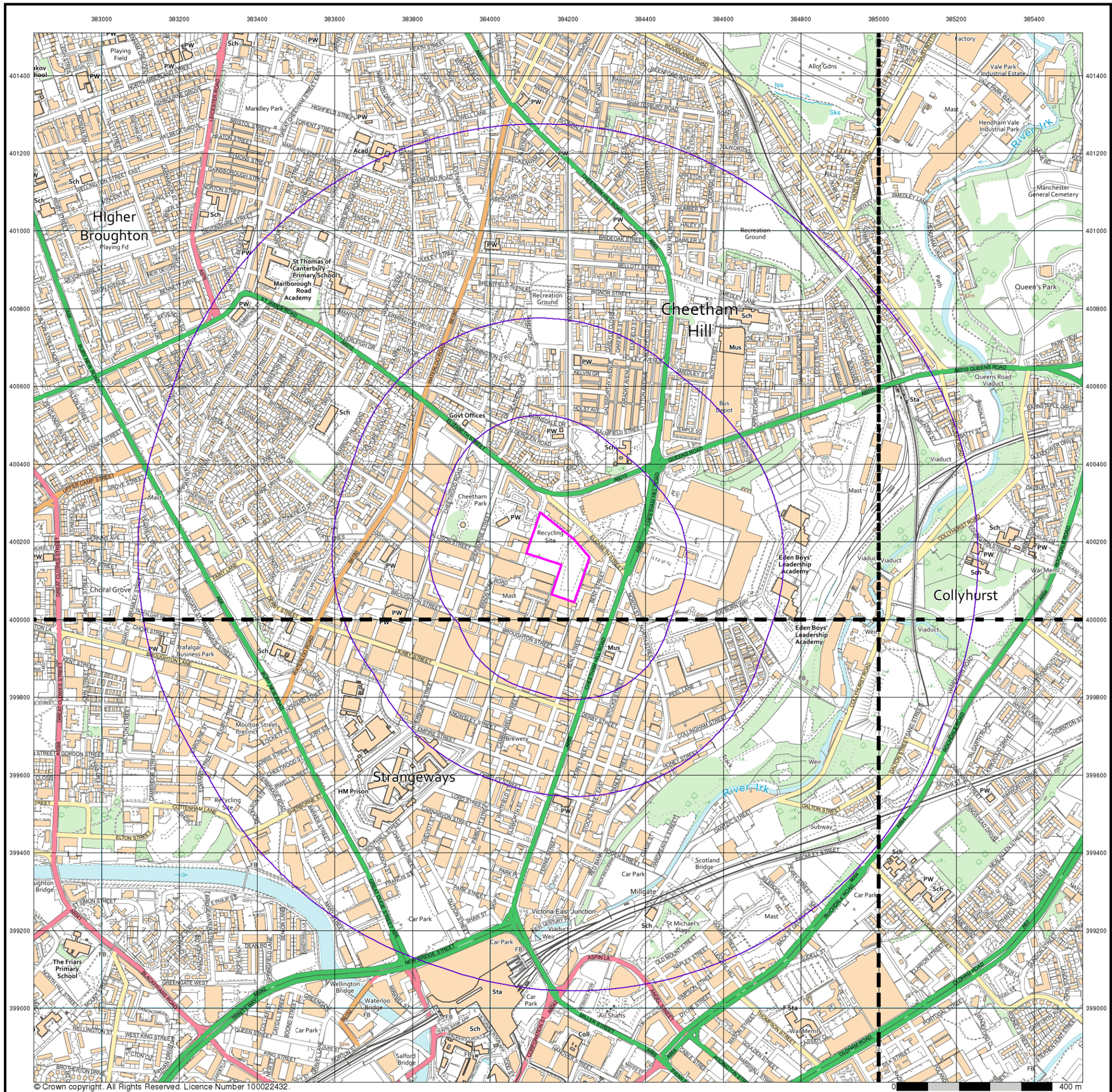
Order Details

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National Grid Reference: 384170, 400160
Slice: A
Site Area (Ha): 1.77
Search Buffer (m): 1000

Site Details

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VectorMap Local

Published 2021

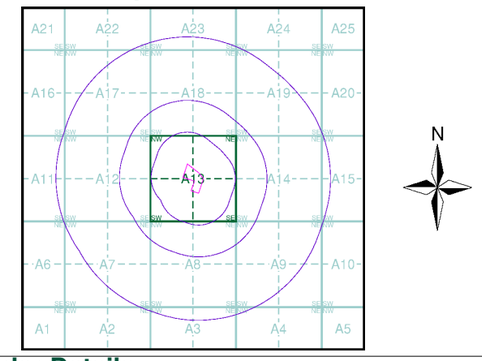
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SD80SW 2021 Variable	SD80SE 2021 Variable
SJ89NW 2021 Variable	SJ89NE 2021 Variable

Historical Map - Slice A



Order Details

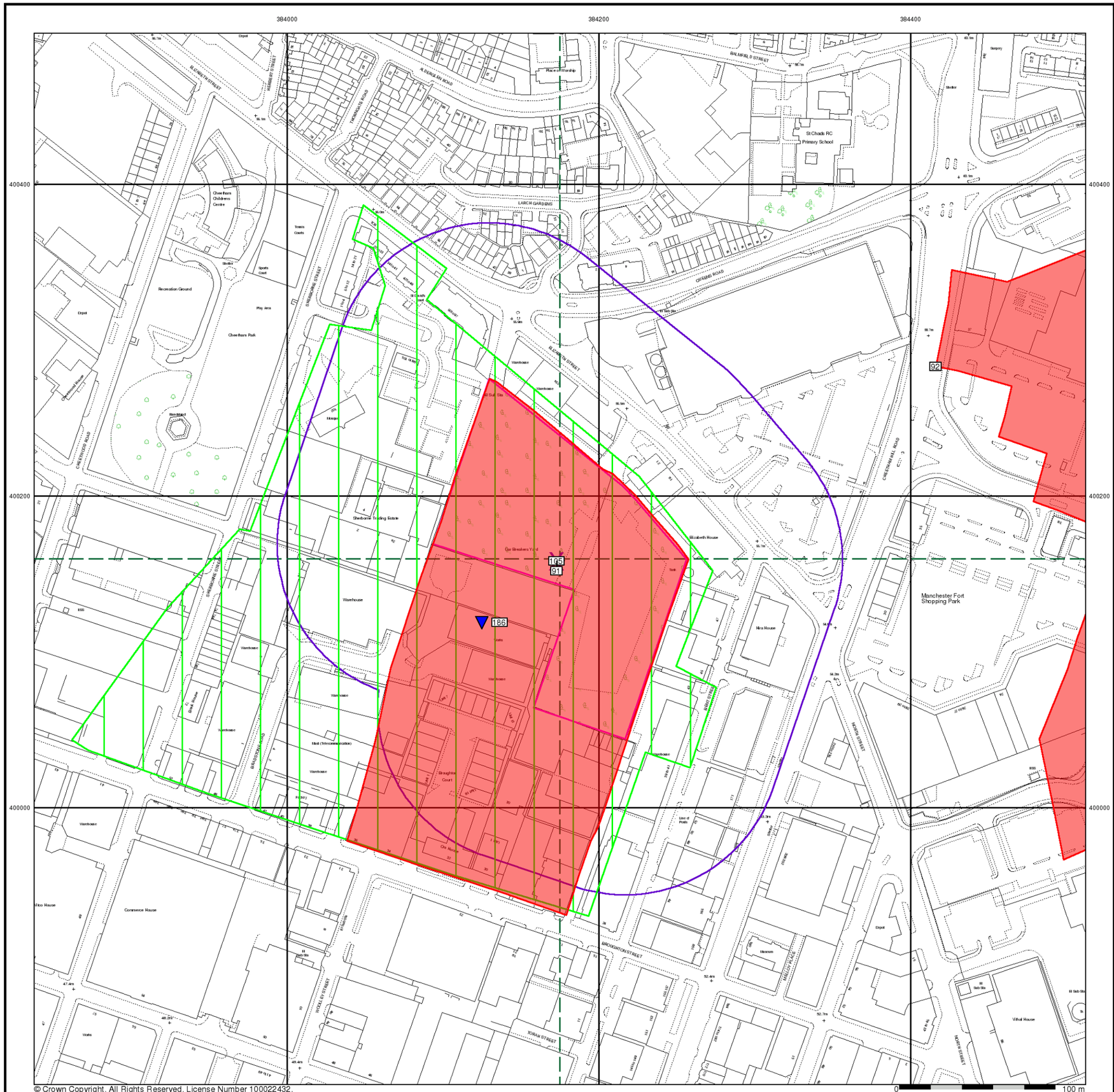
Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
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Site Area (Ha):	1.77
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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

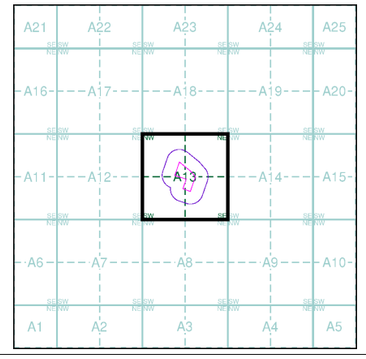
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



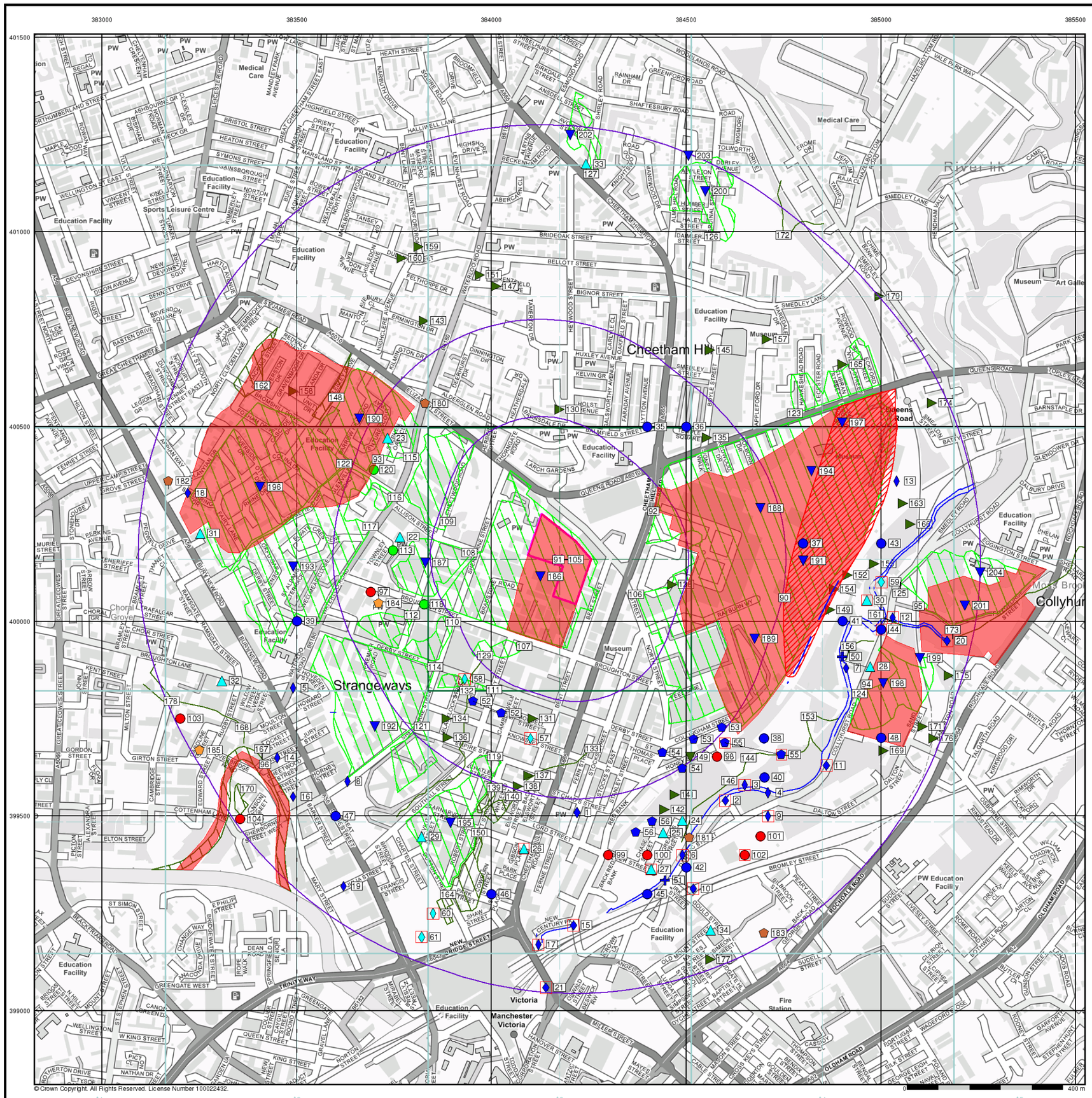
Order Details

Order Number:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Plot Buffer (m):	100

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

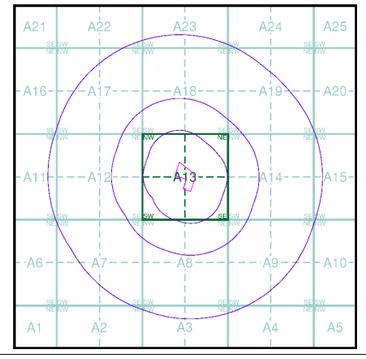
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
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- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



Order Details

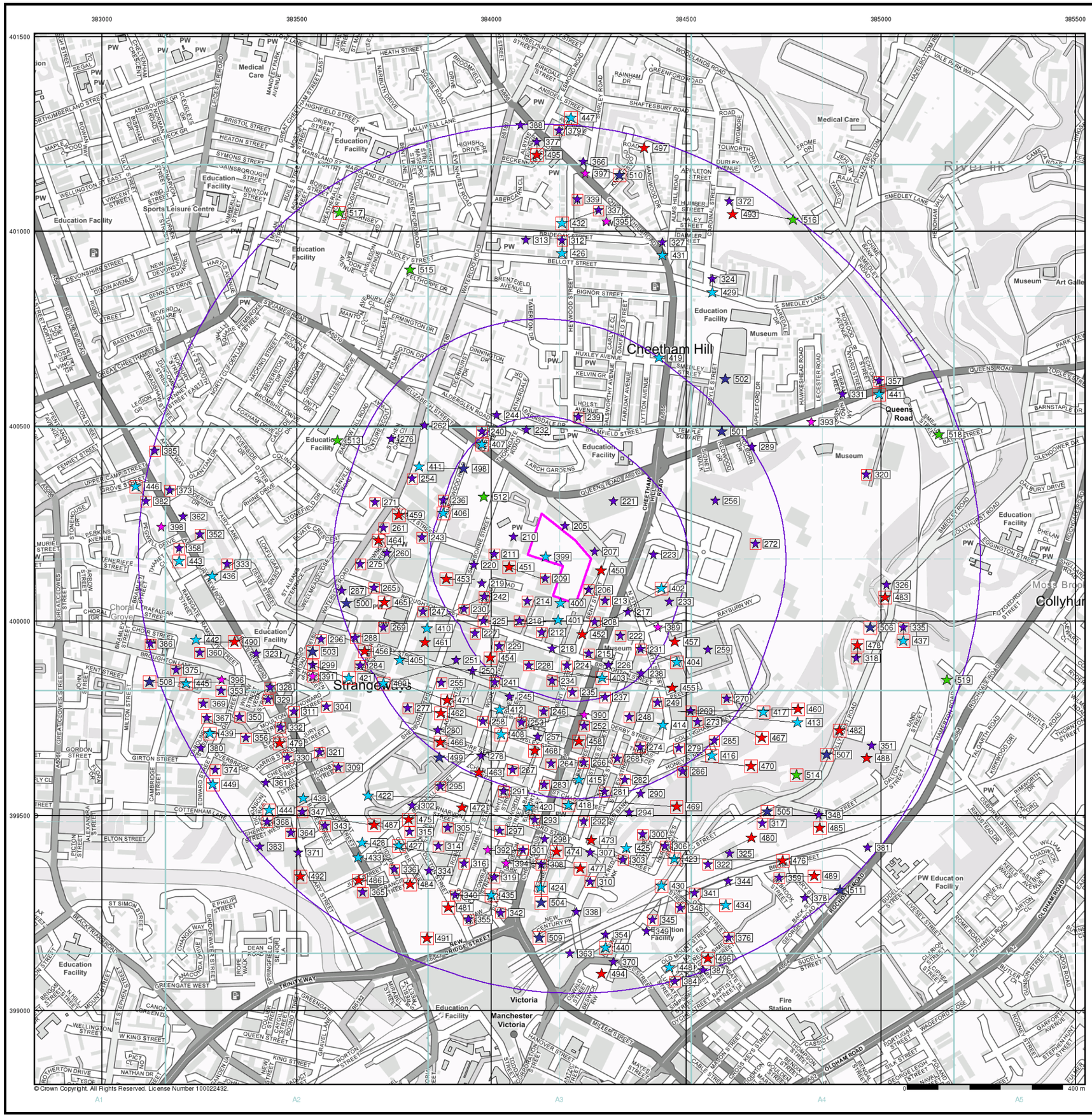
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Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

Site Details

Site off Elizabeth Street, MANCHESTER, M8 8BB

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Industrial Land Use Map

General

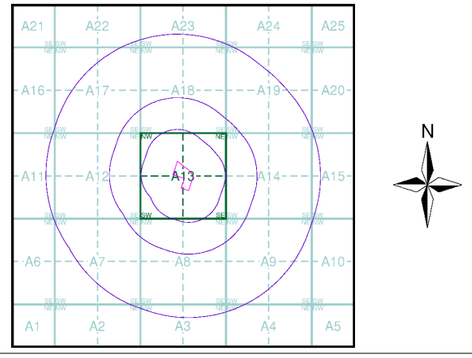
Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

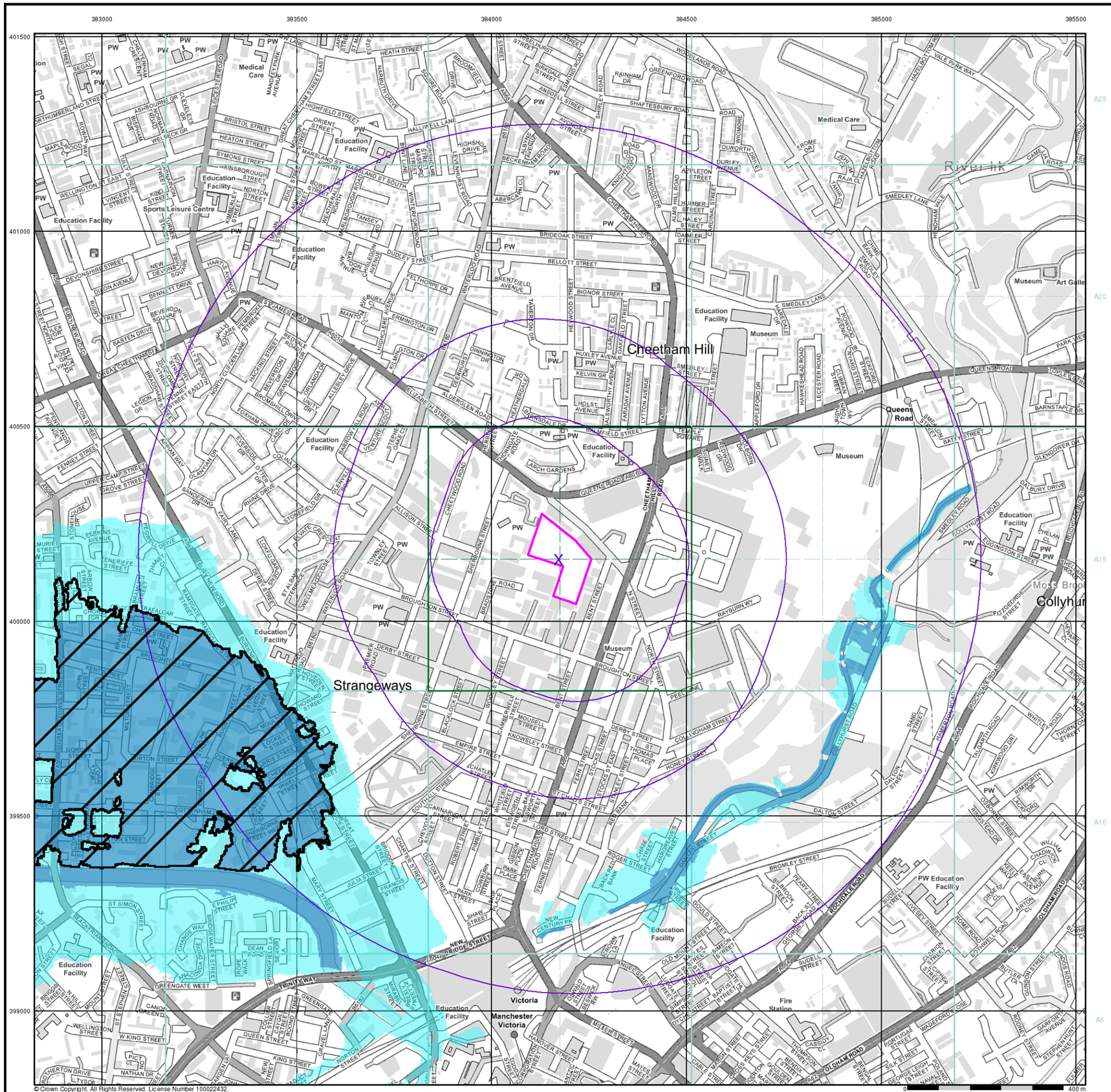
Order Number:	275906564_1_1
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National Grid Reference:	384170, 400160
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Site Area (Ha):	1.77
Search Buffer (m):	1000

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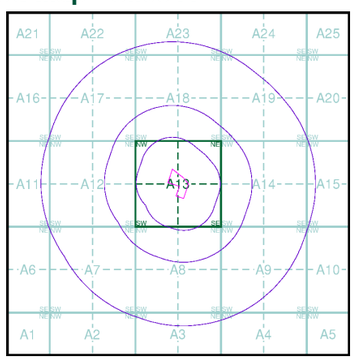
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

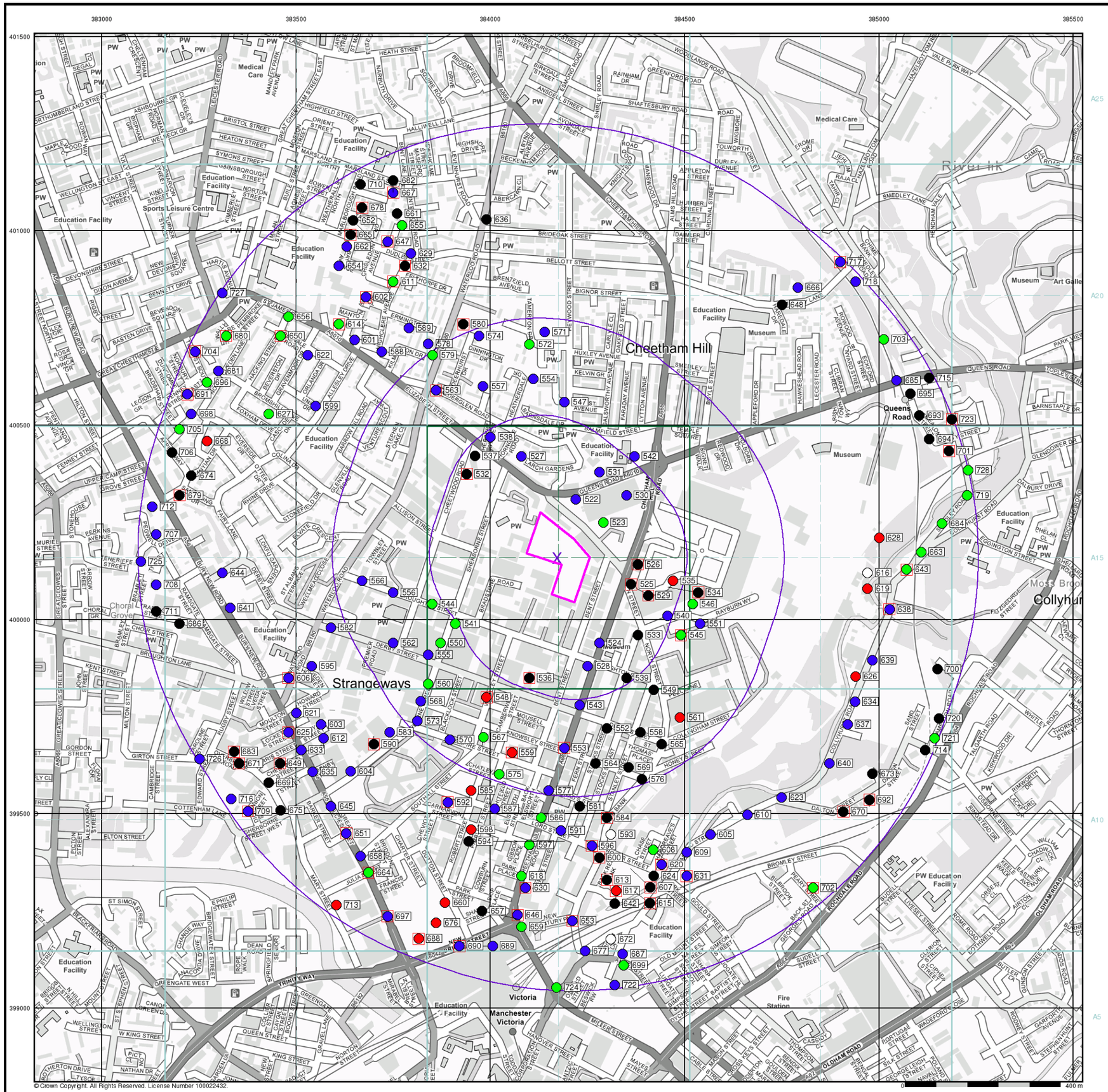
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National Grid Reference:	384170, 400160
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Site Area (Ha):	1.77
Search Buffer (m):	1000

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

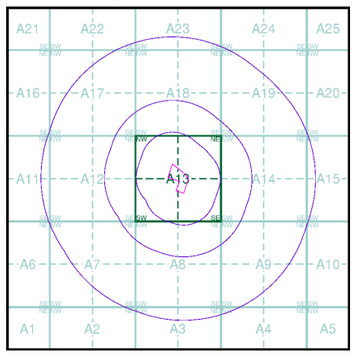
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

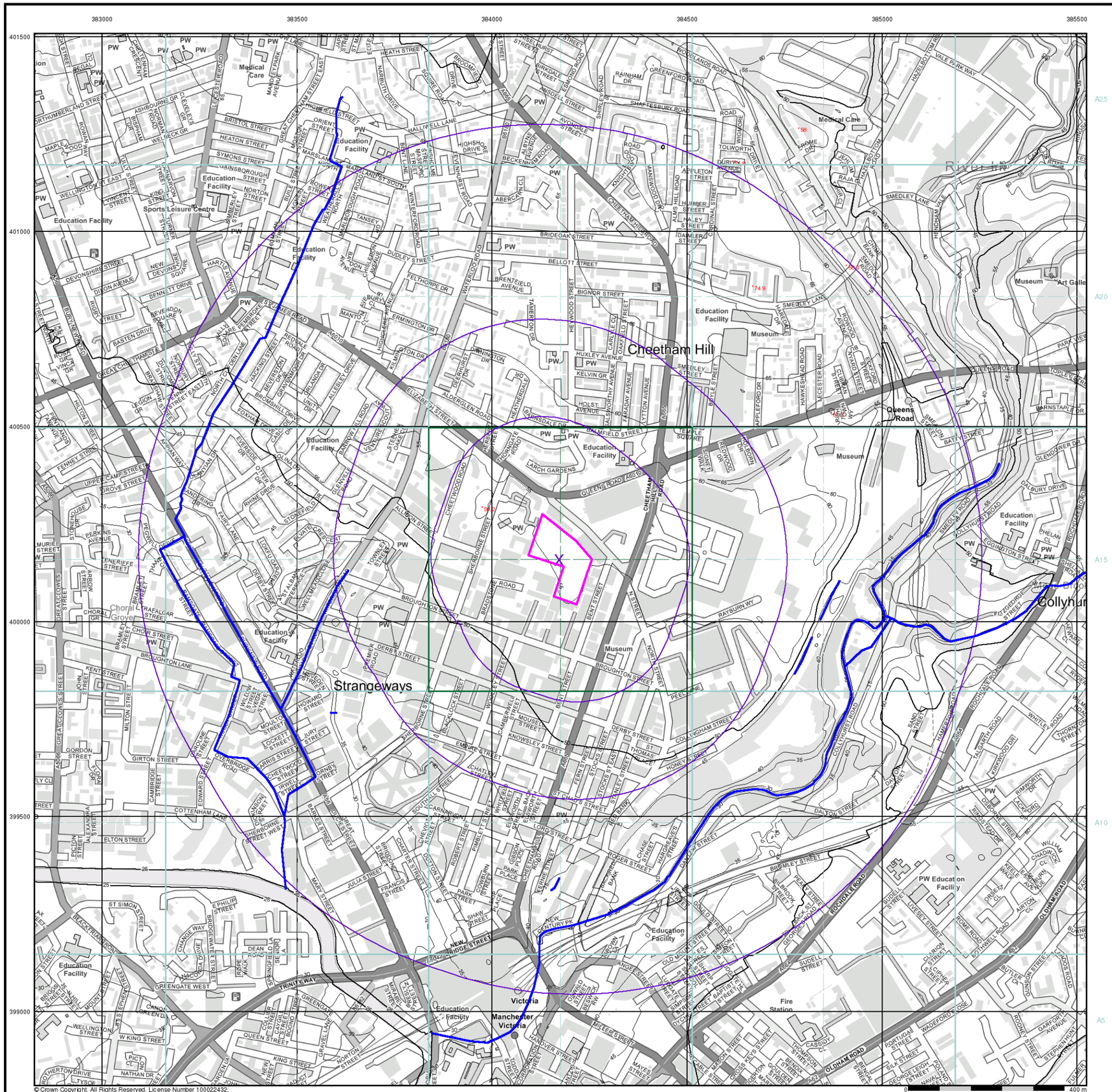
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National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search Buffer (m):	1000

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

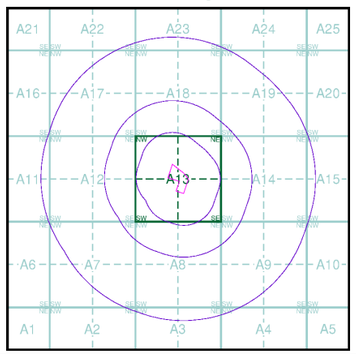
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

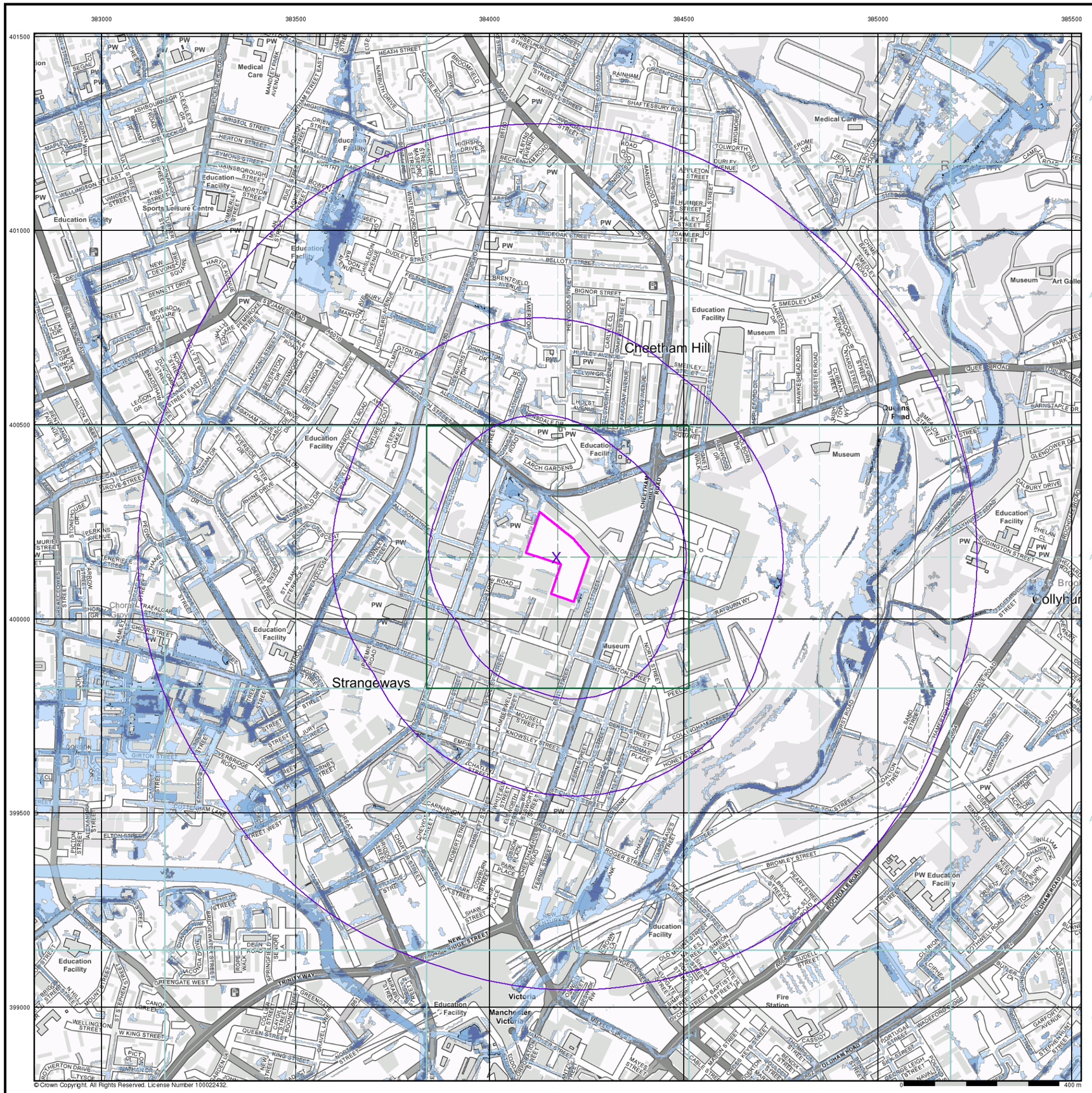
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Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
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Search Buffer (m):	1000

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General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Risk of Flooding from Surface Water

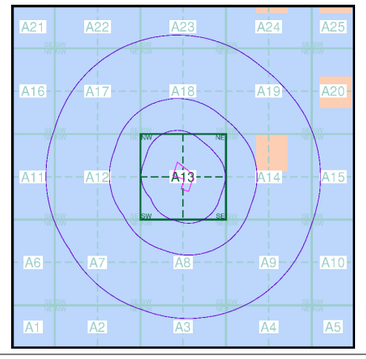
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



Order Details

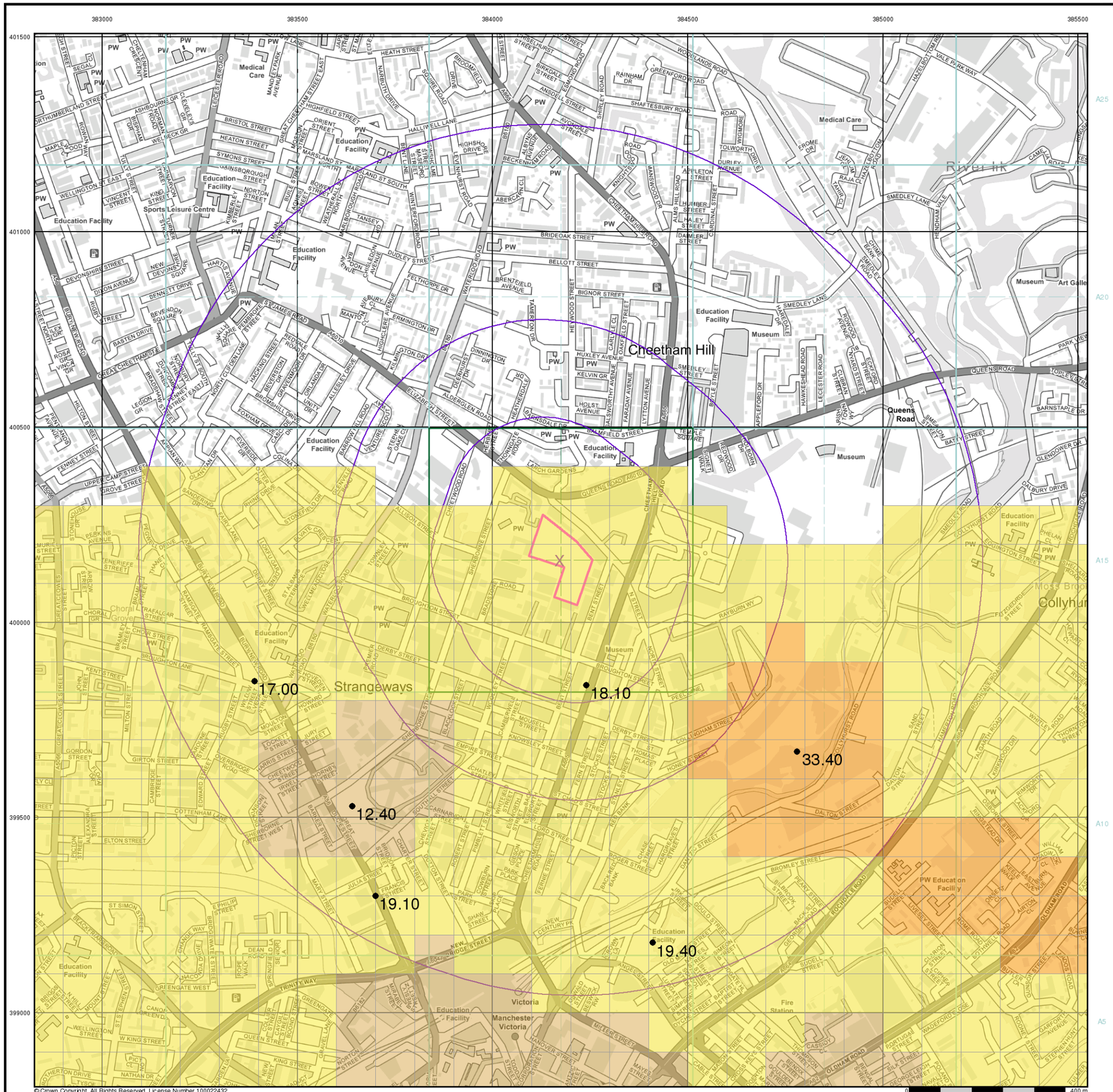
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National Grid Reference:	384170, 400160
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Site Area (Ha):	1.77
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General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

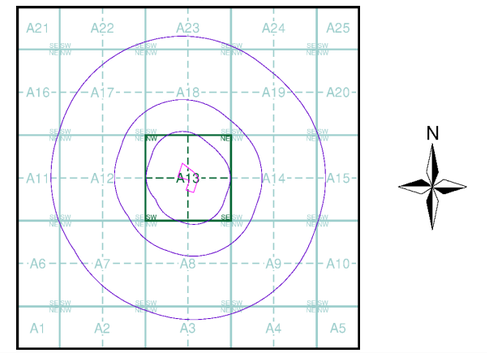
Urban Soil Chemistry Arsenic

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Arsenic Concentrations mg/kg

< 15
15 - 25
25 - 35
35 - 45
45 - 60
60 - 120
> 120

Urban Soil Chemistry Arsenic - Slice A



Order Details

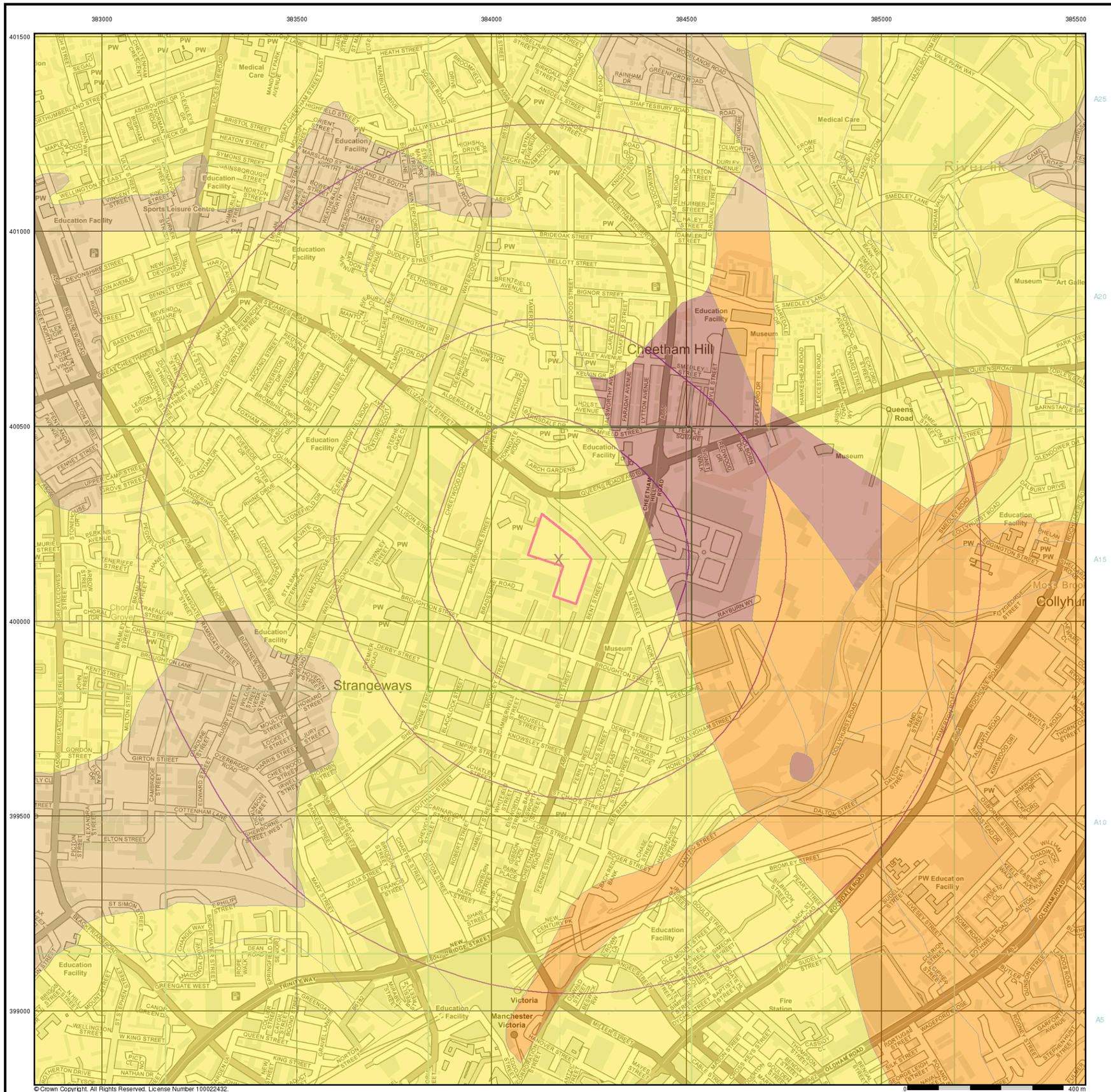
Order Details:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
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curtins

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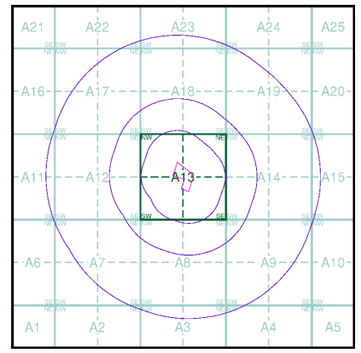
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



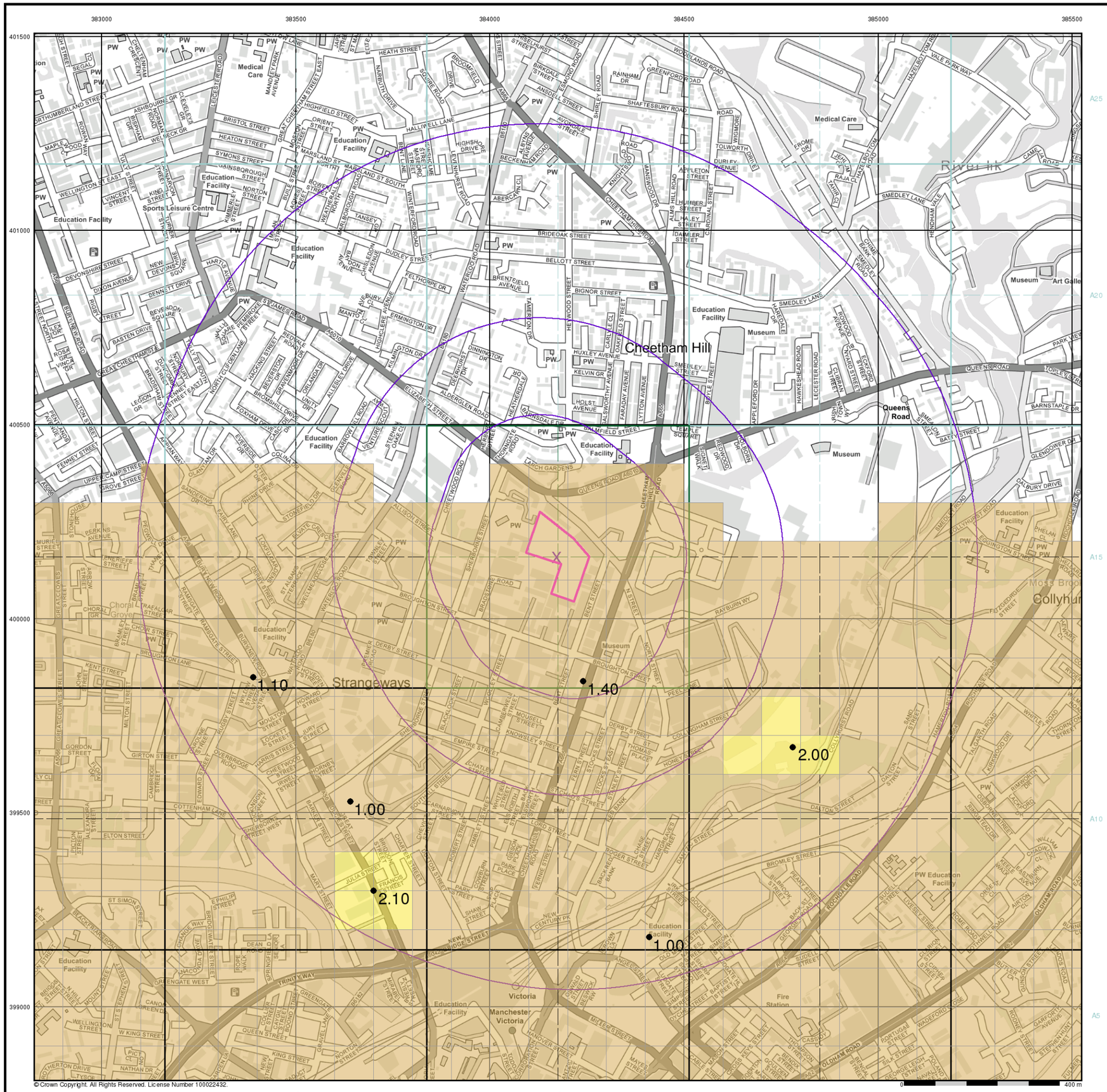
Order Details

Order Details:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search buffer (m):	1000

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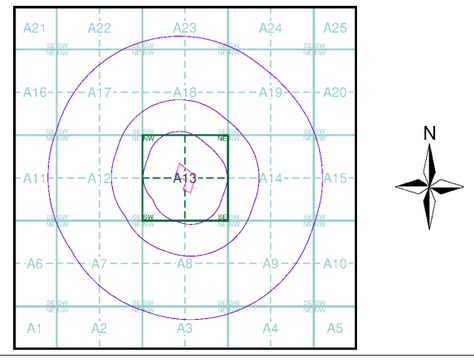
Urban Soil Chemistry Cadmium

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Cadmium Concentrations mg/kg

< 1.8
1.8 - 2.2
2.2 - 3.0
> 3.0

Urban Soil Chemistry Cadmium - Slice A



Order Details

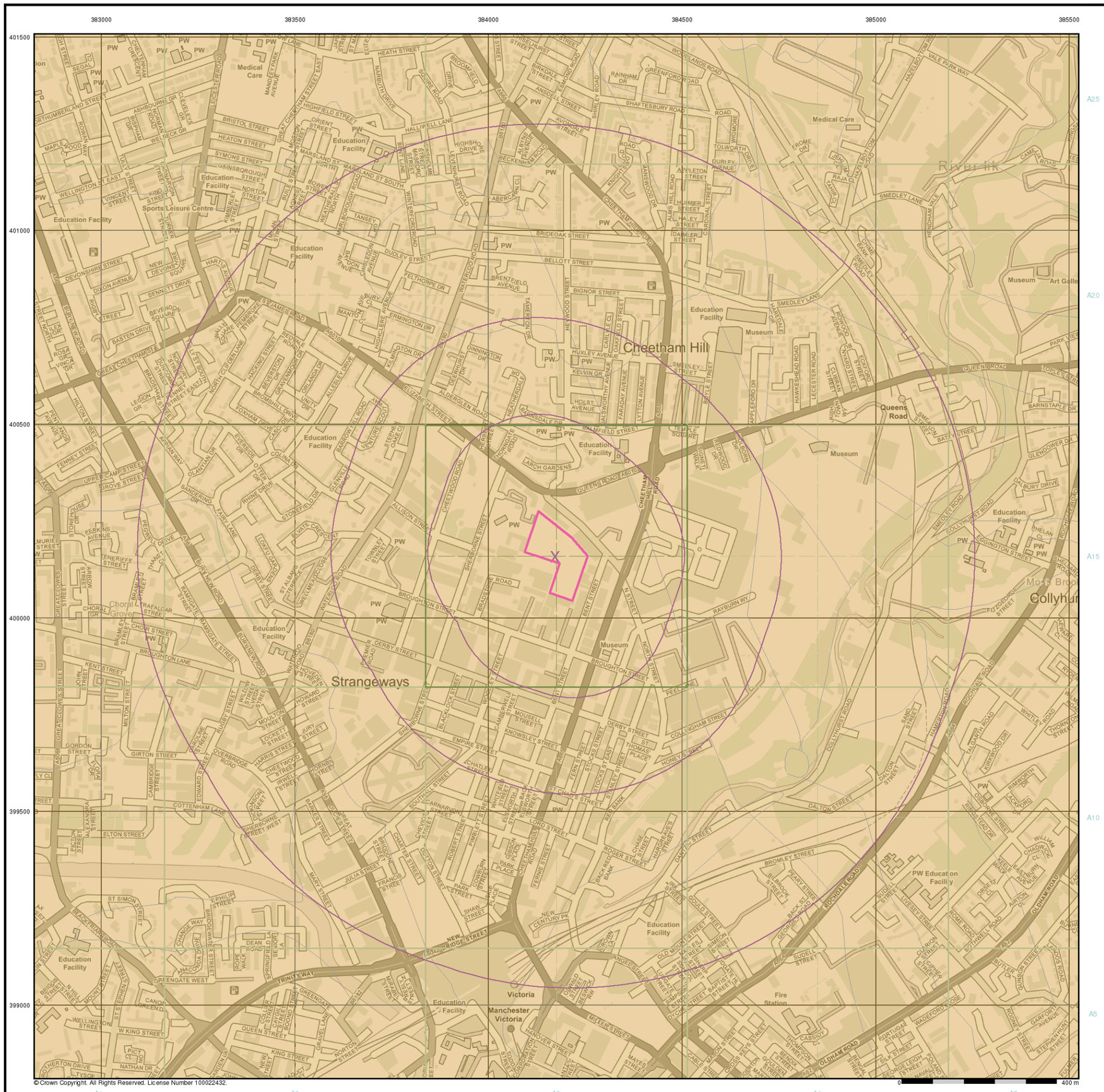
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National Grid Reference:	384170, 400160
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Search buffer (m):	1000

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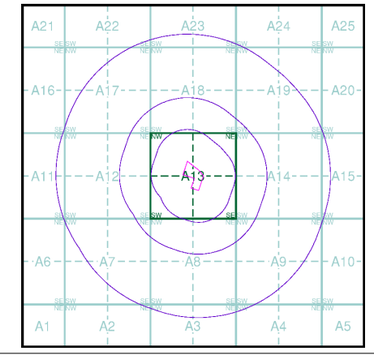
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



Order Details

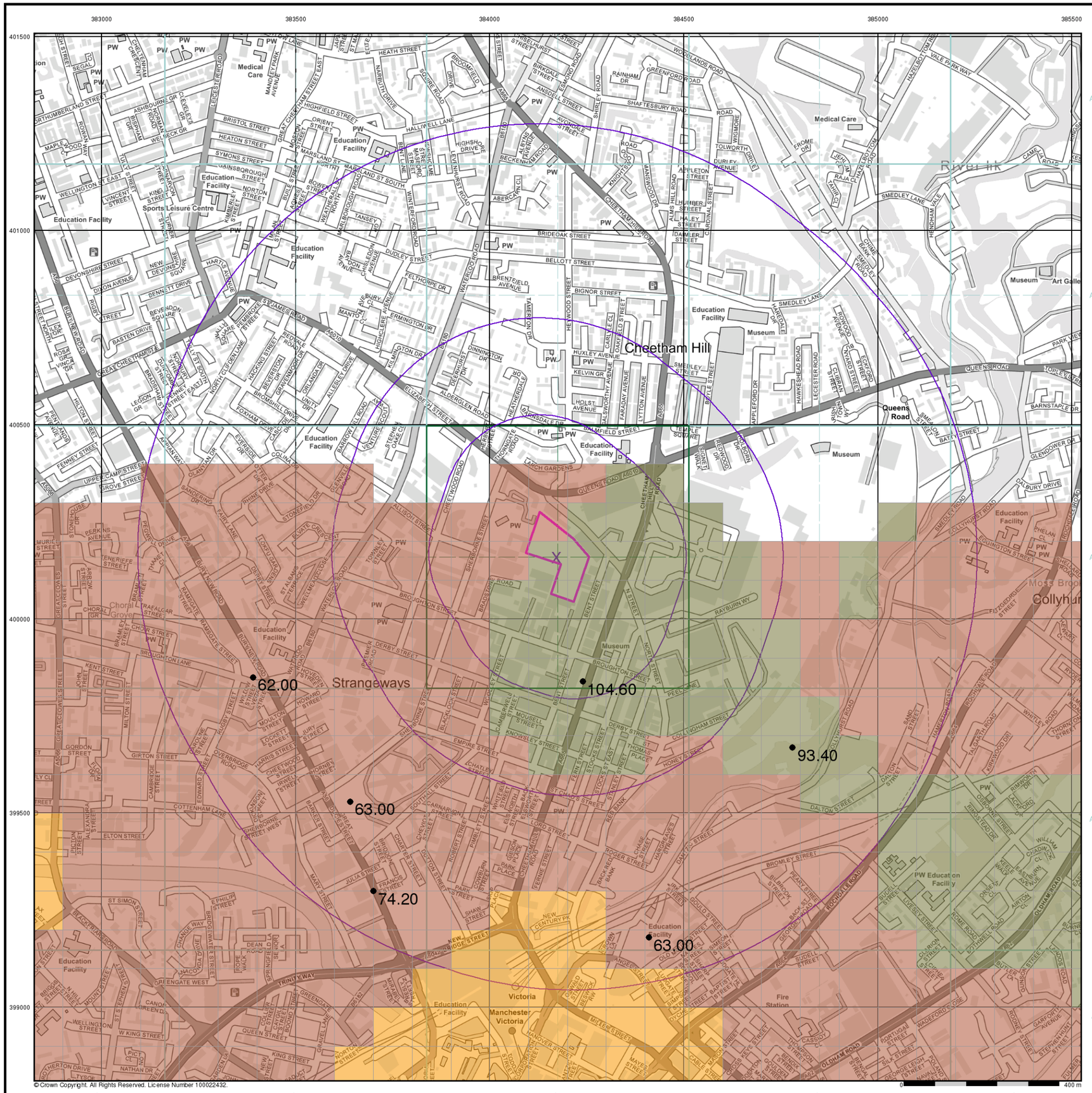
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Site Area (Ha):	1.77
Search buffer (m):	1000

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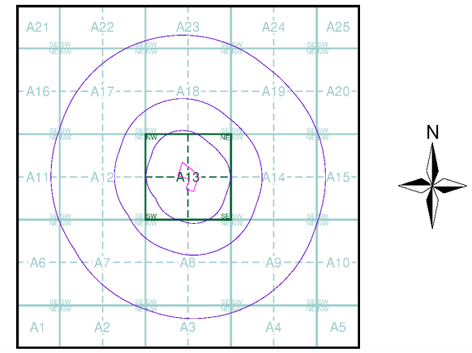
Urban Soil Chemistry Chromium

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg

< 20
20 - 40
40 - 60
60 - 90
90 - 120
120 - 180
> 180

Urban Soil Chemistry Chromium - Slice A



Order Details

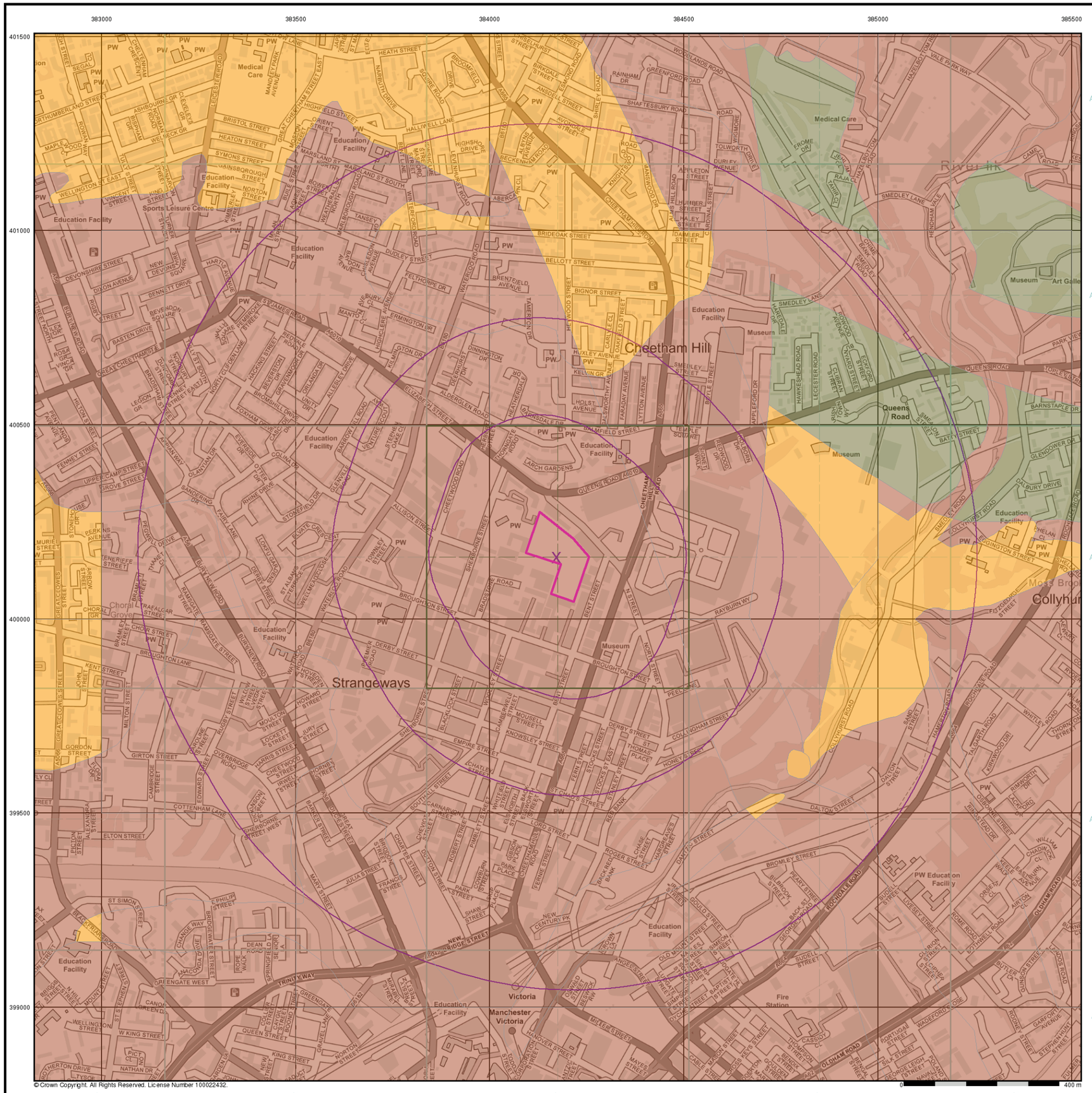
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National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search buffer (m):	1000

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0 400 m

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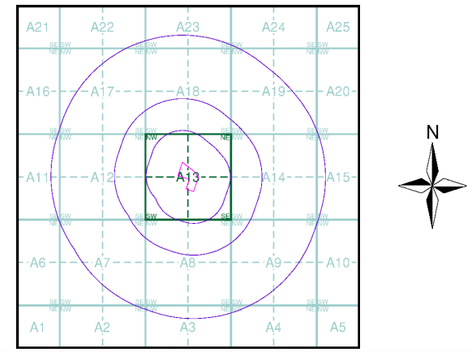
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



Order Details

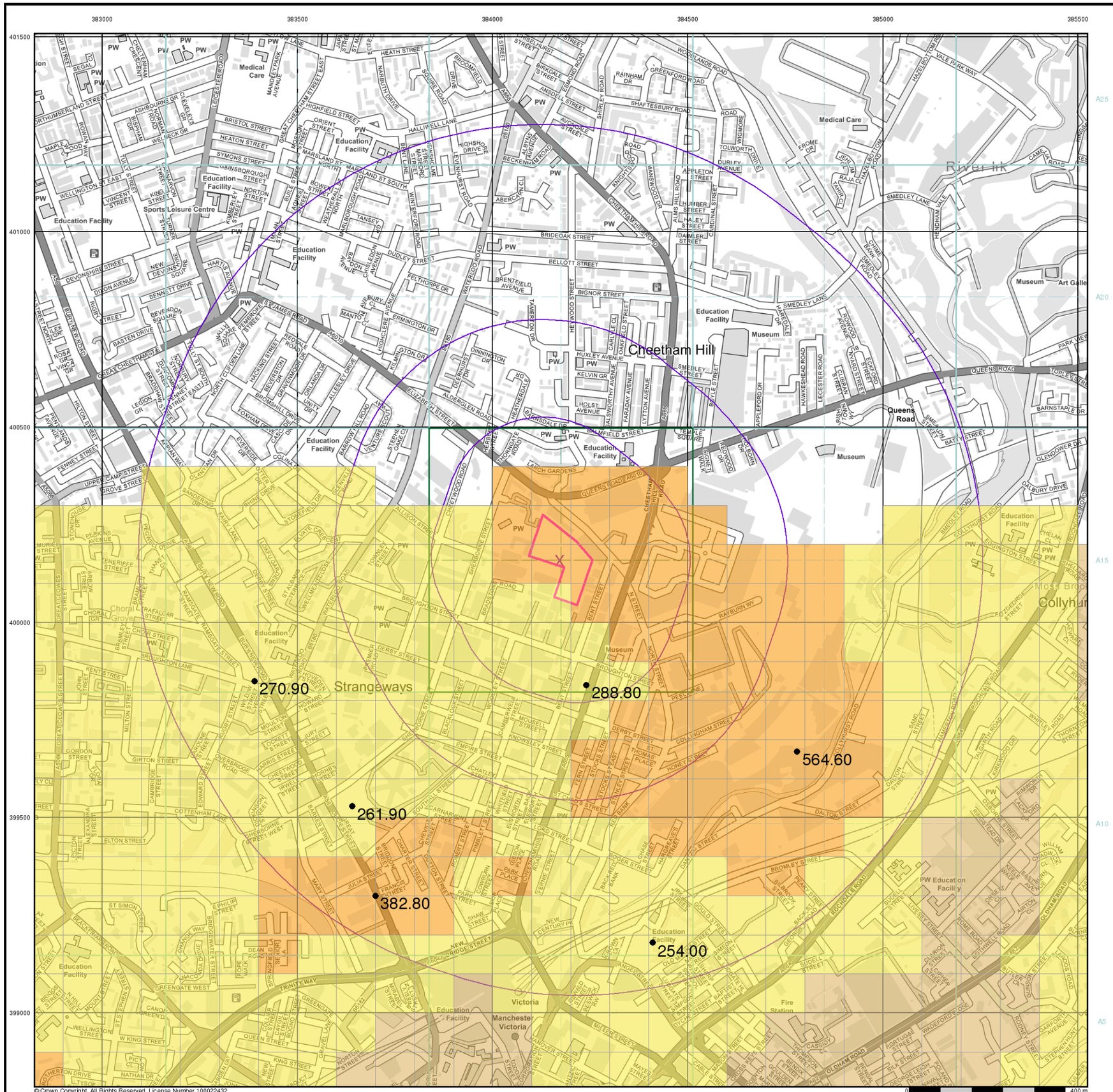
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Site Area (Ha):	1.77
Search buffer (m):	1000

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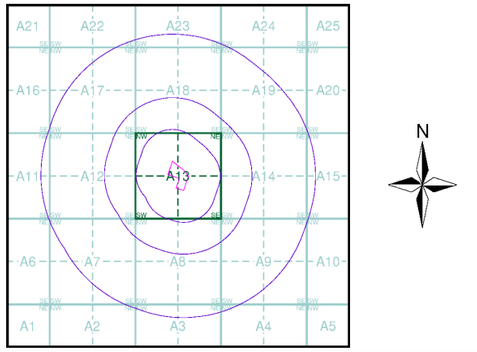
Urban Soil Chemistry Lead

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg

- < 150
- 150 - 300
- 300 - 600
- 600 - 900
- > 900

Urban Soil Chemistry Lead - Slice A



Order Details

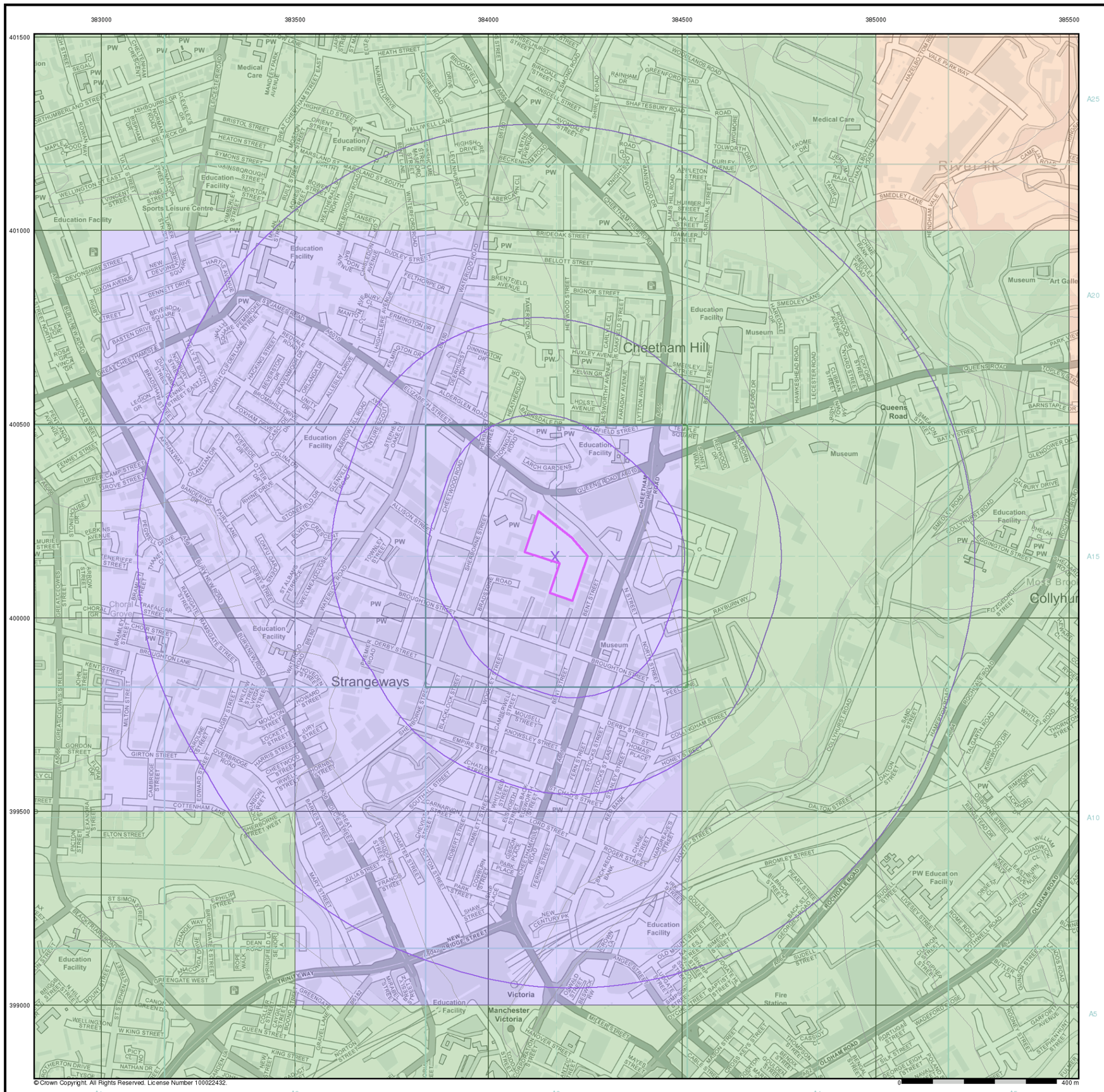
Order Details:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
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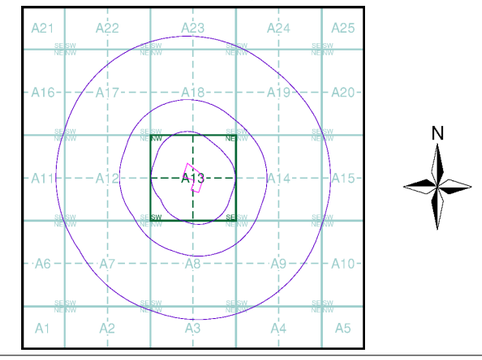
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



Order Details

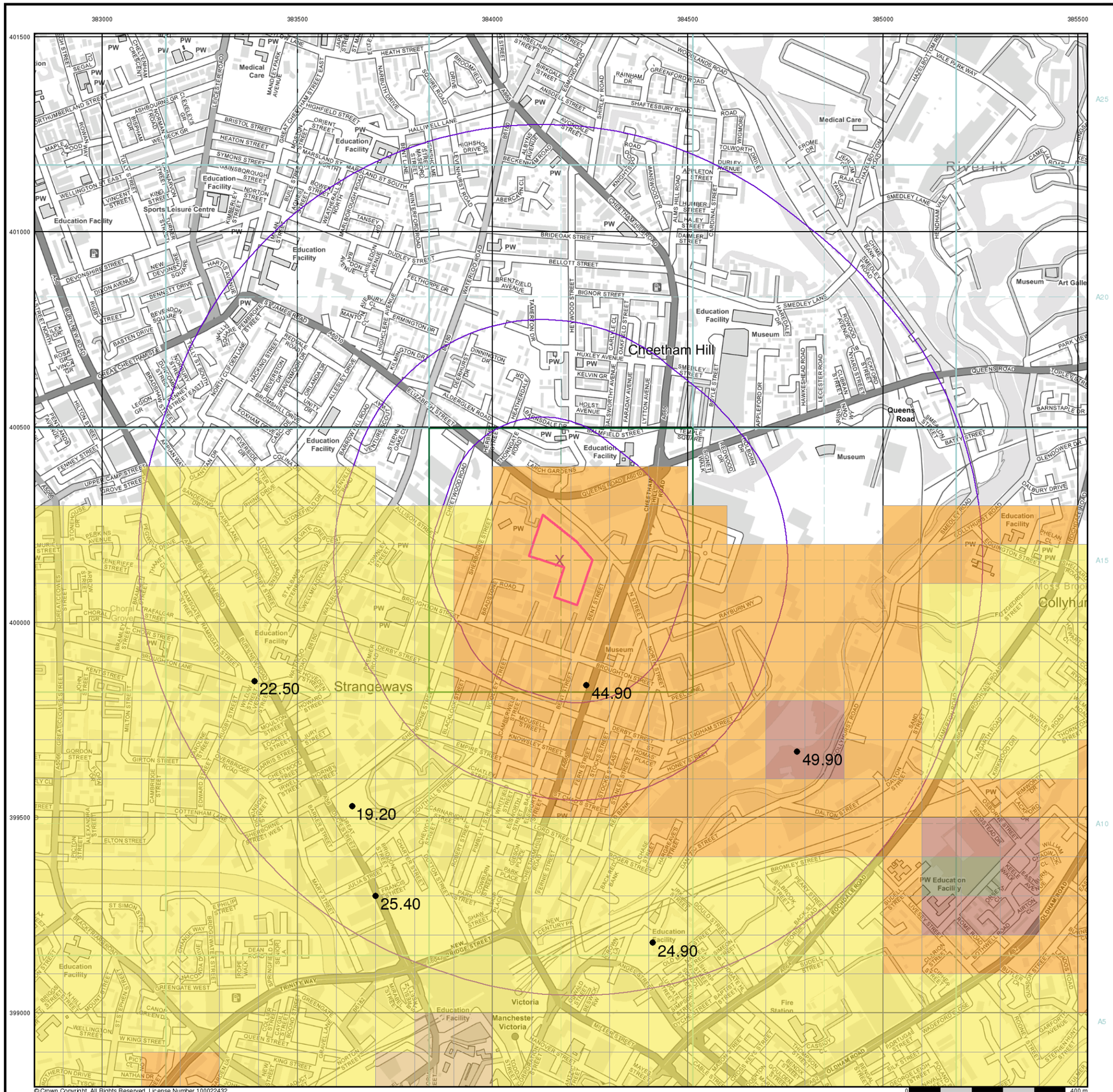
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National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
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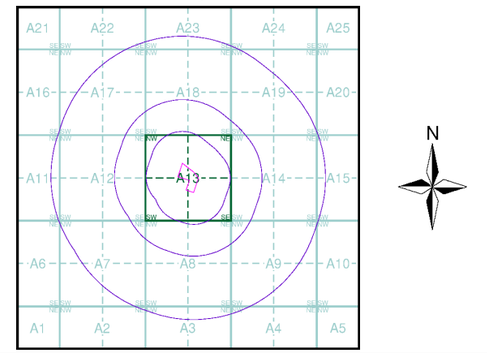
Urban Soil Chemistry Nickel

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg

< 15
15 - 30
30 - 45
45 - 60
60 - 80
80 - 100
> 100

Urban Soil Chemistry Nickel - Slice A



Order Details

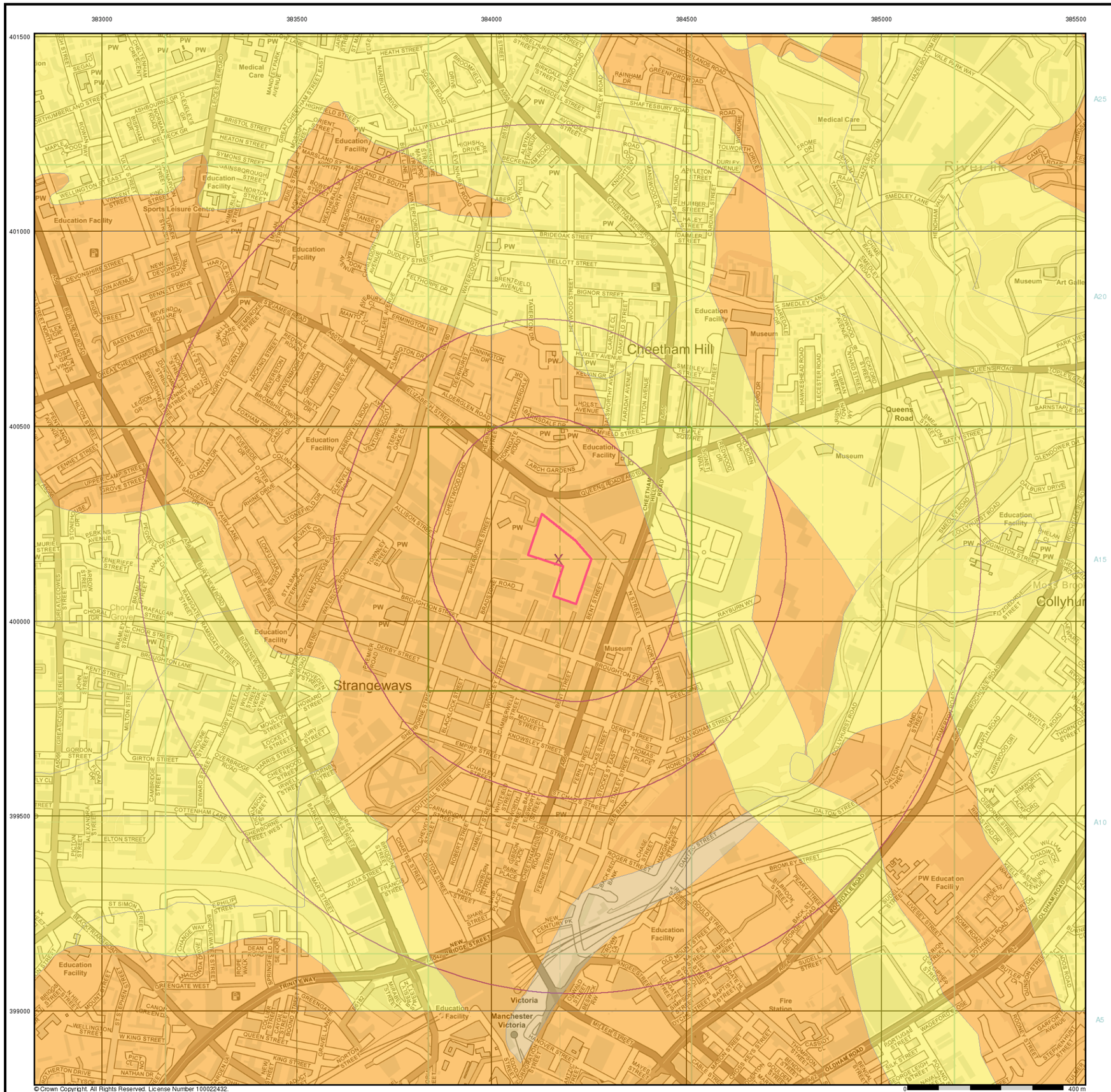
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National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
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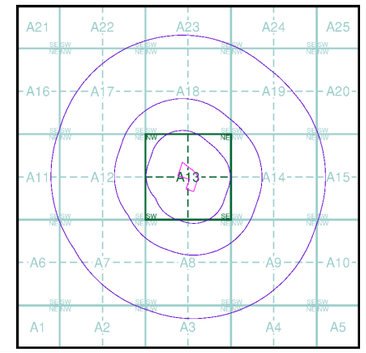
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details:	275906564_1_1
Customer Ref:	B078695
National Grid Reference:	384170, 400160
Slice:	A
Site Area (Ha):	1.77
Search buffer (m):	1000

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Appendix C Exploratory Hole Logs

- Borehole Logs, Trial Pit Logs

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Borehole Log

Borehole No. **BH01**

Sheet 1 of 2

Project Name: Elizabeth Street	Project No. 078695	Co-ords: -	Hole Type CP
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 04/05/2021 - 05/05/2021	Logged By NF

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10			MADE GROUND: Concrete.
		0.50	ES					MADE GROUND: Dark brown very sandy GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, mudstone sandstone, slate, tarmac. Cobbles include brick. Rare plastics.
		1.20 1.20 - 1.65	D	N=4 (1,1/0,2,1,1)	1.30			
		2.00 2.00 - 2.45	D	N=7 (3,1/4,2,1,0)				MADE GROUND: Dark brown clayey GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including brick ash, sandstone. Cobbles are brick. Occasional various metal fragments and rubber fragments.
		3.00 3.00 - 3.45	D	N=1 (2,2/1,0,0,0)	3.10			
		4.00 4.00 - 4.45	D	N=7 (4,5/4,2,1,0)				MADE GROUND: Brown and dark brown sandy GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including brick ash, sandstone. Cobbles are brick. Occasional various metal fragments and rubber fragments. Very clayey in parts.
		5.00 5.00 - 5.45	D	N=9 (3,1/2,4,2,1)				
	▼							
		6.50		N=9 (1,0/2,0,4,3)				
		8.00 8.00 - 8.45	D	N=4 (2,0/0,3,0,1)				
		9.50 9.50 - 9.95	D	N=4 (6,1/2,0,1,1)				
								Continued on next sheet

Remarks

Service inspection put hand excavated from GL to 1.20m bgl. Water strike recorded at 6.00m bgl.

Borehole Log

Borehole No. **BH01**

Sheet 2 of 2

Project Name: Elizabeth Street	Project No. 078695	Co-ords: -	Hole Type CP
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 04/05/2021 - 05/05/2021	Logged By NF

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.00 11.00 - 11.45	D	N=11 (2,1/2,3,2,4)	10.50 11.50			MADE GROUND: Brown slightly gravelly CLAY. Gravel includes fine ash. End of borehole at 11.50 m

Remarks

Service inspection put hand excavated from GL to 1.20m bgl. Water strike recorded at 6.00m bgl.

Borehole Log

Borehole No. **BH02**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: -	Hole Type CP
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 05/05/2021 - 06/05/2021	Logged By NF

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10			MADE GROUND: Concrete.
		0.60	ES					MADE GROUND: Dark brown sandy GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick. Cobbles include brick.
		1.20		N=6 (1,1/1,2,1,2)				
		1.20 - 1.65	D					
		2.00		N=6 (1,0/0,2,1,3)				
		2.00 - 2.45	D					
		3.00	B					
		3.00		N=4 (1,1/1,0,2,1)				
		3.00 - 3.45	D					
					3.60			MADE GROUND: Greyish brown very gravelly CLAY. Gravel is fine to coarse angular to sub-rounded including brick, concrete, ash, and metal frgaments including re-bar.
		4.00		N=10 (2,3/1,2,4,3)				
		4.00 - 4.45	D					
		6.00	B		6.00			MADE GROUND: Greyish brown sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded including brick, concrete, ash and metal.
	▼	6.50		N=7 (2,1/1,2,1,3)	6.50			MADE GROUND: Brown and dark brown sandy GRAVEL with moderate cobble conent. Gravel is fine to coarse angular to subrounded including brick, ash and sandstone. Cobbles are brick. Occasional various metal fragments and rubber fragments.
		6.50 - 6.95	D					
		8.00		N=7 (0,1/3,1,1,2)				
		8.00 - 8.45	D					
		8.80	B		8.80			End of borehole at 8.80 m

Remarks

Service inspection put hand excavated from GL to 1.20m bgl. Water strike at 6.50m bgl. Chiselled for 1 hr at 8.8 m bgl. No movement recorded. Hole terminated

Borehole Log

Borehole No. **BH04**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: -	Hole Type CP
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 06/05/2021 - 06/05/2021	Logged By NF

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.40	ES					MADE GROUND: Dark brown slightly clayey gravelly medium to coarse SAND with moderate cobble content. Gravel is very angular to subangular, fine to coarse of brick and concrete. Cobbles are very angular to angular of brick and concrete.
		0.50	B		0.50			
		1.20		N=3 (1,1/1,0,1,1)	1.00			MADE GROUND: Orange gravelly medium to coarse SAND with moderate cobble content. Gravel is very angular to angular fine to coarse of brick and concrete. Cobbles are very angular to angular of brick, concrete and sandstone. Rare lumps of brown firm to stiff clay.
		1.20 - 1.65	D					
		2.00		N=21 (1,1/0,0,0,21)				MADE GROUND: Orange mottled brown slightly gravelly SAND. Gravel is fine to medium grained and very angular to angular of brick.
		2.00 - 2.45	D					
					2.50			MADE GROUND: Brown slightly clayey gravelly SAND. Gravel is fine
		3.00	B					
		3.00		N=6 (1,1/1,0,3,2)				
		3.00 - 3.45	D					
		4.00		N=6 (2,0/1,1,2,2)	4.00			MADE GROUND: Brown slightly gravelly very sandy soft to firm CLAY. Gravel is fine to coarse grained and very angular to sub rounded of brick, coal, and quartz.
		4.00 - 4.45	D					
		5.00		N=8 (1,1/1,2,3,2)	5.00			MADE GROUND: Dark brown slightly gravelly very clayey SAND. Gravel is fine to coarse grained and very angular to sub rounded of brick, coal, and quartz.
		5.00 - 5.45	D					
	▼	6.00	B					
		6.50		N=4 (1,2/3,0,0,1)				
		6.50 - 6.95	D					
					7.00			MADE GROUND: Dark brown to dark grey slightly sandy GRAVEL. Gravel is fine to coarse grained and very angular to well rounded of brick, clinker with slight sulphur odour and quartz.
		8.00		N=8 (2,1/2,2,3,1)				*Rotten egg and hydrocarbon odour.*
		8.00 - 8.45	D					
		9.50		N=6 (2,3/2,1,2,1)				
		9.50 - 9.95	D					
					9.95			End of borehole at 9.95 m

Remarks

Service inspection put hand excavated from GL to 1.20m bgl. Water strike at 6.00m bgl.

Borehole Log

Borehole No. **BH05**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: -	Hole Type CP
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 07/05/2021 - 07/05/2021	Logged By NF

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	ES					MADE GROUND: Black initially very hard becoming loose gravelly SAND. Gravel is fine to coarse grained and very angular to sub-angular of asphalt, brick, and glass.
		0.50	B					
		2.00		N=4 (2,1/2,1,1,0)				
		2.00 - 2.45	D					
					2.50			MADE GROUND:Very soft to soft slightly sandy gravelly CLAY. Gravel is fine to medium grained and very angular of brick and metal fragments.
		3.00	B					
		3.00		N=6 (1,2/2,3,0,1)				
		3.00 - 3.45	D					
		5.00		N=5 (2,2/2,1,2,0)				
		6.00	B		6.00			Stiff light brown silty sandy CLAY
		6.50		N=31 (5,5/6,6,9,10)				
		6.50 - 6.95	D					
					7.00			End of borehole at 7.00 m

Remarks

Service inspection put hand excavated from GL to 1.20m bgl. No groundwater encountered.

Trial Pit Log

Trialpit No **TP01**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 04/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 1.50	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30 0.40	ES ES		0.70 0.90 1.45 1.50			MADE GROUND: Dark brown sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker brick, glass, sandstone. Cobbles include bricks, concrete, sandstone, possible ACMs. Frequent various metal pieces, rubber fragrments, car tyre, steel rope. Odour throughout excavation. MADE GROUND: Red brown GRAVEL of crushed brick and ceramics. MADE GROUND: Dark brown sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker brick, glass, sandstone. Cobbles include bricks, concrete, sandstone, possible ACMs. Frequent various metal pieces, rubber fragments including a car tyre, steel rope piece. Odour throughout excavation. MADE GROUND: Obstruction, possible CONCRETE. End of pit at 1.50 m

1 2 3 4 5 6 7 8 9 10

Remarks: Obstruction at 1.45m, hole terminated. No groundwater encountered.
Possible ACMs identified between ground level and 0.70m bgl. Chrysotile cement was identified in samples obtained from 0.30m and 0.40m bgl. Asbestos quantification has been scheduled.

Stability: Some sidewall instability.

AGS

Trial Pit Log

Trialpit No **TP02**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 04/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 2.70	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			MADE GROUND: Grey concrete.
							MADE GROUND: Dark brown sandy GRAVEL with low cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, sandstone, occasional coal, rare glass. Cobbles include brick and sandstone flags.
	1.50	ES		1.40			MADE GROUND: Reddish brown sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, sandstone, occasional coal, rare glass. Cobbles include brick and sandstone flags.
				2.70			End of pit at 2.70 m

Remarks: No groundwater recorded.

Stability: Excavation terminated due to sidewall collapse.

Trial Pit Log

Trialpit No **TP03** Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 04/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 3.00	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.45	ES		0.50			MADE GROUND: Dark brown sandy GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, concrete, rare glass. Cobbles include brick. rare metal pieces..
				0.60			MADE GROUND: Grey concrete.
				0.70			MADE GROUND: Dark brown sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, concrete. Cobbles include brick. Various metal pieces. Odour throughout.
				0.90			MADE GROUND: Dark grey/ blackish concrete.
				1.50			MADE GROUND: Dark brown sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, concrete. Cobbles include brick. Various metal pieces. Odour throughout.
							MADE GROUND: Light brown very gravelly SAND with high cobble content. Gravel is fine to coarse angular to sub-rounded including brick, ash, sandstone. Cobbles are brick, clinker, sandstone.
							Pinkish red possible crushed brick on north side of pit at 1.5-1.7m bgl.
				3.00			End of pit at 3.00 m

1 2 3 4 5 6 7 8 9 10

Remarks: No groundwater encountered.

Stability: Some sidewall instability.

AGS

Trial Pit Log

Trialpit No **TP04**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 04/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 3.10	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			MADE GROUND: Grey concrete with rebar.
	1.10	ES		1.30			MADE GROUND: Dark grey slightly sandy GRAVEL with low cobble content. Gravel is fine to coarse angular to sub-rounded of brick, ash, clinker and tarmac. Cobbles include brick and tarmac.
	2.00	ES		3.10			MADE GROUND: Light brown very gravelly SAND with medium cobble content. Gravel is fine to coarse angular to sub-rounded including brick, ash, sandstone. Cobbles are brick, clinker, sandstone, possible ACMs.
							End of pit at 3.10 m

Remarks: No groundwater encountered. Possible ACM identified between 1.30m and 3.10m bgl. 1 No. soil sample obtained from 2.00m bgl and sent to the laboratory for analysis. Chrysotile cement identified in the sample. Asbestos quantification has been scheduled.

Stability: Some sidewall instability.

Trial Pit Log

Trialpit No **TP05**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 05/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 2.80	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.90	ES		0.25			MADE GROUND: Light brown sandy GRAVEL wih frequent rootlets. Gravel is fine to coarse angular to sub-angular of limestone.
				0.70			MADE GROUND: Dark grey slightly sandy GRAVEL with low cobble content. Gravel is fine to coarse angular to sub-rounded of brick, ash, clinker and tarmac. Cobbles include brick and tarmac.
							MADE GROUND: Dark grey slightly sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded of brick, ash, clinker and tarmac. Cobbles are sandstone blocks. Frequent verious metal pieces including springs and nails.
				2.80			End of pit at 2.80 m

Remarks: No groundwater recorded.
Loose fibres of chrysotile identified in the sample obtained from 0.90m bgl. Asbestos quantification has been scheduled.

Stability: Excavation terminated due to sidewall collapse.

Trial Pit Log

Trialpit No **TP06**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 05/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 3.00	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			MADE GROUND: Concrete.
	0.80	ES		0.75			MADE GROUND: Brown sandy GRAVEL with high cobble content. Gravel is fine to coarse including sandstone, ash, concrete, cermaics, brick. Cobbles are brick and tiles, frequent metal pieces (collars).
				1.10			MADE GROUND: Dark grey compacted GRAVEL of fine to coarse angular to sub-anagular ash and clinker.
	2.50	B					MADE GROUND: Brown and dark brown sandy GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including ash, clinker, brick, concrete. Cobbles include brick. Occasional clay nodules.
				3.00			End of pit at 3.00 m

Remarks: No groundwater encountered.

Stability: Some sidewall instability.

Trial Pit Log

Trialpit No **TP07**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 05/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 3.50	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50 0.60	ES B		0.40			MADE GROUND: Dark brown silty slightly sandy GRAVEL with medioum cobble content. Gravel is fine to coarse angular to sub-angular of ash. Cobbles are brick, plastic pieces.
				1.10			MADE GROUND: Orangey brown gravelly SAND. Gravel is fine to coarse rounded of mixed lithologies including sandstone. Cobbles include sandstone.
							MADE GROUND: Light brown slightly gravelly SAND with medium cobble content. Gravel is fine to coarse including glass, brick, occasional ash, black clayey nodules. Cobbles/boulders include concrete.
				3.50			End of pit at 3.50 m

1 2 3 4 5 6 7 8 9 10

Remarks: No groundwater encountered.

Stability: Some sidewall instability.

AGS

Trial Pit Log

Trialpit No **TP08**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 05/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 2.80	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.40	ES		0.20			TOPSOIL: Grass over brown slightly gravelly silt loam with frequent rootlets. Gravel includes fine to coarse sandstone and ash.
	0.90	B		0.50			MADE GROUND: Dark grey slightly sandy, slightly silty GRAVEL. Gravel is fine to coarse angular to sub-rounded including ash, brick and sandstone.
				1.10			MADE GROUND: Light brown clayey SAND with low cobble content. Cobbles are brick. Large nodules of firm brown clay.
							MADE GROUND: Light brown SAND with low cobble content. Cobbles are brick. Rare brick gravel.
							Large cast iron piece at 1.50m bgl.
				2.80			End of pit at 2.80 m

Remarks: No groundwater encountered.

Stability: Some sidewall instability.

Trial Pit Log

Trialpit No **TP09**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 05/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 3.20	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30 0.40	ES ES		0.20 0.50			MADE GROUND: Dark grey concrete. MADE GROUND: Dense compacted grey GRAVEL. Gravel is fine to coarse angular to sub-rounded of ash, clinker, black tar material, bricks. MADE GROUND: Dark grey slightly sandy slightly clayey GRAVEL with medium cobble content. Gravel is fine to coarse angular to sub-rounded including brick, ash, sandstone. Cobbles are brick and concrete, Frequent metal pieces. Frequent timber pieces.
				1.70			MADE GROUND: Reddish brown fine to coarse SAND with low cobble content. Cobbles include brick. Frequent timber pieces.
				3.20			End of pit at 3.20 m

1 2 3 4 5 6 7 8 9 10

Remarks: No groundwater encountered.

Stability: Some sidewall instability.

AGS

Trial Pit Log

Trialpit No **TP10**

Sheet 1 of 1

Project Name: Elizabeth Street	Project No. 078695	Co-ords: - Level:	Date 07/05/2021
Location: Cheetham Hill		Dimensions (m): Depth 1.80	Scale 1:50
Client: Kier Property			Logged NF

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00	ES					Grass over MADE GROUND: Black slightly very gravelly ashy SAND with occasional cobbles of brick, metal, and plastic fragments. Gravel is fine to coarse grained and very angular of brick, metal, plastic, and glass.
	1.00 - 1.80	B					
				1.80			End of pit at 1.80 m

Remarks: Slow infill of water at 1.20m bgl. Terminated at 1.80m due to brick structure.

Stability: Excavation remained open and stable.

Rotary Core Log

Borehole No.
BH102
Sheet 1 of 2

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 14/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							0.15			MADE GROUND: Concrete.
							0.60			MADE GROUND: Black slightly sandy slightly clayey angular to subangular fine to coarse gravel of brick, concrete and porcelain with low cobble content. Sand is fine to coarse. Cobbles are subangular of brick.
							1.20			MADE GROUND: Blackish brown slightly sandy gravelly clay with low cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick and concrete. Cobbles are subangular of brick and concrete.
										MADE GROUND: Brown sandy gravelly clay with cobble content.
										From 6.00 to 13.00m sand bands present.
										Continued on next sheet

1 2 3 4 5 6 7 8 9 10

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

AGS

Rotary Core Log

Borehole No.
BH102
Sheet 2 of 2

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 14/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							13.00			Brown sandy gravelly CLAY.
							18.00			End of borehole at 18.00 m

11 12 13 14 15 16 17 18 19 20

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

AGS

Rotary Core Log

Borehole No.
BH103
Sheet 1 of 3

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 15/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES				0.20			MADE GROUD: Grass over black slightly sandy very gravelly clay with low cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of glass, brick, plastic, porcelain and concrete. Cobbles are angular to subangular of brick and concrete.
							1.20			MADE GROUND: Black slightly sandy gravelly clay with medium cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of glass, plastic, concrete and brick. Cobbles are subangular of brick.
										MADE GROUND: Black sandy gravelly clay with cobble content.

Continued on next sheet

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

Rotary Core Log

Borehole No.
BH103
Sheet 2 of 3

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 15/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							18.00			Brown sandy gravelly CLAY.
										Continued on next sheet

11 12 13 14 15 16 17 18 19 20

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

Rotary Core Log

Borehole No.
BH103
Sheet 3 of 3

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 15/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							22.00			End of borehole at 22.00 m

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

Rotary Core Log

Borehole No. **BH104**

Sheet 1 of 2

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 13/12/2021 - 13/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		0.60	ES				0.25			MADE GROUND: Grass over brown slightly sandy gravelly clay with low cobble content and rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick and concrete. Cobbles are subangular of brick.
							1.20			MADE GROUND: Brown slightly sandy very gravelly clay with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick and sandstone. Cobbles are subangular of brick. Boulders are angular to subangular of brick and concrete.
										MADE GROUND: Brown sandy gravelly clay with cobble and boulder content.
							8.50			Brown sandy gravelly CLAY.
										Continued on next sheet

1 2 3 4 5 6 7 8 9 10

Remarks

Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

AGS

Rotary Core Log

Borehole No.
BH104
Sheet 2 of 2

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 13/12/2021 - 13/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description
				TCR	SCR	RQD				
							15.00			End of borehole at 15.00 m

11
12
13
14
15
16
17
18
19
20

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

Rotary Core Log

Borehole No. **BH105**

Sheet 1 of 2

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 15/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		0.30	ES				0.30			MADE GROUND: Vegetation over brownish black slightly sandy gravelly clay with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is angular to subrounded
							1.20			MADE GROUND: Reddish brown gravelly slightly clayey fine to coarse sand with medium cobble content and low boulder content. Gravel is angular to subangular fine to coarse of sandstone, concrete brick, plastic and porcelain. Cobbles are subangular of brick. Boulders are angular to subangular of brick and concrete. Frequent scrap metal present.
										MADE GROUND: Reddish brown gravelly clayey fine to coarse sand with cobble and boulder content.
							7.50			Brown sandy gravelly CLAY.

Continued on next sheet

Remarks

Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

Rotary Core Log

Borehole No.
BH105
Sheet 2 of 2

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type RO
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 15/12/2021 - 15/12/2021	Logged By ZH

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description
				TCR	SCR	RQD				
							13.00			End of borehole at 13.00 m

11
12
13
14
15
16
17
18
19
20

Remarks
Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Rotary open-hole from the base of the hand pit - unable to provide detailed ground conditions.

Borehole Log

Borehole No. **WS101**

Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type WS
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 13/12/2021 - 14/12/2021	Logged By ZH

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.05			MADE GROUND: Paving slab
		0.40	ES		0.20			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of brick, concrete, tarmacadam and ash. Sand is fine to coarse.
					0.65			MADE GROUND: Brownish black slightly sandy very gravelly clay with low cobble content. Gravel is angular to subangular fine to coarse of brick, concrete and ash. Cobbles are subangular of brick.
		1.20		N=11 (1,1/2,2,3,4)				
					1.50			Firm brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium of mudstone and sandstone.
		2.00		N=25 (4,5/5,6,6,8)				
		2.00 - 3.00	B					Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to medium of mudstone, sandstone and coal.
		3.00	D					*From 3.00 to 4.00m brown.*
		3.00		N=26 (5,5/5,6,7,8)				
		4.00		N=32 (5,5/8,8,8,8)				*From 4.00 to 4.45m very stiff.*
					4.45			End of borehole at 4.45 m

Remarks

Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Terminated at 4.45m due to stiffness of stratum - barrel difficult to pull out.

AGS

Borehole Log

Borehole No. **WS102**

Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type WS
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 13/12/2021 - 14/12/2021	Logged By ZH

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Tarmacadam.
					0.20			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of brick, concrete, tarmacadam and ash. Sand is fine to coarse.
		1.20	ES					MADE GROUND: Brownish black slightly sandy gravelly clay with low cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, concrete and glass. Cobbles are subangular of brick.
		1.20		N=4 (0,1/0,1,1,2)	1.25			
					1.55			Soft light brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular of sandstone and mudstone.
		2.00		N=27 (4,4/5,7,7,8)				Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to medium of mudstone, sandstone and coal.
		3.00		N=21 (4,4/4,5,5,7)				
		4.00	D					
		4.00		N=30 (6,6/6,8,8,8)				
					4.45			End of borehole at 4.45 m

1 2 3 4 5 6 7 8 9 10

Remarks

Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Terminated at 4.45m due to stiffness of stratum - barrel difficult to pull out.

AGS

Borehole Log

Borehole No. **WS103**

Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type WS
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 13/12/2021 - 14/12/2021	Logged By ZH

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Tarmacadam.
					0.25			MADE GROUND: Black slightly sandy angular to subangular fine to coarse gravel of tarmac, ash, concrete and brick. Sand is fine to coarse.
		0.90	ES		1.00			MADE GROUND: Greyish black slightly sandy slightly gravelly clay. Sand is fine to coarse. Gravel is angular to subangular fine to medium of sandstone and mudstone.
		1.20		N=12 (2,2/2,3,3,4)				Firm brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium of mudstone and sandstone.
		3.00		N=4 (1,2/2,1,0,1)				*From 3.00 to 3.50m soft.*
		4.00		N=15 (3,3/3,4,4,4)				*From 4.00 to 4.45m very stiff.*
					4.45			End of borehole at 4.45 m

Remarks

Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Barrel not picking up material from 1.00m to 4.00m bgl. No SPT taken at 2.00m due to issues with the barrel. Soft material encountered at 3.00m likely to be due to disturbed soils.

Borehole Log

Borehole No. **WS104**

Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: -	Hole Type WS
Location: Cheetham Hill		Level:	Scale 1:50
Client: Kier Property		Dates: 14/12/2021 - 14/12/2021	Logged By ZH

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Tarmacadam.
					0.20			MADE GROUND: Black slightly sandy angular to subangular fine to coarse gravel of tarmac, concrete and brick. Sand is fine to coarse.
					1.00			MADE GROUND: Brownish black slightly sandy gravelly clay. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick and sandstone.
		1.20		N=6 (1,2/2,1,2,1)				Soft brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of coal, mudstone and sandstone.
					1.60			Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to medium of mudstone, sandstone and coal.
		2.00	D					*From 1.60 to 2.50m firm.*
		2.00		N=12 (2,2/2,3,3,4)				
		3.00		N=27 (4,4/4,7,8,8)				
					3.45			End of borehole at 3.45 m

Remarks

Service inspection pit hand excavated from GL to 1.20m. No groundwater encountered. Terminated at 3.45m due to stiffness of stratum - barrel difficult to pull out.

AGS

Trial Pit Log

Trialpit No
TP101
Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: - Level:	Date 17/12/2021
Location: Cheetham Hill		Dimensions (m): 3 × 1.2, Depth 0.90	Scale 1:20
Client: Kier Property			Logged ZH

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30			MADE GROUND: Brownish black sandy very gravelly clay. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of glass, plastic, scrap metal, brick, concrete and sandstone.
	0.80	B		0.90			MADE GROUND: Brownish black sandy angular to subangular fine to coarse gravel of brick, sandstone, metal, plastic, concrete and glass with high cobble content and low boulder content. Cobbles and boulders are angular to subangular of brick and concrete. Frequent scrap metal and plastic sheeting.
							End of pit at 0.90 m

Remarks: Trial pit area scanned for services. No groundwater encountered.

Stability: Stable

Trial Pit Log

Trialpit No **TP102**

Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: - Level:	Date 17/12/2021
Location: Cheetham Hill		Dimensions (m): Depth 2.00 — 4 × 1.5	Scale 1:20
Client: Kier Property			Logged ZH

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30			MADE GROUND: Brownish black sandy very gravelly clay with frequent rootlets. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick, glass, concrete, sandstone and metal.
				0.55			MADE GROUND: Brownish black sandy angular to subrounded gravel of brick, concrete and glass with medium cobble content. Sand is fine to coarse. Cobbles are subangular of brick.
				0.90			MADE GROUND: Light brown gravelly fine to coarse sand with low cobble content. Gravel is angular to subangular fine to coarse of concrete and brick. Cobbles are subangular of concrete and brick.
	2.00	B		2.00			MADE GROUND: Greyish black very sandy angular to subangular fine to coarse gravel of slate, brick, concrete, terrecotta, glass, sandstone and ash with medum cobble content and low boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subangular of brick and concrete. Frequent scrap metal.
							End of pit at 2.00 m

1 2 3 4

Remarks: Trial pit area scanned for services. No groundwater encountered.

Stability: Stable

AGS

Trial Pit Log

Trialpit No **TP103**

Sheet 1 of 1

Project Name: Elizabeth St, Cheetham Hill	Project No. 080139	Co-ords: - Level:	Date 17/12/2021
Location: Cheetham Hill		Dimensions (m): Depth 2.00 — 4 × 1.4	Scale 1:20
Client: Kier Property			Logged ZH

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Black sandy very gravelly clay with frequent rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, porcelain, glass, sandstone and concrete.
				0.25			MADE GROUND: Dark brown sandy angular to subangular fine to coarse gravel of brick, concrete, glass and porcelain with medium cobble content. Cobbles are angular to subangular of brick and sandstone.
				0.45			MADE GROUND: Concrete layer.
				0.90			MADE GROUND: Brown and grey very sandy angular to subrounded fine to coarse gravel of sandstone, concrete, glass and brick with medium cobble content and low boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subangular of concrete and brick.
	1.10	B					
				2.00			End of pit at 2.00 m

Remarks: Trial pit area scanned for services. No groundwater encountered.

Stability: Stable

IN SITU
SITE INVESTIGATION



STATIC CONE PENETRATION TEST

FACTUAL REPORT

CLIENT: Curtins

PROJECT: Elizabeth Street

Project	**Elizabeth Street**
Project No.	**1210598**
Client	**Curtins**
Address	**Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG**

Attention: Mr Niall Farnworth

Dear Mr Farnworth,

We have pleasure in providing a digital copy of our report and data in AGS format for the above project.

We hope that you are satisfied with the performance of our staff, equipment and reporting on this project. If you should have any queries about any aspect of the works carried out, please do not hesitate to contact us. We look forward to being of service to you in the future.

Yours faithfully,
In Situ Site Investigation Limited

Darren Ward
Director

Report Issue

Issue	Date	Prepared	Sign	Checked	Sign	Approved	Sign
01	11/01/2022	Chloe Donovan		Luisa Dhimitri		Darren Ward	

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1.0 INTRODUCTION

In Situ Site Investigation Limited (In Situ) was engaged in a geotechnical site investigation at Elizabeth Street at the request of Curtins. The site investigation consisted of completing 26 Static Piezocone Penetration Tests (CPTU) to provide information on the soil conditions and derived geotechnical parameters at:

Bridcam Street,
off Elizabeth Street,
Cheetham Hill,
Manchester,
M8 8BB

All test locations were provided by the client. A site map is included in the end of Appendix A of this report (if provided by the client). The tests were stopped when they reached the target depth as per the client's technical specifications or for other technical reasons, as detailed in the *Project Summary Table* in *Appendix A.1* and on each CPTU log included in Appendix B of this report.

The fieldwork was carried out from 14th December 2021 to 16th December 2021 as per the client's request.

The work on site and the final factual reporting have been undertaken in accordance with the international technical standard *BS EN ISO 22476-1:2012*.

2.0 FIELDWORK

2.1 CONE PENETRATION TESTS

The fieldwork activity is summarised in Table 2.1.

Table 2.1 Fieldwork Summary	
CPT Operator/s	Roger Shepherd & Andy Vint
Date Started	14th December 2021
Date Finished	16th December 2021
In Situ S.I. Project Manager	Darren Ward
Main Contractor's Site Manager	Zoe Henderson

2.1.1 Rig Information

Details of CPTU rig used in this project are shown in Table 2.2. Full data sheet for the rig is presented in *Appendix A.2*.

Table 2.2 Rig Summary	
Rig Name	**Rig Description**
CPT001	20 Tonne Wheel Mounted CPT Rig

2.1.2 CPTU Cone

Details of electric CPTU cone (Type TE2) used in this project conforming to the requirements of Application Class 2 of *ISO 22476-1:2012*, are shown in Table 2.3.

Table 2.3 Cone Summary		
Number	**Cross-section area**	**Filter position**
S15-CFIP.1032	15cm^2	u_2

A full datasheet of the cone used is shown in *Appendix A.3*.

The cone's measured parameters are shown in Table 2.4.

Table 2.4 Completed Fieldwork Summary
26 CPTU to a maximum depth of 17.47m. Each test measured Cone Resistance, q_c, Sleeve Friction, f_s, Porewater Pressure in the shoulder position, u_2, Inclination in X and Y axes.
Provision of factual report with estimated soil type, derived geotechnical parameters & AGS data file.

2.1.3 CPTU Cone Calibration

The cone resistance and sleeve friction are recorded by calibrated load cells in the cone. The CPTU load cells and pressure transducers are regularly calibrated in line with *ISO 22476-1:2012* standard by the cone manufacturer. The cone calibration certificate for the cone used at this site are presented in *Appendix A.4*.

2.1.4 CPTU Cone Saturation

The pore water pressure is recorded using a calibrated pressure transducer located in the piezocone. To ensure pore water pressure measurements are not affected by the presence of air in the measuring transducer, a de-airing procedure is carried out prior to each test. The cone and filter are saturated using a glycerine fluid with a viscosity of 10,000 CST.

2.1.5 Test Procedure

The tests are carried out in accordance with the *International Standard for Electrical Cone and Piezocone Penetration Test (ISO 22476-1:2012)*.

The final depths of the tests were determined by either completion to the specified test depth or when the maximal safe capacity of the equipment was reached. A schedule of the tests performed is shown in *Appendix A.1*, which has been compiled from the operators' daily progress reports.

The data is transmitted from the digital CPTU through an umbilical cable that runs through the push rods to the data acquisition system. Results are displayed instantaneously on the computer logging screen. The results are recorded on the computer hard disc.

The rate of penetration is kept constant at 20 mm/s ± 5 mm/s except when penetrating very dense or hard strata. Before each test is carried out zero values are taken of the cone to check if it is within calibration. At the end of each test, zero values are taken again to see if there has been any drift during the test. These values are inspected during the post processing stage. This is a quality check on the data and the testing procedure. Individual test zero values are shown on their corresponding test results in *Appendix B*.

2.1.6 In Situ Pore Pressure (u_0)

The in situ or hydrostatic pore pressure is required for the calculation of several derived parameters included in this report. For this report, the groundwater level is assumed at 2.00 m below ground surface, for calculation purposes. The in situ pore pressure (u_0) values are presented on the pore pressure plot, on *CPT Log 01,* which is included in *Appendix B*.

2.2 POSITIONING

Positioning and surveying of all investigated locations was the responsibility of the client. The site map and position of the tests are presented in *Appendix A.9*.

3.0 CONE PENETRATION MEASURED PARAMETERS

All measured parameters of tests carried with the CPTU cone are shown in *Appendix B* and all the information about data processing and results are given in sections *3.1*, *3.2* and *3.3*.

3.1 DATA PROCESSING

The measured parameters, cone end resistance, q_c, sleeve friction, f_s, porewater pressure measurements with filter in shoulder position, u_2 and inclination for *x* and *y* axis, I_x, I_y, were recorded for every *10 mm* of penetration keeping a constant speed of *20 mm/s ± 5 mm/s*, which may slightly change when the cone is penetrating hard strata.

The measured data from the site works is processed and presented using specialised CPT software. The interpretations on the CPTU results were carried out following the recommendations of *Lunne et al. (1997)*, *Robertson (2015)* and *BS EN ISO 22476-1:2012*. Measured parameters, mentioned in *Sections 3.2* and *3.3*, were used to derive all the geotechnical parameters, which are presented in *Chapter 4.0*. The soil behaviour type method used on this report is *Robertson et al. (1986)*, shown in *Figure 3.2*.

3.1.1 Zero Measurements

Before and after each CPTU test, zero measurements are recorded for each channel of the cone. The zero measurements are presented on the logs in *Appendix B*. This is a routine quality check carried out on site.

3.2 MEASURED PARAMETERS

3.2.1 Cone Resistance (q_c)

Cone resistance, q_c, is measured as the total force acting on the cone, divided by the projected area of the cone. The results are presented in *MPa*, on *CPT Log 01*, in *Appendix B*, scale *0-20 MPa* with a minor scale printing on the same graph at *0-4 MPa*.

3.2.2 Sleeve Friction (f_s)

Sleeve friction, f_s, is measured as the total frictional force acting on the friction sleeve divided by its surface area. The results are presented in *kPa*, on *CPT Log 01*, in *Appendix B*, using a scale of *0-500 kPa*.

3.2.3 Porewater pressure (u_2)

The pore pressure, u_2, is measured during the test. If the material is free draining and saturation is maintained it will normally measure hydrostatic pore pressure. In materials that are not free draining, it will record the total pore pressure (hydrostatic plus any excess pore pressures generated) created by the cone penetration through this material.

The filter element can be mounted in one of three positions. For all tests carried out in this project the filter was mounted in the u_2 position (see *Figure 3.1*).

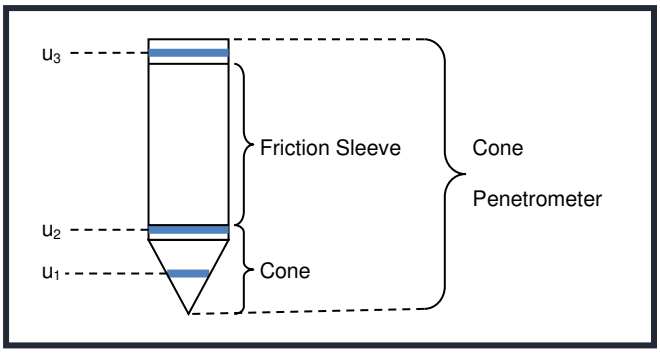


Figure 3.1: *Diagram showing pore pressure filter locations (after Lunne et al., 1997)*

3.2.4 Inclination (I_x, I_y)

The CPT rig was set up to obtain a thrust direction as near as possible to vertical. The CPTU cones have inclinometers incorporated to measure the non-verticality of the test. For test depths less than *15 m*, significant non-verticality is unusual, provided the initial thrust direction is vertical.

3.3 ESTIMATED SOIL BEHAVIOUR TYPE

3.3.1 Friction Ratio (R_f)

The friction ratio, R_f is the ratio between the sleeve friction and the cone resistance (Lunne *et al.,* 1997).

$$Fricton\ Ratio\ (R_f) = \left(\frac{Sleeve\ Friction\ (f_s)}{Cone\ Resistance\ (q_c)}\right) \times 100$$

3.3.2 Estimated Soil Behaviour Type (SBT)

The estimation of soil behaviour type, *SBT*, using measurements of cone resistance and sleeve friction is based upon the variations of the friction ratio and cone resistance. The friction

ratio varies depending upon whether the soil is cohesive or granular. The cone resistance varies depending on the strength and densities of the soil.

The interpretation used in this report is *Robertson et al. (1986)*, which is shown in Figure 3.2. The results are presented on *CPT Log 01*, in *Appendix B*.

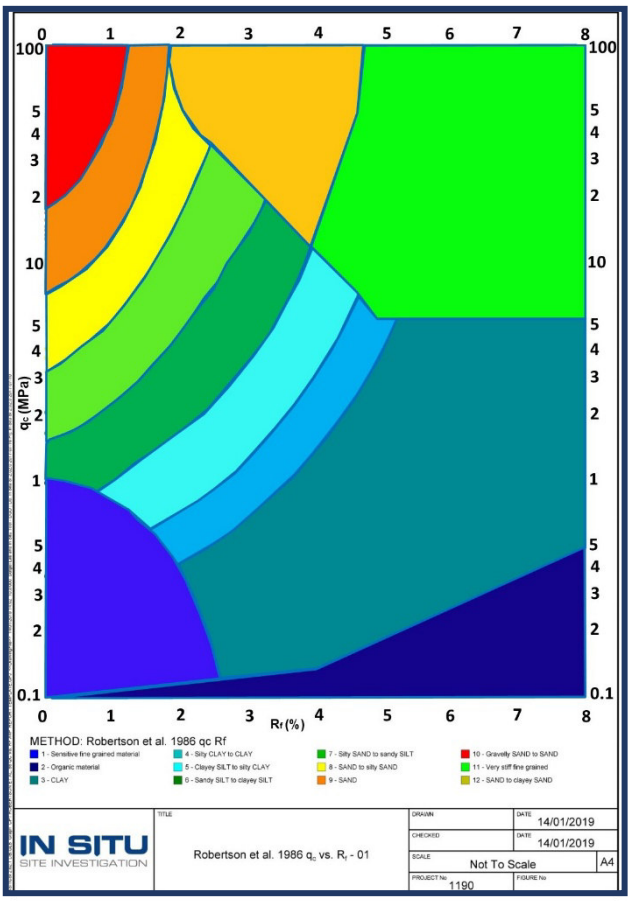


Figure 3.2: *Robertson et al., 1986 soil behaviour type chart.*

3.3.3 Pore Pressure Ratio (B_q)

Pore pressure ratio, B_q is the ratio between the measured pore pressure generated during penetration and the corrected cone resistance minus the total overburden stress.

Pore pressure ratio as defined by *Senneset and Janbu (1985)* is defined as:

$$B_q = \frac{u_2 - u_0}{q_t - \sigma_{vo}}$$

where

u_2	is pore pressure measured between the cone and the friction sleeve
u_0	is equilibrium pore pressure
σ_{vo}	is total overburden stress
q_t	is cone resistance corrected for unequal end area effects

3.4 APPLIED CORRECTIONS

3.4.1 Corrected Cone Resistance (q_t)

For each penetration test, the measured cone resistance, q_c, can be corrected for the "unequal area effect" due to the influence of the ambient pore water pressure acting on the cone.

The correction has been applied using the following equation by Lunne et *al.,* 1997:

$$q_t = q_c + [u_2.(1 - \alpha)]$$

where

α is the cone area ratio

The cone used on this project has a cone area ratio of *0.79*. This value is geometrically measured.

3.4.2 Depth Correction

All tests in the report have been corrected for depth difference caused by inclination. This has been calculated using the method described in *ISO 22476-1:2012*.

To calculate the corrected depth the following formula is used:

$$z = \int_0^l C_{inc} \cdot dl$$

where

z is penetration depth, in *m*
l is penetration length, in *m*
C_{inc} is correction factor for the effect of the inclination of the CPTU relative to the vertical axis.

The equation for calculating the correction factor for the influence of the inclination for a bi-axial inclinometer is:

$$C_{inc} = \frac{1}{\sqrt{(1 + tan^2\beta_1 + tan^2\beta_2}}$$

where

β_1 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane, in degrees
β_2 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane that is perpendicular to the plane of angle β_1, in degrees

4.0 GEOTECHNICAL DERIVED PARAMETERS

A number of empirical correlations can be used to derive geotechnical parameters from CPTU data. This report includes only the parameters which are described in this chapter. The results of all correlations used to obtain the geotechnical derived parameters are presented on *CPT Log 02* and *CPT Log 03* in *Appendix B*.

Please, note that each empirical correlation is derived for a certain type of soil, and may not be appropriate for all the soil types encountered on this project.

4.1 SOIL BEHAVIOUR TYPE INDEX (I_c)

The soil behaviour type index, I_c, was derived by *Jefferies and Davies (1991)*, and was created to simplify the application of CPTU SBT chart shown in *Chapter 3*, *Figure 3.2*. This approach has been modified for use with the *Robertson (1990)* normalised CPT soil classification chart, *Figure 4.1*. The normalised cone parameters Q_t and F_r (for definitions see *Appendix A5* Symbol List) can be combined into one Soil Behaviour Type Index, I_c, *(Lunne et al., 1997)*.

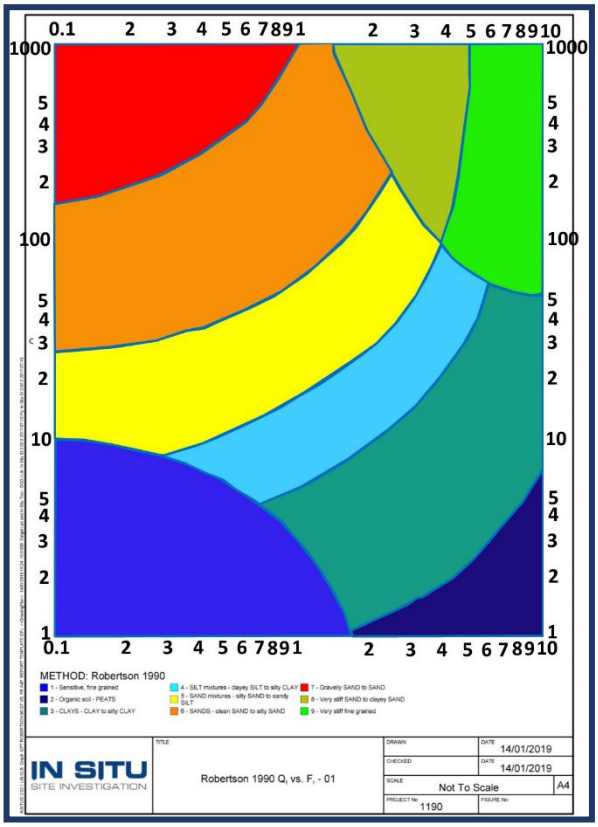


Figure 4.1: *Robertson 1990 soil behaviour type chart.*

The soil behaviour type index, I_c, can then be defined using *Robertson (2010)* formula, given below:

$$I_c = ((3.47 - logQ_t)^2 + (logF_r + 1.22)^2)^{0.5}$$

where

Q_t is the normalized cone resistance which represents the simple normalization with a stress exponent (n) of *1.0*, which applies well to clay-like soils

F_R is the normalized friction ratio, in *%*

The boundaries of soil behaviour type are then given in terms of the index, I_c, presented in *Table 4.1* below.

The soils behaviour type index does not apply to zones *1*, *8* and *9*. The profiles of I_c provide a simple guide to the continuous variation of soil behaviour type in a given soil profile based on CPTU results, with a reliability greater than *80%* compared with soil samples *(Robertson, 2015).*

Zone	Soil Behaviour Type	I_c
1	Sensitive fine grained	N/A
2	Organic Soils – clay	>3.6
3	Clays – silty clay to clay	2.95 – 3.6
4	Silt mixtures – clayey silt to silty clay	2.60 – 2.95
5	Sand mixtures – silty sand to sandy silt	2.05 – 2.6
6	Sands – clean sand to silty sand	1.31 – 2.05
7	Gravelly sand to dense sand	<1.31
8	Very stiff sand to clayey sand*	N/A
9	Very stiff fine grained *	N/A

** Heavily over consolidated or cemented*

Table 4.1: *Normalized CPTU Soil Behaviour Type (SBT_n) Index values, I_c.(Robertson, 2010)*

4.2 N VALUE OF STANDARD PENETRATION TEST (SPT) (N_{60})

The derived *N* value of *SPT, N_{60}*, is strongly and directly related to the cone resistance, q_c.

In this report the N_{60} value is derived using the following correlations, developed by *Robertson and Wride (1998)* and *Jefferies and Davies (1998)*

1) *Robertson & Wride (1998)*

$$N_{60} = \frac{q_c}{8.5 \cdot p_a \left(1 - \frac{I_C}{4.6}\right)}$$

2) *Jefferies and Davies (1993)*

$$N_{60} = \frac{q_c}{0.85 \cdot \left(1 - \frac{I_C}{4.75}\right)}$$

where

q_c	is the cone resistance
p_a	is the atmospheric pressure equal to *100 kPa*
I_c	is the soil behaviour type index calculated as given in *section 4.1*

It is suggested that this method provides a better estimation of the *N* value than the actual *SPT* test, due to its poor repeatability. But in fine grained soil with high sensitivity these methods of estimating N_{60} may overestimate it *(Jefferies and Davies, 1991).*

4.3 RELATIVE DENSITY (D_r)

Relative density, D_r, is an intermediate parameter for coarse grained soils, widely used to describe sand deposits. All the research on deriving the relative density from CPTU tests results are carried out for ***clean predominantly quartz sands***. The studies have shown that CPTU resistance in granular soils is controlled by sand relative density, in situ effective stresses and compressibility. The more compressible sands tend to give lower penetration resistance for a given relative density then less compressible sands.

In this report relative density is calculated using the methods suggested by *Baldi et al., (1986)*, *Jamiolkowski et al., (2001)* and *Kulhawy and Mayne (1990)* as shown in the equations below:

1) Baldi et al., (1986)

$$D_r = \frac{1}{C_2} \cdot ln\left(\frac{q_c \cdot Wehr}{C_1 \cdot (\sigma'_{v0})^{0.55}}\right) \cdot 100$$

where

C_1 is a consolidation coefficient which is *157* for normally consolidated soils and *181* for over consolidated soils

C_2 is a consolidation coefficient which is *2.41* for normally consolidated soils and *2.46* for over consolidated soils

Wehr is a correction coefficient for calcareous soils

2) Jamiolkowski et al., (2001)

$$D_r = 100 \cdot \left[0.268 \cdot ln\left(\frac{q_t/\sigma_{atm}}{\sqrt{\sigma'_{v0}/\sigma_{atm}}}\right) + C_1\right]$$

where

C_1 is a compressibility coefficient which is *-0.675* for average compressible soils, ≤*1.0* for high compressible soils and carbonate or calcareous sands and ≥*-2.0* for low compressible soils

q_t is corrected cone resistance

σ_{atm} is the atmospheric pressure

3) Kulhawy and Mayne, (1990)

$$D_r = \left[\frac{q_{c1}}{305 \cdot C_1 \cdot OCR^{0.18} \cdot \left(1.2 + 0.05 \cdot log(t/100)\right)}\right]^{0.5} \cdot 100$$

where

q_{c1} is the cone resistance corrected for initial vertical effective stress and atmospheric pressure, calculated by the following formula

$$q_{c1} = \frac{q_c}{\sqrt{\sigma'_{v0} \cdot \sigma_{atm}}}$$

where

q_c is the cone resistance in *kPa*

σ'_{v0} is the initial vertical effective stress in *kPa*

C_1 is a compressibility coefficient which is *-0.91* for low compressible sands, *1.0* for medium compressible sands and *1.09* for high compressible sands

t is time in years

4.4 FRICTION ANGLE (φ')

Friction angle, *φ*', is used to express the shear strength of uncemented, coarse grained soils. In this report friction angle is derived by the correlations of *Mayne and Campanella (2005)*, *Robertson and Campanella (1983)* and *Kulhawy and Mayne (1990)*.

1) Mayne and Campanella, (2005)

$$\varphi' = 29.5^0 \cdot B_q^{0.121} \cdot \left[0.256 + 0.336 \cdot B_q + logQ_t\right]$$

where

B_q is the pore pressure ratio, calculated as in Session 3.3

Q_t is the normalized cone resistance

2) Robertson and Campanella, (1983)

$$\varphi' = \tan^{-1}\left(0.1 + 0.38 \cdot log\left(\frac{q_t}{\sigma'_{v0}}\right)\right)$$

where

q_c is the cone resistance in *kPa*

σ'_{v0} is the initial vertical effective stress in *kPa*

3) Kulhawy and Mayne, (1990)

$$\varphi' = 17.6^0 + 11.0^0 \cdot log(q_{t1})$$

where

q_{t1} is the corrected cone resistance corrected for initial vertical effective stress and atmospheric pressure, calculated by the following formula

$$q_{t1} = \frac{q_t}{\sqrt{\sigma'_{v0} \cdot \sigma_{atm}}}$$

The method suggested by *Mayne and Campanella (2005)* will not provide reliable results for heavily over consolidated soils, fissured geomaterials and highly cemented or structures clays. This approach gives reliable results when pore pressure is positive and varies $0.1 < B_q < 1.0$. The correlation suggested by *Robertson and Campanella (1983)* estimates the peak friction angle for uncemented, unaged, moderately compressible, predominately quartz sands. For sands of higher compressibility, the method will tend to predict low friction angles. The method suggested by *Kulhawy and Mayne (1990)* is an alternate relationship for clean, rounded, uncemented, quartz sands.

4.5 FINES CONTENT (*FC*)

The fines content, *FC*, in this report is estimated using two different methods, one from *Robertson and Wride (1998)* and the other, *Suzuki et al. (1998)* as presented below:

1) Robertson and Wride (1998)

$$I_C < 1.26: FC = 0$$
$$1.26 \leq I_C \leq 3.5: FC(\%) = 1.75I_C^{3.25} - 3.7$$
$$3.5 < I_C: \ FC = 100\%$$

2) Suzuki et al. (1998)

$$FC(\%) = 2.8I_C^{2.6}$$

where

I_c is the soil behaviour type index, calculated as in section 4.1

4.6 UNDRAINED SHEAR STRENGTH (s_u)

Estimation of undrained shear strength, s_u, from CPTU tests using corrected cone resistance is carried out using the following correlation from *Lunne et al. (1981)*:

$$S_u = \frac{(q_t - \sigma_{v0})}{N_{kt}}$$

where

N_{kt} is the empirical cone factor, which varies from *10* (*6* for very soft sensitive fine grained soils) to *20*. In this report 3 values are considered: *15*, *17.5* and *20*. N_{kt} tends to increase with increasing plasticity and decrease with increasing soil sensitivity. It decreases as B_q increases. (*Lunne et al., 1997*)

σ_{vo} = total overburden stress.

This report only presents the undrained shear strength data on soils with soil behaviour type index, I_c values greater than *2.60*.

The value of undrained shear strength, s_u to be used in analysis depends on the design problem. In general, the simple shear in the direction of loading often represents the average undrained strength. For larger, moderate to high risk projects, where high quality field and laboratory data may be available, site specific correlations should be developed based on appropriate and reliable values of s_u.

4.7 SENSITIVITY (S_t)

The sensitivity, S_t of clays is defined as the ratio of undisturbed peak undrained shear strength to totally remoulded undrained shear strength.

In this report S_t is calculated using two correlations developed by *Schmertmann (1978)* and *Mayne (2007)*.

1) Schmertmann (1978)

$$S_t = \frac{s_u}{s_{u(rem)}} = \frac{q_t - \sigma_v}{N_{kt}} \left(\frac{1}{f_s}\right)$$

where

$s_{u(rem)}$ is the remoulded undrained shear strength. It can be assumed equal to the sleeve resistance, f_s.

2) Mayne (2007)

$$S_t = \frac{0.073 \cdot (q_t - \sigma_{v0})}{f_s}$$

For relatively sensitive clays, $S_t > 10$, the value of f_s can be very low and not very accurate, hence the estimate of sensitivity should be used as a guide only.

4.8 SOIL UNIT WEIGHT (γ)

Soil unit weight, γ in this report is calculated by using one method for sands, considered under dry conditions and two methods for clays, considered under saturated conditions. These relationships are developed by *Mayne (2007)* and the equations are presented below:

1) Mayne (2007)

Dry unit weight for sands:

$$\gamma_{dry} = 1.89 \cdot log(q_{t1}) + 11.82$$

Saturated unit weight for clays method 1

$$\gamma_{sat} = 8.32 \cdot log(V_S) - 1.61 \cdot log(z)$$

Saturated unit for clays method 2

$$\gamma_{sat} = 2.60 \cdot log(f_s) + 15 \cdot G_s - 26.5$$

where

q_{t1} is the corrected cone resistance corrected for initial vertical effective stress and atmospheric pressure, calculated by the following formula:

$$q_{t1} = \frac{q_t}{\sqrt{\sigma'_{v0} \cdot \sigma_{atm}}}$$

z is the depth

V_s is the shear wave velocity, calculated as $V_S = 118.8 \cdot log\left(f_s\right) + 18.5$

G_s is the specific gravity of solids, typically between *2.40* and *2.90*

5.0 REFERENCES

ASTM D7400-14 (2015), "Standard and ISSMGE TC10 guideline", by *Butcher, A. P. et al.*

Baldi et al. (1986) / Al-Hamoud and Wehr (2006), "Interpretation of CPTs and CPTUs; 2nd part: drained penetration of sands / Experience of vibrocompaction in calcareous sand of UAE"

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APPENDIX A

APPENDIX A1 – Project Summary Sheet

Piezocone Tests Summary Sheet

HOLE ID	Final Depth (m)	Date of Test	Cone Used	Test Remarks
CPT101	13.75	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT102	0.34	15/12/2021	S15-CFIP.1032	Test refused on inclination.
CPT102A	14.20	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT103	12.91	15/12/2021	S15-CFIP.1032	Test refused on inclination.
CPT104	0.48	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT104A	0.35	16/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT105	14.68	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT106	17.47	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT107	13.75	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT108	13.81	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT109	0.12	14/12/2021	S15-CFIP.1032	Test refused on tip resistance.
CPT109A	0.16	14/12/2021	S15-CFIP.1032	Test refused on tip resistance.
CPT110	16.05	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT111	14.90	15/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT112	15.01	16/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT113	6.71	14/12/2021	S15-CFIP.1032	Test refused on inclination.
CPT113A	14.42	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT114	13.89	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT115	15.45	16/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT116	10.54	16/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT117	10.94	16/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT118	13.95	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT119	0.16	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT119A	14.23	14/12/2021	S15-CFIP.1032	Test refused on total pressure.
CPT120	0.96	14/12/2021	S15-CFIP.1032	Test refused on inclination.
CPT120A	14.73	14/12/2021	S15-CFIP.1032	Test refused on total pressure.

APPENDIX A2 – CPT Rig Datasheet

RIGS

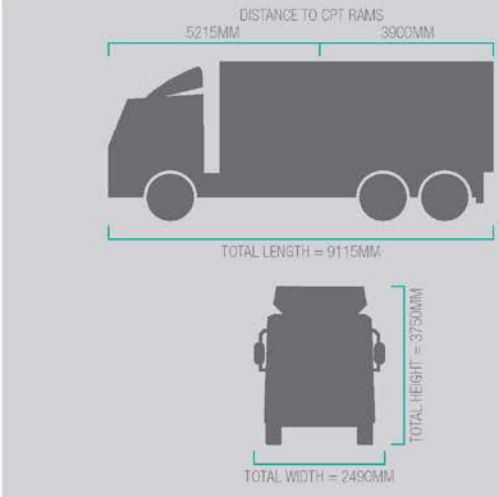
20 TONNE CPT TRUCK MOUNTED RIG (CPT 001)

The Volvo, CPT001, is a 6 x 4 wheel drive CPT rig ideal for geotechnical testing on hardstanding sites such as roads and car parks. It can also be used on dry non-hardstanding sites making it one of our versatile rigs as it can be deployed to many different types of site. Fitted with reflective yellow and red chevrons, these high visibility rear markings meet the 'Chapter 8' requirements for vehicles working on highways. It weighs 21 tonnes and can push up to 30-40 metres per day, depending on the ground conditions.

CPT RIG DETAILS

DRIVE SYSTEM	6x4 WHEEL DRIVE
TOTAL WEIGHT	21 TONNES
GROUND BEARING PRESSURE	75kPa
CPT RAM THRUST CAPACITY	20 TONNES
MAXIMUM PENETRATION	30-40M DEPENDING ON THE GROUND CONDITIONS.
PERFORMANCE RATES	100-150M OF TESTING IN A DAY DEPENDING ON ACCESS TO POSITIONS.
TYPICAL SITES FOR THIS RIG	HARDSTANDING SITES, E.G. ROADS, CARPARKS. DRY NON HARDSTANDING SITES.

CPT RIG DIMENSIONS





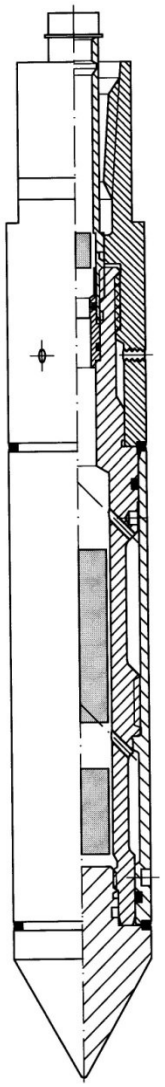




IN SITU SITE INVESTIGATION INSITUSI.COM

APPENDIX A3 – Cone Datasheet

GeoPoint Systems bv
Rijksstraatweg 22F
2171 AL Sassenheim
Tel. : +31 71 301 92 51
Fax : +31 71 301 92 52
E-mail : info@geopoint.nl
ING bank : 68.23.01.396
Postbank : 5226758
BTW nr. : NL806331677B01



SPECIFICATIONS S15 SERIES ELECTRICAL CONES

The electronic subtraction cones have been developed to address the durability problems inherent in other cone designs. The unit consists of a single element temperature compensated strain gauge transducer for measuring both cone resistance and local sleeve friction. This design is therefore more robust than a compression type cone. The cone support electronics package is located directly behind the transducer. The precision strain gauge amplifiers and power supply eliminate the effects of cable resistance on the measurements. A standard subtraction cone is capable of measuring simultaneously the following channels: Tip, Local friction, Pore pressure, Temperature and Inclination.

GENERAL SPECIFICATIONS

Cone Tip Section Area	1,500 mm2
Friction Sleeve Surface	22,500 mm2
Total Length	325 mm
Weight	4200 g
Power Supply	± 15 VDC, 100 mA.
Output	0 – 10 VDC*
Working Temperature	0 - 60˚C
Storage Temperature	- 40 to + 85˚C
Connector	Lemo 10 pins (others on request)

TIP RESISTANCE

Range	100/150* kN
Accuracy	0.25 % FS
Maximum Load	150 % of range
Cone Area Ratio	0.75

LOCAL SLEEVE FRICTION

Range	100/150* kN
Accuracy	0.50 % FS
Maximum Load	150 %
Sleeve Area Ratio	1.0 (EA)

PORE PRESSURE

Range	1/2/5/10* MPa
Accuracy	0.5 % FS
Maximum Load	150 % of range

INCLINATION

Range	25 ˚ (biaxial)
Accuracy	< 2 ˚

All our equipment complies with the ISSMGE, ASTM, DIN and NEN Standards.

**Other output and voltage ranges available on request. Loadcells may be calibrated for lower ranges.*

APPENDIX A4 – Cone Calibration Certificate

Certificate Number: S15-CFIIP.1032- 03.03.21

CPT CONE CALIBRATION CERTIFICATE

SOCOTEC

Cone No.	S15-CFIIP.1032	Date of Calibration	03 March 2021
Manufacturer	Geopoint	Reference Standards	BS 1377 : 1990 Part 9
Compression/ Subtraction	Subtraction	Reference Equipment	Pressure meter LTR01; Vernier callipers GCV4; Load cell 22541; Voltmeter 6402486
Pore Pressure Channel (Y/N)	Y		
Cone end area ratio (by dimension measurement), a	0.70	Sleeve end area ratio (by dimension measurement), b	1.0
Expanded Combined Uncertainty (U) C1	9.82937 mV	Expanded Combined Uncertainty (U) C2	1.47378 mV
Expanded Combined Uncertainty (U) C3	272.261 mV		

Note: Calibration Zero taken as no load in free air, Output taken as slope of linear regression line x maximum load.

Temperature differential during calibration 0 °C

Cone Type (S/ C/ M/ D/ T): S

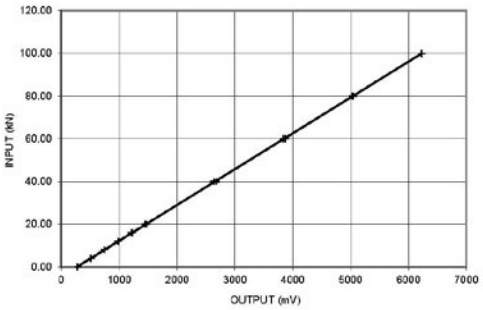
Ch 3 (P/ C/ T/ N/ F): P

	Output	Input	Zero	Area	Alarm
Channel 1	5961 mV	100 kN	266 mV	15 cm^2	80 kN
Channel 2	6111 mV	100 kN	277 mV	225 cm^2	80 kN
Channel 3	7808 mV	20 Bar	260 mV		12 Bar

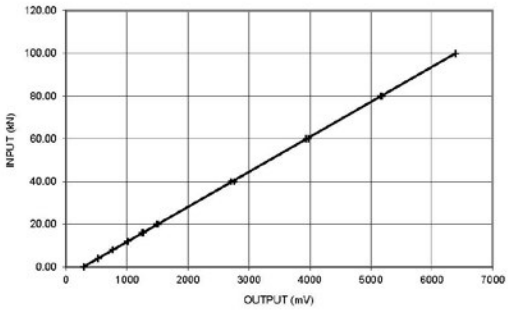
Inclination	-20°	0°	20°	Alarm
X	512 mV	2514 mV	4483 mV	12 °
Y	265 mV	2369 mV	4459 mV	Extra Channels: N

UKAS TESTING

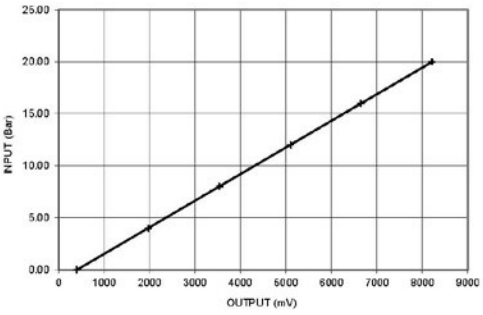
CHANNEL 1 - TIP



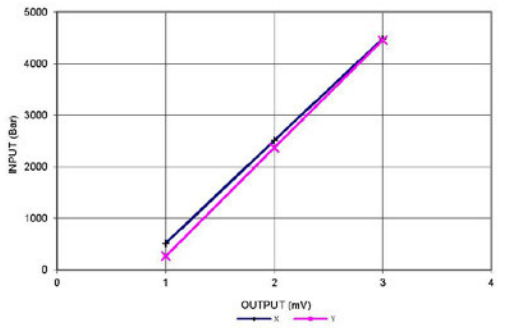
CHANNEL 2 - FRICTION SLEEVE



CHANNEL 3 - PORE PRESSURE



CHANNEL 4 - INCLINATION



Calibration Manual		Cone calibrated by:	Authorised for use by:
Calibration Sheet No.	NNN-CP201	db	Craig Curtis (In Situ Testing Manager)
Issue Number:	2020-10		
Issue Date:	26/10/2020		
CalibrationProcedure.	CP201		

This certificate relates to the item calibrated only

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

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APPENDIX A5 – Symbol List

English

a	is area ratio of the cone ($= {}^{A_n}/_{A_c}$)
A	is area
A_c	is projected area of the cone
A_n	is cross sectional area of load cell or shaft
A_s	is area of friction sleeve
A_{sb}	is bottom end area of friction sleeve
A_{st}	is top end area of friction sleeve
B_q	is pore pressure parameter ($= {}^{(u_2 - u_0)}/_{(q_t - \sigma_{v0})}$)
c_h	is horizontal coefficient of consolidation
c_v	is vertical coefficient of consolidation
D	is diameter
D_r	is relative density ($= \frac{e_{max} - e}{e_{max} - e_{min}} x100\%$)
e	is void ratio
e_{max}	is maximum void ratio
e_{min}	is minimum void ratio
E	is Young's modulus
f_s	is unit sleeve friction resistance
f_t	is sleeve friction corrected for pore pressure effects
F_s	is total force acting on friction sleeve
F_R	is normalized friction ratio ($= {}^{f_s}/_{(q_t - \sigma_{v0})}$)
FoS	is factor of safety
FC	is fines content
g	is acceleration due to gravity
G_0	is initial or maximum shear modulus, shear stiffness
I_c	is soil behavior type index
I_r	is rigidity index ($= {}^{G}/_{s_u}$)
I_p	is plasticity index
k	is coefficient of permeability
k_h	is coefficient of permeability in horizontal direction
k_v	is coefficient of permeability in vertical direction
K_0	is coefficient of earth pressure at rest ($= {}^{\sigma'_{h0}}/_{\sigma'_{v0}}$)
L	is length
m_v	is coefficient of volume change
M	is constrained deformation modulus
M7.5	is earthquake magnitude of 7.5 Richter scale
N	is number of blows of SPT
N_{60}	is SPT energy ratio
N_k	is cone factor
N_{ke}	is cone factor
N_{kt}	is cone factor
$N_{\Delta u}$	is cone factor
p_a	is reference stress ($= 100\ kPa$)
q_c	is measured cone resistance
q_e	is effective cone resistance ($= q_t - u_2$)
q_n	is net cone resistance ($= q_t - \sigma_{v0}$)
q_t	is corrected cone resistance ($= q_c - (1 - a)u_2$)
Q_c	is total force acting on the cone
Q_t	is normalized cone resistance ($= {}^{q_t - \sigma_{v0}}/_{\sigma'_{v0}}$)

R_f is friction ratio $(= \left({}^{f_t}/_{q_t}\right) x100\%$ or alternatively $= \left({}^{f_t}/_{q_t}\right) x100\%)$
s_u is undrained shear strength
s_{ur} is remoulded undrained shear strength
S_t is sensitivity
t is time
t_{50} is time for 50% dissipation of excess pore water pressure
T_{50} is time factor at $U = 50\ \%$
u is pore water pressure
u_0 is in situ pore pressure
u_1 is pore pressure measured on the cone
u_2 is pore pressure measured behind the cone
u_3 is pore pressure measured behind sleeve friction
Δu is excess pore water pressure
U is normalized excess pore pressure
V_s is shear wave velocity
z is depth

Greek

α is constant
α is cone roughness
β is constant
β_1 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane, in degrees
β_2 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane that is perpendicular to the plane of angle β_1, in degrees
γ is unit weight of soil
γ_w unit weight of water
Δ is change
Δu is excess pore pressure $(= u - u_0)$
μ is Poisson's ratio
ρ is density
ψ is state parameter
σ, σ' is normal stress (total, effective)
σ_h, σ_h' is horizontal stress (total, effective)
σ_v, σ_v' is horizontal stress (total, effective)
σ_{v0},σ_{v0}' is overburden stress (total, effective)
τ_{av} is average cyclic shear stress
τ_{cy} is cyclic shear stress
φ' is effective friction angle

APPENDIX A6 – Abbreviations

ASTM	American Society for Testing and Materials
CPTU	Cone Penetration Test with Pore Pressure Measurement (Piezocone Test)
CRR	Cyclic Resistance Ratio
CSR	Cyclic Stress Ratio
GWT	Ground Water Table
NC	Normally Consolidated
OC	Over consolidated
OCR	Over consolidation Ratio
PL	Limit Pressure
SDMT	Seismic Dilatometer Marchetti
SPT	Standard Penetration Test
TC	Technical Committee

APPENDIX A7 – Glossary

CPT
Cone Penetration Test.

Cone
The part of the cone penetrometer on which the end bearing is developed.

Cone Penetrometer
The assembly containing the *cone*, *friction sleeve*, any other sensors and measuring systems, as well as the connections to the *push-rods.*

Cone resistance, q_c
The total force acting on the cone, Q_c, divided by the projected area of the cone, A_c. $q_c = {Q_c}/{A_c}$

Corrected cone resistance, q_t
The *cone resistance*, q_c corrected for pore water pressure effects.

Corrected sleeve friction, f_t
The *sleeve friction* corrected for pore water pressure effects on the ends of the *friction sleeve*.

Data acquisition system
The system used to measure and record the measurements made by the *cone penetrometer*.

Dissipation Test
A test when the decay of the pore water pressure is monitored during a pause in penetration.

Filter element
The porous element inserted into the cone penetrometer to allow transmission of the pore water pressure to the pore pressure sensor, while maintaining the correct profile of the *cone penetrometer*.

Friction ratio, R_f
The ratio, expressed as a percentage of the *sleeve friction*, f_s, to the *cone resistance*, q_c, both measured at the same depth.

Friction reducer
A local enlargement on the push-rod surface, placed at a distance above the cone penetrometer, and provided to reduce the friction on the *push-rods*.

Friction sleeve
The section of the *cone penetrometer* upon which the *sleeve friction* is measured.

Normalized cone resistance, Q_c or Q_t
The *cone resistance* expressed in a non-dimensional form and taking account of stress changes *in situ*, $Q_c = {(q_c - \sigma_{v0})}/{\sigma'_{v0}}$, or when the *corrected cone resistance* is used $Q_t = {(q_t - \sigma_{v0})}/{\sigma'_{v0}}$. where σ_{v0} and σ'_{v0} are the total and effective vertical stress respectively.

Net cone resistance, q_n
The *corrected cone resistance* minus the vertical total stress. $q_n = q_t - \sigma_{v0}$

Normalized friction ratio, F_r
The *sleeve friction* normalized by the *net cone resistance*.

Piezocone
A *cone penetrometer* containing a pore pressure sensor.

Pore pressure, *u*
The pore pressure generated during penetration and measured by a pore pressure sensor, u_1 when measured on the cone, u_2 when measured just behind the cone and u_3 when measured just behind the friction sleeve.

Pore pressure ratio, B_q
The *net pore pressure* normalized with respect to the *net cone resistance*.

Push-rods
The thick-walled tubes or rods used for advancing the cone penetrometer.

Rig machine
The equipment which pushes the cone penetrometer and rods into the ground.

Sleeve friction, f_s
The total frictional force acting on the *friction sleeve*, F_s, divided by its *surface area*, A_s. $f_s = {F_s}/{A_s}$

APPENDIX A8 – Soils Description Tables

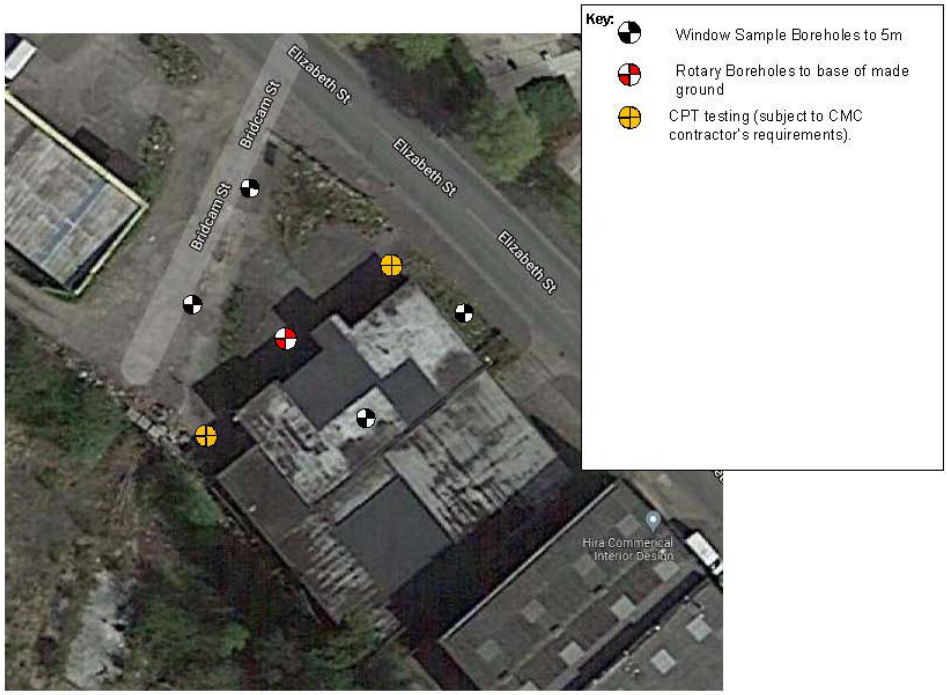
GRANULAR SOILS (Sands and Gravels)

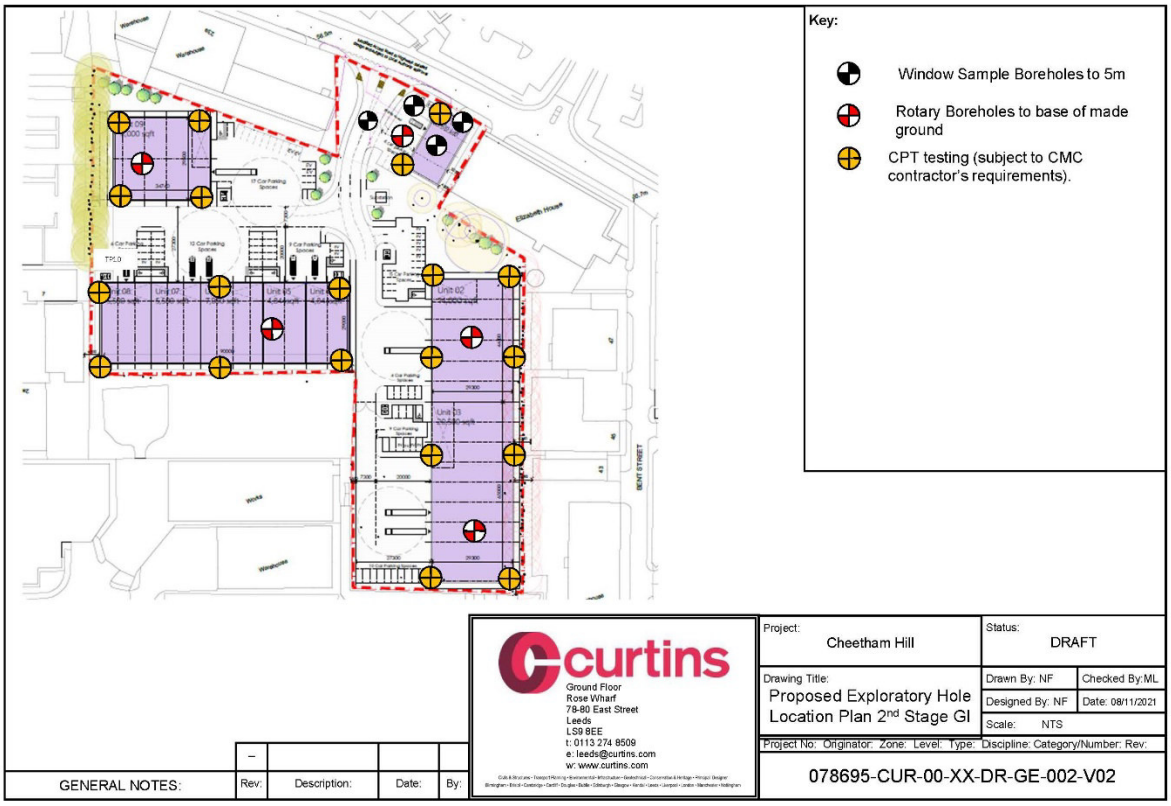
Description	Relative Density D_r (%)	SPT N value, N_{SPT}
Very Loose	0 – 15	0 - 4
Loose	15 – 35	4 - 10
Medium Dense	35 – 65	10 - 30
Dense	65 – 85	30 - 50
Very Dense	>85	>50

COHESIVE SOILS (Clays and Silts)

Term based on measurement	Undrained Shear Strength Classification, s_u (kPa)
Extremely low	<10
Very low	10 - 20
Low	20 - 40
Medium	40 - 75
High	75 - 150
Very high	150 - 300
Extremely high	>300

APPENDIX A9 – Site Maps





APPENDIX B

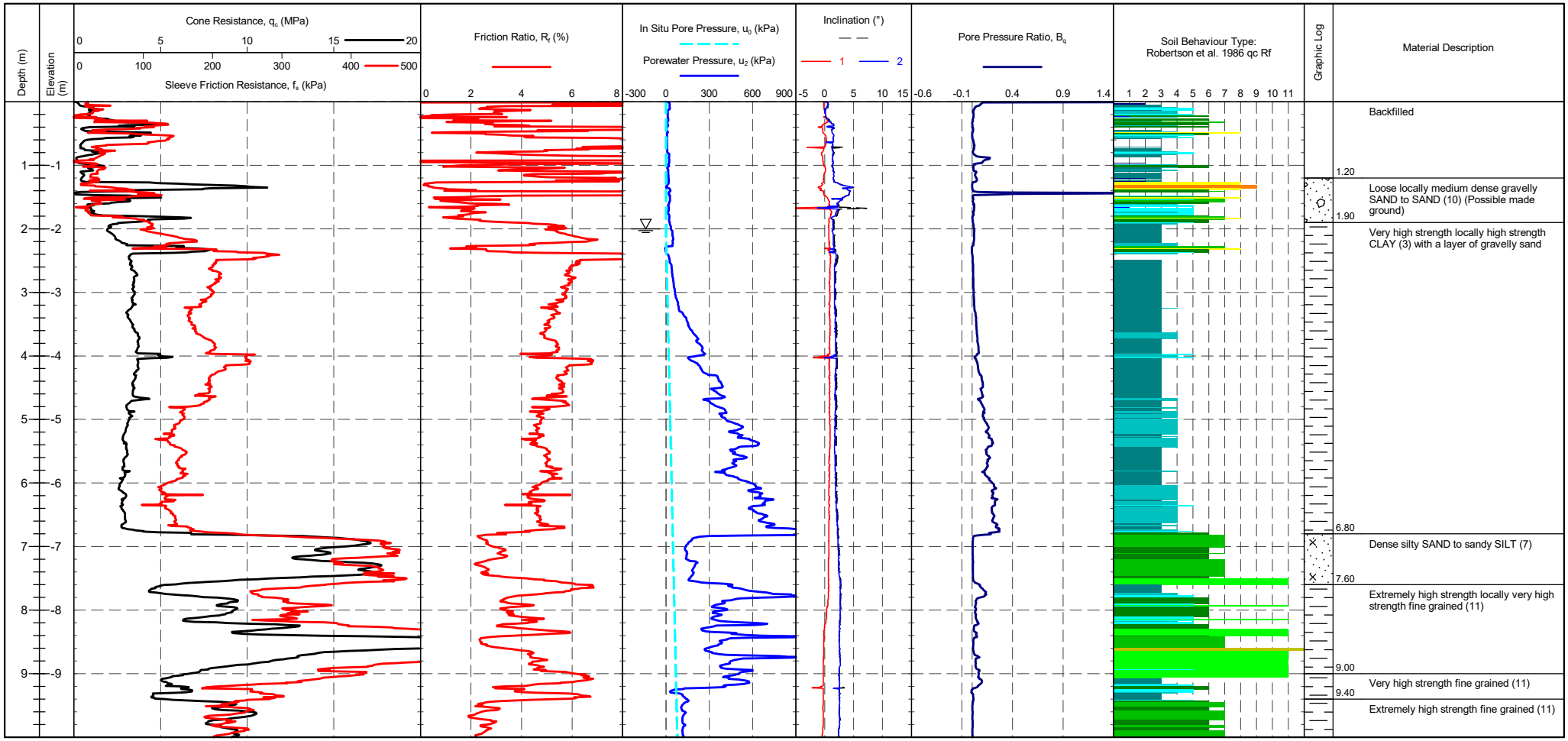
Cone Penetration Measured Parameters and Geotechnical Derived Parameters

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT101**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2	CPTU ZERO VALUES	
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm^2	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

Transducer	Pre	Post	Difference
Tip	284 mV	280 mV	-0.044 MPa
Sleeve	292 mV	289 mV	-0.002 kPa
Pore Pressure 2	434 mV	439 mV	0.001 kPa
X-Y Inclinometer	2533 mV	2488 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

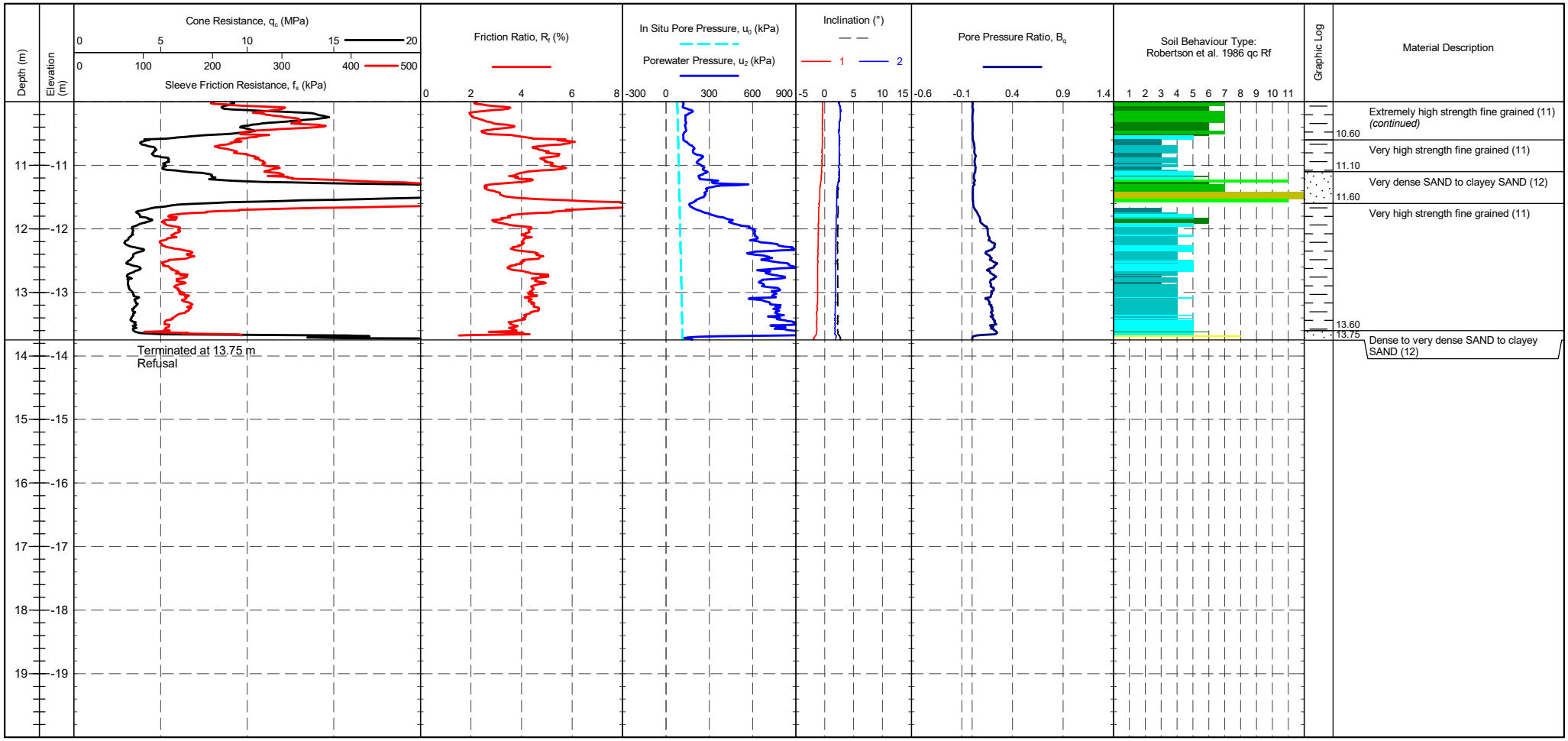
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT101**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2		
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm²	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	280 mV	-0.044 MPa
Sleeve	292 mV	289 mV	-0.002 kPa
Pore Pressure 2	434 mV	439 mV	0.001 kPa
X-Y Inclinometer	2533 mV	2488 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

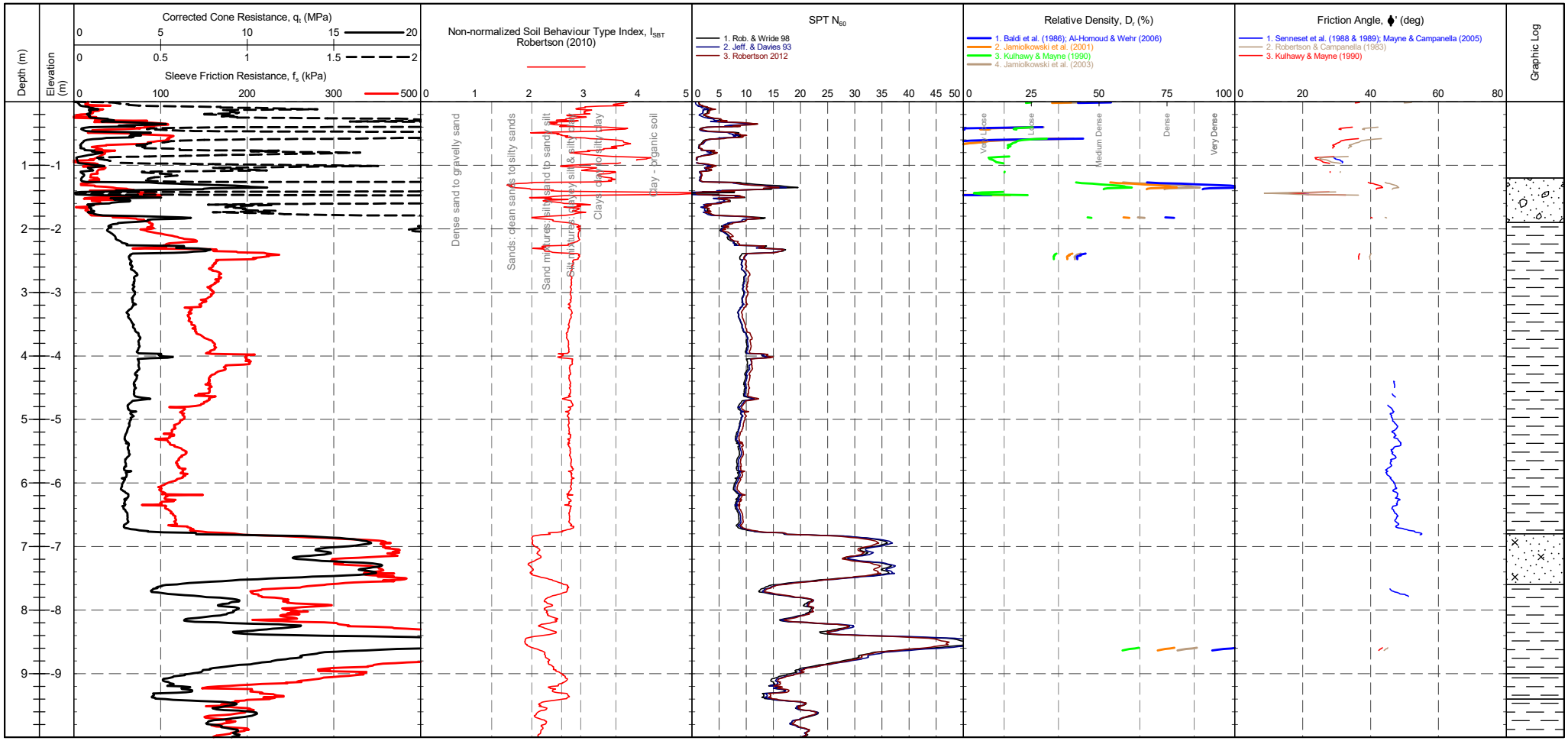
PointID **CPT101**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 001	Tip	284 mV	280 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	289 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	434 mV	439 mV	0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2533 mV	2488 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

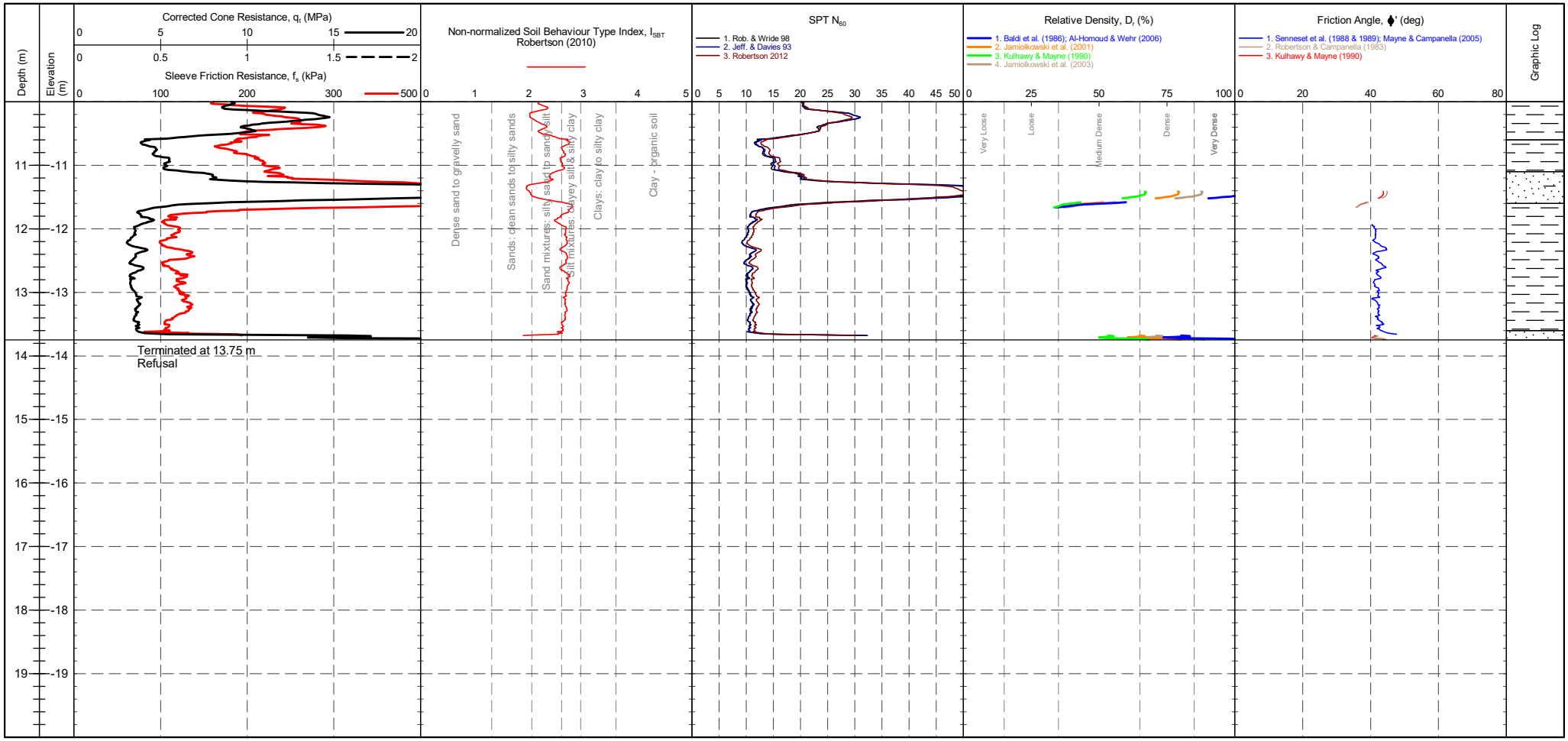
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID: **CPT101**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	280 mV	-0.044 MPa
Sleeve	292 mV	289 mV	-0.002 kPa
Pore Pressure 2	434 mV	439 mV	0.001 kPa
X-Y Inclinometer	2533 mV	2488 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

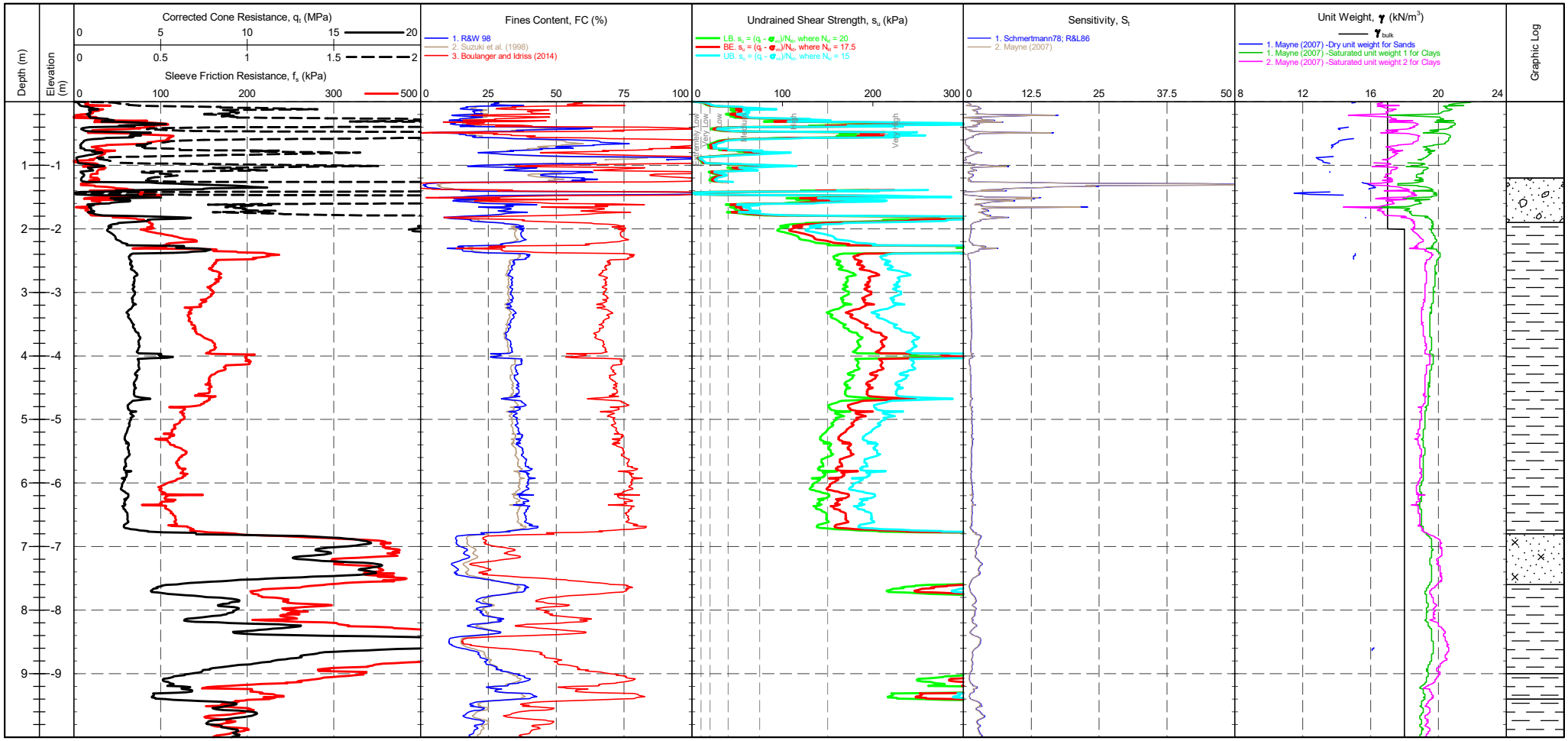
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT101**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	280 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	289 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	434 mV	439 mV	0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2533 mV	2488 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

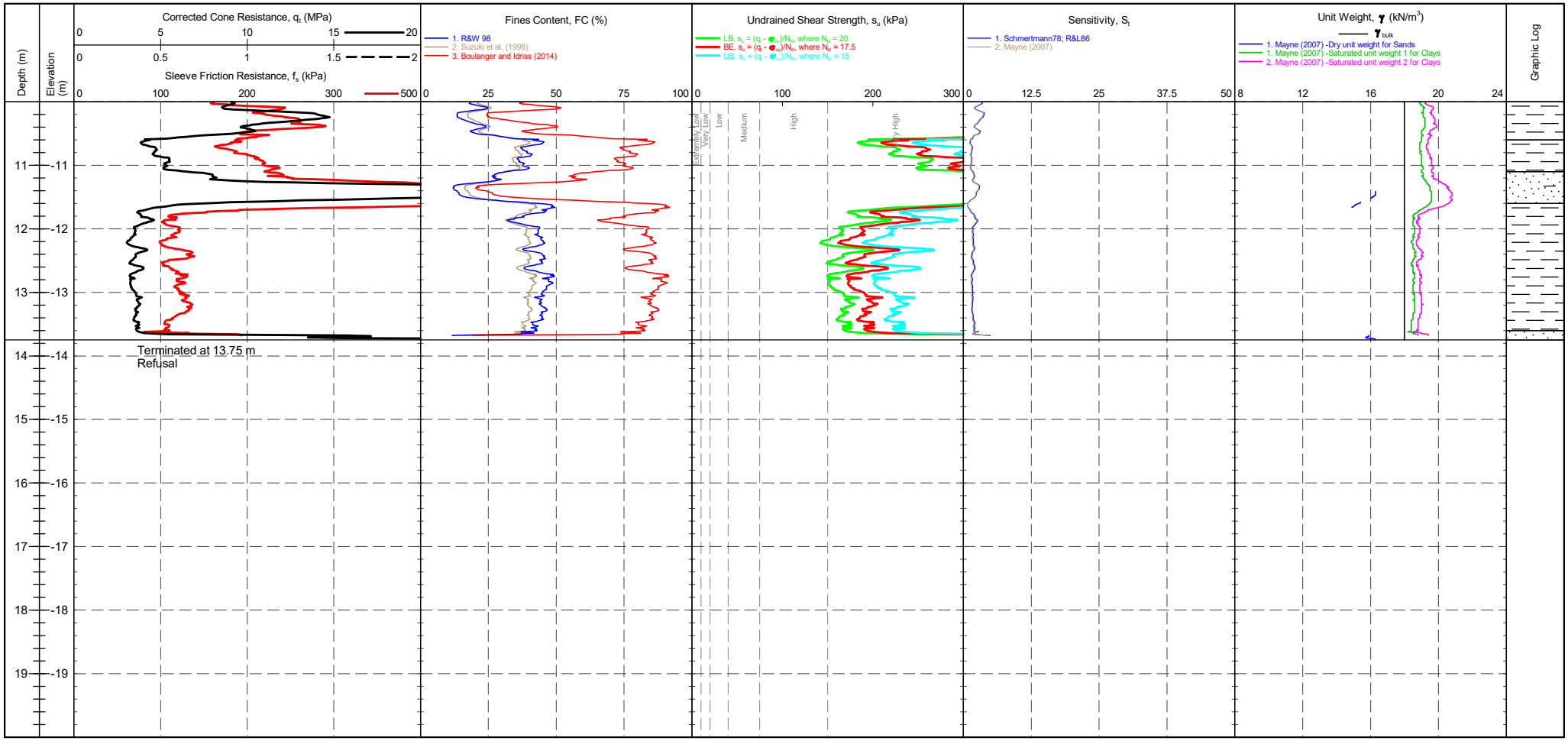
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT101**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

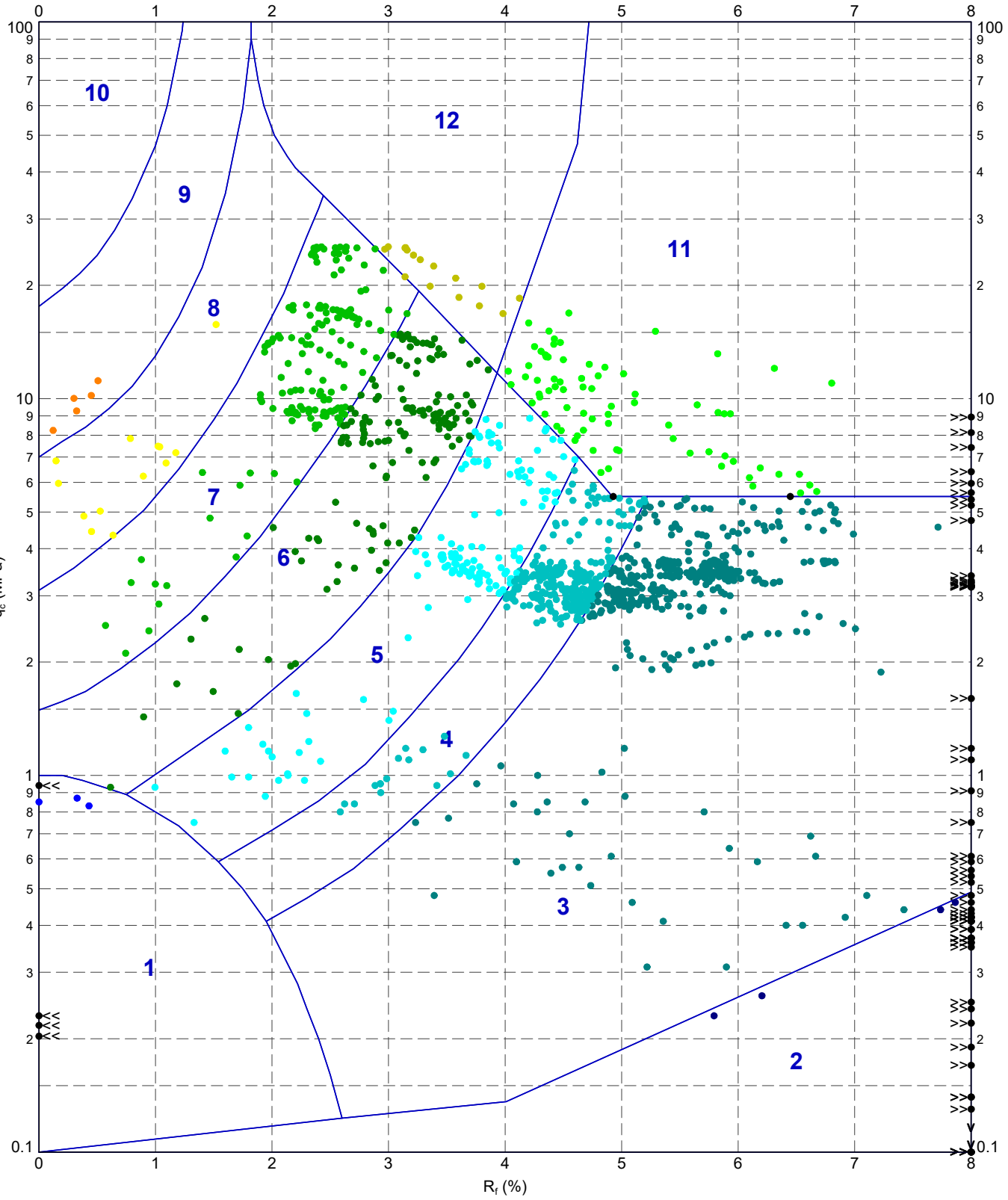
Transducer	Pre	Post	Difference
Tip	284 mV	280 mV	-0.044 MPa
Sleeve	292 mV	289 mV	-0.002 kPa
Pore Pressure 2	434 mV	439 mV	0.001 kPa
X-Y Inclinometer	2533 mV	2488 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)
Extremely low strength	<10
Very low strength	10-20
Low strength	20-40
Medium strength	40-75
High strength	75-150
Very high strength	150-300
Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT101

DRAWN		DATE	05/01/2022
CHECKED		DATE	05/01/2022
SCALE	Not To Scale		A4
PROJECT No	1210598	FIGURE No	

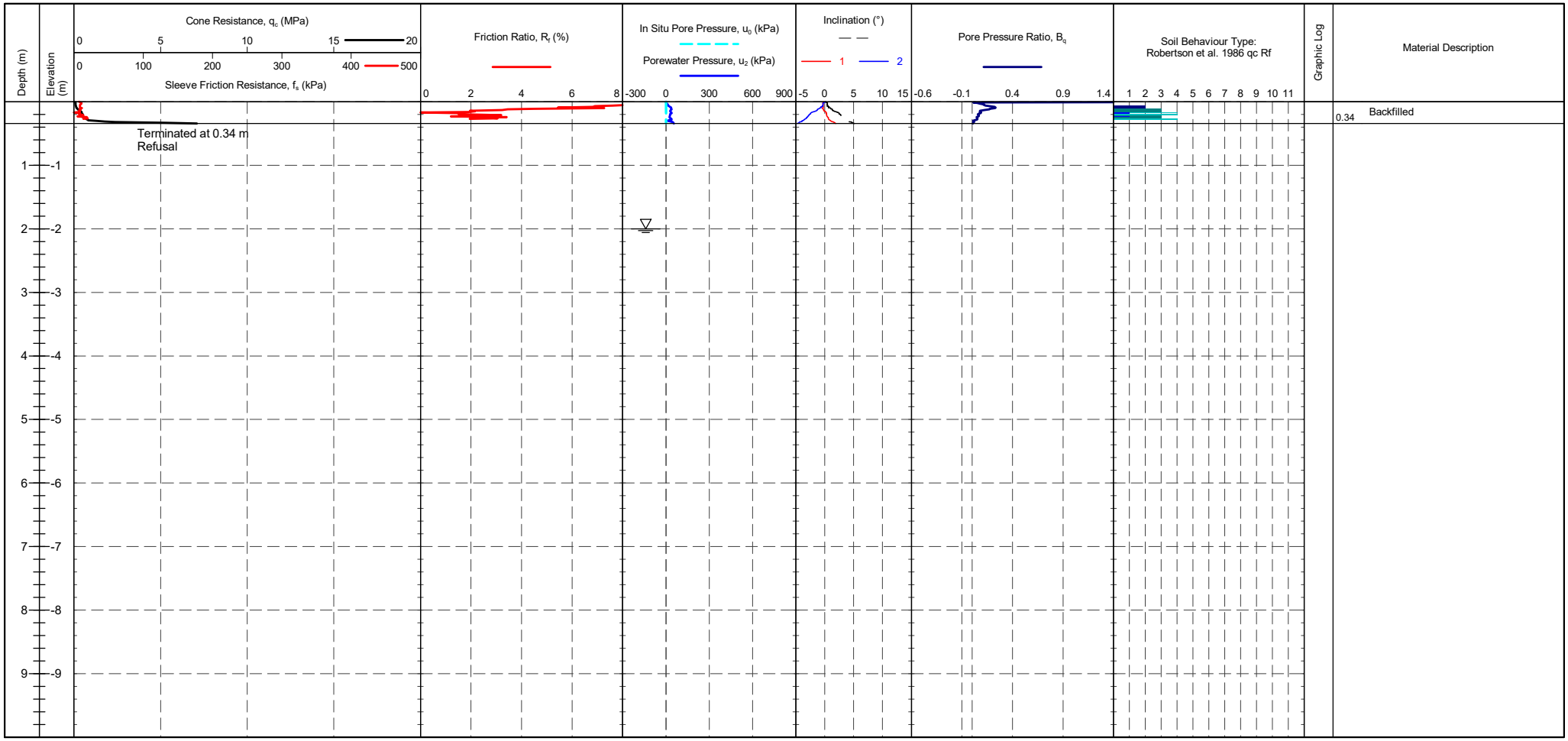
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:27 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT102**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Tip	280 mV	279 mV	-0.011 MPa
CONE MODEL	: Subtraction	RIG	: CPT 001	Sleeve	291 mV	292 mV	0.001 kPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Pore Pressure 2	440 mV	401 mV	-0.01 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	X-Y Inclinometer	2489 mV	2491 mV	
FILTER POSITION	: u2	WEATHER	: Overcast & Mild				
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes.				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

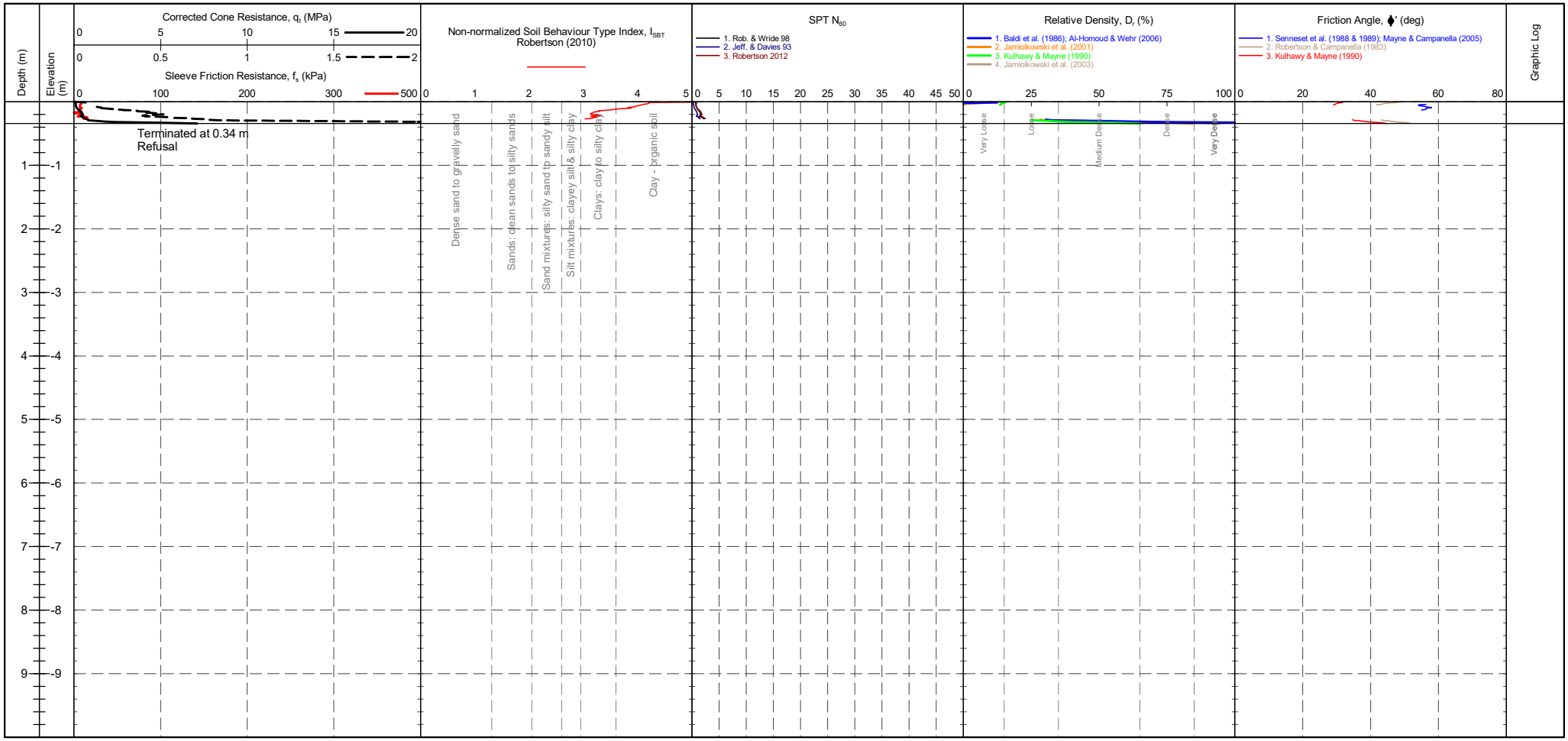
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

PointID: **CPT102**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	280 mV	279 mV	-0.011 MPa
Sleeve	291 mV	292 mV	0.001 kPa
Pore Pressure 2	440 mV	401 mV	-0.01 kPa
X-Y Inclinometer	2489 mV	2491 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

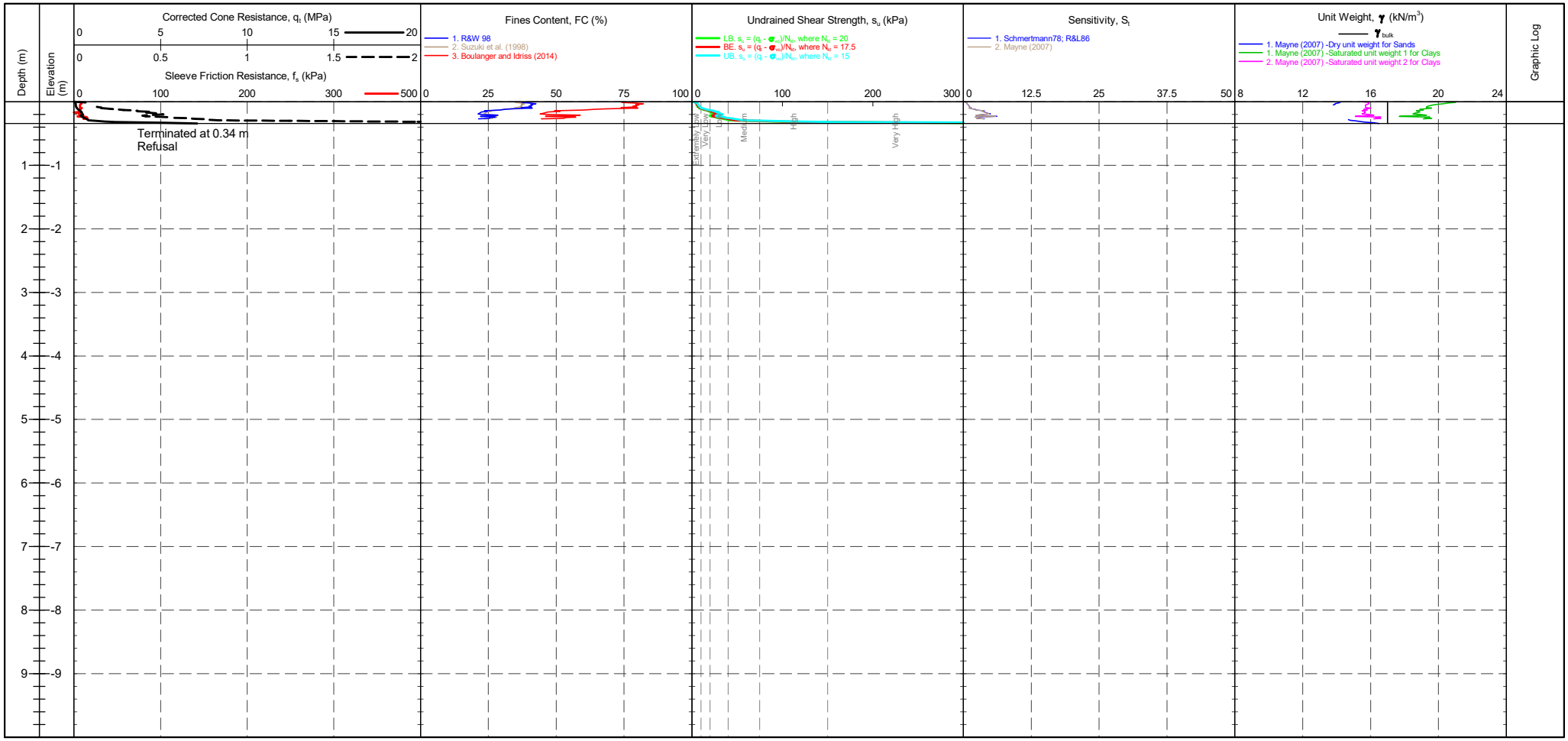
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT102**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on inclination.	SHEET : 1 OF 1 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



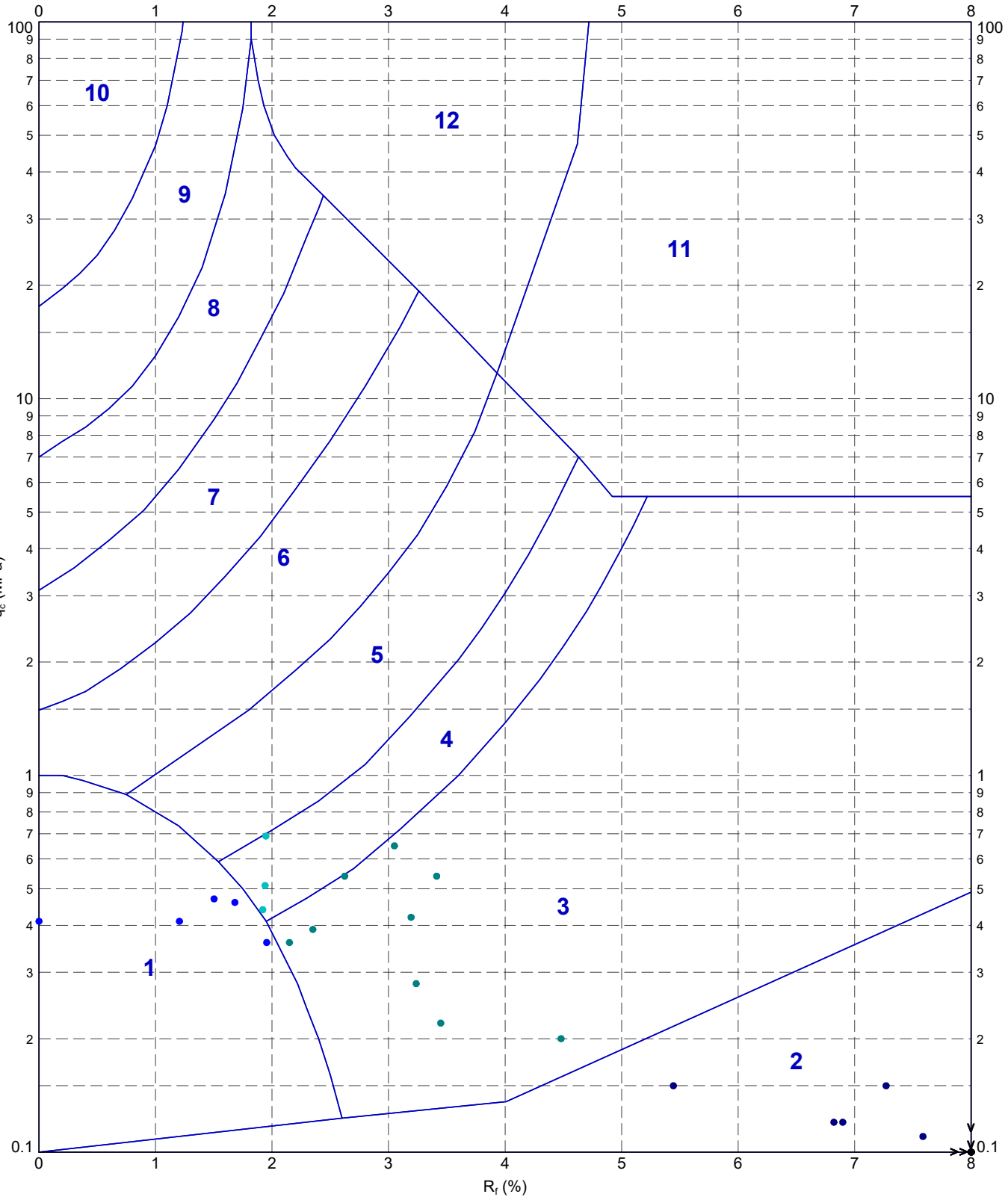
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	280 mV	279 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	291 mV	292 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	440 mV	401 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2489 mV	2491 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT102

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

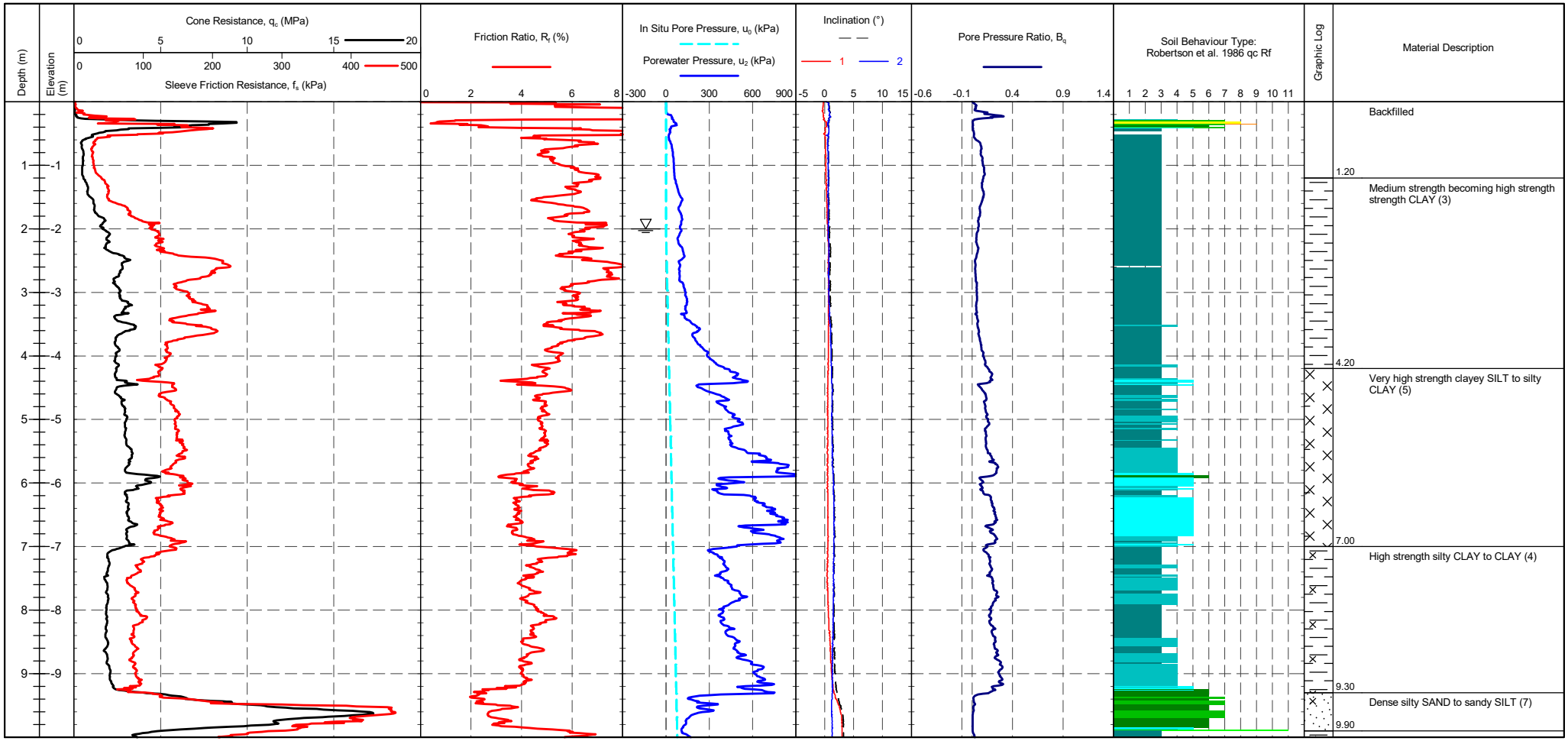
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:28 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT102A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	280 mV	285 mV	0.055 MPa
Sleeve	292 mV	287 mV	-0.004 kPa
Pore Pressure 2	430 mV	429 mV	0 kPa
X-Y Inclinometer	2509 mV	2495 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

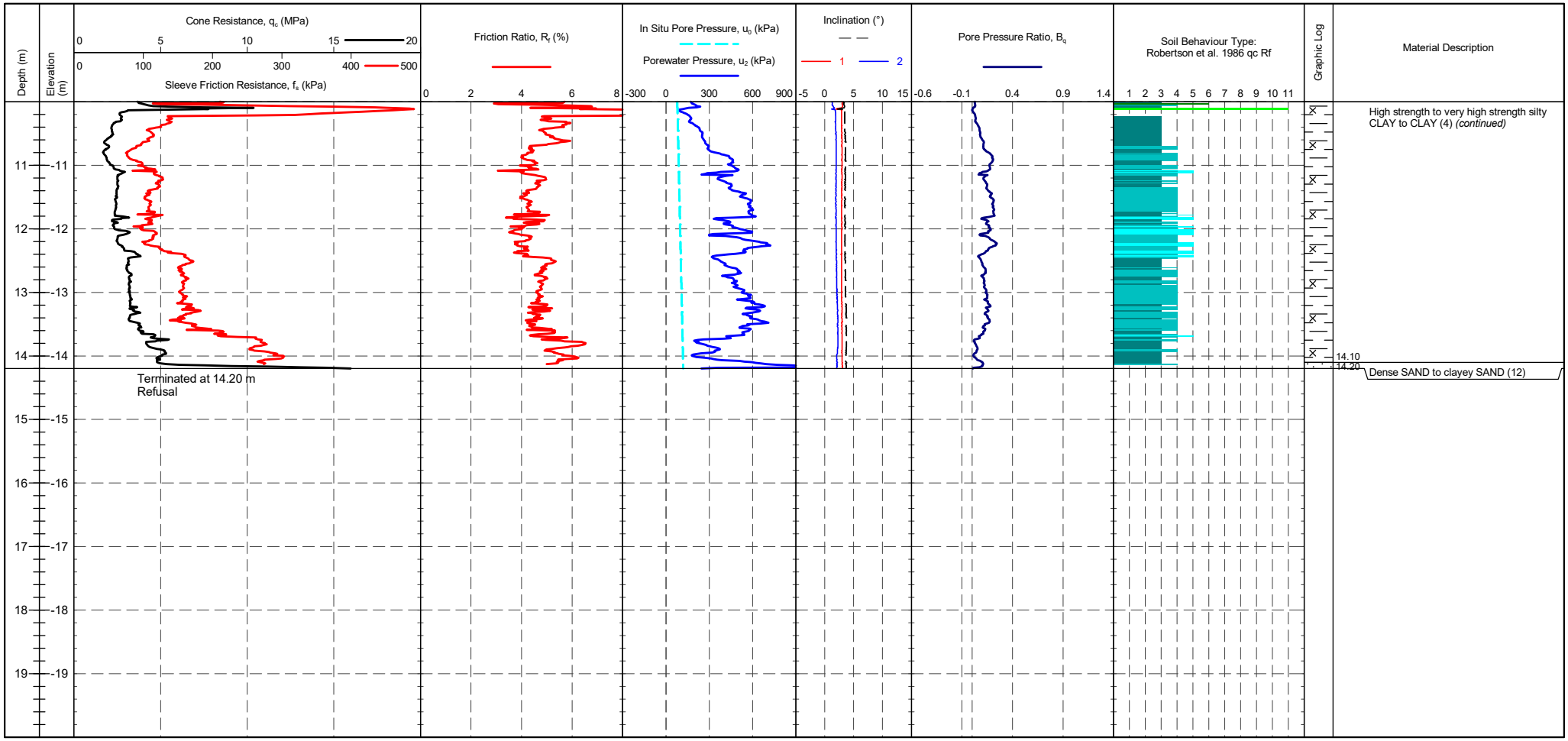
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT102A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	280 mV	285 mV	0.055 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	292 mV	287 mV	-0.004 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	430 mV	429 mV	0 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2495 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material; 2 - Organic material; 3 - CLAY; 4 - Silty CLAY to CLAY; 5 - Clayey SILT to silty CLAY; 6 - Sandy SILT to clayey SILT; 7 - Silty SAND to sandy SILT; 8 - SAND to silty SAND; 9 - SAND; 10 - Gravelly SAND to SAND; 11 - Very stiff fine grained; 12 - SAND to clayey SAND

Groundwater Level

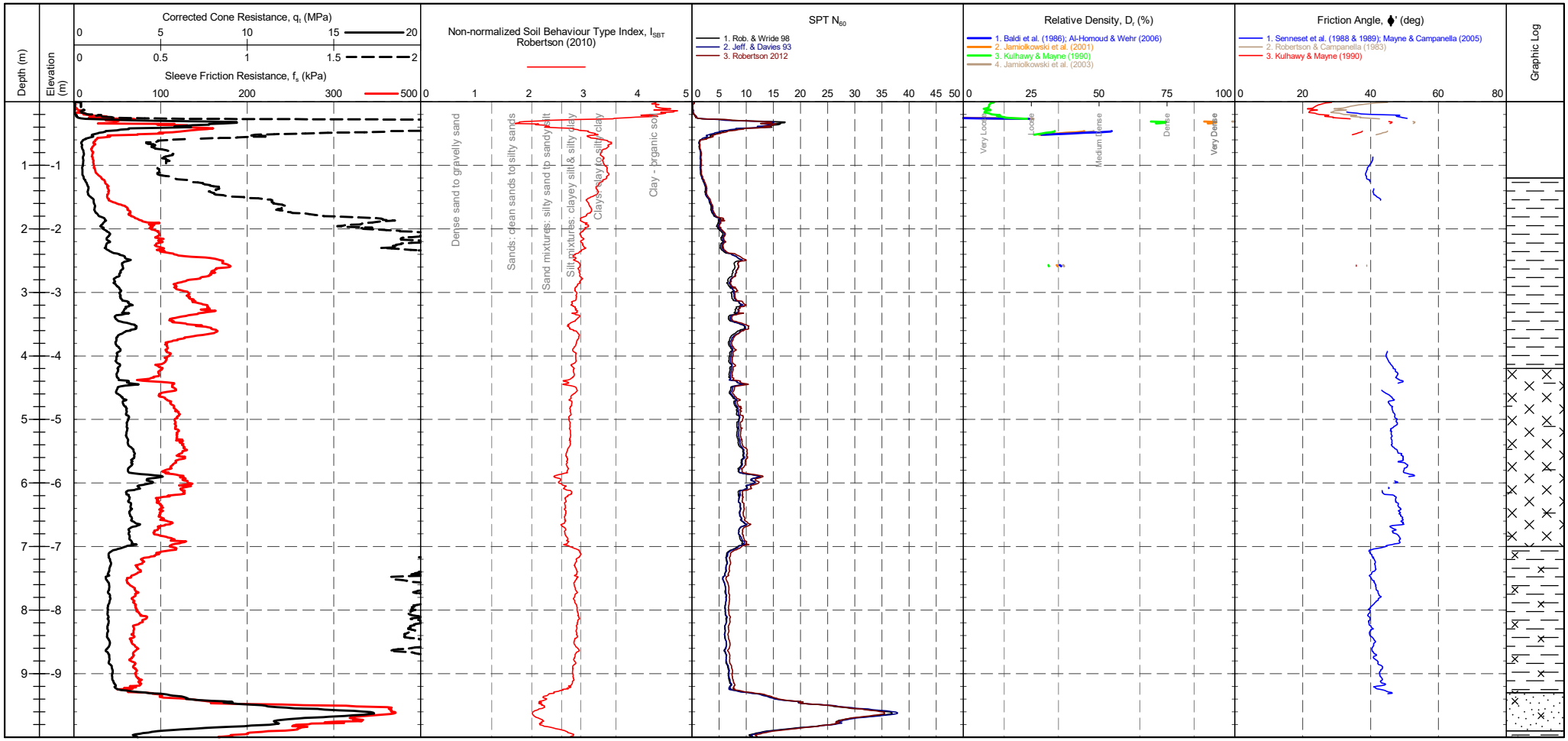
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT102A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES	
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

Transducer	Pre	Post	Difference
Tip	280 mV	285 mV	0.055 MPa
Sleeve	292 mV	287 mV	-0.004 kPa
Pore Pressure 2	430 mV	429 mV	0 kPa
X-Y Inclinometer	2509 mV	2495 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

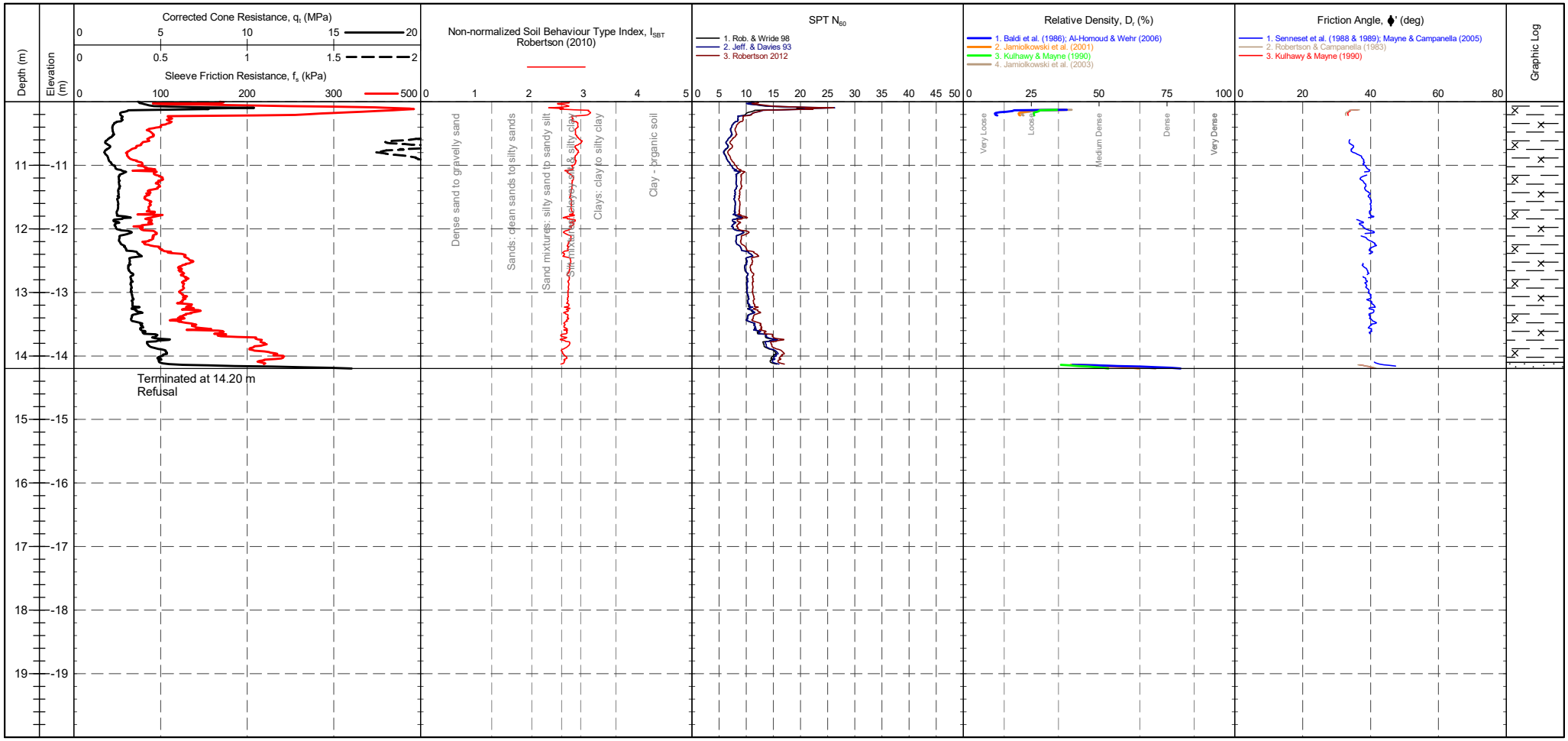
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT102A**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	280 mV	285 mV	0.055 MPa
Sleeve	292 mV	287 mV	-0.004 kPa
Pore Pressure 2	430 mV	429 mV	0 kPa
X-Y Inclinometer	2509 mV	2495 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

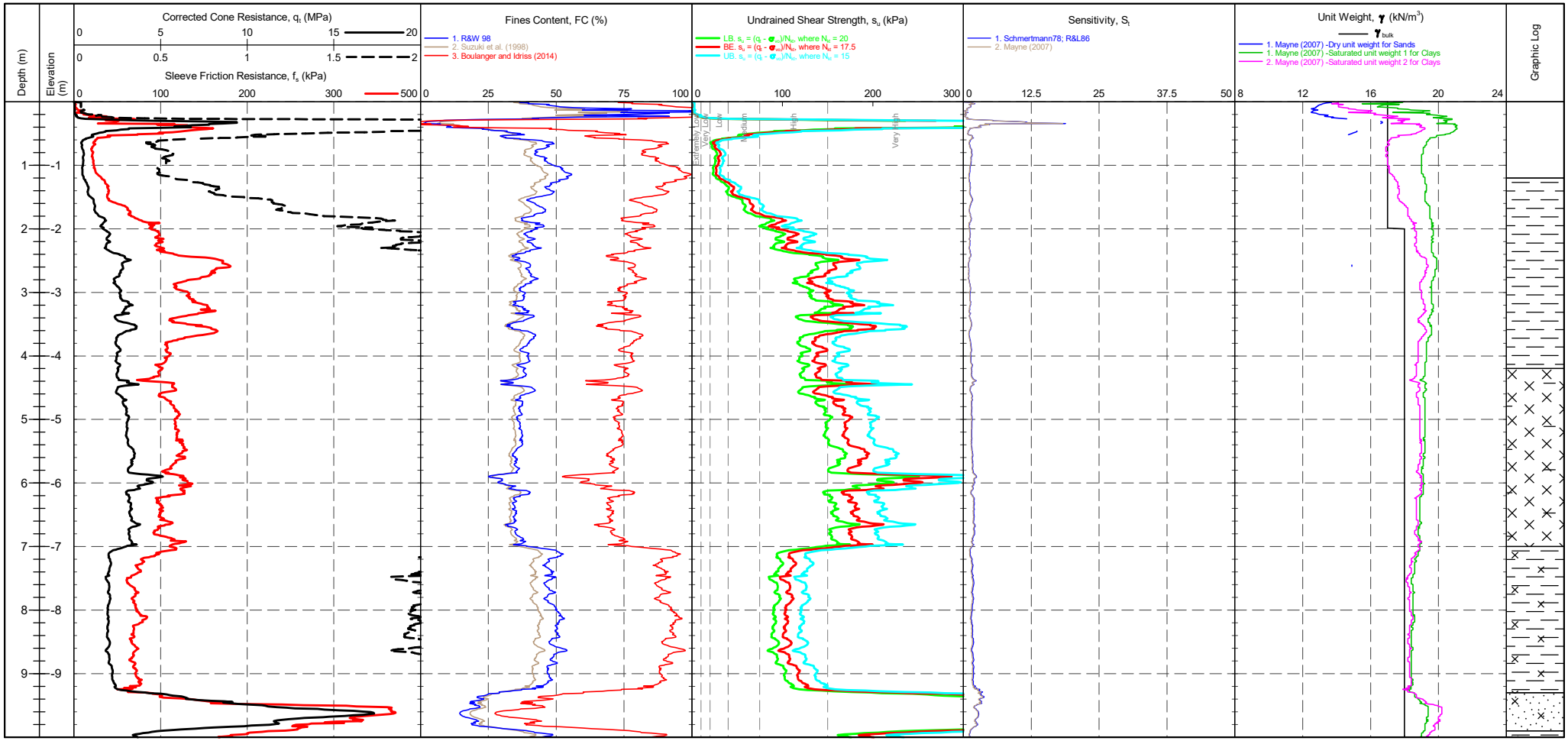
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT102A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	280 mV	285 mV	0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	287 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	430 mV	429 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2495 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

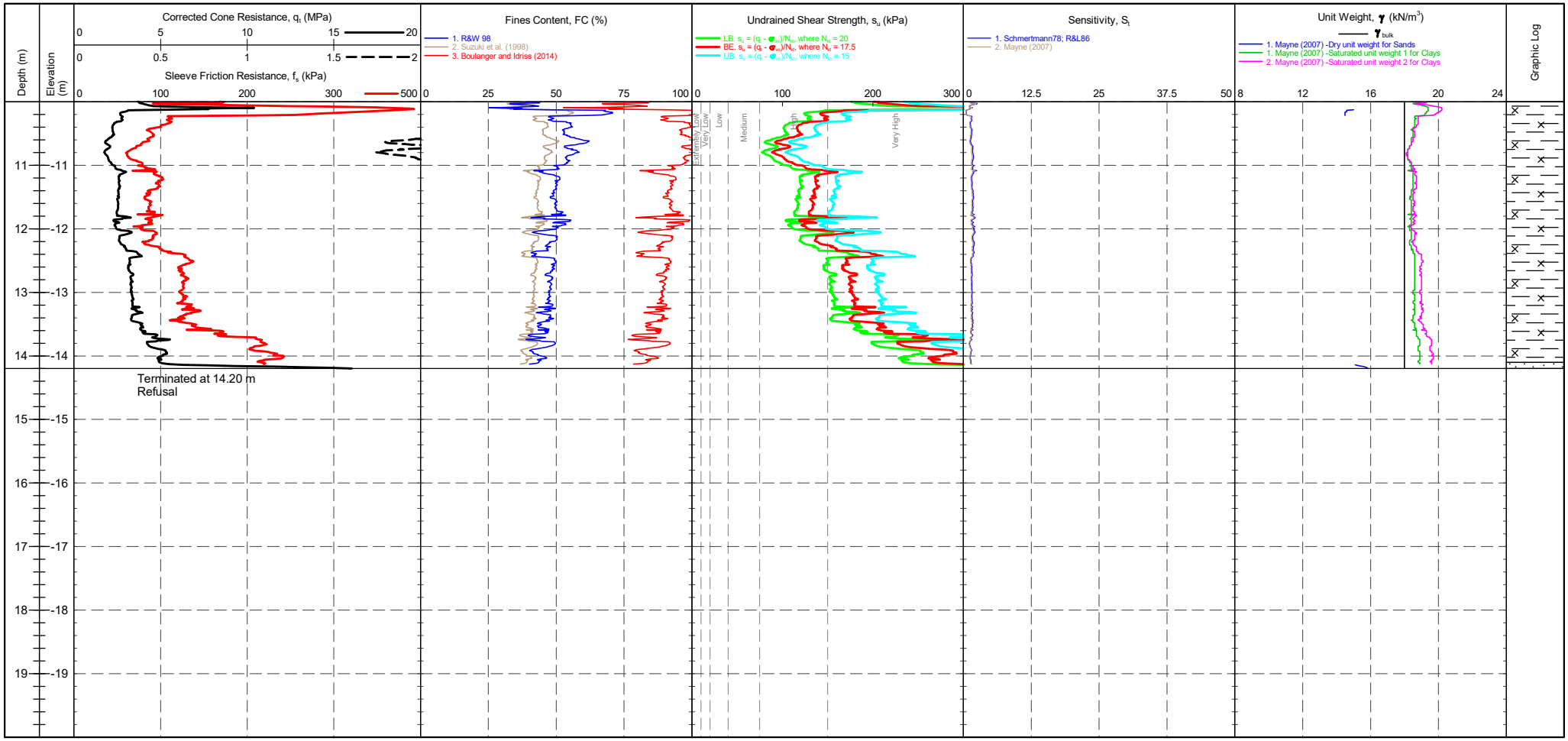
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT102A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



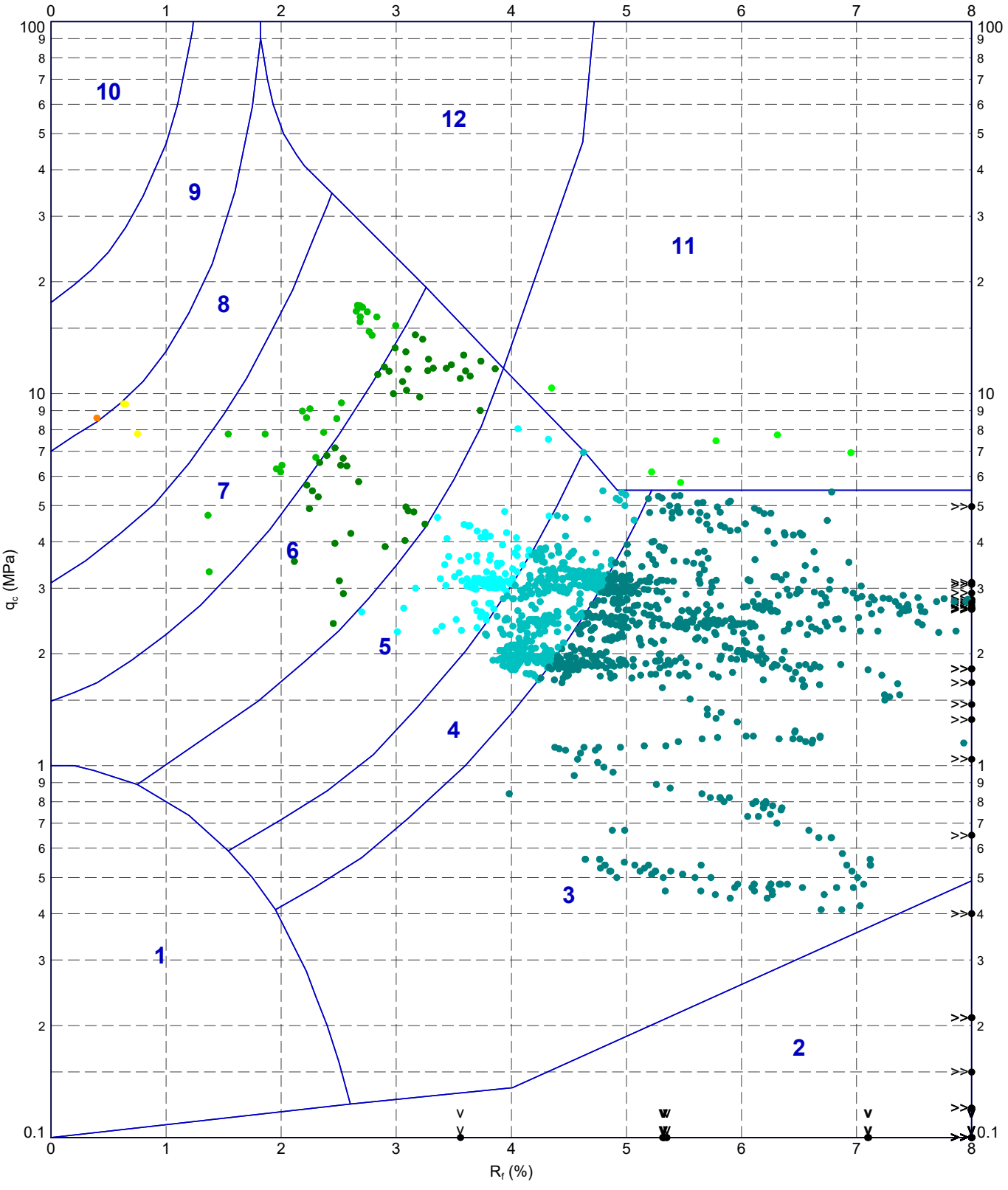
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	280 mV	285 mV	0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	287 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	430 mV	429 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2495 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT102A

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

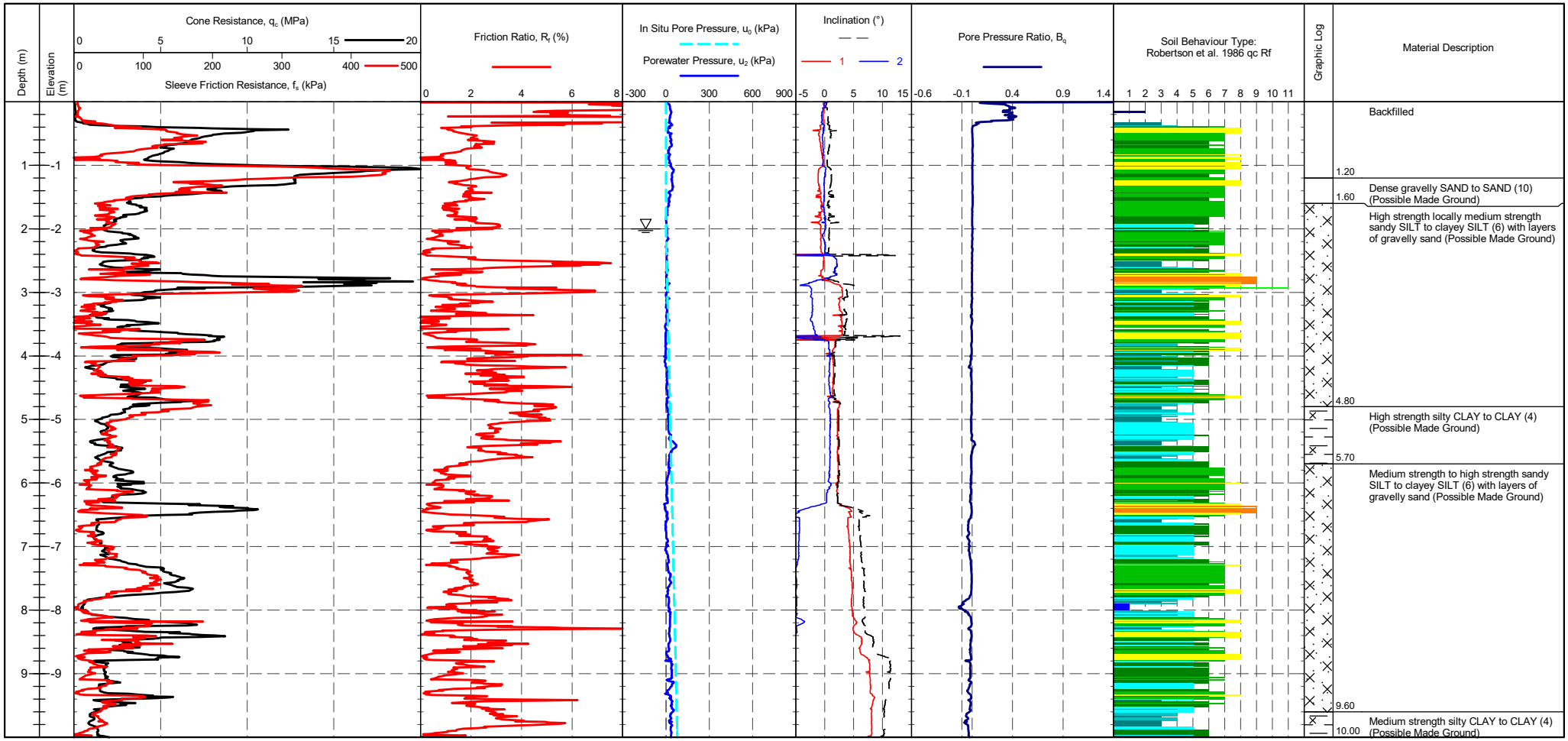
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:29 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT103**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	287 mV	0.011 MPa
Sleeve	296 mV	294 mV	-0.001 kPa
Pore Pressure 2	427 mV	435 mV	0.002 kPa
X-Y Inclinometer	2497 mV	2493 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

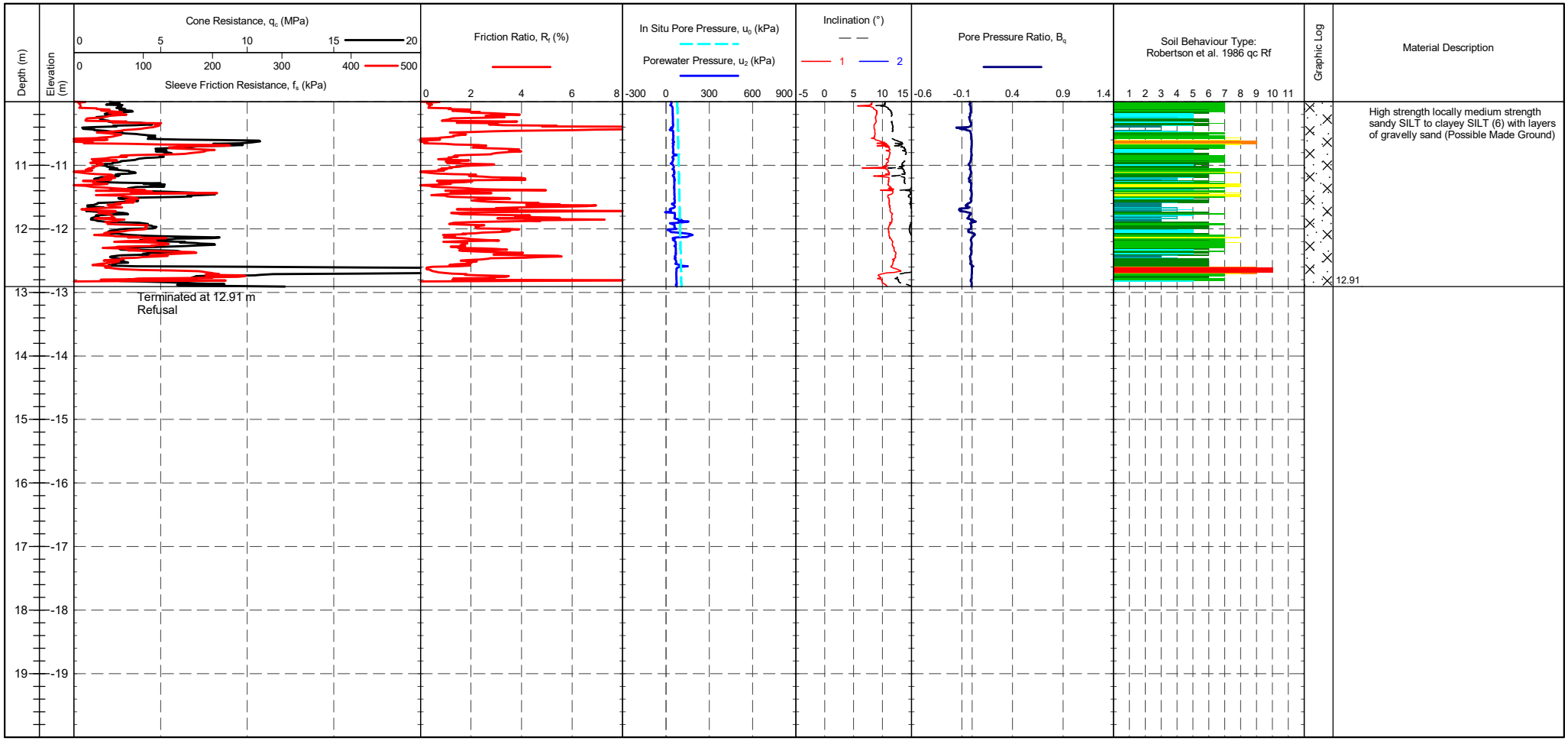
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT103**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	286 mV	287 mV	0.011 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	296 mV	294 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	435 mV	0.002 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2497 mV	2493 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material; 2 - Organic material; 3 - CLAY; 4 - Silty CLAY to CLAY; 5 - Clayey SILT to silty CLAY; 6 - Sandy SILT to clayey SILT; 7 - Silty SAND to sandy SILT; 8 - SAND to silty SAND; 9 - SAND; 10 - Gravelly SAND to SAND; 11 - Very stiff fine grained; 12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

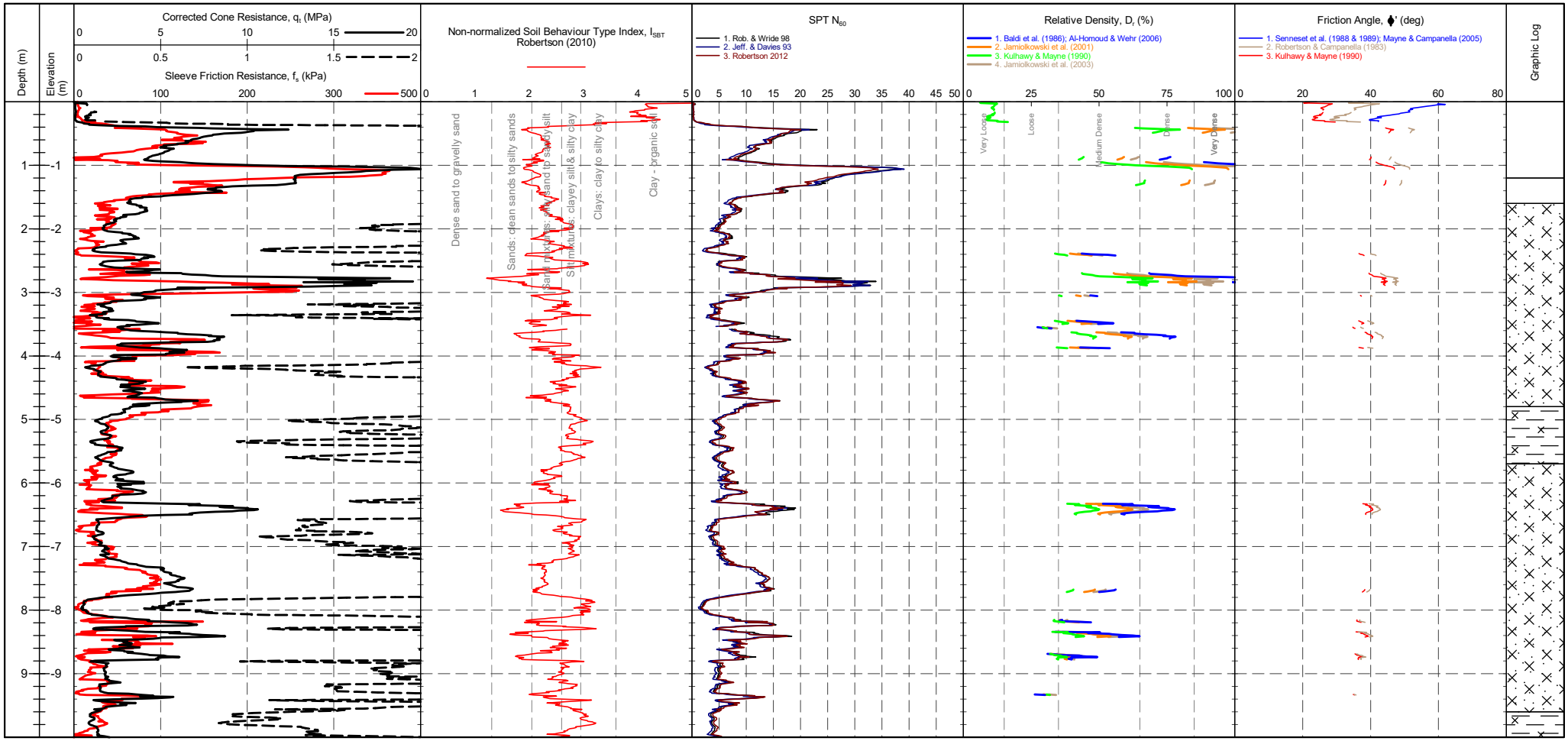
PointID: **CPT103**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on inclination.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	287 mV	0.011 MPa
Sleeve	296 mV	294 mV	-0.001 kPa
Pore Pressure 2	427 mV	435 mV	0.002 kPa
X-Y Inclinometer	2497 mV	2493 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

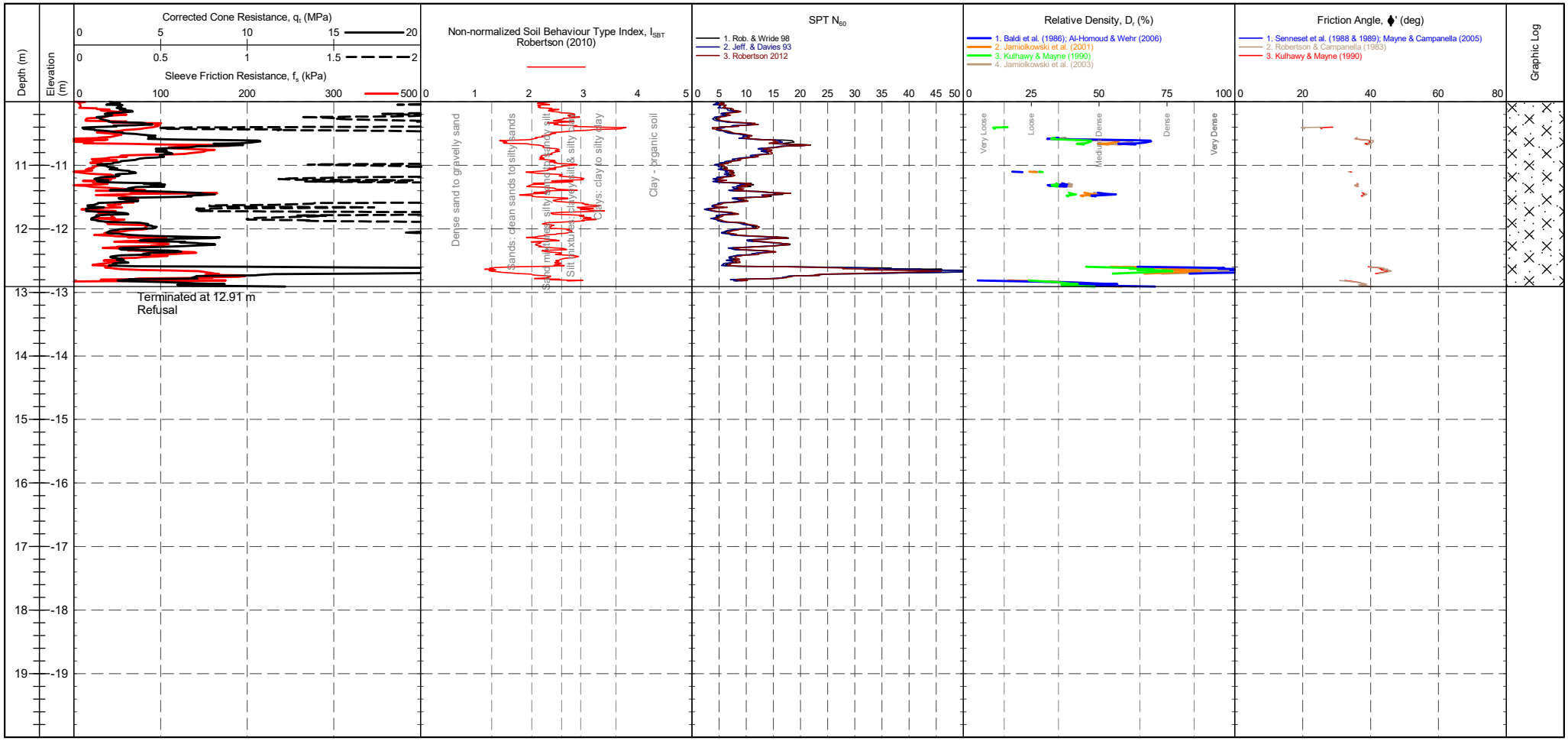
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

PointID **CPT103**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on inclination.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	287 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	296 mV	294 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	435 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2497 mV	2493 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

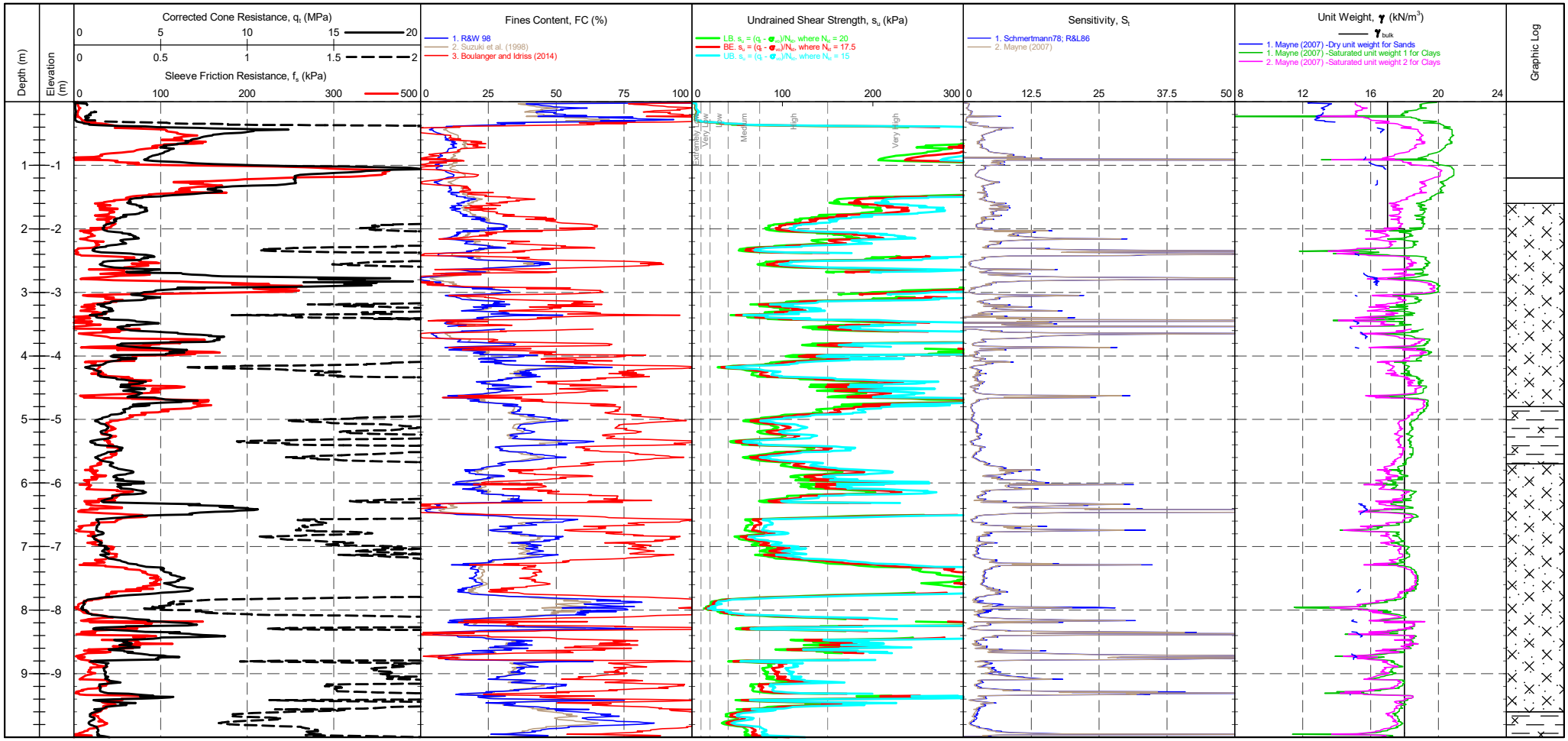
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT103**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	287 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	296 mV	294 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	435 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2497 mV	2493 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

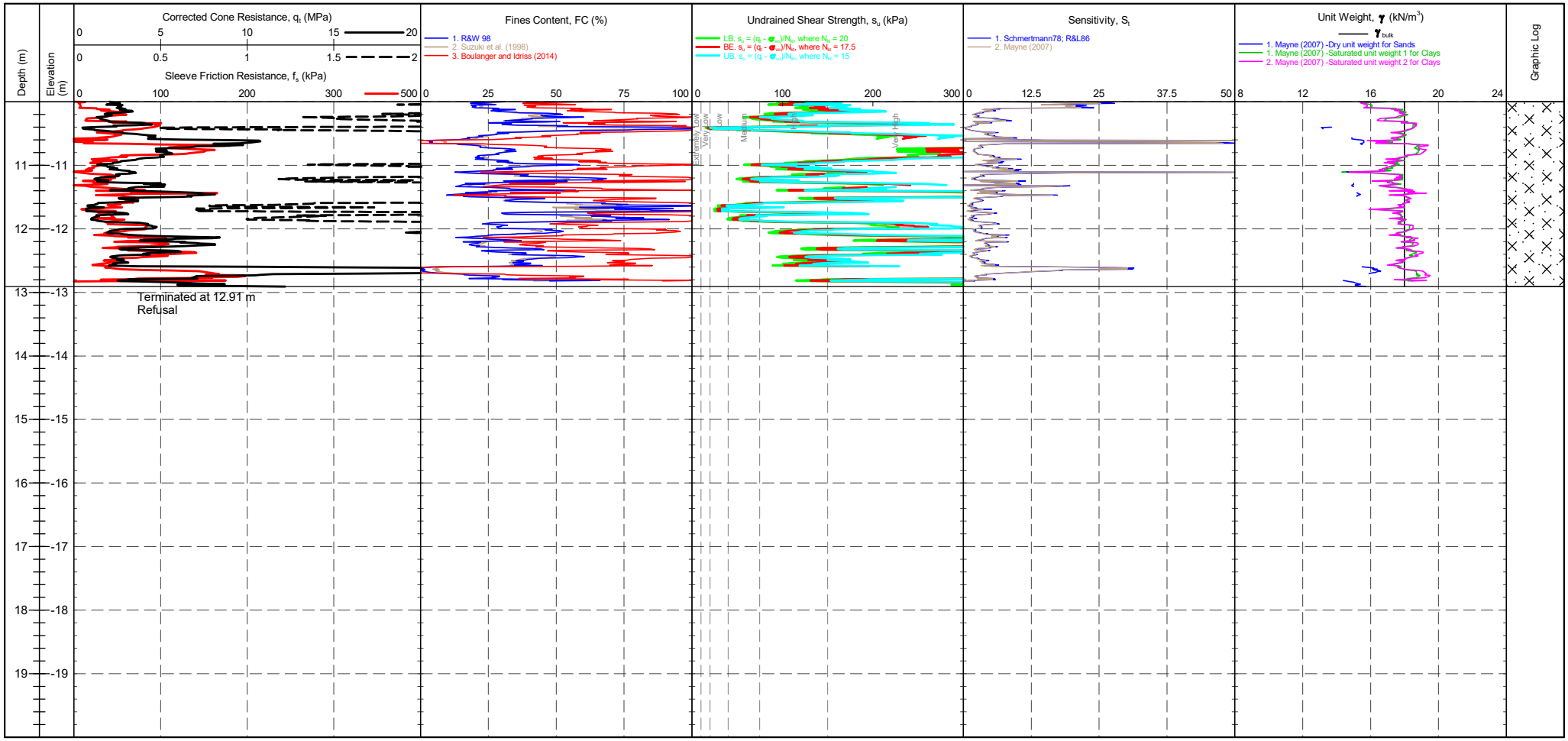
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT103**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



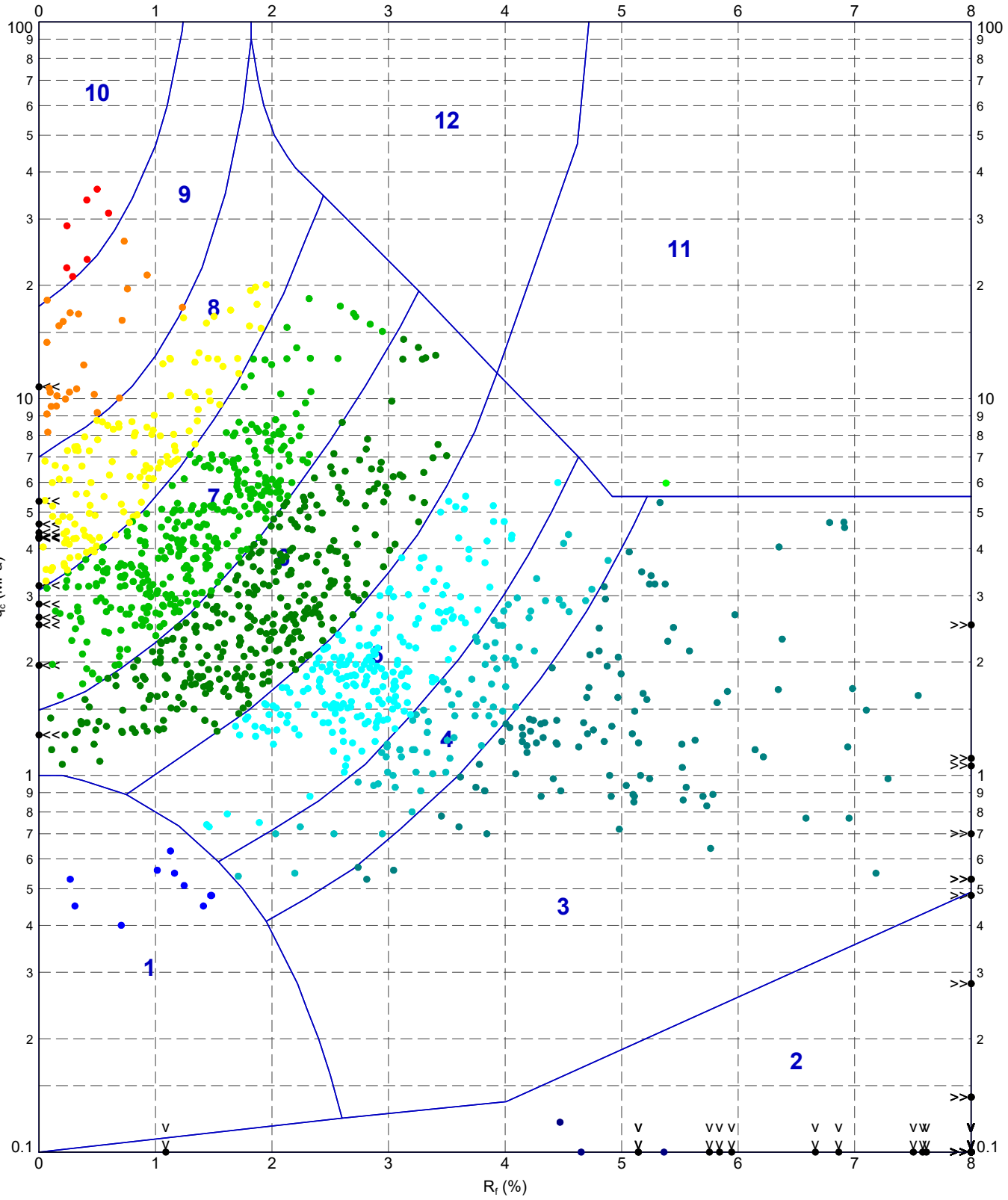
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	287 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	296 mV	294 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	435 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2497 mV	2493 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT103

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

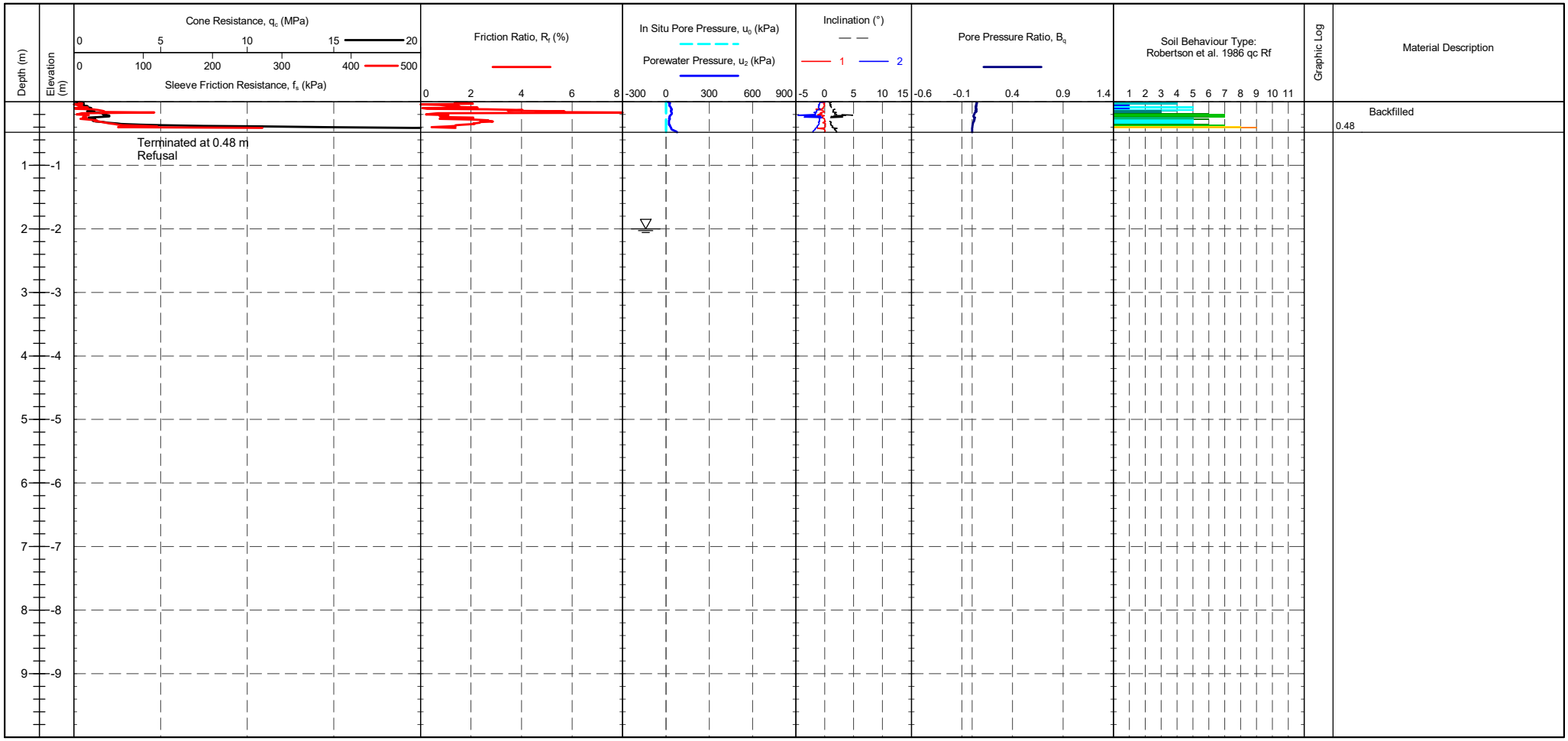
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:30 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT104**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Tip	287 mV	285 mV	-0.022 MPa
CONE MODEL	: Subtraction	RIG	: CPT 001	Sleeve	292 mV	293 mV	0.001 kPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Pore Pressure 2	420 mV	373 mV	-0.012 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	X-Y Inclinometer	2501 mV	2959 mV	
FILTER POSITION	: u2	WEATHER	: Overcast & Mild				
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes.				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

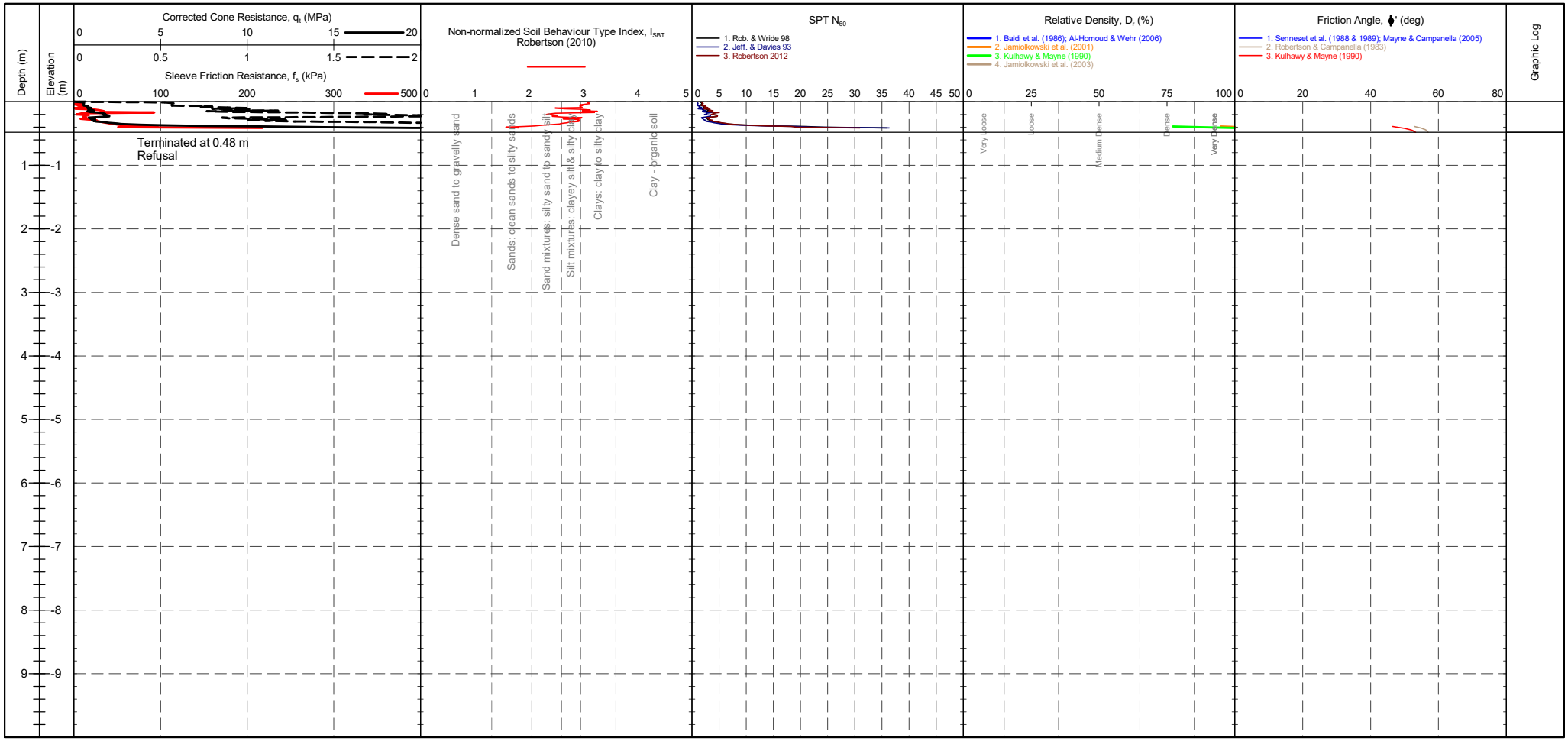
PointID **CPT104**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	285 mV	-0.022 MPa
Sleeve	292 mV	293 mV	0.001 kPa
Pore Pressure 2	420 mV	373 mV	-0.012 kPa
X-Y Inclinometer	2501 mV	2959 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

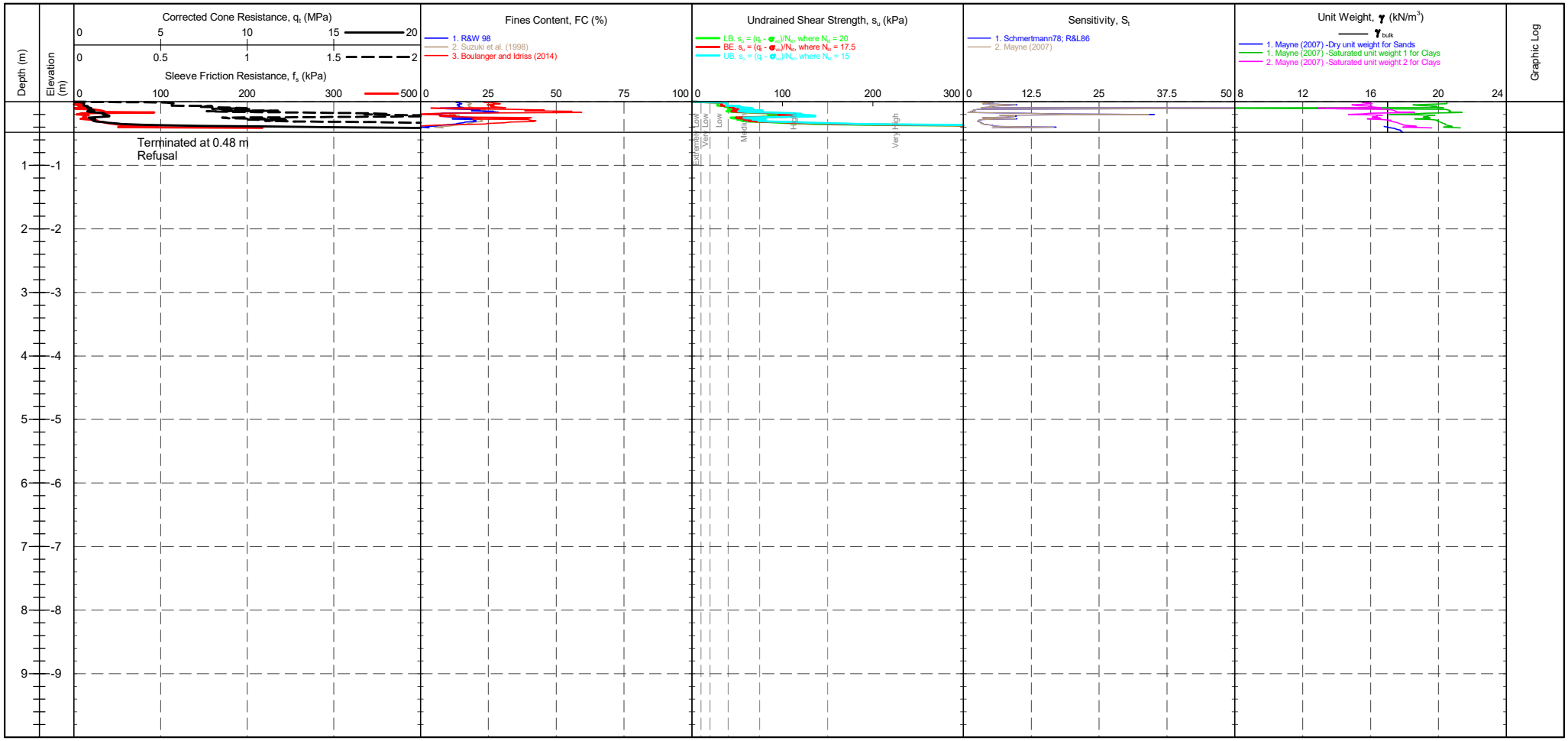
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT104**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



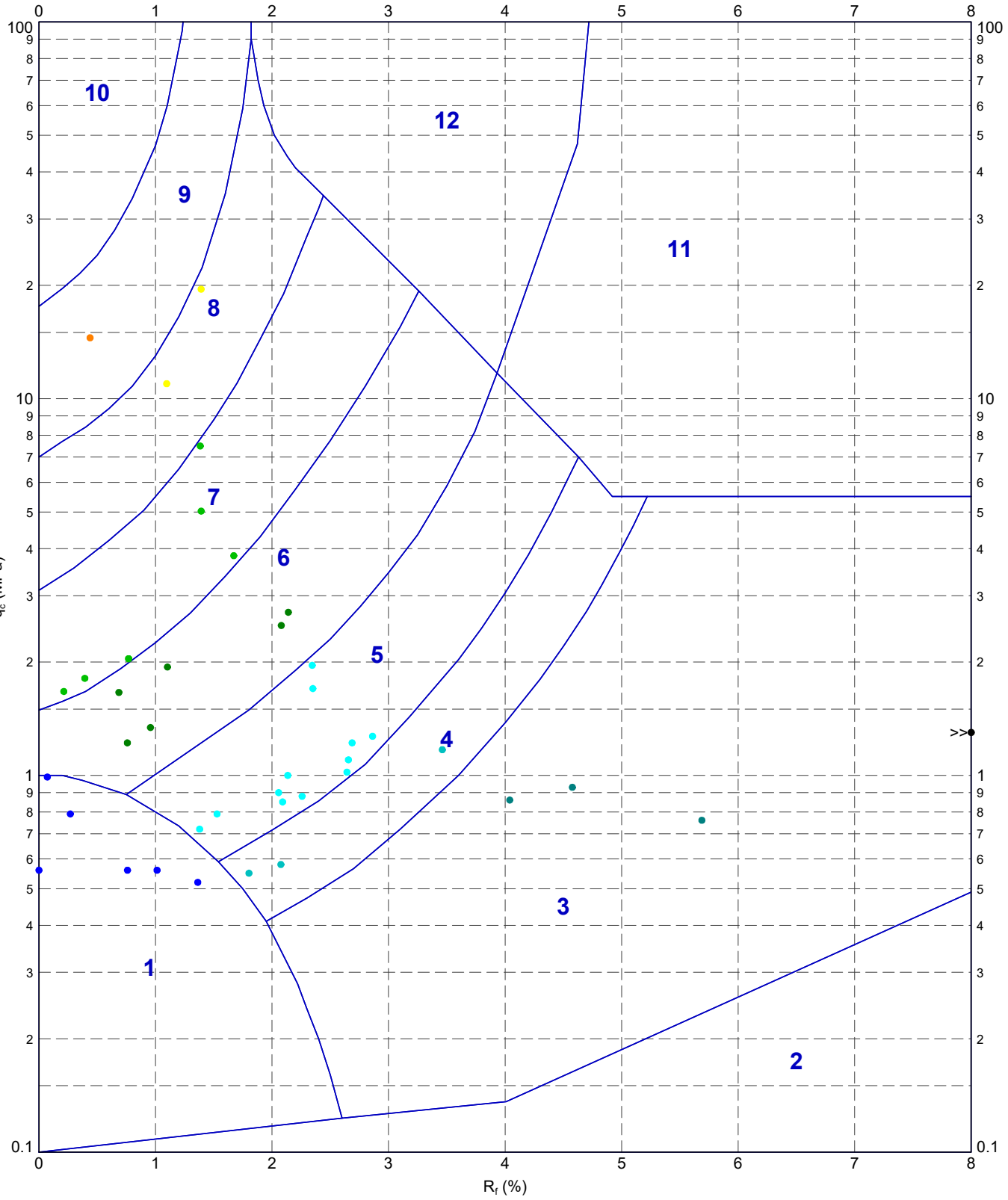
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	285 mV	-0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	293 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	420 mV	373 mV	-0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2501 mV	2959 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT104

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

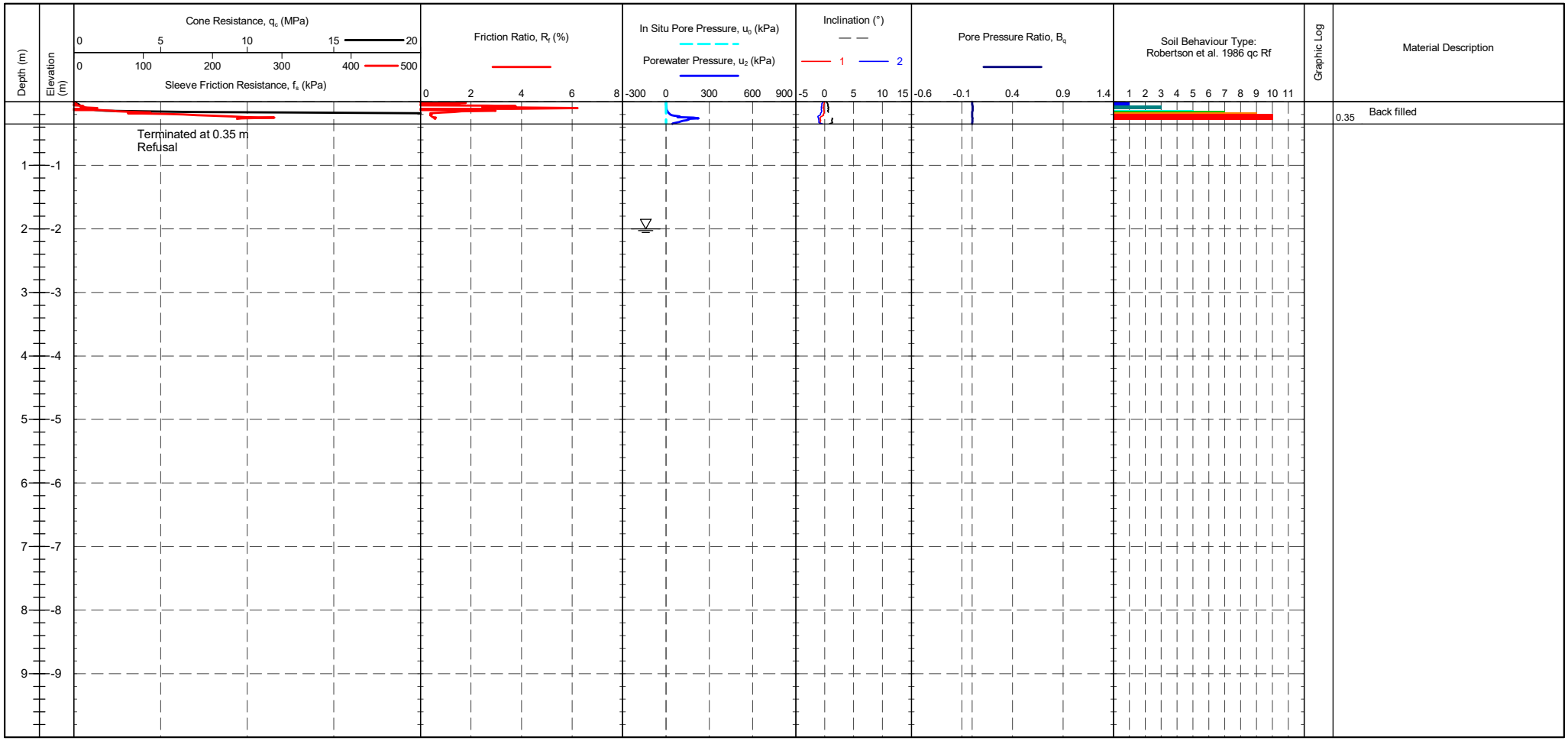
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:30 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT104A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2				
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2				
CONE MODEL	: Subtraction	RIG	: CPT 001				
CONE AREA	: 15cm^2	OPERATOR	: RS				
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None				
FILTER POSITION	: u2	WEATHER	: Overcast & Mild				
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	278 mV	288 mV	-10 MPa
Sleeve	293 mV	297 mV	-4 kPa
Pore Pressure 2	472 mV	453 mV	19 kPa
X-Y Inclinometer	2498 mV	2499 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

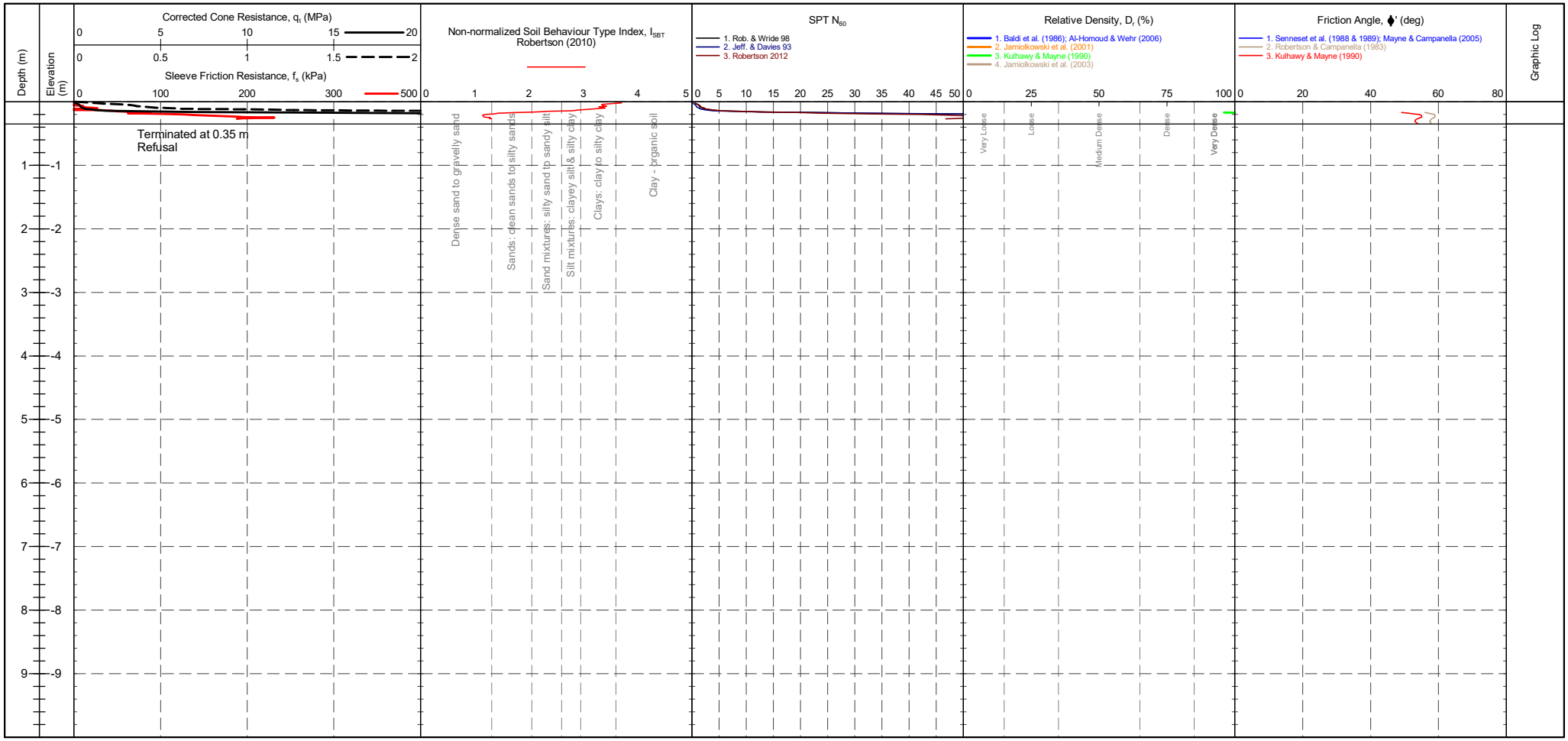
PointID **CPT104A**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 001	Tip	278 mV	288 mV	-10 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	297 mV	-4 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	472 mV	453 mV	19 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2498 mV	2499 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

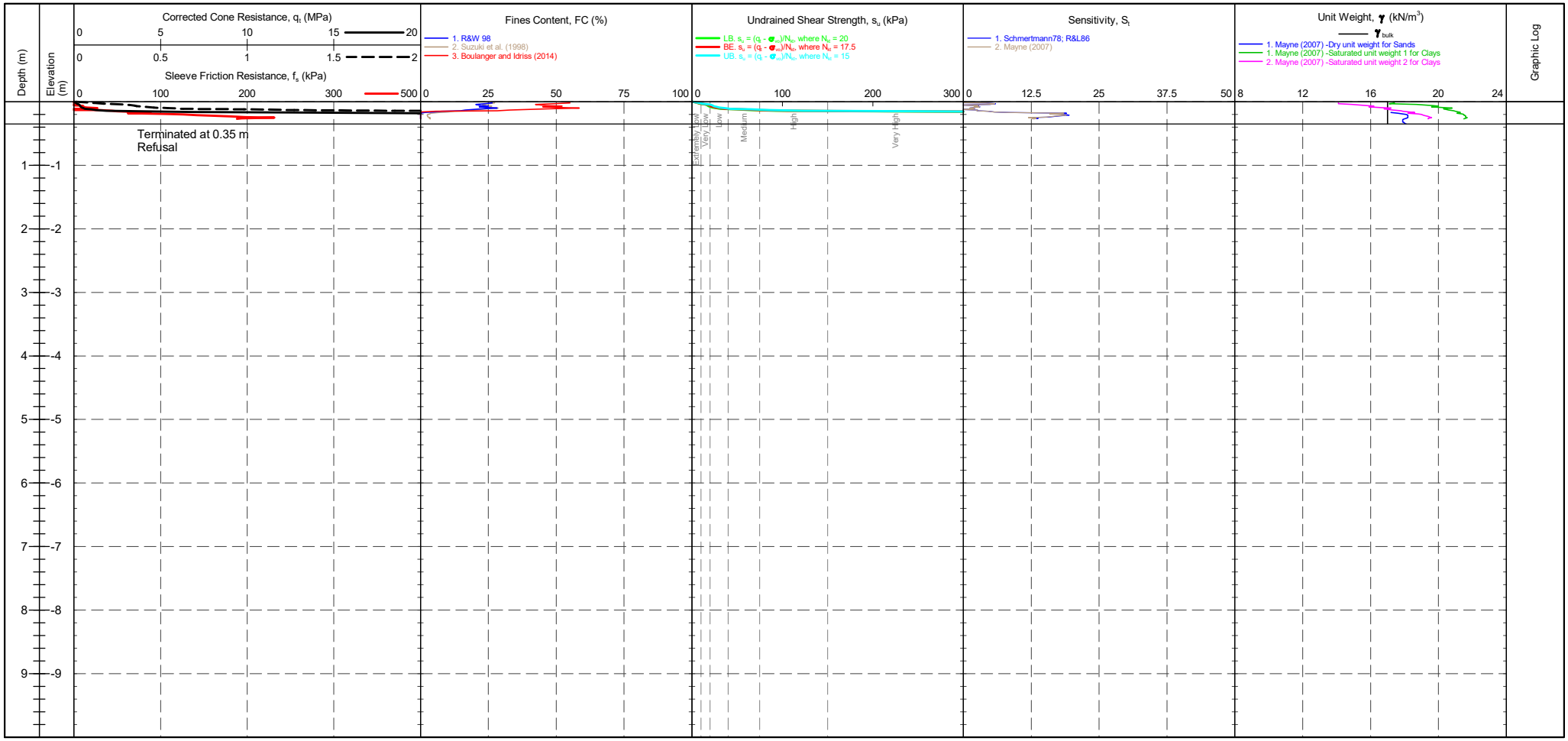
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT104A**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 1 STATUS : Final TEST DATE : 16/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



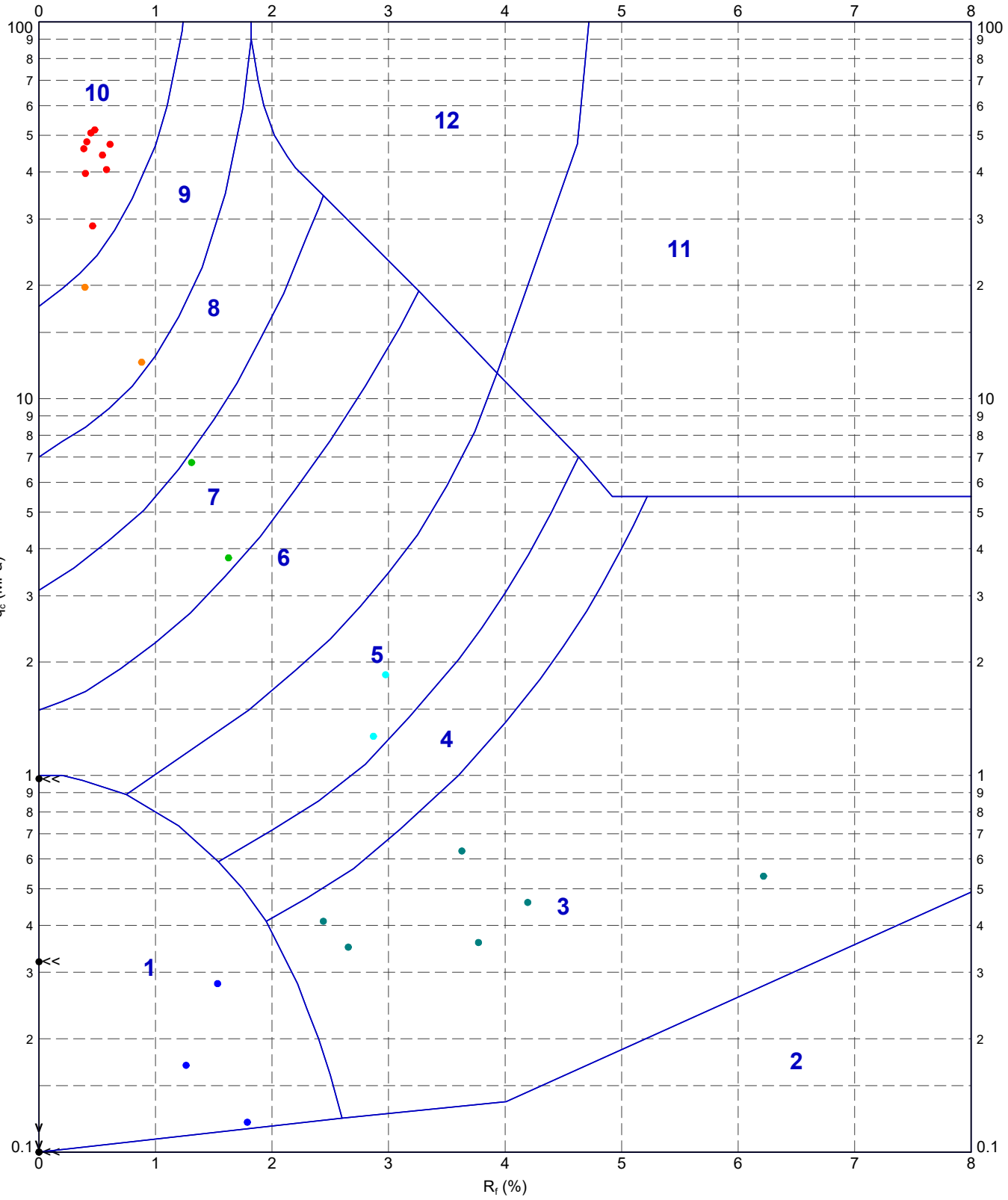
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	278 mV	288 mV	-10 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	297 mV	-4 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	472 mV	453 mV	19 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2498 mV	2499 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT104A

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

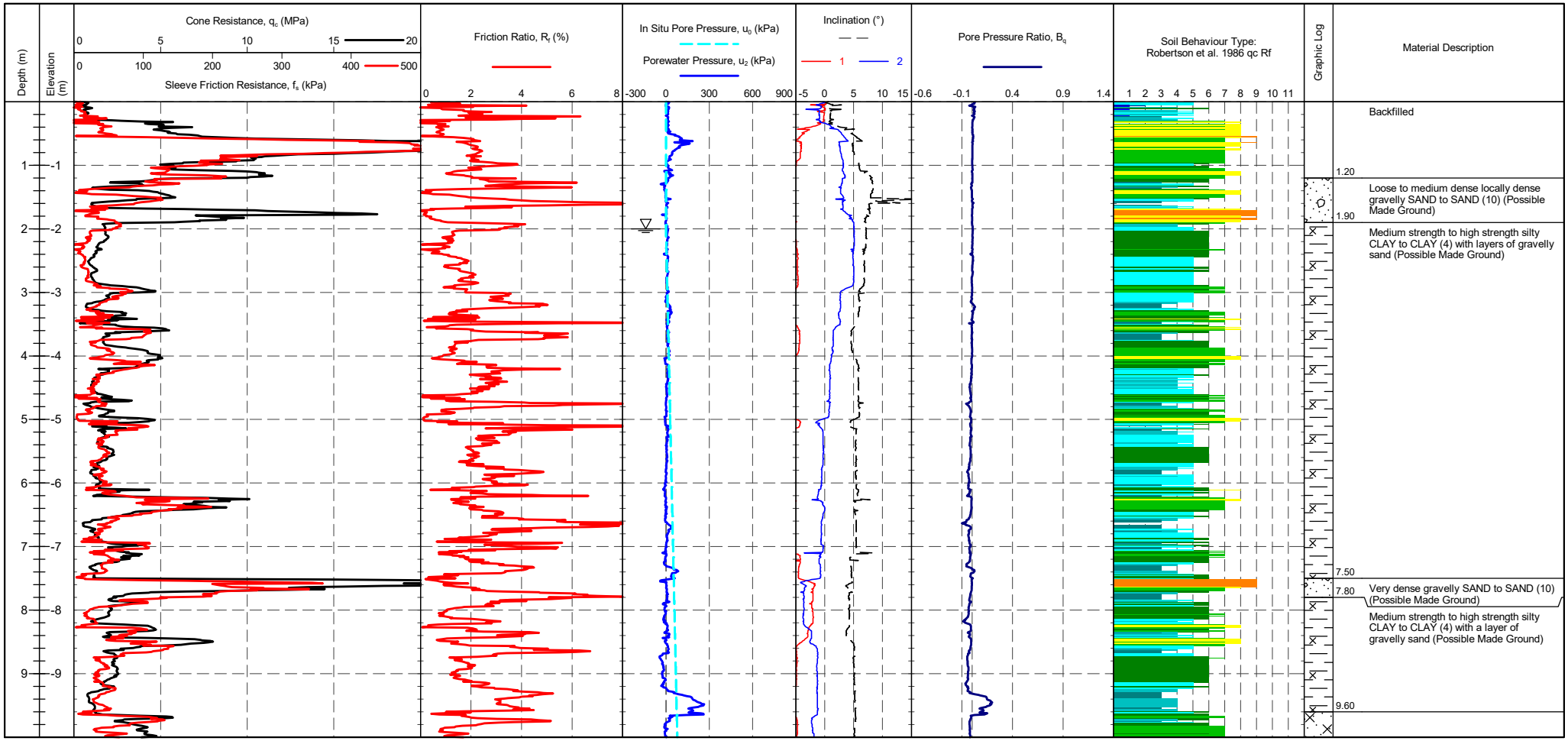
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:31 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT105**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2		
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm²	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	286 mV	-0.011 MPa
Sleeve	298 mV	295 mV	-0.002 kPa
Pore Pressure 2	450 mV	426 mV	-0.006 kPa
X-Y Inclinometer	2580 mV	2487 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

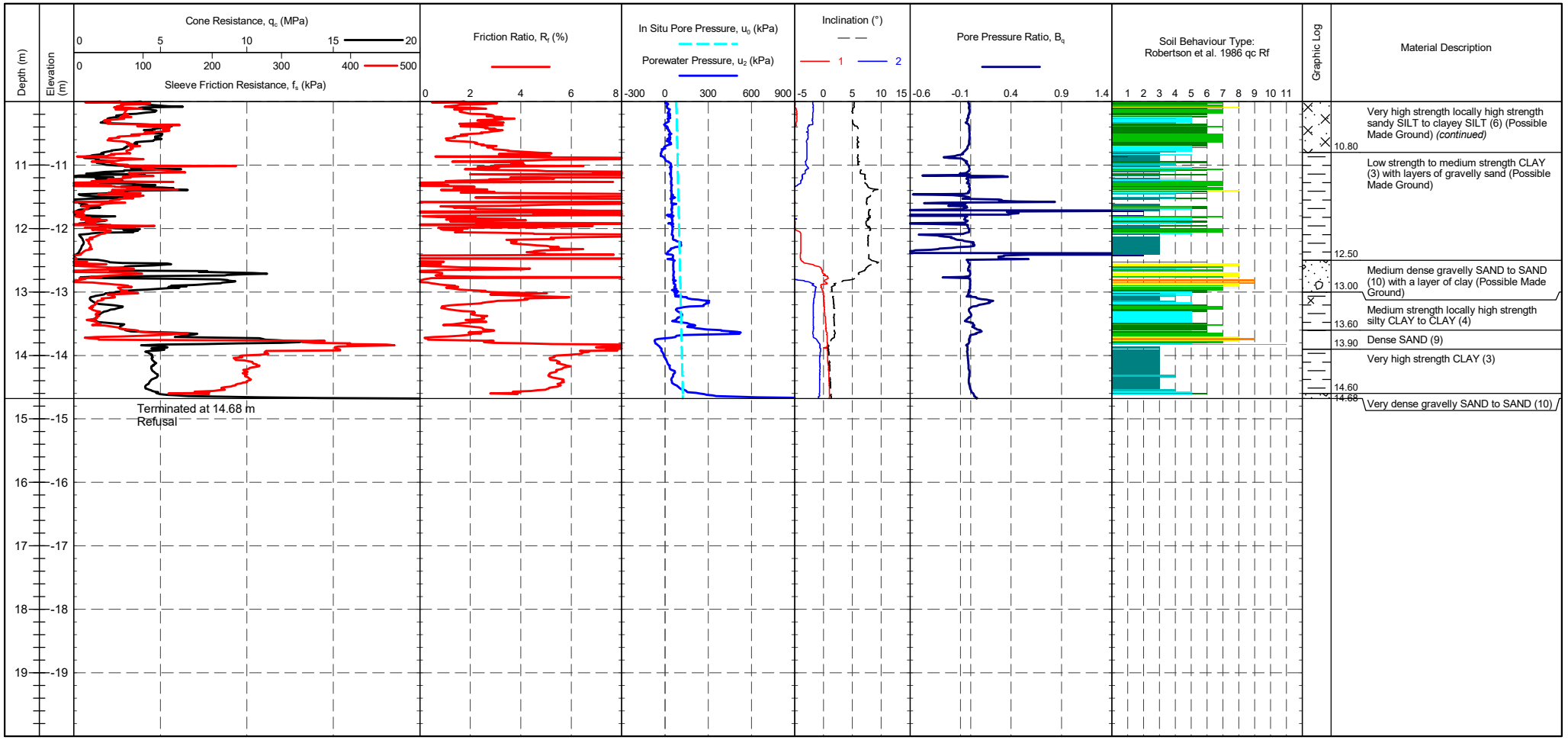
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT105**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	286 mV	-0.011 MPa
Sleeve	298 mV	295 mV	-0.002 kPa
Pore Pressure 2	450 mV	426 mV	-0.006 kPa
X-Y Inclinometer	2580 mV	2487 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

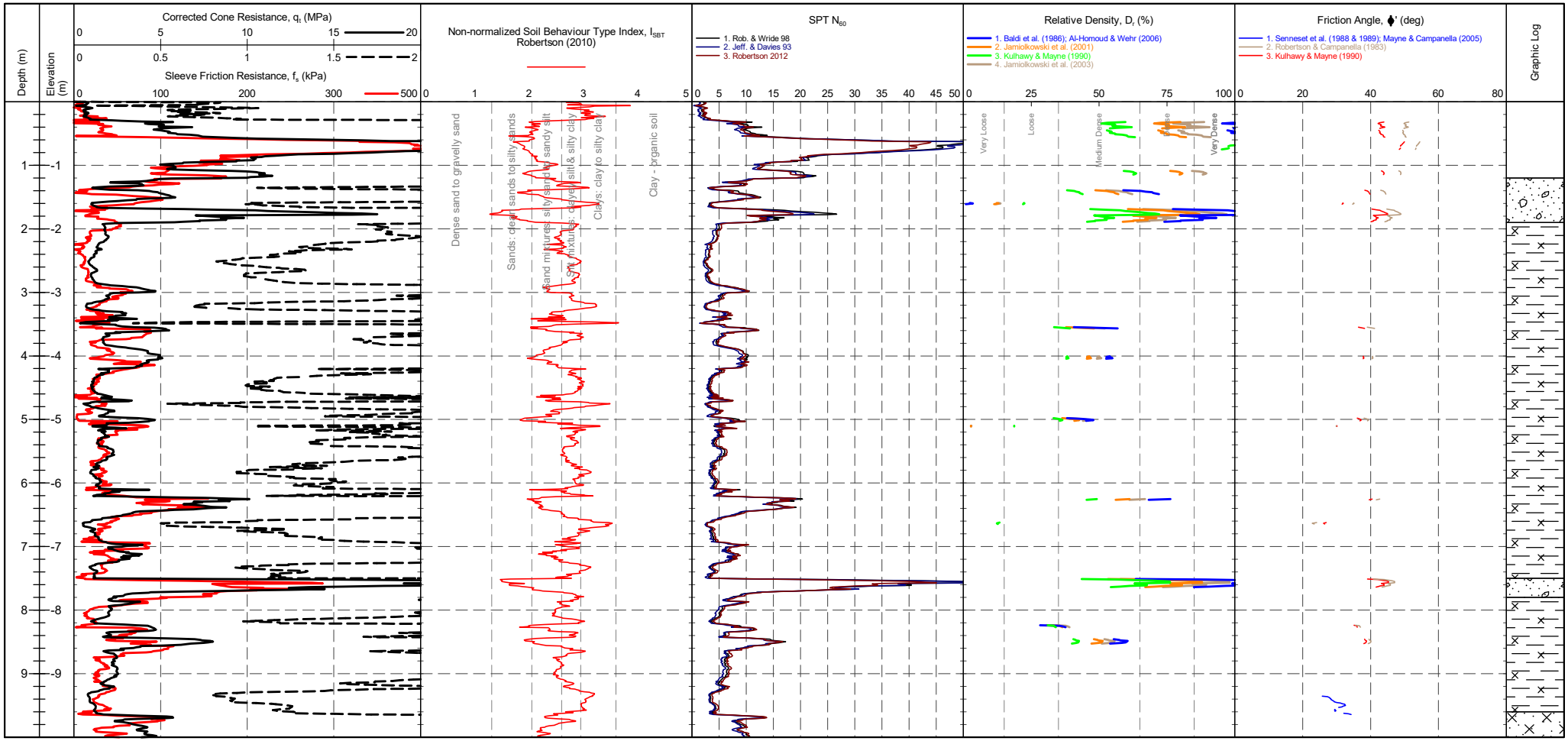
PointID: **CPT105**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	286 mV	-0.011 MPa
Sleeve	298 mV	295 mV	-0.002 kPa
Pore Pressure 2	450 mV	426 mV	-0.006 kPa
X-Y Inclinometer	2580 mV	2487 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

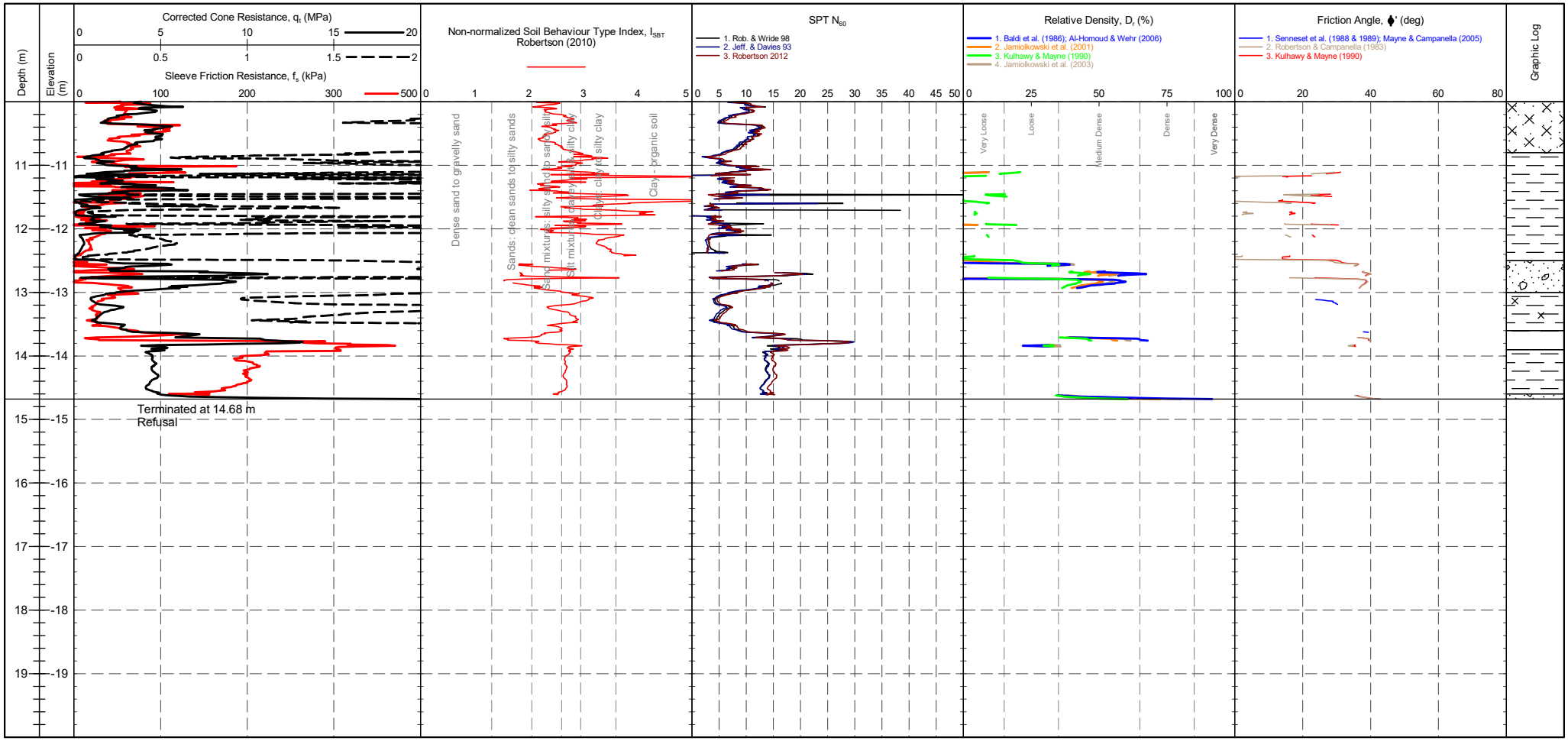
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID: **CPT105**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	286 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	298 mV	295 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	450 mV	426 mV	-0.006 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2580 mV	2487 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

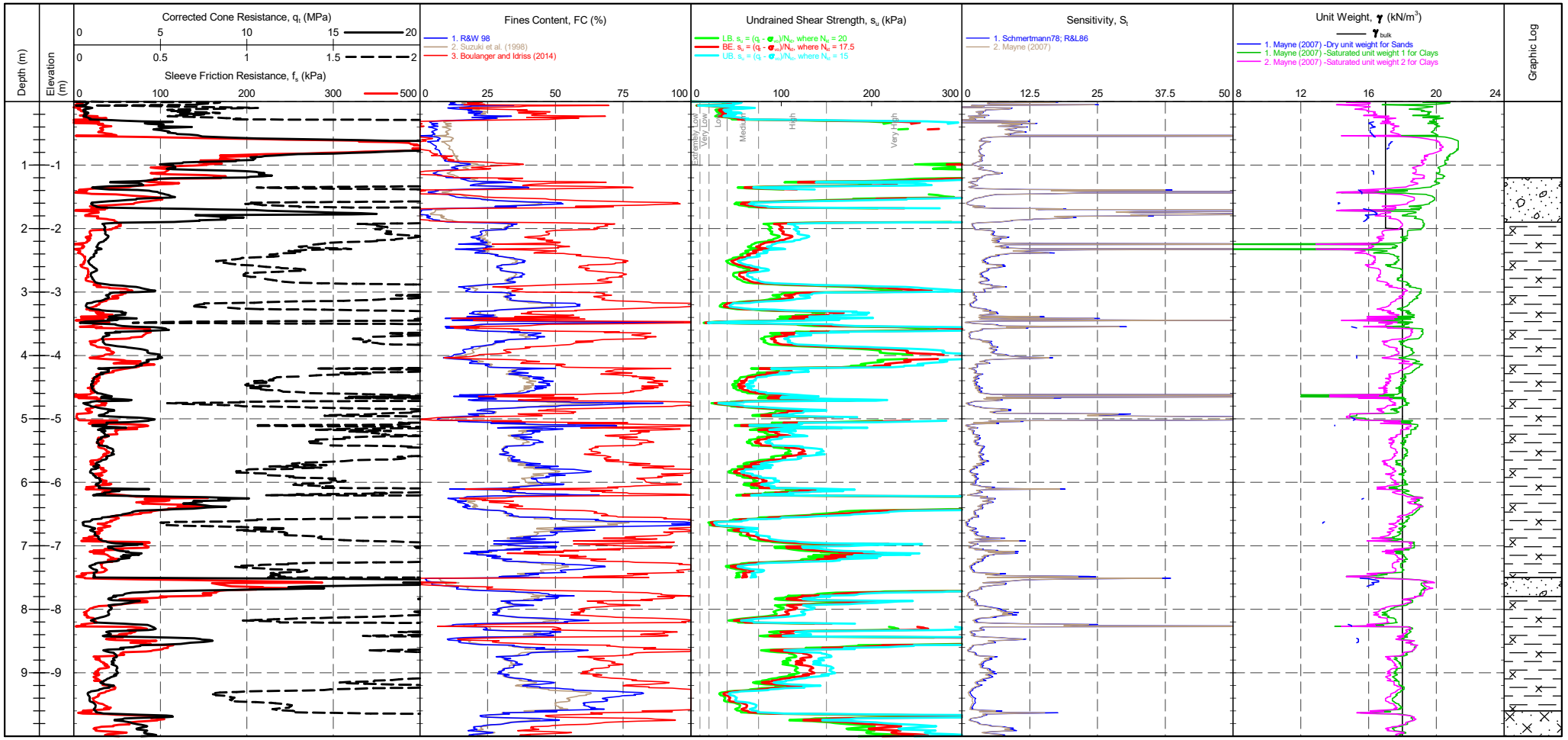
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 03

PointID **CPT105**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	286 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	298 mV	295 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	450 mV	426 mV	-0.006 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2580 mV	2487 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

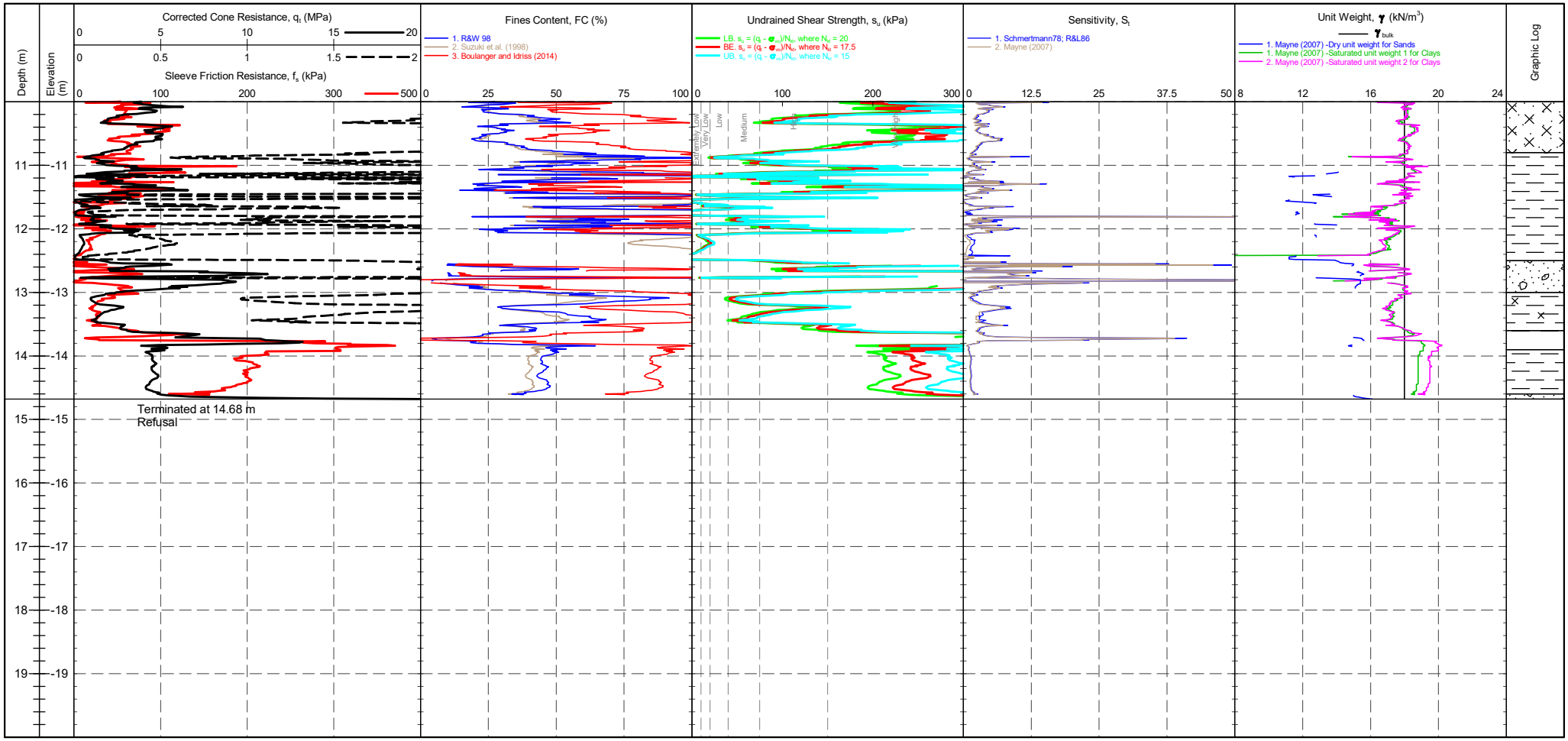
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT105**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



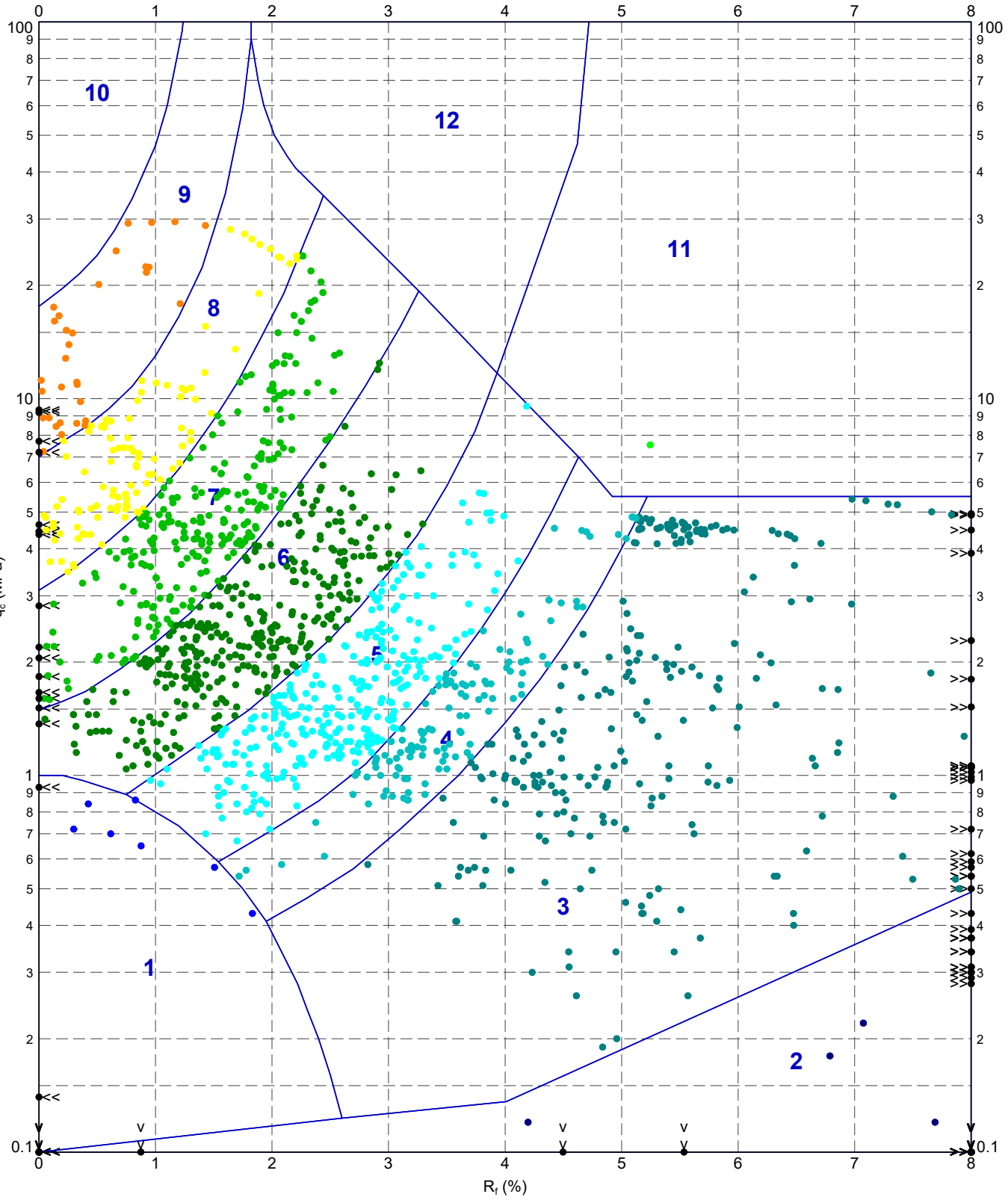
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	286 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	298 mV	295 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	450 mV	426 mV	-0.006 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2580 mV	2487 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT105

DRAWN		DATE	05/01/2022
CHECKED		DATE	05/01/2022
SCALE	Not To Scale		A4
PROJECT No	1210598	FIGURE No	

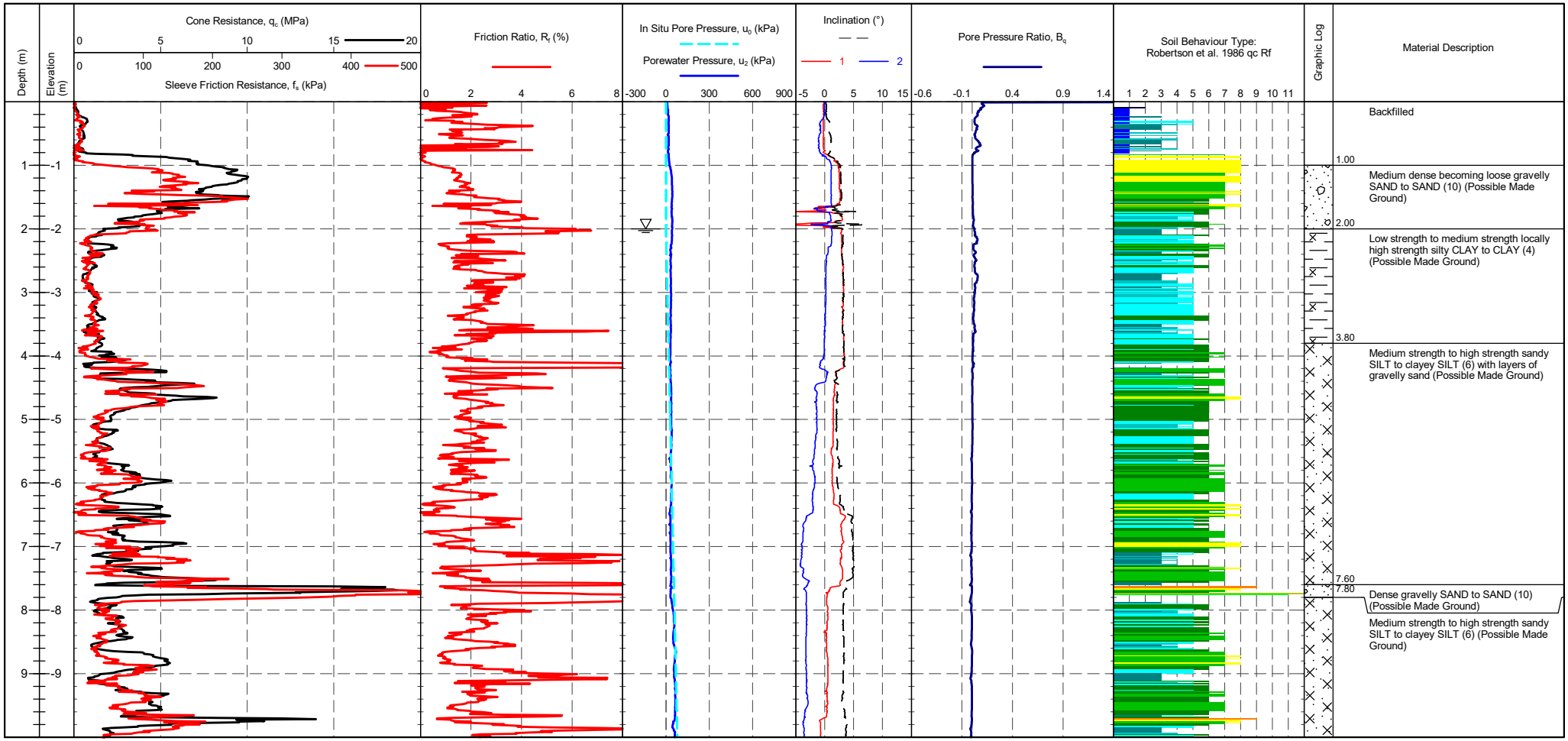
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:32 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT106**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	447 mV	532 mV	0.022 kPa
X-Y Inclinometer	2483 mV	2479 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

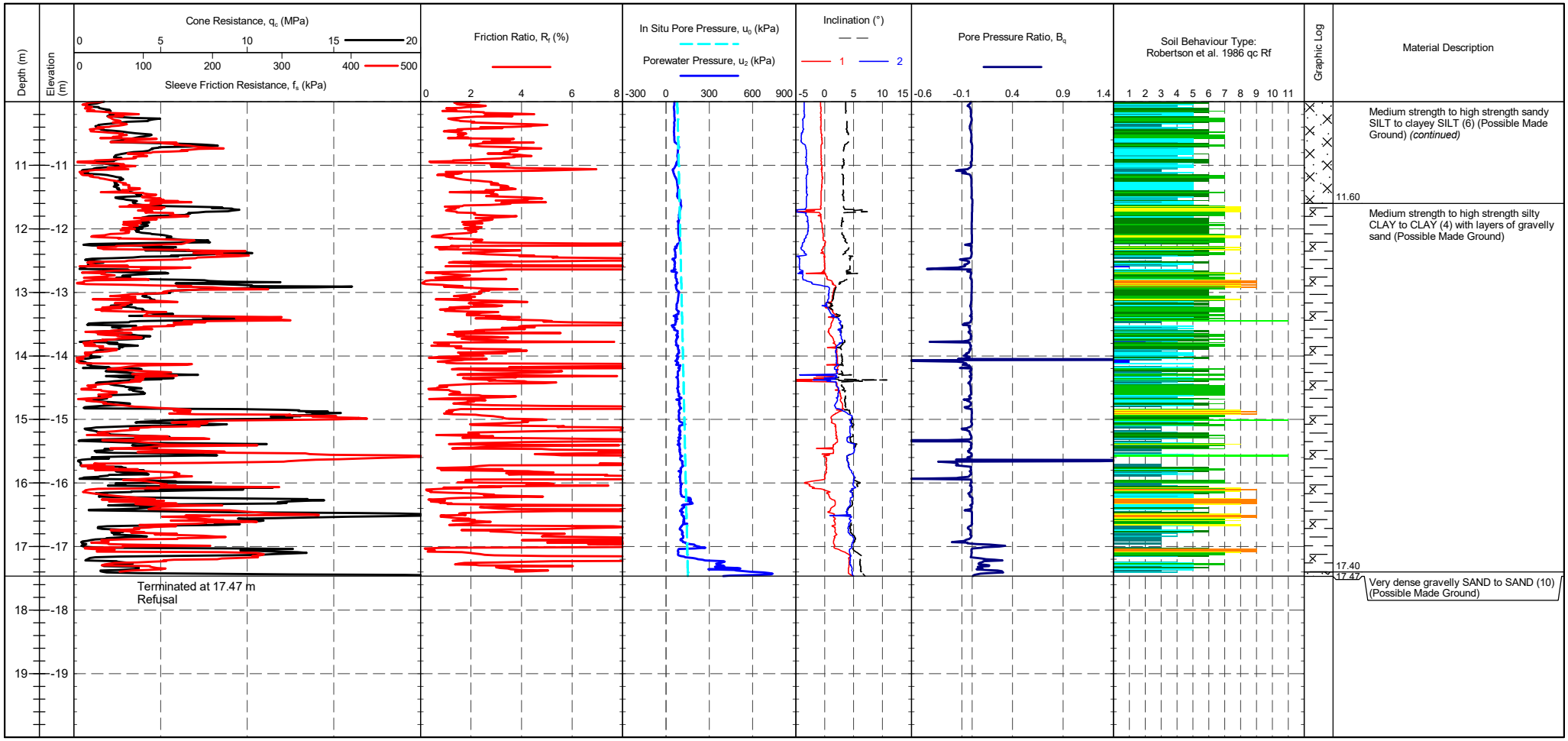
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT106**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	447 mV	532 mV	0.022 kPa
X-Y Inclinometer	2483 mV	2479 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

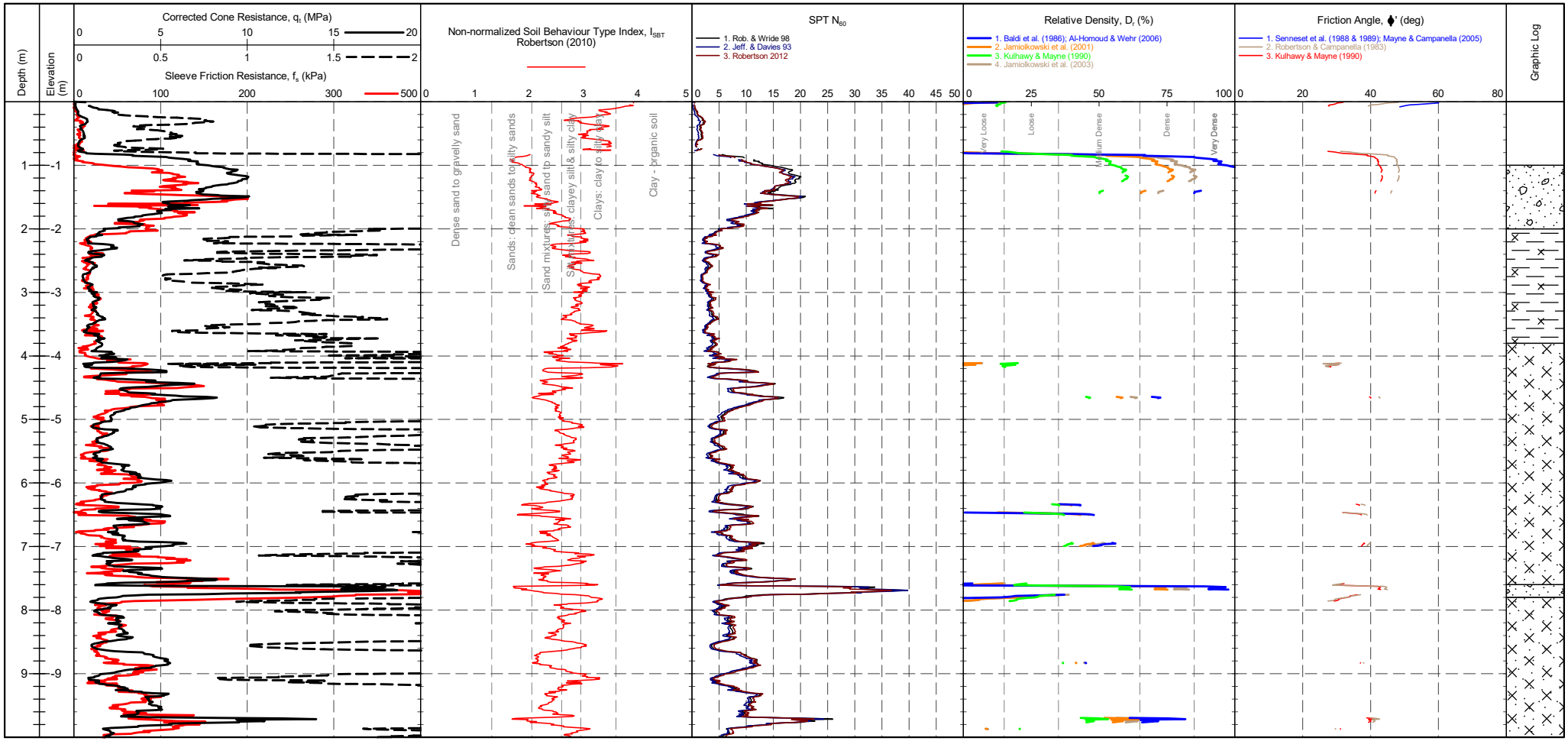
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT106**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	447 mV	532 mV	0.022 kPa
X-Y Inclinometer	2483 mV	2479 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

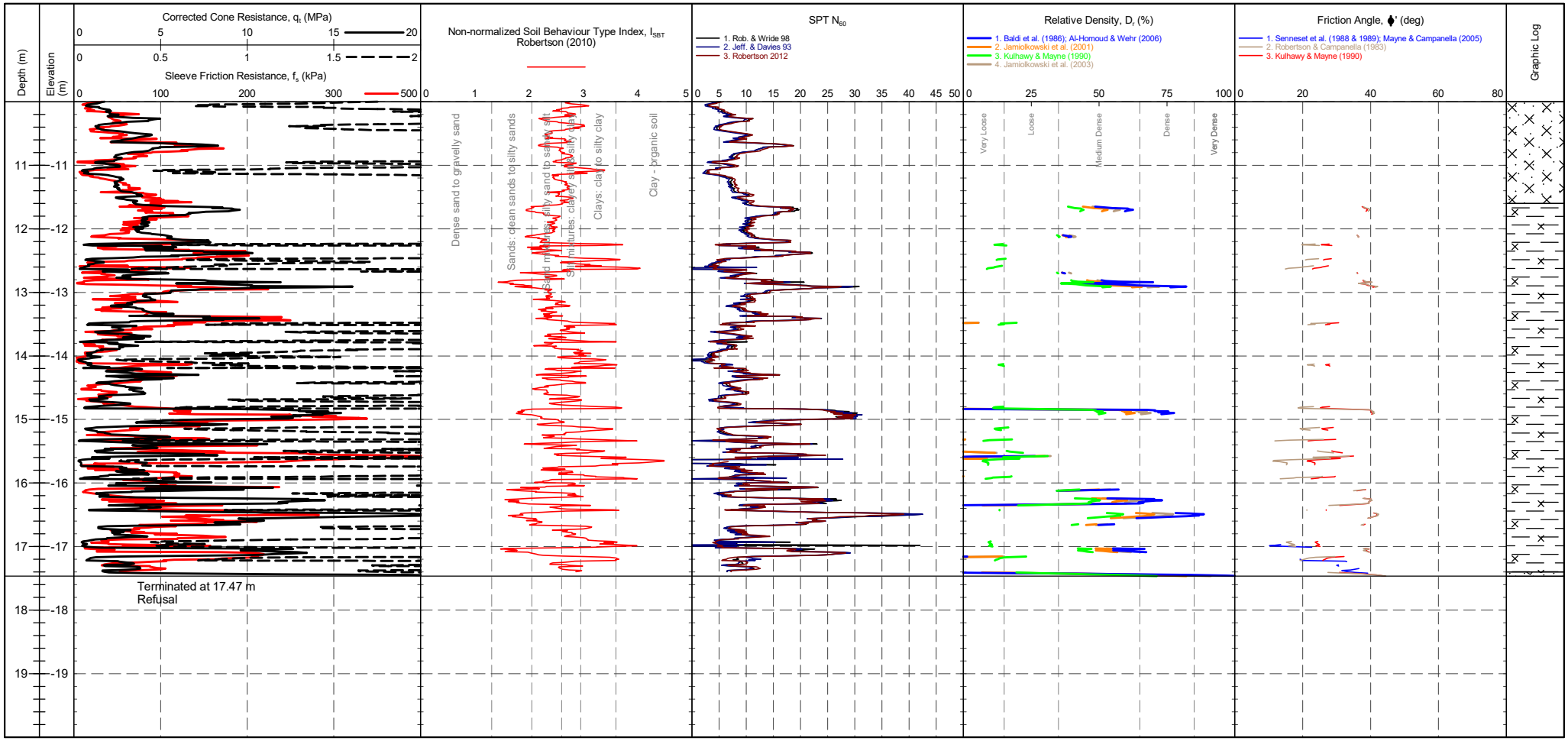
PointID: **CPT106**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	447 mV	532 mV	0.022 kPa
X-Y Inclinometer	2483 mV	2479 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

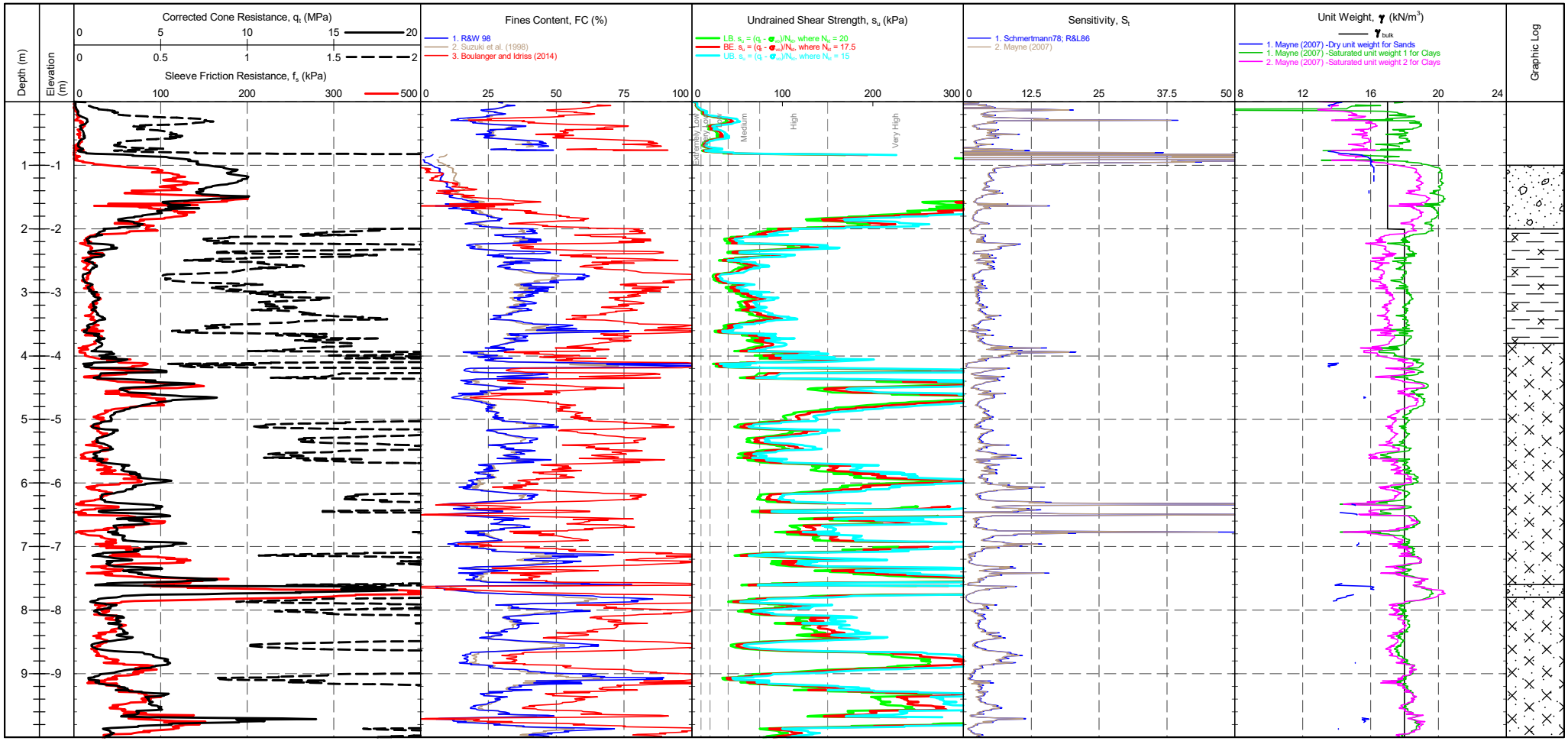
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT106**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	285 mV	286 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	447 mV	532 mV	0.022 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2483 mV	2479 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

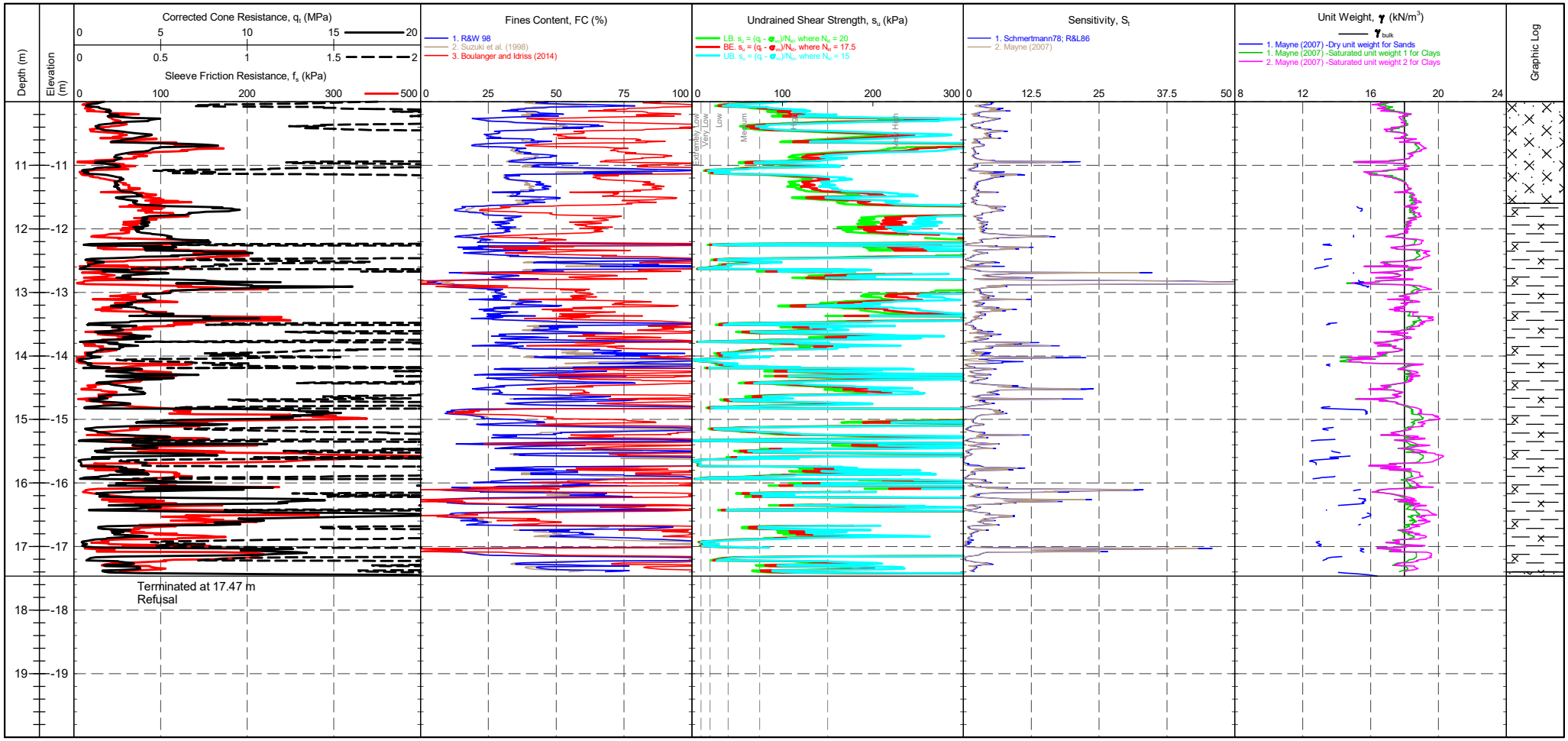
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT106**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



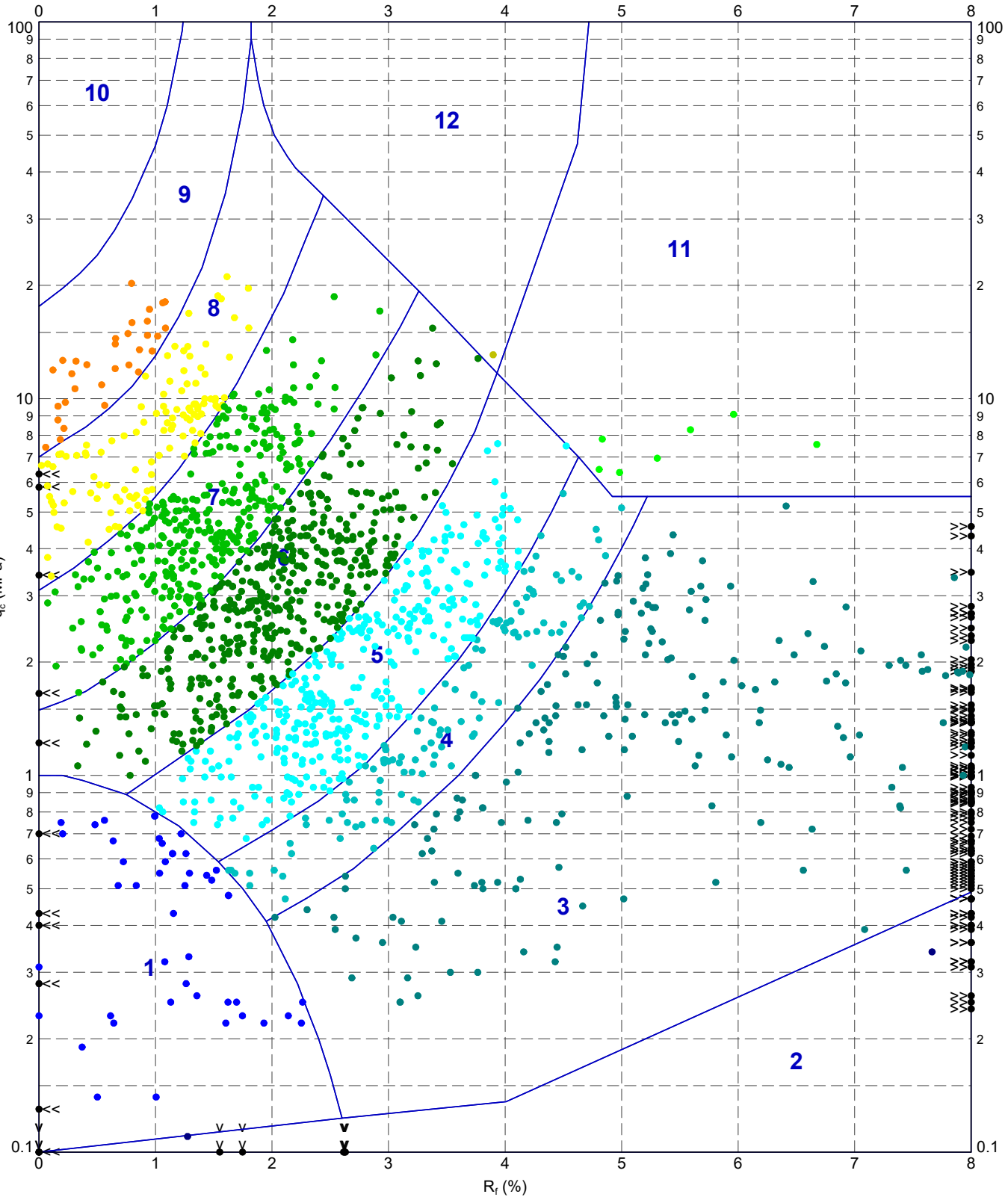
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	285 mV	286 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	447 mV	532 mV	0.022 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2483 mV	2479 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT106

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

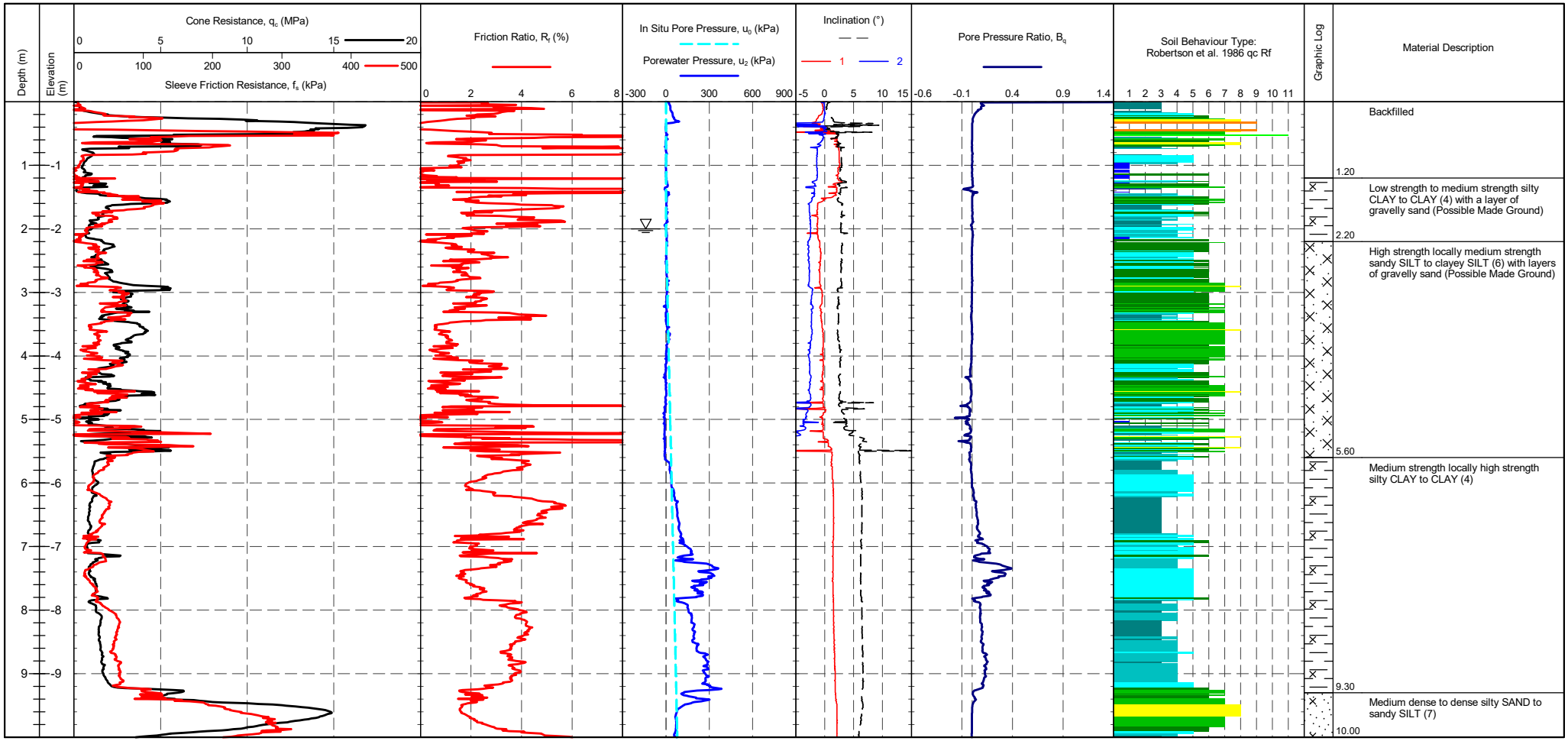
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:33 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT107**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2	CPTU ZERO VALUES	
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm²	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

Transducer	Pre	Post	Difference
Tip	283 mV	291 mV	0.088 MPa
Sleeve	294 mV	294 mV	0 kPa
Pore Pressure 2	448 mV	408 mV	-0.01 kPa
X-Y Inclinometer	2502 mV	2217 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

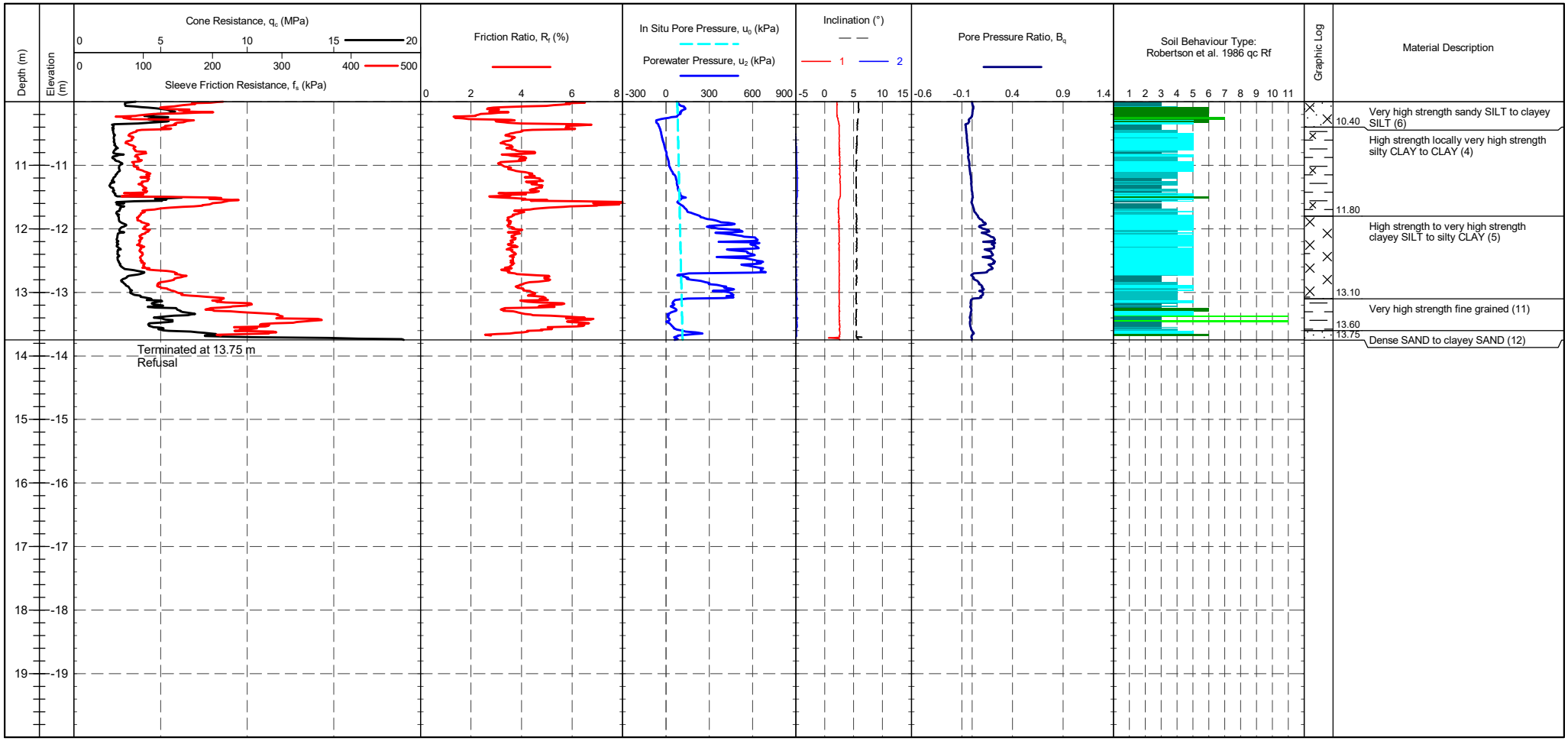
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT107**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	283 mV	291 mV	0.088 MPa
Sleeve	294 mV	294 mV	0 kPa
Pore Pressure 2	448 mV	408 mV	-0.01 kPa
X-Y Inclinometer	2502 mV	2217 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

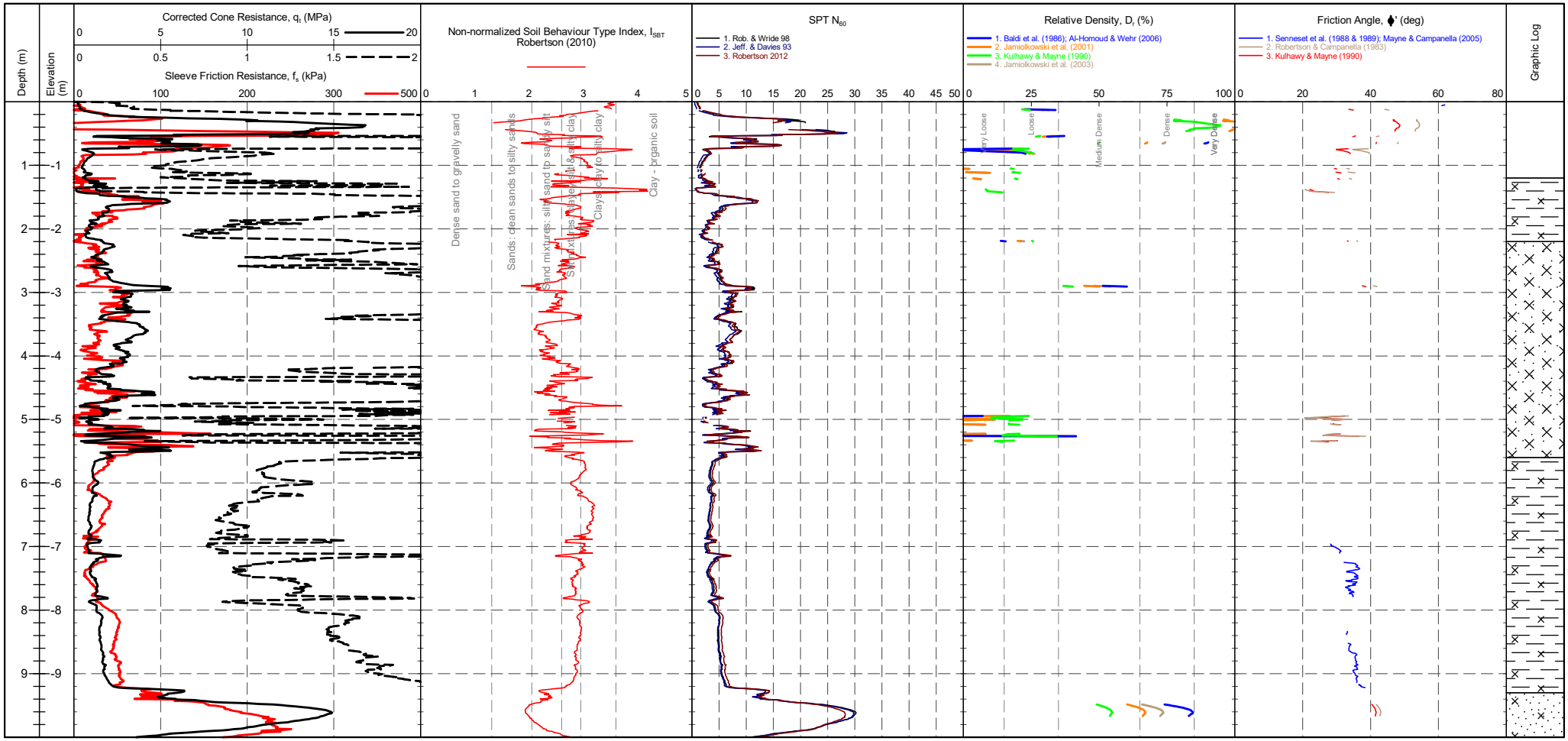
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT107**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032 CONE MODEL : Subtraction CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 001 OPERATOR : RS FRICTION REDUCER : None WEATHER : Overcast & Mild	CPTU ZERO VALUES		
		Transducer	Pre	Post	Difference
		Tip	283 mV	291 mV	0.088 MPa
		Sleeve	294 mV	294 mV	0 kPa
		Pore Pressure 2	448 mV	408 mV	-0.01 kPa
		X-Y Inclinometer	2502 mV	2217 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

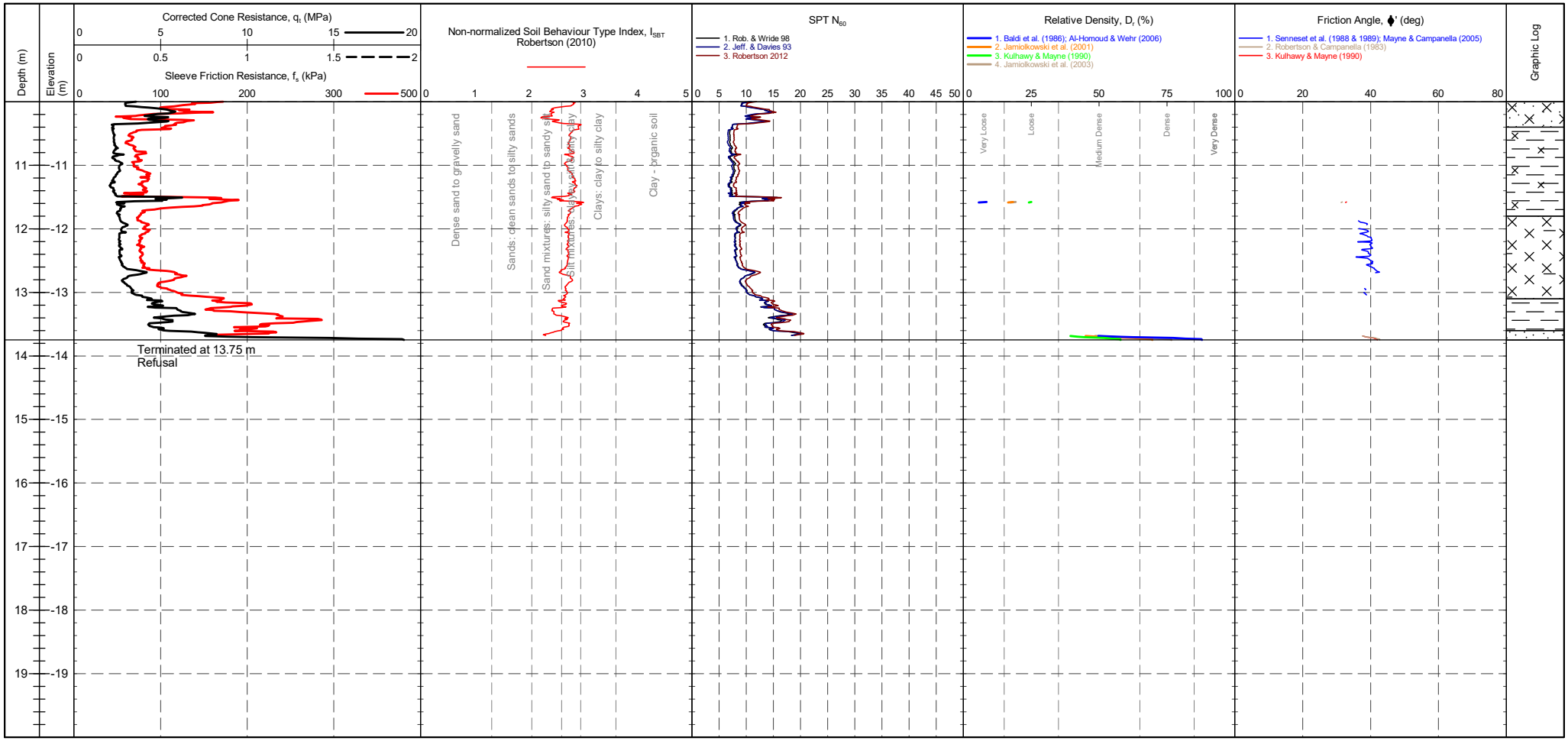
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID: **CPT107**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	283 mV	291 mV	0.088 MPa
Sleeve	294 mV	294 mV	0 kPa
Pore Pressure 2	448 mV	408 mV	-0.01 kPa
X-Y Inclinometer	2502 mV	2217 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

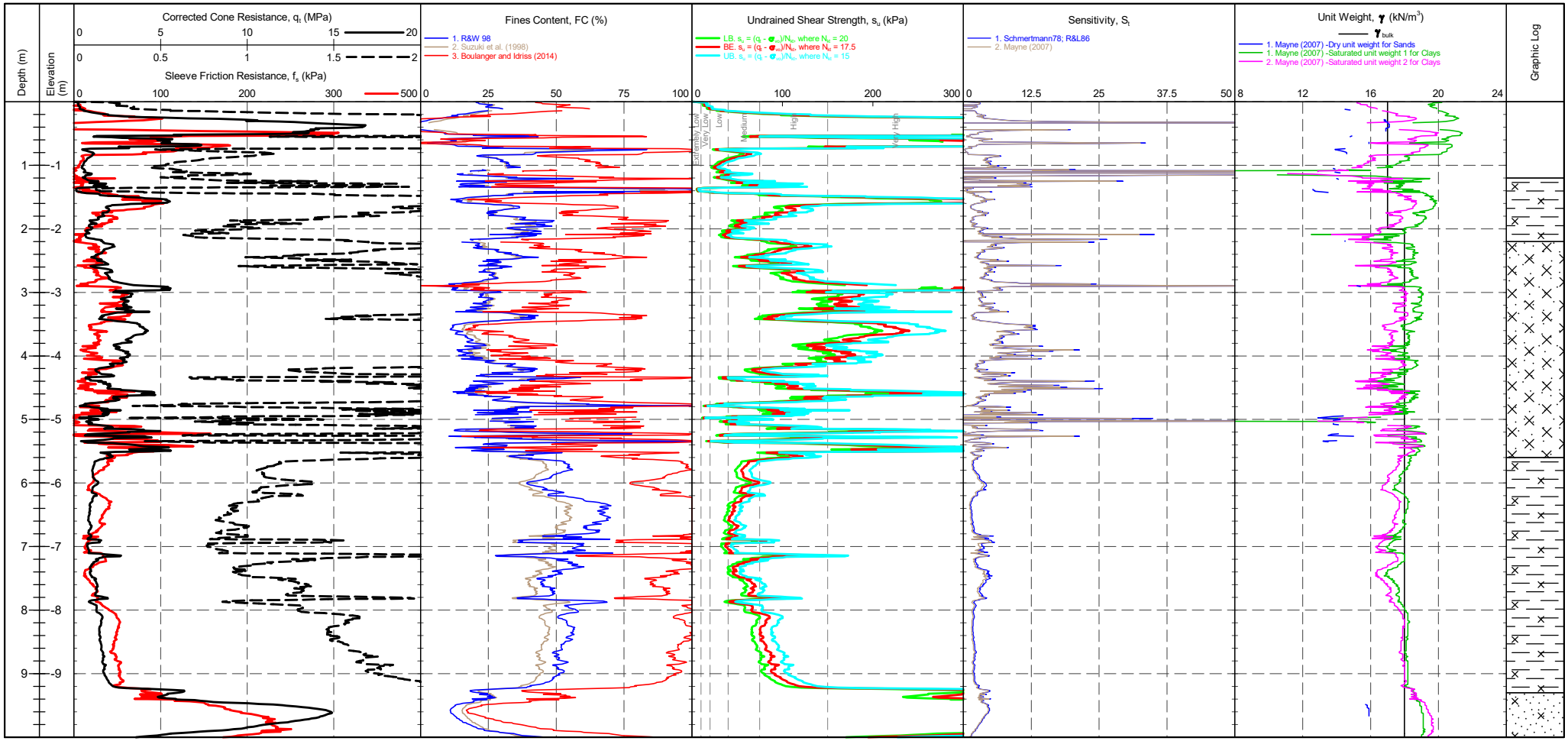
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT107**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	283 mV	291 mV	0.088 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	294 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	448 mV	408 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2502 mV	2217 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

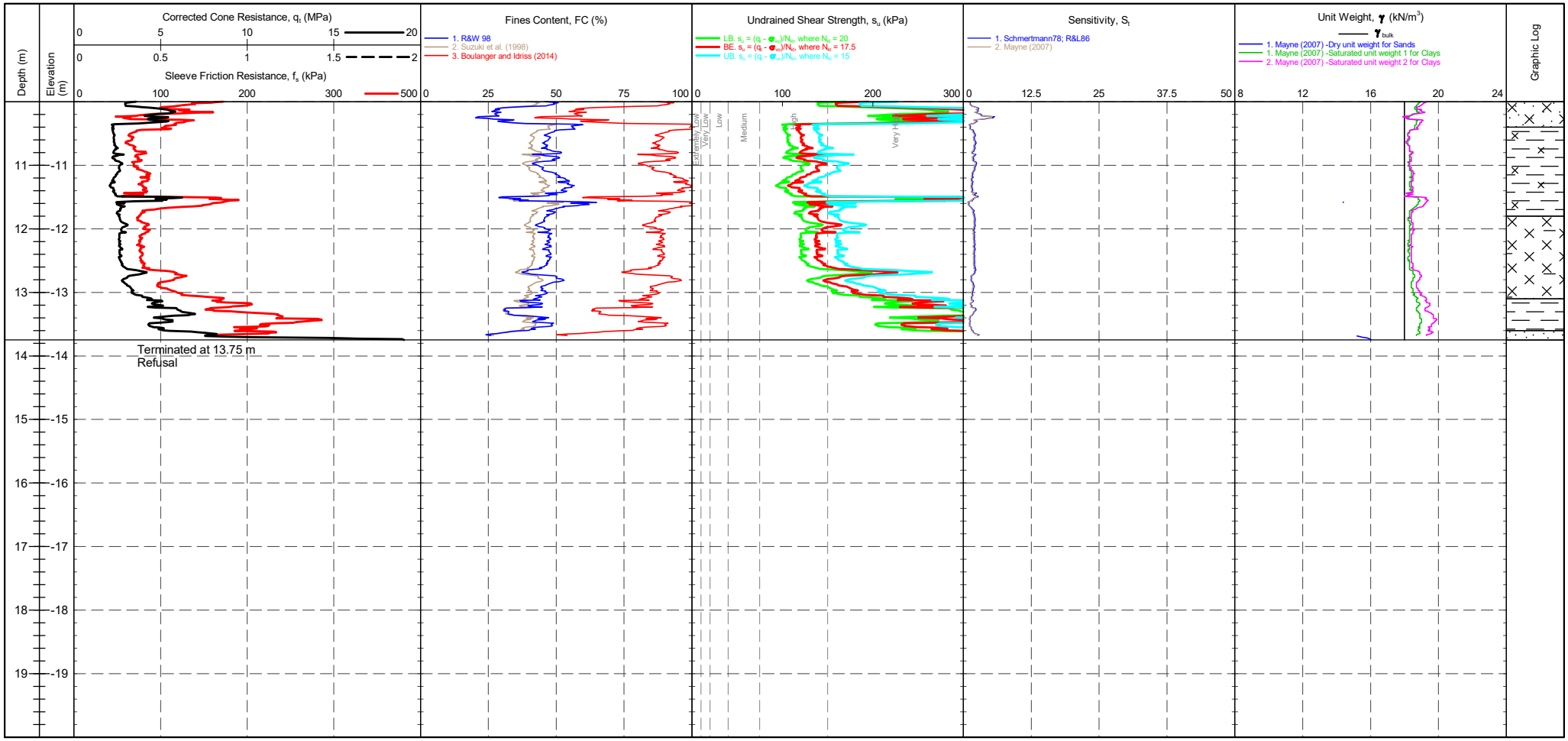
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT107**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



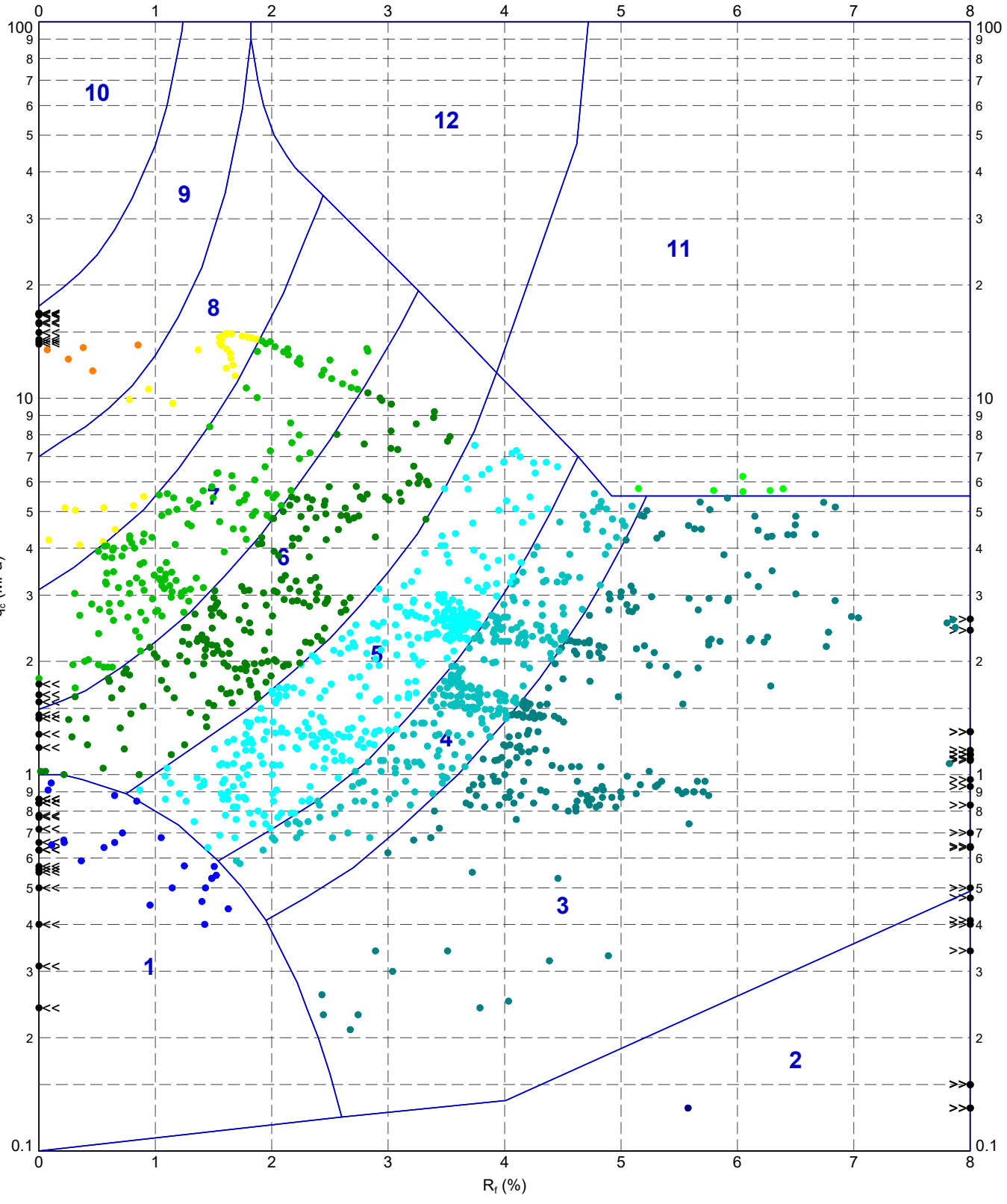
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	283 mV	291 mV	0.088 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	294 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	448 mV	408 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2502 mV	2217 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT107

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

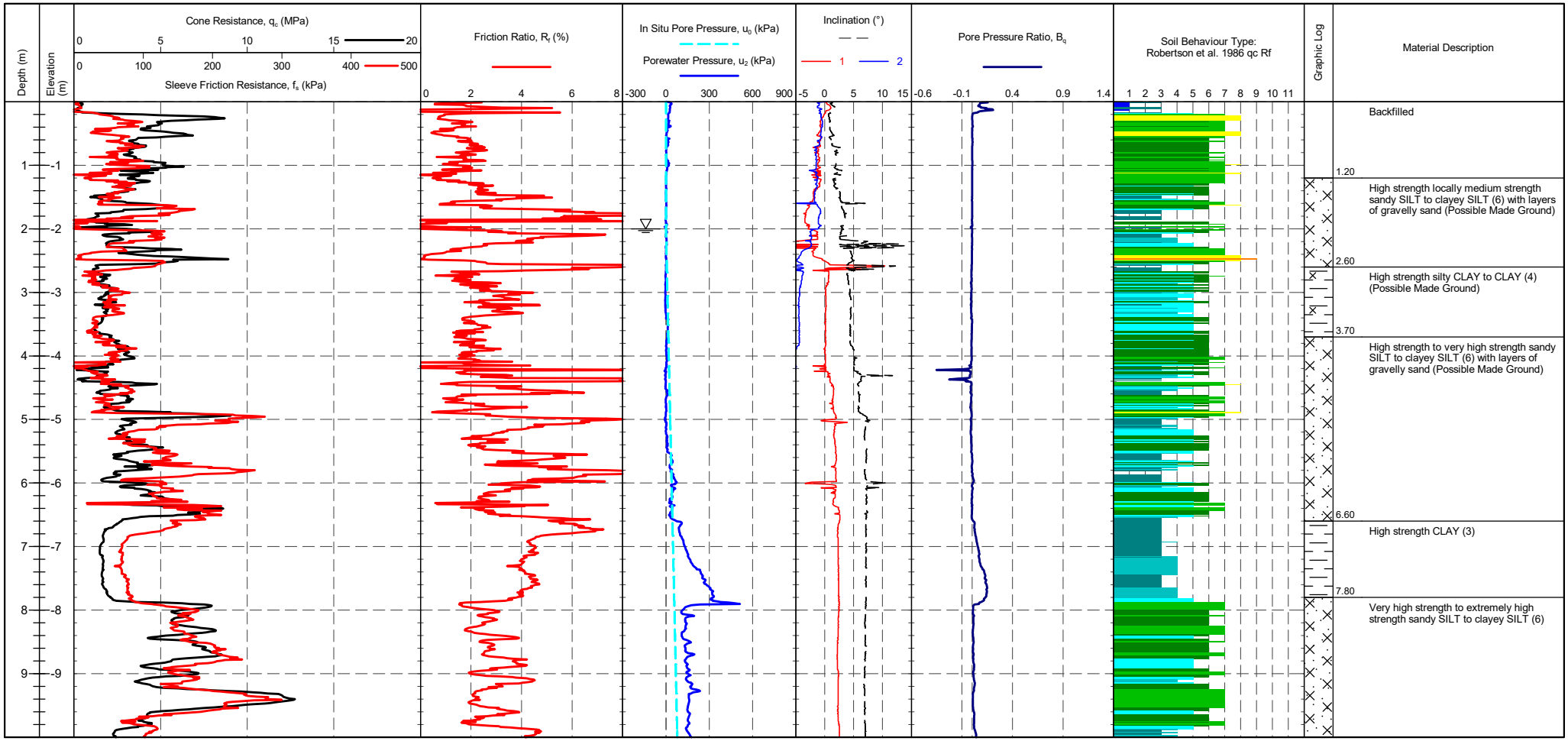
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:34 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT108**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	287 mV	0.022 MPa
Sleeve	292 mV	291 mV	-0.001 kPa
Pore Pressure 2	441 mV	426 mV	-0.004 kPa
X-Y Inclinometer	2503 mV	2983 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

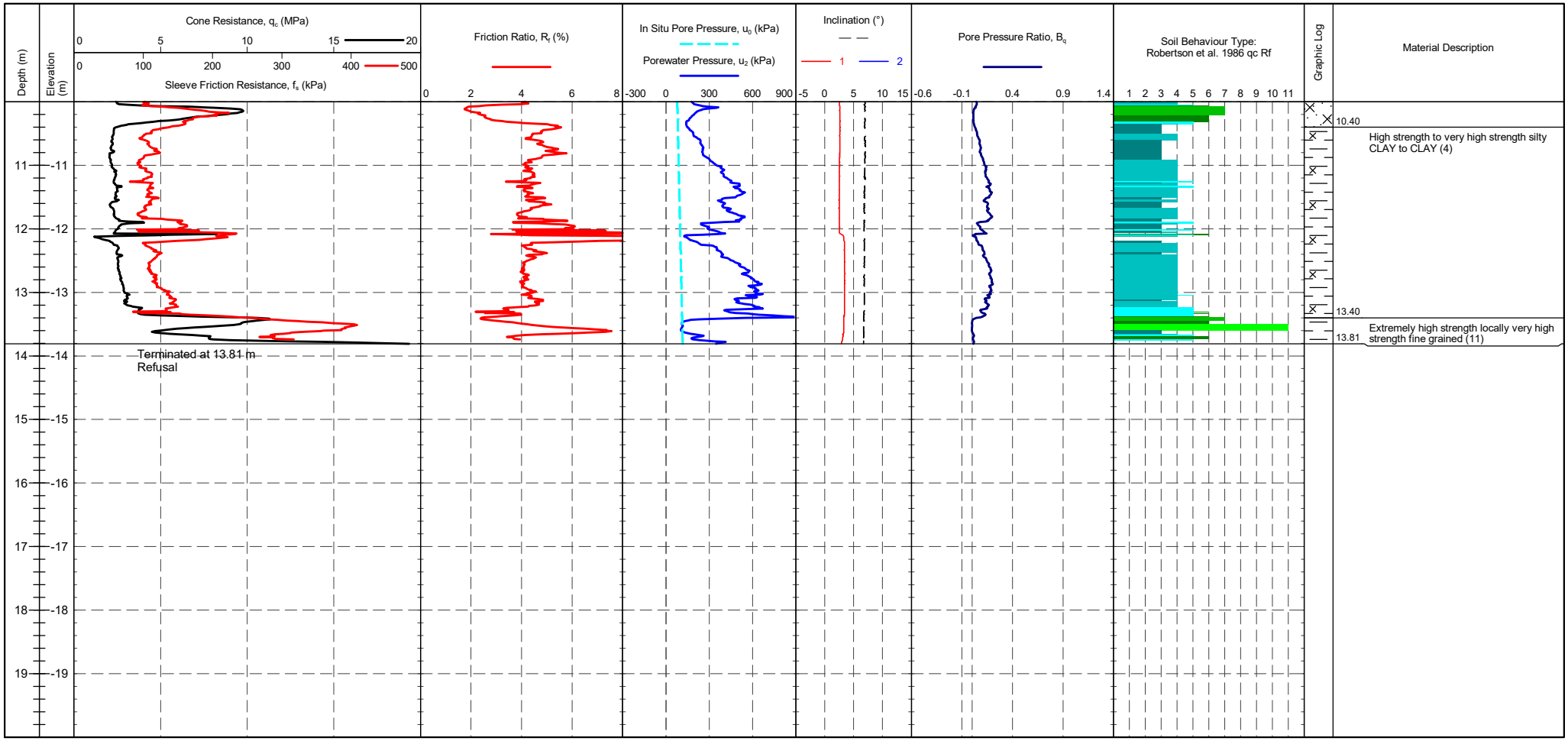
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT108**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	287 mV	0.022 MPa
Sleeve	292 mV	291 mV	-0.001 kPa
Pore Pressure 2	441 mV	426 mV	-0.004 kPa
X-Y Inclinometer	2503 mV	2983 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

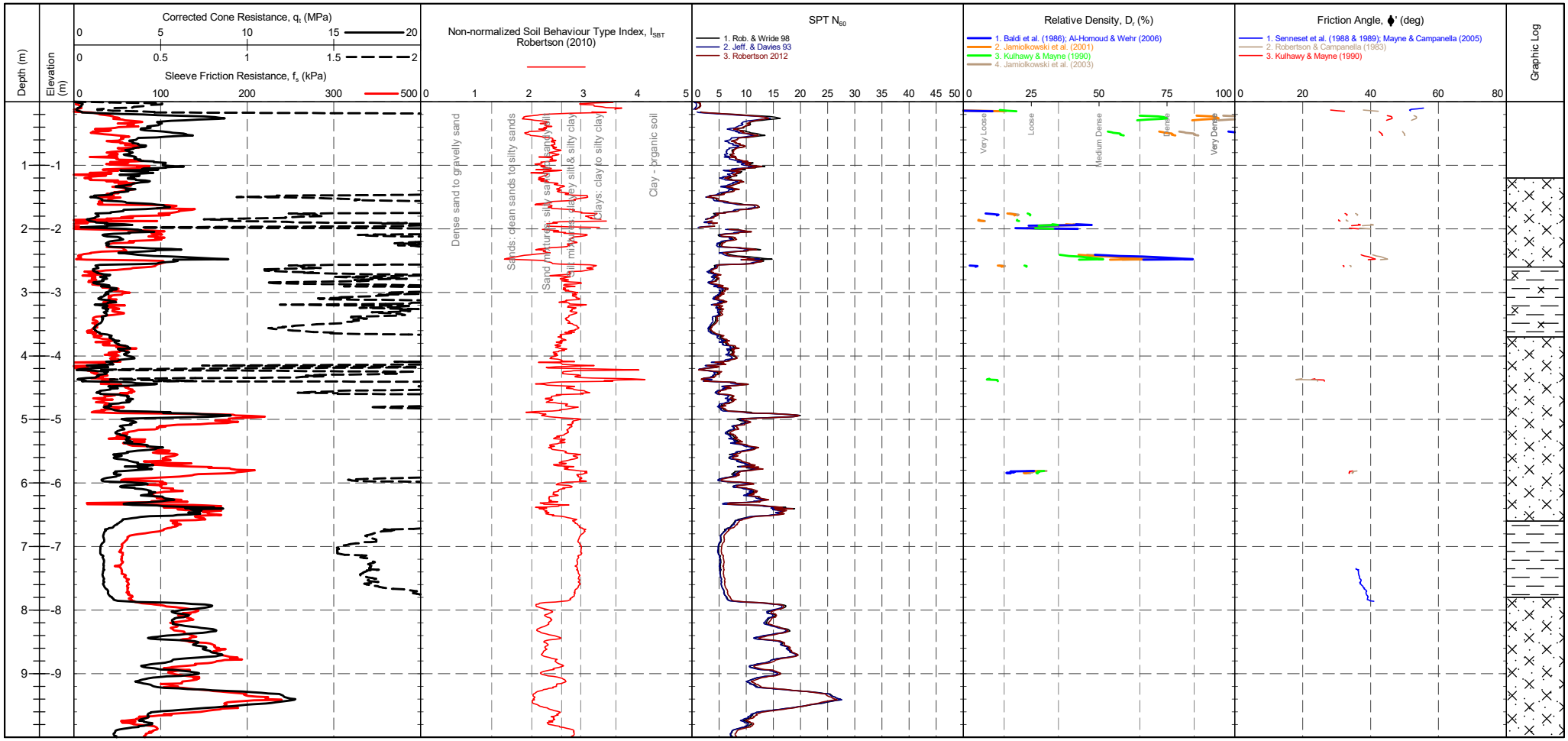
PointID **CPT108**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	285 mV	287 mV	0.022 MPa
Sleeve	292 mV	291 mV	-0.001 kPa
Pore Pressure 2	441 mV	426 mV	-0.004 kPa
X-Y Inclinometer	2503 mV	2983 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

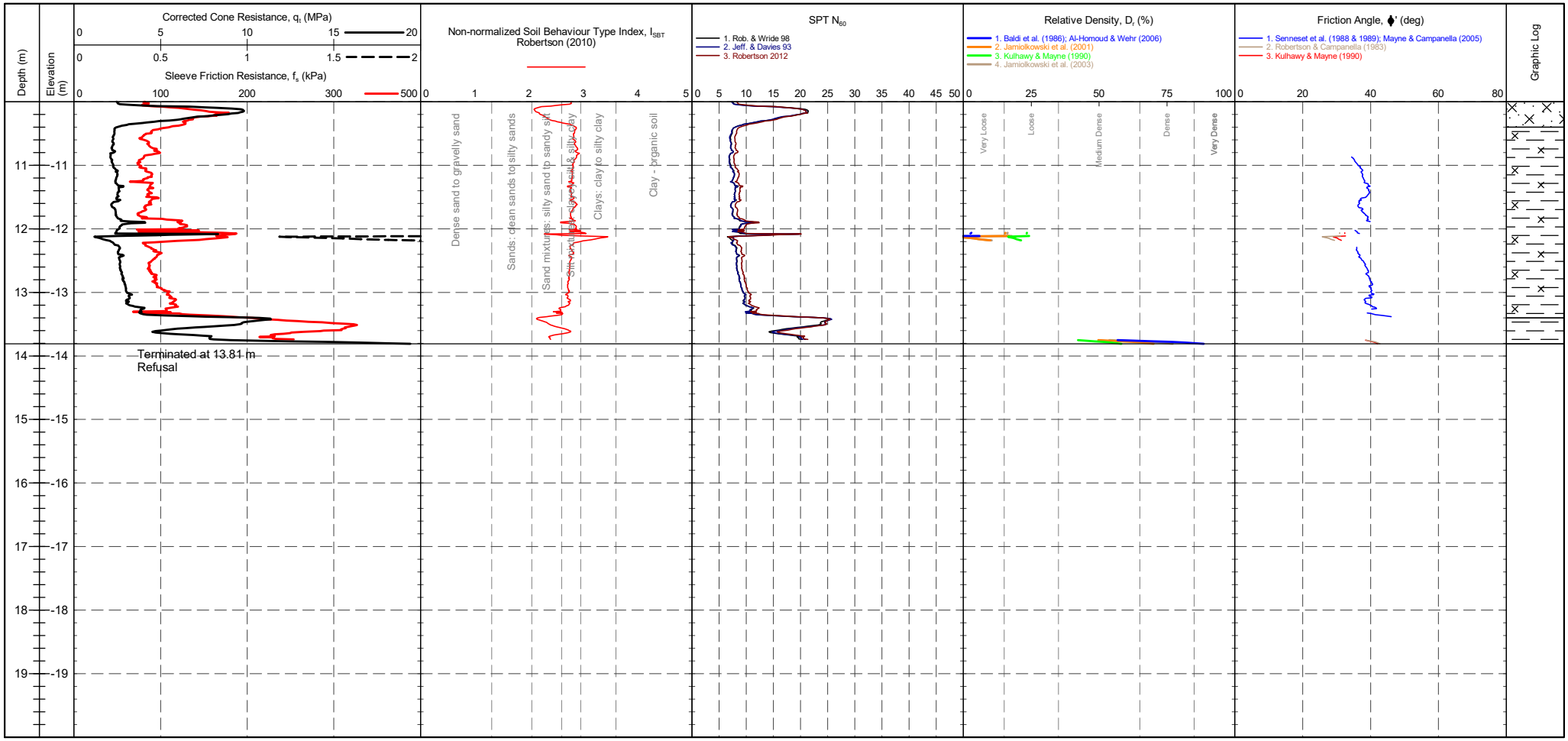
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

PointID: **CPT108**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	287 mV	0.022 MPa
Sleeve	292 mV	291 mV	-0.001 kPa
Pore Pressure 2	441 mV	426 mV	-0.004 kPa
X-Y Inclinometer	2503 mV	2983 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

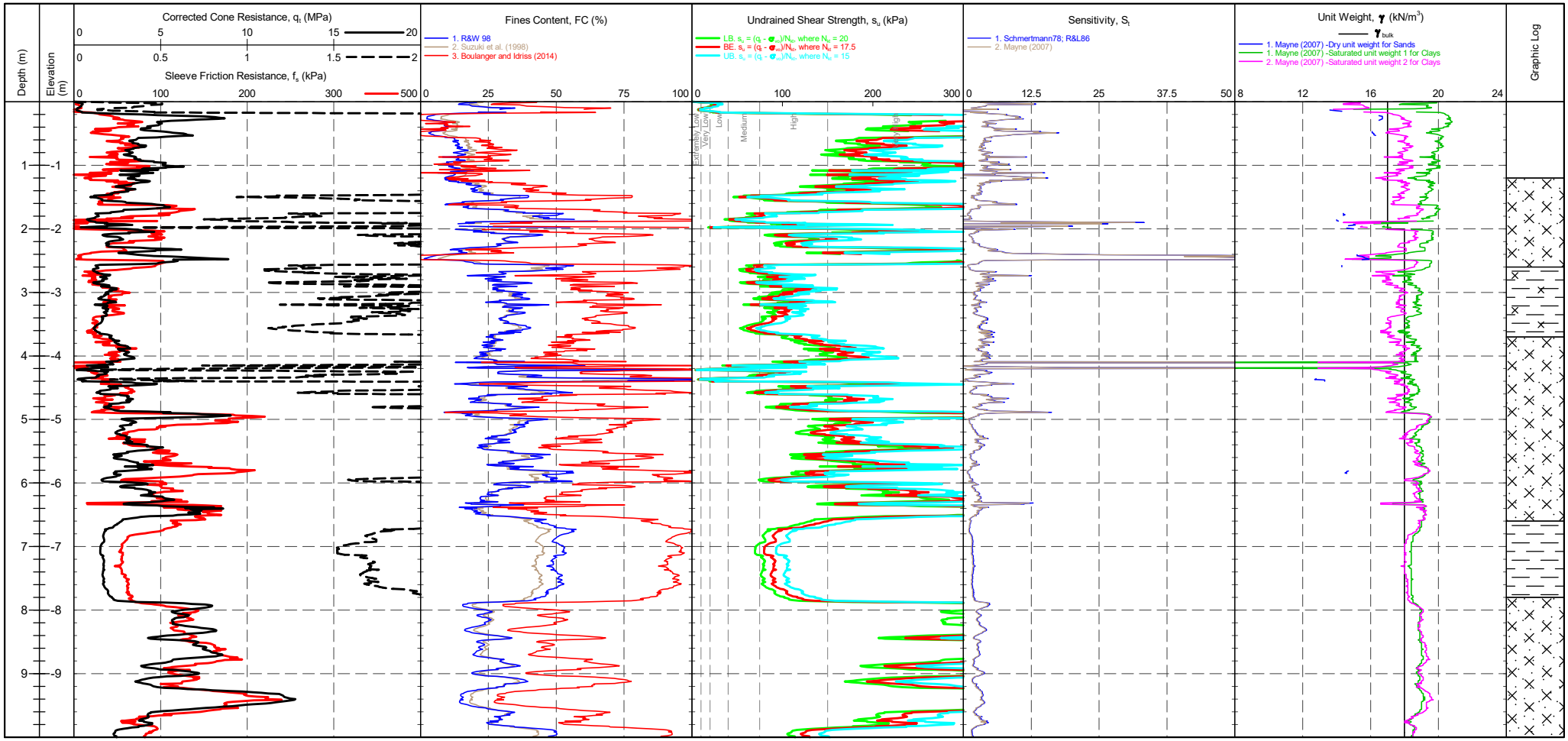
PointID **CPT108**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	285 mV	287 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	291 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	441 mV	426 mV	-0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2503 mV	2983 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

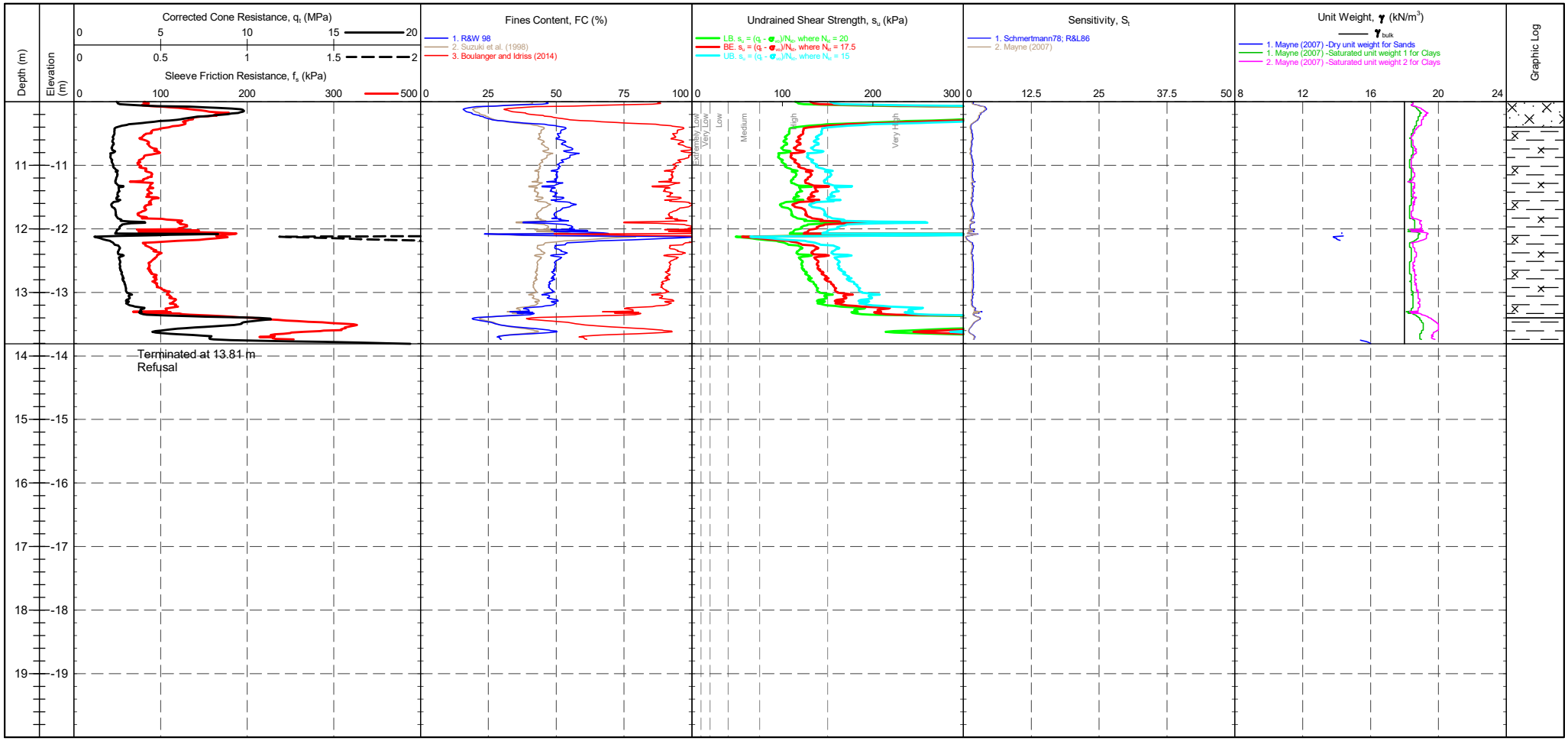
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT108**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



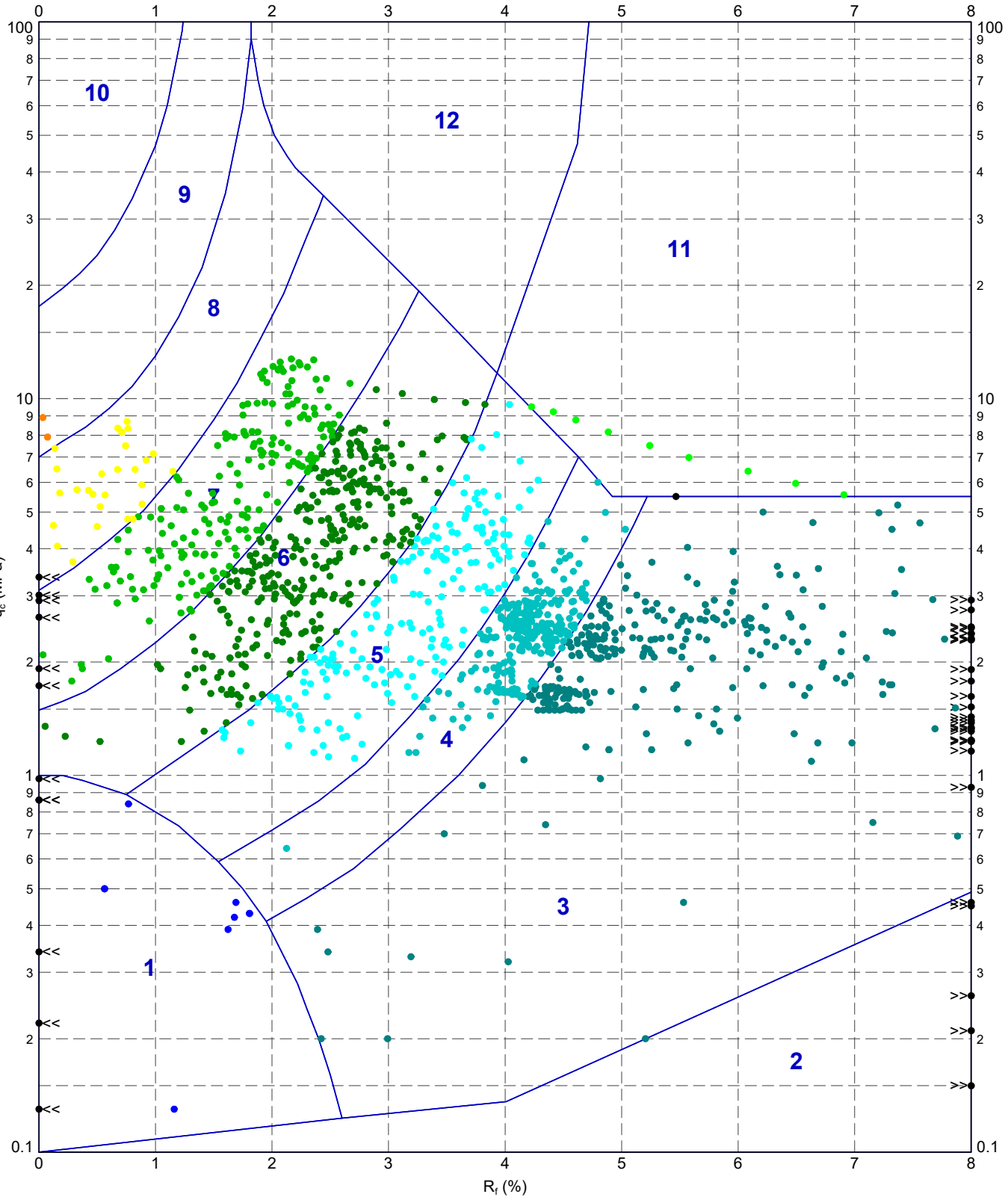
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	285 mV	287 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	292 mV	291 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	441 mV	426 mV	-0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2503 mV	2983 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT108

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

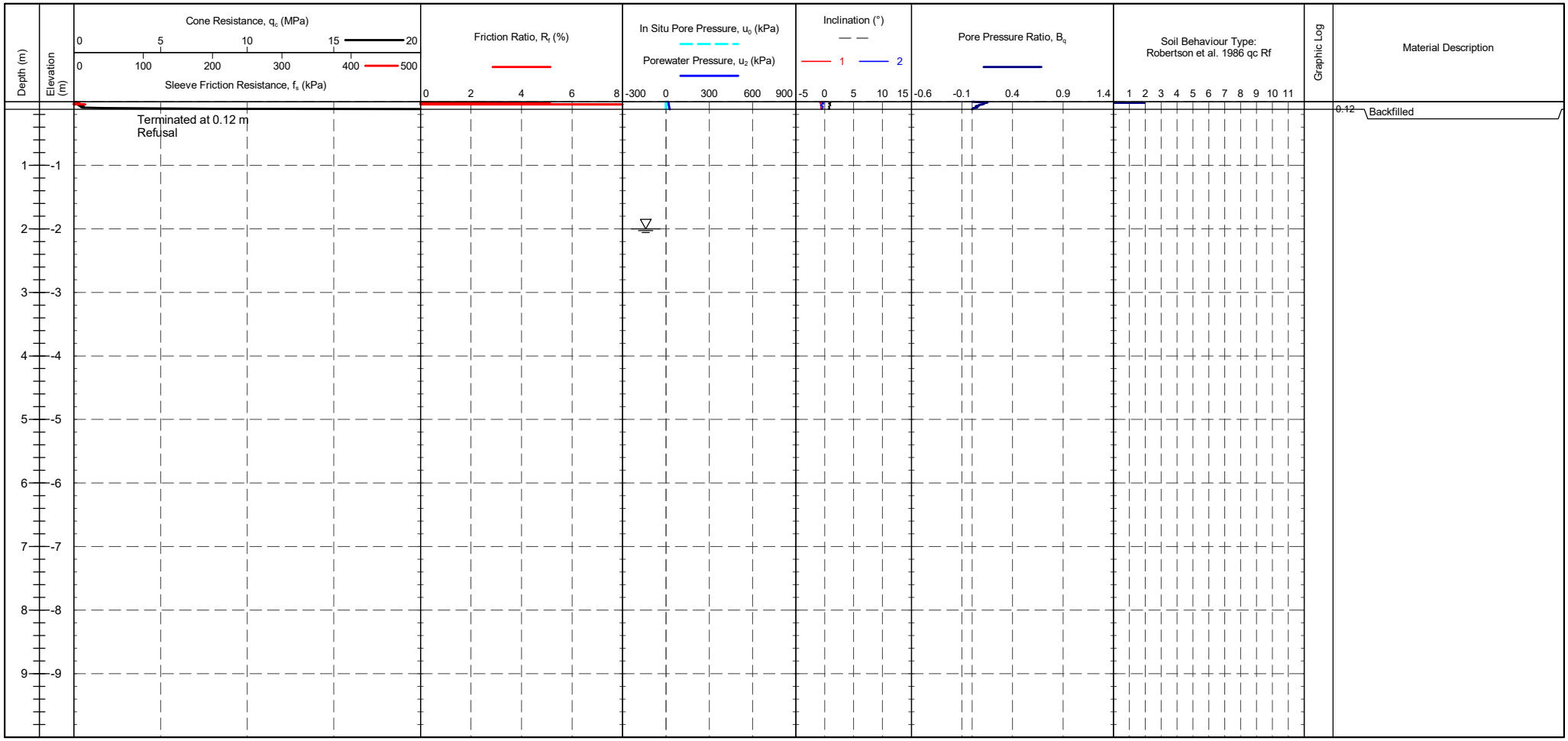
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:36 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 01

PointID **CPT109**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Tip	288 mV	289 mV	0.011 MPa
CONE MODEL	: Subtraction	RIG	: CPT 001	Sleeve	293 mV	295 mV	0.001 kPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Pore Pressure 2	480 mV	463 mV	-0.004 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	X-Y Inclinometer	2468 mV	2441 mV	
FILTER POSITION	: u2	WEATHER	: Overcast & Mild				
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes.				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

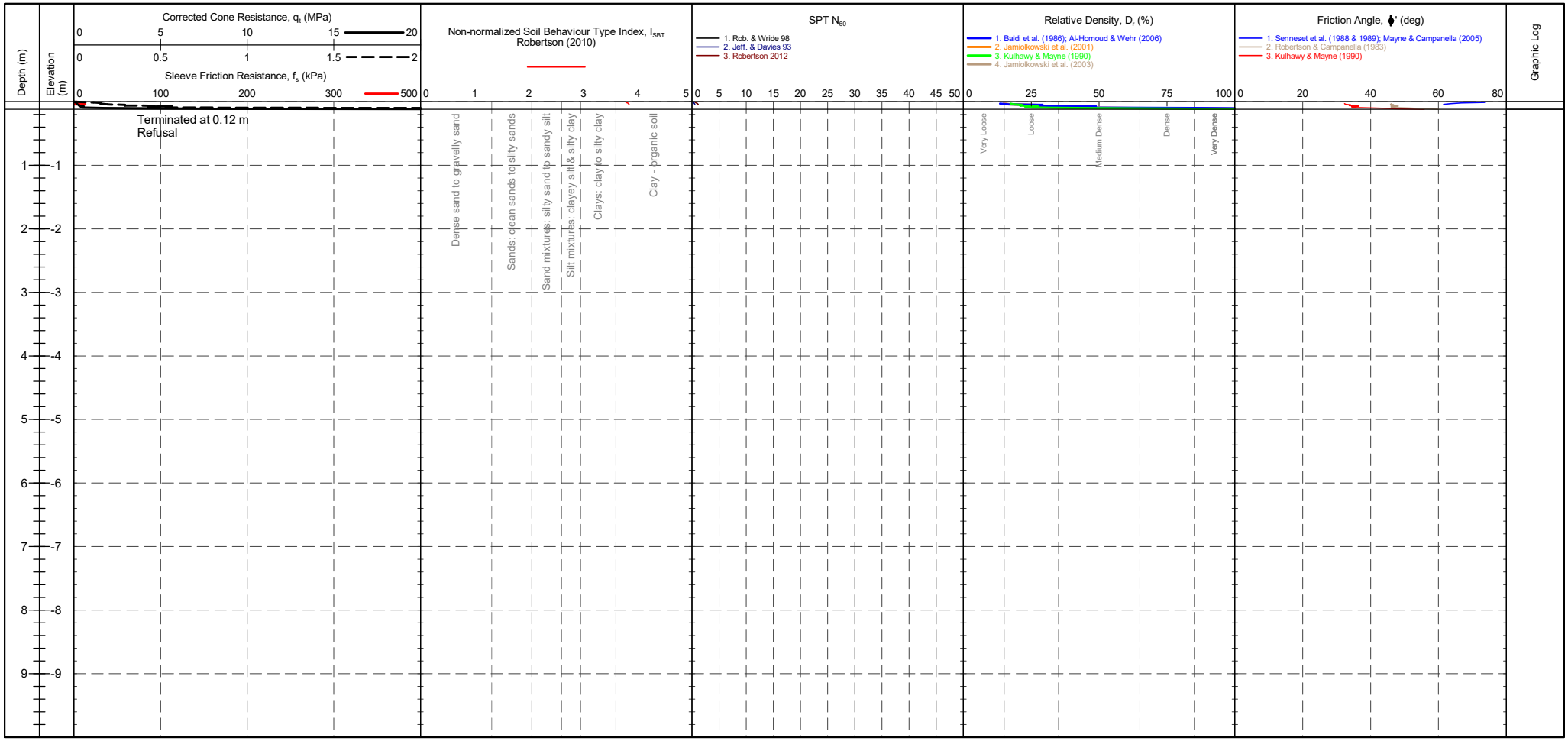
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

PointID **CPT109**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 1 OF 1 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032 CONE MODEL : Subtraction CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 001 OPERATOR : RS FRICTION REDUCER : None WEATHER : Overcast & Mild	CPTU ZERO VALUES		
		Transducer	Pre	Post	Difference
		Tip	288 mV	289 mV	0.011 MPa
		Sleeve	293 mV	295 mV	0.001 kPa
		Pore Pressure 2	480 mV	463 mV	-0.004 kPa
		X-Y Inclinometer	2468 mV	2441 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

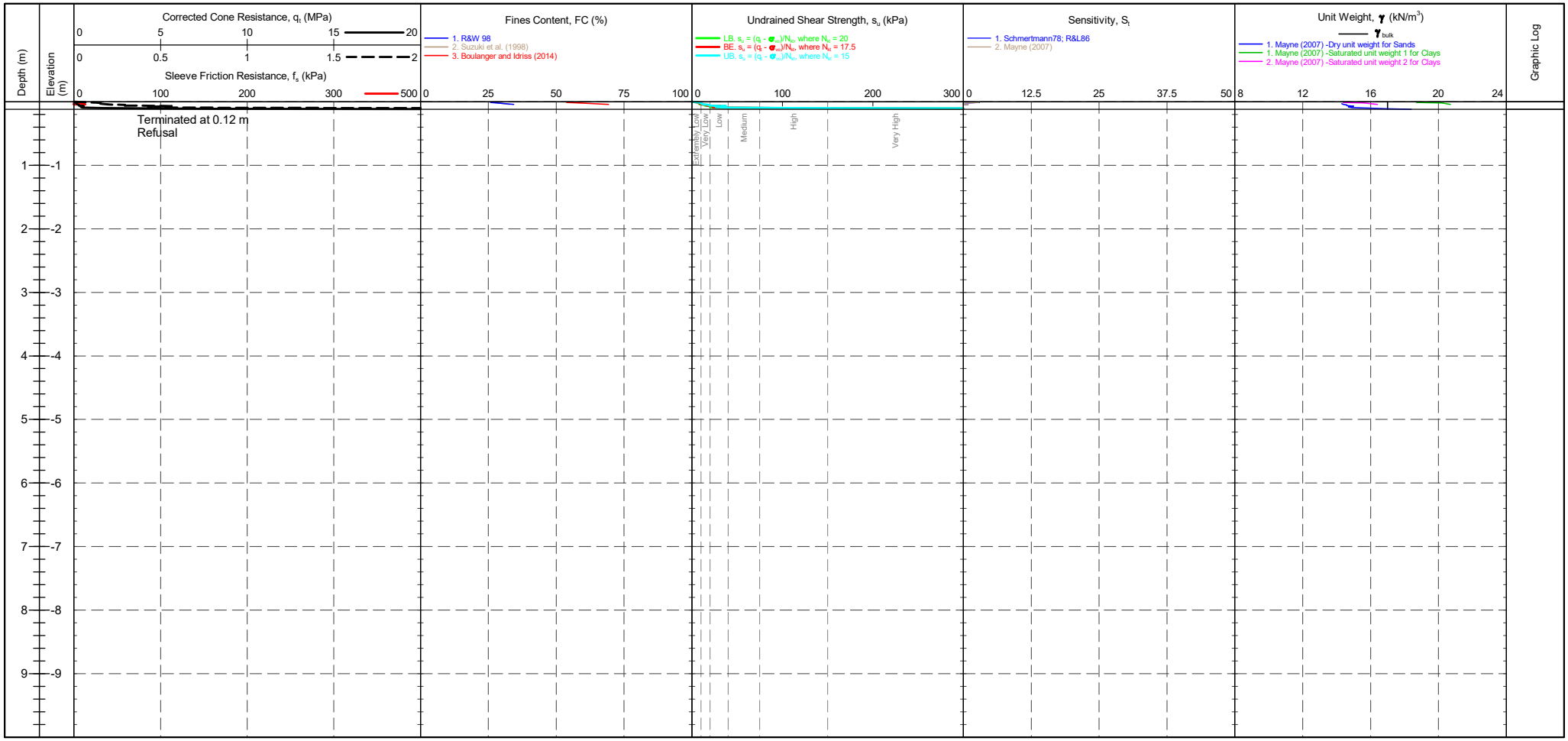
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT109**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



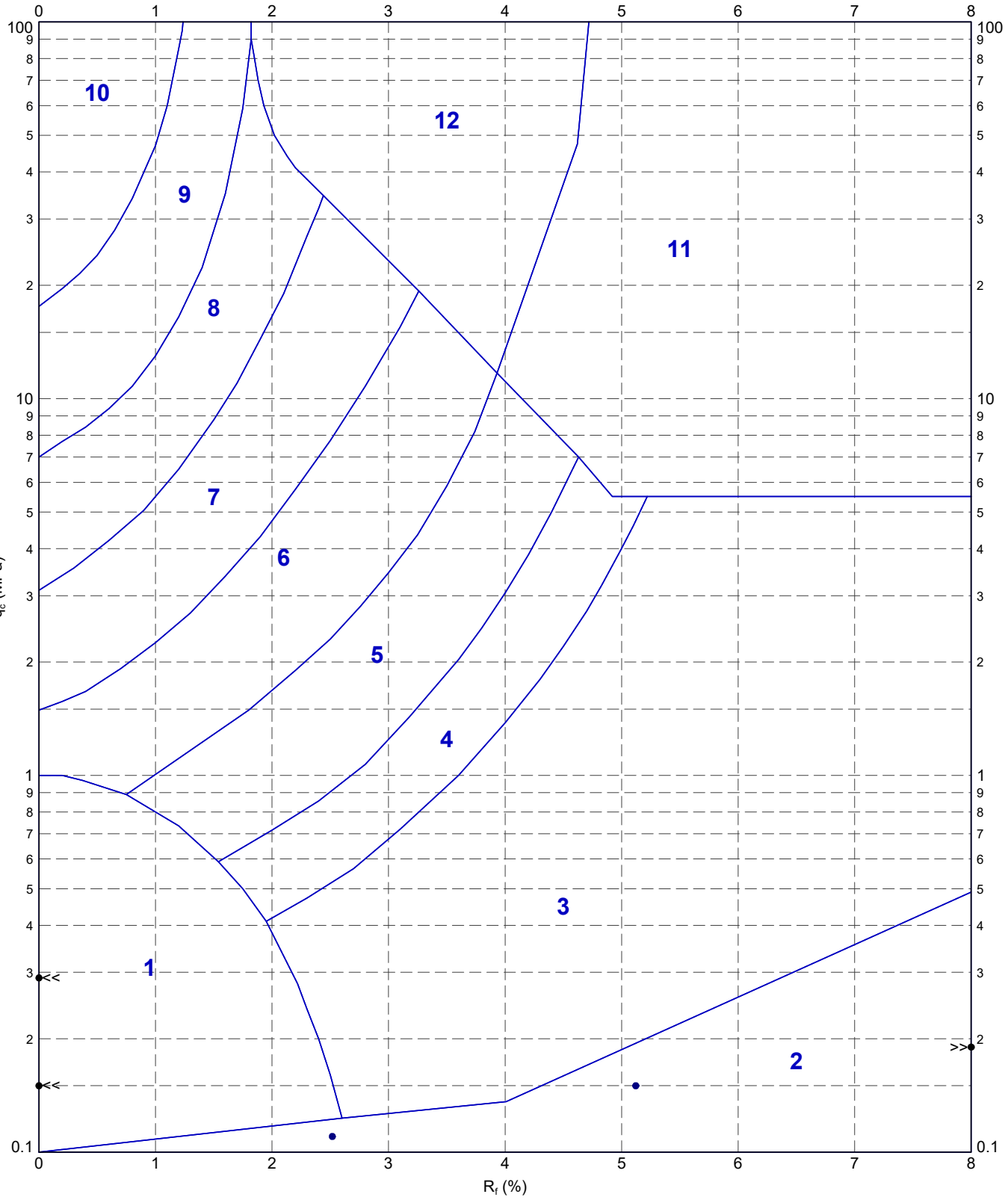
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	288 mV	289 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	295 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	480 mV	463 mV	-0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2468 mV	2441 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT109

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

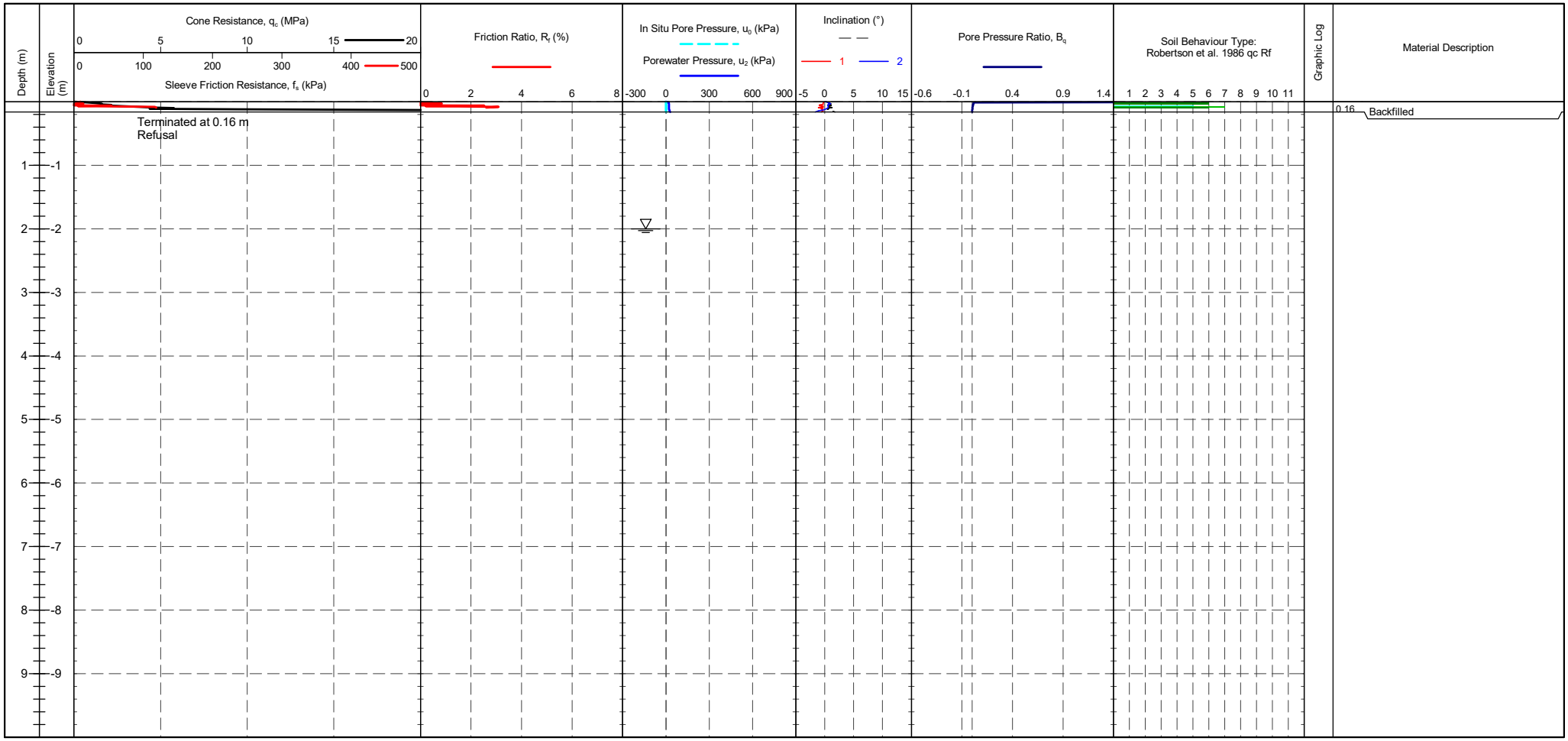
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:36 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT109A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	288 mV	289 mV	0.011 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	296 mV	296 mV	0 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	458 mV	453 mV	-0.001 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2512 mV	2499 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes.				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

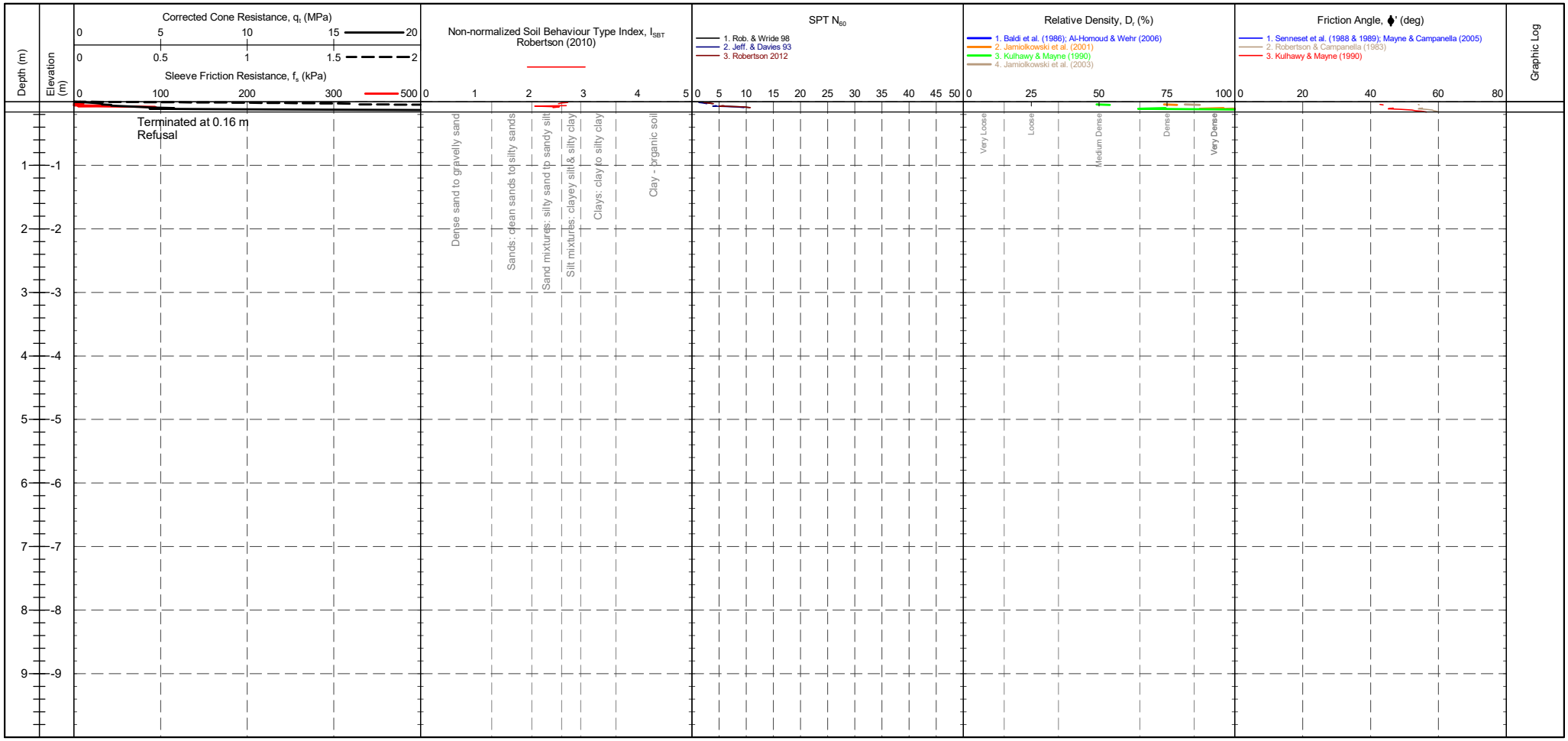
PointID **CPT109A**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032
CONE MODEL	: Subtraction
CONE AREA	: 15cm^2
CONE AREA RATIO	: 0.79
FILTER POSITION	: u2
FILTER TYPE	: HDPE

TEST TYPE	: TE2
APPLICATION CLASS	: 2
RIG	: CPT 001
OPERATOR	: RS
FRICTION REDUCER	: None
WEATHER	: Overcast & Mild

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	288 mV	289 mV	0.011 MPa
Sleeve	296 mV	296 mV	0 kPa
Pore Pressure 2	458 mV	453 mV	-0.001 kPa
X-Y Inclinometer	2512 mV	2499 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

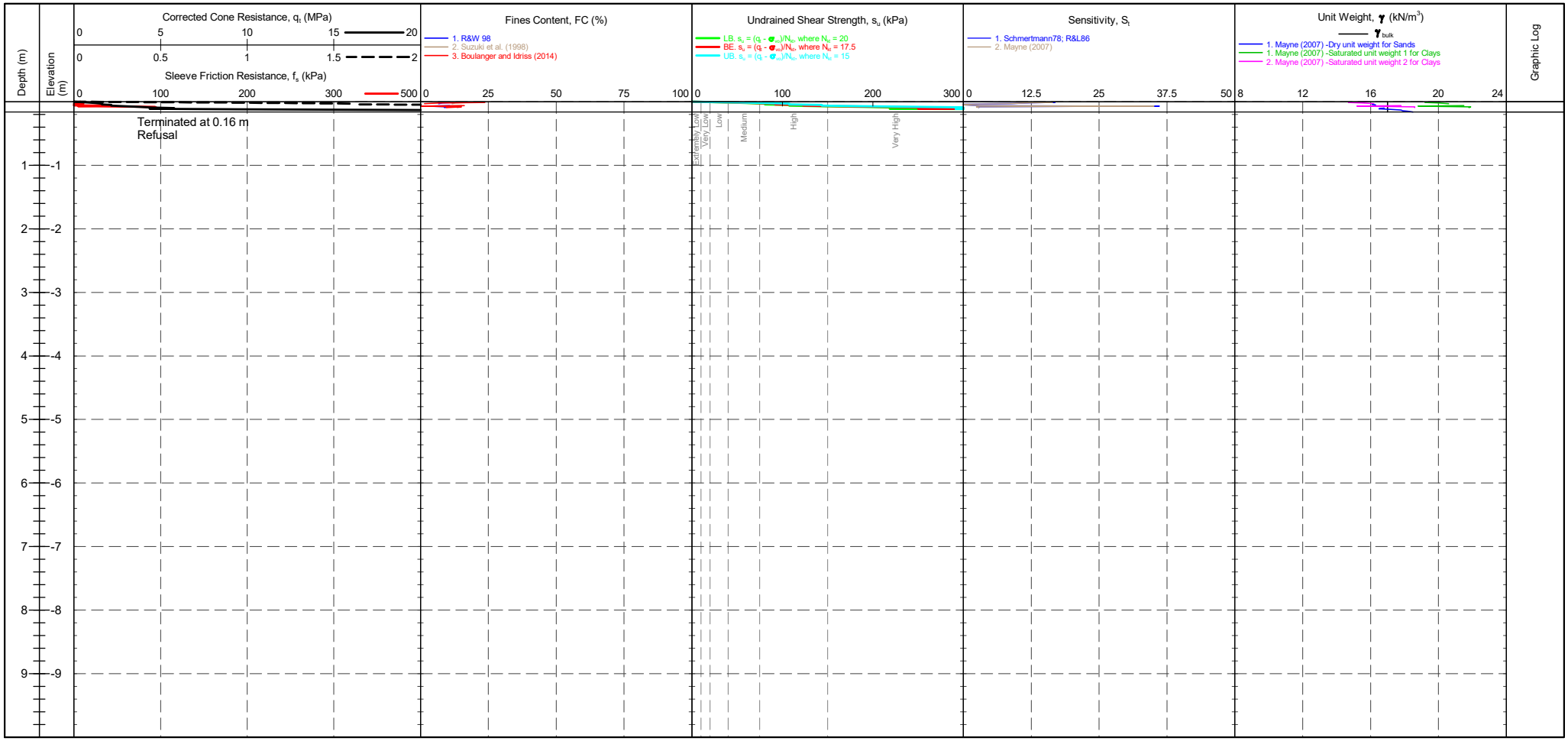
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 03

PointID **CPT109A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



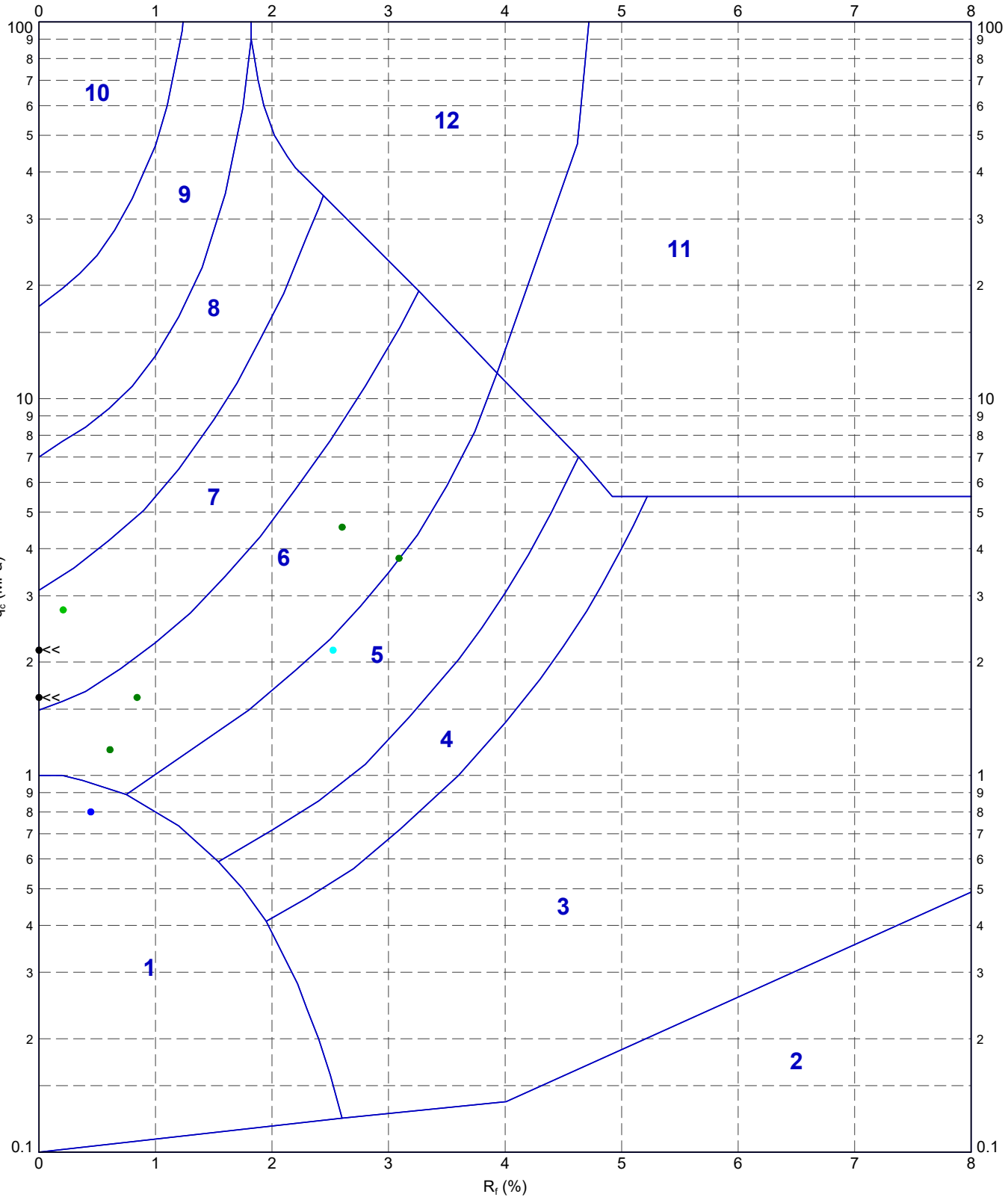
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	288 mV	289 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	296 mV	296 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	458 mV	453 mV	-0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2512 mV	2499 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT109A

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

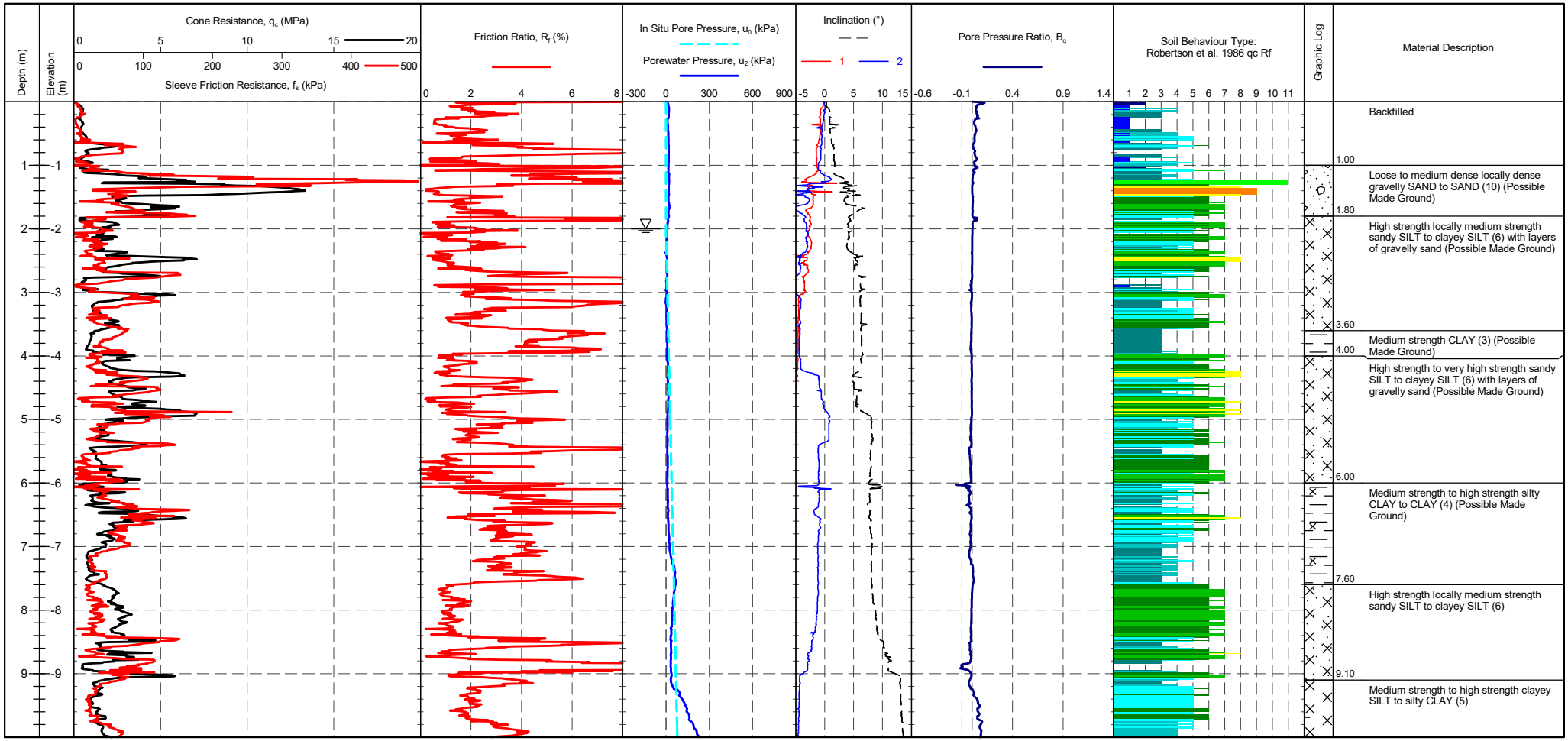
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:37 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT110**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	286 mV	288 mV	0.022 MPa
Sleeve	293 mV	292 mV	-0.001 kPa
Pore Pressure 2	469 mV	505 mV	0.009 kPa
X-Y Inclinometer	2509 mV	2491 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

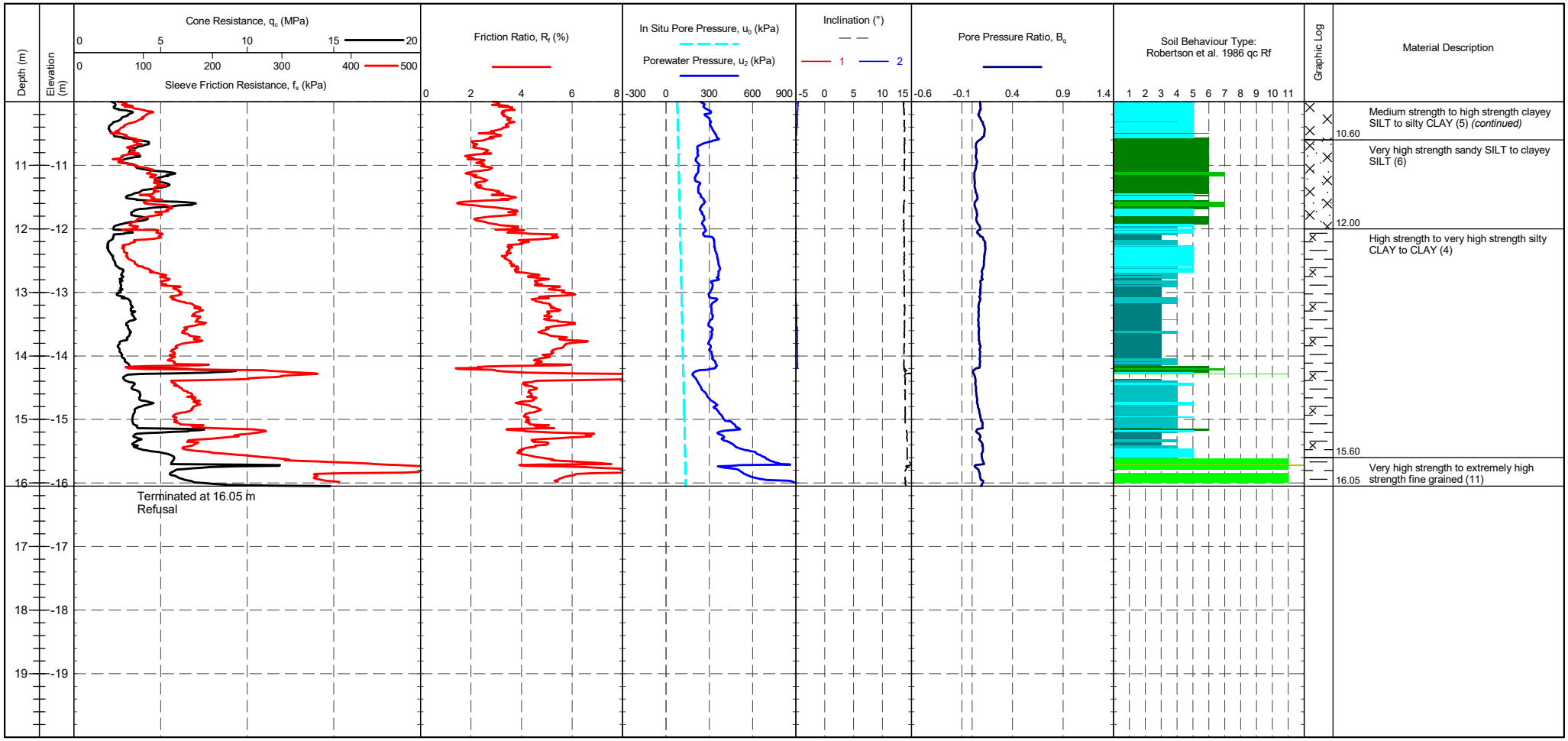
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT110**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2		
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm²	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	288 mV	0.022 MPa
Sleeve	293 mV	292 mV	-0.001 kPa
Pore Pressure 2	469 mV	505 mV	0.009 kPa
X-Y Inclinometer	2509 mV	2491 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

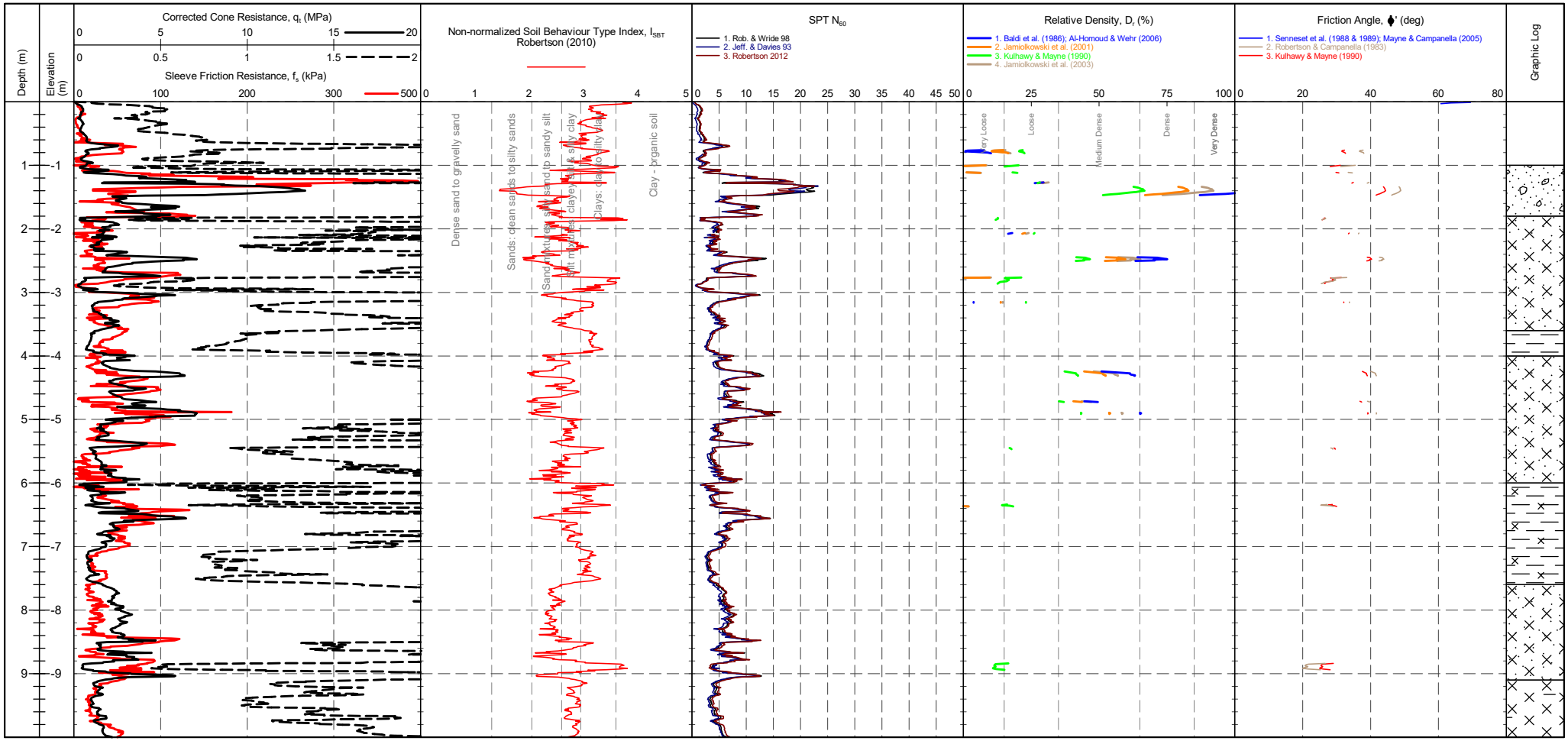
PointID **CPT110**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	288 mV	0.022 MPa
Sleeve	293 mV	292 mV	-0.001 kPa
Pore Pressure 2	469 mV	505 mV	0.009 kPa
X-Y Inclinometer	2509 mV	2491 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

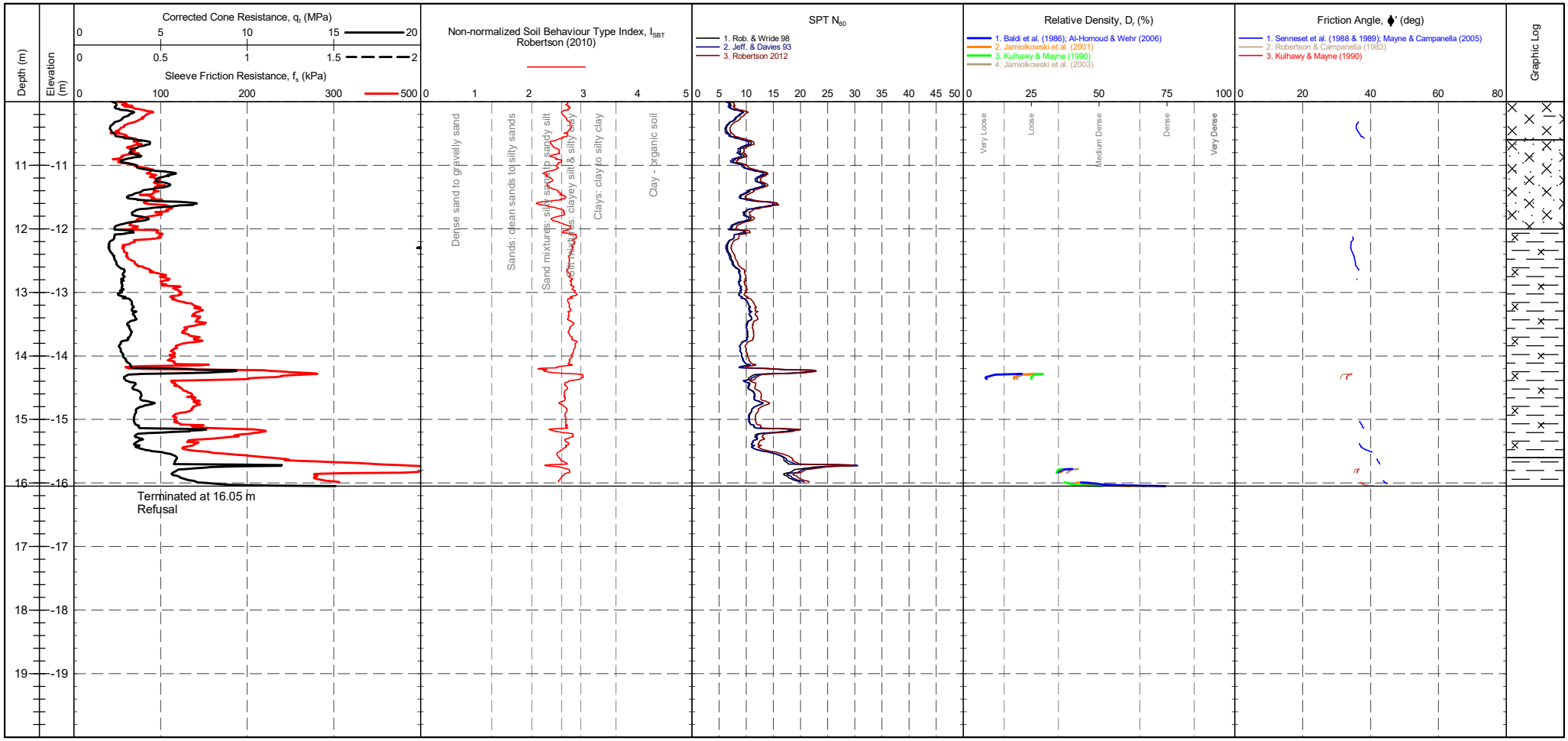
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT110**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	288 mV	0.022 MPa
Sleeve	293 mV	292 mV	-0.001 kPa
Pore Pressure 2	469 mV	505 mV	0.009 kPa
X-Y Inclinometer	2509 mV	2491 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

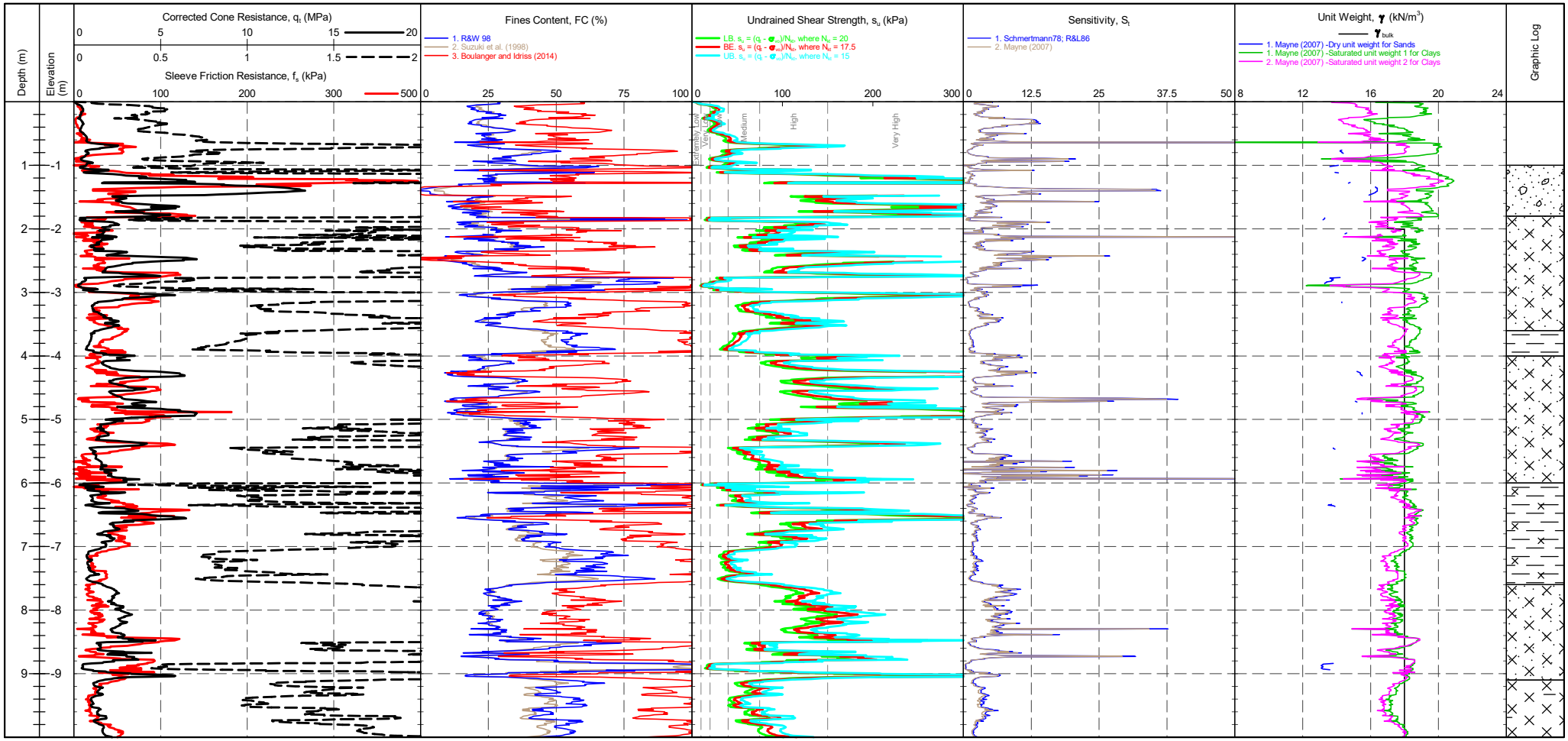
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT110**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	288 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	292 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	469 mV	505 mV	0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2491 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

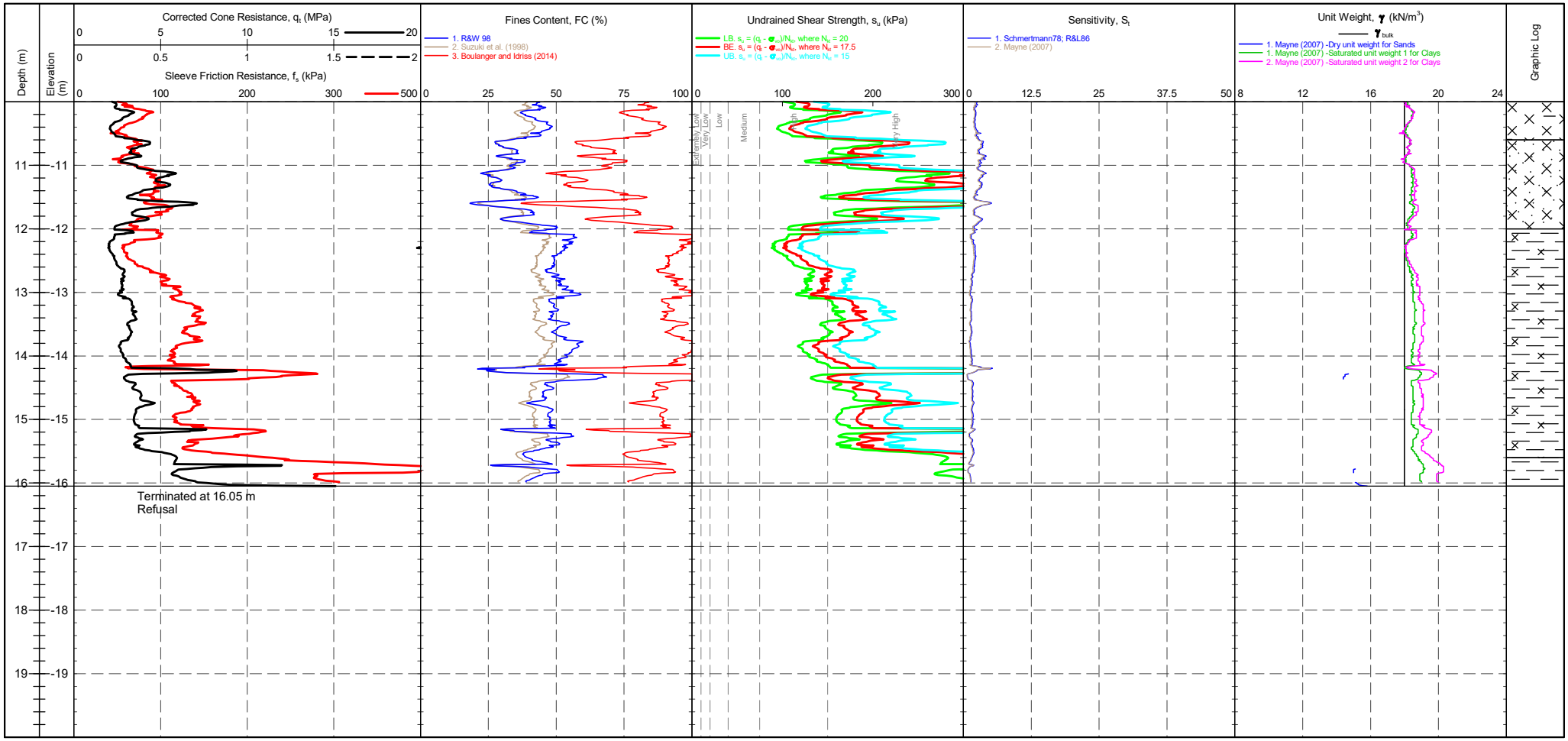
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT110**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



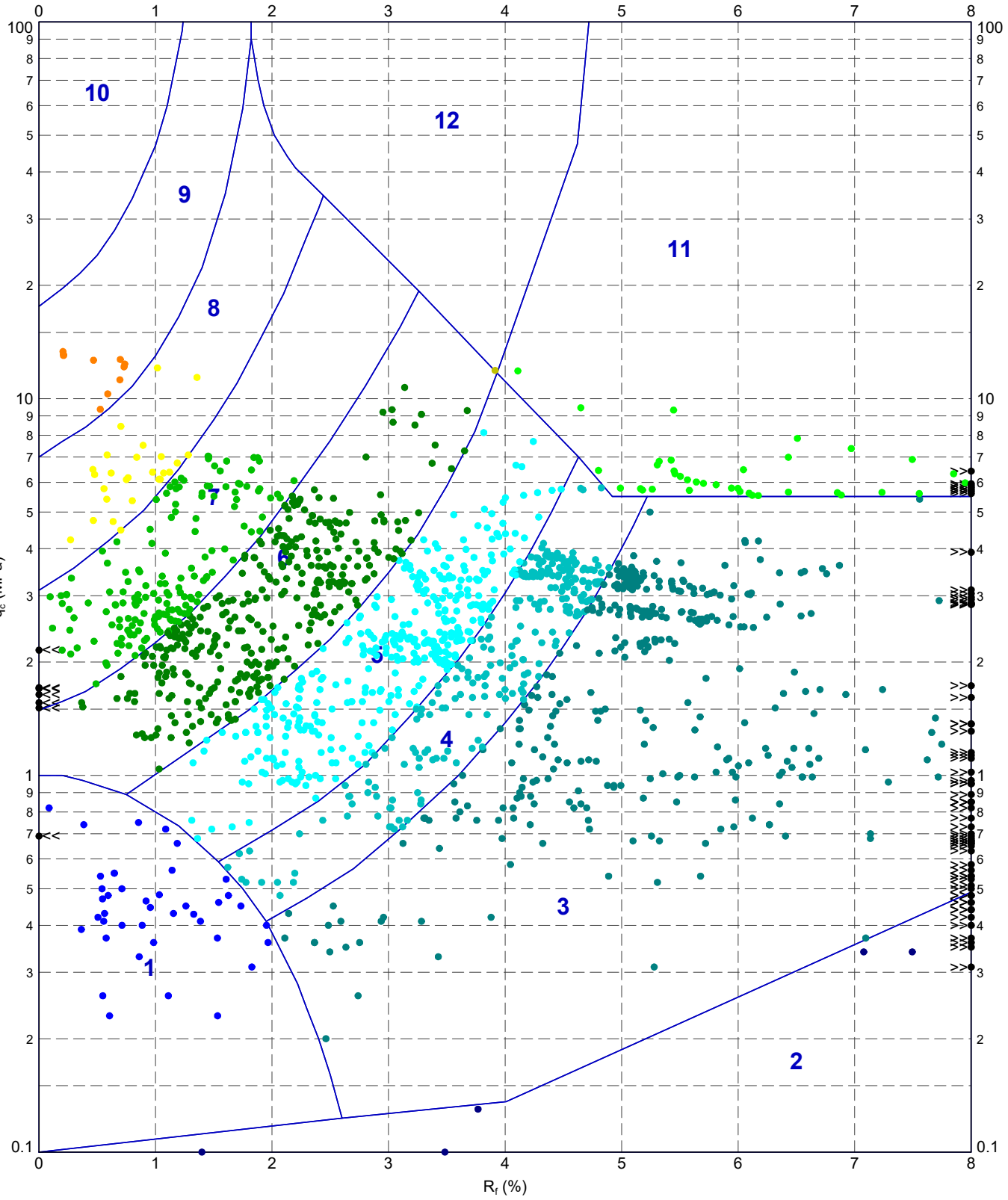
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	288 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	292 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	469 mV	505 mV	0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2491 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT110

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

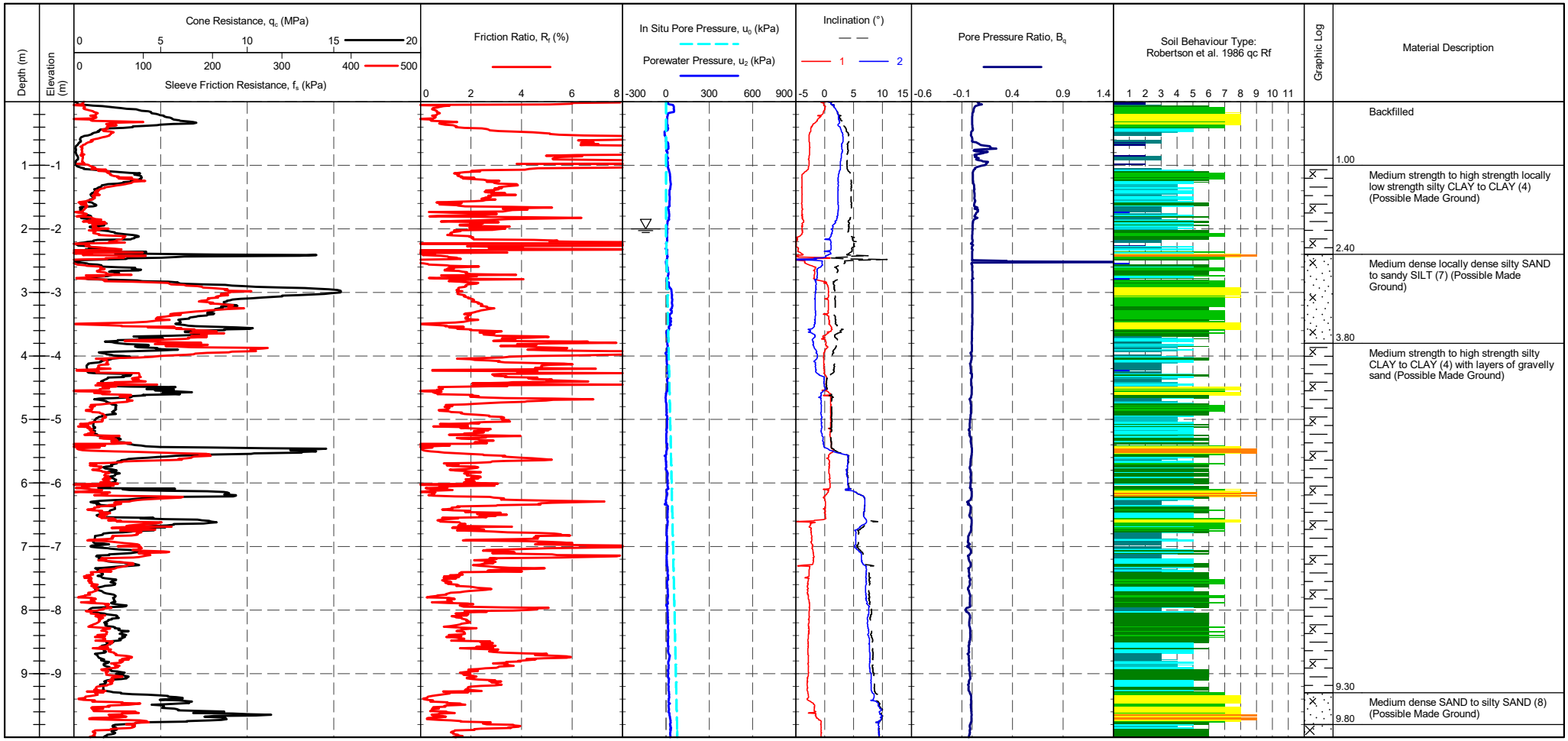
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:38 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT111**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	282 mV	278 mV	-0.044 MPa
Sleeve	289 mV	289 mV	0 kPa
Pore Pressure 2	427 mV	458 mV	0.008 kPa
X-Y Inclinometer	2500 mV	2492 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

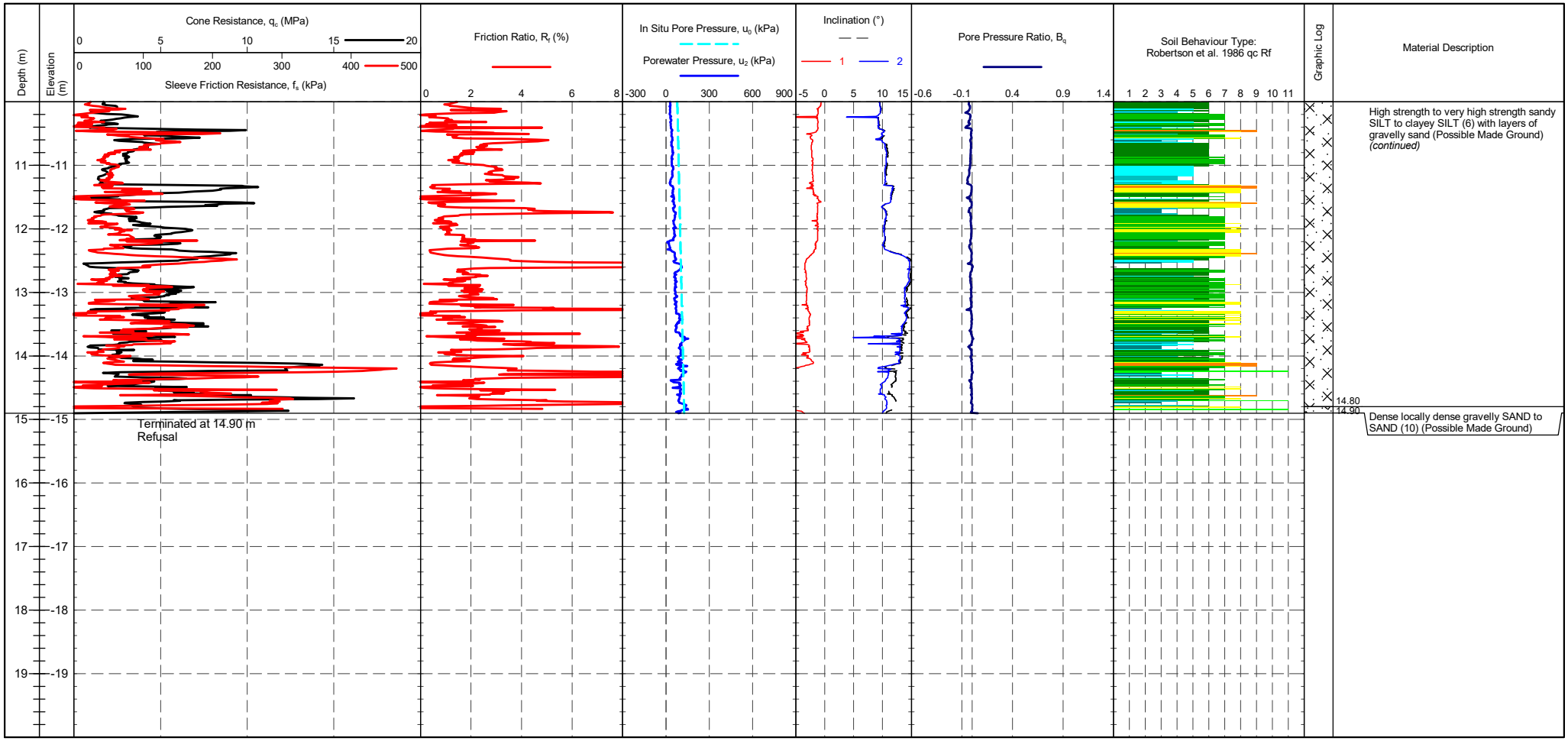
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT111**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	282 mV	278 mV	-0.044 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	289 mV	289 mV	0 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	458 mV	0.008 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2500 mV	2492 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

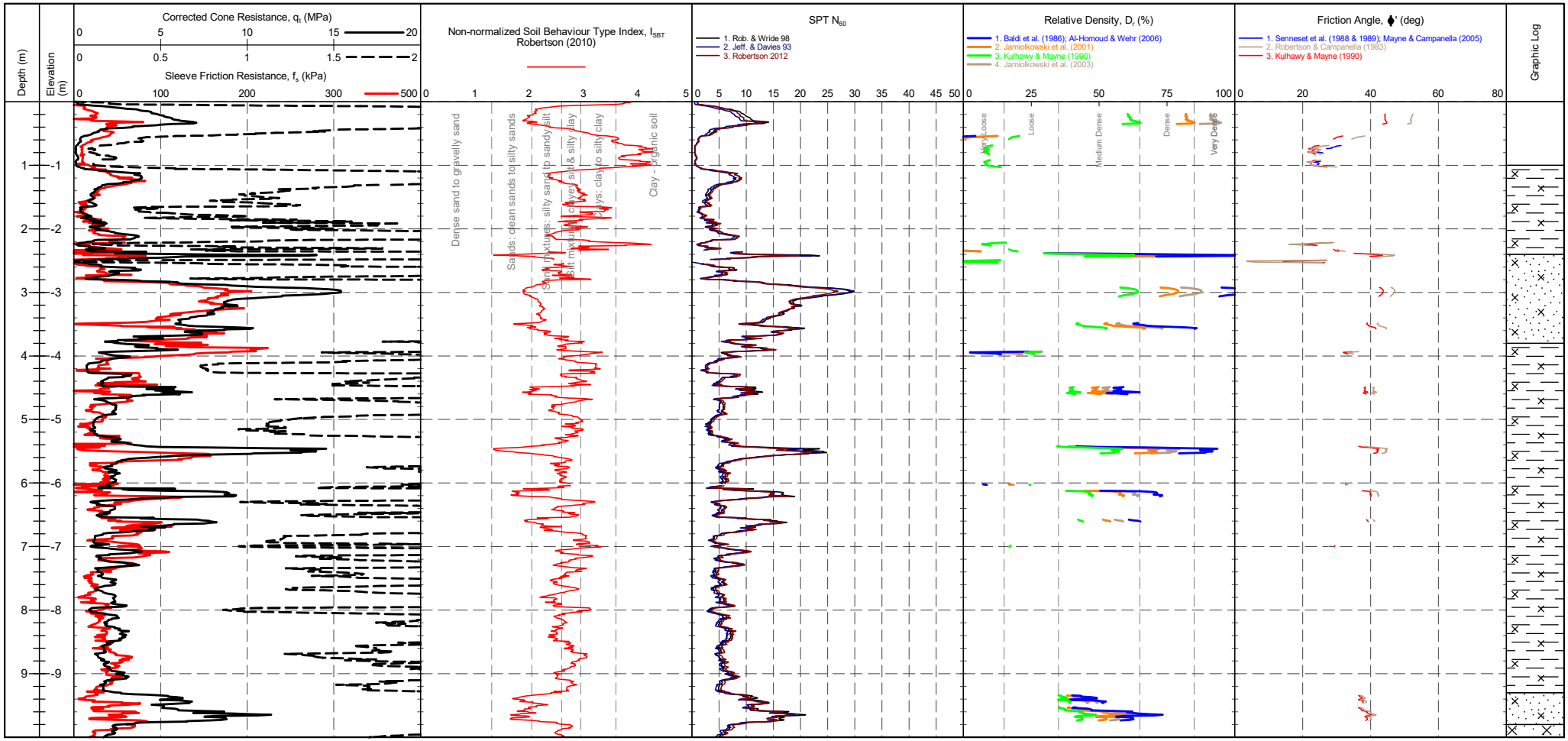
PointID **CPT111**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	282 mV	278 mV	-0.044 MPa
Sleeve	289 mV	289 mV	0 kPa
Pore Pressure 2	427 mV	458 mV	0.008 kPa
X-Y Inclinometer	2500 mV	2492 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

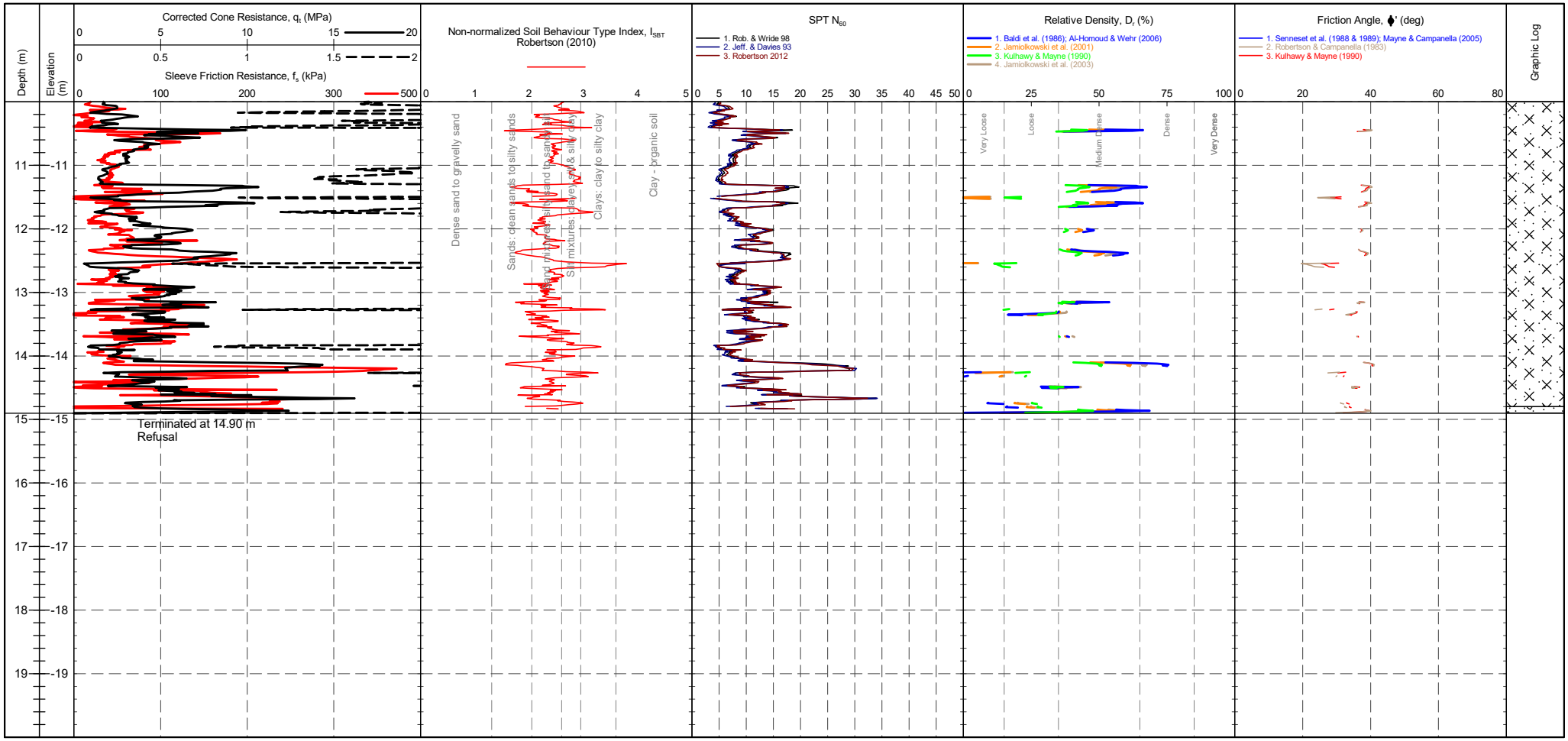
PointID: **CPT111**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 15/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES	
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

Transducer	Pre	Post	Difference
Tip	282 mV	278 mV	-0.044 MPa
Sleeve	289 mV	289 mV	0 kPa
Pore Pressure 2	427 mV	458 mV	0.008 kPa
X-Y Inclinometer	2500 mV	2492 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

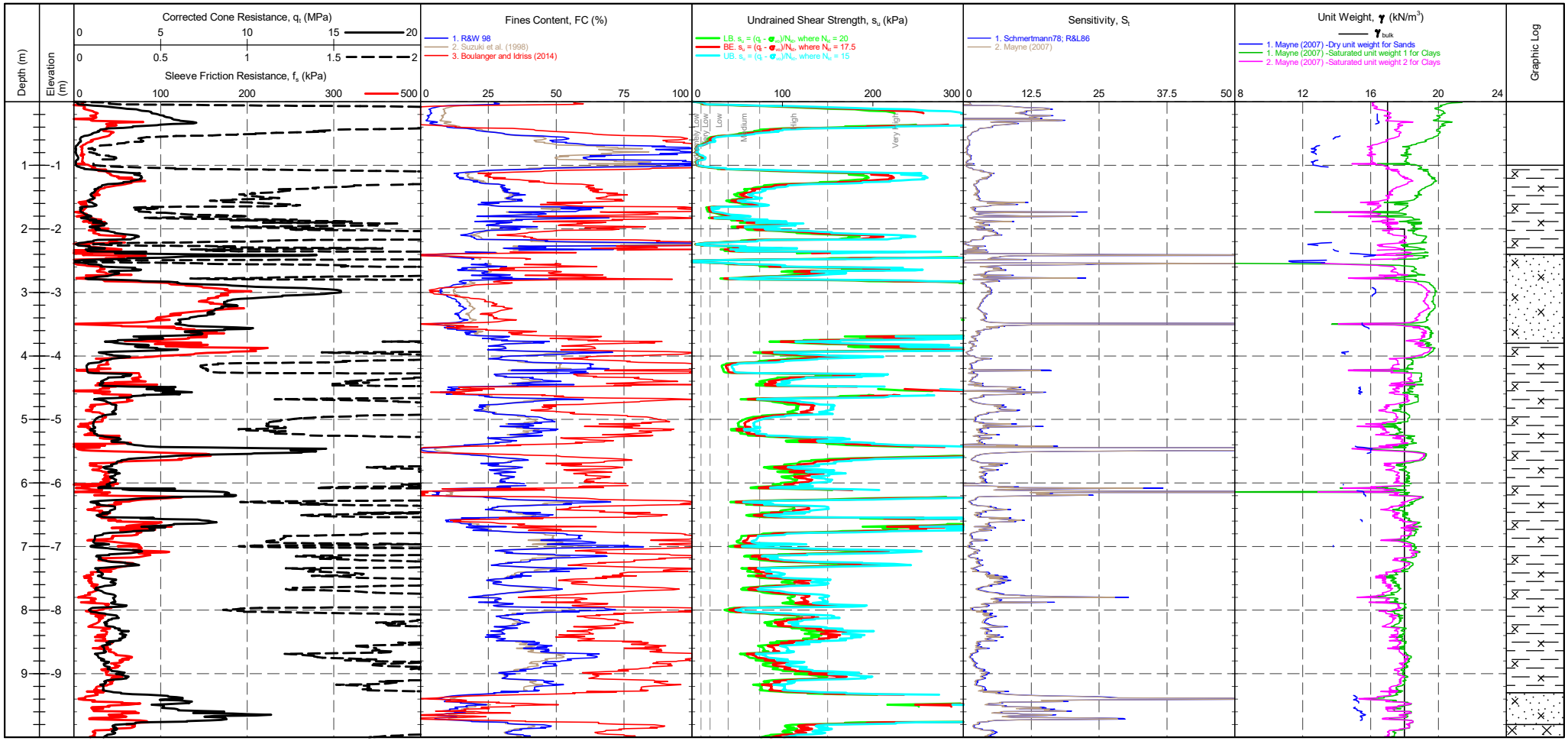
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT111**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 15/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	282 mV	278 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	289 mV	289 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	458 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2500 mV	2492 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

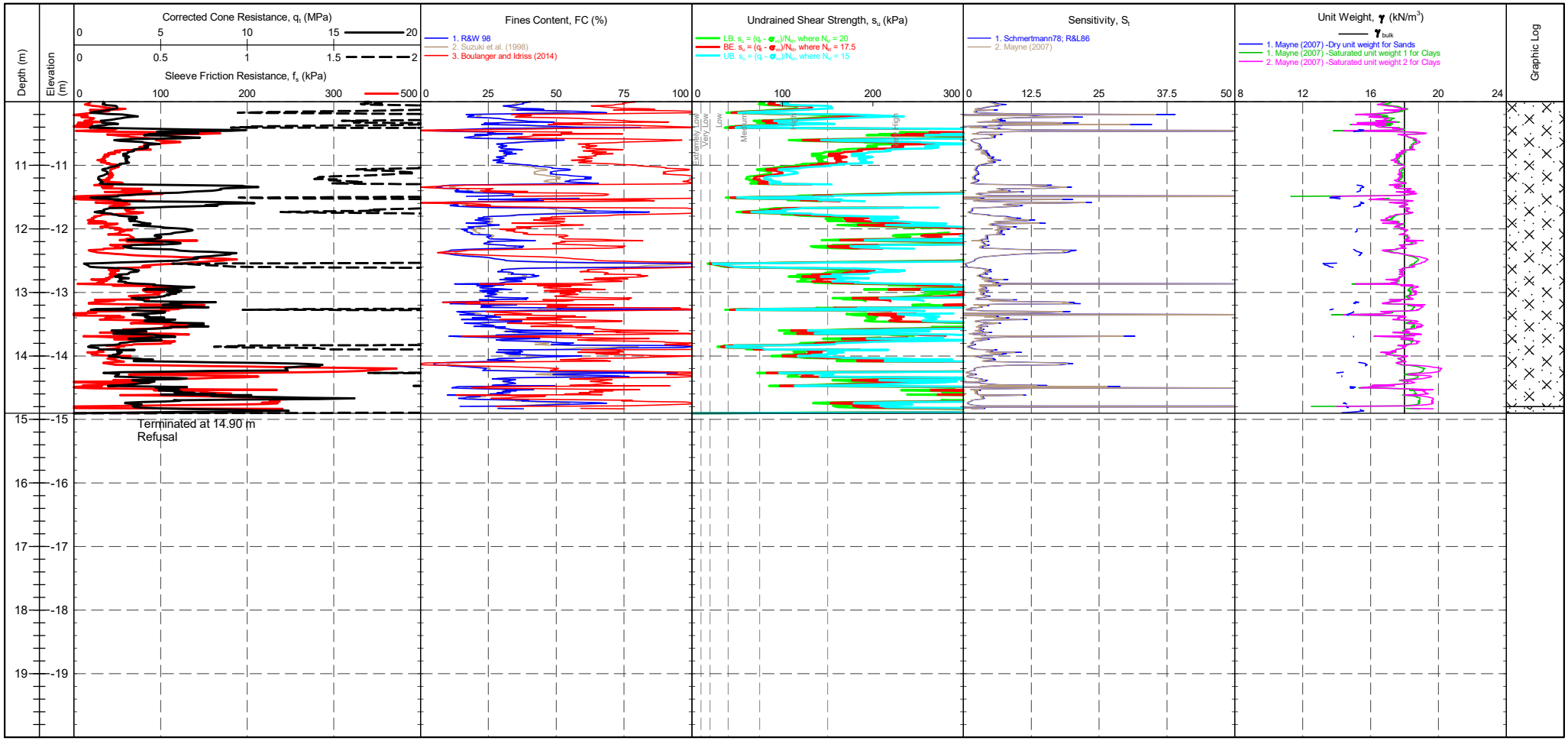
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT111**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 15/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



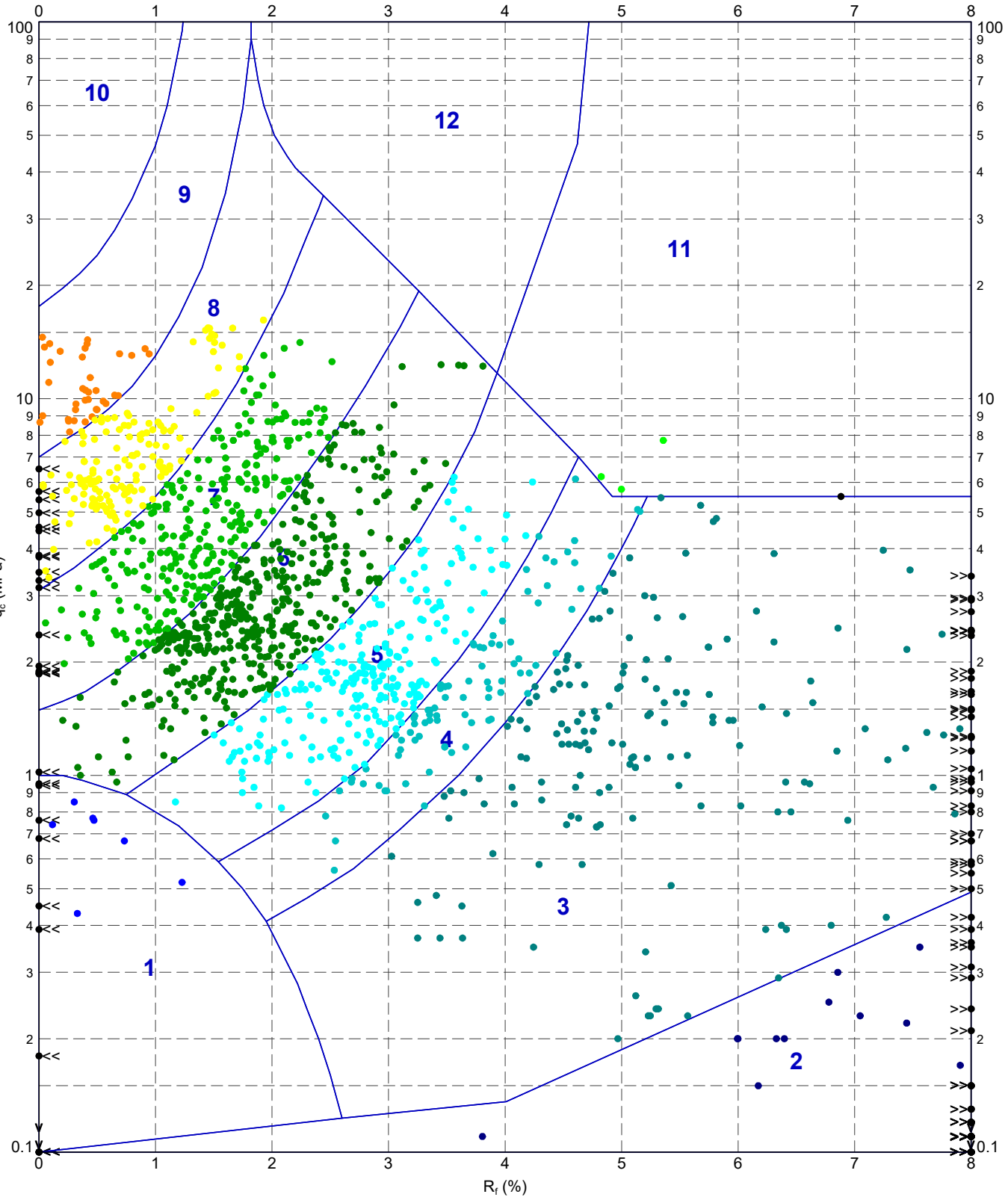
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	282 mV	278 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	289 mV	289 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	427 mV	458 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2500 mV	2492 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT111

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

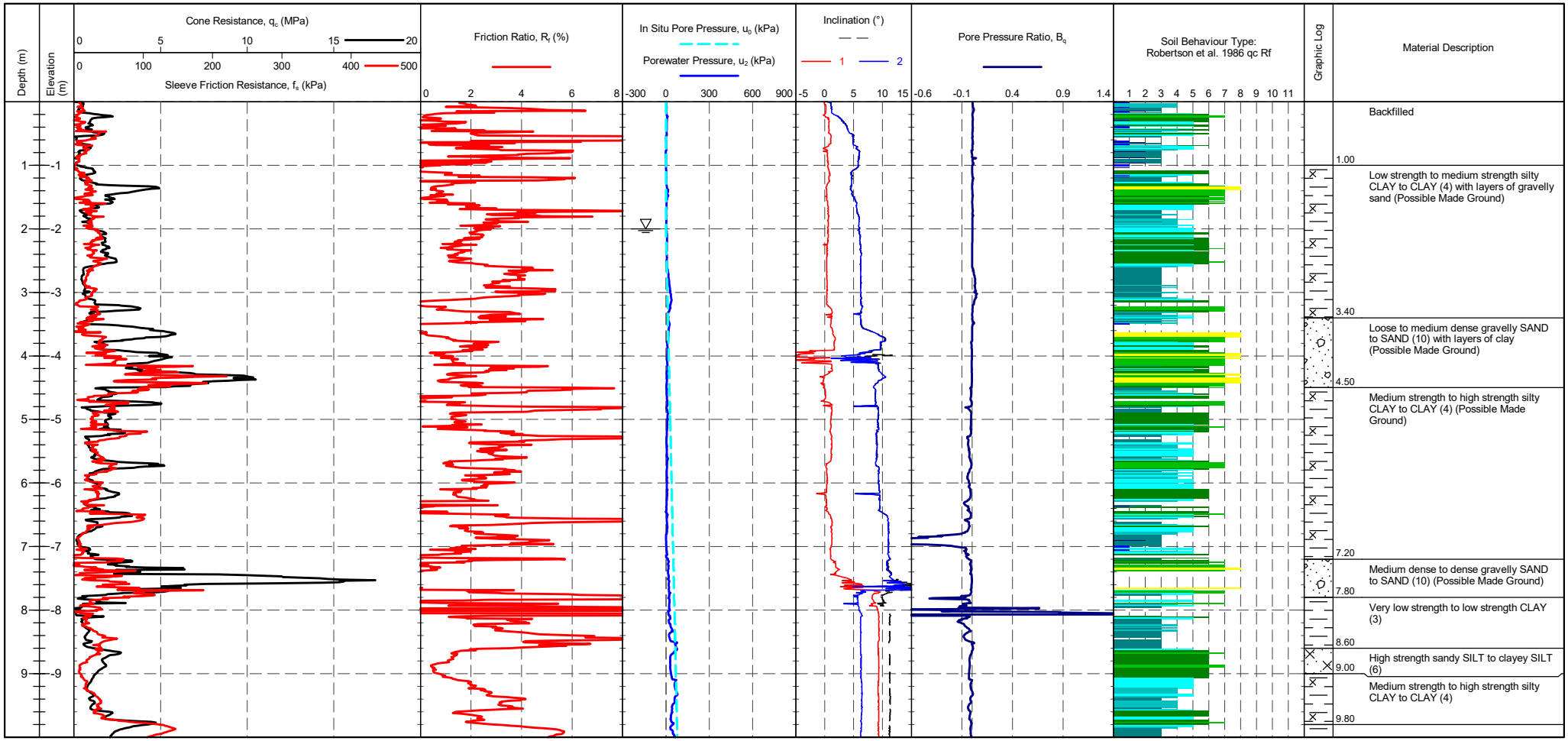
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:39 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT112**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	284 mV	0 MPa
Sleeve	294 mV	291 mV	3 kPa
Pore Pressure 2	459 mV	437 mV	22 kPa
X-Y Inclinometer	2486 mV	2576 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

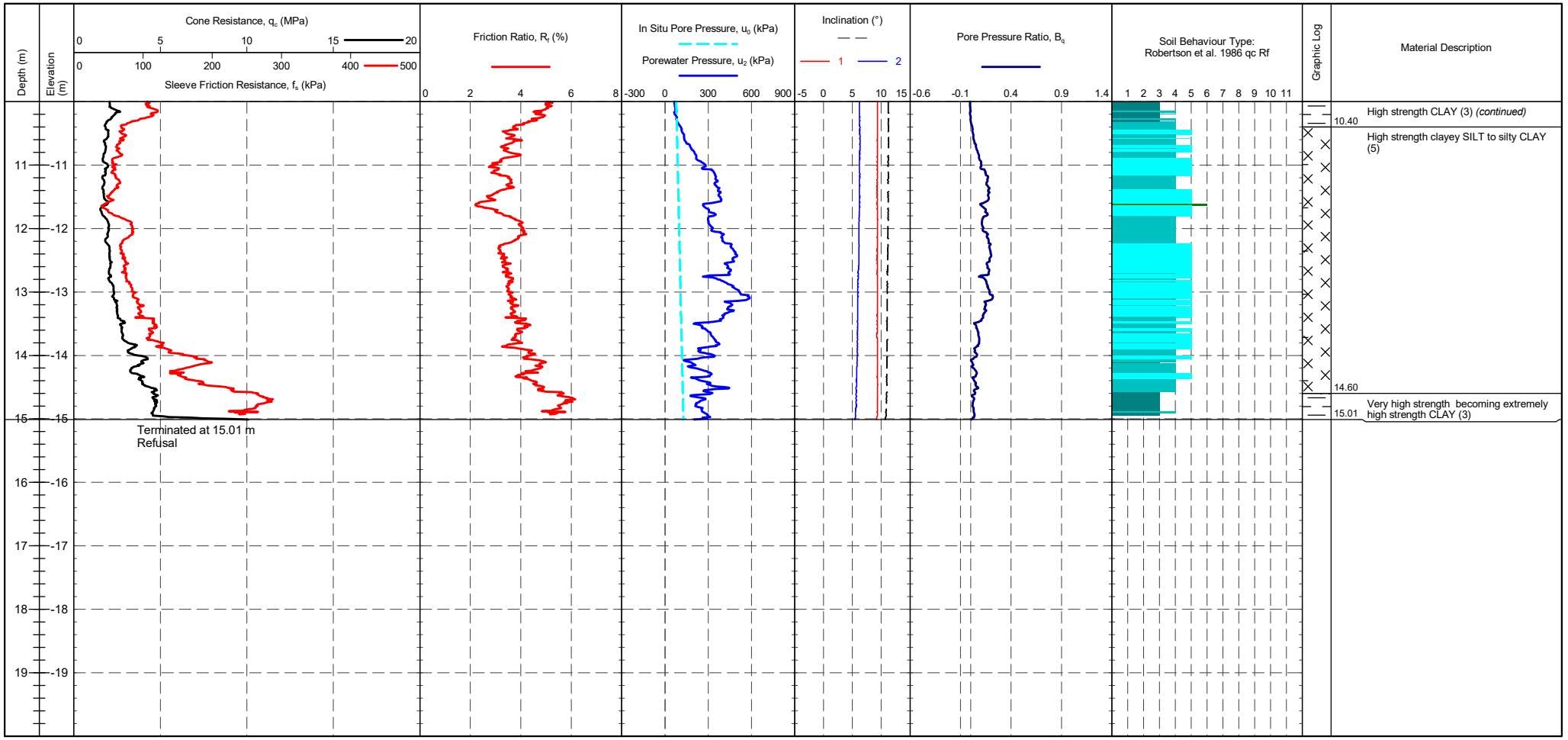
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT112**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2			
CONE MODEL	: Subtraction	RIG	: CPT 001			
CONE AREA	: 15cm²	OPERATOR	: RS			
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None			
FILTER POSITION	: u2	WEATHER	: Overcast & Mild			
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes			

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	284 mV	0 MPa
Sleeve	294 mV	291 mV	3 kPa
Pore Pressure 2	459 mV	437 mV	22 kPa
X-Y Inclinometer	2486 mV	2576 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
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7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

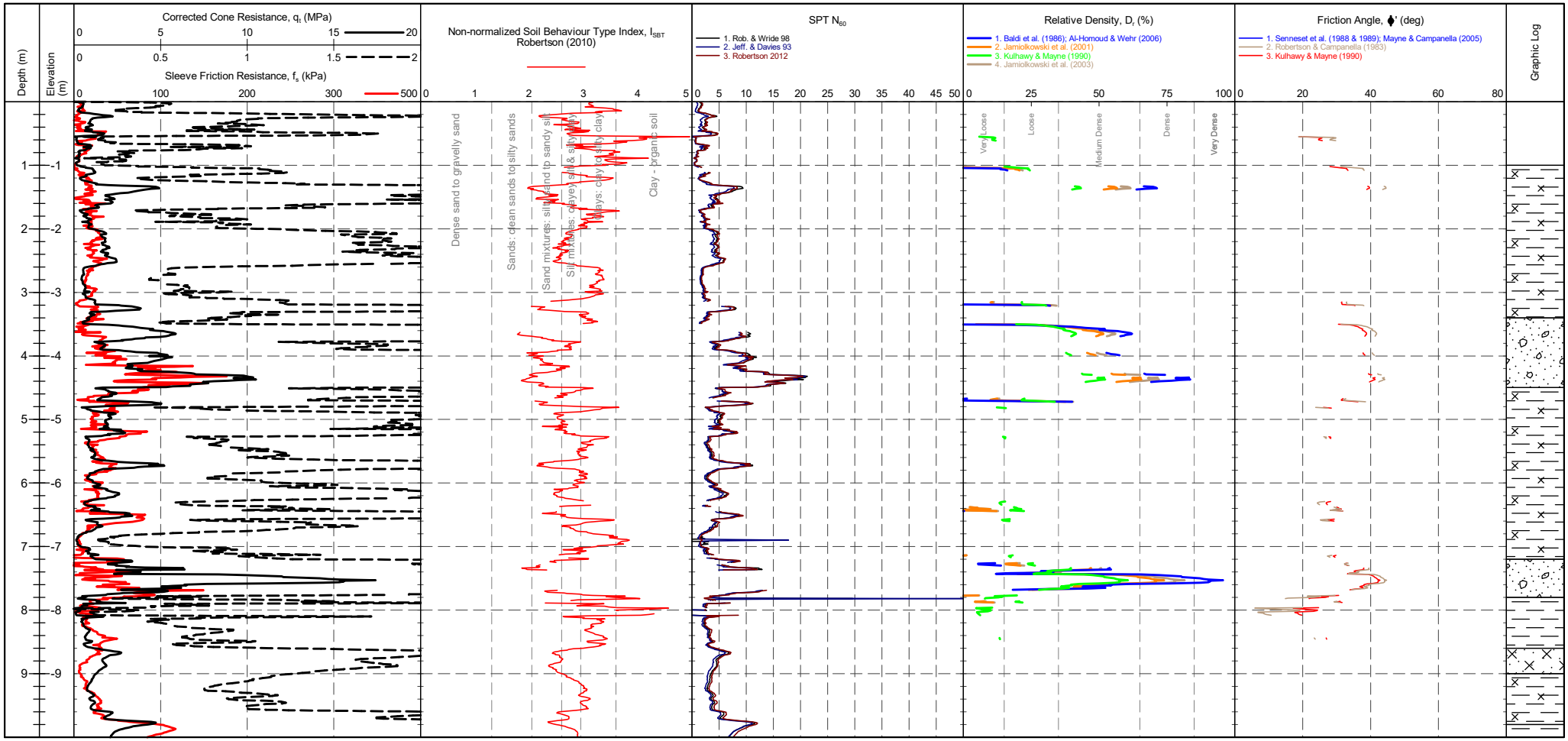
PointID **CPT112**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	284 mV	0 MPa
Sleeve	294 mV	291 mV	3 kPa
Pore Pressure 2	459 mV	437 mV	22 kPa
X-Y Inclinometer	2486 mV	2576 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

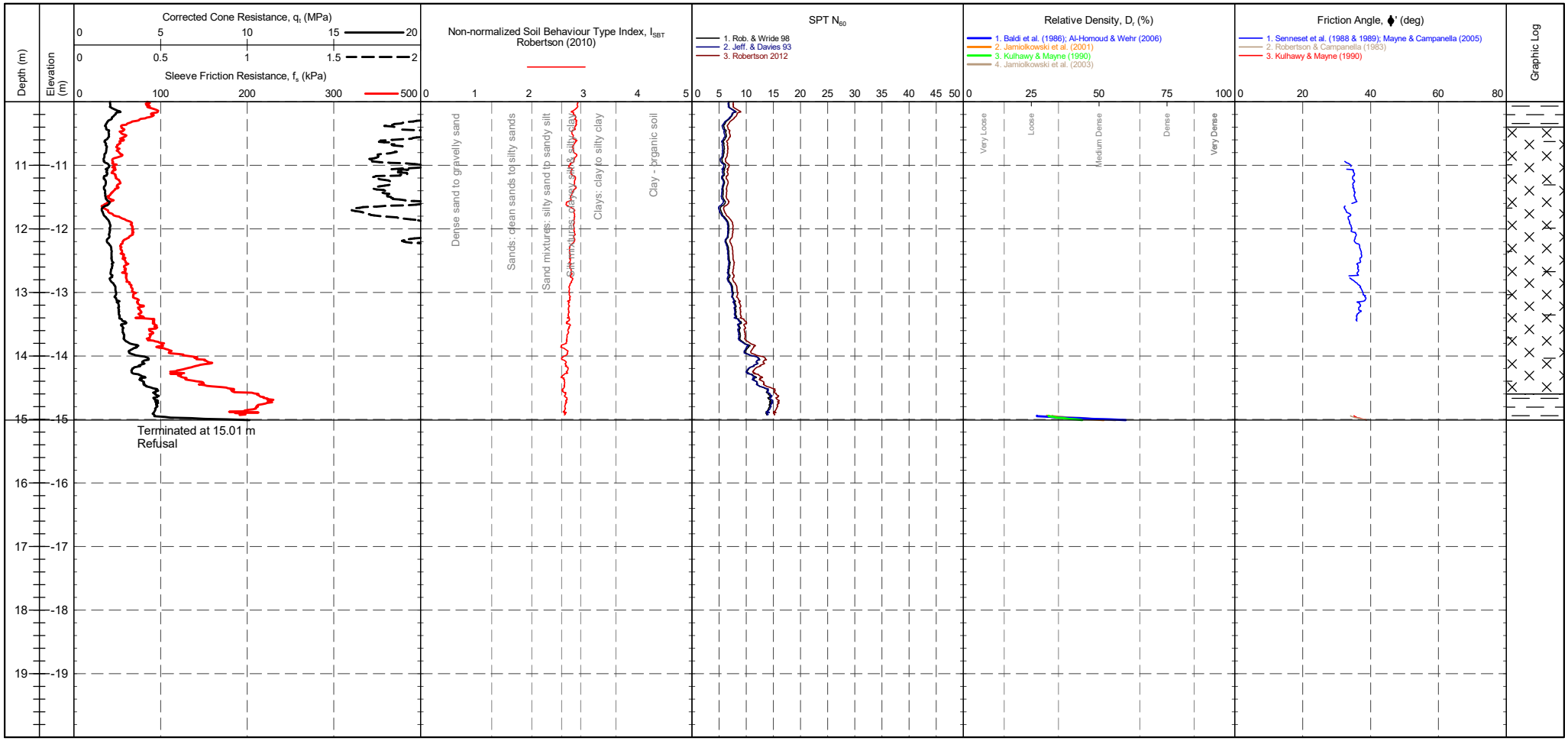
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT112**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 16/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	284 mV	0 MPa
Sleeve	294 mV	291 mV	3 kPa
Pore Pressure 2	459 mV	437 mV	22 kPa
X-Y Inclinometer	2486 mV	2576 mV	

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Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
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Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

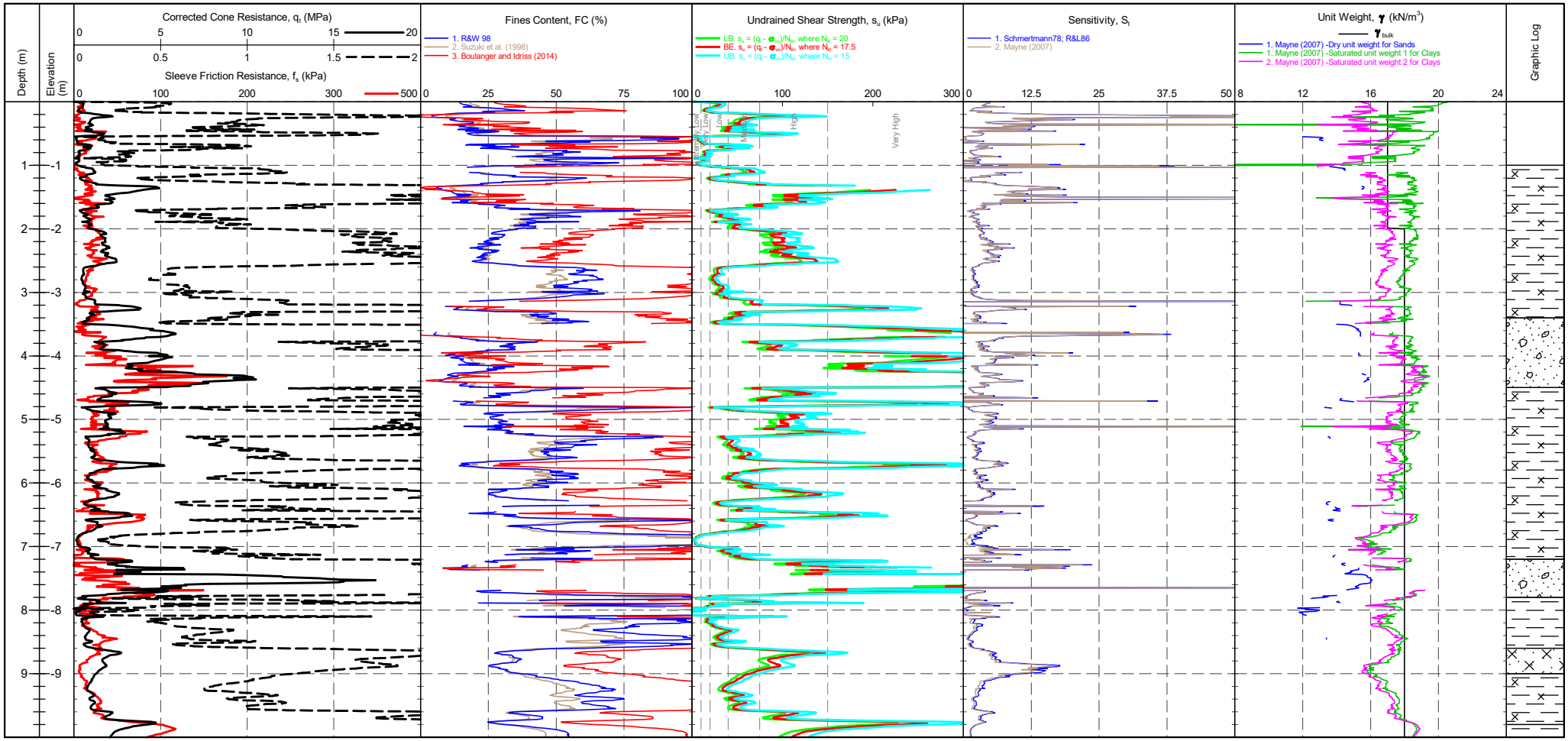
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT112**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	284 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	291 mV	3 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	459 mV	437 mV	22 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2486 mV	2576 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

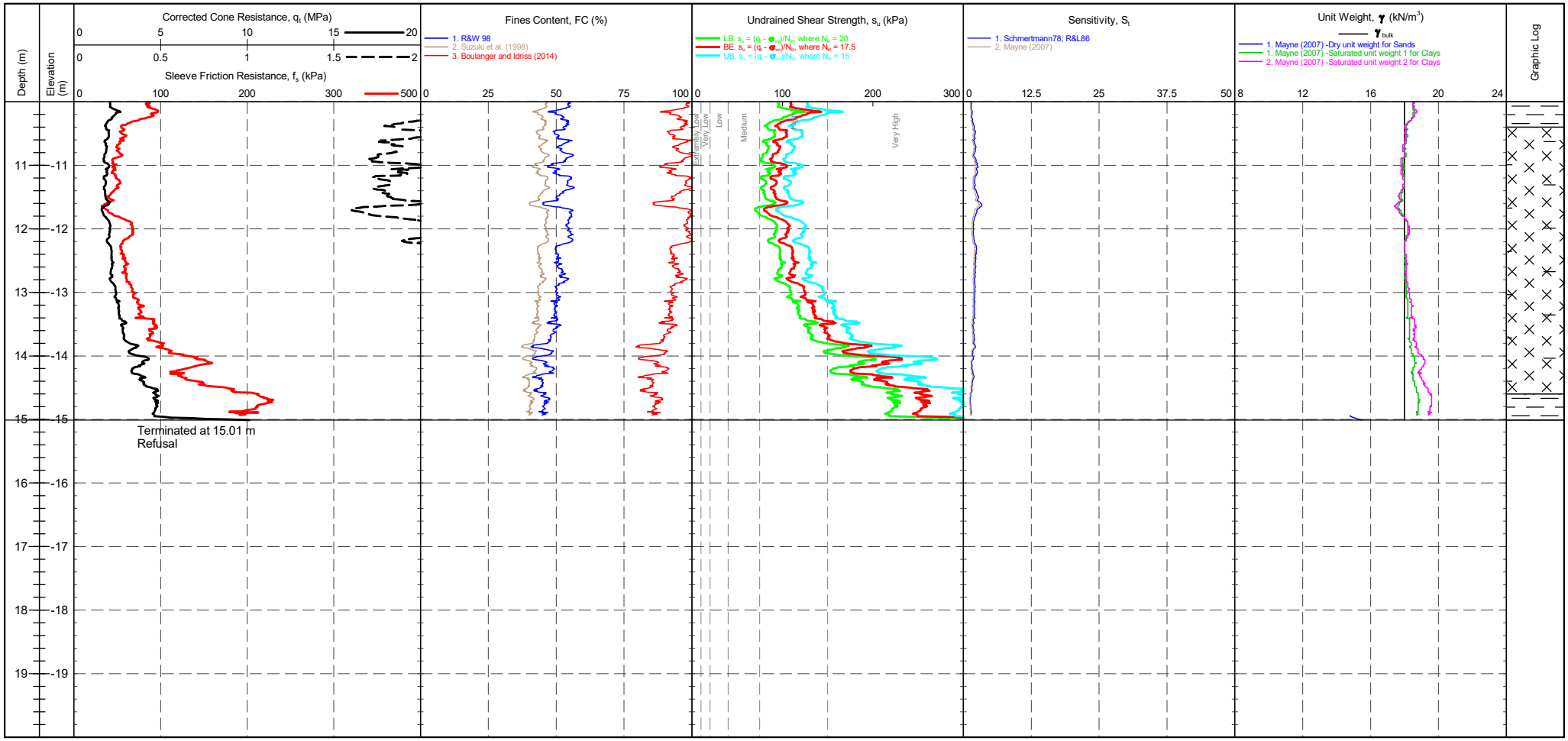
PointID **CPT112**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



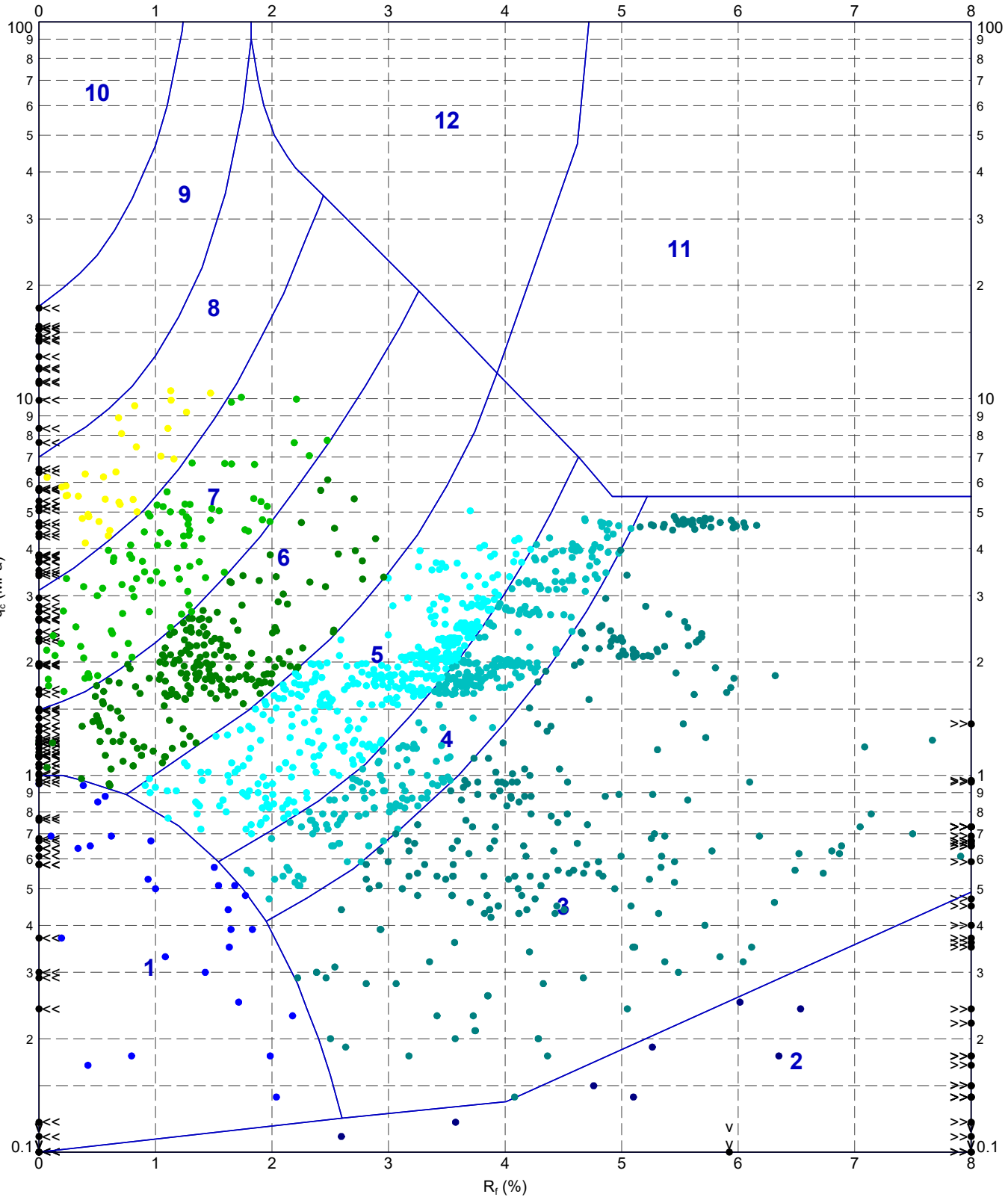
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	284 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	291 mV	3 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	459 mV	437 mV	22 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2486 mV	2576 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT112

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

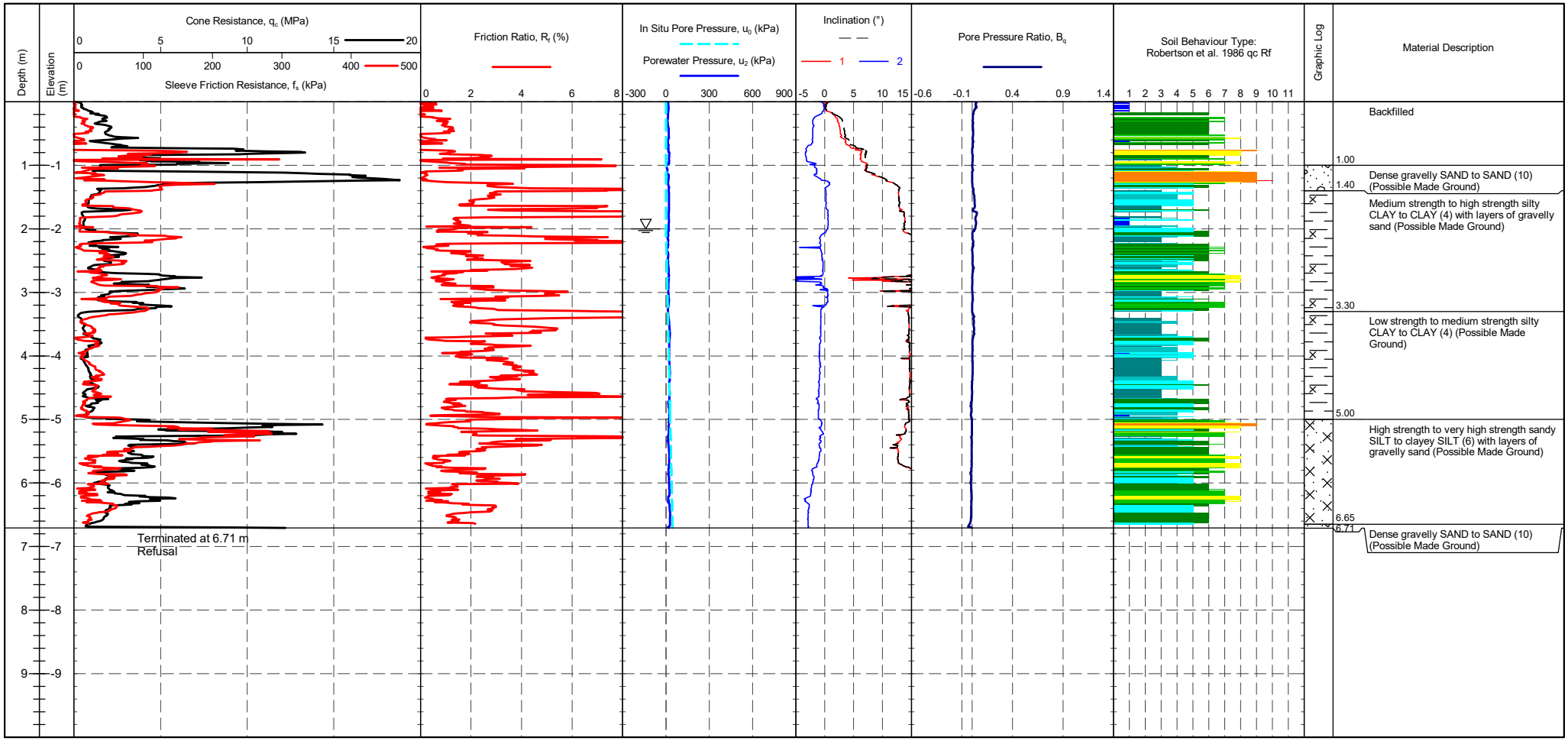
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:40 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT113**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2		
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm²	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	287 mV	0.011 MPa
Sleeve	295 mV	295 mV	0 kPa
Pore Pressure 2	436 mV	431 mV	-0.001 kPa
X-Y Inclinometer	2497 mV	2501 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

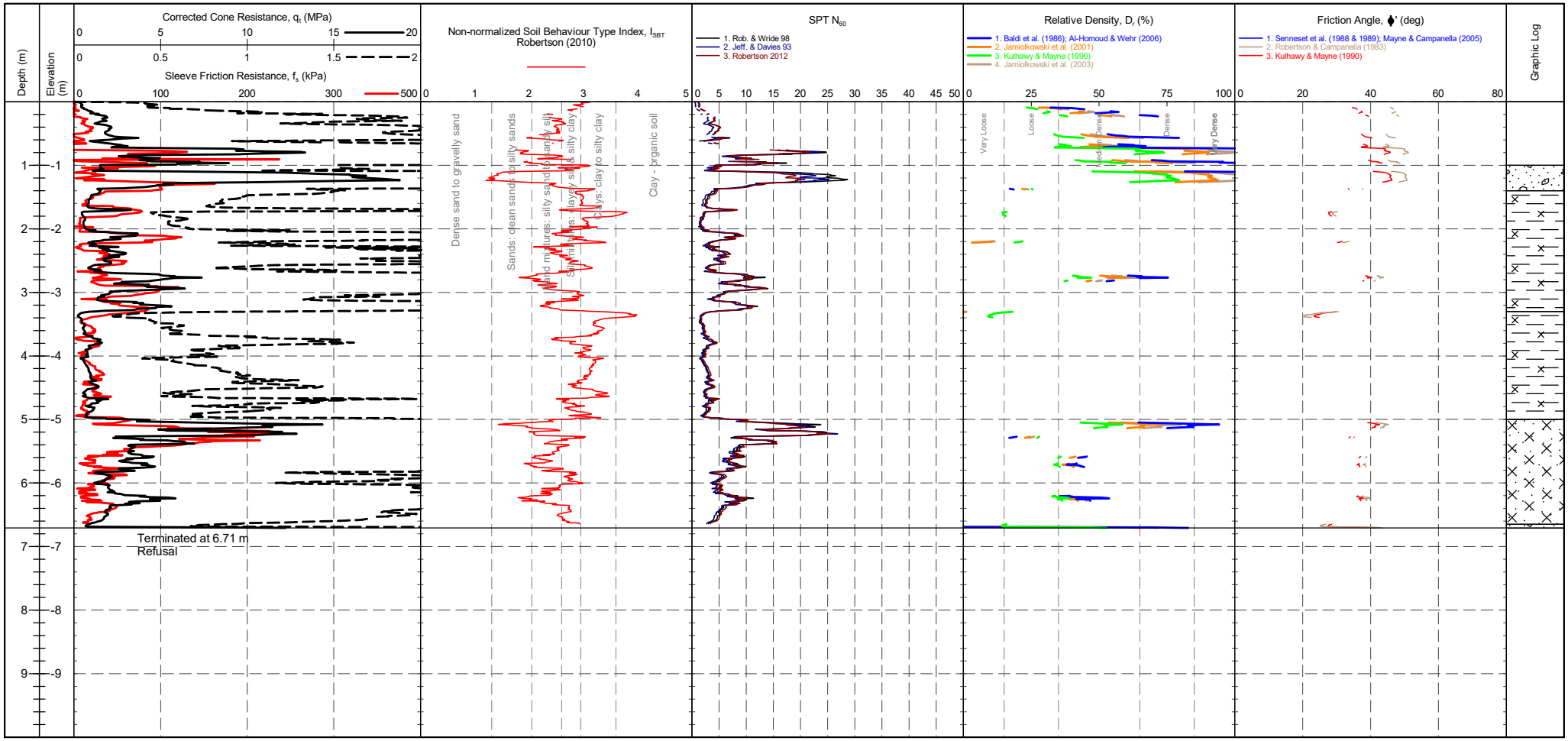
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID: **CPT113**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 001	Tip	286 mV	287 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	295 mV	295 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	436 mV	431 mV	-0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2497 mV	2501 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

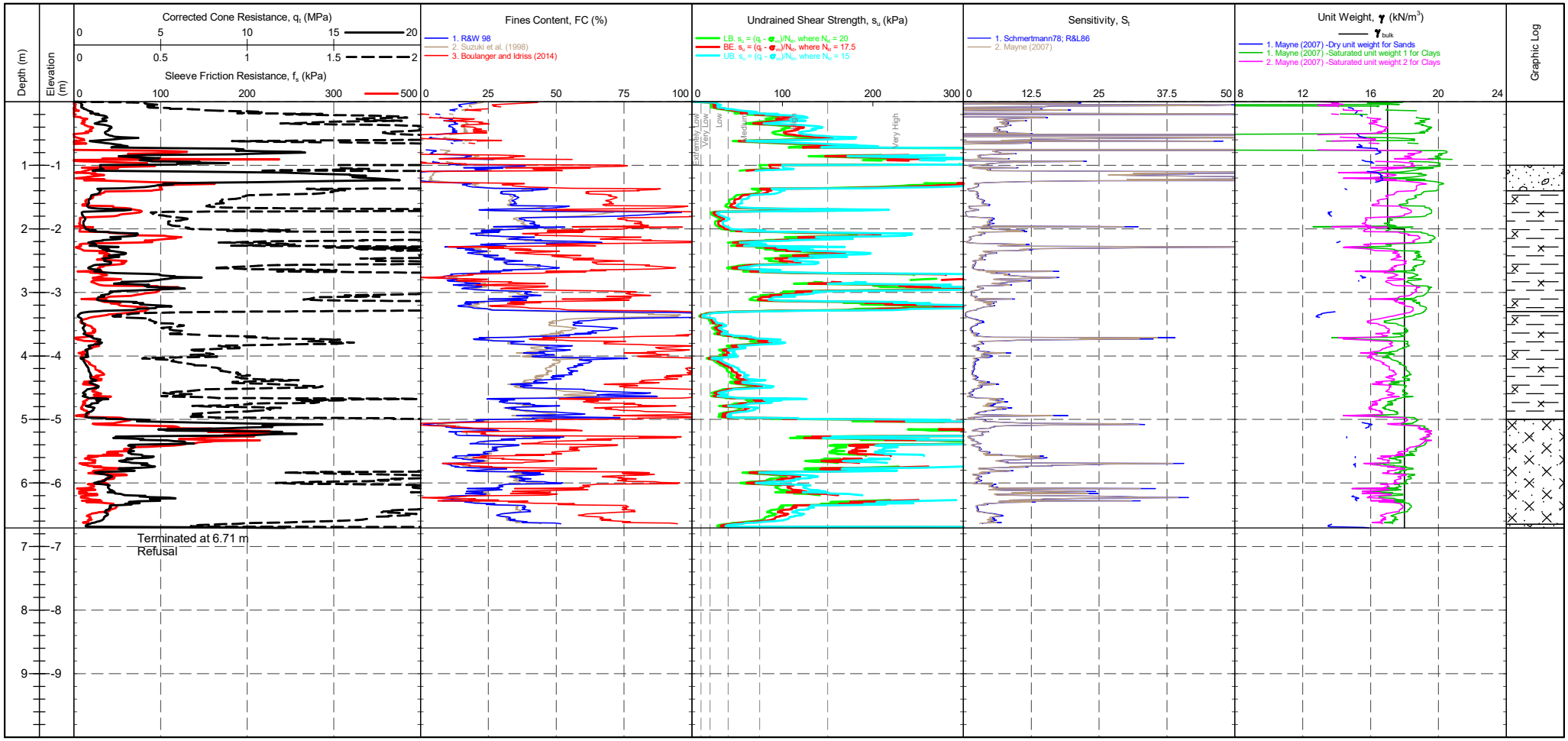
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT113**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



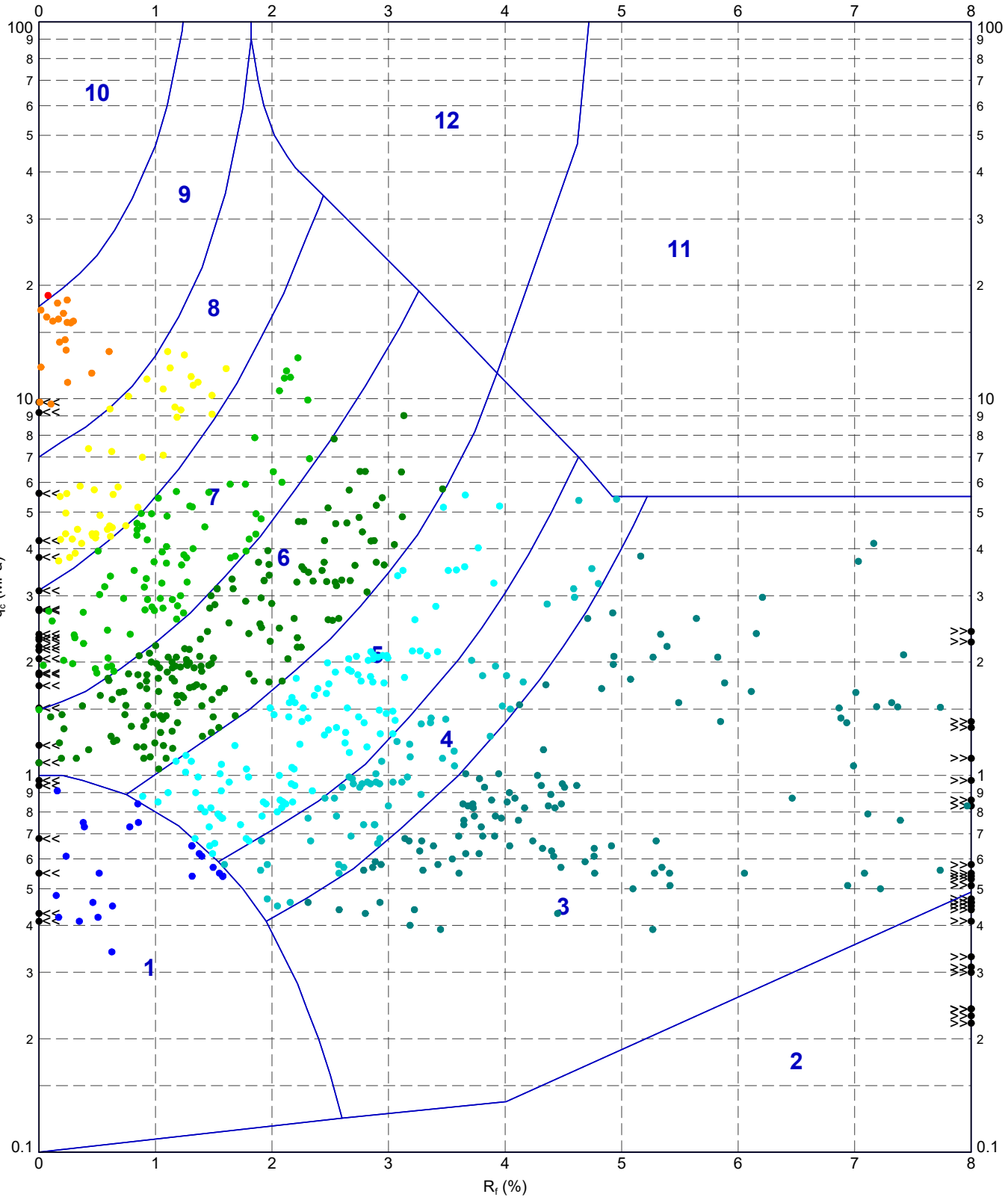
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	287 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	295 mV	295 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	436 mV	431 mV	-0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2497 mV	2501 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT113

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

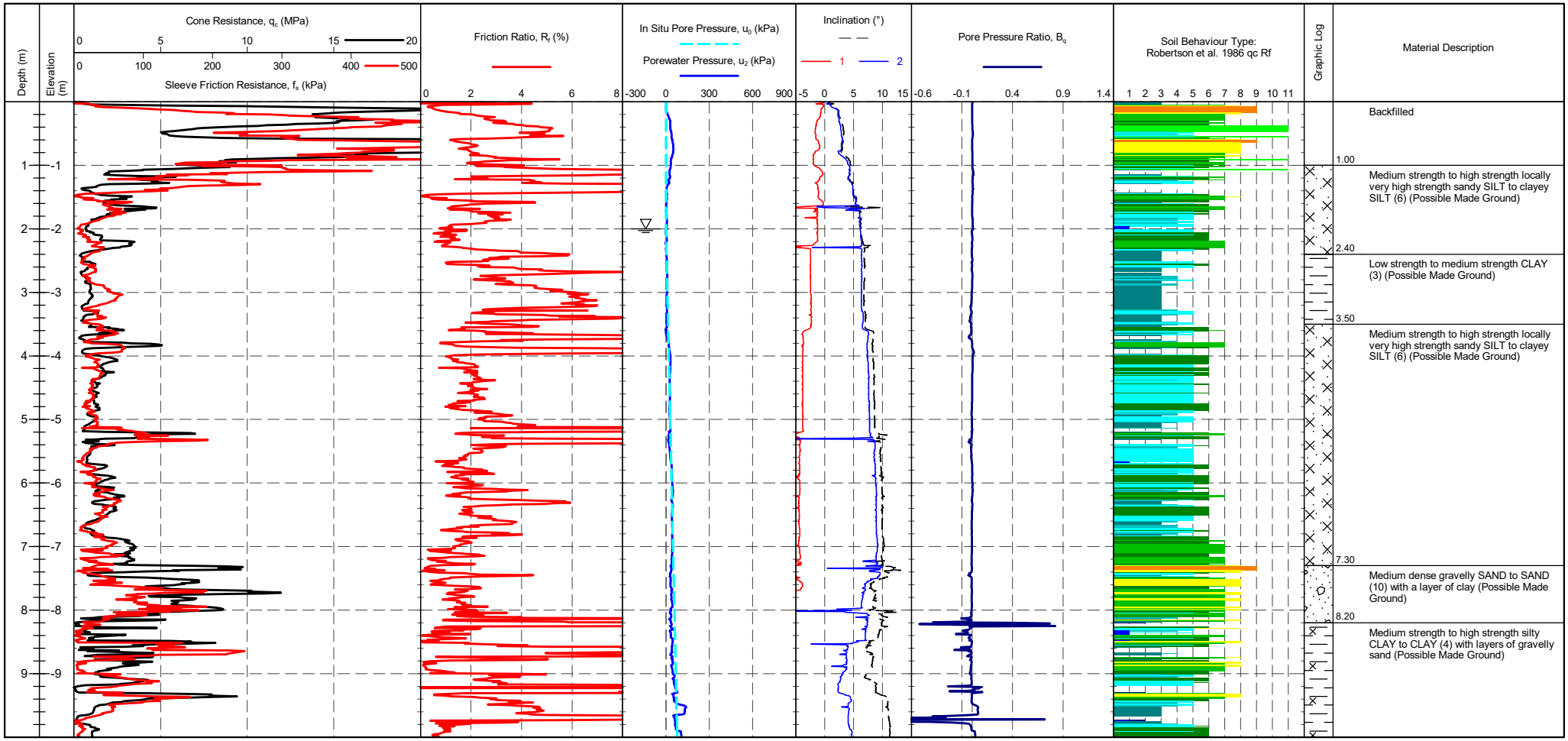
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:41 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT113A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032	TEST TYPE : TE2	CPTU ZERO VALUES	
CALIBRATION DATE : 03/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 001		
CONE AREA : 15cm²	OPERATOR : RS		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Overcast & Mild		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	435 mV	509 mV	0.019 kPa
X-Y Inclinometer	2507 mV	2705 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

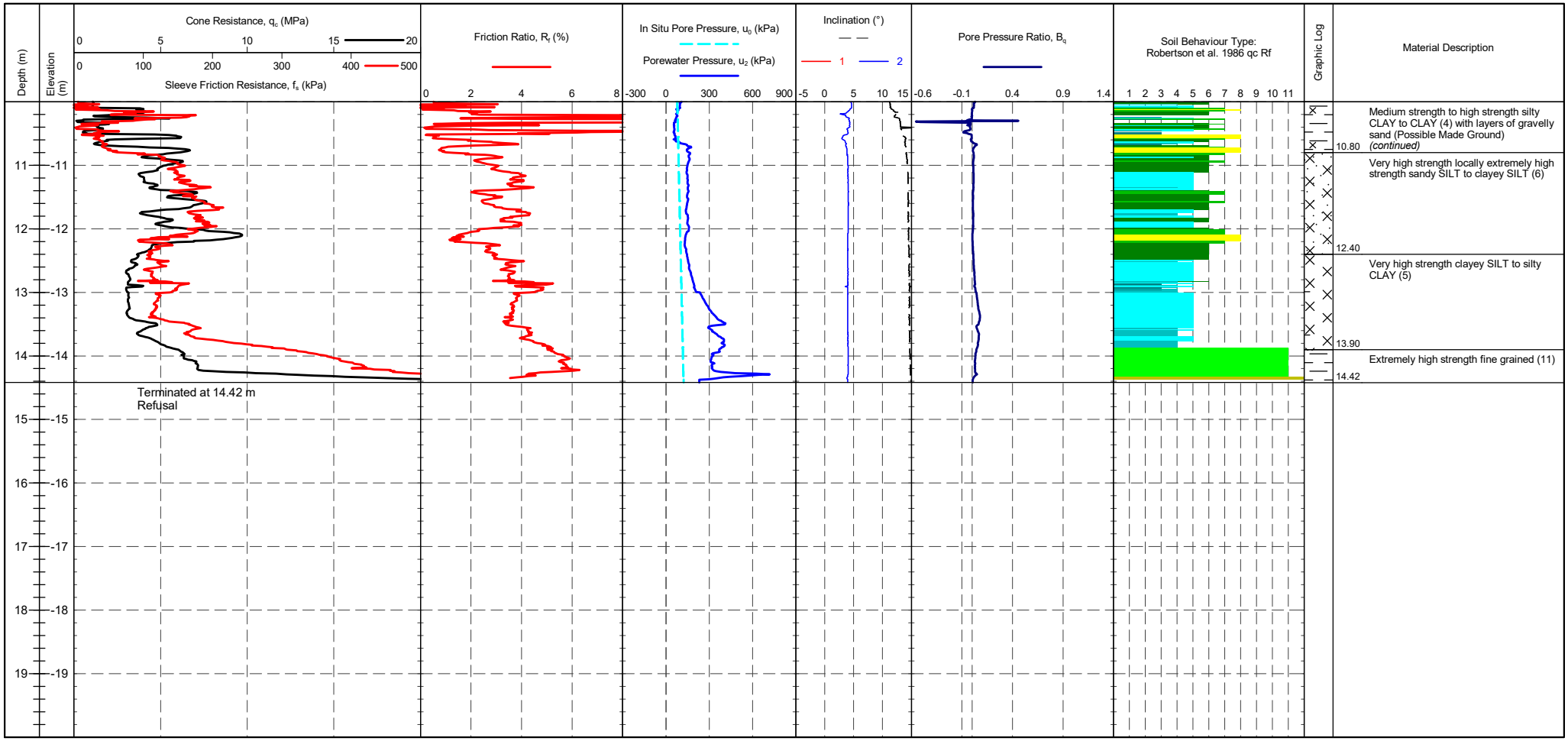
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT113A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	435 mV	509 mV	0.019 kPa
X-Y Inclinometer	2507 mV	2705 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

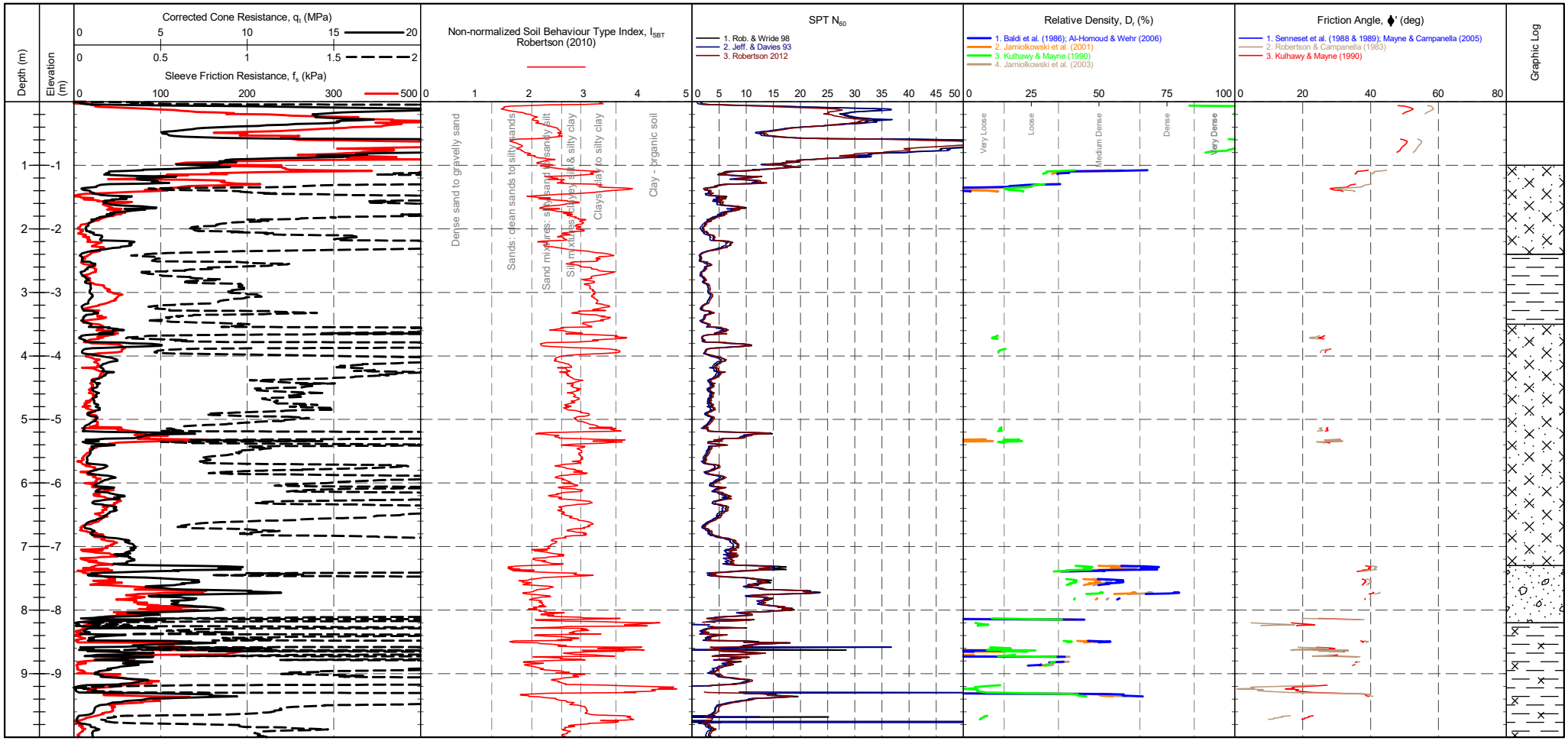
PointID **CPT113A**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	
CONE AREA	: 15cm²	RIG	: CPT 001	
CONE AREA RATIO	: 0.79	OPERATOR	: RS	
FILTER POSITION	: u2	FRICTION REDUCER	: None	
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	435 mV	509 mV	0.019 kPa
X-Y Inclinometer	2507 mV	2705 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

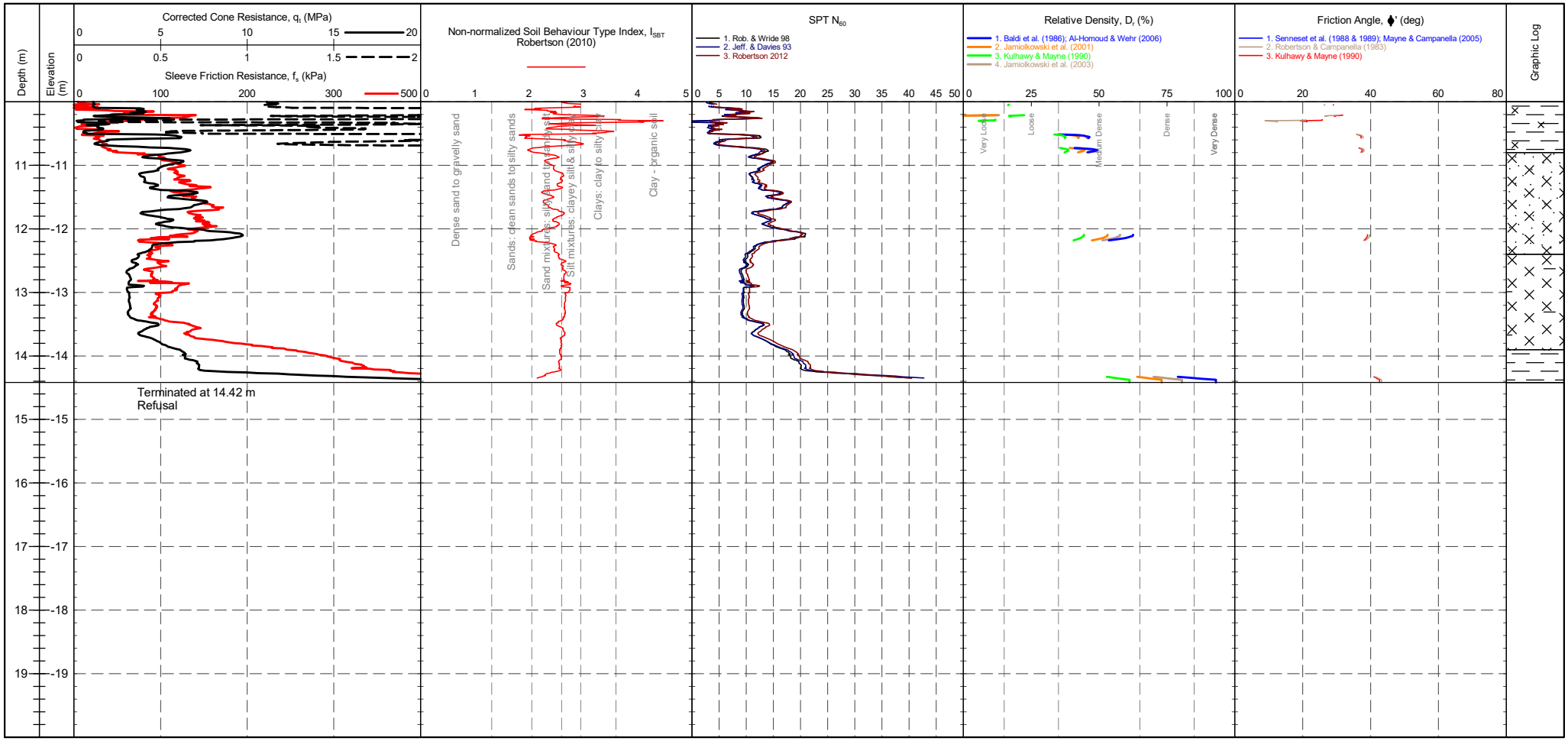
PointID **CPT113A**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	285 mV	286 mV	0.011 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	435 mV	509 mV	0.019 kPa
X-Y Inclinometer	2507 mV	2705 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

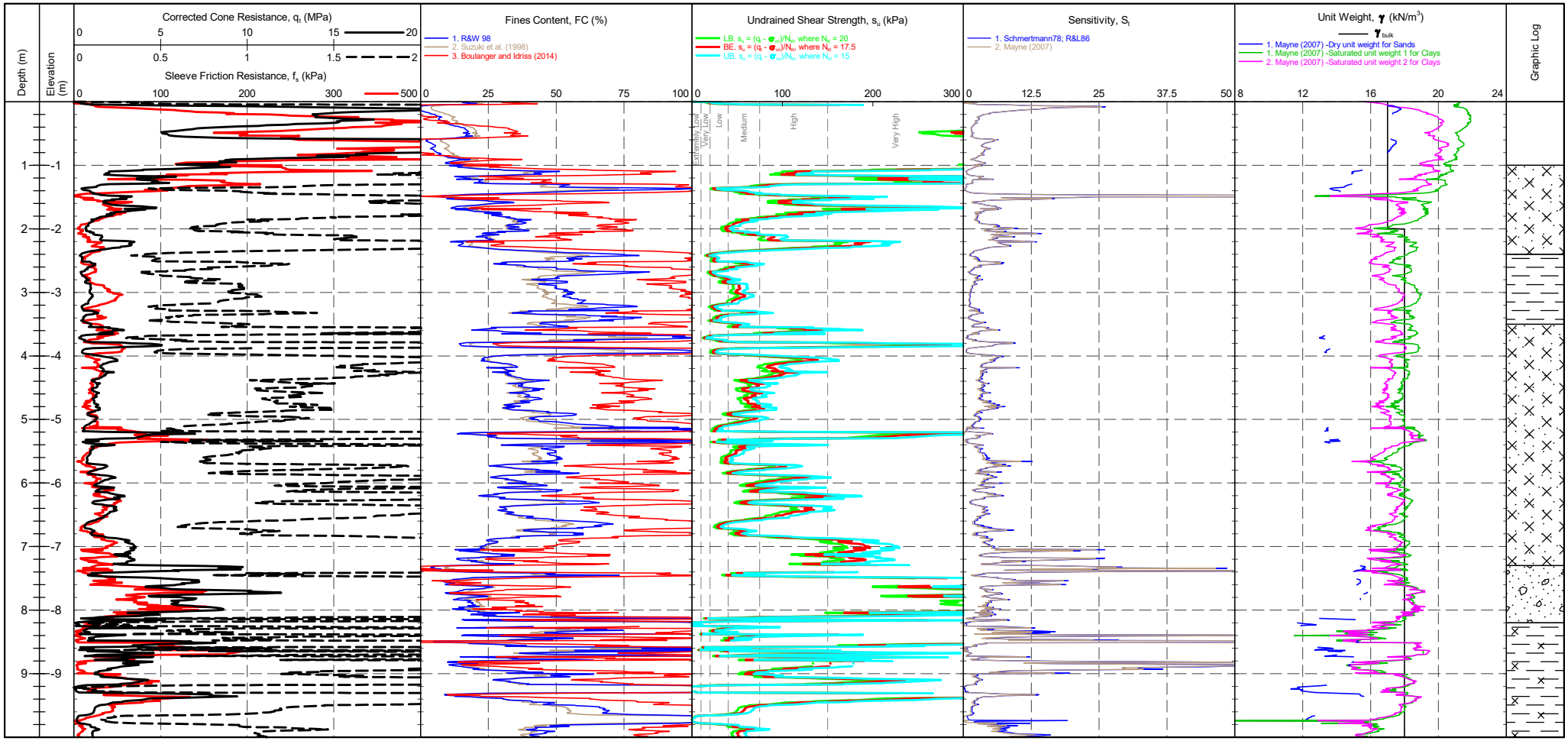
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT113A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	285 mV	286 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	435 mV	509 mV	0.019 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2507 mV	2705 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

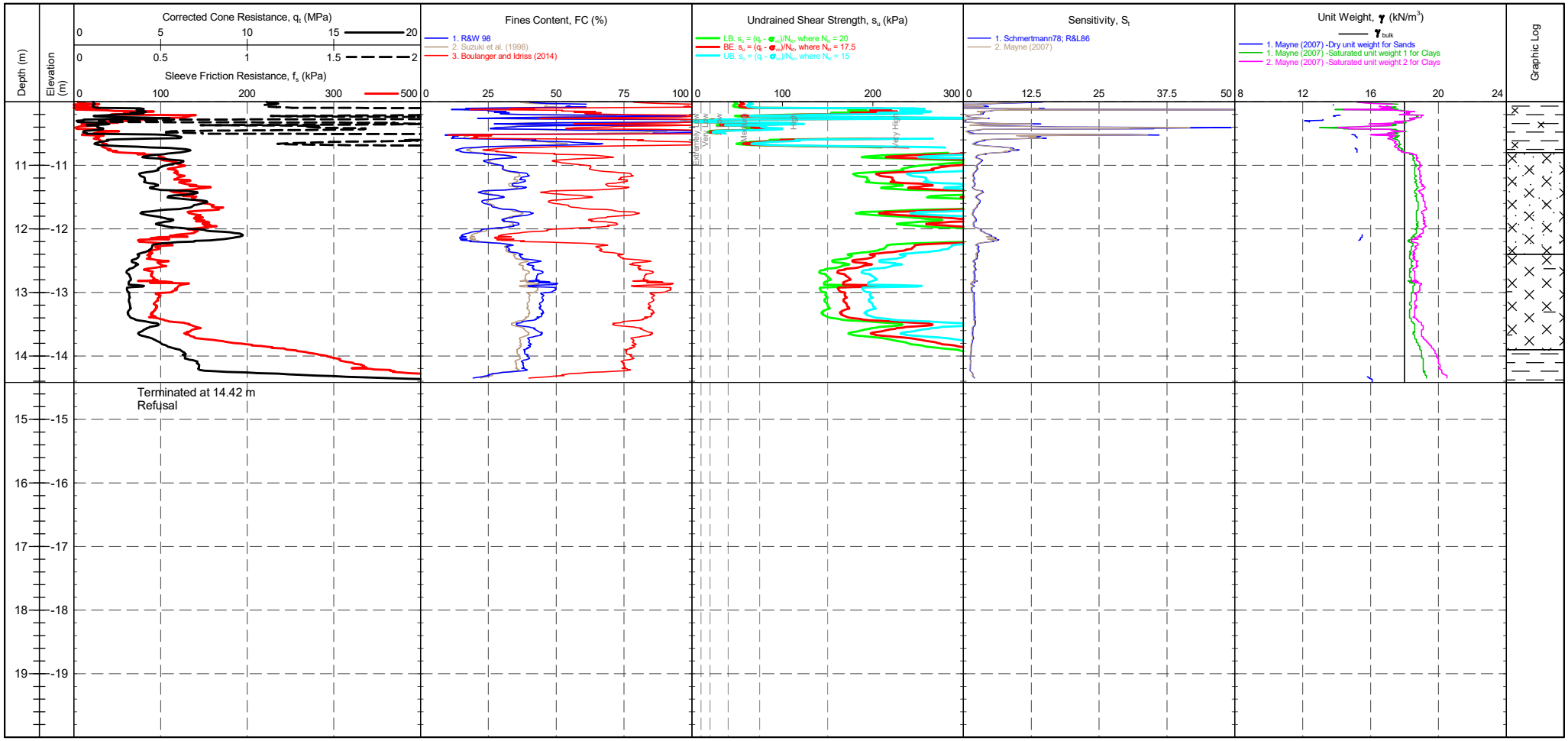
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT113A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



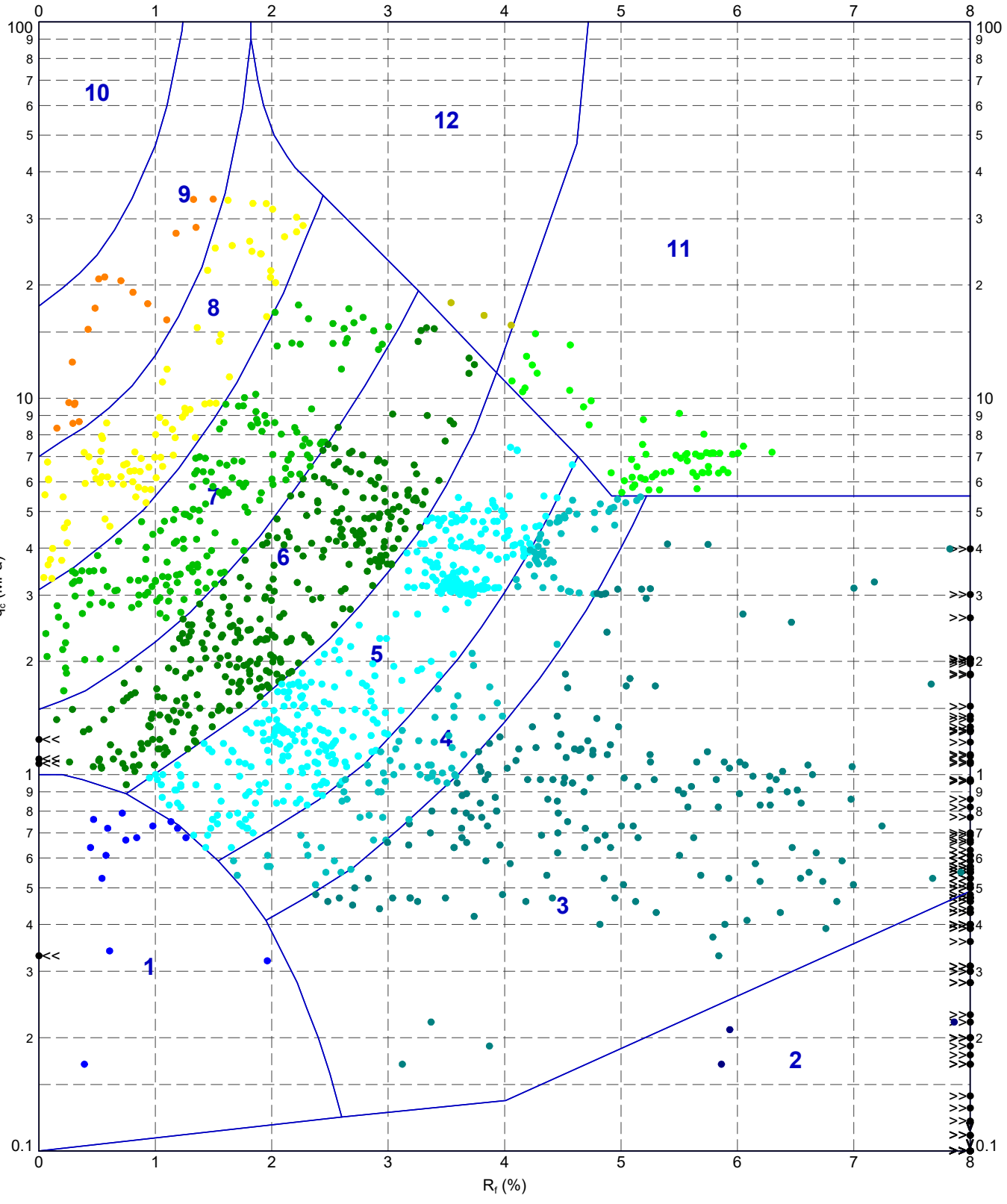
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	285 mV	286 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	435 mV	509 mV	0.019 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2507 mV	2705 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT113A

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

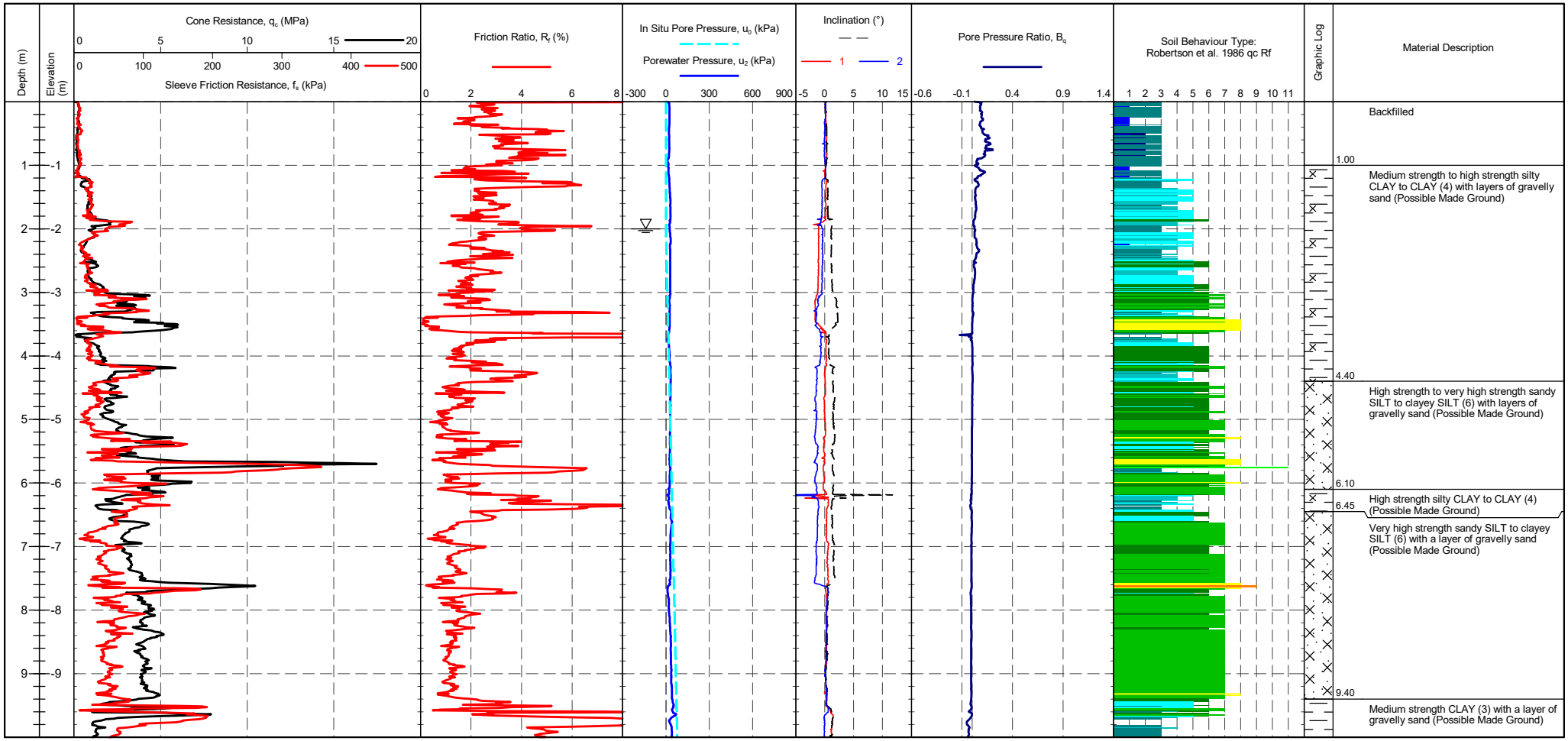
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:42 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT114**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	288 mV	285 mV	-0.033 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	413 mV	430 mV	0.004 kPa
X-Y Inclinometer	2487 mV	2568 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

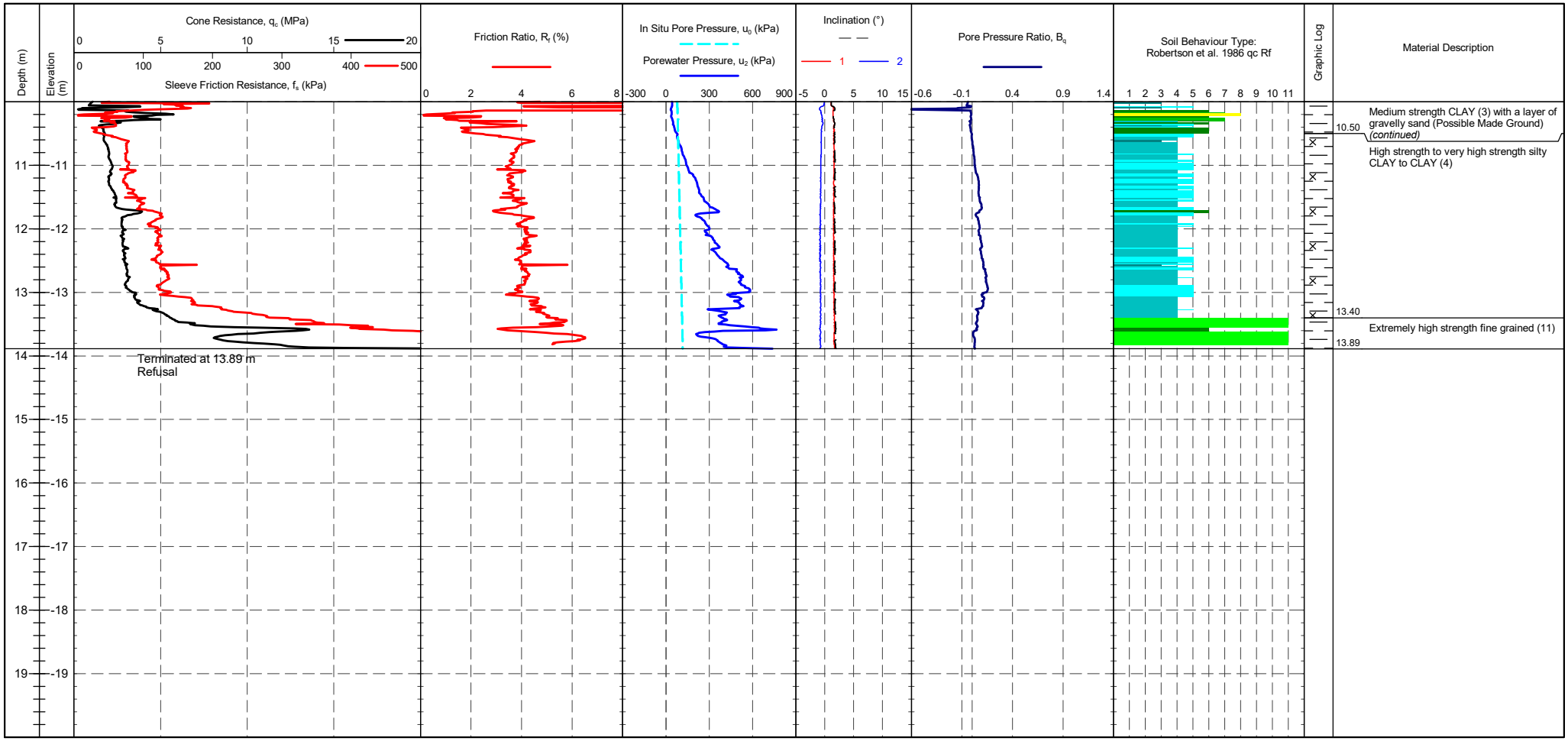
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT114**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032 CALIBRATION DATE : 03/03/2021 CONE MODEL : Subtraction CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 001 OPERATOR : RS FRICTION REDUCER : None WEATHER : Overcast & Mild GROUNDWATER DEPTH : Assumed for calculation purposes	CPTU ZERO VALUES	

Transducer	Pre	Post	Difference
Tip	288 mV	285 mV	-0.033 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	413 mV	430 mV	0.004 kPa
X-Y Inclinometer	2487 mV	2568 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
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8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

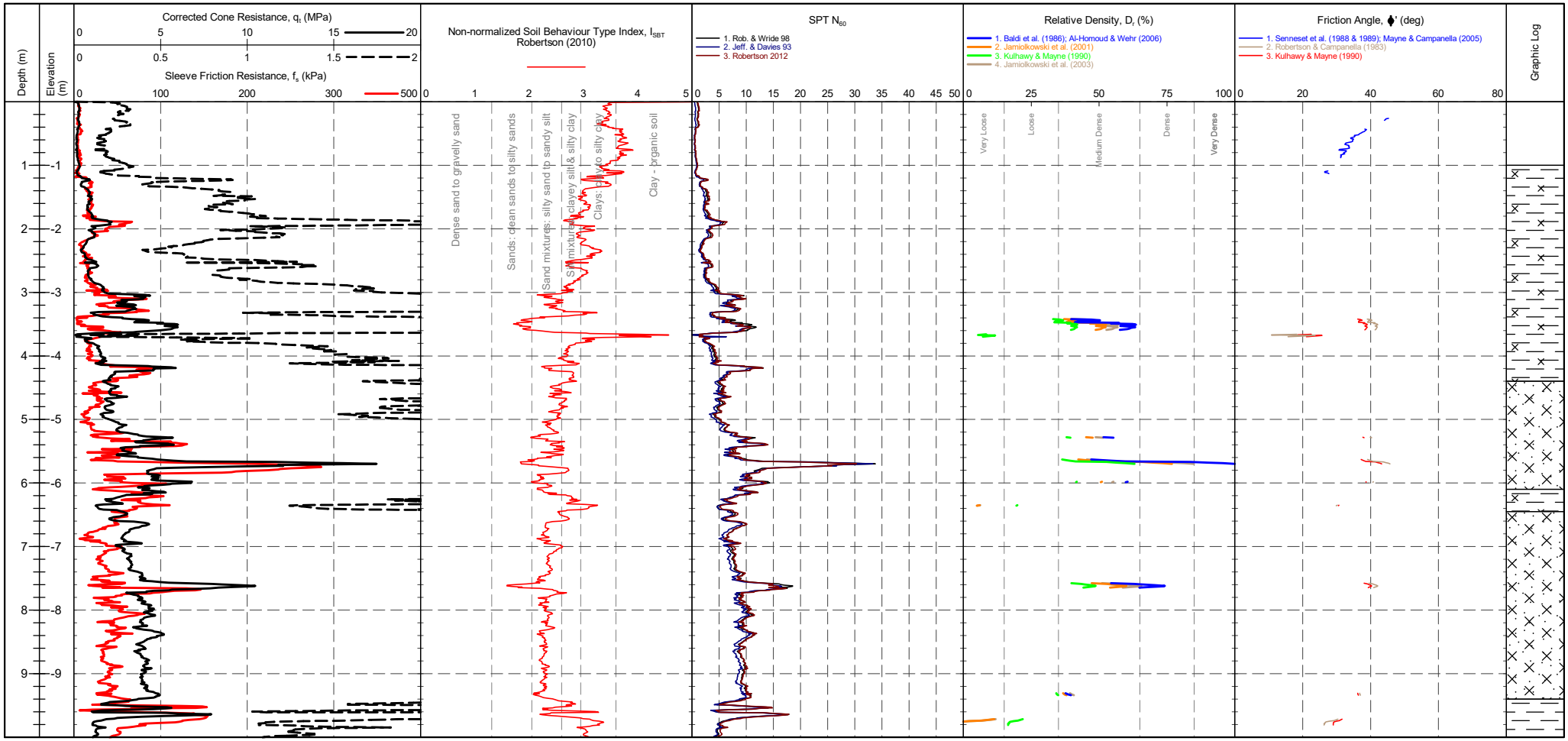
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID: **CPT114**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	288 mV	285 mV	-0.033 MPa
Sleeve	294 mV	293 mV	-0.001 kPa
Pore Pressure 2	413 mV	430 mV	0.004 kPa
X-Y Inclinometer	2487 mV	2568 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

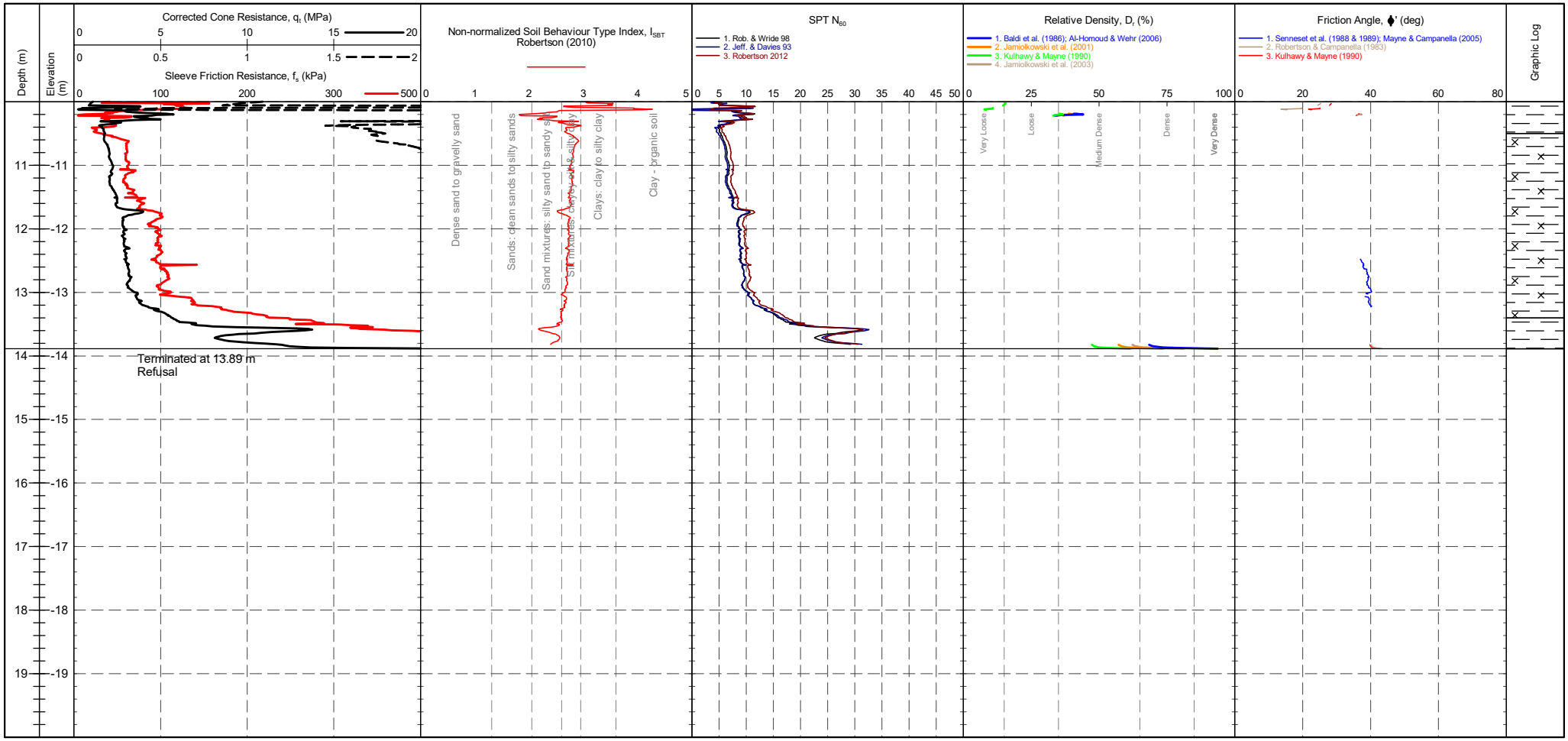
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID: **CPT114**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	288 mV	285 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	413 mV	430 mV	0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2487 mV	2568 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

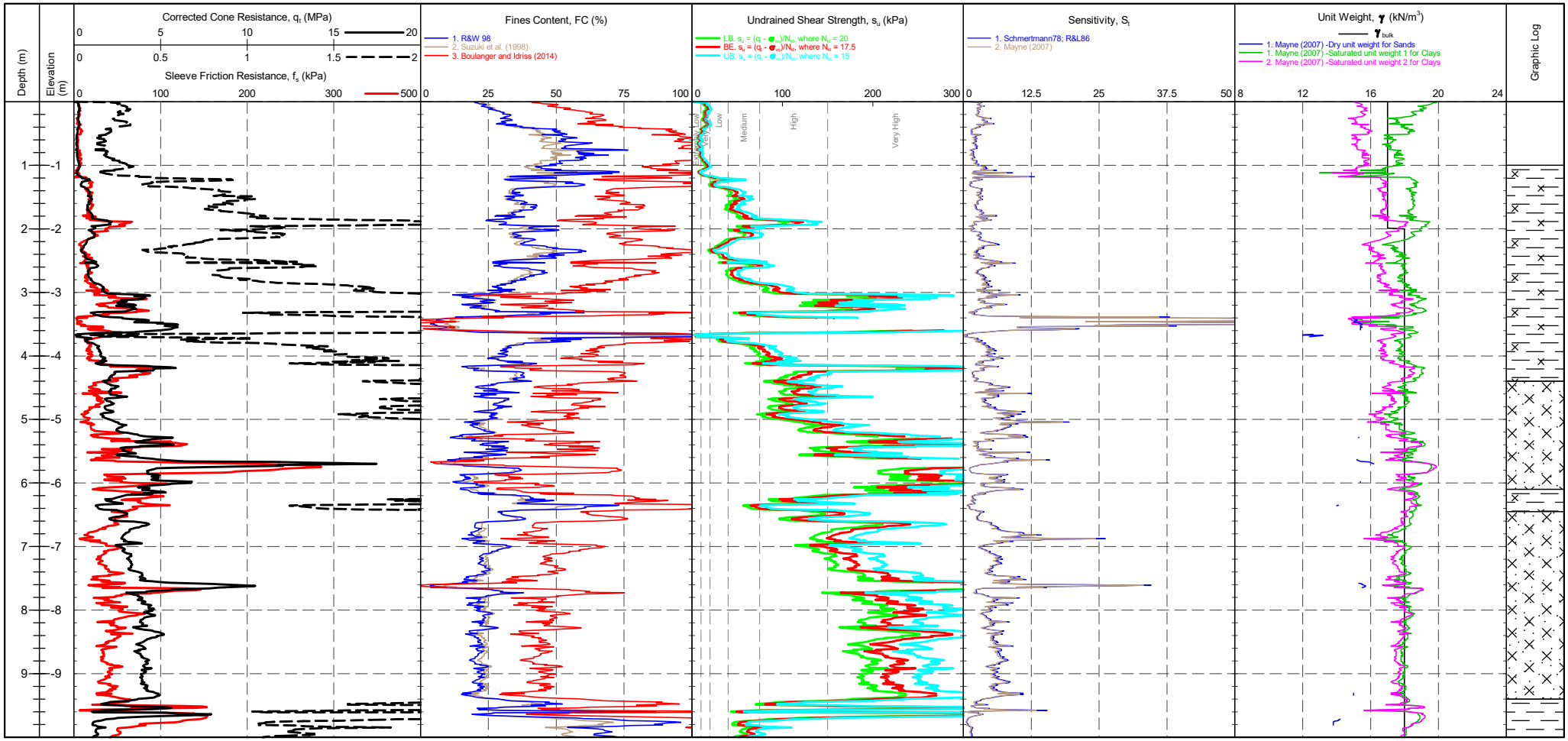
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT114**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	288 mV	285 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	413 mV	430 mV	0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2487 mV	2568 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

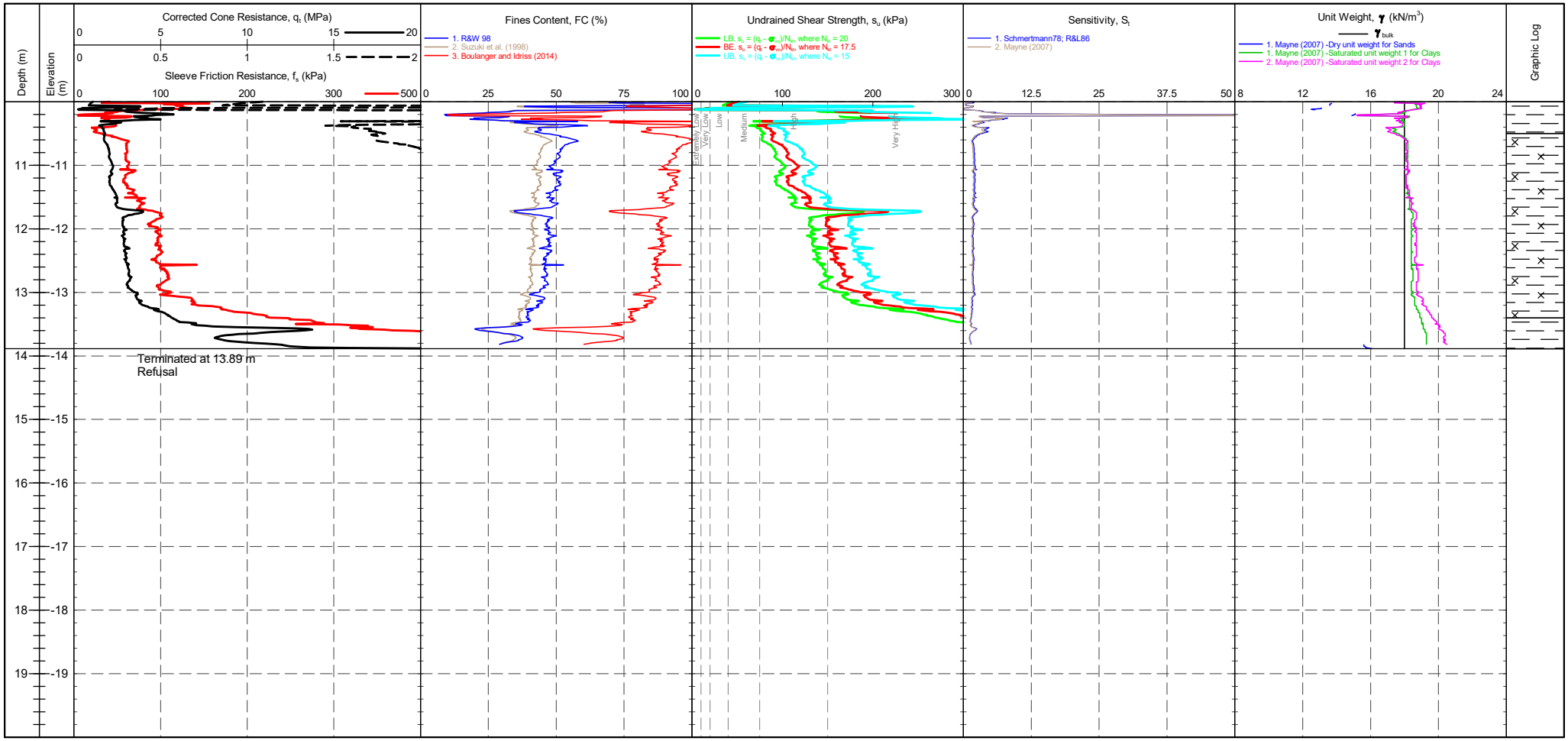
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT114**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



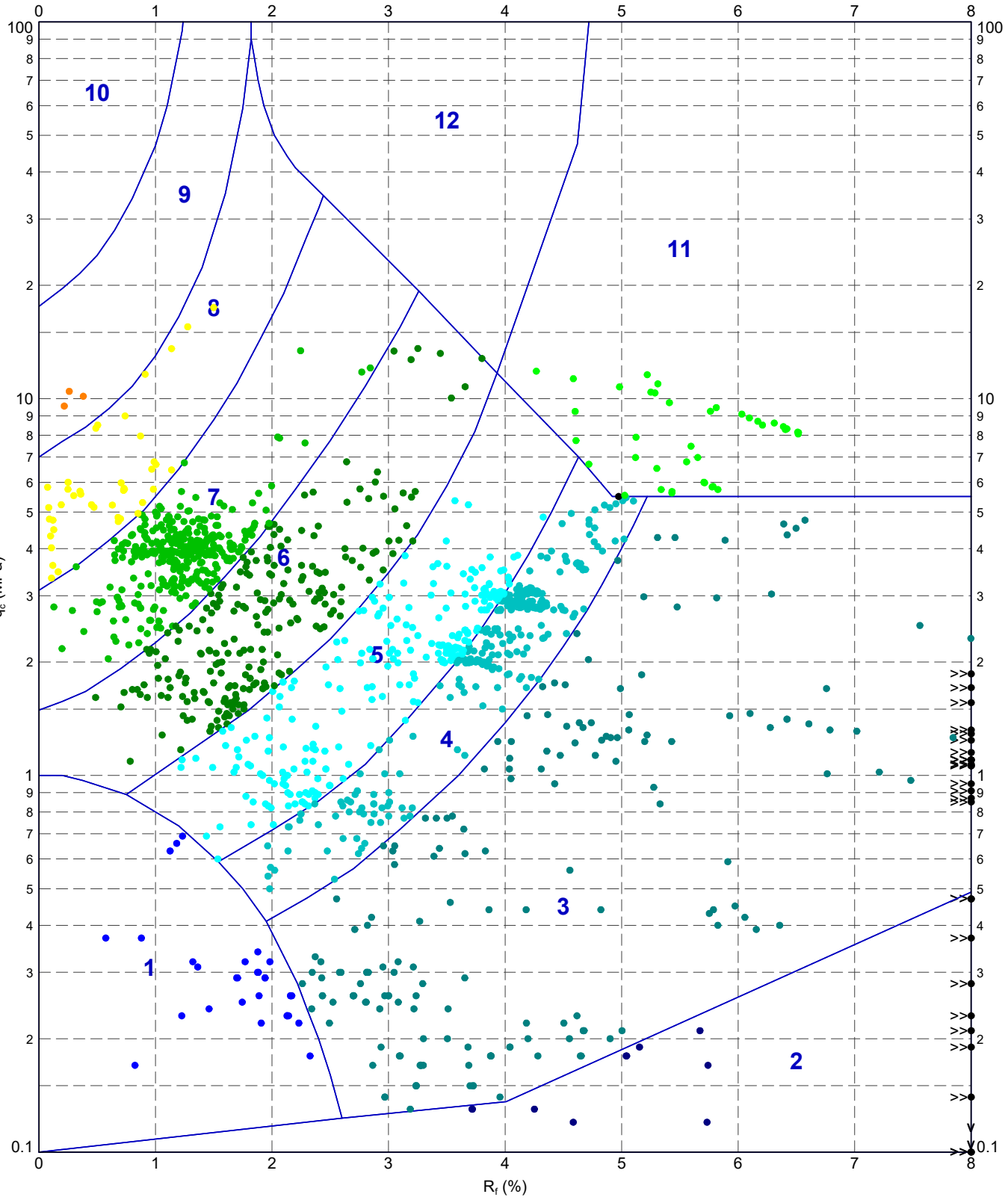
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	288 mV	285 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	293 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	413 mV	430 mV	0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2487 mV	2568 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT114

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

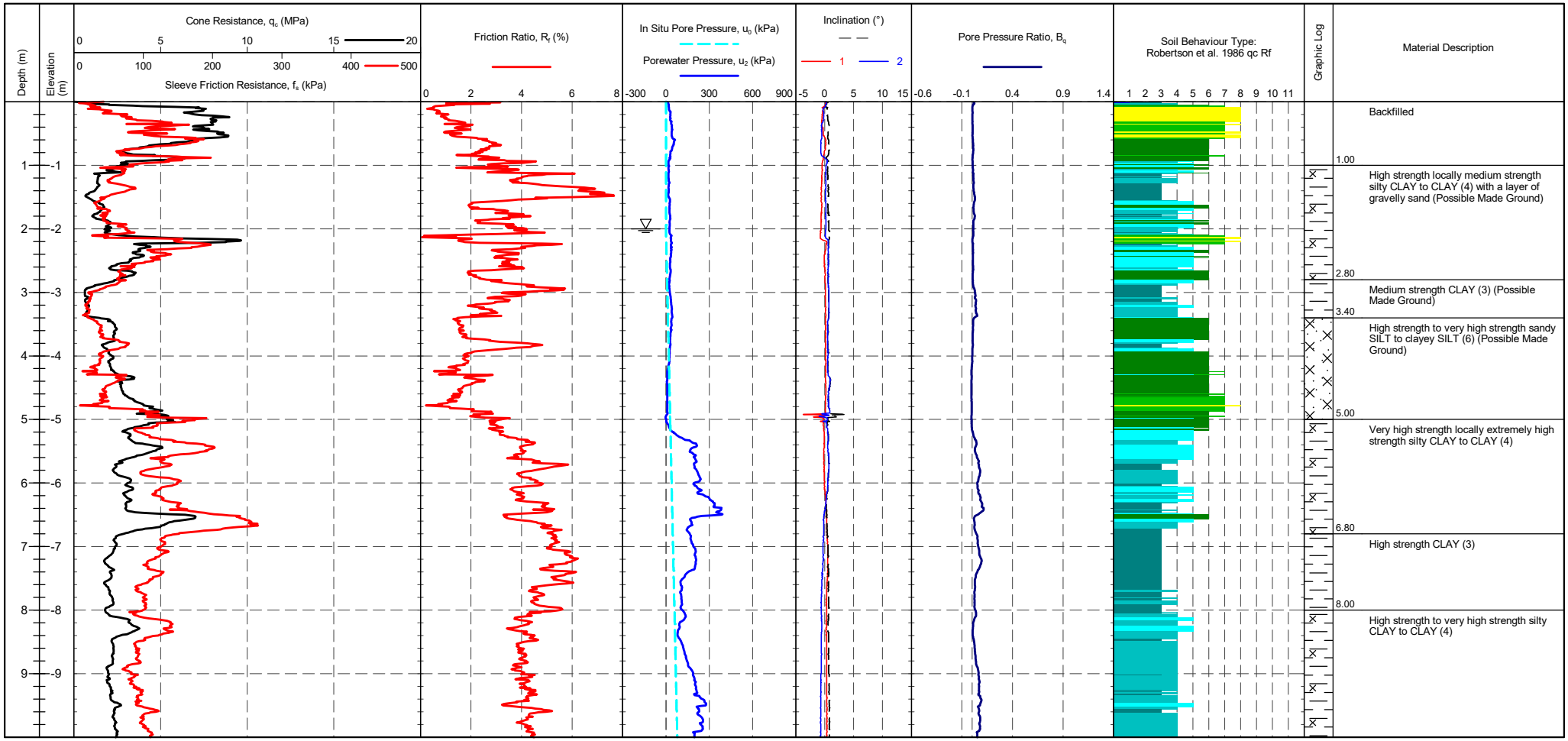
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:43 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT115**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	451 mV	415 mV	36 kPa
X-Y Inclinometer	2504 mV	2409 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
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5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

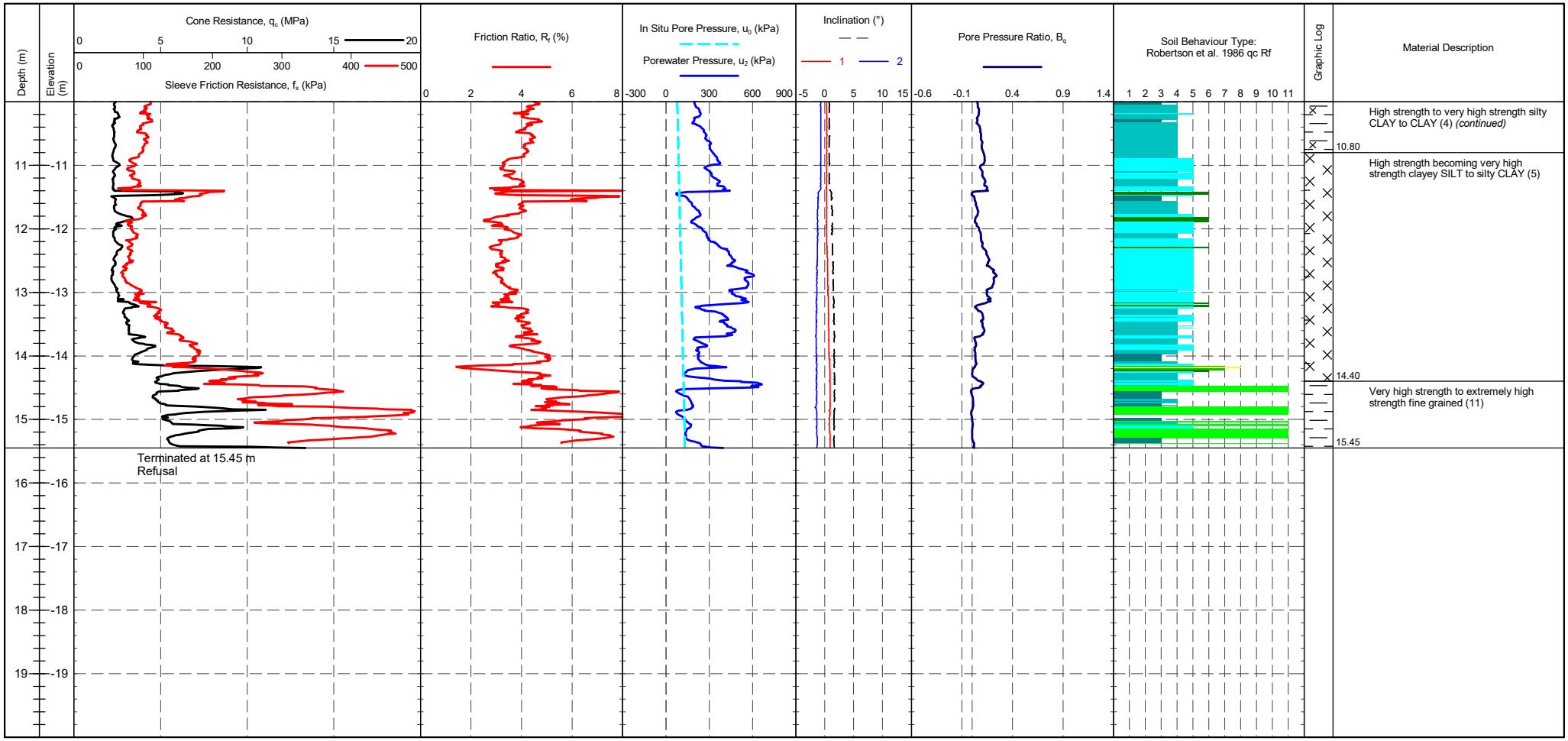
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT115**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	451 mV	415 mV	36 kPa
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METHOD: Robertson et al. 1986 qc Rf

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10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

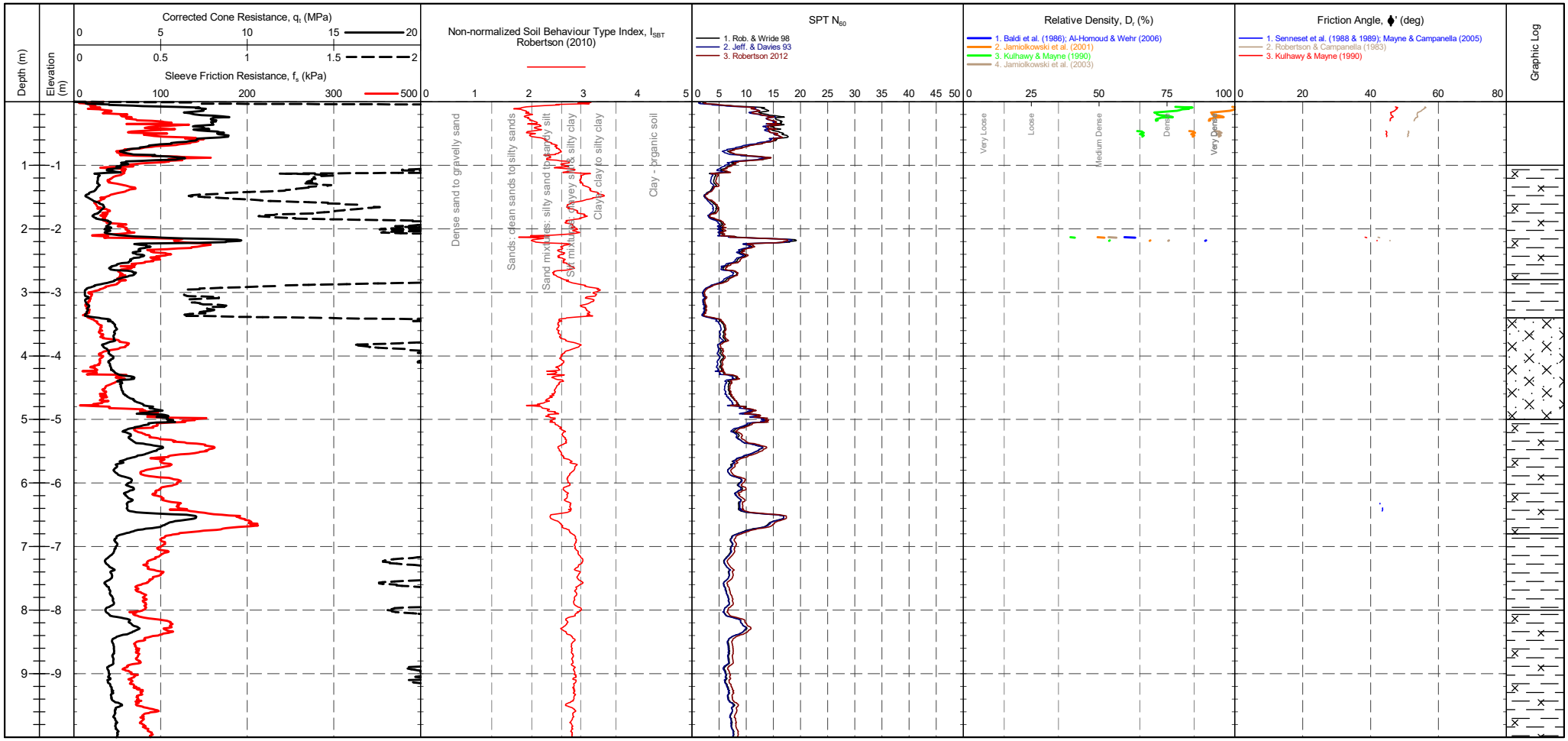
PointID **CPT115**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	451 mV	415 mV	36 kPa
X-Y Inclinometer	2504 mV	2409 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

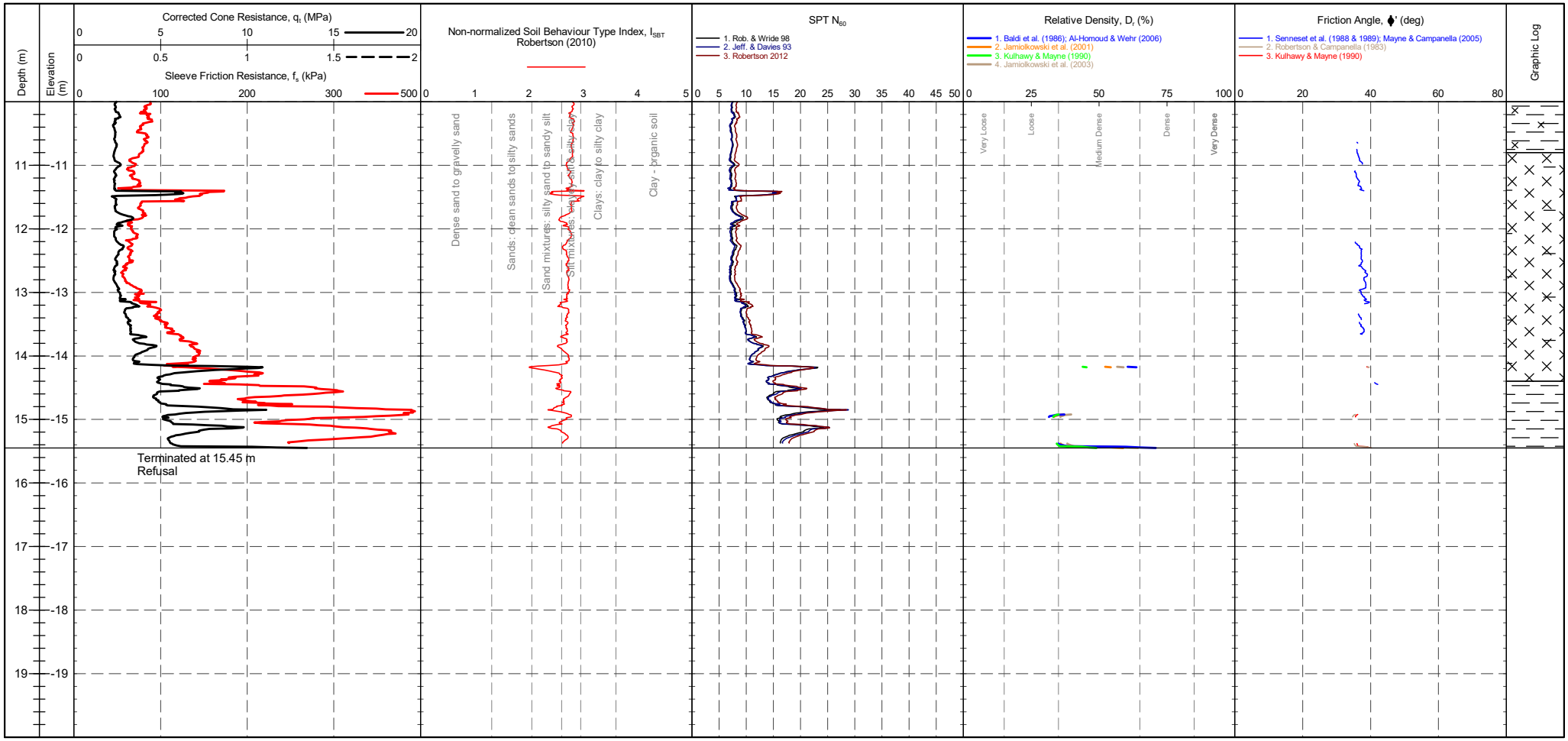
PointID: **CPT115**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	451 mV	415 mV	36 kPa
X-Y Inclinometer	2504 mV	2409 mV	

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Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
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Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

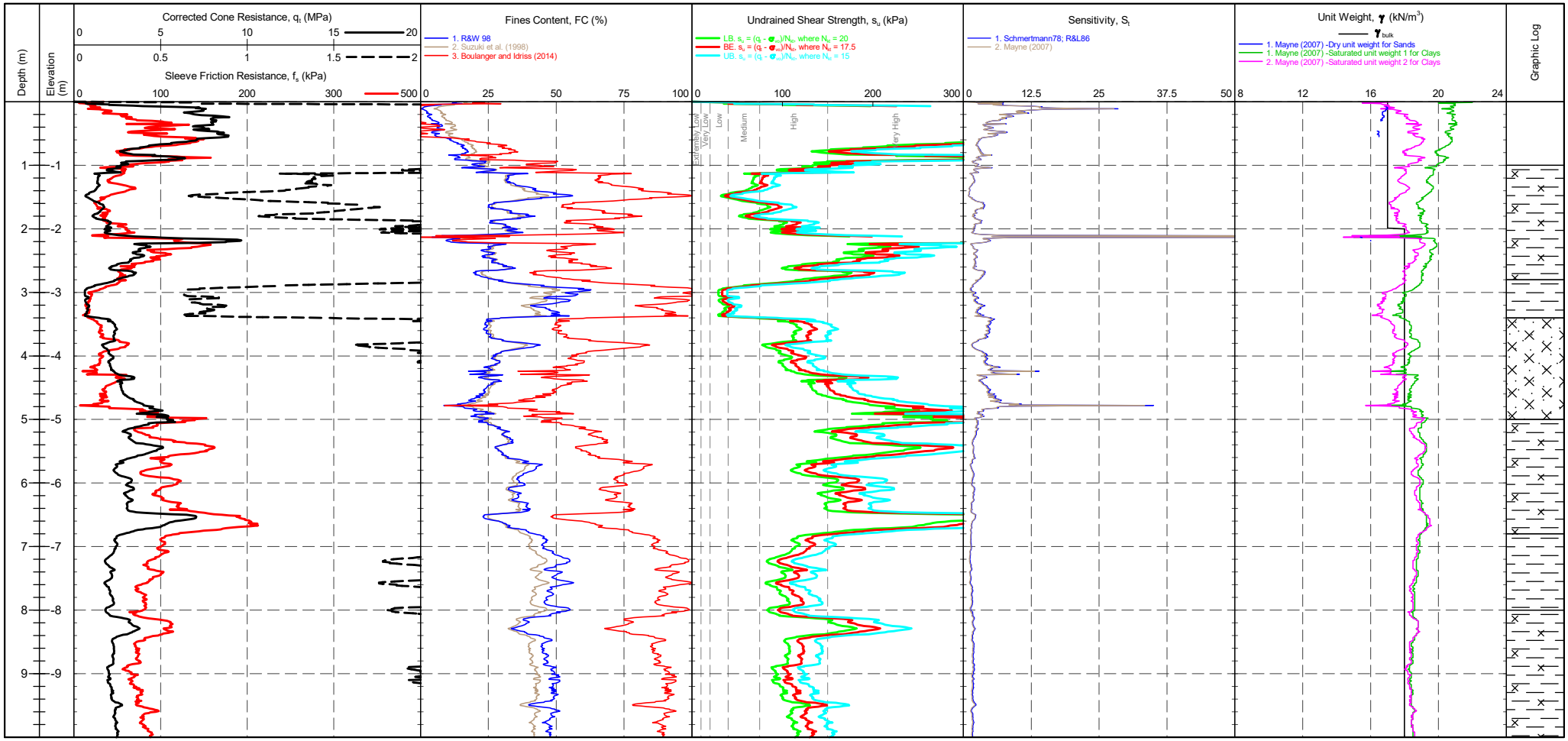
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT115**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 16/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	285 mV	-1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	288 mV	5 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	451 mV	415 mV	36 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2504 mV	2409 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

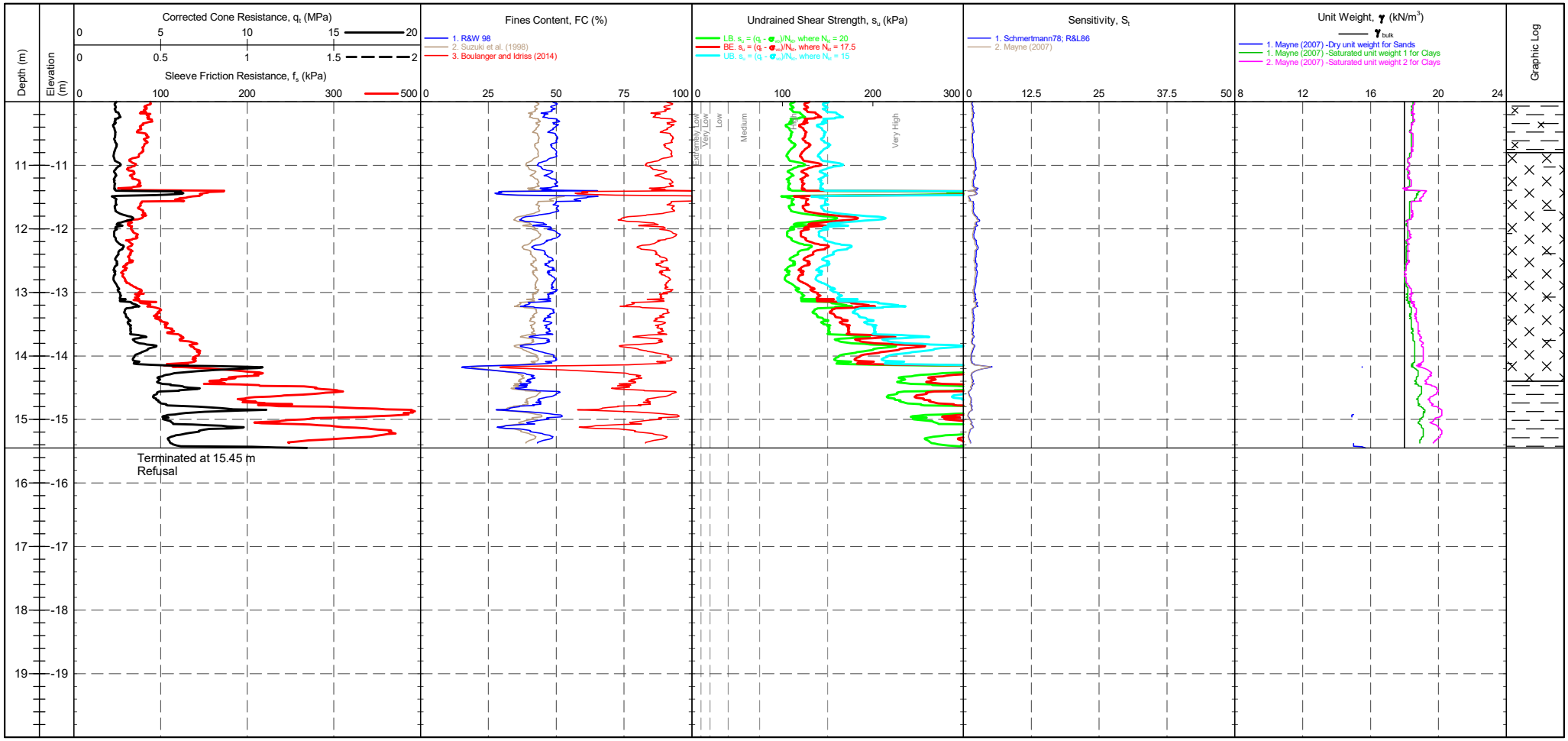
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 03

PointID: **CPT115**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



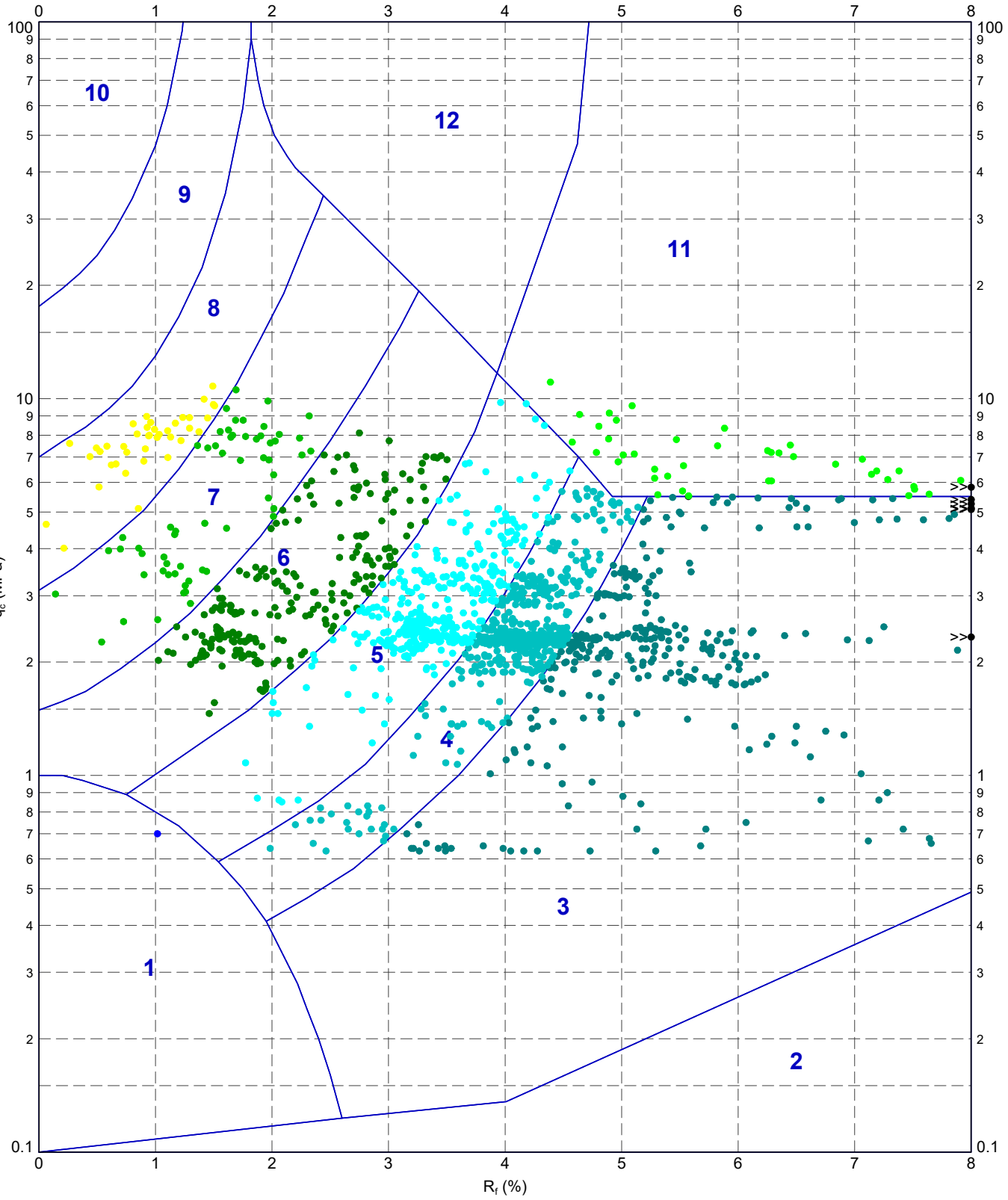
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	285 mV	-1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	288 mV	5 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	451 mV	415 mV	36 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2504 mV	2409 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT115

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

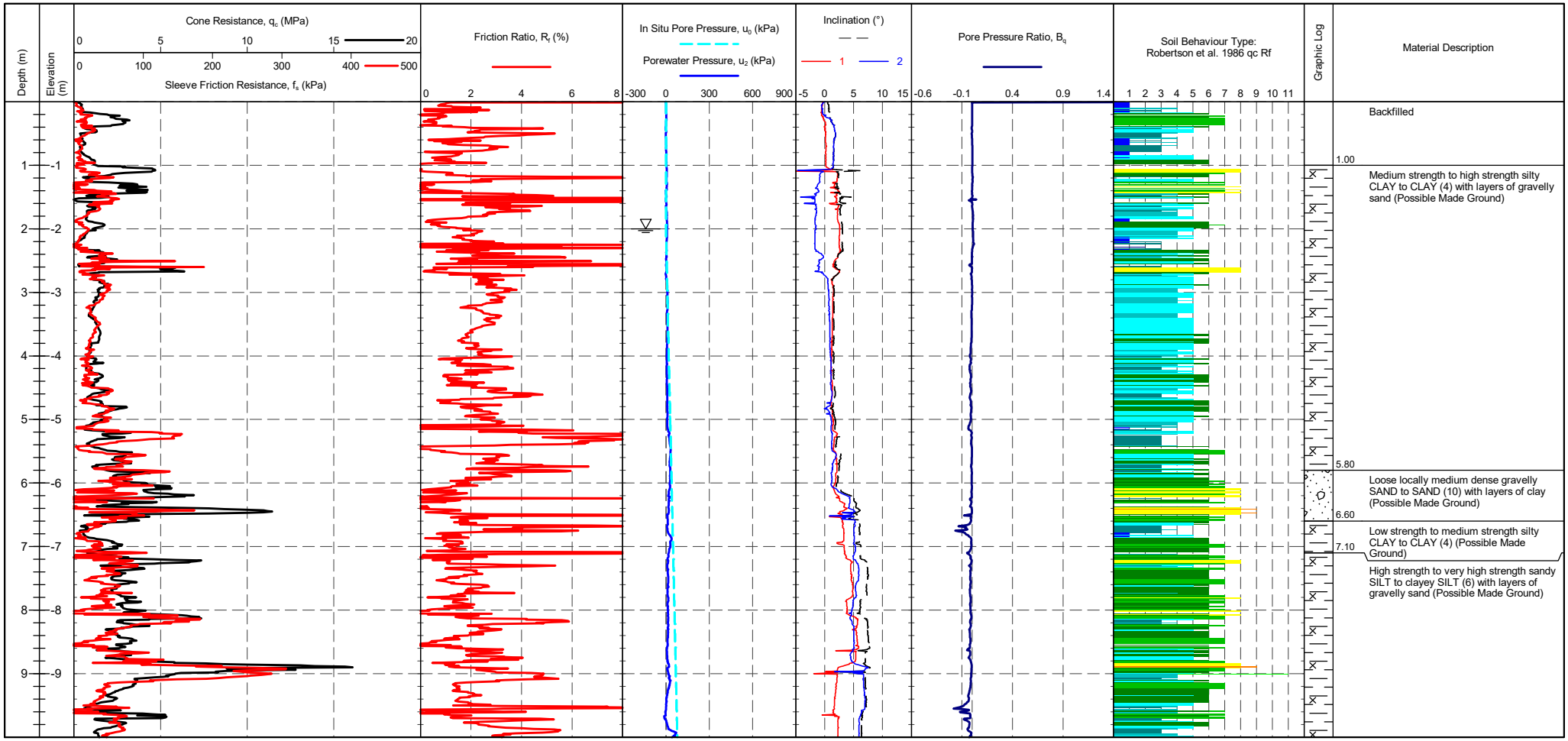
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:44 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT116**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	296 mV	294 mV	2 kPa
Pore Pressure 2	446 mV	457 mV	-11 kPa
X-Y Inclinometer	2475 mV	2508 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

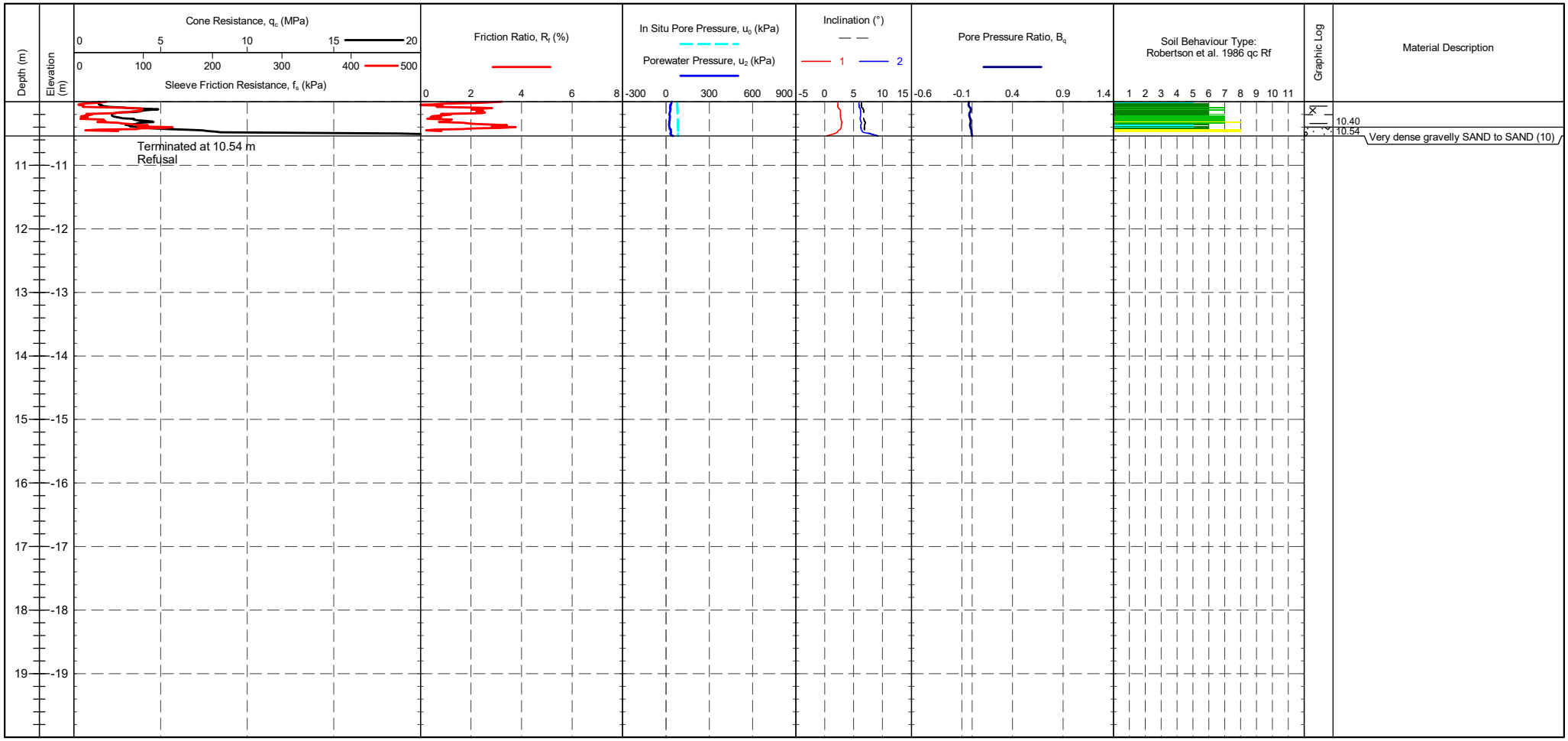
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 01

PointID **CPT116**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	296 mV	294 mV	2 kPa
Pore Pressure 2	446 mV	457 mV	-11 kPa
X-Y Inclinometer	2475 mV	2508 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

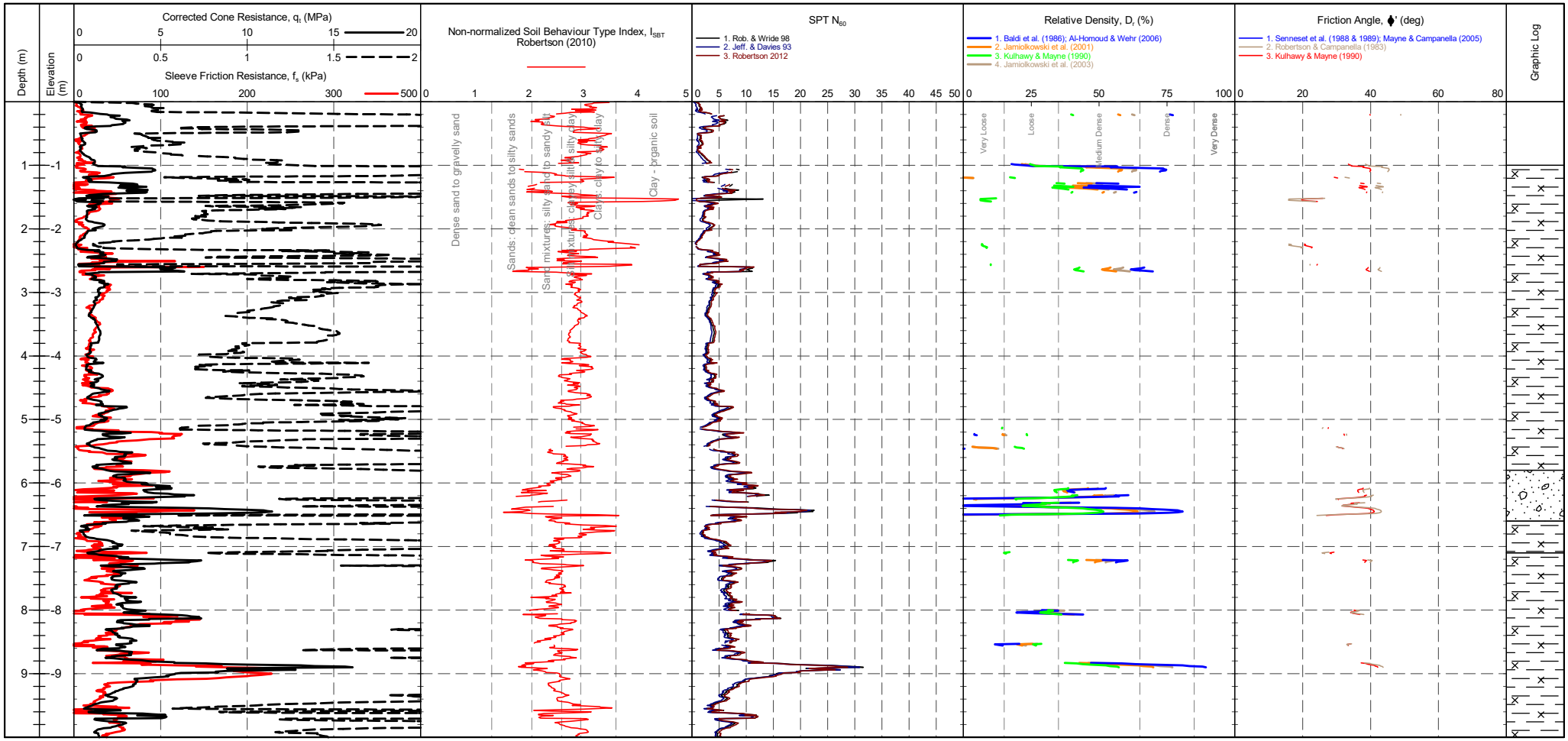
PointID **CPT116**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	
CONE AREA	: 15cm²	RIG	: CPT 001	
CONE AREA RATIO	: 0.79	OPERATOR	: RS	
FILTER POSITION	: u2	FRICTION REDUCER	: None	
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	296 mV	294 mV	2 kPa
Pore Pressure 2	446 mV	457 mV	-11 kPa
X-Y Inclinometer	2475 mV	2508 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

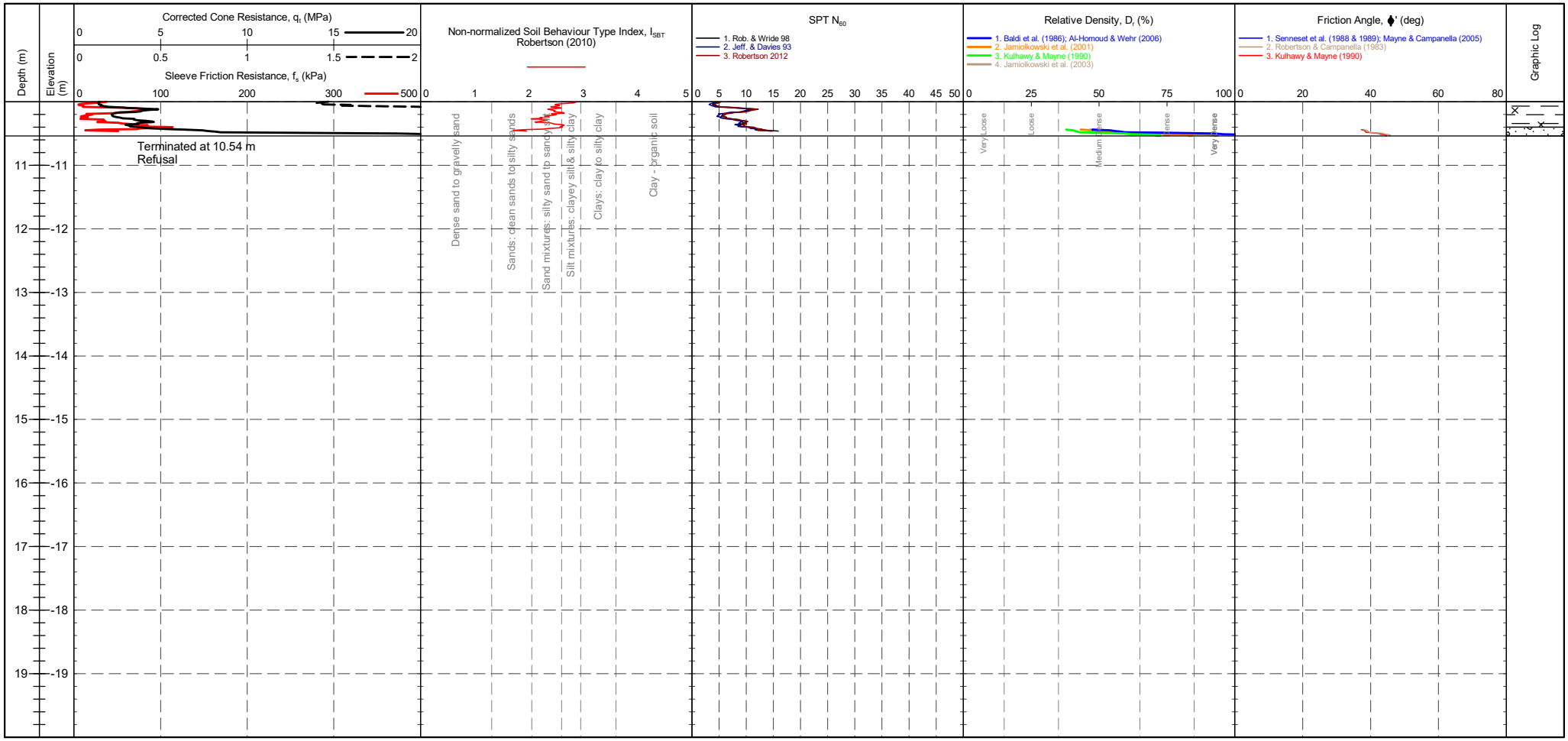
PointID **CPT116**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032
CONE MODEL	: Subtraction
CONE AREA	: 15cm^2
CONE AREA RATIO	: 0.79
FILTER POSITION	: u2
FILTER TYPE	: HDPE

TEST TYPE	: TE2
APPLICATION CLASS	: 2
RIG	: CPT 001
OPERATOR	: RS
FRICTION REDUCER	: None
WEATHER	: Overcast & Mild

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	285 mV	-1 MPa
Sleeve	296 mV	294 mV	2 kPa
Pore Pressure 2	446 mV	457 mV	-11 kPa
X-Y Inclinometer	2475 mV	2508 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

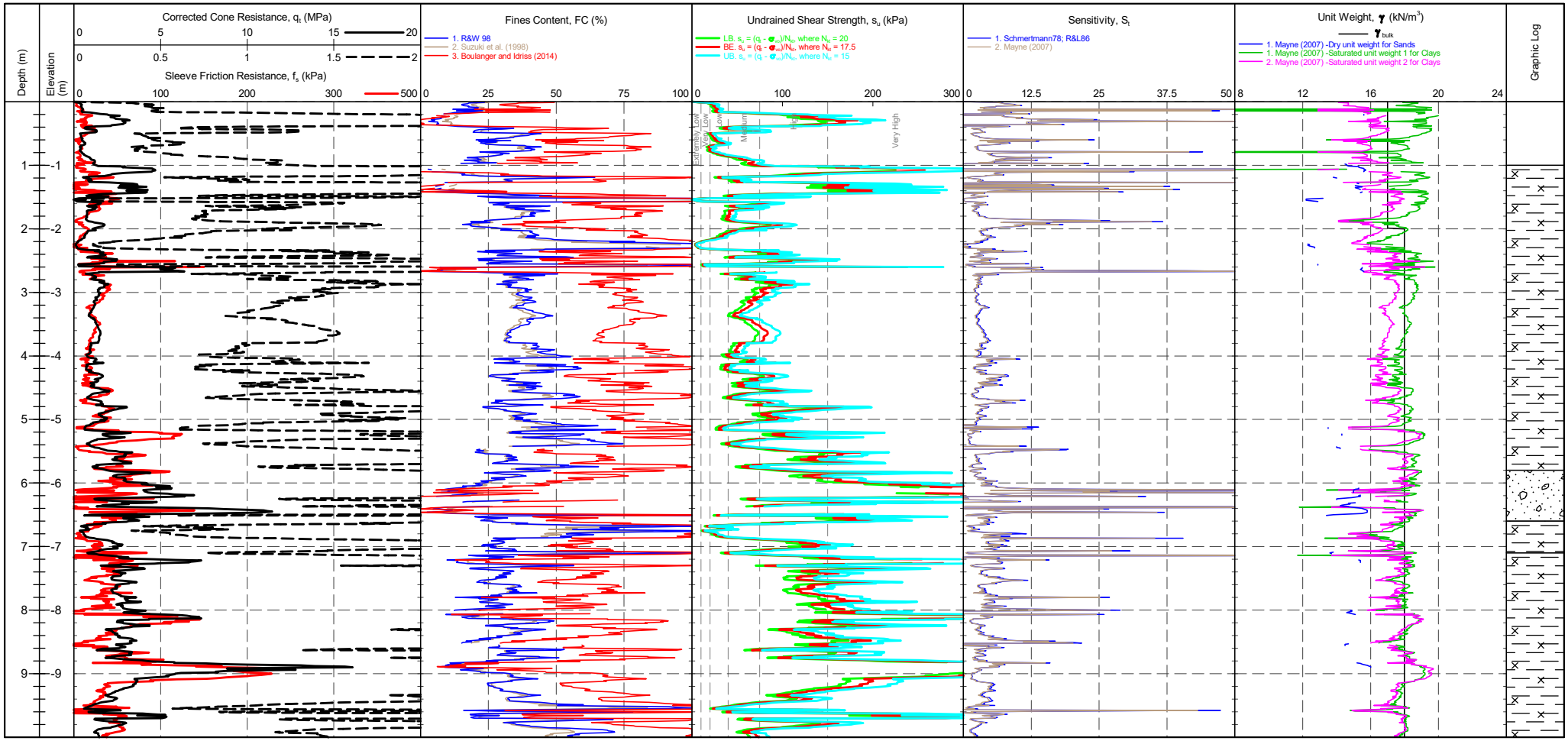
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT116**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	285 mV	-1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	296 mV	294 mV	2 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	446 mV	457 mV	-11 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2475 mV	2508 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

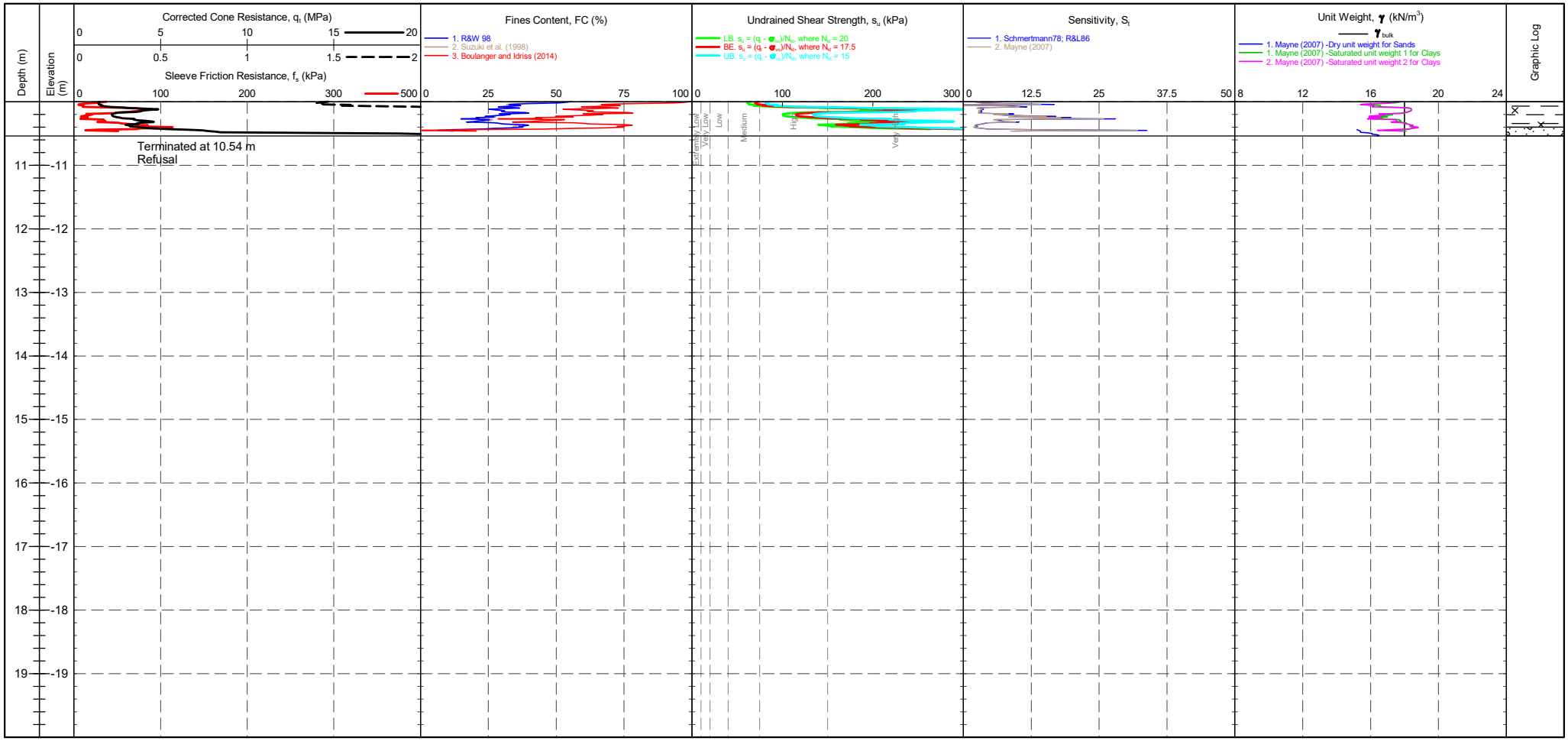
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT116**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



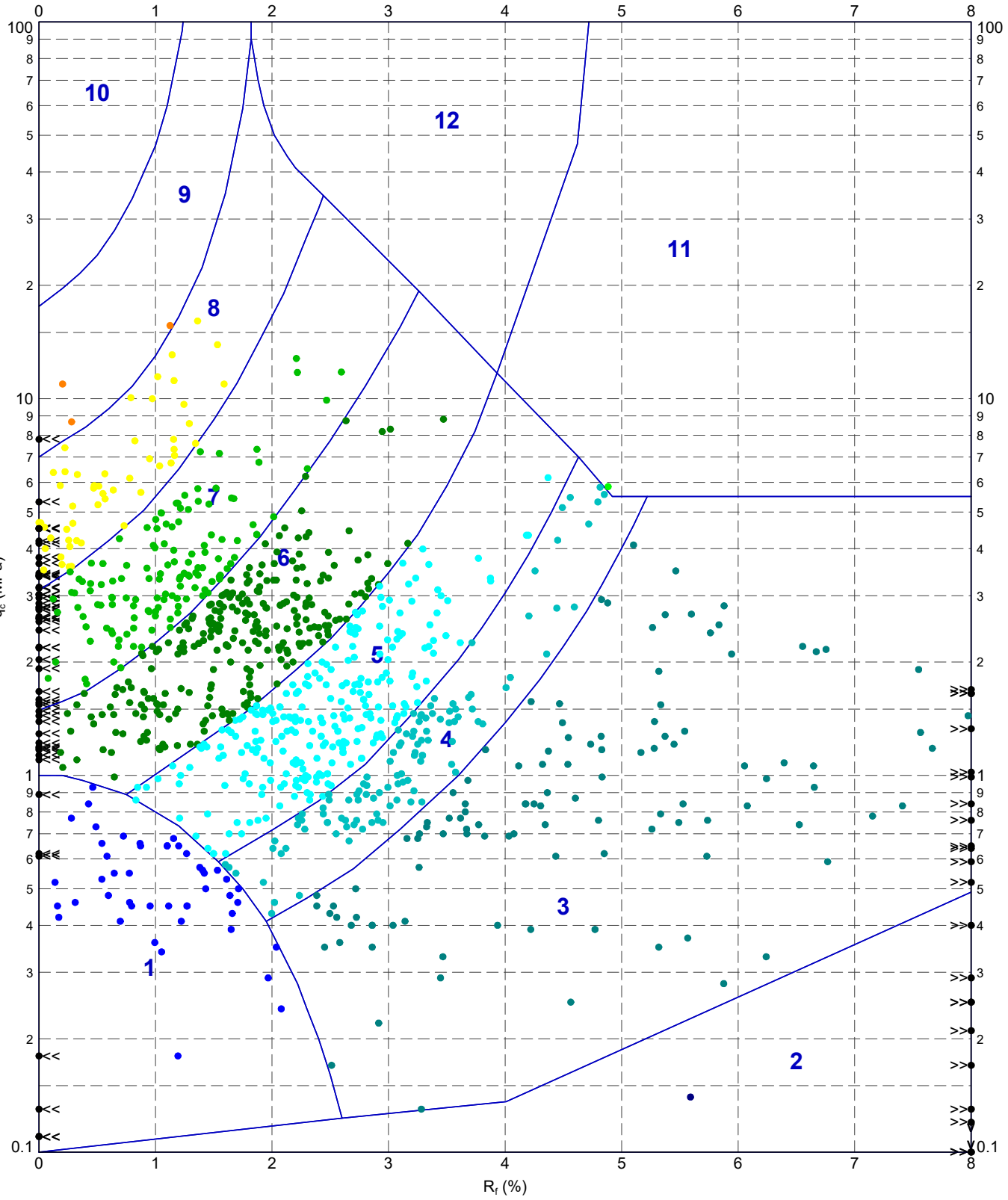
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	285 mV	-1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	296 mV	294 mV	2 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	446 mV	457 mV	-11 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2475 mV	2508 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT116

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

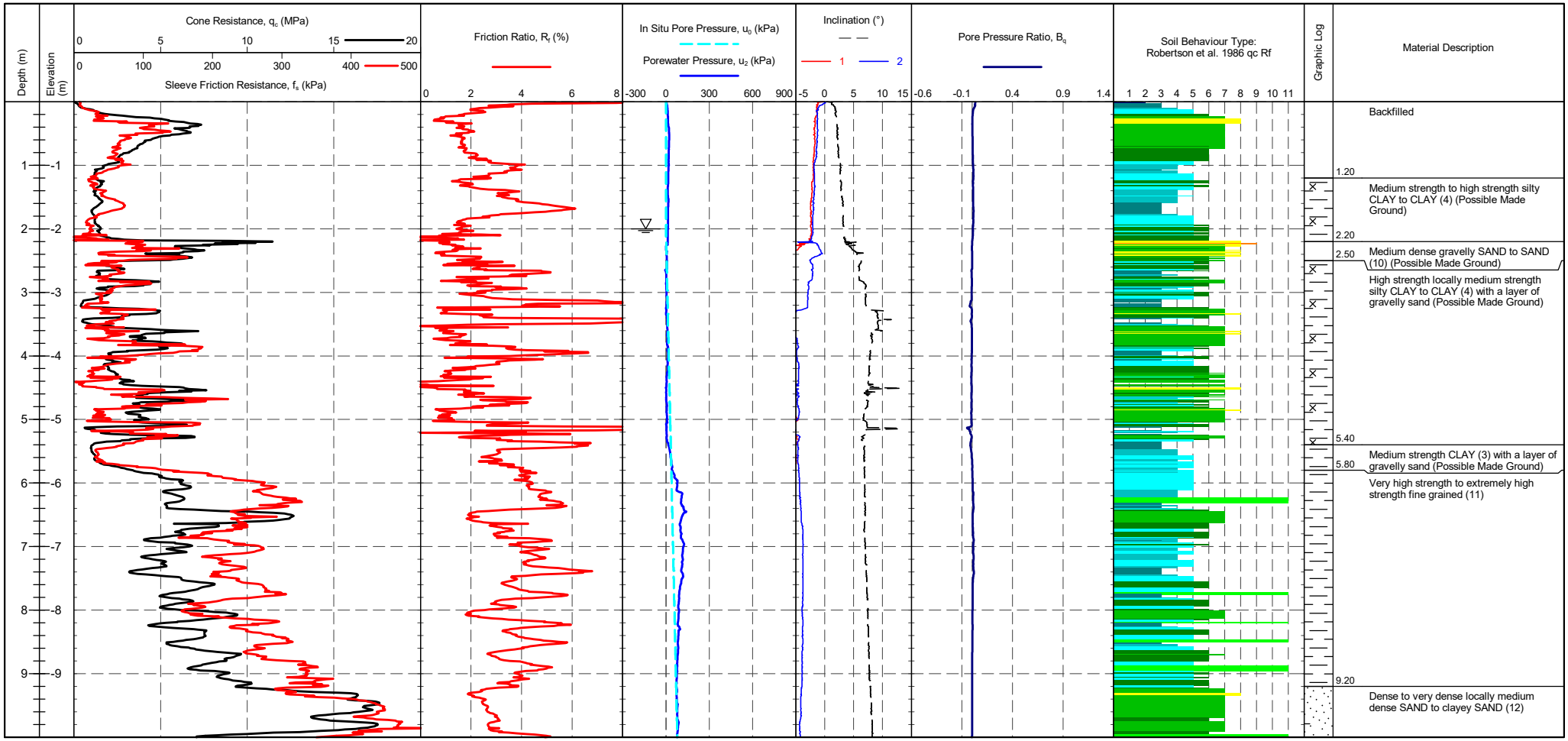
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:45 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT117**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 16/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032 CALIBRATION DATE : 03/03/2021 CONE MODEL : Subtraction CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 001 OPERATOR : RS FRICTION REDUCER : None WEATHER : Overcast & Mild GROUNDWATER DEPTH : Assumed for calculation purposes	CPTU ZERO VALUES	

Transducer	Pre	Post	Difference
Tip	286 mV	281 mV	5 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	445 mV	433 mV	12 kPa
X-Y Inclinometer	2487 mV	2464 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

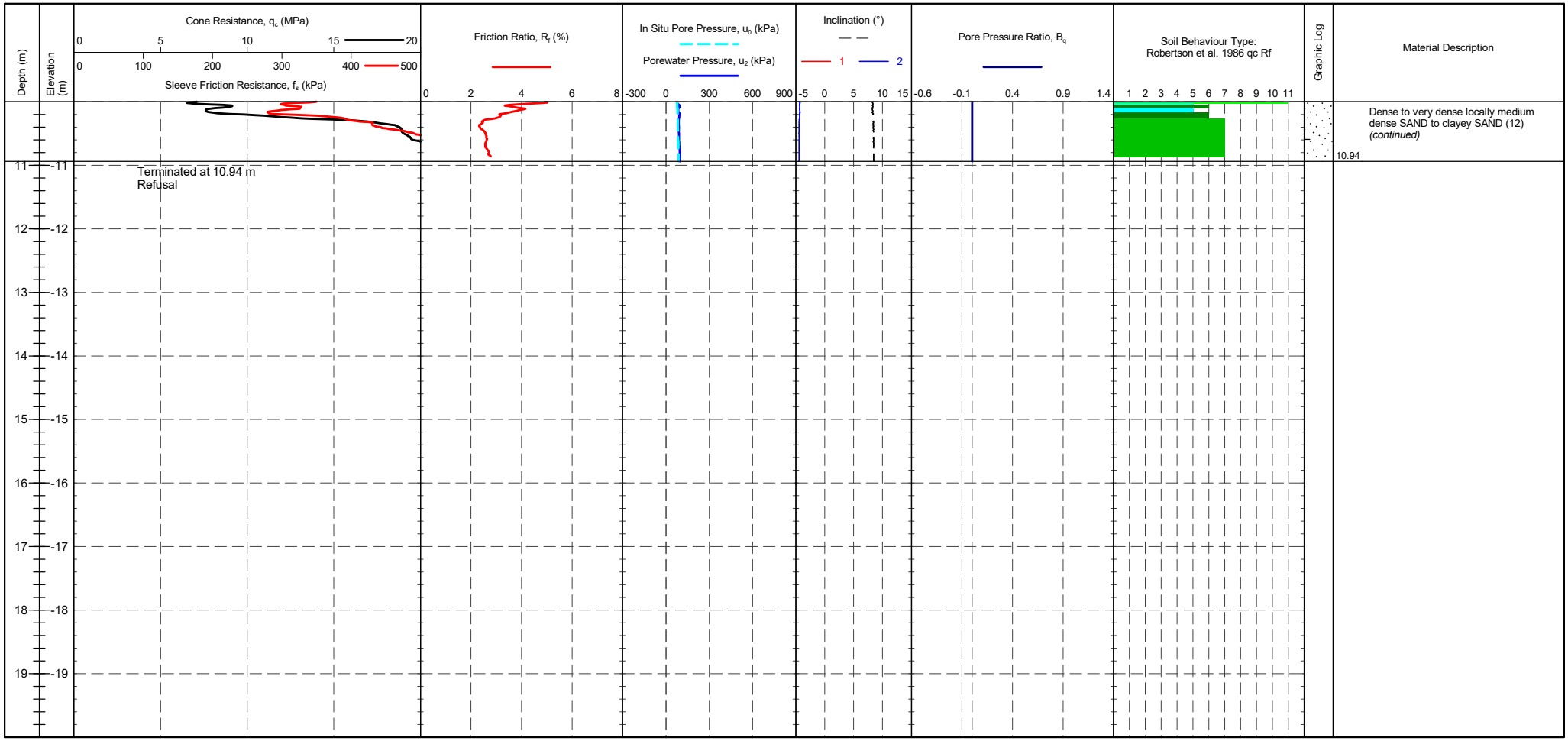
PointID: **CPT117**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	281 mV	5 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	445 mV	433 mV	12 kPa
X-Y Inclinometer	2487 mV	2464 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

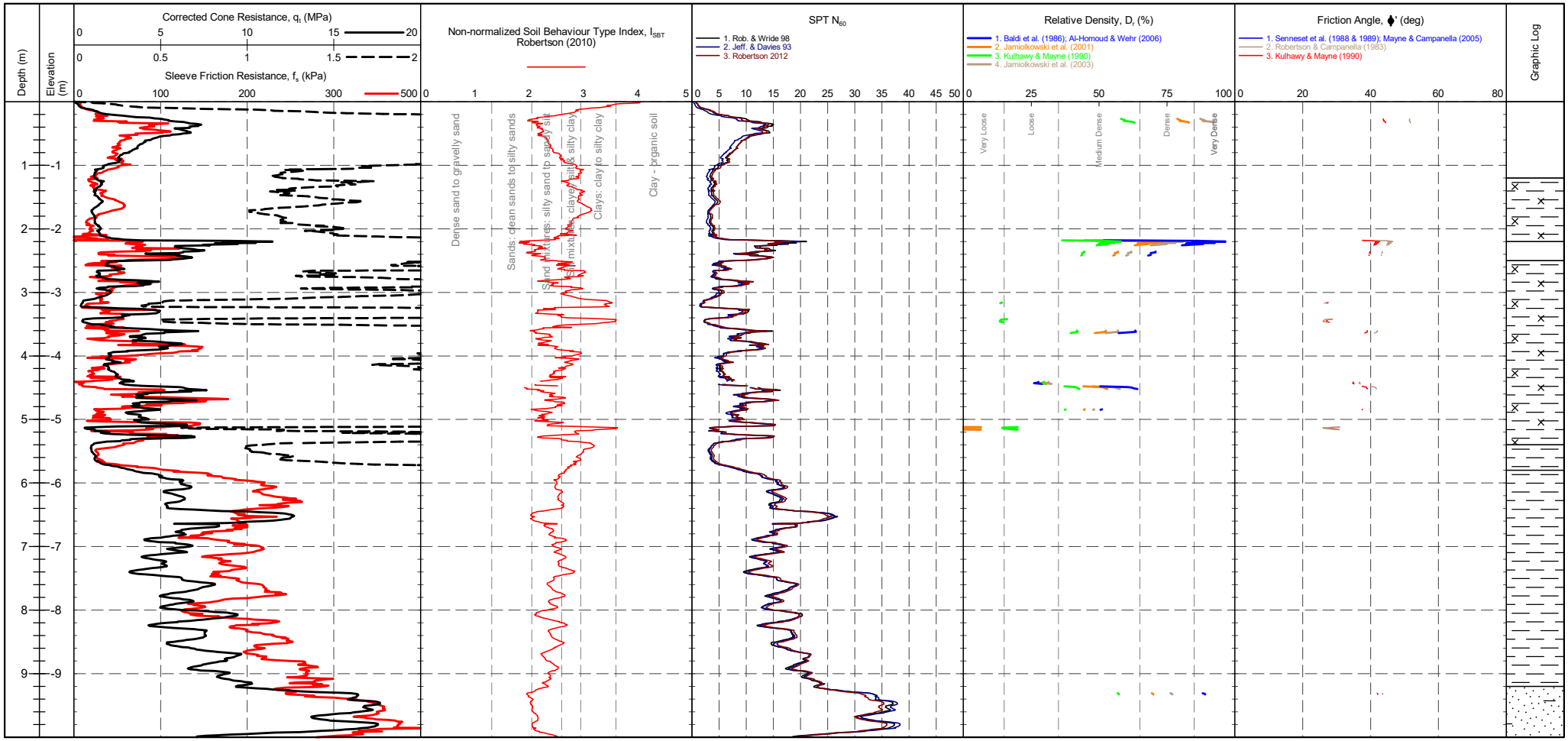
Groundwater Level
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

PointID **CPT117**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	281 mV	5 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	445 mV	433 mV	12 kPa
X-Y Inclinometer	2487 mV	2464 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

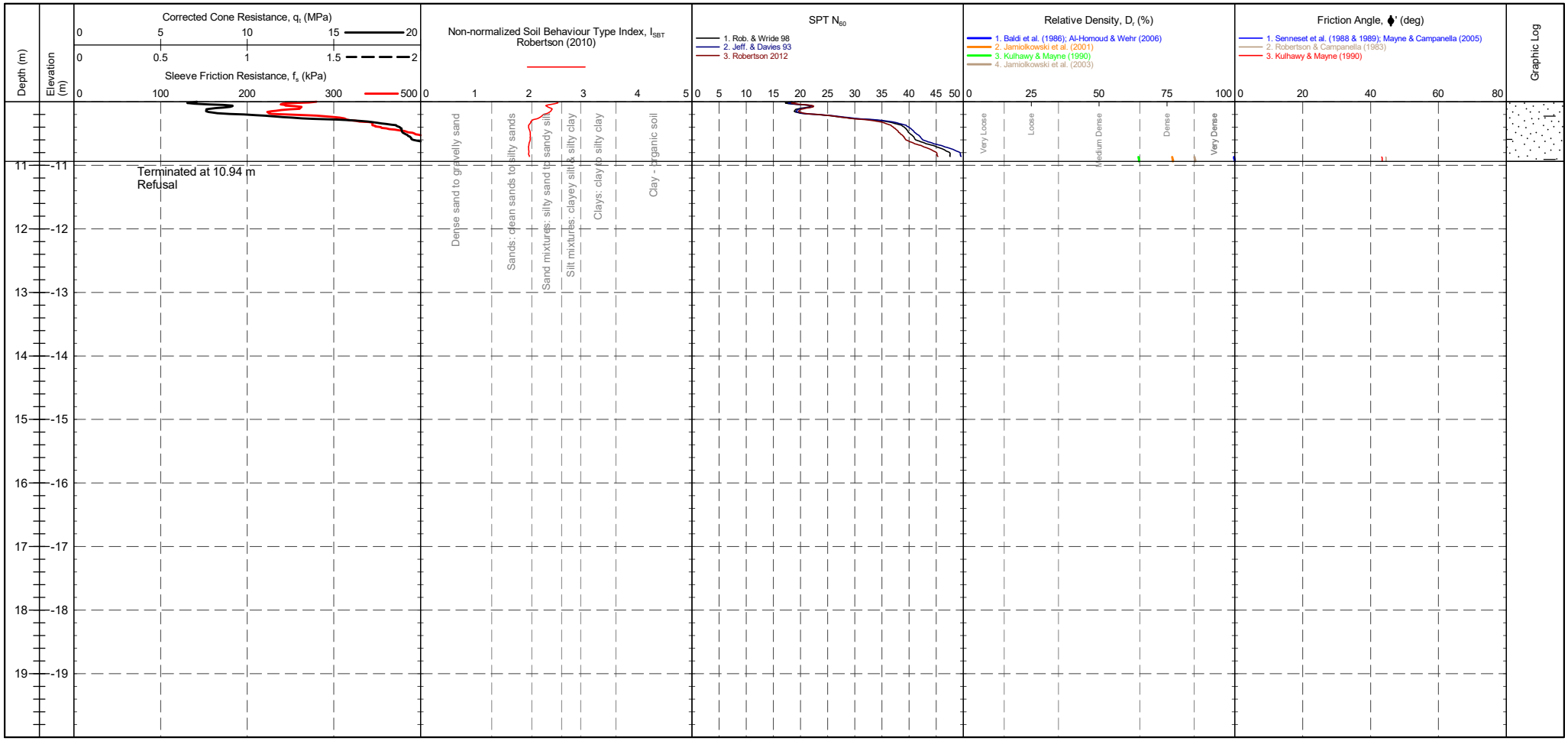
PointID **CPT117**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032
CONE MODEL	: Subtraction
CONE AREA	: 15cm^2
CONE AREA RATIO	: 0.79
FILTER POSITION	: u2
FILTER TYPE	: HDPE

TEST TYPE	: TE2
APPLICATION CLASS	: 2
RIG	: CPT 001
OPERATOR	: RS
FRICTION REDUCER	: None
WEATHER	: Overcast & Mild

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	281 mV	5 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	445 mV	433 mV	12 kPa
X-Y Inclinometer	2487 mV	2464 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

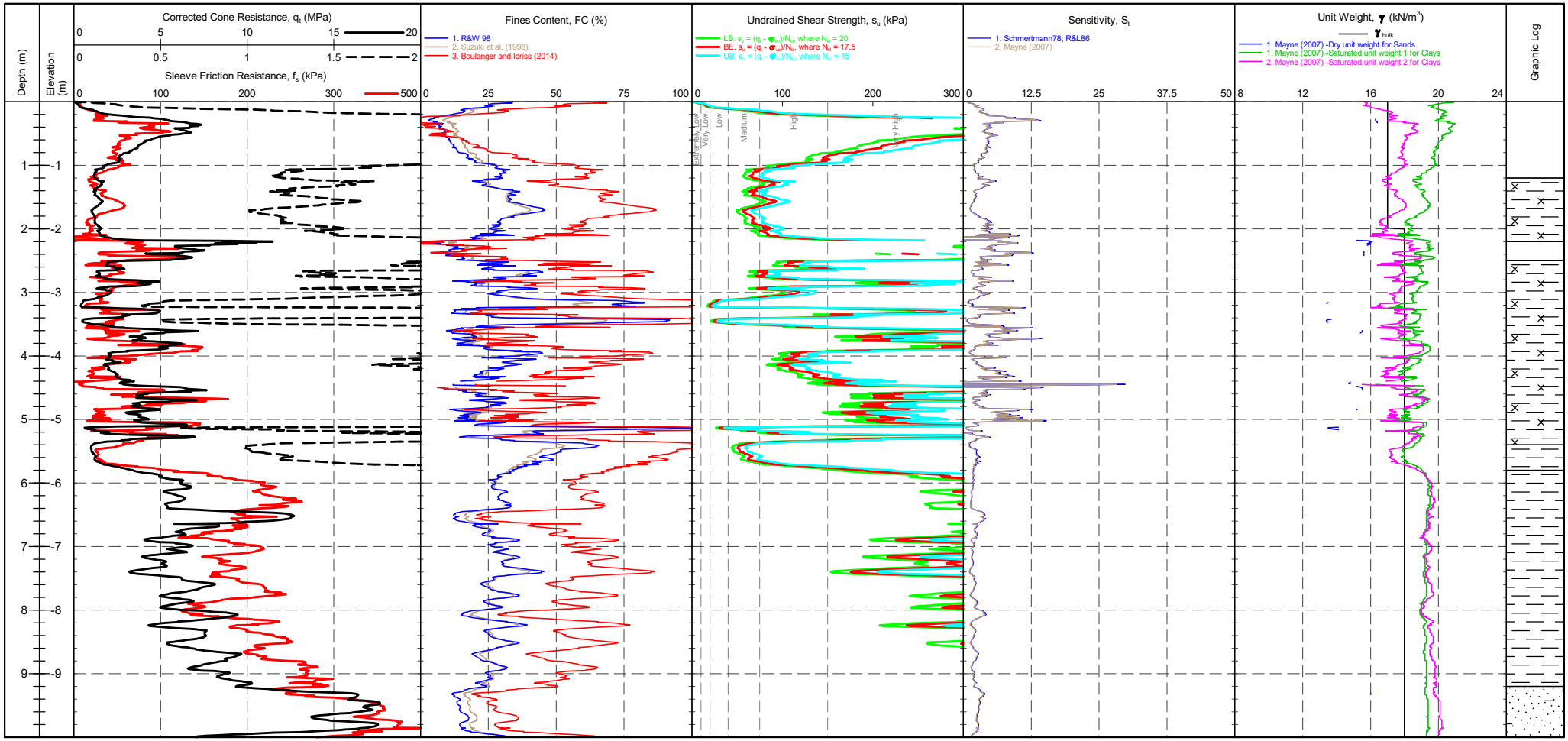
PointID: **CPT117**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 16/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	281 mV	5 MPa
Sleeve	293 mV	288 mV	5 kPa
Pore Pressure 2	445 mV	433 mV	12 kPa
X-Y Inclinometer	2487 mV	2464 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)
Extremely low strength	<10
Very low strength	10-20
Low strength	20-40
Medium strength	40-75
High strength	75-150
Very high strength	150-300
Extremely high strength	>300

Groundwater Level

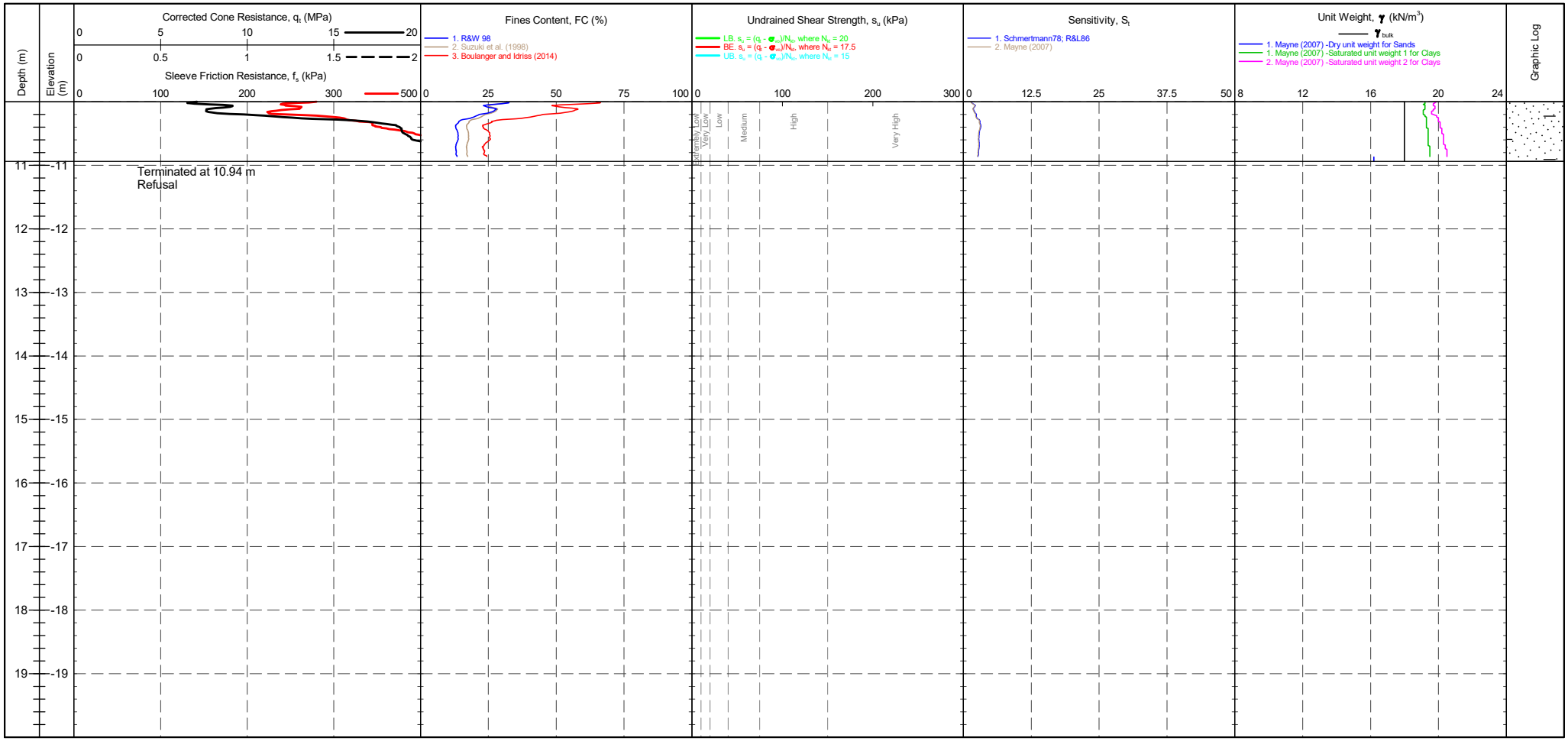
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT117**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 16/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



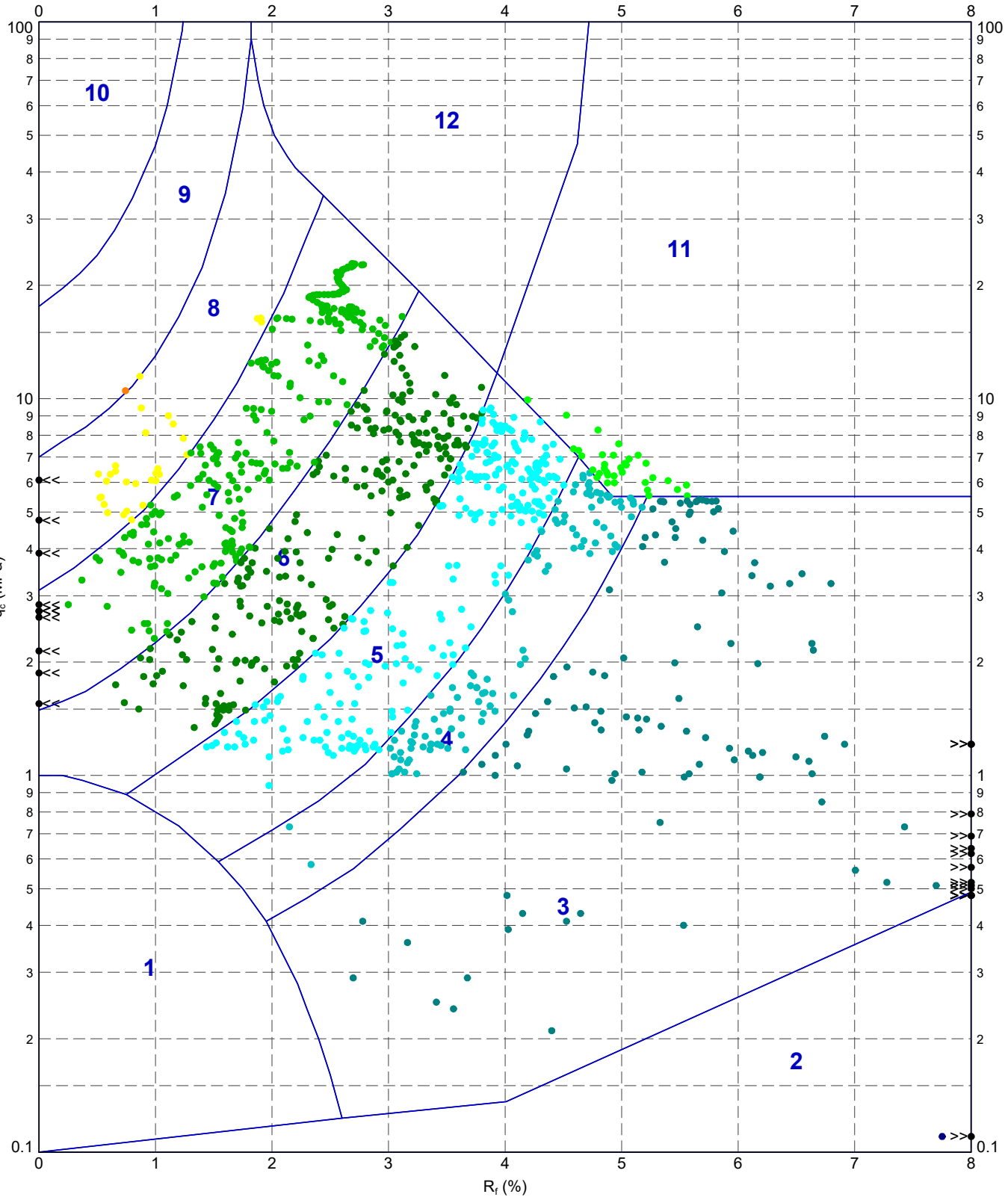
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	281 mV	5 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	293 mV	288 mV	5 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	445 mV	433 mV	12 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2487 mV	2464 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT117

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

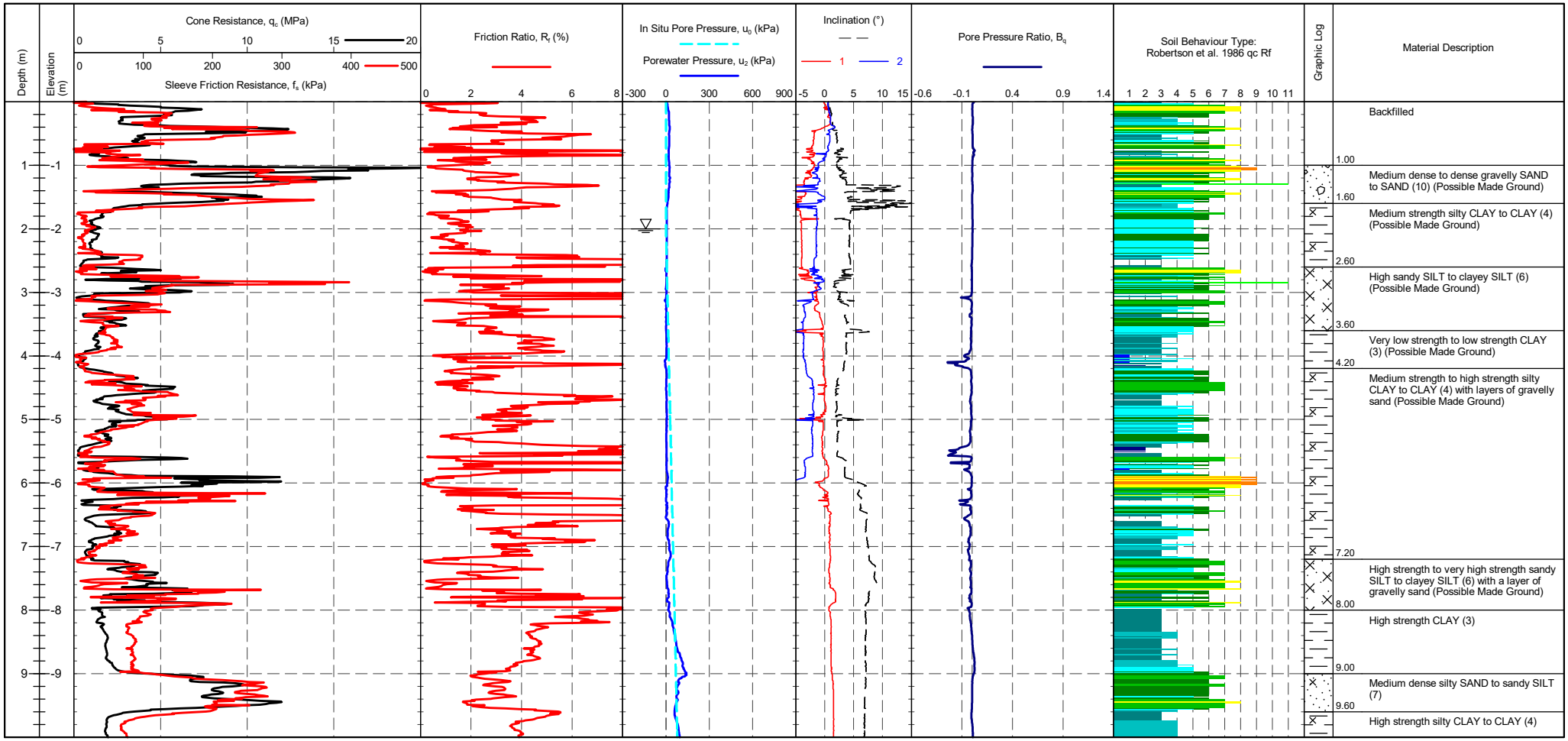
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:46 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT118**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	290 mV	0.033 MPa
Sleeve	294 mV	295 mV	0.001 kPa
Pore Pressure 2	440 mV	410 mV	-0.008 kPa
X-Y Inclinometer	2506 mV	2610 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

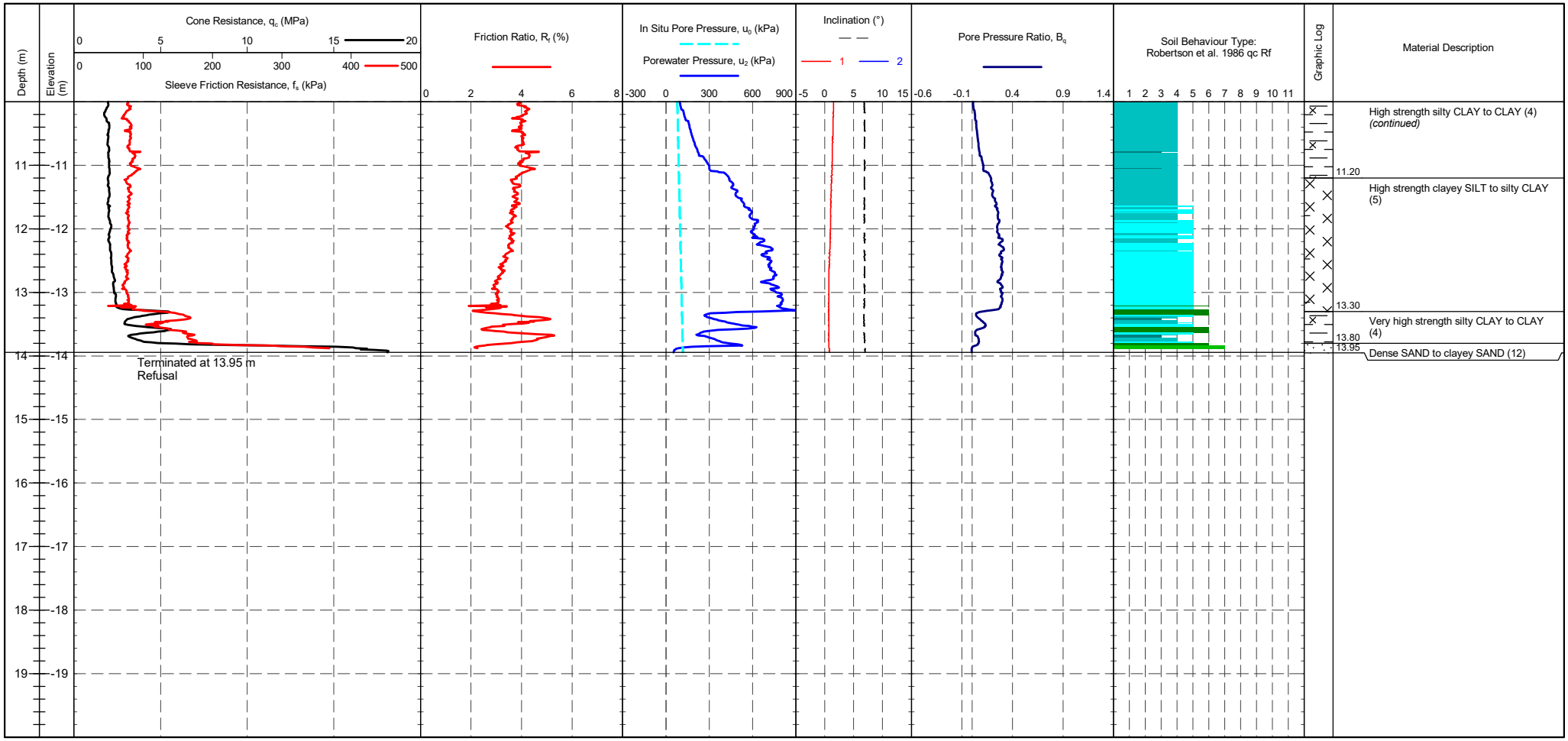
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT118**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	287 mV	290 mV	0.033 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	294 mV	295 mV	0.001 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	440 mV	410 mV	-0.008 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2506 mV	2610 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

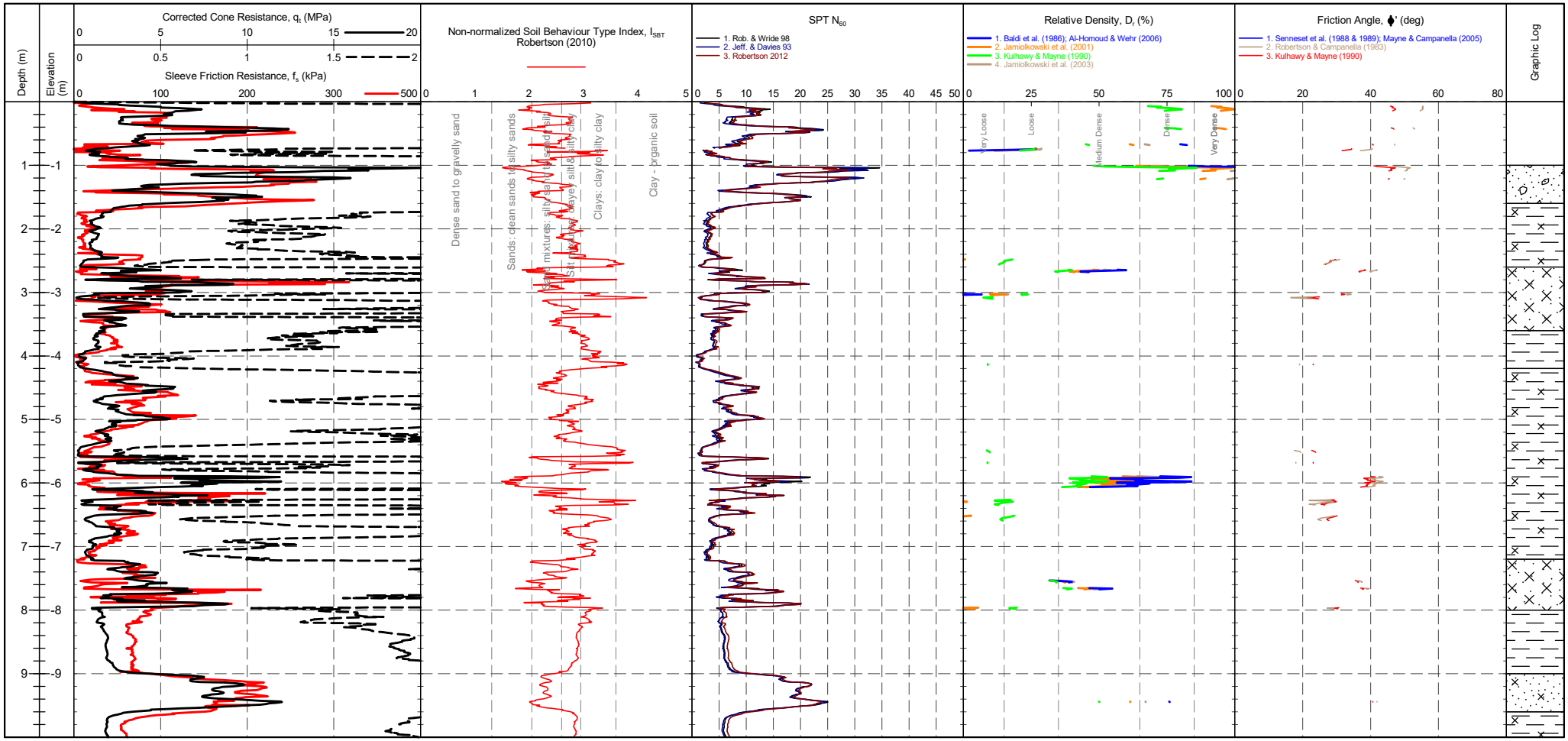
PointID **CPT118**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	290 mV	0.033 MPa
Sleeve	294 mV	295 mV	0.001 kPa
Pore Pressure 2	440 mV	410 mV	-0.008 kPa
X-Y Inclinometer	2506 mV	2610 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

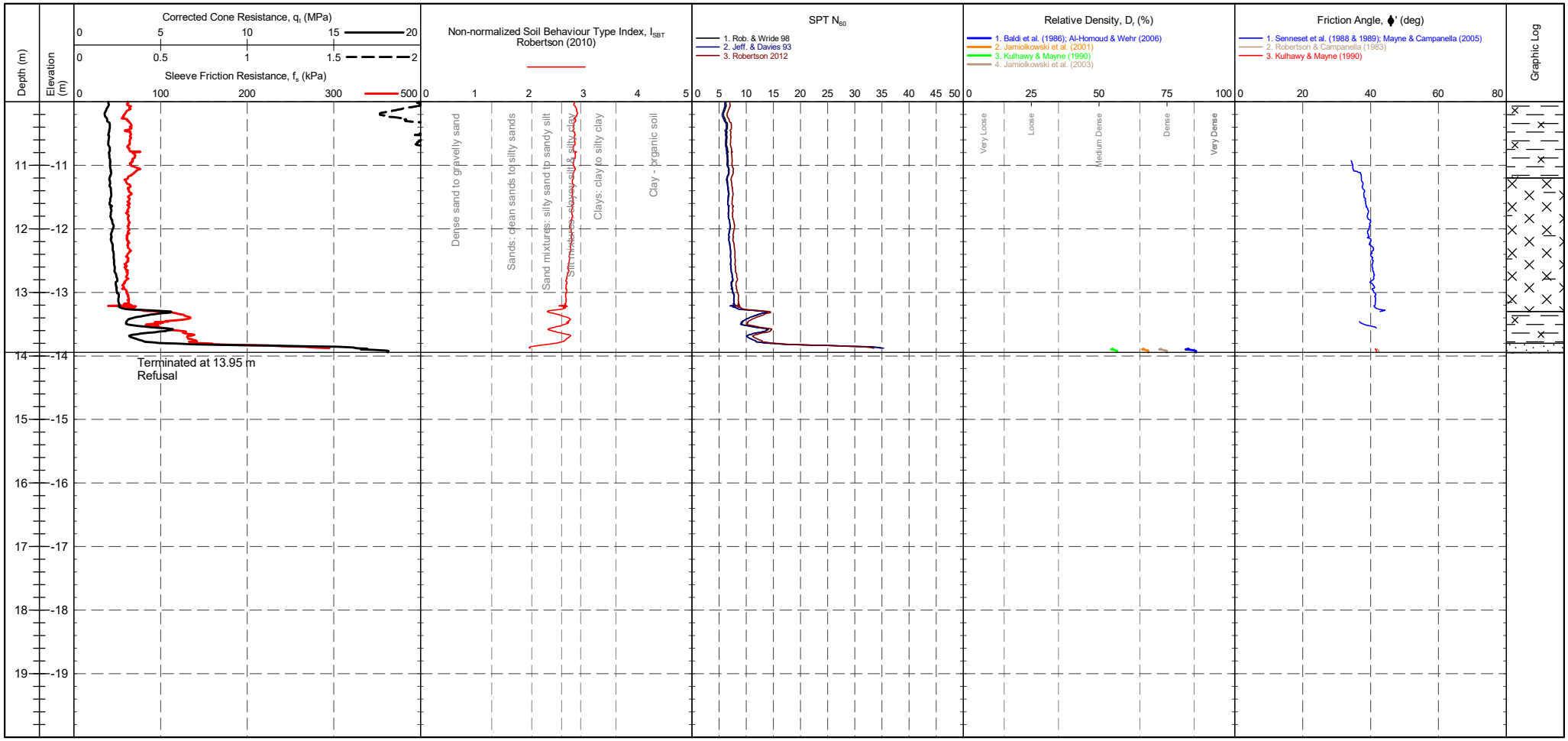
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

PointID: **CPT118**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	290 mV	0.033 MPa
Sleeve	294 mV	295 mV	0.001 kPa
Pore Pressure 2	440 mV	410 mV	-0.008 kPa
X-Y Inclinometer	2506 mV	2610 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

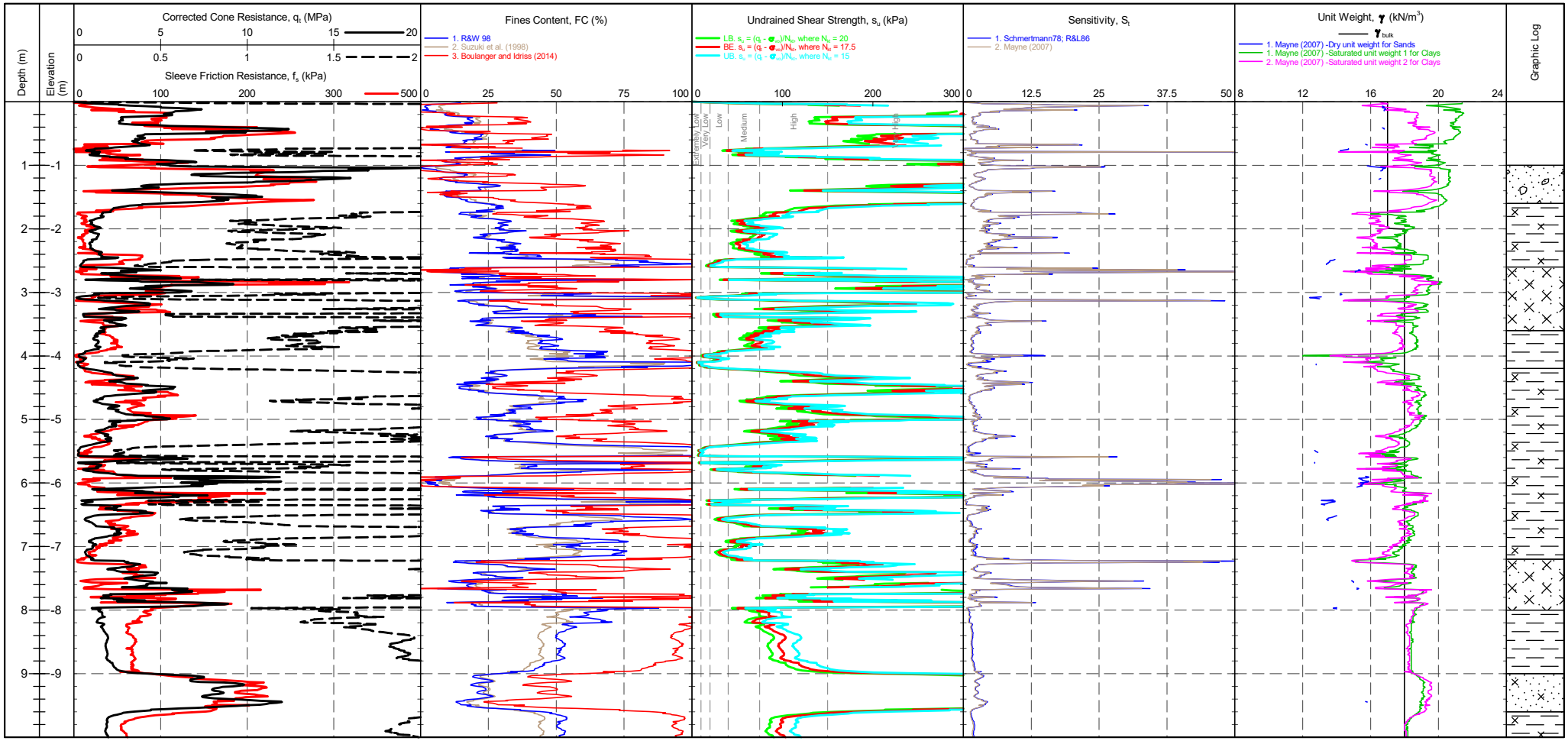
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT118**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1032 CONE MODEL : Subtraction CONE AREA : 15cm^2 CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 001 OPERATOR : RS FRICTION REDUCER : None WEATHER : Overcast & Mild	CPTU ZERO VALUES	Pre	Post	Difference
		Transducer	287 mV	290 mV	0.033 MPa
		Sleeve	294 mV	295 mV	0.001 kPa
		Pore Pressure 2	440 mV	410 mV	-0.008 kPa
		X-Y Inclinometer	2506 mV	2610 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

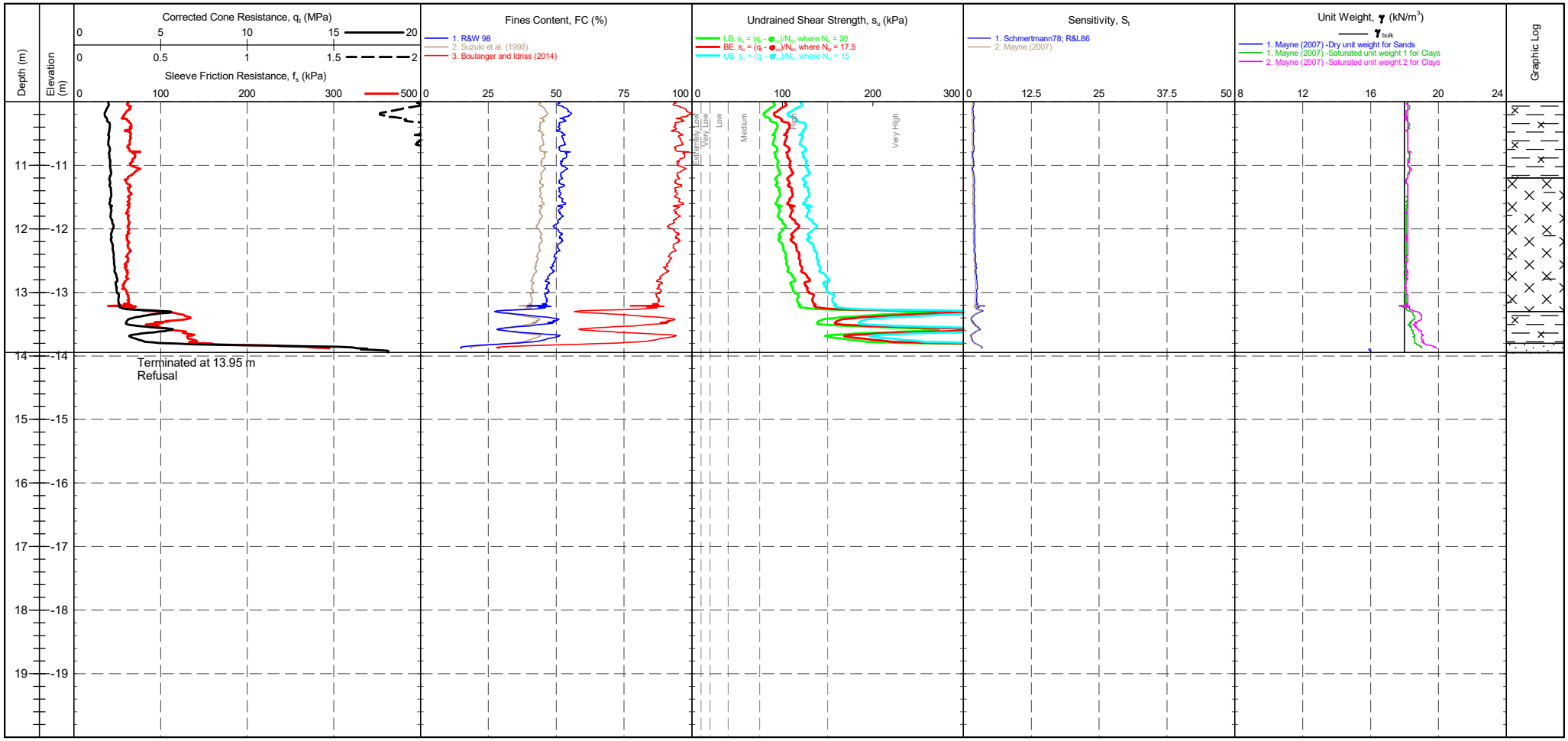
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT118**

CLIENT : Curtins PROJECT : Elizabeth Street LOCATION : Cheetham Hill PROJECT No. : 1210598	EASTING : 0.000 m NORTHING : 0.000 m ELEVATION : 0.000 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on total pressure.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 14/12/2021 PLOT DATE : 05/01/2022 METHOD : ISO 22476-1:2012



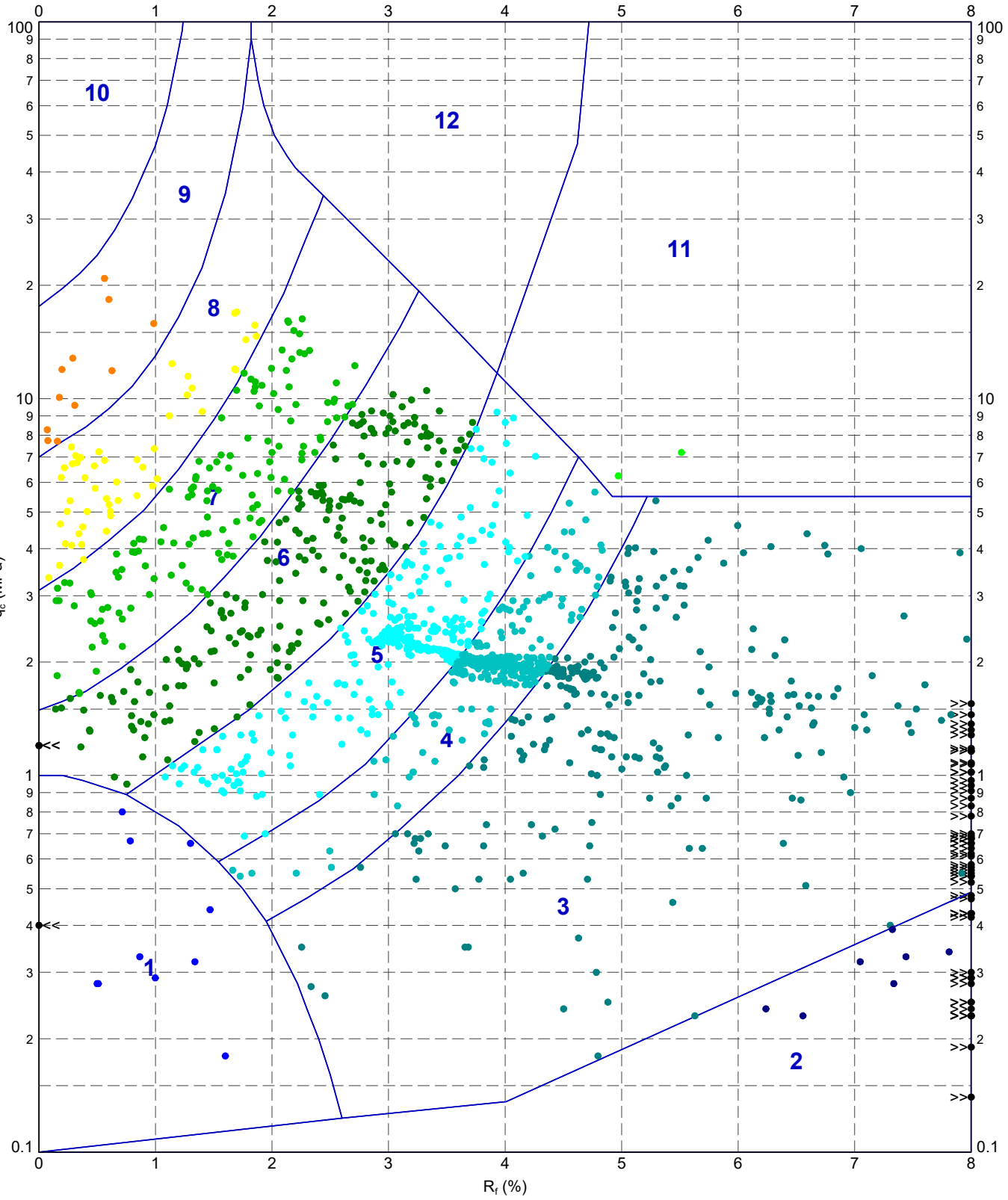
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	290 mV	0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	294 mV	295 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	440 mV	410 mV	-0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2506 mV	2610 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT118

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

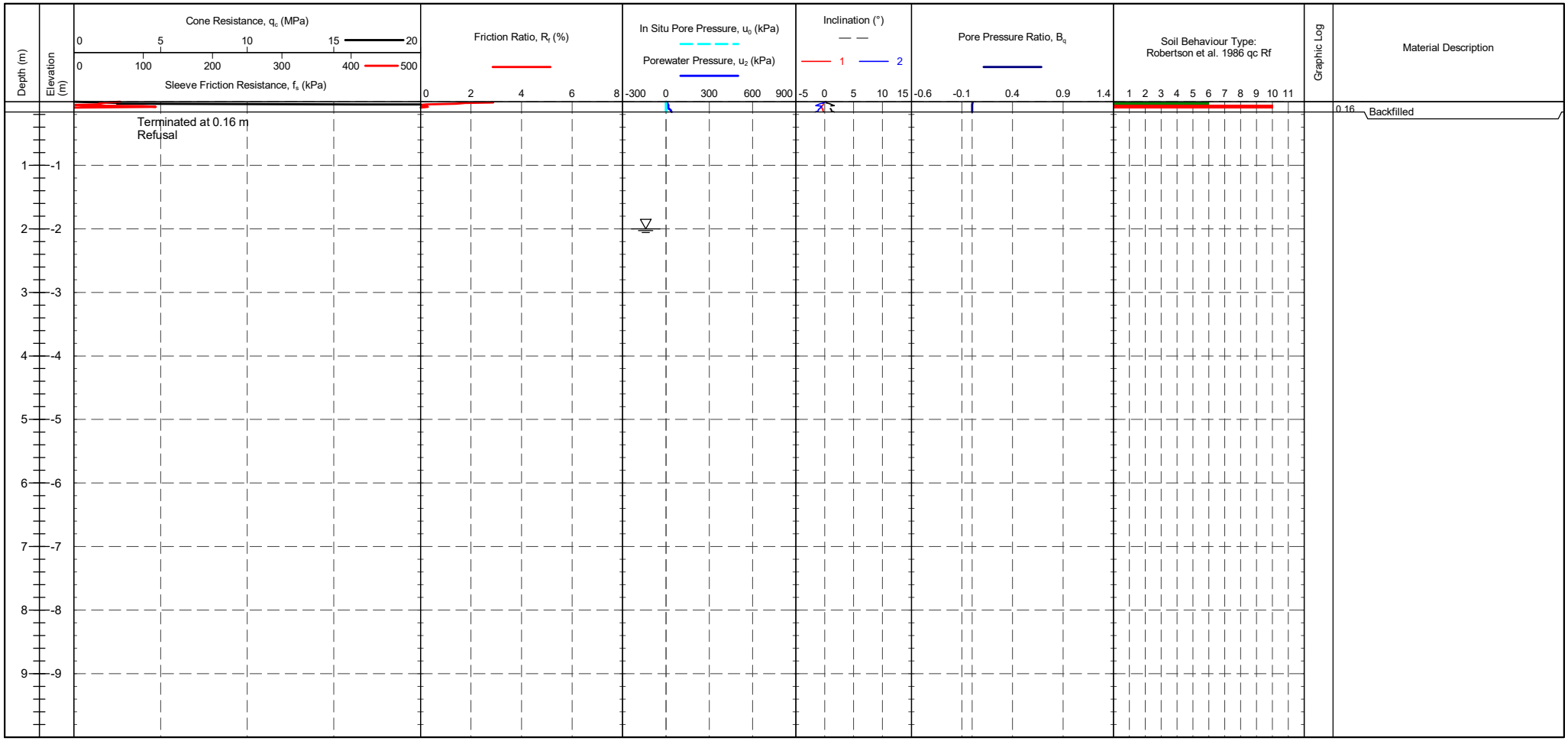
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:48 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT119**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Tip	286 mV	289 mV	0.033 MPa
CONE MODEL	: Subtraction	RIG	: CPT 001	Sleeve	295 mV	297 mV	0.001 kPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Pore Pressure 2	429 mV	454 mV	0.006 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	X-Y Inclinometer	2525 mV	2434 mV	
FILTER POSITION	: u2	WEATHER	: Overcast & Mild				
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes.				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

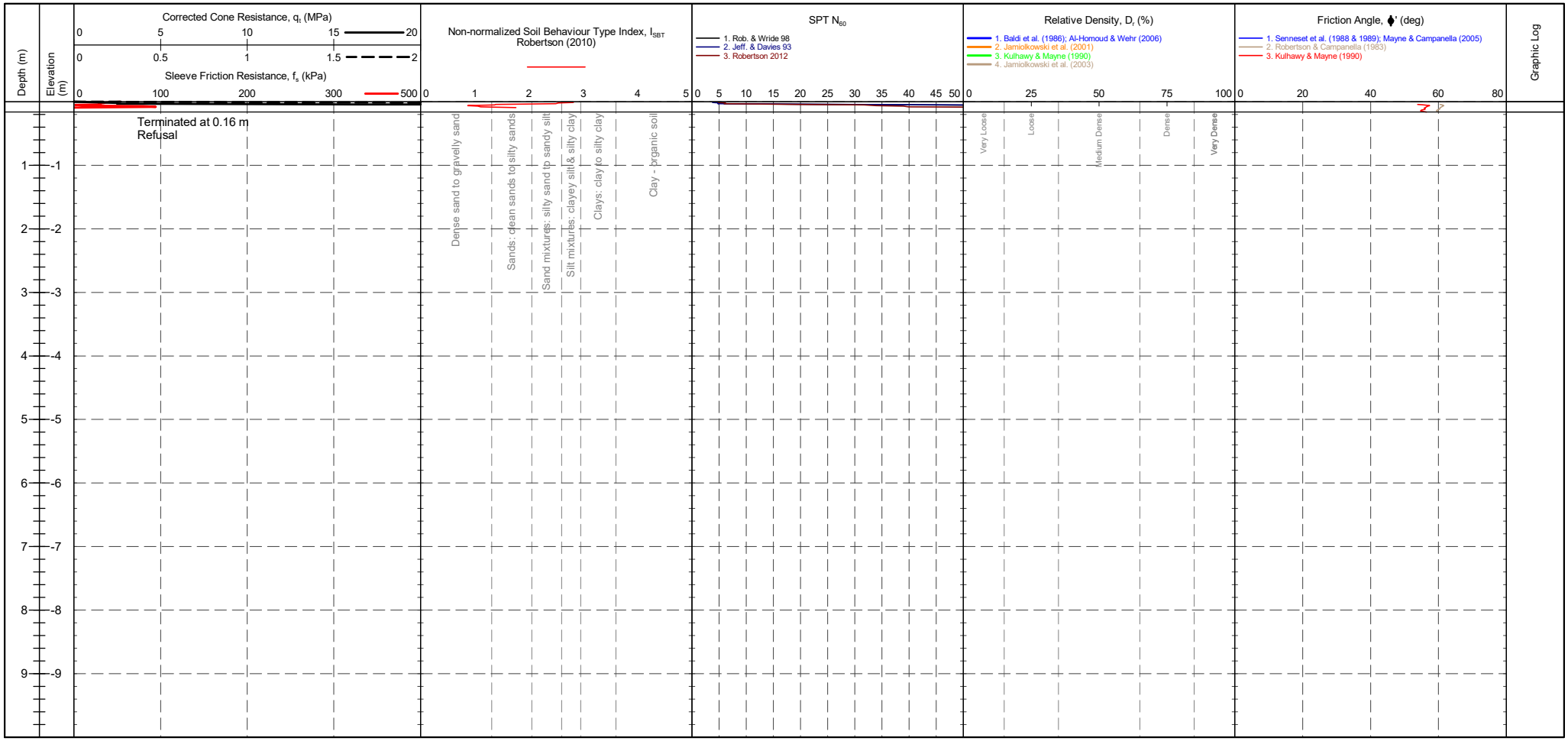
PointID **CPT119**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032
CONE MODEL	: Subtraction
CONE AREA	: 15cm^2
CONE AREA RATIO	: 0.79
FILTER POSITION	: u2
FILTER TYPE	: HDPE

TEST TYPE	: TE2
APPLICATION CLASS	: 2
RIG	: CPT 001
OPERATOR	: RS
FRICTION REDUCER	: None
WEATHER	: Overcast & Mild

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	289 mV	0.033 MPa
Sleeve	295 mV	297 mV	0.001 kPa
Pore Pressure 2	429 mV	454 mV	0.006 kPa
X-Y Inclinometer	2525 mV	2434 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

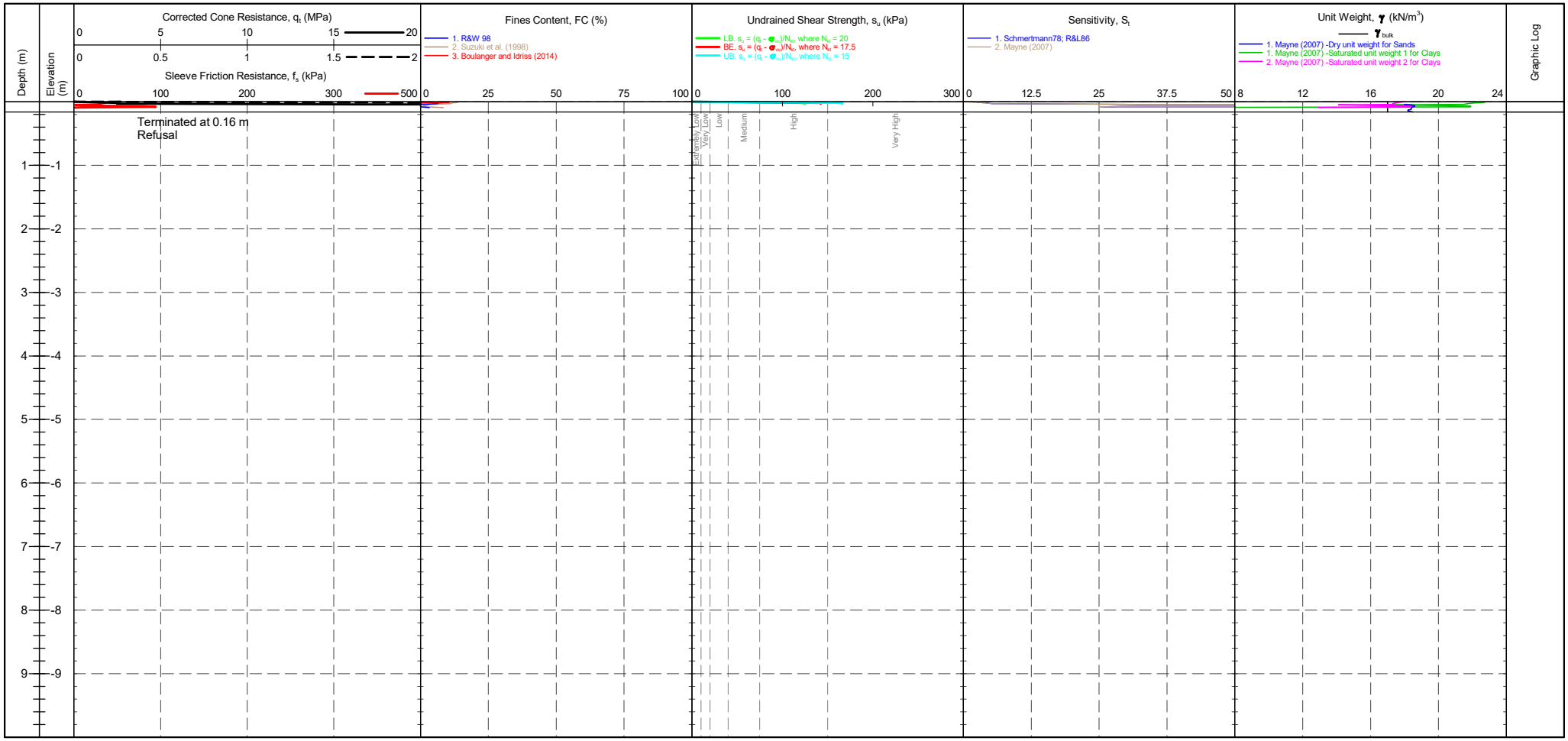
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT119**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



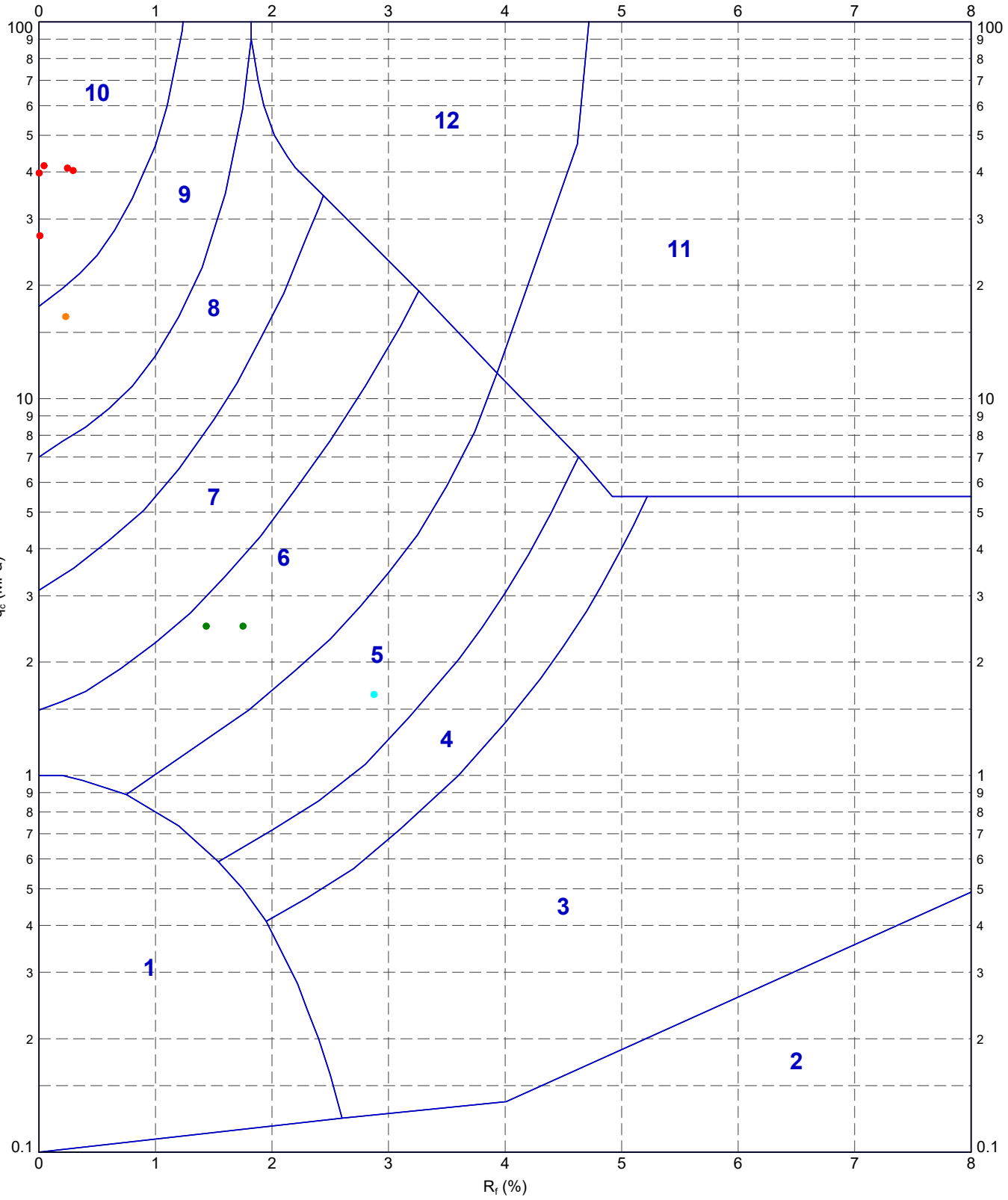
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	289 mV	0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	295 mV	297 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	429 mV	454 mV	0.006 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2525 mV	2434 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT119

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

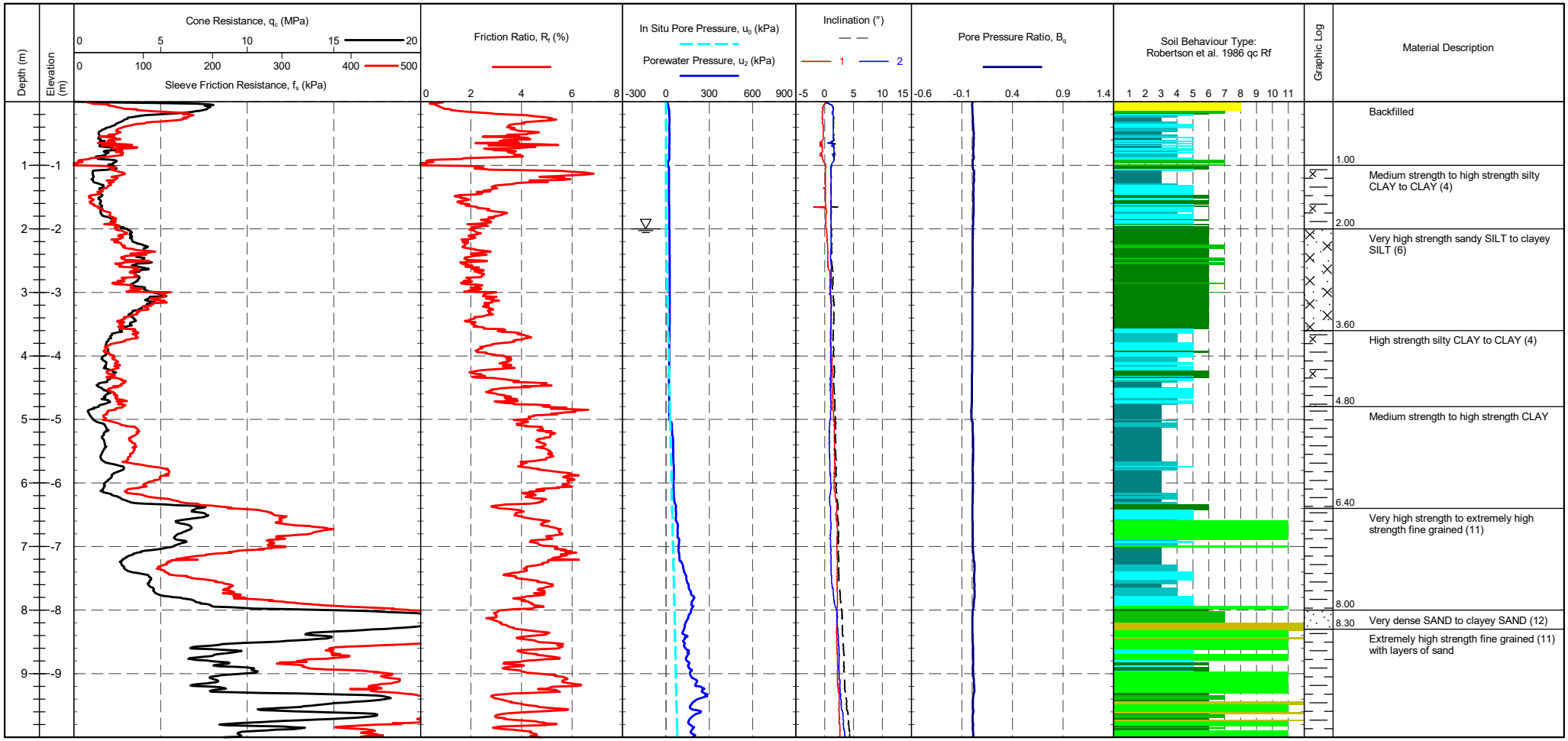
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:48 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT119A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	287 mV	0 MPa
Sleeve	298 mV	292 mV	-0.004 kPa
Pore Pressure 2	433 mV	451 mV	0.005 kPa
X-Y Inclinometer	2521 mV	2661 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

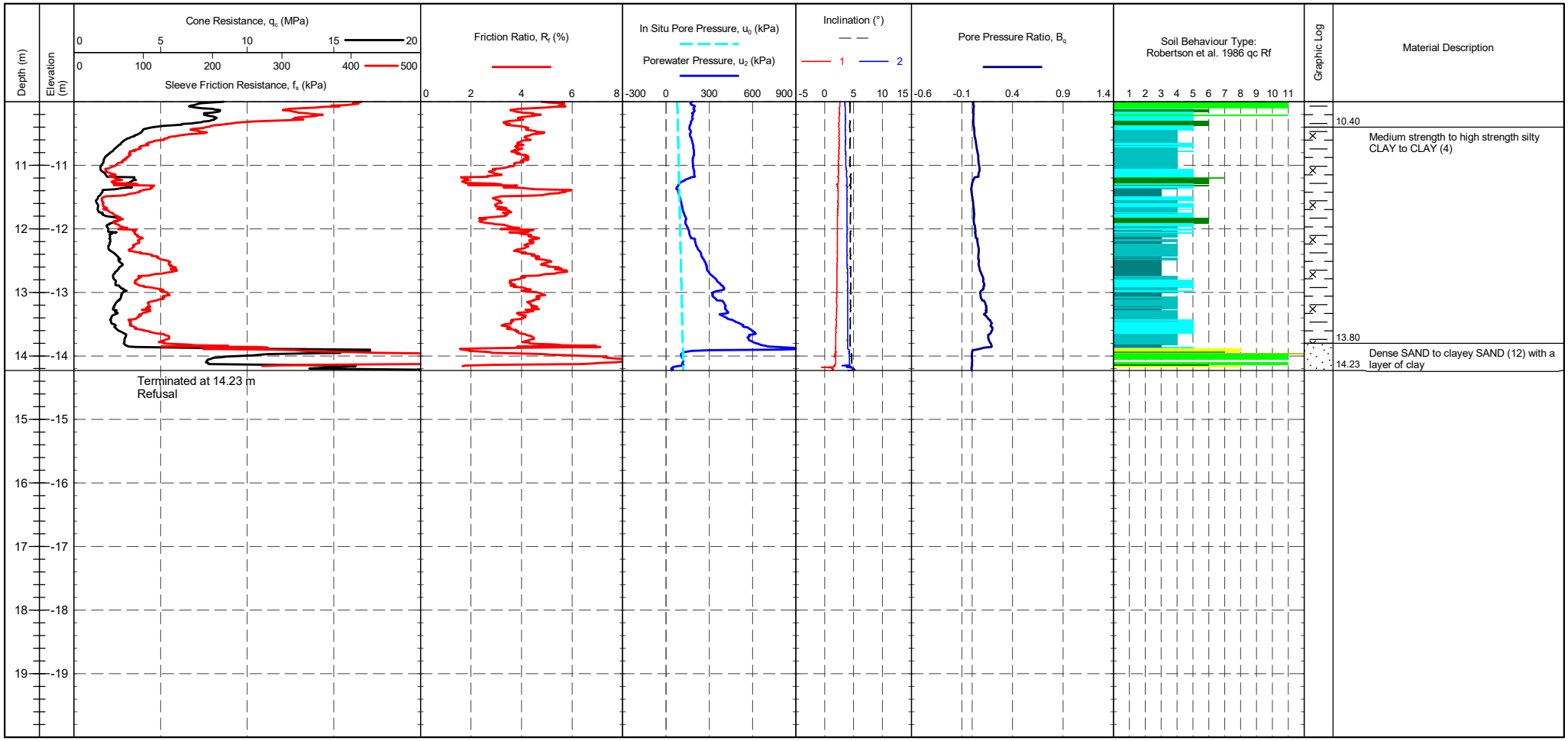
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT119A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	287 mV	287 mV	0 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	298 mV	292 mV	-0.004 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	433 mV	451 mV	0.005 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2521 mV	2661 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

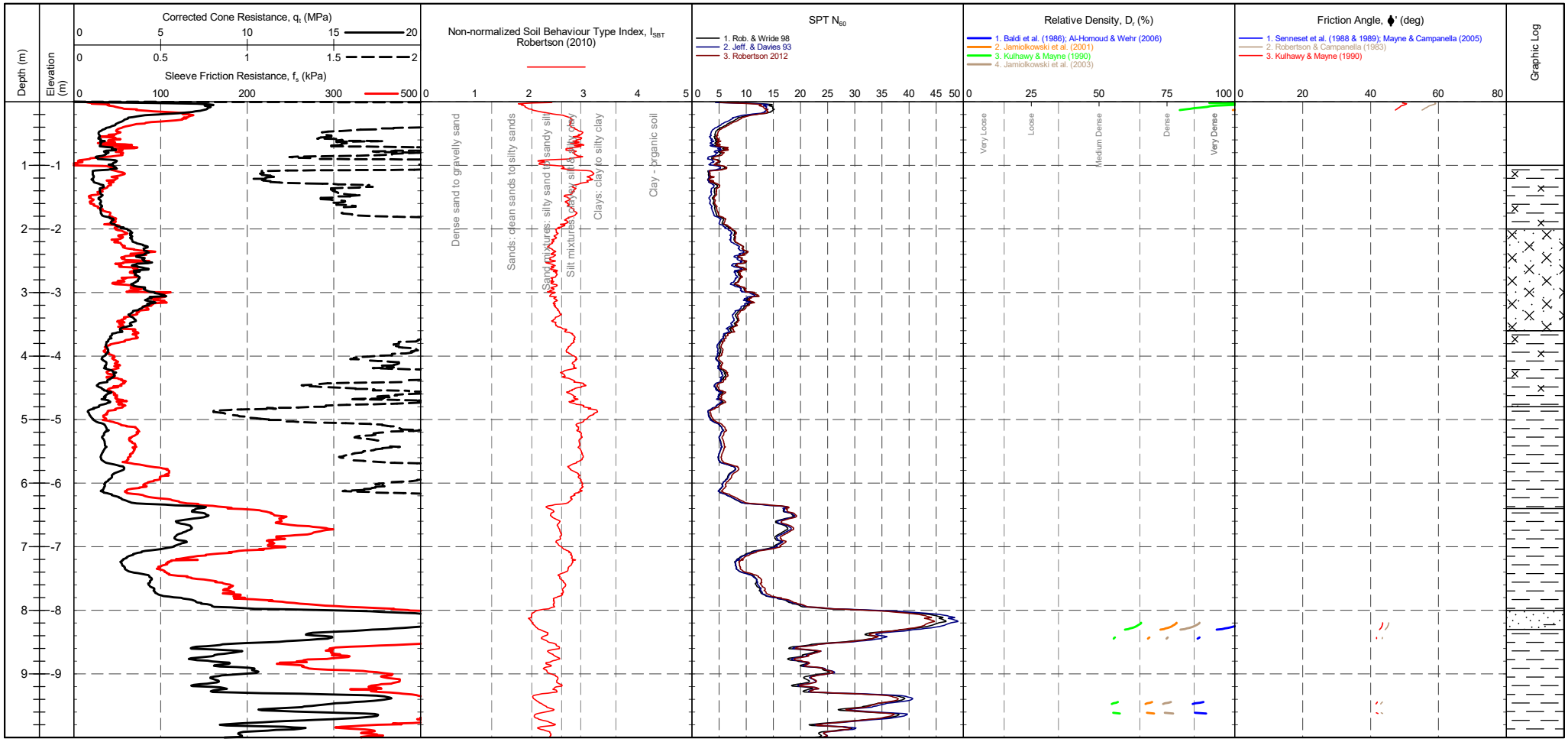
PointID **CPT119A**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	287 mV	0 MPa
Sleeve	298 mV	292 mV	-0.004 kPa
Pore Pressure 2	433 mV	451 mV	0.005 kPa
X-Y Inclinometer	2521 mV	2661 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

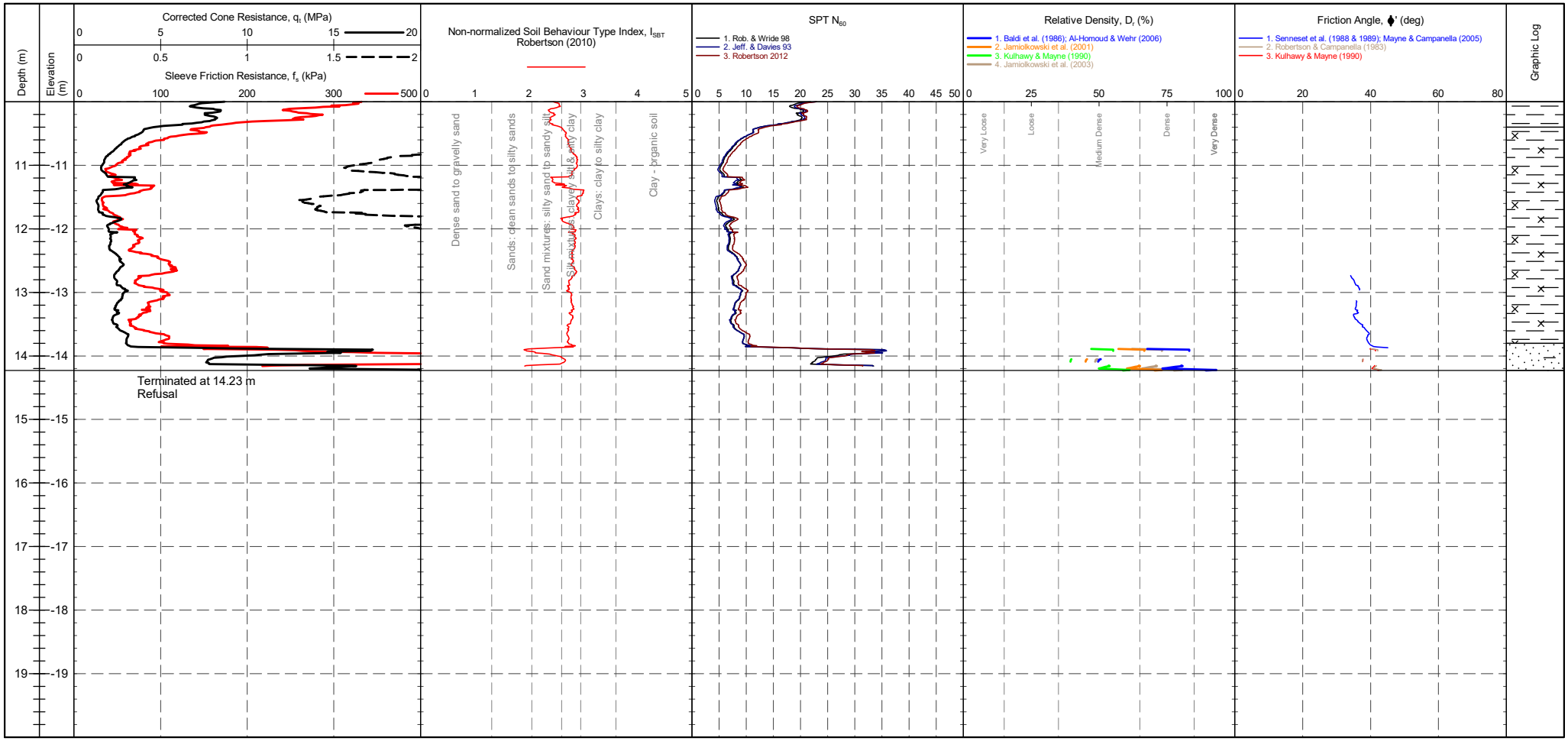
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT119A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	287 mV	287 mV	0 MPa
Sleeve	298 mV	292 mV	-0.004 kPa
Pore Pressure 2	433 mV	451 mV	0.005 kPa
X-Y Inclinometer	2521 mV	2661 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

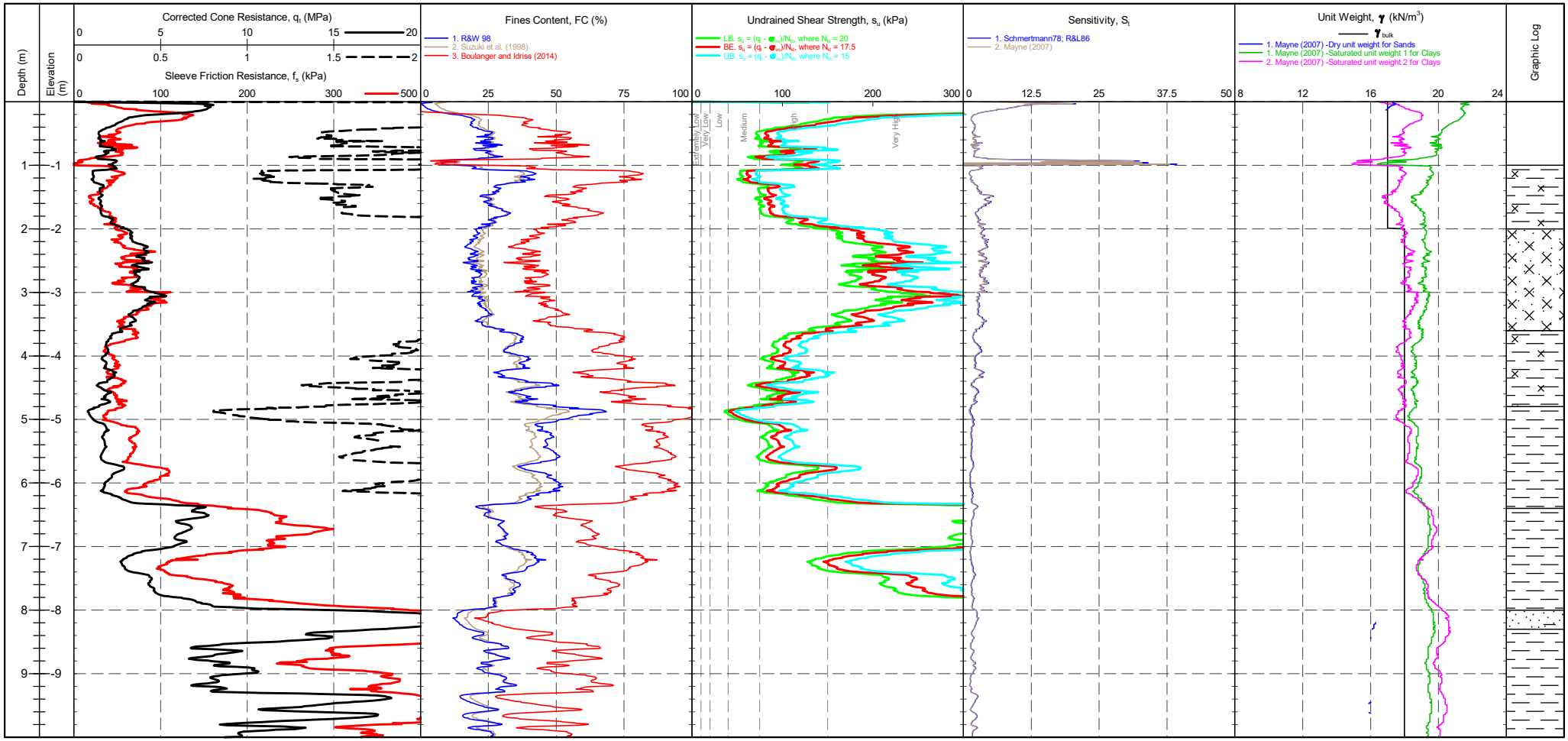
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT119A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	287 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	298 mV	292 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	433 mV	451 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2521 mV	2661 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

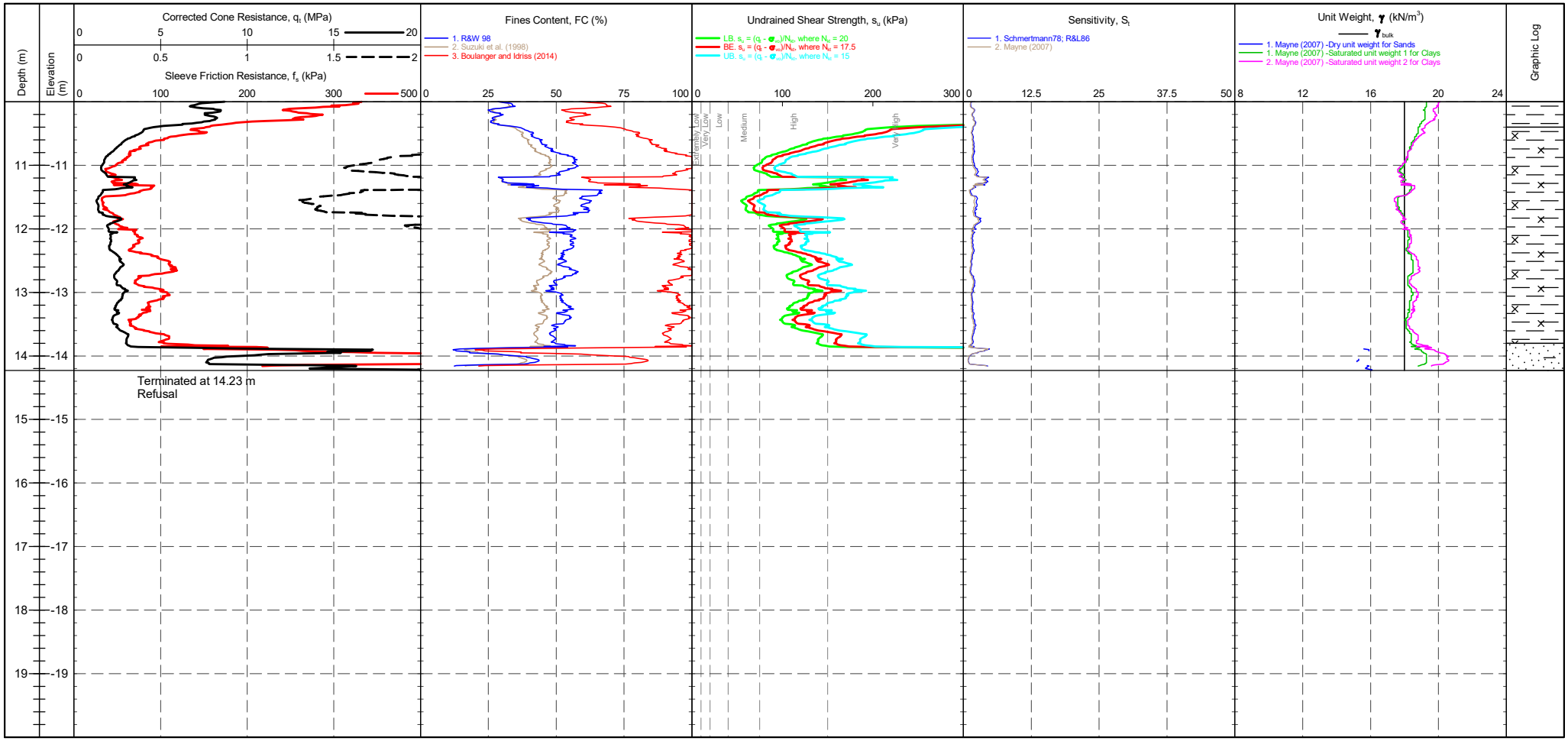
Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 03

PointID **CPT119A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



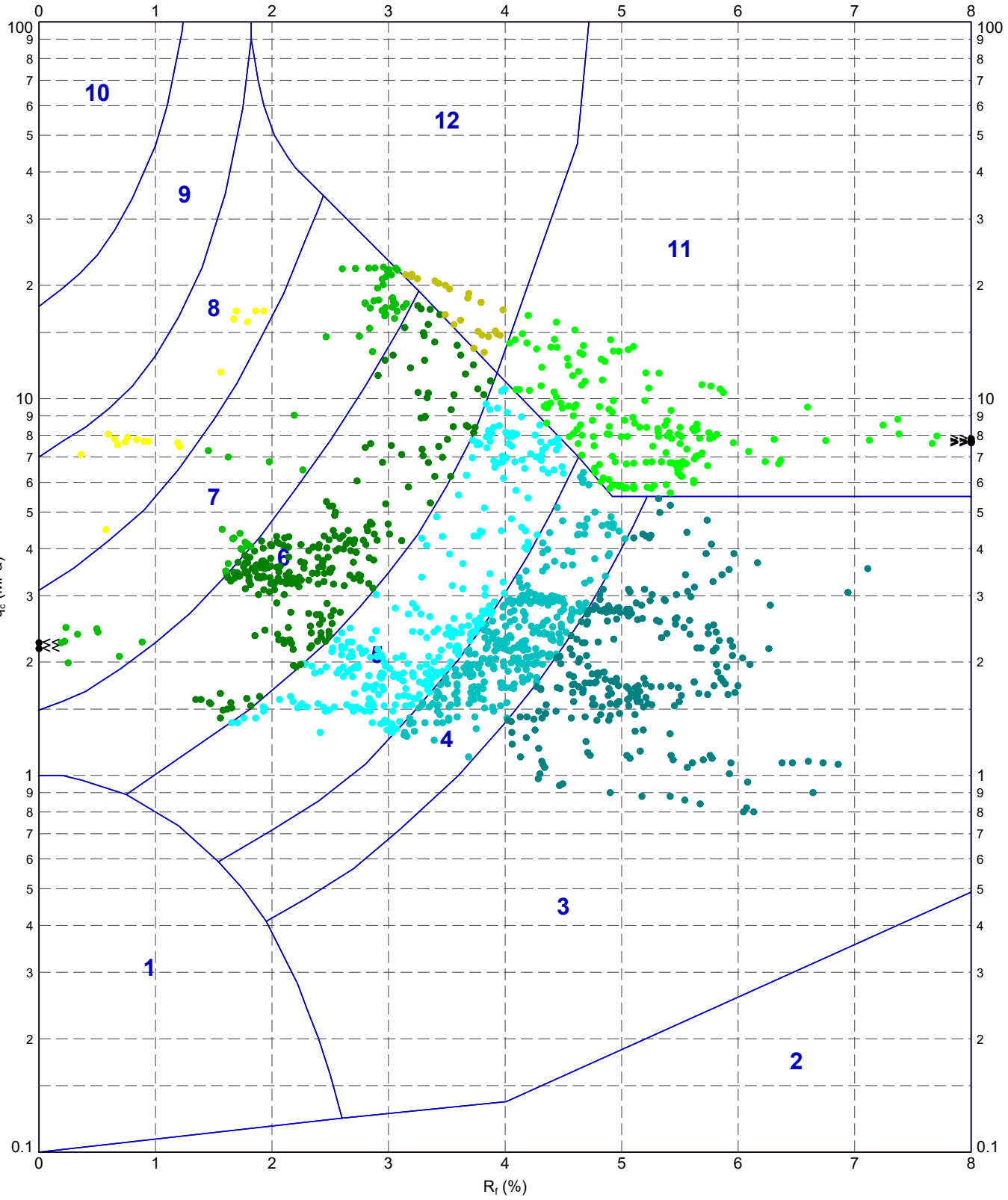
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	287 mV	287 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	298 mV	292 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	433 mV	451 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2521 mV	2661 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT119A

DRAWN	DATE 05/01/2022	
CHECKED	DATE 05/01/2022	
SCALE Not To Scale		A4
PROJECT No 1210598	FIGURE No	

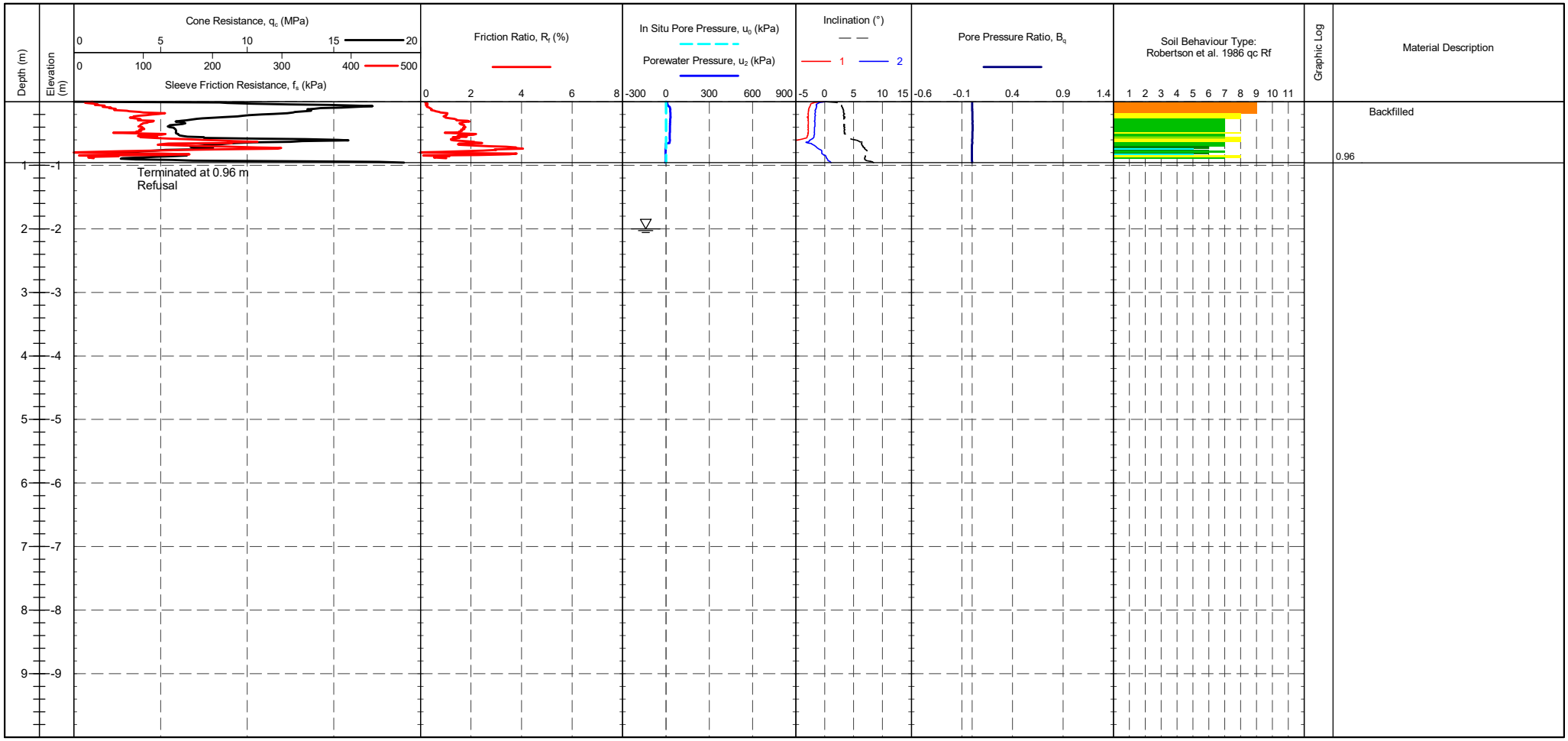
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:49 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT120**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	RIG	: CPT 001	Tip	286 mV	284 mV	-0.022 MPa
CONE AREA	: 15cm^2	OPERATOR	: RS	Sleeve	298 mV	296 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None	Pore Pressure 2	453 mV	434 mV	-0.005 kPa
FILTER POSITION	: u2	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2482 mV	
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes				

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: curtins

CPT LOG 02

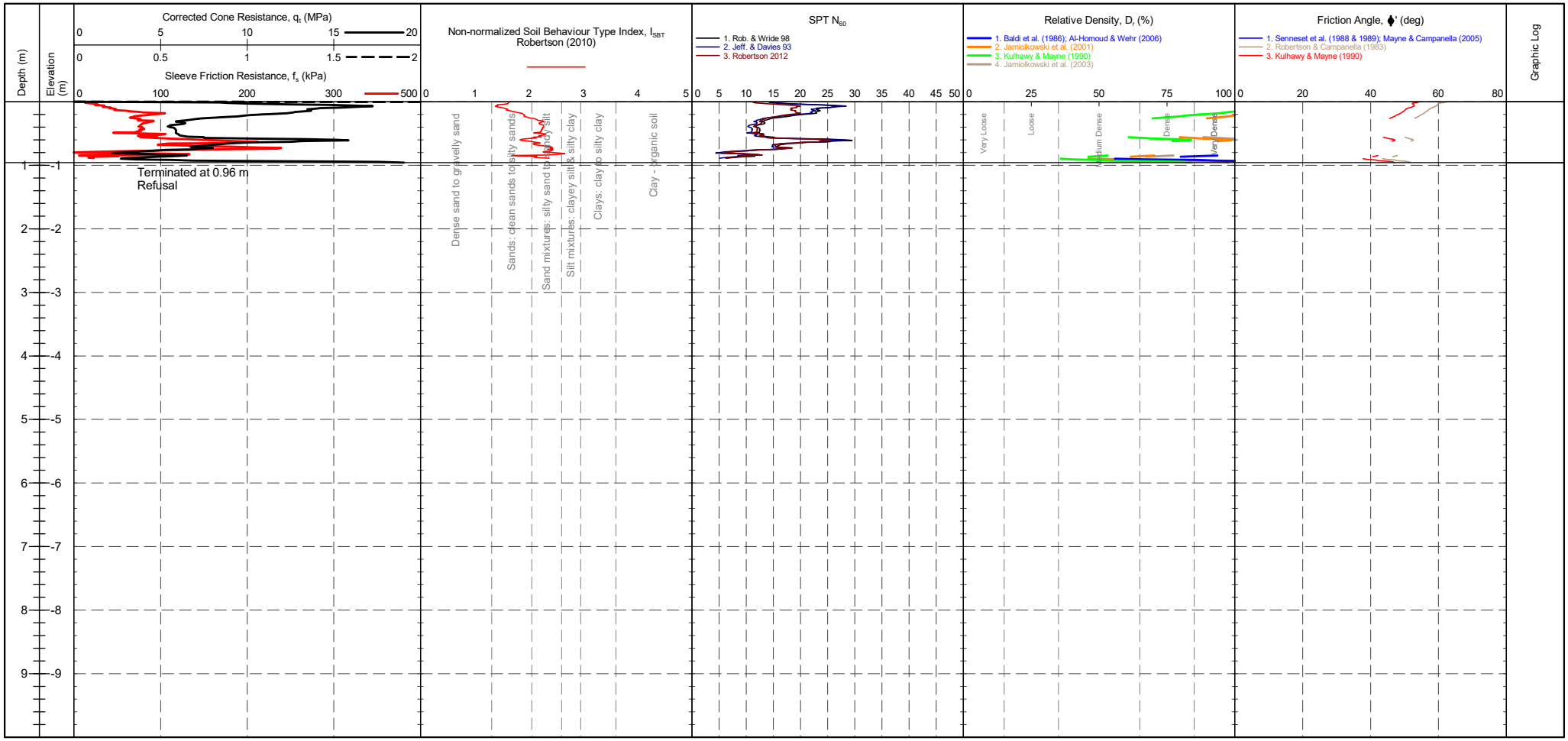
PointID: **CPT120**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on inclination.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	286 mV	284 mV	-0.022 MPa
Sleeve	298 mV	296 mV	-0.001 kPa
Pore Pressure 2	453 mV	434 mV	-0.005 kPa
X-Y Inclinometer	2509 mV	2482 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

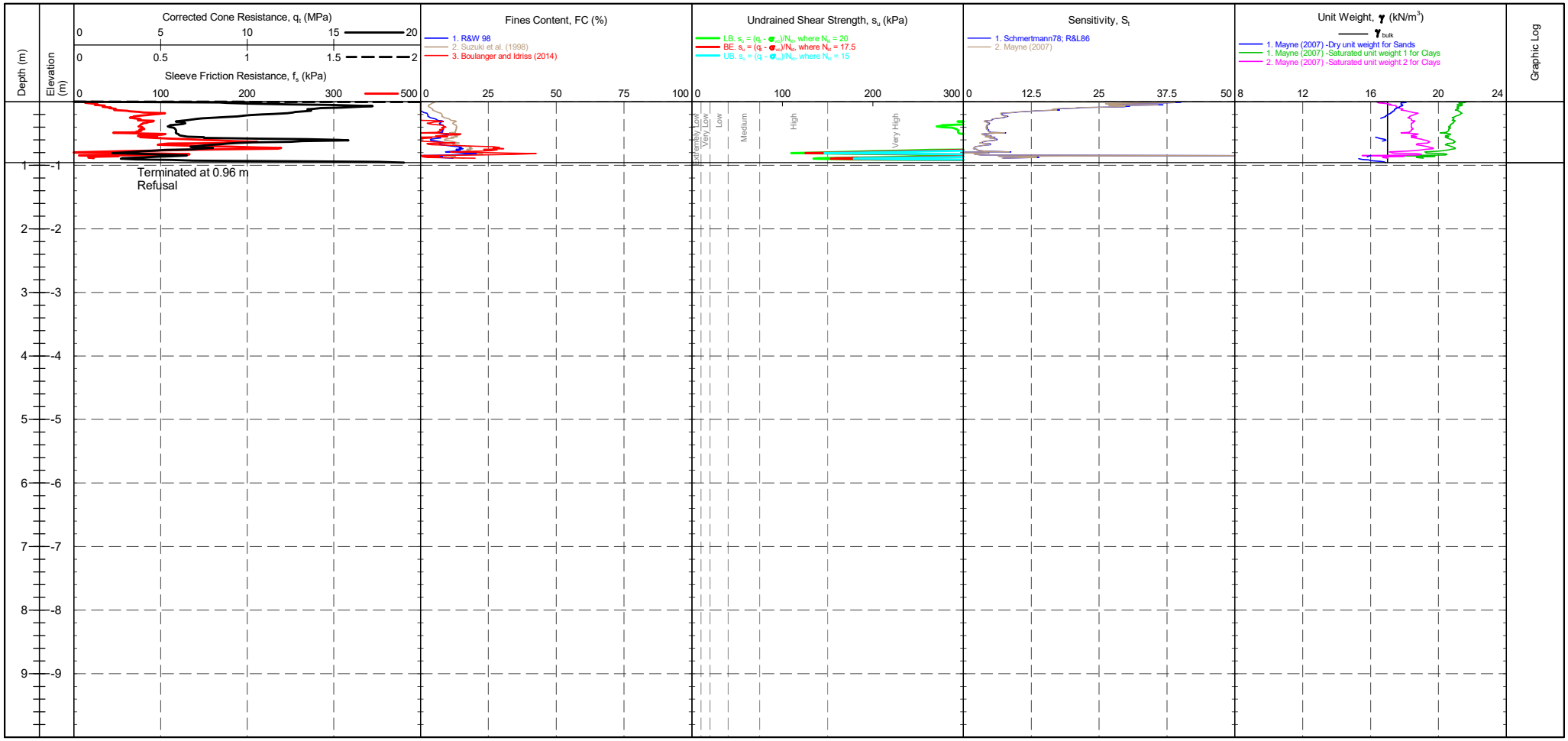
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID: **CPT120**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 1
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on inclination.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



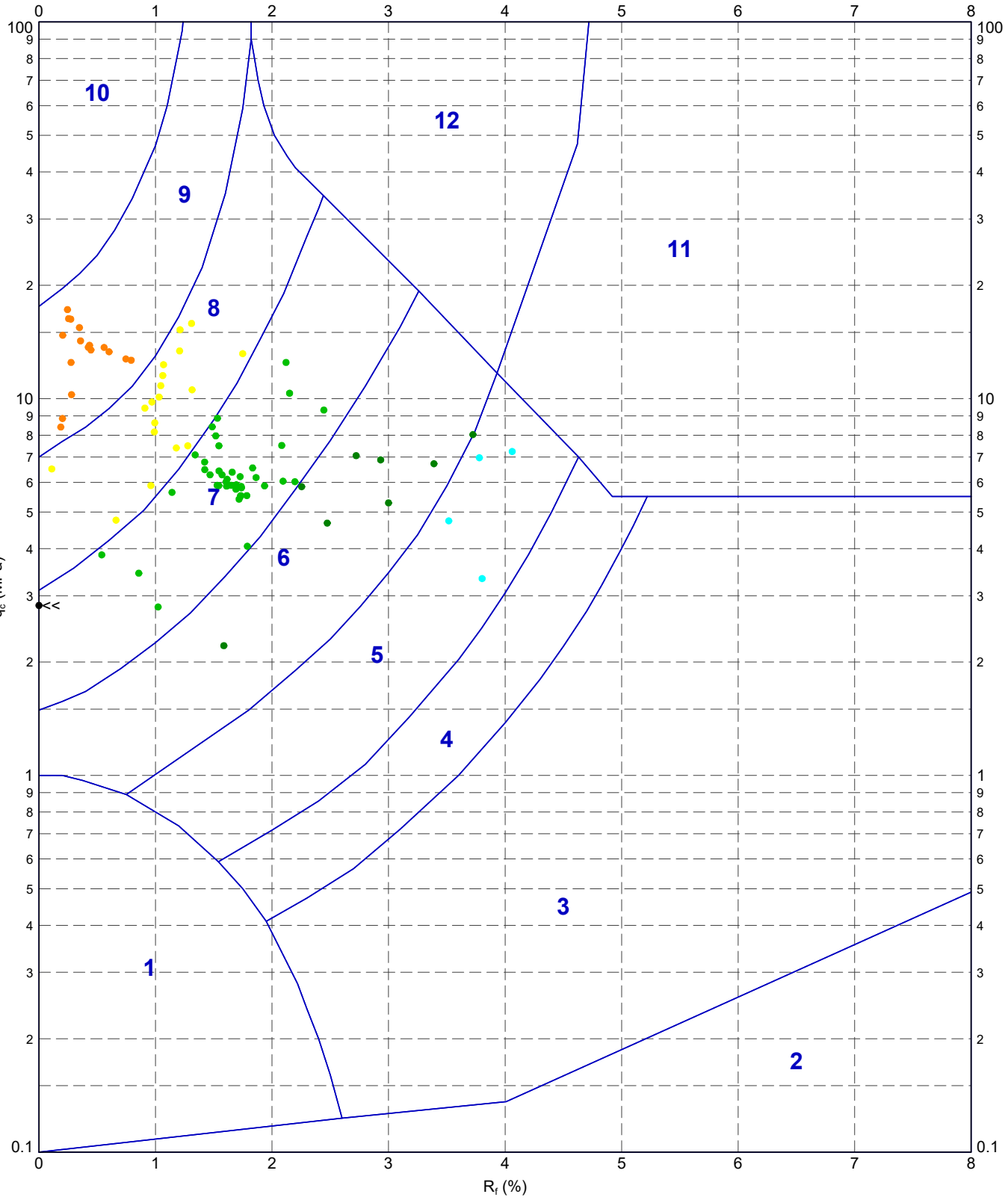
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	286 mV	284 mV	-0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	298 mV	296 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	453 mV	434 mV	-0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2509 mV	2482 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT120

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

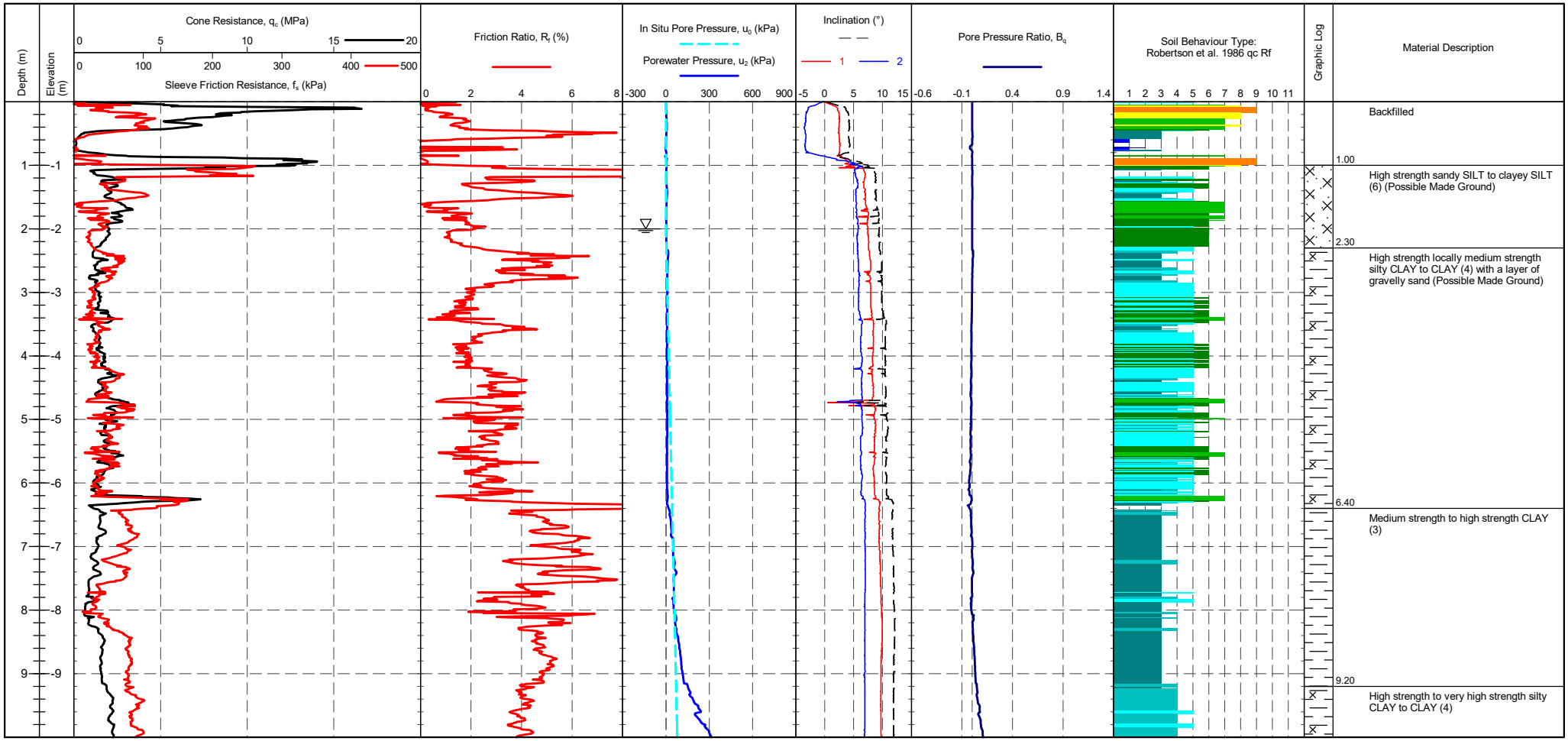
210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:50 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID **CPT120A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm^2	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	288 mV	0.044 MPa
Sleeve	297 mV	293 mV	-0.003 kPa
Pore Pressure 2	437 mV	415 mV	-0.006 kPa
X-Y Inclinometer	2469 mV	2507 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

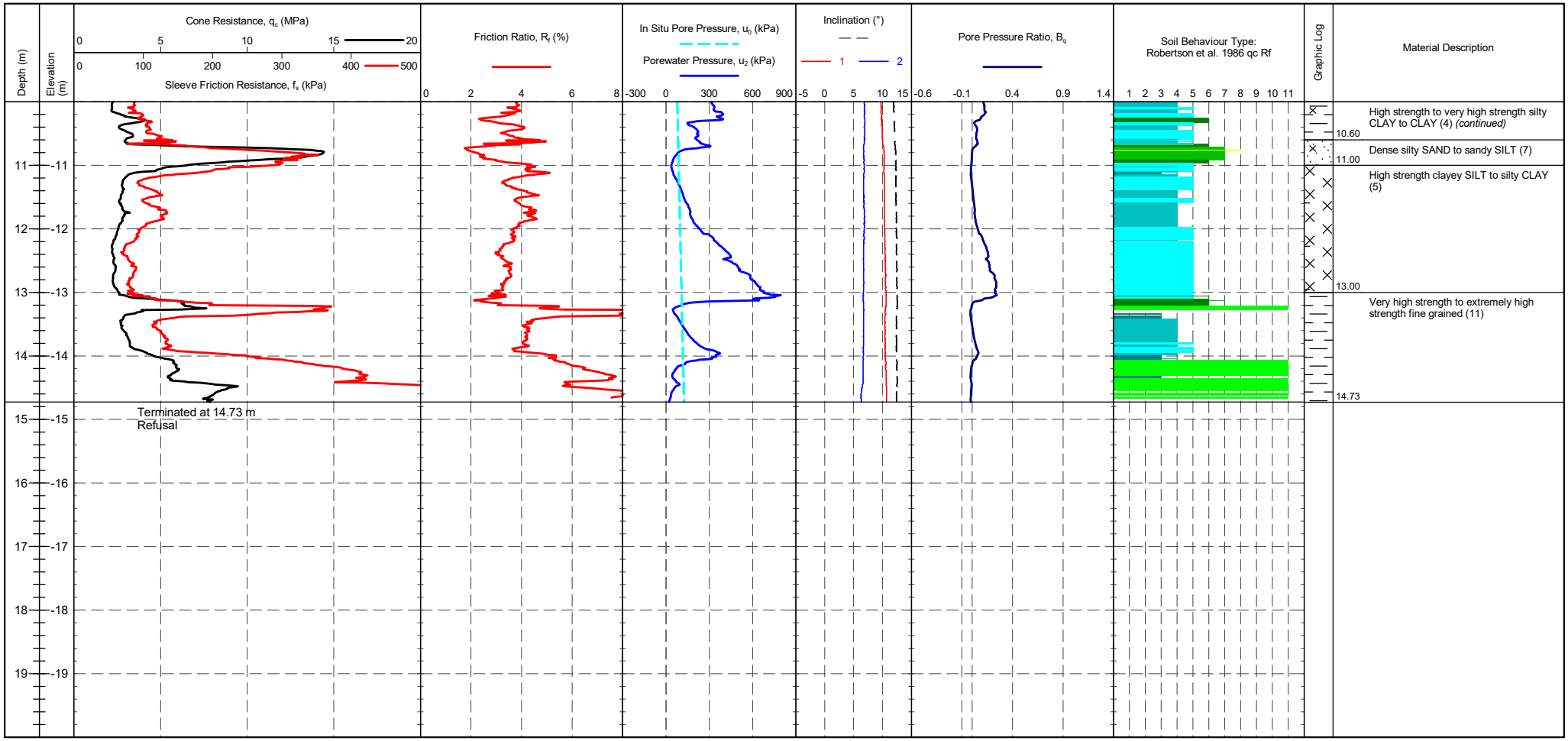
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 01

PointID: **CPT120A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CALIBRATION DATE	: 03/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 001
CONE AREA	: 15cm²	OPERATOR	: RS
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Overcast & Mild
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	288 mV	0.044 MPa
Sleeve	297 mV	293 mV	-0.003 kPa
Pore Pressure 2	437 mV	415 mV	-0.006 kPa
X-Y Inclinometer	2469 mV	2507 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

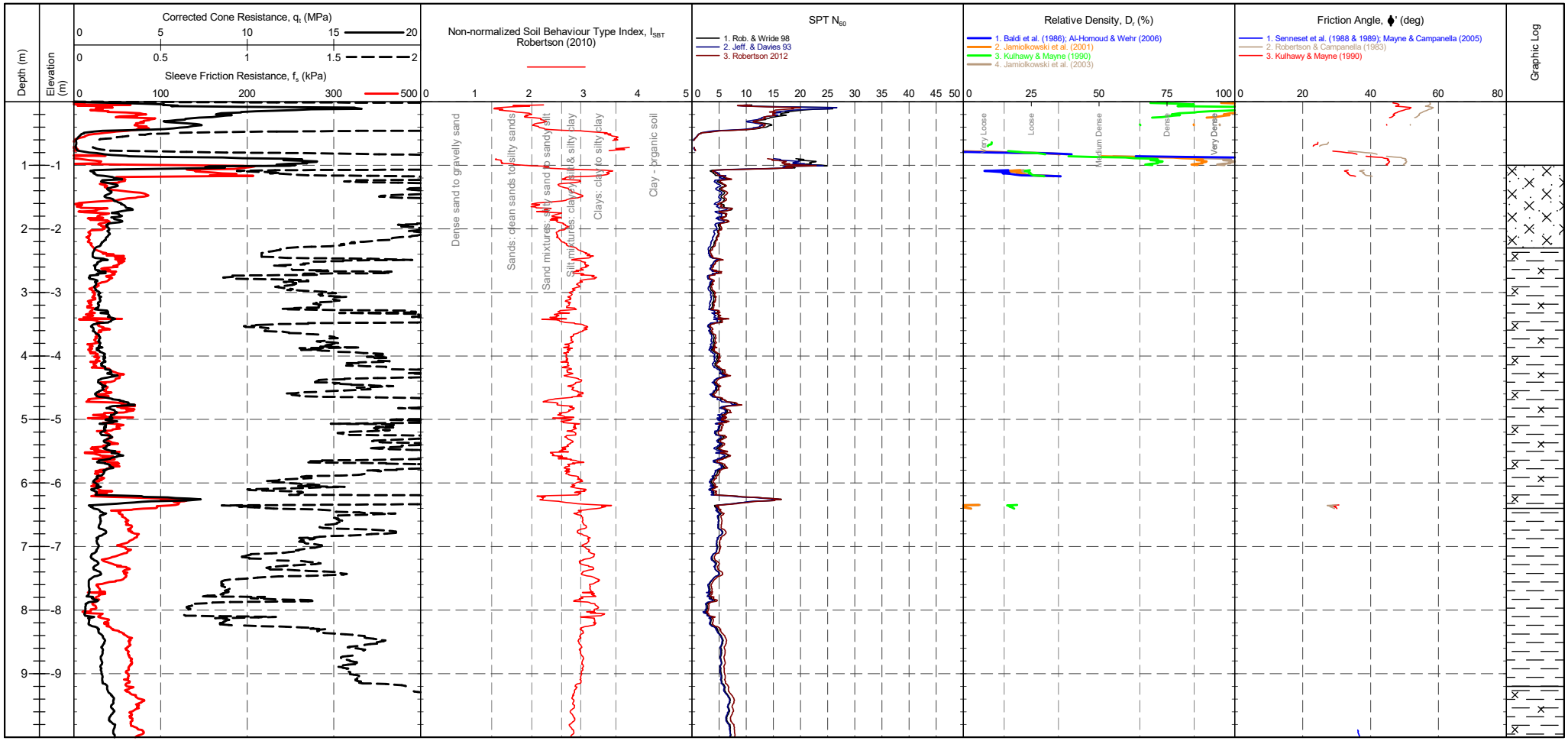
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT120A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 1 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm^2	RIG	: CPT 001		
CONE AREA RATIO	: 0.79	OPERATOR	: RS		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	284 mV	288 mV	0.044 MPa
Sleeve	297 mV	293 mV	-0.003 kPa
Pore Pressure 2	437 mV	415 mV	-0.006 kPa
X-Y Inclinometer	2469 mV	2507 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

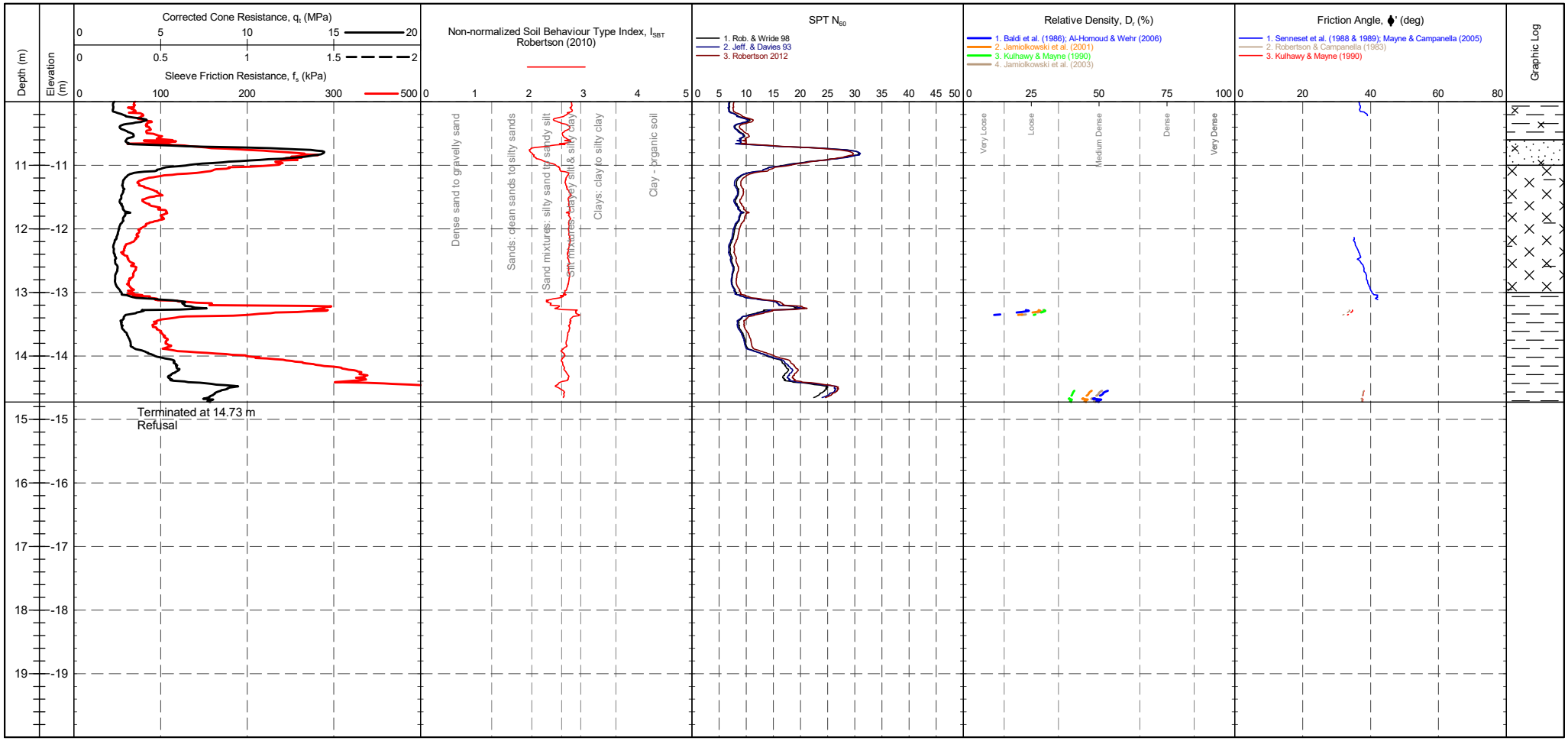
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 02

PointID **CPT120A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 001	Tip	284 mV	288 mV
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	297 mV	293 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	437 mV	415 mV
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2469 mV	2507 mV

Transducer	Difference
Tip	0.044 MPa
Sleeve	-0.003 kPa
Pore Pressure 2	-0.006 kPa

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

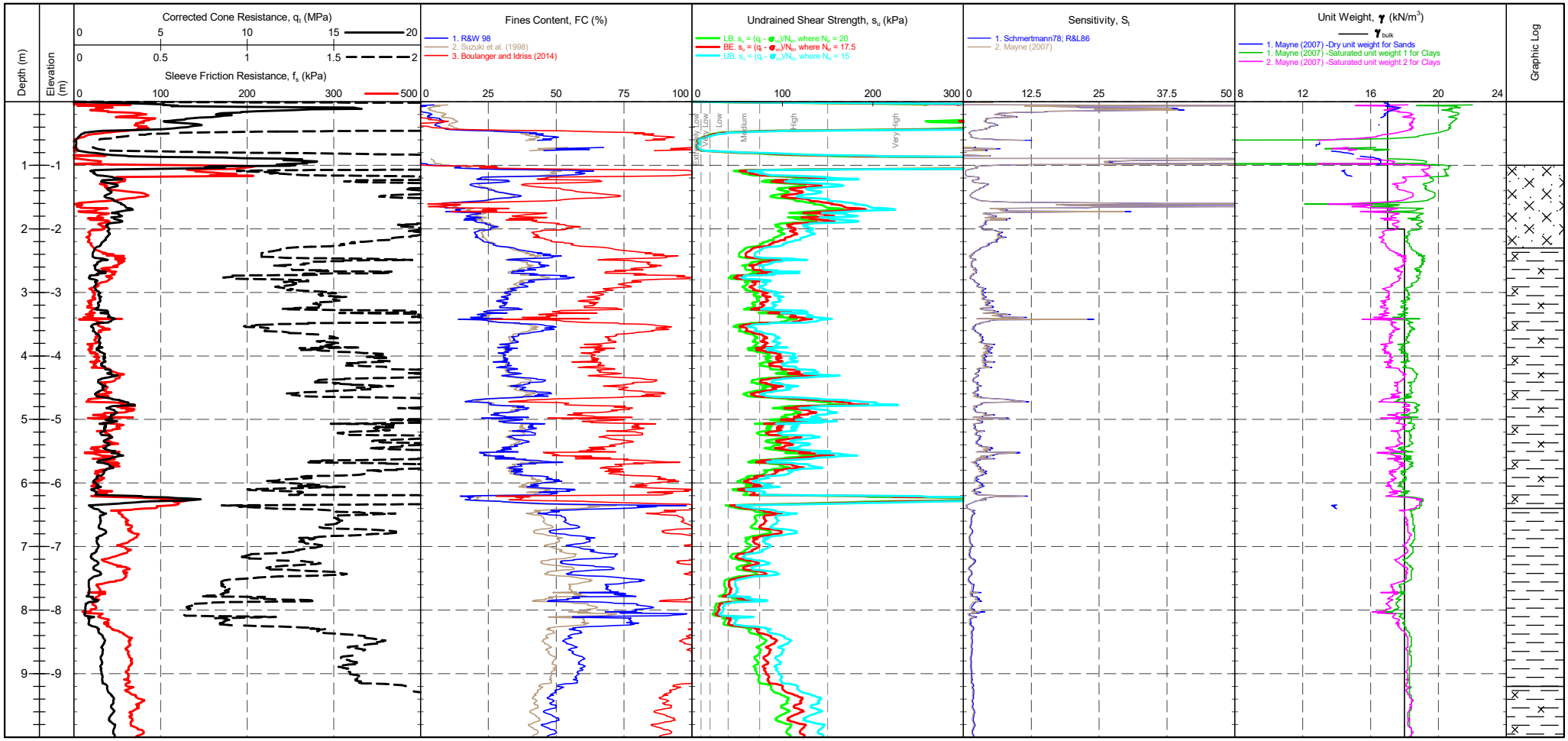
PointID **CPT120A**

CLIENT : Curtins
PROJECT : Elizabeth Street
LOCATION : Cheetham Hill
PROJECT No. : 1210598

EASTING : 0.000 m
NORTHING : 0.000 m
ELEVATION : 0.000 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on total pressure.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 14/12/2021
PLOT DATE : 05/01/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2
CONE AREA	: 15cm^2	RIG	: CPT 001
CONE AREA RATIO	: 0.79	OPERATOR	: RS
FILTER POSITION	: u2	FRICTION REDUCER	: None
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	284 mV	288 mV	0.044 MPa
Sleeve	297 mV	293 mV	-0.003 kPa
Pore Pressure 2	437 mV	415 mV	-0.006 kPa
X-Y Inclinometer	2469 mV	2507 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)
Extremely low strength	<10
Very low strength	10-20
Low strength	20-40
Medium strength	40-75
High strength	75-150
Very high strength	150-300
Extremely high strength	>300

Groundwater Level

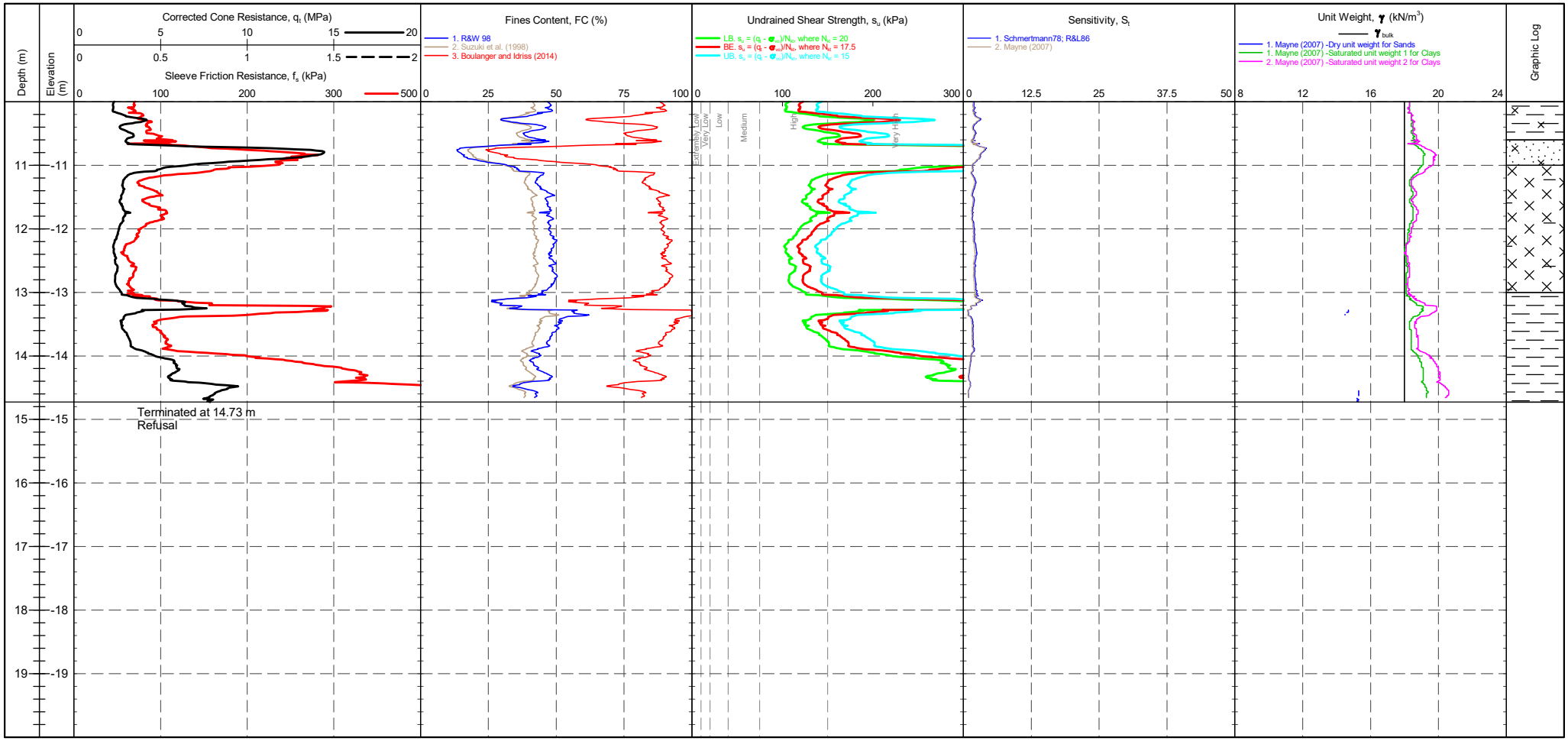
Dissipation Test

IN SITU SITE INVESTIGATION Working with: Curtins

CPT LOG 03

PointID **CPT120A**

CLIENT : Curtins	EASTING : 0.000 m	Remark:	SHEET : 2 OF 2
PROJECT : Elizabeth Street	NORTHING : 0.000 m	Test refused on total pressure.	STATUS : Final
LOCATION : Cheetham Hill	ELEVATION : 0.000 m OD		TEST DATE : 14/12/2021
PROJECT No. : 1210598	CHECKED BY : LD		PLOT DATE : 05/01/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



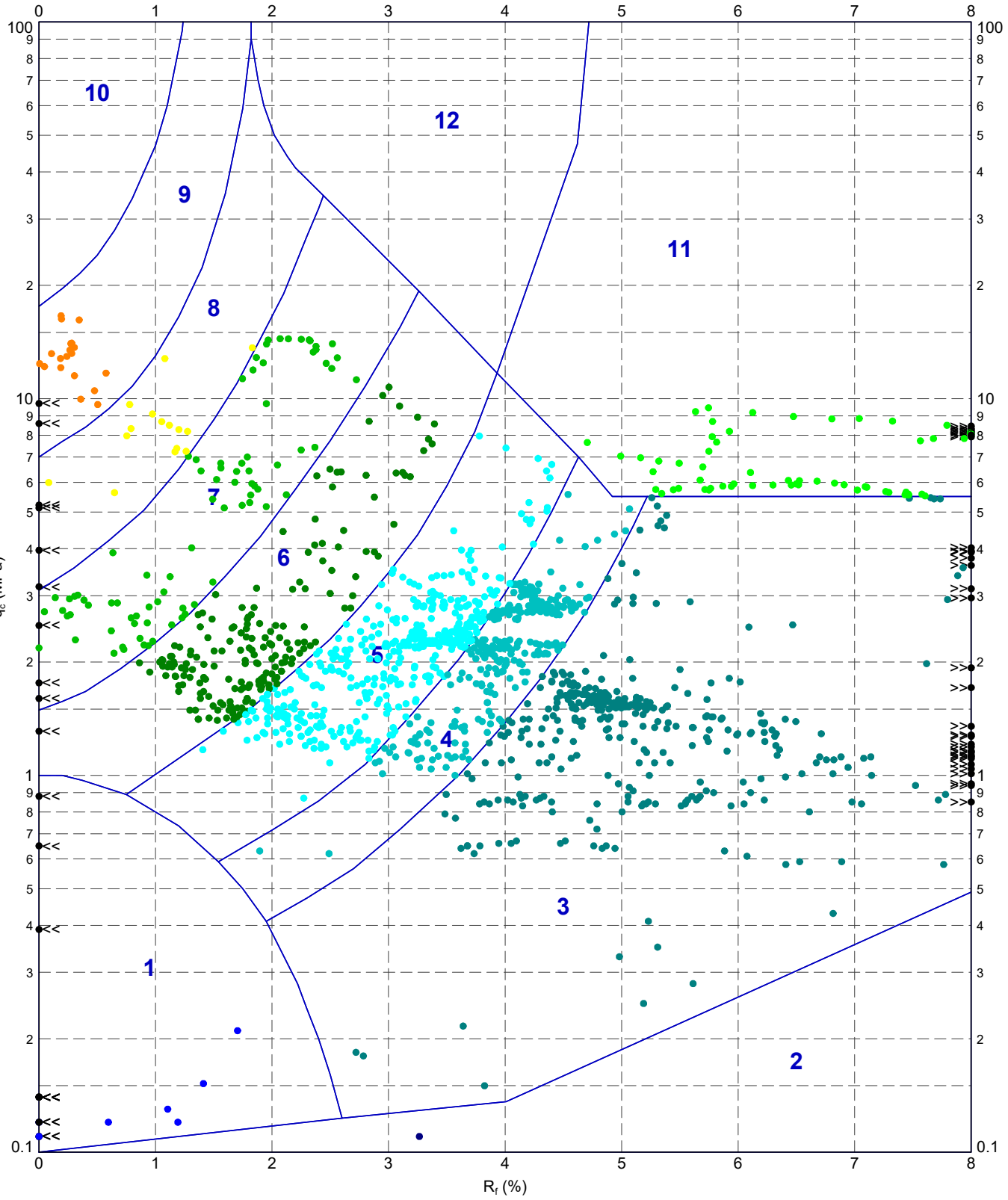
CONE ID	: S15-CFIP.1032	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 001	Tip	284 mV	288 mV	0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: RS	Sleeve	297 mV	293 mV	-0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	437 mV	415 mV	-0.006 kPa
FILTER TYPE	: HDPE	WEATHER	: Overcast & Mild	X-Y Inclinometer	2469 mV	2507 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Curtins
Cheetham Hill
Elizabeth Street
Robertson et al. 1986 q_c vs. R_f - CPT120A

DRAWN	DATE 05/01/2022
CHECKED	DATE 05/01/2022
SCALE Not To Scale	A4
PROJECT No 1210598	FIGURE No

210713-ADVANCED REPORT INSITUSI 2.02.1 LIB - ZOE.GLB Graph CPT ROBERTSON ET AL. 86 QC VS. RF A4P 1210598 ELIZABETH STREET CHEETHAM HILL CURTINS.GPJ <<DrawingFile>> 05/01/2022 17:51 10.02.00.04 Datgel Lab and In Situ Tool - DGD | Lib: In Situ SI 2.02.0 2017-07-10 Prj: In Situ SI 2.02.0 2017-07-10



IN SITU SITE INVESTIGATION

Unit 23 Hastings Innovation Centre,
Highfield Drive
St. Leonards on Sea, East Sussex,
TN38 9UH, U.K.

Company No.: 6339499
VAT No.: 922 3561 41

Appendix D Chemical Laboratory Testing Results

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envirolab
Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	21/05263
Issue Number:	1
Date:	26-May-21
Client:	Curtins Consulting (Manchester) Merchant Exchange 17-19 Whitworth Street Manchester UK M1 5WG
Project Manager:	Niall Farnworth
Project Name:	Elizabeth Street, Cheetham Hill
Project Ref:	78695
Order No:	EBLE1108
Date Samples Received:	10-May-21
Date Instructions Received:	14-May-21
Date Analysis Completed:	25-May-21

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

Prepared by:

MMarshall

Melanie Marshall
Laboratory Coordinator

Approved by:

Holly Neary-King

Holly Neary-King
Client Services Supervisor

envirolab

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	21/05263/1				
Client Sample Number				1		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP01				
Depth to Top				0.3				
Depth to Bottom								
Date Sampled				04/05/2021				
Sample Type				Soil - ES				
Sample Matrix Code				4ADE				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**7.57**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.1**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.02**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**15.2**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**4.24**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**19.8**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**7240**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.461**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	<0.001	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.097	**0.970**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.008	**0.080**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.003	**0.030**	0.5	10	30
Nickel	A-T-025	N	N	0.005	**0.050**	0.4	10	40
Lead	A-T-025	N	N	0.026	**0.260**	0.5	10	50
Antimony	A-T-025	N	N	0.004	**0.040**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.035	**0.350**	4	50	200
Chloride	A-T-026	N	N	<1.00	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	1.0	**10.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	14	**136**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	80	**800**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	7.4				
Conductivity (µS/cm)	A-T-037	N	N	159				
Mass Sample (kg)				0.201				
Dry Matter (%)	A-T-044	N	N	86.8				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	21/05263/5				
Client Sample Number				1		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP04				
Depth to Top				1.1				
Depth to Bottom								
Date Sampled				04/05/2021				
Sample Type				Soil - ES				
Sample Matrix Code				4A				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**7.83**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.85**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.1**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**7.8**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**7.19**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**325**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**212**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1** mg/l	**10:1** mg/kg	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	<0.001	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.035	**0.350**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.002	**0.020**	0.5	10	70
Copper	A-T-025	N	N	0.008	**0.080**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.003	**0.030**	0.5	10	30
Nickel	A-T-025	N	N	<0.001	**<0.01**	0.4	10	40
Lead	A-T-025	N	N	0.014	**0.140**	0.5	10	50
Antimony	A-T-025	N	N	0.001	**0.010**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.016	**0.160**	4	50	200
Chloride	A-T-026	N	N	2	**17**	800	15000	25000
Fluoride	A-T-026	N	N	1.2	**12.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	27	**273**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	56	**560**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	7.3				
Conductivity (µS/cm)	A-T-037	N	N	113				
Mass Sample (kg)				0.193				
Dry Matter (%)	A-T-044	N	N	90.8				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	21/05263/15				
Client Sample Number				1		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				BH04				
Depth to Top				0.2				
Depth to Bottom				0.40				
Date Sampled				06/05/2021				
Sample Type				Soil - ES				
Sample Matrix Code				5AE				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**8.22**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.15**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.06**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**1.9**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**1.19**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**48.3**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**41**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1** mg/l	**10:1** mg/kg	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.003	**0.030**	0.5	2	25
Barium	A-T-025	N	N	0.044	**0.440**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.001	**0.010**	0.5	10	70
Copper	A-T-025	N	N	0.008	**0.080**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.004	**0.040**	0.5	10	30
Nickel	A-T-025	N	N	<0.001	**<0.01**	0.4	10	40
Lead	A-T-025	N	N	0.027	**0.270**	0.5	10	50
Antimony	A-T-025	N	N	0.002	**0.020**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.017	**0.170**	4	50	200
Chloride	A-T-026	N	N	3	**29**	800	15000	25000
Fluoride	A-T-026	N	N	0.6	**6.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	9	**85**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	38	**380**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	7.1				
Conductivity (µS/cm)	A-T-037	N	N	76				
Mass Sample (kg)				0.206				
Dry Matter (%)	A-T-044	N	N	85.1				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	21/05263/16				
Client Sample Number				1		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP10				
Depth to Top				0.4				
Depth to Bottom				0.60				
Date Sampled				07/05/2021				
Sample Type				Soil - ES				
Sample Matrix Code				4ADE				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**7.92**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.24**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.07**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**8.8**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**4.82**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**5.88**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**485**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.232**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	<0.001	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.125	**1.250**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.003	**0.030**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.002	**0.020**	0.5	10	30
Nickel	A-T-025	N	N	0.005	**0.050**	0.4	10	40
Lead	A-T-025	N	N	0.003	**0.030**	0.5	10	50
Antimony	A-T-025	N	N	0.006	**0.060**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.053	**0.530**	4	50	200
Chloride	A-T-026	N	N	<1.00	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	0.4	**4.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	17	**174**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	75	**750**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	7.4				
Conductivity (µS/cm)	A-T-037	N	N	150				
Mass Sample (kg)				0.213				
Dry Matter (%)	A-T-044	N	N	82.3				

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Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/05263
Issue Number: 1 **Date:** 25 May, 2021

Client:
Curtins Consulting (Manchester)
Merchant Exchange
17-19 Whitworth Street
Manchester
UK
M1 5WG

Project Manager: Niall Farnworth
Project Name: Elizabeth Street, Cheetham Hill
Project Ref: 078695
Order No: EBLE1108
Date Samples Received: 10/05/21
Date Instructions Received: 14/05/21
Date Analysis Completed: 25/05/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/1	21/05263/2	21/05263/3	21/05263/5	21/05263/6	21/05263/7	21/05263/8	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP01	TP01	TP02	TP04	TP04	TP05	TP06			
Depth to Top	0.30	0.40	1.50	1.10	2.00	0.90	0.80			
Depth To Bottom										
Date Sampled	04-May-21	04-May-21	04-May-21	04-May-21	04-May-21	05-May-21	05-May-21			
Sample Type	Soil - ES	Solid - Fragment / Tile	Soil - ES	Soil - ES	Solid - Fragment / Tile	Soil - ES	Solid			
Sample Matrix Code	4ADE	8	4AB	4A	8	4A	7			
% Stones >10mm$_A$	<0.1	-	4.2	26.7	-	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$ M#	7.57	-	7.68	7.83	-	8.07	6.40	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$ M#	0.11	-	0.16	0.26	-	<0.01	0.07	g/l	0.01	A-T-026s
Cyanide (total)$_A$ M#	2	-	<1	<1	-	1	5	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	0.7	-	<0.2	<0.2	-	1.8	0.4	mg/kg	0.2	A-T-050s
Organic matter$_D$ M#	7.3	-	14.9	12.4	-	8.7	68.9	% w/w	0.1	A-T-032 OM
Arsenic$_D$ M#	20	-	56	13	-	30	22	mg/kg	1	A-T-024s
Boron (water soluble)$_D$	1.7	-	<1.0	<1.0	-	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$ M#	15.2	-	112	2.3	-	16.0	13.8	mg/kg	0.5	A-T-024s
Copper$_D$ M#	439	-	176	237	-	451	777	mg/kg	1	A-T-024s
Chromium$_D$ M#	89	-	37	28	-	44	52	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	-	<1	<1	-	<1	<1	mg/kg	1	A-T-040s
Lead$_D$ M#	1960	-	1480	250	-	699	1030	mg/kg	1	A-T-024s
Mercury$_D$	0.21	-	<0.17	1.11	-	1.18	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$ M#	106	-	54	40	-	73	92	mg/kg	1	A-T-024s
Selenium$_D$ M#	<1	-	<1	<1	-	2	<1	mg/kg	1	A-T-024s
Zinc$_D$ M#	1500	-	88000	457	-	1360	1380	mg/kg	5	A-T-024s

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/1	21/05263/2	21/05263/3	21/05263/5	21/05263/6	21/05263/7	21/05263/8	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP01	TP01	TP02	TP04	TP04	TP05	TP06			
Depth to Top	0.30	0.40	1.50	1.10	2.00	0.90	0.80			
Depth To Bottom										
Date Sampled	04-May-21	04-May-21	04-May-21	04-May-21	04-May-21	05-May-21	05-May-21			
Sample Type	Soil - ES	Solid - Fragment / Tile	Soil - ES	Soil - ES	Solid - Fragment / Tile	Soil - ES	Solid			
Sample Matrix Code	4ADE	8	4AB	4A	8	4A	7			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_D^{\#}$	Chrysotile	-	NAD	NAD	-	Chrysotile	NAD			A-T-045
Asbestos Matrix (visual)$_D$	Cement	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_D$	Loose Fibres	-	-	-	-	Loose Fibres	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	No	-	N/A	N/A	-	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_D$	0.194	-	-	-	-	<0.001	-	% w/w	0.001	A-T-054
Bulk Fibre ID (inc. matrix)										
Bulk Fibre Identification$_D^{\#}$	-	Chrysotile	-	-	Chrysotile	-	-			A-T-045
Bulk Fibre Identification Matrix (visual)$_D$	-	Cement	-	-	Cement	-	-			A-T-045
Bulk Fibre Identification - Suitable for Water Absorption Test?$_D$	-	Yes	-	-	Yes	-	-			Gravimetry

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/1	21/05263/2	21/05263/3	21/05263/5	21/05263/6	21/05263/7	21/05263/8	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP01	TP01	TP02	TP04	TP04	TP05	TP06			
Depth to Top	0.30	0.40	1.50	1.10	2.00	0.90	0.80			
Depth To Bottom										
Date Sampled	04-May-21	04-May-21	04-May-21	04-May-21	04-May-21	05-May-21	05-May-21			
Sample Type	Soil - ES	Solid - Fragment / Tile	Soil - ES	Soil - ES	Solid - Fragment / Tile	Soil - ES	Solid			
Sample Matrix Code	4ADE	8	4AB	4A	8	4A	7			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.17	-	0.14	3.81	-	2.08	0.04	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.07	-	0.02	0.30	-	0.04	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.60	-	0.55	10.3	-	1.69	0.05	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.38	-	1.74	23.6	-	3.72	0.19	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.40	-	1.15	18.4	-	3.32	0.18	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	1.68	-	1.05	22	-	3.45	0.20	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	1.56	-	0.58	10.1	-	1.82	0.09	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.53	-	0.40	9.74	-	1.16	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.43	-	1.57	26.3	-	3.27	0.20	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.24	-	0.13	2.10	-	0.39	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	2.93	-	2.67	71.6	-	9.01	0.39	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.25	-	0.12	2.83	-	1.34	0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.40	-	0.55	12	-	1.94	0.12	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.07	-	<0.03	<0.30	-	0.43	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	2.09	-	2.69	48.6	-	8.10	0.24	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	3.38	-	3.63	60.2	-	7.82	0.38	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	19.2	-	17	322	-	49.6	2.09	mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/1	21/05263/2	21/05263/3	21/05263/5	21/05263/6	21/05263/7	21/05263/8	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP01	TP01	TP02	TP04	TP04	TP05	TP06			
Depth to Top	0.30	0.40	1.50	1.10	2.00	0.90	0.80			
Depth To Bottom										
Date Sampled	04-May-21	04-May-21	04-May-21	04-May-21	04-May-21	05-May-21	05-May-21			
Sample Type	Soil - ES	Solid - Fragment / Tile	Soil - ES	Soil - ES	Solid - Fragment / Tile	Soil - ES	Solid			
Sample Matrix Code	4ADE	8	4AB	4A	8	4A	7			
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<10	-	<10	<5	-	1	<10	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<10	-	<10	<5	-	2	<10	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	47	-	<10	<5	-	4	21	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	134	-	23	10	-	6	348	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	3270	-	2120	87	-	264	4180	mg/kg	1	A-T-055s
Total Aliphatics$_A$	3450	-	2140	97	-	277	4550	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	12	-	<10	<5	-	2	<10	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	20	-	<10	<5	-	5	<10	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	69	-	20	31	-	27	61	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	153	-	145	280	-	88	561	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	602	-	626	556	-	231	645	mg/kg	1	A-T-055s
Total Aromatics$_A$	857	-	791	870	-	353	1270	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	4310	-	2920	966	-	630	5810	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/9	21/05263/11	21/05263/12	21/05263/13	21/05263/15	21/05263/16		Units	Limit of Detection	Method ref
Client Sample No	1	1	2	1	1	1				
Client Sample ID	TP07	TP09	TP09	BH01	BH04	TP10				
Depth to Top	0.50	0.30	0.40	0.50	0.20	0.40				
Depth To Bottom					0.40	0.60				
Date Sampled	05-May-21	05-May-21	05-May-21	04-May-21	06-May-21	07-May-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4A	4AB	7	4A	5AE	4ADE				
% Stones >10mm$_A$	3.7	<0.1	-	0.7	31.0	6.1		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.72	9.11	-	8.45	8.22	7.92		pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.07	0.30	-	0.04	0.02	0.06		g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	-	<1	<1	<1		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	0.6	0.4	-	0.4	0.2	0.8		mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	1.4	8.4	-	5.2	2.1	8.3		% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	6	12	-	10	6	39		mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	-	<1.0	1.2	<1.0		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.8	1.6	-	0.8	1.0	36.6		mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	53	93	-	66	63	1500		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	18	33	-	16	15	110		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	-	<1	<1	<1		mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	110	672	-	130	254	2020		mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.23	-	1.30	0.52	<0.17		mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	17	29	-	15	14	300		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	4	-	<1	<1	<1		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	207	342	-	164	116	6120		mg/kg	5	A-T-024s

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/9	21/05263/11	21/05263/12	21/05263/13	21/05263/15	21/05263/16		Units	Limit of Detection	Method ref
Client Sample No	1	1	2	1	1	1				
Client Sample ID	TP07	TP09	TP09	BH01	BH04	TP10				
Depth to Top	0.50	0.30	0.40	0.50	0.20	0.40				
Depth To Bottom					0.40	0.60				
Date Sampled	05-May-21	05-May-21	05-May-21	04-May-21	06-May-21	07-May-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4A	4AB	7	4A	5AE	4ADE				
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_D^{\#}$	NAD	NAD	-	NAD	NAD	NAD				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	-	N/A	N/A	N/A				A-T-045

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/9	21/05263/11	21/05263/12	21/05263/13	21/05263/15	21/05263/16		Units	Limit of Detection	Method ref
Client Sample No	1	1	2	1	1	1				
Client Sample ID	TP07	TP09	TP09	BH01	BH04	TP10				
Depth to Top	0.50	0.30	0.40	0.50	0.20	0.40				
Depth To Bottom					0.40	0.60				
Date Sampled	05-May-21	05-May-21	05-May-21	04-May-21	06-May-21	07-May-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4A	4AB	7	4A	5AE	4ADE				
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.17	0.14	-	0.10	0.39	0.02		mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.05	0.04	-	0.07	0.03	0.02		mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.49	0.25	-	0.36	1.63	0.08		mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.98	0.73	-	1.33	3.96	0.39		mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.82	1.52	-	1.27	3.24	0.58		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.84	1.55	-	1.44	3.61	0.69		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.42	1.35	-	0.68	1.30	0.71		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.28	0.43	-	0.55	1.33	0.20		mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.92	0.81	-	1.35	3.37	0.48		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.09	0.20	-	0.16	0.28	0.10		mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	2.13	1.53	-	2.67	10.8	0.65		mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.20	0.19	-	0.11	0.39	0.02		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.44	1.35	-	0.73	1.57	0.62		mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.05	0.06	-	<0.03	<0.03	<0.03		mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	1.92	1.26	-	1.44	6.71	0.29		mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	2.05	1.52	-	2.64	9.34	0.66		mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	11.8	12.9	-	14.9	48	5.51		mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/9	21/05263/11	21/05263/12	21/05263/13	21/05263/15	21/05263/16		Units	Limit of Detection	Method ref
Client Sample No	1	1	2	1	1	1				
Client Sample ID	TP07	TP09	TP09	BH01	BH04	TP10				
Depth to Top	0.50	0.30	0.40	0.50	0.20	0.40				
Depth To Bottom					0.40	0.60				
Date Sampled	05-May-21	05-May-21	05-May-21	04-May-21	06-May-21	07-May-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4A	4AB	7	4A	5AE	4ADE				
PAH-16MS plus Coronene (TAR)										
Acenaphthene$_D$	-	-	<1.0	-	-	-		mg/kg	1	A-T-019 TAR
Acenaphthylene$_D$	-	-	<1.0	-	-	-		mg/kg	1	A-T-019 TAR
Anthracene$_D$	-	-	<1.0	-	-	-		mg/kg	1	A-T-019 TAR
Benzo(a)anthracene$_D$	-	-	4.7	-	-	-		mg/kg	4	A-T-019 TAR
Benzo(a)pyrene$_D$	-	-	<4.0	-	-	-		mg/kg	4	A-T-019 TAR
Benzo(b)fluoranthene$_D$	-	-	<5.0	-	-	-		mg/kg	5	A-T-019 TAR
Benzo(ghi)perylene$_D$	-	-	<5.0	-	-	-		mg/kg	5	A-T-019 TAR
Benzo(k)fluoranthene$_D$	-	-	<7.0	-	-	-		mg/kg	7	A-T-019 TAR
Chrysene$_D$	-	-	14.8	-	-	-		mg/kg	6	A-T-019 TAR
Coronene$_D$	-	-	<1.0	-	-	-		mg/kg	1	A-T-019 TAR
Dibenzo(ah)anthracene$_D$	-	-	<4.0	-	-	-		mg/kg	4	A-T-019 TAR
Fluoranthene$_D$	-	-	<8.0	-	-	-		mg/kg	8	A-T-019 TAR
Fluorene$_D$	-	-	<1.0	-	-	-		mg/kg	1	A-T-019 TAR
Indeno(123-cd)pyrene$_D$	-	-	<3.0	-	-	-		mg/kg	3	A-T-019 TAR
Naphthalene$_D$	-	-	<3.0	-	-	-		mg/kg	3	A-T-019 TAR
Phenanthrene$_D$	-	-	6.7	-	-	-		mg/kg	3	A-T-019 TAR
Pyrene$_D$	-	-	<7.0	-	-	-		mg/kg	7	A-T-019 TAR
Total PAH-16MS plus Coronene (TAR)$_D$	-	-	26.2	-	-	-		mg/kg	1	A-T-019 TAR

Envirolab Job Number: 21/05263

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: 078695

Lab Sample ID	21/05263/9	21/05263/11	21/05263/12	21/05263/13	21/05263/15	21/05263/16		Units	Limit of Detection	Method ref
Client Sample No	1	1	2	1	1	1				
Client Sample ID	TP07	TP09	TP09	BH01	BH04	TP10				
Depth to Top	0.50	0.30	0.40	0.50	0.20	0.40				
Depth To Bottom					0.40	0.60				
Date Sampled	05-May-21	05-May-21	05-May-21	04-May-21	06-May-21	07-May-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4A	4AB	7	4A	5AE	4ADE				
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<10	-	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<10	-	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<10	-	1	<1	1		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<10	-	1	2	8		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	5	605	-	29	8	594		mg/kg	1	A-T-055s
Total Aliphatics$_A$	5	605	-	31	10	603		mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<10	-	1	<1	2		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	18	-	<1	<1	2		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	5	42	-	5	2	4		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	18	45	-	19	8	25		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	48	461	-	67	34	153		mg/kg	1	A-T-055s
Total Aromatics$_A$	71	565	-	92	45	186		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	75	1170	-	123	54	790		mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Curtins Consulting (Manchester), Merchant Exchange, 17-19 Whitworth Street , Manchester, UK, M1 5WG

Project: Elizabeth Street, Cheetham Hill

Clients Project No: 078695

Project No: 21/05263

Date Received: 14/05/2021 (am)

Cool Box Temperatures (°C): 9.0 & 9.5

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/13846
Issue Number: 1 **Date:** 05 January, 2022

Client: Curtins Consulting (Manchester)
Merchant Exchange
17-19 Whitworth Street
Manchester
UK
M1 5WG

Project Manager: EBMA/Zoe Henderson
Project Name: Elizabeth Street, Cheetham Hill
Project Ref: B080139
Order No: TBC
Date Samples Received: 17/12/21
Date Instructions Received: 22/12/21
Date Analysis Completed: 05/01/22

Approved by:



Holly Neary-King
Client Services Supervisor

Envirolab Job Number: 21/13846

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: B080139

Lab Sample ID	21/13846/1	21/13846/2	21/13846/3	21/13846/4	21/13846/5	21/13846/6		Units	Limit of Detection	Method ref
Client Sample No	ES1	ES1	ES1	ES1	ES1	ES1				
Client Sample ID	WS101	WS102	WS103	BH104	BH103	BH105				
Depth to Top	0.40	1.20	0.90	0.60	0.20	0.30				
Depth To Bottom										
Date Sampled	13-Dec-21	14-Dec-21	14-Dec-21	13-Dec-21	15-Dec-21	15-Dec-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	4AB	6ABDE	4AB				
% Stones >10mm$_A$	2.8	2.0	<0.1	17.8	7.9	6.1		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.61	7.68	7.73	8.07	8.08	8.49		pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	<0.01	<0.01	0.06	0.02	<0.01	<0.01		g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	3.8	2.2	6.3	2.5	14.6	2.8		% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	5	5	6	7	22	8		mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	<1.0	<1.0	1.6	<1.0		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.7	0.6	1.0	3.2	23.4	0.8		mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	36	20	46	124	916	40		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	22	29	38	19	103	9		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	64	48	74	329	2460	119		mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.25	0.92	0.68	0.22	<0.17		mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	25	20	27	32	128	13		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	52	116	74	501	4770	125		mg/kg	5	A-T-024s

Envirolab Job Number: 21/13846

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: B080139

Lab Sample ID	21/13846/1	21/13846/2	21/13846/3	21/13846/4	21/13846/5	21/13846/6		Units	Limit of Detection	Method ref
Client Sample No	ES1	ES1	ES1	ES1	ES1	ES1				
Client Sample ID	WS101	WS102	WS103	BH104	BH103	BH105				
Depth to Top	0.40	1.20	0.90	0.60	0.20	0.30				
Depth To Bottom										
Date Sampled	13-Dec-21	14-Dec-21	14-Dec-21	13-Dec-21	15-Dec-21	15-Dec-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	4AB	6ABDE	4AB				
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD				A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-				A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A				A-T-045

Envirolab Job Number: 21/13846

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: B080139

Lab Sample ID	21/13846/1	21/13846/2	21/13846/3	21/13846/4	21/13846/5	21/13846/6		Units	Limit of Detection	Method ref
Client Sample No	ES1	ES1	ES1	ES1	ES1	ES1				
Client Sample ID	WS101	WS102	WS103	BH104	BH103	BH105				
Depth to Top	0.40	1.20	0.90	0.60	0.20	0.30				
Depth To Bottom										
Date Sampled	13-Dec-21	14-Dec-21	14-Dec-21	13-Dec-21	15-Dec-21	15-Dec-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	4AB	6ABDE	4AB				
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.04	0.02	0.14	0.22	0.08	0.14		mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	0.04	0.02		mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.07	0.12	0.22	0.23	0.18	0.26		mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.29	0.26	0.22	0.69	0.66	1.15		mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.39	0.26	0.20	0.71	0.78	0.99		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.37	0.26	0.19	0.75	0.90	0.89		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.28	0.16	0.13	0.54	1.57	0.53		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.10	0.10	<0.07	0.27	0.25	0.35		mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.35	0.31	0.31	0.79	0.75	1.07		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	<0.04	0.10	0.18	0.11		mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.45	0.61	0.51	1.10	0.96	2.25		mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.02	0.04	0.14	0.16	0.09	0.09		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.27	0.16	0.12	0.55	1.14	0.60		mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	0.17	0.08	<0.03		mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.33	0.59	0.85	0.97	0.78	1.21		mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.47	0.60	0.54	1.15	1.16	2.02		mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	3.43	3.49	3.57	8.40	9.60	11.7		mg/kg	0.01	A-T-019s

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Envirolab Job Number: 21/13846

Client Project Name: Elizabeth Street, Cheetham Hill

Client Project Ref: B080139

Lab Sample ID	21/13846/1	21/13846/2	21/13846/3	21/13846/4	21/13846/5	21/13846/6		Units	Limit of Detection	Method ref
Client Sample No	ES1	ES1	ES1	ES1	ES1	ES1				
Client Sample ID	WS101	WS102	WS103	BH104	BH103	BH105				
Depth to Top	0.40	1.20	0.90	0.60	0.20	0.30				
Depth To Bottom										
Date Sampled	13-Dec-21	14-Dec-21	14-Dec-21	13-Dec-21	15-Dec-21	15-Dec-21				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	4AB	6ABDE	4AB				
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<20	<1		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	3	<20	<1		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	7	<20	<1		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	7	<20	<1		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	4	9	42	105	2510	16		mg/kg	1	A-T-055s
Total Aliphatics$_A$	4	9	42	122	2510	16		mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	7	36	<1		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	11	23	1		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	1	1	3	29	49	4		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	5	4	6	65	140	8		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	16	16	49	212	926	32		mg/kg	1	A-T-055s
Total Aromatics$_A$	22	21	58	324	1180	46		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	25	30	100	446	3690	61		mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Curtins Consulting (Manchester), Merchant Exchange, 17-19 Whitworth Street , Manchester, UK, M1 5WG

Project: Elizabeth Street, Cheetham Hill

Clients Project No: B080139

Project No: 21/13846

Date Received: 22/12/2021 (am)

Cool Box Temperatures (°C): 6.5

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/13846/1	21/13846/2	21/13846/3	21/13846/4	21/13846/5	21/13846/6
Client Sample No	ES1	ES1	ES1	ES1	ES1	ES1
Client Sample ID/Depth	WS101 0.40m	WS102 1.20m	WS103 0.90m	BH104 0.60m	BH103 0.20m	BH105 0.30m
Date Sampled	13/12/21	14/12/21	14/12/21	13/12/21	15/12/21	15/12/21
A-T-019s	31/12/2021	31/12/2021	31/12/2021	31/12/2021	31/12/2021	31/12/2021
A-T-022s	30/12/2021	30/12/2021	30/12/2021	30/12/2021	30/12/2021	30/12/2021
A-T-024s	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022
A-T-026s	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022
A-T-027s	04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
A-T-031s	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022
A-T-032 OM	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022
A-T-040s	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022	05/01/2022
A-T-042sTCN	24/12/2021	24/12/2021	24/12/2021	24/12/2021	24/12/2021	24/12/2021
A-T-044	30/12/2021	30/12/2021	30/12/2021	30/12/2021	30/12/2021	30/12/2021
A-T-045	24/12/2021	24/12/2021	24/12/2021	24/12/2021	24/12/2021	24/12/2021
A-T-050s	04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022	04/01/2022
A-T-055s	31/12/2021	31/12/2021	31/12/2021	31/12/2021	31/12/2021	31/12/2021

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Appendix E Geotechnical Laboratory Testing Results and Geotechnical Analysis

- Geotechnical Analysis Results

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IAN FARMER ASSOCIATES

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washington@ianfarmer.co.uk www.ianfarmer.co.uk

F.A.O.

Final Test Report - 2280575 / 2

Site:	Elizabeth Street, Cheetham Hill
Job Number:	2280575
Originating Client:	Envirolab
Originating Reference:	21/05650
Date Sampled:	Not Given
Date Scheduled:	10/06/2021
Date Testing Started:	14/06/2021
Date Testing Finished:	05/07/2021

Previous Reports		Amendments	Date Issued
1	Interim		01/07/2021

Amendments:

Authorised By:

Tim Robinson
Quality Supervisor

Report Issue Date: 05/07/2021

Constructionline Part of Capita plc

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Newcastle upon Tyne (0191) 482 8500. **Motherwell** (01698) 230231. **Warrington** (01925) 855440. **Washington** (0191) 482 8500.

AGS

IAN FARMER ASSOCIATES

Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 2

Determination of Moisture Content, Liquid Limit and Plastic Limit and Derivation of Plasticity and Liquidity Index

Borehole / Trial Pit	Depth (m)	Sample	Natural Moisture Content %	Natural - Stones removed by hand Sieved - Washed on 425 µm sieve			Liquid Limit %	Plastic Limit %	Plasticity Index %	Liquidity Index	Class	Description / Remarks
				Natural / Sieved	Percentage Passing %	Moisture Content %						
BH04	0.50	B9	11									Brown slightly silty, gravelly SAND
BH05	6.00	B14	17	Sieved	30	45		NP				Brown gravelly, silty SAND
TP07	0.60	B2	16									Brown gravelly, silty SAND

Method of Preparation: BS 1377 : Part 1 : 1990 : Clause 7 Preparation of disturbed samples for testing
BS 1377 : Part 1 : 2016 : Clause 8.4.3 Preparation of samples for plasticity tests
BS 1377 : Part 2 : 1990 : Clause 4.2 Preparation of samples for plastic limit tests

Method of Test: BS 1377 : Part 2 : 1990 : Clause 3.2 Determination of moisture content
BS 1377 : Part 2 : 1990 : Clause 4.3 or 4.4 Determination of the liquid limit
BS 1377 : Part 2 : 1990 : Clause 5.3 Determination of the plastic limit and plasticity index

UKAS TESTING 1464

Results reported relate only to the samples tested.

IAN FARMER ASSOCIATES

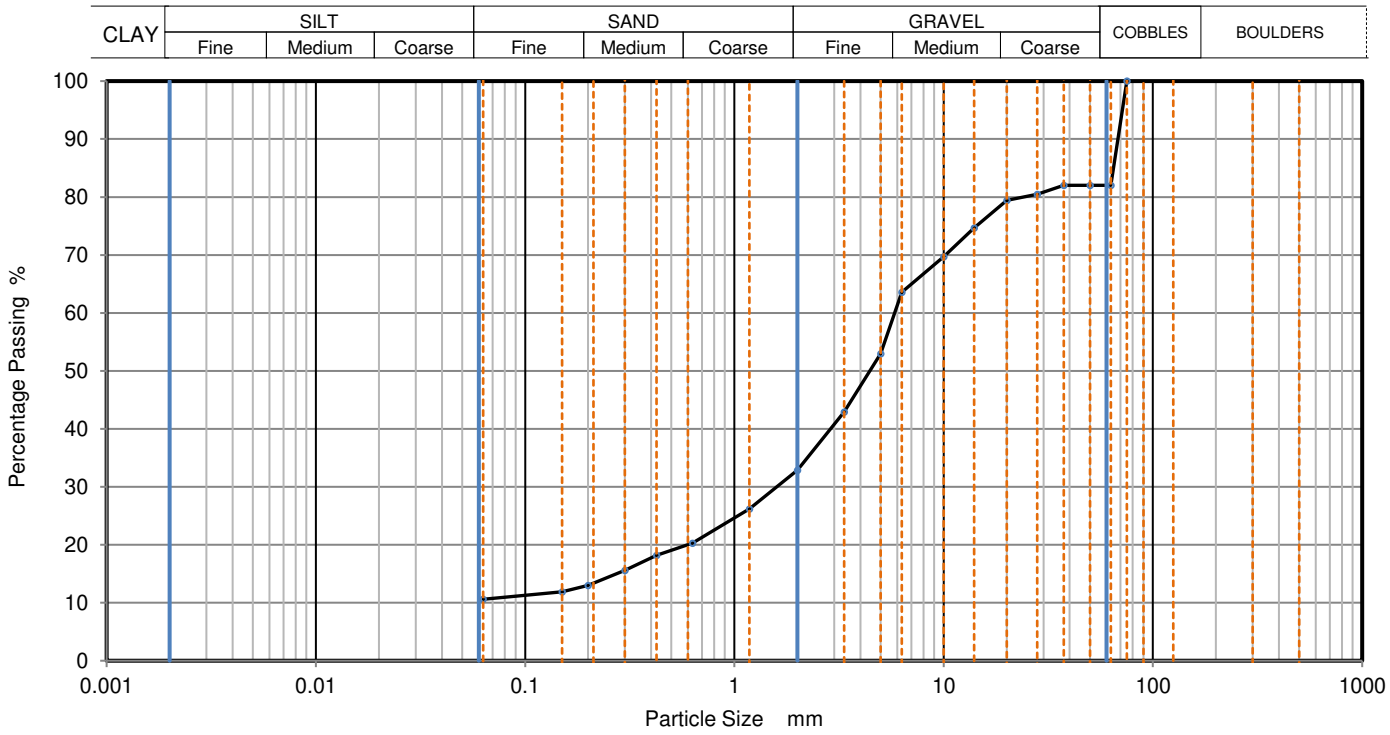
Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 3

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH02	0.50	B7	Wet Sieve	Brown silty, sandy GRAVEL



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	82		
50	82		
37.5	82		
28	81		
20	79		
14	75		
10	70		
6.3	64		
5	53		
3.35	43		
2	33		
1.18	26		
0.63	20		
0.425	18		
0.3	16		
0.2	13		
0.15	12		
0.063	11		

Dry Mass of sample, g: 1722

Sample Proportions	% dry mass
Very coarse	18
Gravel	49
Sand	22
Fines <0.063mm	11

Grading Analysis		
D100	mm	75
D60	mm	5.83
D30	mm	1.59
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

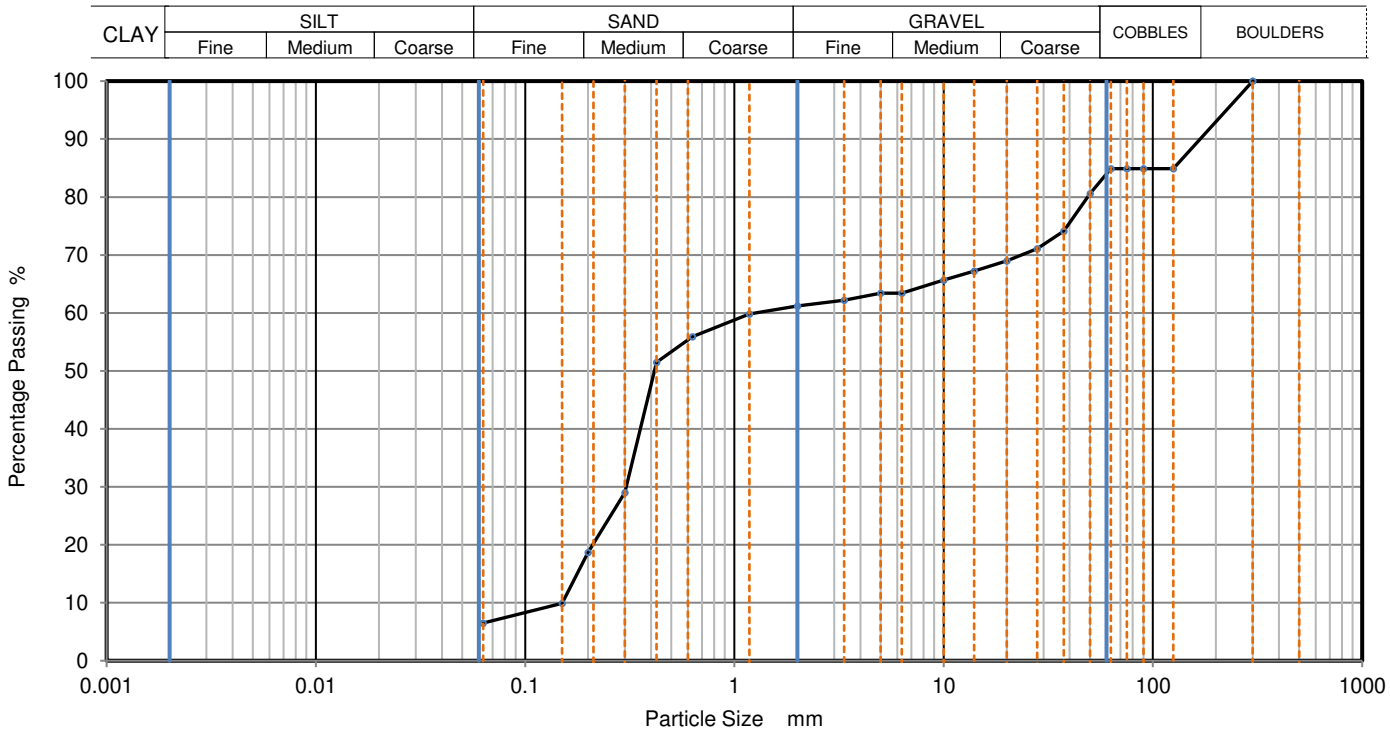
Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 4

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH04	0.50	B9	Wet Sieve	Brown slightly silty, gravelly SAND



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
300	100		
125	85		
90	85		
75	85		
63	85		
50	81		
37.5	74		
28	71		
20	69		
14	67		
10	66		
6.3	63		
5	63		
3.35	62		
2	61		
1.18	60		
0.63	56		
0.425	52		
0.3	29		
0.2	19		
0.15	10		
0.063	7		

Dry Mass of sample, g: 6475

Sample Proportions	% dry mass
Very coarse	15
Gravel	24
Sand	55
Fines <0.063mm	7

Grading Analysis		
D100	mm	300
D60	mm	1.29
D30	mm	0.305
D10	mm	0.15
Uniformity Coefficient		8.5
Curvature Coefficient		0.48

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

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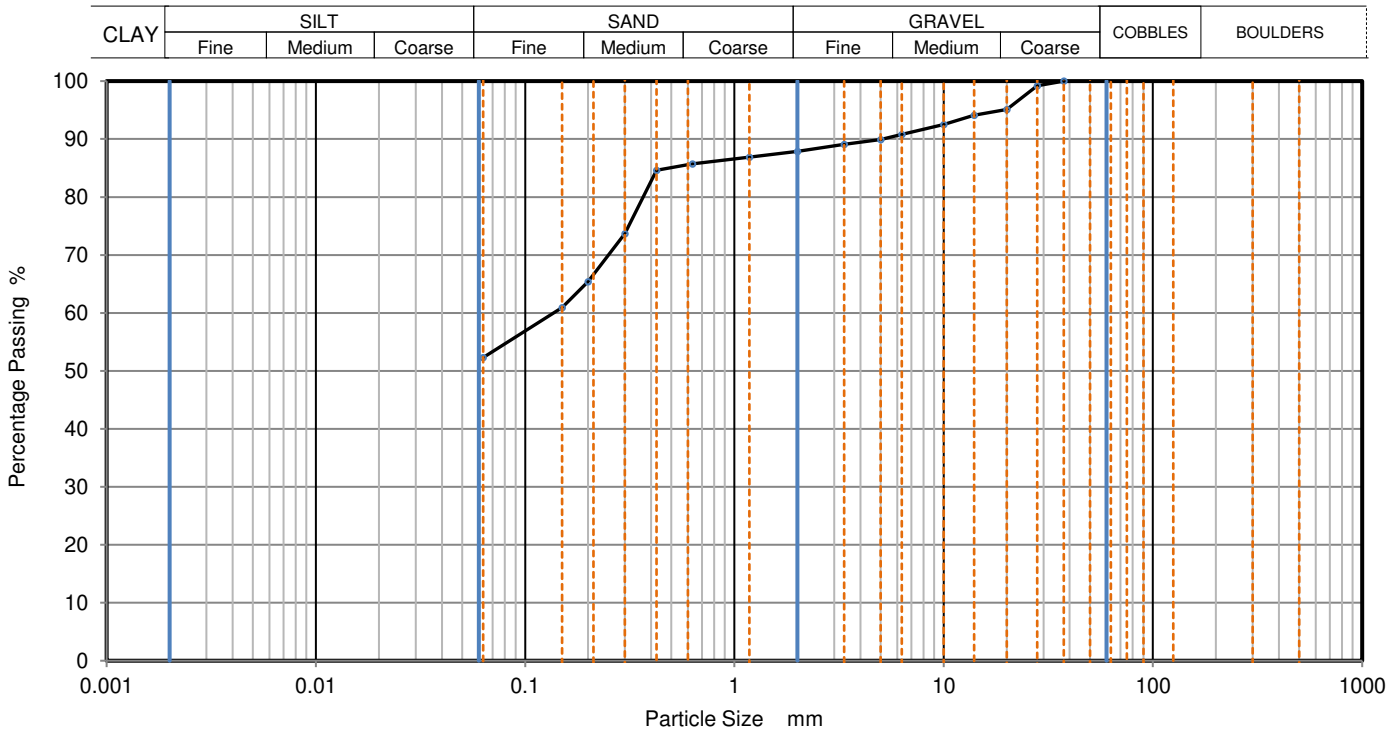
Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 5

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH05	0.50	B13	Wet Sieve	Brown gravelly, sandy SILT



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
37.5	100		
28	99		
20	95		
14	94		
10	93		
6.3	91		
5	90		
3.35	89		
2	88		
1.18	87		
0.63	86		
0.425	85		
0.3	74		
0.2	65		
0.15	61		
0.063	52		

Dry Mass of sample, g: 1010

Sample Proportions	% dry mass
Very coarse	0
Gravel	12
Sand	36
Fines <0.063mm	52

Grading Analysis		
D100	mm	37.5
D60	mm	0.137
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

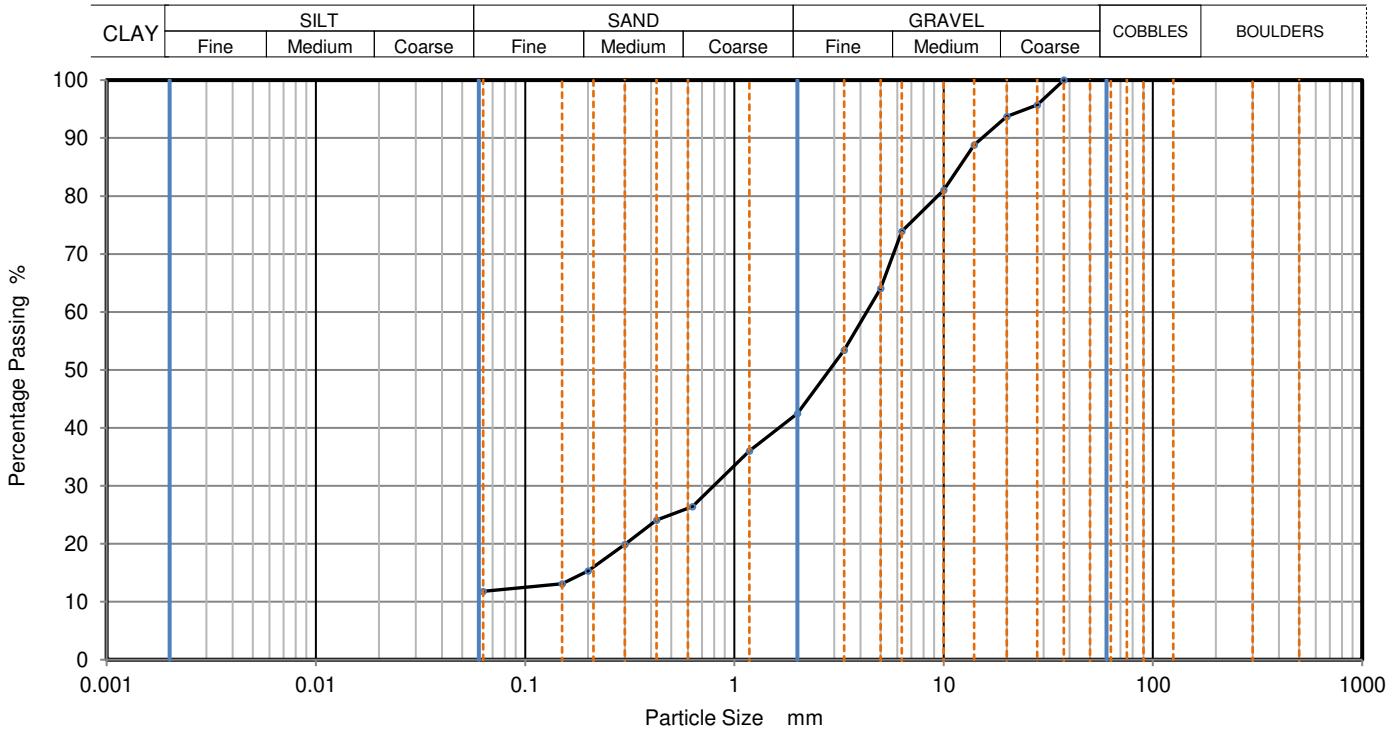
Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 6

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP06	2.50	B1	Wet Sieve	Black silty, sandy GRAVEL



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
37.5	100		
28	96		
20	94		
14	89		
10	81		
6.3	74		
5	64		
3.35	53		
2	43		
1.18	36		
0.63	26		
0.425	24		
0.3	20		
0.2	15		
0.15	13		
0.063	12		

Dry Mass of sample, g: 962

Sample Proportions	% dry mass
Very coarse	0
Gravel	58
Sand	31
Fines <0.063mm	12

Grading Analysis		
D100	mm	37.5
D60	mm	4.29
D30	mm	0.796
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

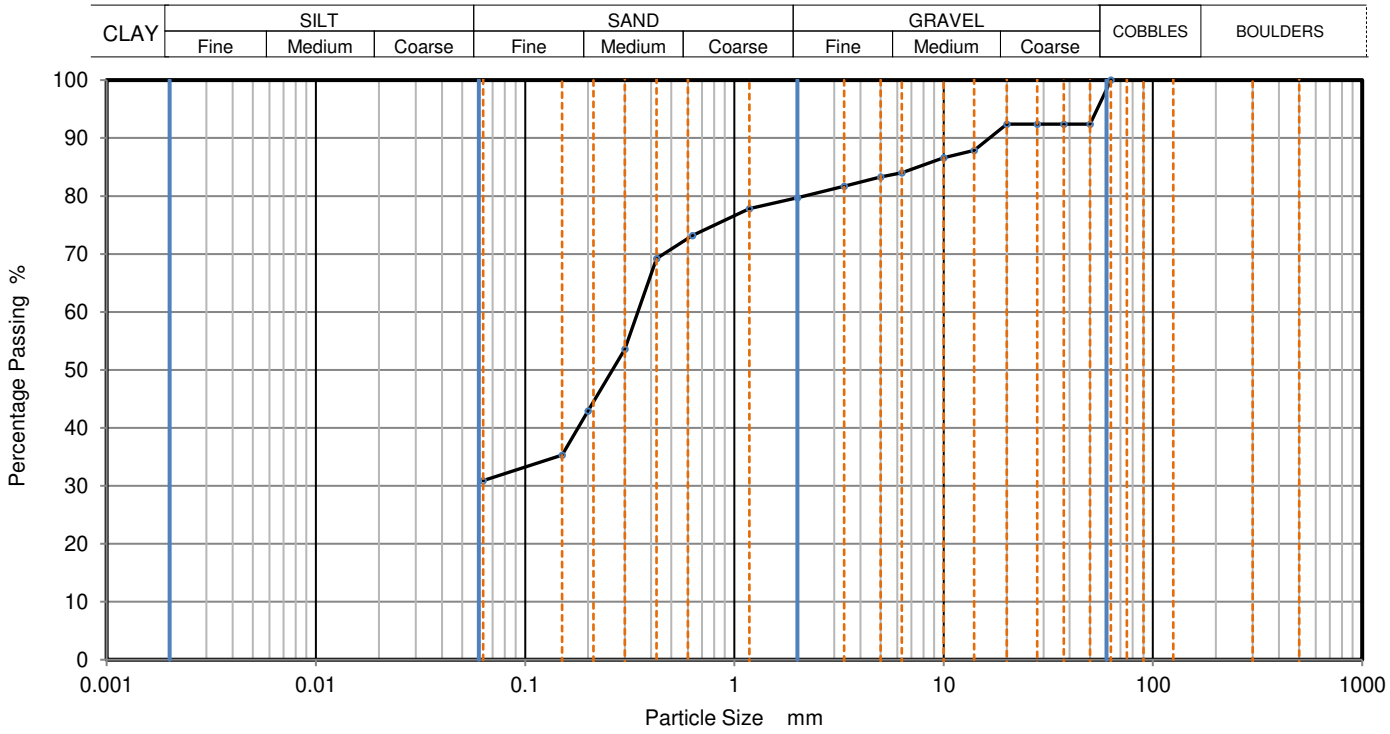
Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 7

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP07	0.60	B2	Wet Sieve	Brown gravelly, silty SAND



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100		
50	92		
37.5	92		
28	92		
20	92		
14	88		
10	87		
6.3	84		
5	83		
3.35	82		
2	80		
1.18	78		
0.63	73		
0.425	69		
0.3	54		
0.2	43		
0.15	35		
0.063	31		

Dry Mass of sample, g: 818

Sample Proportions	% dry mass
Very coarse	0
Gravel	20
Sand	49
Fines <0.063mm	31

Grading Analysis		
D100	mm	63
D60	mm	0.346
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

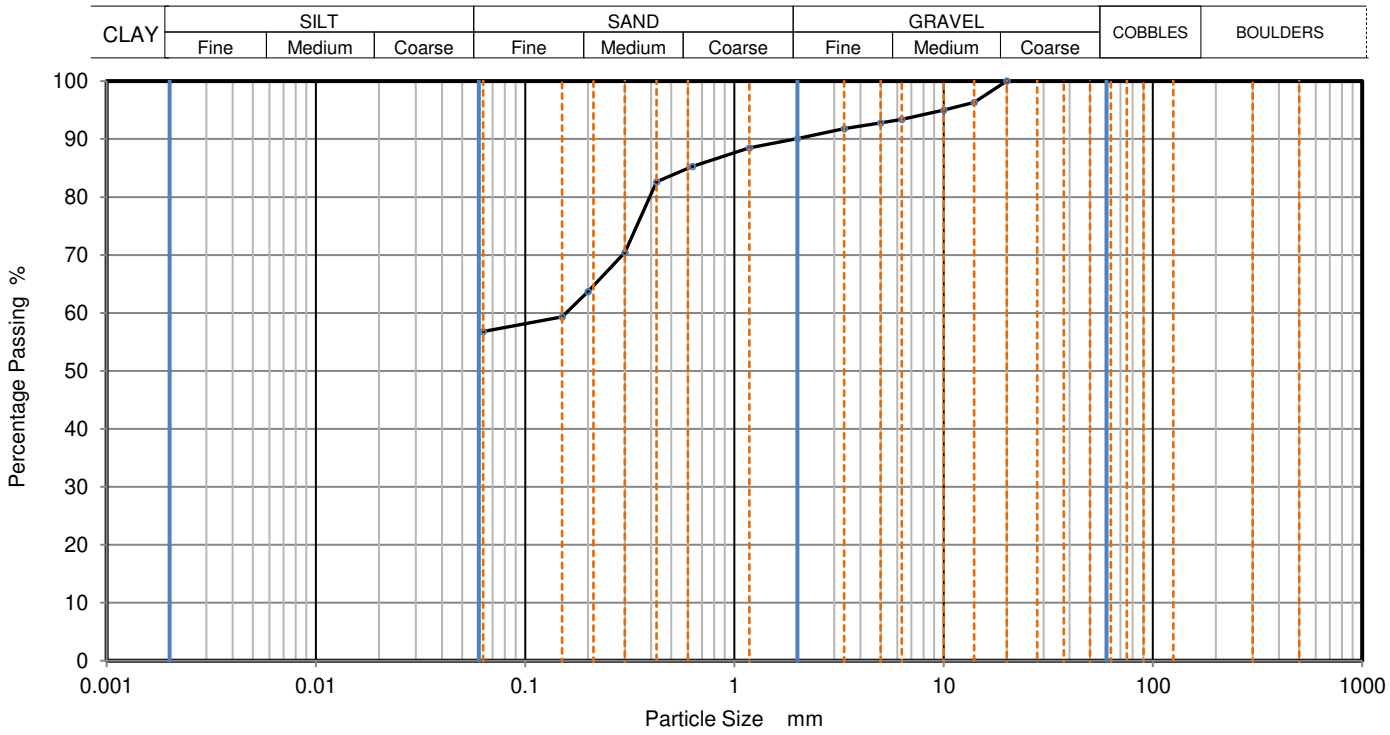
Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 8

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP08	0.90	B3	Wet Sieve	Brown gravelly, sandy SILT



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
20	100		
14	96		
10	95		
6.3	93		
5	93		
3.35	92		
2	90		
1.18	89		
0.63	85		
0.425	83		
0.3	70		
0.2	64		
0.15	59		
0.063	57		

Dry Mass of sample, g: 1190

Sample Proportions	% dry mass
Very coarse	0
Gravel	10
Sand	33
Fines <0.063mm	57

Grading Analysis		
D100	mm	20
D60	mm	0.157
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES	Laboratory Test Report	2280575 / 2

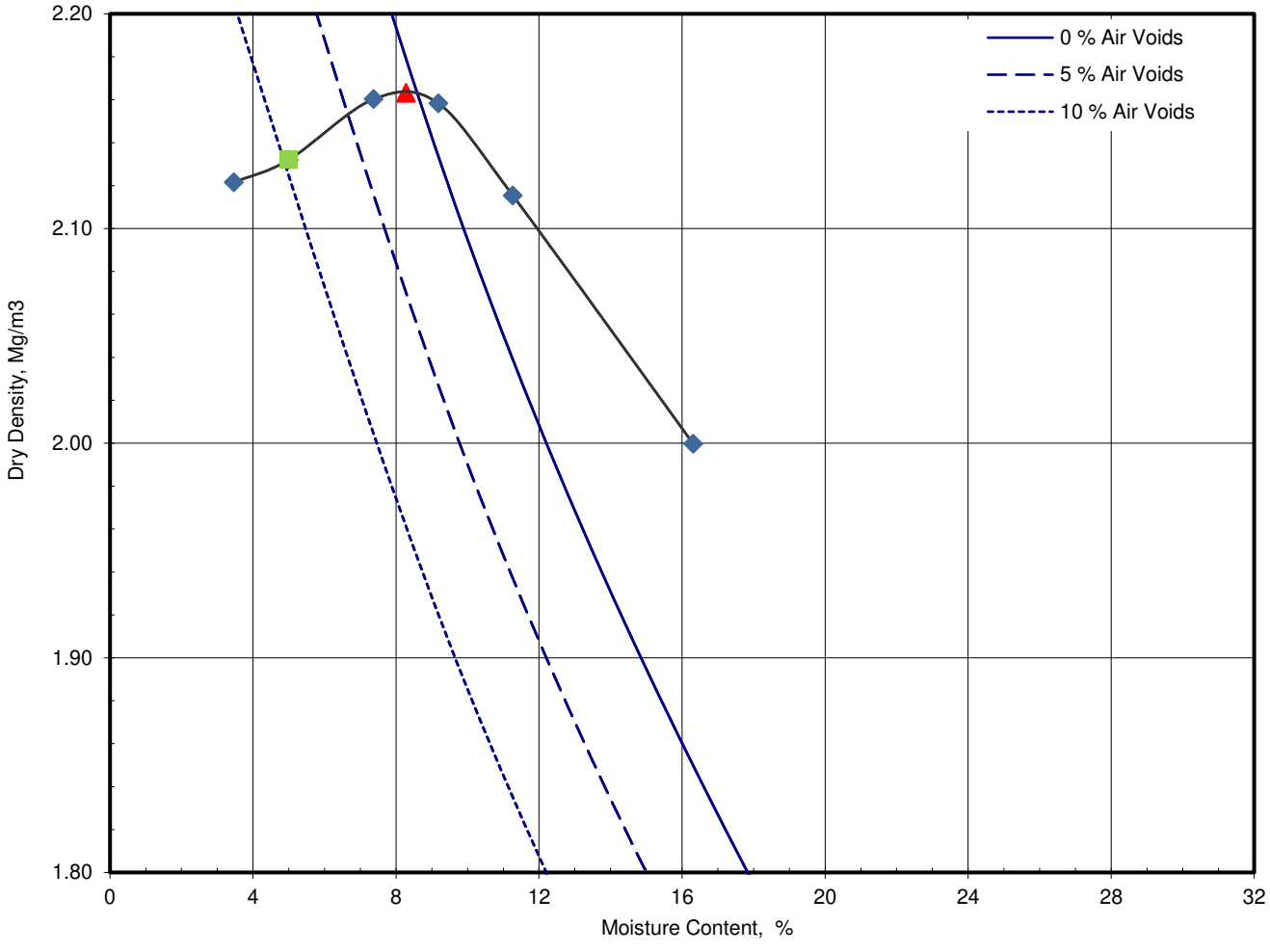
Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 9

Dry Density / Moisture Content Relationship
Vibrating Hammer Compaction

Borehole / Trial Pit	Depth (m)	Sample	Description
TP08	0.90	B3	Brown gravelly, sandy SILT

Percentage Retained 37.5mm	0 %		
Percentage Retained 20.0mm	55 %	Samples Used	Single sample tested
Grading Zone	X	Particle Density	2.65 Mg/m³ Assumed
Mould Type	CBR	Method of compaction	Compaction by Vibrating Hammer
Maximum Dry Density	**2.16 Mg/m³**	**Optimum Moisture Content**	**8.3 %**



▲ : Maximum Dry Density vs. Optimum Water Content

■ : Point at Natural Moisture Content

Remarks:

Method of Preparation: BS 1377:PART 1:1990:7.6 Preparation of samples for compaction related test
BS 1377:PART 4:1990:3.2 Preparation of samples for compaction tests

Preparation Details: Material used was oven dried at 50degC Single sample tested

Method of Test: BS1377:Part 4:1990, clause 3.7 Vibrating Hammer Method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 10

DETERMINATION OF MOISTURE CONDITION VALUE / MOISTURE CONTENT RELATIONSHIP

Borehole / Trial Pit	Depth (m)	Sample	Description
BH02	0.5	B7	Brown silty, sandy GRAVEL

Sample preparation Amount of material larger than 20mm sieve removed 23 %

Sample Used:

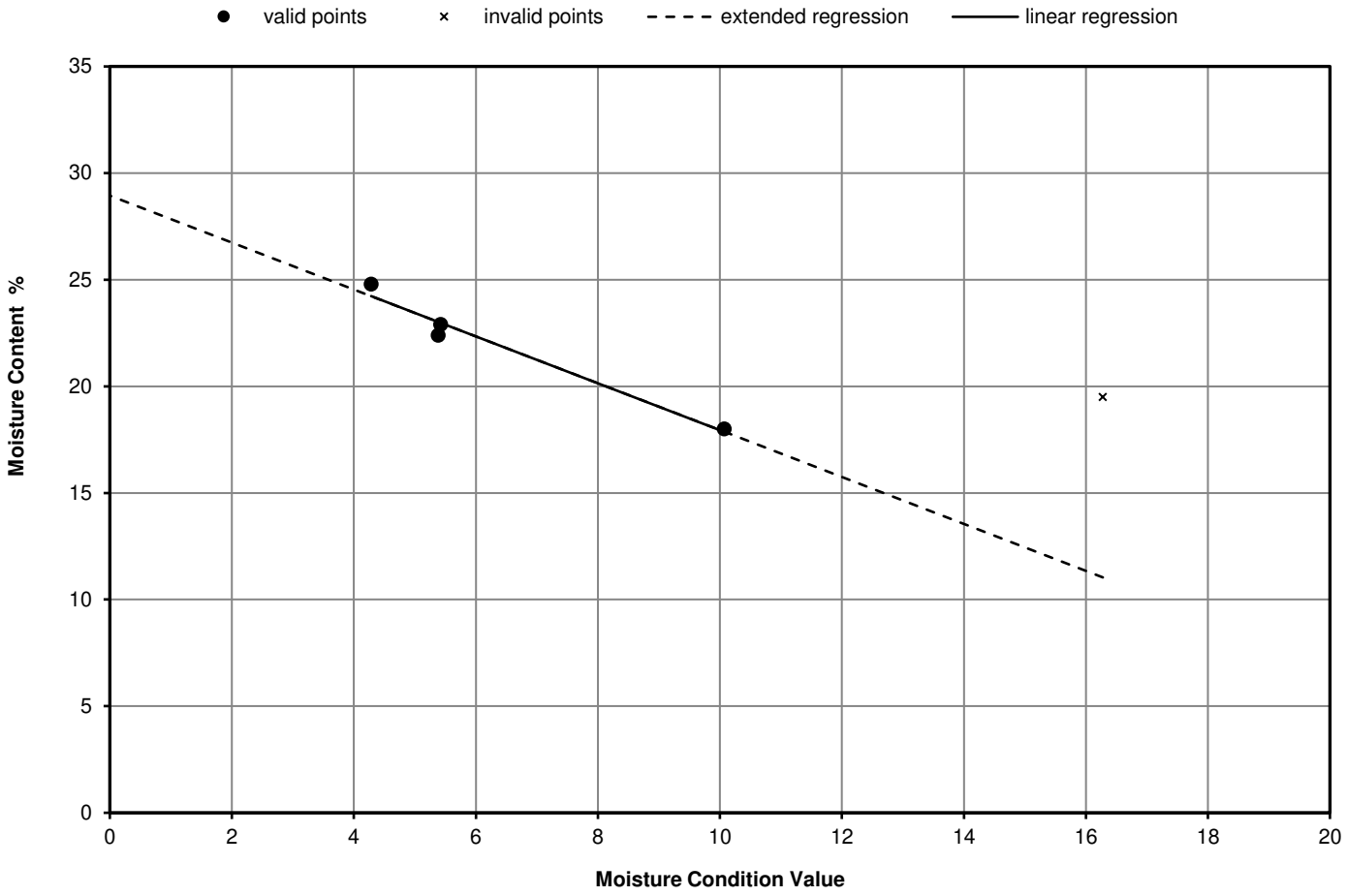


Table of results

MCV Test Number	1	2	3	4	5
Moisture Content, %	19.5	18.0	22.4	22.9	24.8
Moisture Condition Value	16.3	10.1	5.4	5.4	4.3
MCV report	16.3	10.1	5.4	5.4	4.3
Effective / Valid data point	NO	YES	YES	YES	YES

General remarks

Method of Preparation: BS 1377:Part 1:1990:7.6 Preparation of samples for compaction-related tests
BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

Method of Test: BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report 2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 11

DETERMINATION OF MOISTURE CONDITION VALUE / MOISTURE CONTENT RELATIONSHIP

Borehole / Trial Pit	Depth (m)	Sample	Description
BH05	0.5	B13	Brown gravelly, sandy SILT

Sample preparation Amount of material larger than 20mm sieve removed 4 %

Sample Used:

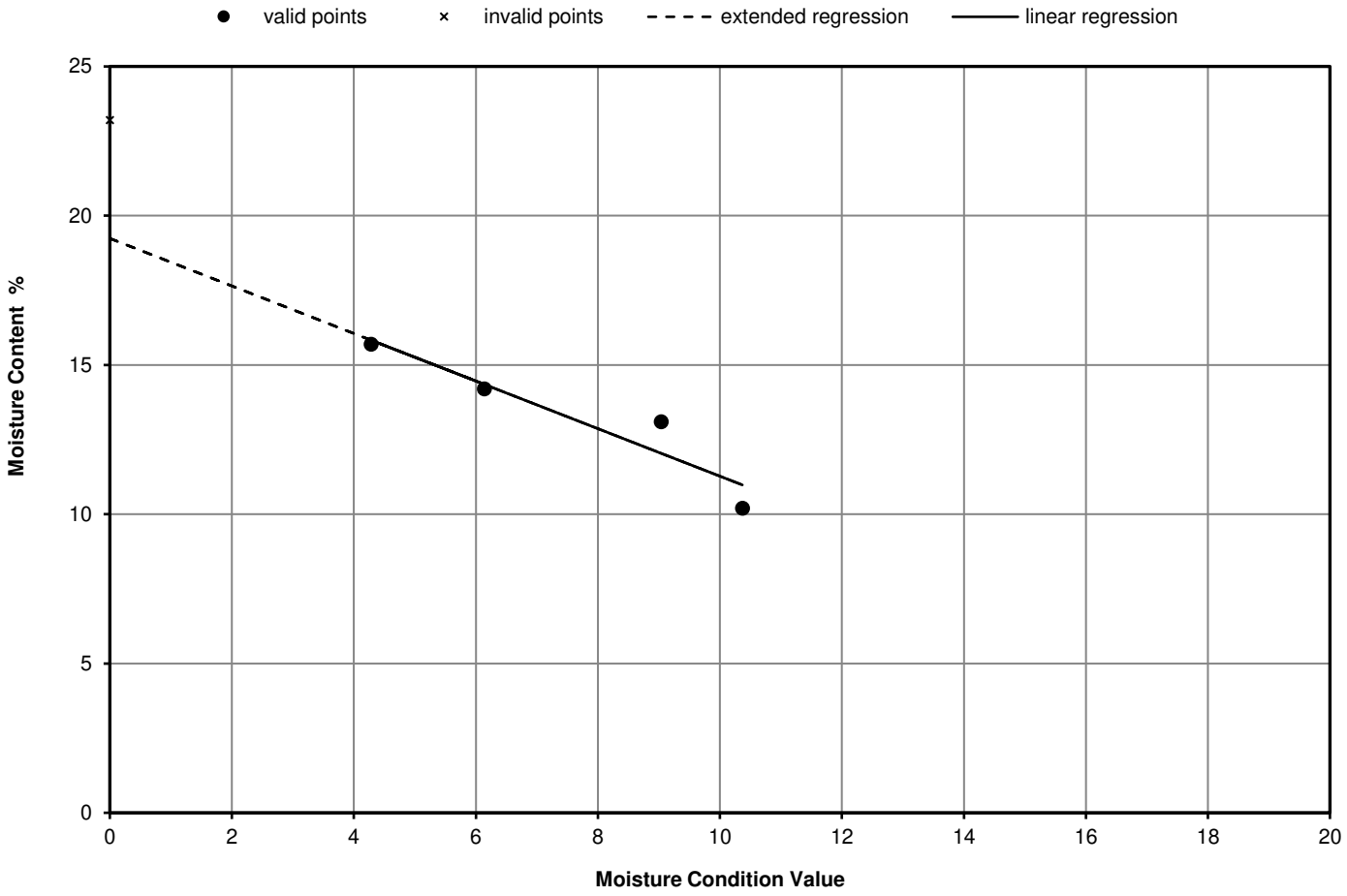


Table of results

MCV Test Number	1	2	3	4	5
Moisture Content, %	23.2	10.2	13.1	15.7	14.2
Moisture Condition Value	0.0	10.4	9.0	4.3	6.1
MCV report	<3	10.4	9	4.3	6.1
Effective / Valid data point		YES	YES	YES	YES

General remarks

Method of Preparation: BS 1377:Part 1:1990:7.6 Preparation of samples for compaction-related tests
BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

Method of Test: BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report | 2280575 / 2

Site: Elizabeth Street, Cheetham Hill | **Job Number:** 2280575

Client: Envirolab | **Page:** 12

DETERMINATION OF MOISTURE CONDITION VALUE / MOISTURE CONTENT RELATIONSHIP

Borehole / Trial Pit	Depth (m)	Sample	Description
TP06	2.5	B1	Black silty, sandy GRAVEL

Sample preparation Amount of material larger than 20mm sieve removed 32 %

Sample Used:

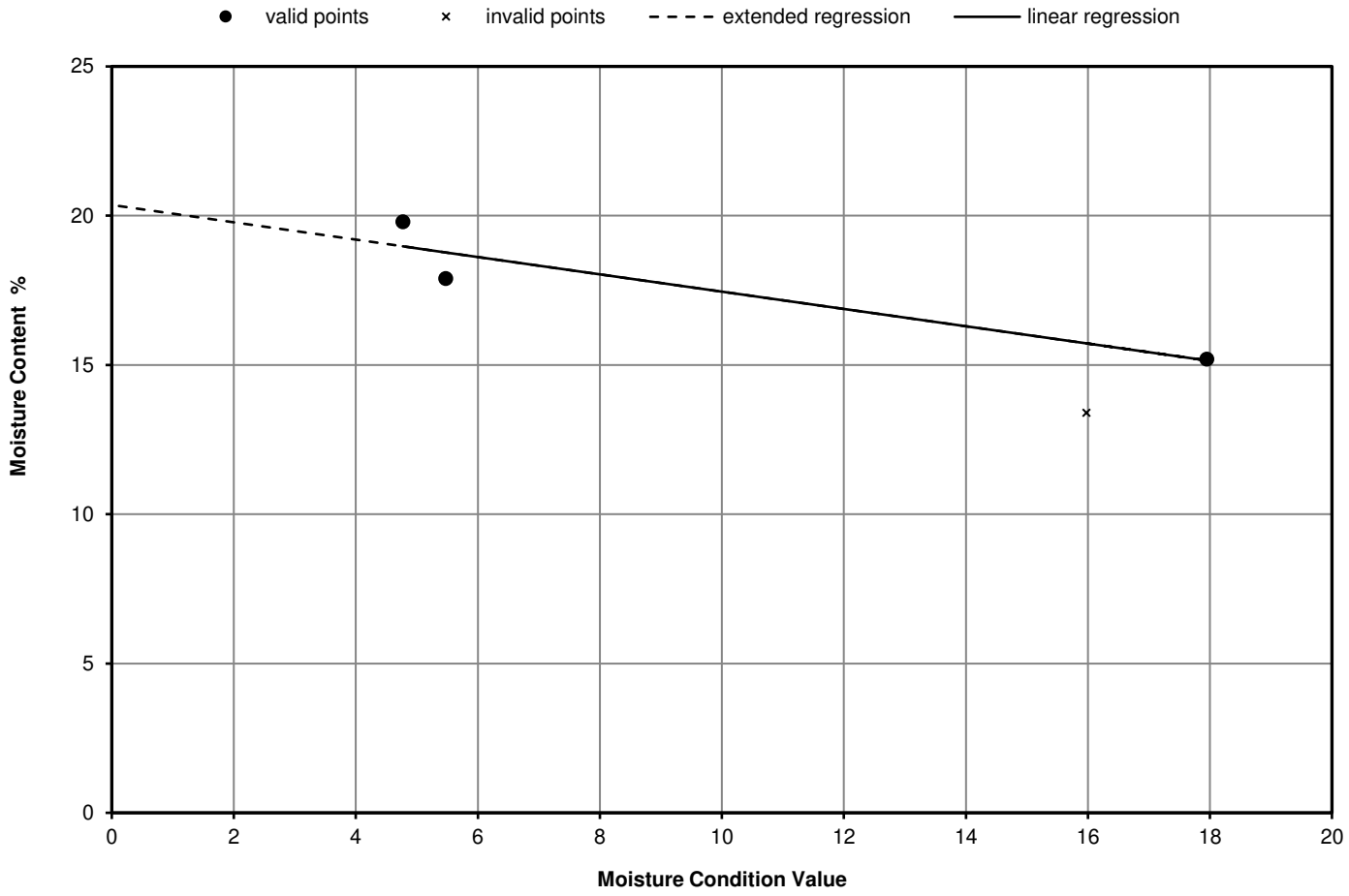


Table of results

MCV Test Number	1	2	3	4	
Moisture Content, %	13.4	15.2	17.9	19.8	
Moisture Condition Value	16.0	17.9	5.5	4.8	
MCV report	16	17.9	5.5	4.8	
Effective / Valid data point	NO	YES	YES	YES	

General remarks

Method of Preparation: BS 1377:Part 1:1990:7.6 Preparation of samples for compaction-related tests
BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

Method of Test: BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report	2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 13

DETERMINATION OF MOISTURE CONDITION VALUE / MOISTURE CONTENT RELATIONSHIP

Borehole / Trial Pit	Depth (m)	Sample	Description
TP08	0.9	B3	Brown gravelly, sandy SILT

Sample preparation Amount of material larger than 20mm sieve removed 3 %

Sample Used:

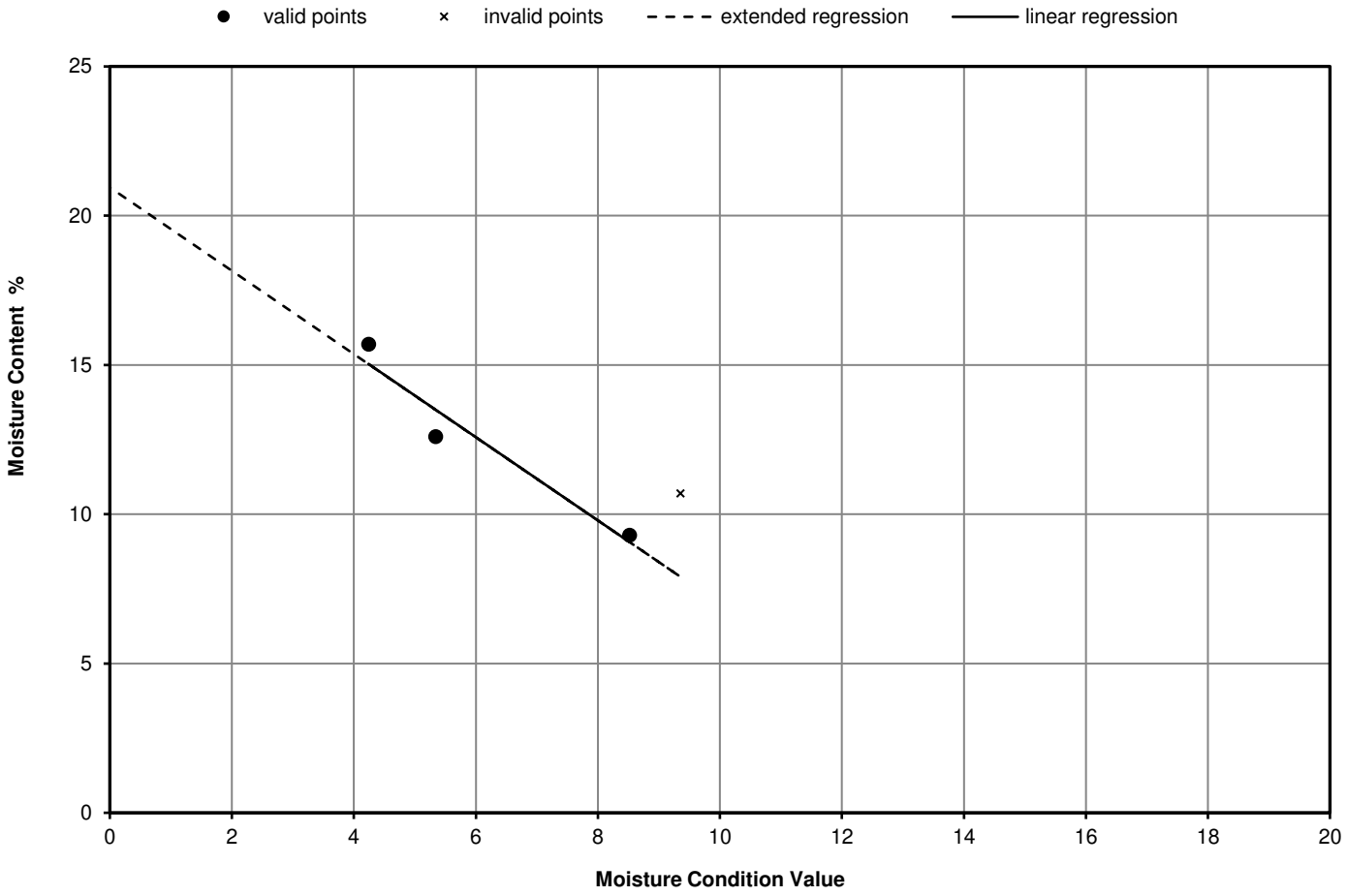


Table of results

MCV Test Number	1	2	3	4	
Moisture Content, %	15.7	9.3	10.7	12.6	
Moisture Condition Value	4.2	8.5	9.4	5.3	
MCV report	4.2	8.5	9.4	5.3	
Effective / Valid data point	YES	YES	NO	YES	

General remarks

Method of Preparation: BS 1377:Part 1:1990:7.6 Preparation of samples for compaction-related tests
BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

Method of Test: BS 1377:Part 4:1990:5.5 Determination of the MCV / moisture content relation of a soil

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report	2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 14

Determination of California Bearing Ratio (CBR)

Borehole / Trial Pit	Depth (m)	Sample	% Passing 20mm Sieve	Description
TP06	2.50	**B1**	**100%**	Black silty, sandy GRAVEL

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Initial Specimen details

Bulk density	1.86	Mg/m3
Dry density	1.59	Mg/m3
Moisture content	17	%

Soaking details: Not soaked

Period of soaking: days

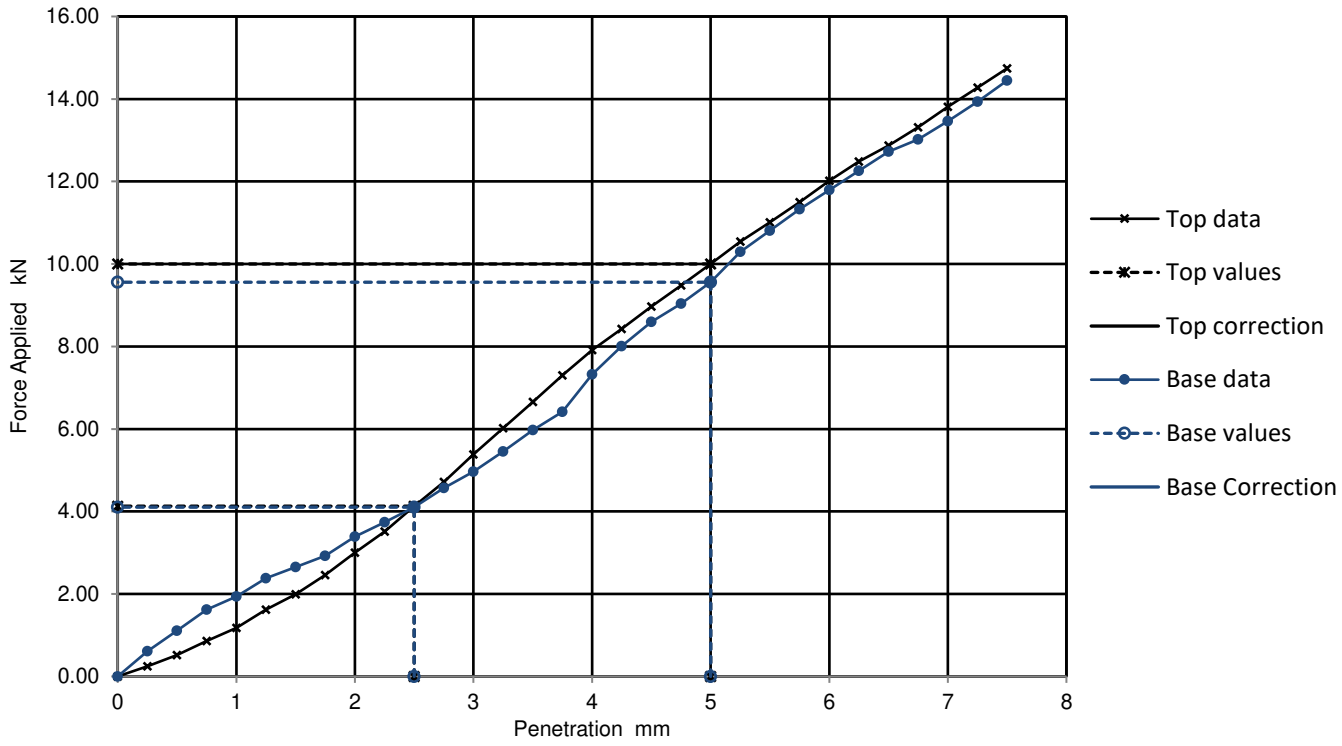
Time to surface: days

Amount of swell recorded: mm

Dry density after soaking: Mg/m3

Surcharge applied: 4.2 kg / 3 kPa

Force v Penetration Plots



RESULTS

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	Average	Moisture Content %
TOP	No	31.0	50.0	50.0	49.0	16
BASE	No	31.0	48.0	48.0		19

Approved
Tim Robinson

Method of Preparation: BS1377 : Part 4 : 1990, clause 7.2, Recompacted with specified standard effort using 2.5kg rammer

Method of Test: BS1377 : Part 4 : 1990, clause 7.4, Penetration test procedure to determine California Bearing Ratio (CBR)

Remarks:

Result reported relates only to the sample tested.

UKAS TESTING 1464

IAN FARMER ASSOCIATES

Laboratory Test Report	2280575 / 2

Site: Elizabeth Street, Cheetham Hill **Job Number:** 2280575

Client: Envirolab **Page:** 15

Determination of California Bearing Ratio (CBR)

Borehole / Trial Pit	Depth (m)	Sample	% Passing 20mm Sieve	Description
TP07	0.60	**B2**	**100%**	Brown gravelly, silty SAND

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Initial Specimen details

Bulk density	1.66	Mg/m3
Dry density	1.42	Mg/m3
Moisture content	17	%

Soaking details: Not soaked

Period of soaking: days

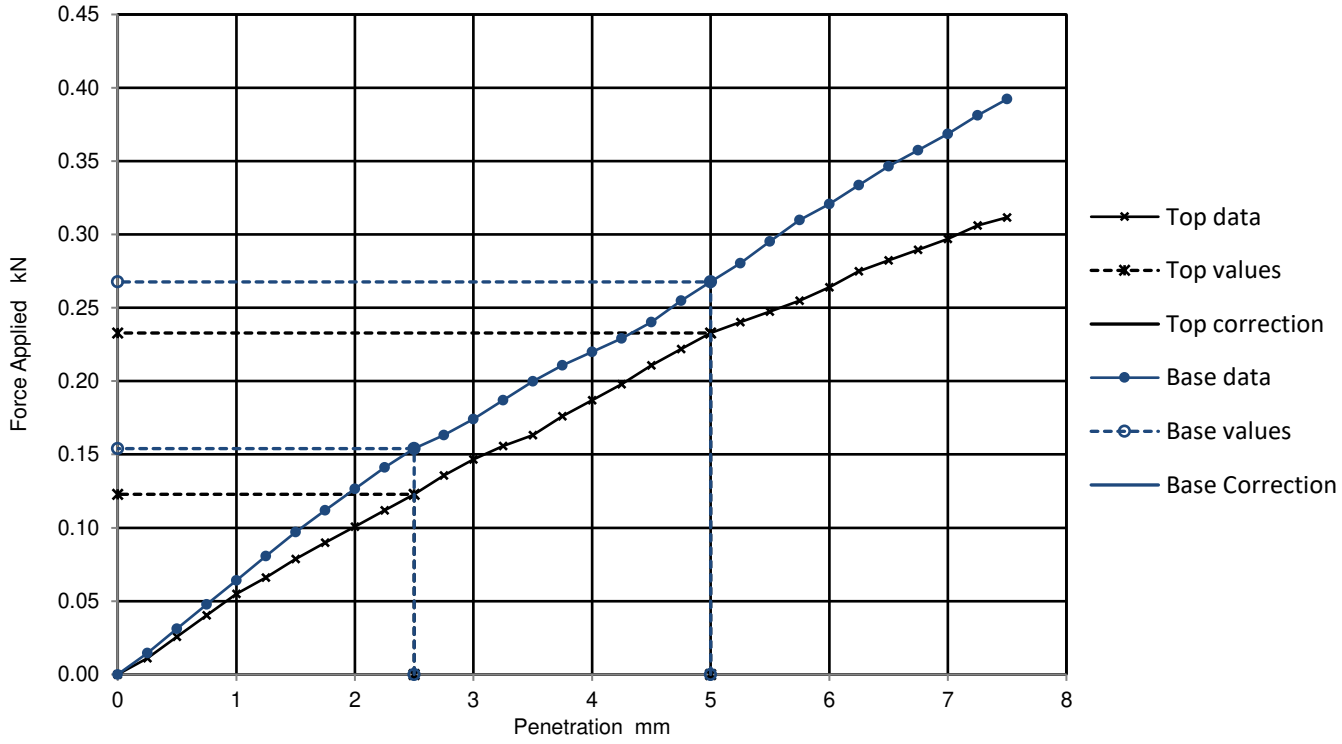
Time to surface: days

Amount of swell recorded: mm

Dry density after soaking: Mg/m3

Surcharge applied: 4.2 kg / 3 kPa

Force v Penetration Plots



RESULTS

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	0.9	1.2	1.2	1.3	19
BASE	No	1.2	1.3	1.3		17

Approved
Tim Robinson

Method of Preparation: BS1377 : Part 4 : 1990, clause 7.2, Recompacted with specified standard effort using 2.5kg rammer

Method of Test: BS1377 : Part 4 : 1990, clause 7.4, Penetration test procedure to determine California Bearing Ratio (CBR)

Remarks:

Result reported relates only to the sample tested.

UKAS TESTING 1464

Final Test Report - 2280575 / 2

Site:	Elizabeth Street, Cheetham Hill
Job Number:	2280575
Originating Client:	Envirolab

All opinions and interpretations contained within this report are outside of our Scope of Accreditation.

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Samples will be retained for 28 days from date of issue of the final test report before being disposed of, unless we receive written instruction to the contrary.

Report Issue Date: 05/07/2021

IAN FARMER ASSOCIATES

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washington@ianfarmer.co.uk www.ianfarmer.co.uk

RSK
Abbey Park
Humber Road
Coventry

F.A.O.

Final Test Report - 2280873 / 1

Site:	Elizabeth Street
Job Number:	2280873
Originating Client:	RSK
Originating Reference:	21/13851
Date Sampled:	Not Given
Date Scheduled:	06/01/2022
Date Testing Started:	14/01/2022
Date Testing Finished:	02/02/2022

Previous Reports		Amendments	Date Issued

Amendments:

Authorised By:

Tim Robinson
Quality Supervisor

Report Issue Date: 03/02/2022

Constructionline
Part of Capita plc

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AGS

IAN FARMER ASSOCIATES

Laboratory Test Report 2280873 / 1

Site: Elizabeth Street **Job Number:** 2280873

Client: RSK **Page:** 2

Determination of Moisture Content, Liquid Limit and Plastic Limit and Derivation of Plasticity and Liquidity Index

Borehole / Trial Pit	Depth (m)	Sample	Natural Moisture Content %	Natural - Stones removed by hand Sieved - Washed on 425 µm sieve			Liquid Limit %	Plastic Limit %	Plasticity Index %	Liquidity Index	Class	Description / Remarks
				Natural / Sieved	Percentage Passing %	Moisture Content %						
TP101	0.80	B	18	Sieved	27	53		NP				Black silty, sandy GRAVEL
WS101	2.00	B	17	Natural	100	17	40	19	21	-0.10	CI	Brown silty CLAY
WS102	4.00	D	18	Natural	100	18	43	20	23	-0.09	CI	Brown silty CLAY
WS104	2.00	D	24	Natural	98	24	43	20	23	0.19	CI	Brown silty CLAY

Method of Preparation: BS 1377 : Part 1 : 1990 : Clause 7 Preparation of disturbed samples for testing
BS 1377 : Part 1 : 2016 : Clause 8.4.3 Preparation of samples for plasticity tests
BS 1377 : Part 2 : 1990 : Clause 4.2 Preparation of samples for plastic limit tests

Method of Test: BS 1377 : Part 2 : 1990 : Clause 3.2 Determination of moisture content
BS 1377 : Part 2 : 1990 : Clause 4.3 or 4.4 Determination of the liquid limit
BS 1377 : Part 2 : 1990 : Clause 5.3 Determination of the plastic limit and plasticity index

UKAS TESTING 1464

Results reported relate only to the samples tested.

IAN FARMER ASSOCIATES

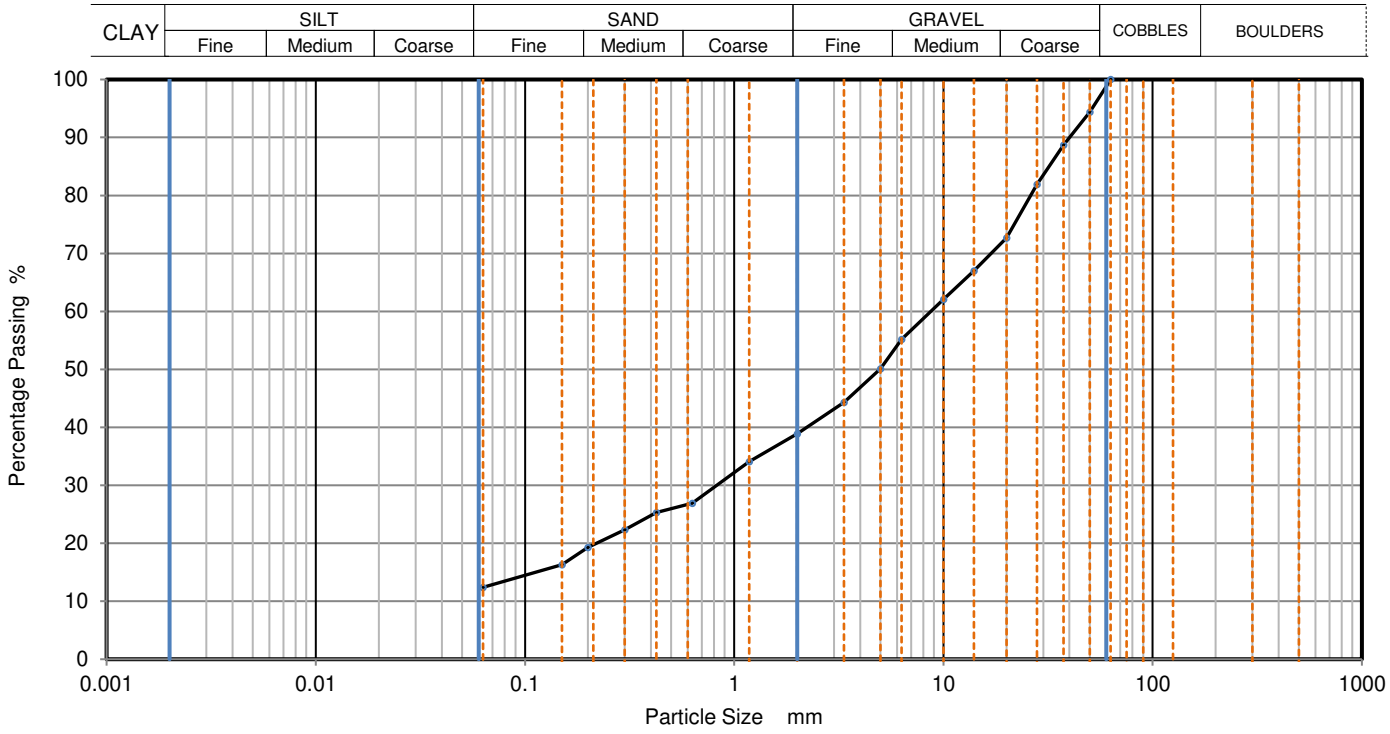
Laboratory Test Report 2280873 / 1

Site: Elizabeth Street **Job Number:** 2280873

Client: RSK **Page:** 3

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP101	0.80	B	Wet Sieve	Black silty, sandy GRAVEL



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100		
50	94		
37.5	89		
28	82		
20	73		
14	67		
10	62		
6.3	55		
5	50		
3.35	44		
2	39		
1.18	34		
0.63	27		
0.425	25		
0.3	22		
0.2	19		
0.15	16		
0.063	12		

Dry Mass of sample, g: 2139

Sample Proportions	% dry mass
Very coarse	0
Gravel	61
Sand	27
Fines <0.063mm	12

Grading Analysis		
D100	mm	63
D60	mm	8.68
D30	mm	0.827
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Method of Preparation: BS 1377:Part 1:1990, clause 7 3 Initial preparation
BS 1377:Part 1:1990, clause 7.4.5 Preparation of particle size tests

Method of Test: BS1377:Part 2:1990, clause 9.2 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

IAN FARMER ASSOCIATES

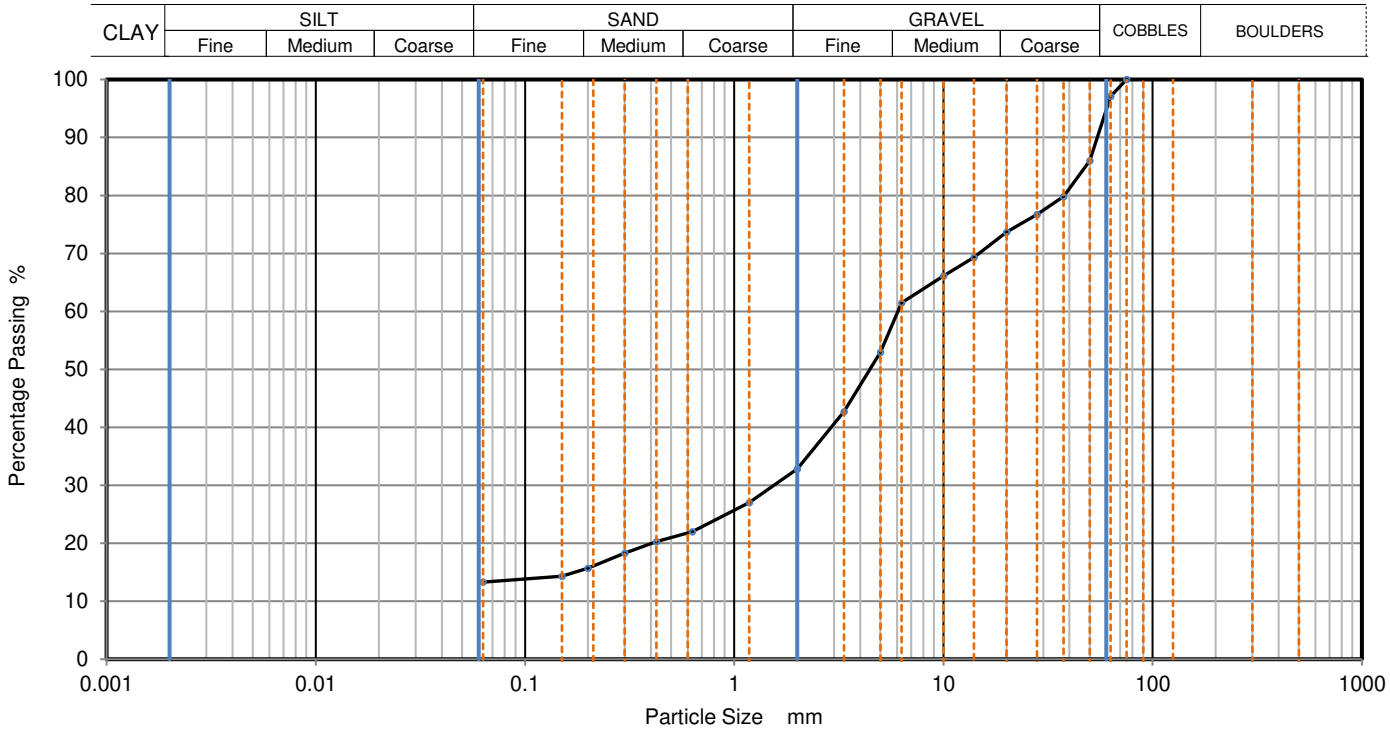
Laboratory Test Report 2280873 / 1

Site: Elizabeth Street **Job Number:** 2280873

Client: RSK **Page:** 4

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP103	1.10	B	Wet Sieve	Brown clayey, sandy GRAVEL



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	97		
50	86		
37.5	80		
28	77		
20	74		
14	69		
10	66		
6.3	62		
5	53		
3.35	43		
2	33		
1.18	27		
0.63	22		
0.425	20		
0.3	18		
0.2	16		
0.15	14		
0.063	13		

Dry Mass of sample, g: 1774

Sample Proportions	% dry mass
Very coarse	3
Gravel	64
Sand	20
Fines <0.063mm	13

Grading Analysis		
D100	mm	75
D60	mm	6.04
D30	mm	1.55
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Method of Preparation: BS 1377:Part 1:1990, clause 7 3 Initial preparation
BS 1377:Part 1:1990, clause 7.4.5 Preparation of particle size tests

Method of Test: BS1377:Part 2:1990, clause 9.2 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

IAN FARMER ASSOCIATES

Laboratory Test Report	2280873 / 1

Site: Elizabeth Street **Job Number:** 2280873

Client: RSK **Page:** 5

Determination of California Bearing Ratio (CBR)

Borehole / Trial Pit	Depth (m)	Sample	% Passing 20mm Sieve	Description
TP101	0.80	**B**	**100%**	Black silty, sandy GRAVEL

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer :

Curing Conditions: Cured for hours at °C

Initial Specimen details

Bulk density	1.94	Mg/m3
Dry density	1.66	Mg/m3
Moisture content	17	%

Soaking details: Not soaked

Period of soaking: days

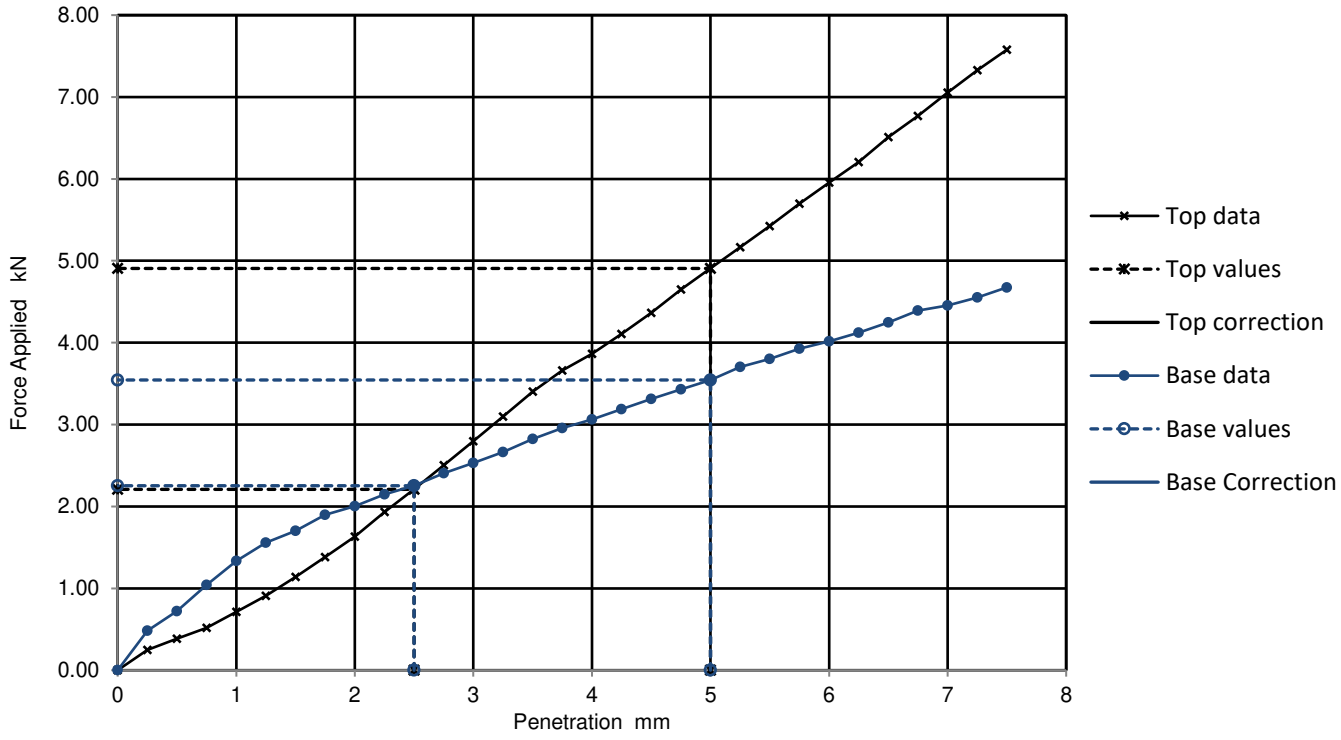
Time to surface: days

Amount of swell recorded: mm

Dry density after soaking: Mg/m3

Surcharge applied: 4.2 kg, 3 kPa

Force v Penetration Plots



RESULTS

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	17.0	25.0	25.0		20
BASE	No	17.0	18.0	18.0		18

Approved
Tim Robinson

Method of Preparation: BS1377 : Part 4 : 1990, clause 7.2, Recompacted with specified standard effort using 2.5kg rammer

Method of Test: BS1377 : Part 4 : 1990, clause 7.4, Penetration test procedure to determine California Bearing Ratio (CBR)

Remarks:

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report	2280873 / 1

Site: Elizabeth Street **Job Number:** 2280873

Client: RSK **Page:** 6

Determination of California Bearing Ratio (CBR)

Borehole / Trial Pit	Depth (m)	Sample	% Passing 20mm Sieve	Description
WS101	2.00	**B**	**100%**	Brown silty CLAY

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer :

Curing Conditions: Cured for hours at °C

Initial Specimen details

Bulk density	2.00	Mg/m3
Dry density	1.72	Mg/m3
Moisture content	16	%

Soaking details: Not soaked

Period of soaking: days

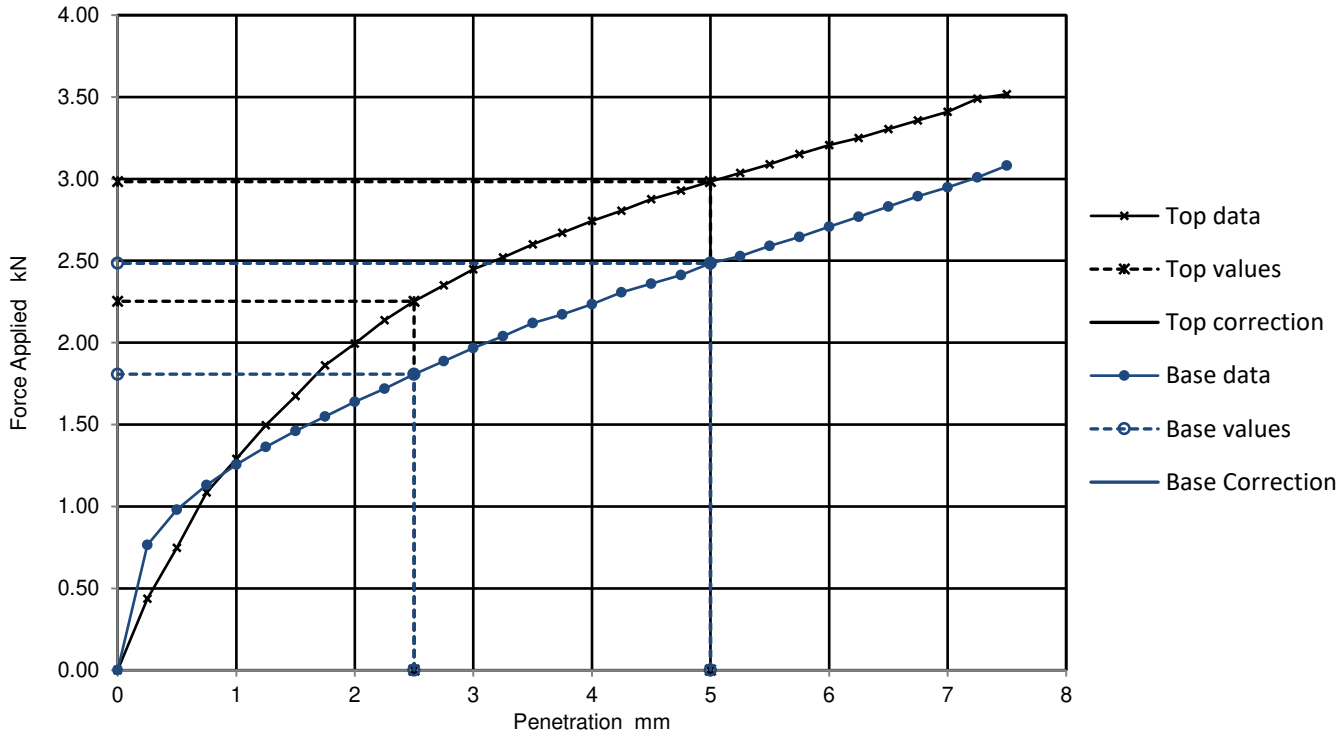
Time to surface: days

Amount of swell recorded: mm

Dry density after soaking: Mg/m3

Surcharge applied: 4.2 kg, 3 kPa

Force v Penetration Plots



RESULTS

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	17.0	15.0	17.0		17
BASE	No	14.0	12.0	14.0		17

Approved
Tim Robinson

Method of Preparation: BS1377 : Part 4 : 1990, clause 7.2, Recompacted with specified standard effort using 2.5kg rammer

Method of Test: BS1377 : Part 4 : 1990, clause 7.4, Penetration test procedure to determine California Bearing Ratio (CBR)

Remarks:

Result reported relates only to the sample tested.

Final Test Report - 2280873 / 1

Site:	Elizabeth Street
Job Number:	2280873
Originating Client:	RSK

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Samples will be retained for 28 days from date of issue of the final test report before being disposed of, unless we receive written instruction to the contrary.

Report Issue Date: 03/02/2022

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/13851
Issue Number: 1 **Date:** 03 February, 2022

Client: Curtins Consulting (Manchester)
Merchant Exchange
17-19 Whitworth Street
Manchester
UK
M1 5WG

Project Manager: EBMA/Niall Farnworth/Zoe Henderson
Project Name: Elizabeth Street
Project Ref: 80139
Order No: EBMA3174
Date Samples Received: 17/12/21
Date Instructions Received: 22/12/21
Date Analysis Completed: 03/02/22

Approved by:



Holly Neary-King
Client Services Supervisor

Envirolab Job Number: 21/13851

Client Project Name: Elizabeth Street

Client Project Ref: 80139

Lab Sample ID	21/13851/1	21/13851/3	21/13851/4	21/13851/5	21/13851/6	21/13851/7		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS101	WS102 D	WS104 D	TP101 x3 B	TP102 x3 B	TP103 x3 B				
Depth to Top	2	4.00	2.00	0.80	1.90	1.10				
Depth To Bottom	3.00									
Date Sampled	14-Dec-21	14-Dec-21	14-Dec-21	17-Dec-21	17-Dec-21	17-Dec-21				
Sample Type	Soil - B	Soil - D	Soil - D	Soil - B	Soil - B	Soil - B				
Sample Matrix Code	3A	3A	3A		4A	4A				
% Stones >10mm$_A$	<0.1	<0.1	<0.1	-	4.8	4.7		% w/w	0.1	A-T-044
pH BRE$_D^{M\#}$	8.49	8.54	7.99	-	8.09	7.90		pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D^{M\#}$	30	<10	10	-	27	253		mg/l	10	A-T-026s
Moisture Content of Soil (Oven Dried Method)$_A$	Appended	Appended	Appended	Appended	-	-				Subcon IFA
4 point Liquid & Plastic Limit by Cone Penetrometer$_A$	Appended	Appended	Appended	Appended	-	-				Subcon IFA
Item 24 CBR remoulded by 2.5kg Rammer BS 1377-4:1990 Clause 7$_A$	Appended	-	-	Appended	-	-				Subcon IFA
Particle Size Distribution (Wet Sieving Method)$_A$	-	-	-	Appended	-	Appended				Subcon IFA
Item 21 Dry Density/ Moisture Content Relationship Vibrating Hammer Method$_A$	-	-	-	-	Appended	Appended				Subcon IFA

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
TPH CWG *C1 indicates results with humics mathematically subtracted through instrument calculation
TPH CWG *C2 indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG with Clean Up $_{C1}$

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Curtins Consulting (Manchester), Merchant Exchange, 17-19 Whitworth Street , Manchester, UK, M1 5WG

Project: Elizabeth Street

Clients Project No: 80139

Project No: 21/13851

Date Received: 22/12/2021 (am)

Cool Box Temperatures (°C): 6.5

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/13851/1	21/13851/3	21/13851/4	21/13851/5	21/13851/6	21/13851/7
Client Sample No						
Client Sample ID/Depth	WS101 2-3.00m	WS102 D 4.00m	WS104 D 2.00m	TP101 x3 B 0.80m	TP102 x3 B 1.90m	TP103 x3 B 1.10m
Date Sampled	14/12/21	14/12/21	14/12/21	17/12/21	17/12/21	17/12/21
A-T-026s	05/01/2022	05/01/2022	05/01/2022		05/01/2022	05/01/2022
A-T-031s	05/01/2022	05/01/2022	05/01/2022		05/01/2022	05/01/2022
A-T-044	30/12/2021	30/12/2021	30/12/2021		30/12/2021	30/12/2021

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Appendix F Ground Gas and Groundwater Monitoring Results

- Ground gas monitoring results including groundwater monitoring levels
- GFM Gas Monitor Calibration Check Certificates

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Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	17/05/2021
Job Number:	B078695	**Visit:**	1
Client:	Kier Property Developments	**Weather:**	Rain
Barometric State:	Falling	**Ground Conditions:**	Wet

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	998	0.0	0.0	0.0	0.0	6.3	6.3	10.3	0	0	5.36	7.59	
BH02	997	0.0	0.0	0.0	0.0	6.4	6.4	7.5	0	0	5.80	6.05	
BH04	996	0.0	0.0	0.0	0.0	5.7	5.7	8.2	0	0	Dry	5.05	
BH05	997	0.0	0.0	2.2	2.2	1.3	1.3	0.3	0	0	Dry	5.00	**1,2**

Notes

1 Max LEL = 50.7%
2 Hydrogen sulphide (rotten egg) odour when bung removed from pipework

Logged by

SH

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	04/06/2021
Job Number:	B078695	**Visit:**	2
Client:	Kier Property Developments	**Weather:**	Sunny + warm
Barometric State:	Steady	**Ground Conditions:**	Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1017	0.0	0.0	0.0	0.0	7.2	7.2	8.60	0	0	5.6	7.52	
BH02	1017	0.0	0.0	0.0	0.0	6.9	6.9	5.80	0	0	5.93	6.05	
BH04	1017	0.0	0.0	0.0	0.0	6.4	6.4	5.60	0	0	Dry	4.95	
BH05	1017	0.0	0.0	2.1	2.1	1.2	1.2	0.20	0	0	Dry	4.94	**1**

Notes

1 Max LEL = 48.3%

Logged by

SH

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	11/06/2021
Job Number:	B078695	**Visit:**	3
Client:	Kier Property Developments	**Weather:**	Sunny, warm
Barometric State:	Rising	**Ground Conditions:**	Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1011	0.0	0.0	0.0	0.0	7.7	7.7	7.9	0	0	5.56	7.56	
BH02	1011	0.0	0.0	0.0	0.0	7.0	7.0	7.0	0	0	5.93	6.05	
BH04	1011	0.0	0.0	0.0	0.0	7.6	7.6	4.0	0	0	Dry	4.95	
BH05	1011	0.0	0.0	2.0	2.0	1.4	1.4	0.1	0	0	Dry	4.95	**1**

Notes

1 Max LEL = 45.9%

Logged by

SH

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project: Elizabeth St, Cheetham Hill **Date**: 17/06/2021

Job Number: B078695 **Visit:** 4

Client: Kier Property Developments **Weather:** Sunny, warm

Barometric State: Rising **Ground Conditions:** Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1005	0.0	0.0	0.0	0.0	8.0	8.0	8.0	0	0	5.55	7.56	
BH02	1005	0.0	0.0	0.0	0.0	7.3	7.3	4.9	0	0	5.95	6.05	
BH04	1006	0.0	0.0	0.0	0.0	7.9	7.9	3.5	0	0	Dry	4.95	
BH05	1007	0.0	0.0	1.9	1.8	1.7	1.5	0.1	0	0	Dry	4.95	

Notes

Logged by

TW

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	22/12/2021
Job Number:	B080139	**Visit:**	1
Client:	Kier Property Developments	**Weather:**	Cold, Cloudy
Barometric State:	Falling	**Ground Conditions:**	Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1018	-1.2	-1.2	0.0	0.0	6.9	6.9	11.3	0	2	6.63	7.59	**1**
BH02	1018	-1.8	-1.2	0.0	0.0	9.2	9.2	2.8	0	1	6.14	6.05	**1,2**
BH04	1018	-1.0	-1.0	0.0	0.0	9.0	9.0	1.3	1	2	Dry	5.05	**1**
BH05	1018	-1.4	-1.1	2.0	2.0	1.7	1.7	0.0	0	1	Dry	5.00	**1,2,3**
WS101	1018	-1.0	-1.0	0.0	0.0	1.4	1.4	18.6	0	0	Dry	4.00	
WS102	1018	-1.1	-1.0	0.0	0.0	2.9	2.9	16.9	0	0	Dry	2.91	**2**
WS103	1018	-	-	-	-	-	-	-	-	-	Dry	3.82	**4**

Notes

1 Borehole cover lock broken off
2 Steady state gas flow after 1 minute.
3 LEL = 46.4%
4 Gas tap open - no gas monitored.

Logged by

TW

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
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Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	06/01/2022
Job Number:	B080139	**Visit:**	2
Client:	Kier Property Developments	**Weather:**	Cloudy
Barometric State:	Falling	**Ground Conditions:**	Wet

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1012	-2.6	-1.6	0.0	0.0	7.6	7.5	8.70	0	0	5.8	7.60	
BH02	1010	-3.0	-1.6	0.0	0.0	9.4	9.4	1.70	0	0	6.13	6.18	
BH04	1014	-1.8	-1.6	0.0	0.0	9.3	9.3	0.20	0	0	5	5.15	
BH05	1013	-1.6	-1.6	0.0	0.0	1.8	1.7	0.00	0	0	5	5.00	
WS101	1010	-1.0	-1.0	0.0	0.0	1.5	1.4	18.4	0	0	2.40	4.00	
WS102	1010	-3.8	-1.9	0.0	0.0	1.6	1.1	19.4	0	0	2.33	2.82	
WS104	1010	-15.3	-2.6	0.0	0.0	5.6	2.0	16.7	0	0	0.74	2.89	**1**

Notes

1 Flow slowly decreases after 3 minutes.

Logged by

ZH

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	20/01/2022
Job Number:	B080139	**Visit:**	3
Client:	Kier Property Developments	**Weather:**	Sunny
Barometric State:	Rising	**Ground Conditions:**	Frozen

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1036	-0.3	0.0	0.0	0.0	0.1	0.1	20.3	0	0	5.72	7.66	
BH02	1035	-0.7	-0.6	0.0	0.0	1.7	1.7	17.1	0	0	6.25	6.27	
BH04	1034	0.1	0.0	0.0	0.0	9.2	9.2	0.4	0	0	5.16	5.16	
BH05	1036	0.0	0.0	1.8	1.8	1.7	1.6	0.0	0	0	5.05	5.05	
WS101	1037	-	-	-	-	-	-	-	-	-	-	-	1
WS102	1040	0.7	0.0	0.0	0.0	1.2	1.2	19.5	0	0	2.97	3.83	
WS104	1036	-1.0	-0.6	0.0	0.0	3.2	3.2	17.0	0	0	0.94	2.90	

Notes

1 Unable to unscrew flush cover.

Logged by

ZH

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

Curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

GAS MONITORING LOG SHEET

Project:	Elizabeth St, Cheetham Hill	**Date:**	31/01/2022
Job Number:	B080139	**Visit:**	4
Client:	Kier Property Developments	**Weather:**	Sunny
Barometric State:	Rising	**Ground Conditions:**	Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Carbon Monoxide ppm	Water Level m bgl	Borehole Base m bgl	Note
		Max	SS	Max	SS	Max	SS						
BH01	1017	-0.5	-0.4	0.0	0.0	0.4	0.4	12.0	0	0	5.57	7.62	
BH02	1017	-0.1	0.0	0.0	0.0	8.7	8.7	5.3	0	0	6.25	6.25	
BH04	1023	-0.3	-0.2	0.0	0.0	8.9	6.9	1.5	0	0	5.13	5.13	
BH05	1020	0.3	0.0	1.6	1.6	2.4	1.5	0.0	0	0	4.98	5.04	
WS101	1017	-	-	-	-	-	-	-	-	-	-	-	**1**
WS102	1017	-0.4	-0.3	0.0	0.0	3.5	0.9	20.0	0	0	2.87	3.80	
WS104	1017	9.6	0.3	0.0	0.0	5.5	3.4	16.3	0	1	0.93	2.91	**2**

Notes

1 Unable to unscrew flush cover.
2 Fluctuating steady state from 0.3 to 3.0. Continues to fluctuate for 2+ minutes.

Logged by

ZH

1% gas volume = 10,000 ppm
Flow rate, methane and carbon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

TEST DATE AND CONDITIONS		
Date	26/02/2021	
Atmospheric Pressure	1018	mB
Ambient Temperature	21.6	°C
Environics Serial No.	5089	

GAS DATA LTD
Unit 4, Fairfield Court
Seven Stars Estate
Wheler Rd
Coventry
CV3 4LJ
Tel 02476303311 Fax 02476307711

GFM435 Final Inspection & Calibration Check Certificate

Customer	Ribble Enviro Ltd
Certificate Number	122324
Order Number	327880

Serial Number	11968
Software Version	G435-00.0024/0004

Recalibration DUE Date
26/02/22

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	500	*Accept > 200 cc/min*	Pump Flow @ -200mB	300	*Accept > 200 cc/min*
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
	CH_4		CO_2		O_2	
	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %
Sensor	59.4	*60*	39.3	*40*	20.9	*20.9*
	Accept ±3.0		*Accept ±3.0*		*Accept ±0.5*	
	5	*5*	4.9	*5*	6	*6*
	Accept ±0.3		*Accept ±0.3*		*Accept ±0.3*	
Zero Reading 100% N2	0	*0*	0	*0*	0	*0*
	Accept ±0.0		*Accept ±0.0*		*Accept ±0.1*	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings *(ppm)*			
			Zero Reading		Instrument Gas Reading	
Gas Type	Range (*ppm*)					
H2S	5000	*1500*	0	*Accept ±0.0*	1500	*Accept ±5.0*
CO	2000	*1000*	0	*Accept ±0.0*	996	*Accept ±5.0*
Hexane	*2.0%*	2.0%	0	*Accept ±0.0*	1.99	*Accept ±10.0*

Cross Gas Effects									
Applied Gas *(ppm)*		Instrument Readings *(ppm)*							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	*1500*	1500		0		0			
CO	*1000*	30		996		0			
Hexane	*2.0%*	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] *(mB)*			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		1018	*Accept ±2.0*
AP Port (Internal)	*+800 mB*	800	*Accept ±5.0*
	+1200mb	1200	*Accept ±5.0*

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading *(l/h)*	Instrument Reading *(l/h)*		Applied Pressure *(Pa)*	Instrument Reading *(Pa)*	
-30	-30	*Accept ±3.0*	-278	-278	*Accept ±50*
-3	-3	*Accept ±1.0*	-13	-13	*Accept ±6.0*
0	0	*Accept ±0.0*	0	0	*Accept ±0.5*
3	3	*Accept ±0.5*	13	13	*Accept ±3.0*
30	30	*Accept ±3.0*	293	295	*Accept ±50*
60	60	*Accept ±6.0*	899	899	*Accept ±130*
90	91	*Accept ±9.0*	1815	1864	*Accept ±250*

Temperature Checks		
Calibration Temperature Applied Temperature ^{0}C	Instrument Temperature Reading ^{0}C	
-10	-10	*Accept ±2.0*
0	0	*Accept ±1.0*
30	30	*Accept ±1.0*
60	60	*Accept ±1.0*
100	100	*Accept ±1.0*

Technician:	Date Tested:
Jack Rutland	*01/03/2021*

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to BS EN ISO9001:2015. Certificate NQA 8374. Valid until 21/03/2022

Appendix G GAC Screening Thresholds

- Curtins GACs.

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Adopted Soil Generic Assessment Criteria
Sandy loam with 6% SOM

curtins

Contaminants	Residential with home grown produce	Residential without home grown produce	Allotments	Commercial	Public open space near residential housing POS_{resi}	Public park POS_{park}
Metals						
Beryllium	*1.7*	*1.7*	*35*	*12*	*2.2*	*63*
Boron	*290*	*11,000*	*45*	*240,000*	*21,000*	*46,000*
Cadmium	**10**[13] 22	**85**[13] 150	**1.8** 3.9	**230** 410	*120* 220	*560* 880
Chromium III	*910*	*910*	*18,000*	*8,600*	*1,500*	*33,000*
Chromium VI	*6* 21	*6* 21	*1.8* 170	*33* 49	*7.7* 21	*220* 250
Lead	200	310	80	2,300	630	1,300
Mercury *(elemental)*	**1**	**1**	**26**	**26**	*16*	**26**[8] [*30*]
Mercury (inorganic)	**170**	**240**	**80**	**3600**	*120*	*240*
Nickel	*130*[10]	*180*[10]	*53*[11]	*980*[10]	*230*	*800*
Vanadium	*410*	*1200*	*91*	*9000*	*2000*	*5000*
Copper	*2400*	*7100*	*520*	*68000*	*12000*	*44000*
Zinc	*3700*	*40000*	*620*	*730000*	*81000*	*170000*
Semi-Metals and non-metals						
Arsenic	**32**[12] 37	**35**[12] 40	**43**[12] 49	**640**[12] 640	*79* 79	*170* 170
Antimony		***550***		***7500***	***1500***	***3300***
Selenium	**350**	**600**	**120**	**13000**	*1100*	*1800*
Inorganic chemicals						
Cyanide	34	34	34	34	34	34
Organic contaminants						
Aliphatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_6	*160*	*160*	*3900*	*12000*	*600000*	*180000*
$EC_{>6}$ - EC_8	*530*	*530*	*13000*	*40000*	*620000*	*320000*
$EC_{>8}$ - EC_{10}	*150*	*150*	*1700*	*11000*	*13000*	*21000*
EC_{10}-EC_{12}	*760*	*770*	*7300*	*47000*	*13000*	*24000*
EC_{12}-EC_{16}	*4300*	*4400*	*13000*	*90000*	*13000*	*26000*
$EC_{>16}$ - EC_{35}	*110000*	*110000*	*270000*	*1800000*	*250000*	*490000*
$EC>_{35}$ - EC_{44}	*110000*	*110000*	*270000*	*1800000*	*250000*	*490000*
Aromatic risk banded hydrocarbons - TPHCWG method						
$EC>_5$ - EC_7	*300*	*1400*	*57*	*86000*	*56000*	*92000*
$EC>_7$ - EC_8	*660*	*3900*	*120*	*180000*	*56000*	*100000*
$EC_{>8}$ - EC_{10}	*190*	*270*	*51*	*17000*	*5000*	*9300*
EC_{10} - EC_{12}	*380*	*1200*	*74*	*34000*	*5000*	*10000*
EC_{12} - EC_{16}	*660*	*2500*	*130*	*38000*	*5000*	*10000*
$EC_{>16}$ - EC_{21}	*930*	*1900*	*260*	*28000*	*3800*	*7800*
$EC_{>21}$ - EC_{35}	*1700*	*1900*	*1600*	*28000*	*3800*	*7900*
$EC>_{35}$ - EC_{44}	*1700*	*1900*	*1600*	*28000*	*3800*	*7900*
Aliph + Arom EC >44-70	*1900*	*1900*	*3000*	*28000*	3800	7900
Aromatic						
Benzene	**0.33** 0.87	**1.0** 3.3	**0.07** 0.18	**95** 98	*73* 140	*110* 230
Ethyl benzene	**350**	**840**	**90**	**2800**[8] [66000]	**2800**[8] [*25000*]	**2800**[8] [*27000*]
Toluene	**610**	**2700**	**120**	**4400**[8] [190000]	**4400**[8] [*56000*]	**4400**[8] [*100000*]
Xylene[9]	**230**	**290**	**160**	**2600**[8] [32000]	**2600**[8] [*43000*]	**2600**[8] [*31000*]
Phenol	**420**	**520**	**280**	**3200**[14] (38000)	**3200**[14] (*10000*)	**3200**[14] (*9300*)
Polycyclic Aromatic Hydrocarbons (PAH)						
Naphthalene	*13*	*13*	*24*	*1100*	*4900*	*3000*
Acenaphthylene	*920*	*6000*	*160*	*100000*	*15000*	*30000*
Acenaphthene	*1100*	*6000*	*200*	*100000*	*15000*	*30000*
Fluorene	*860*	*4500*	*160*	*71000*	*9900*	*20000*
Phenanthrene	*440*	*1500*	*90*	*23000*	*3100*	*6300*
Anthracene	*11000*	*37000*	*2200*	*540000*	*74000*	*150000*
Fluoranthene	*890*	*1600*	*290*	*23000*	*3100*	*6400*
Pyrene	*2000*	*3800*	*620*	*54000*	*7400*	*15000*
Benz(a)anthracene	*13*	*15*	*13*	*180*	*29*	*62*
Chrysene	*27*	*32*	*19*	*350*	*57*	*120*
Benzo(b)fluoranthene	*3.7*	*4.0*	*3.9*	*45*	*7.2*	*16.0*
Benzo(k)fluoranthene	*100*	*110*	*130*	*1200*	*190*	*440*
Benzo(a)pyrene	*3.0* 5.0	*3.2* 5.3	*3.5* 5.7	*36* 77	*5.7* 10	*13* 21
Indeno(123cd)pyrene	*41*	*46*	*39*	*510*	*82*	*180*
Dibenzo(ah)anthracene	*0.3*	*0.32*	*0.43*	*3.6*	*0.58*	*1.4*
Benzo(ghi)perylene	*350*	*360*	*640*	*4000*	*640*	*1600*
Chlorinated Aliphatic Hydrocarbons						
Vinyl chloride	*0.0014*	*0.0015*	*0.0018*	*0.12*	*3.5*	*5.4*
Trichloroethene (TCE)	*0.075*	*0.08*	*0.21*	*5.7*	*120*	*120*
1,1,1,2 Tetrachlorethane	*6.4*	*8.2*	*4.4*	*560*	*1400*	*2100*
Tetrachlorethene (PCE)	*0.90*	*0.92*	*3.6*	*95*	*1400*	*1500*
1,1,1 Trichlorethane	*39*	*40*	*240*	*3000*	*140000*	*100000*

Notes

1. All values above are in mg/kg
2. **Numbers in bold are SGVs or GAC that are derived based on SGV report input parameters**, *numbers in italics are S4ULs*, ***numbers in bold-italics are based on EIC/AGS/CL:AIRE numbers & input parameters*** and underlined numbers are C4SLs
3. Soil organic matter (SOM) is assumed to be 6% - DEFAULT VALUE
4. Soil type is assumed to be sandy loam - DEFAULT SOIL TYPE
5. For residential, the building type is conservatively assumed to be a small terrace house where the development includes bungalows change to more conservative bungalow setting in computer model
6. For commercial, the building type is conservatively assumed to be a pre 1970s office building, where the proposed development comprises houses, flat with living spaces changes setting in model accordingly
7. For classrooms consider increasing the dust loading fator in the 'Soil and Building Data' of the CLEA 1.04 model from 50 to 100µg m^{-3}
8. Based on vapour saturation limt as suggested by EA / [ ] model value
9. Lowest of o-, m- and p-xylene
10. Based on comparison of inhalation exposure with inhalation TDI
11. Based on comparison of oral, dermal, and inhalation exposure with the oral TDI
12. Based on a comparison of oral and dermal soil exposure with oral Index Dose only
13. Averaged over and based on lifetime exposure
14. Based on critical concentration for skin irritation in humans arising from contact with phenol in aqueous solution (number in brackets based on health effects following long term exposure for illustration)
15. NA: Not applicable

Adopted Soil Generic Assessment Criteria
Sandy loam with 2.5% SOM

curtins

Contaminants	Residential with home grown produce	Residential without home grown produce	Allotments	Commercial	Public open space near residential housing POS_{resi}	Public park POS_{park}
Metals						
Beryllium	*1.7*	*1.7*	*35*	*12*	*2.2*	*63*
Boron	*290*	*11,000*	*45*	*240,000*	*21,000*	*46,000*
Cadmium	**10**[13] 22	**85**[13] 150	**1.8** 3.9	**230** 410	*120* 220	*560* 880
Chromium III	*910*	*910*	*18,000*	*8,600*	*1,500*	*33,000*
Chromium VI	*6* 21	*6* 21	*1.8* 170	*33* 49	*7.7* 21	*220* 250
Lead	200	310	80	2,300	630	1,300
Mercury *(elemental)*	**1**	**1**	**26**	**26**	*16*	**26**[8] [*30*]
Mercury (inorganic)	**170**	**240**	**80**	**3600**	*120*	*240*
Nickel	*130*[10]	*180*[10]	*53*[11]	*980*[10]	*230*	*800*
Vanadium	*410*	*1200*	*91*	*9000*	*2000*	*5000*
Copper	*2400*	*7100*	*520*	*68000*	*12000*	*44000*
Zinc	*3700*	*40000*	*620*	*730000*	*81000*	*170000*
Semi-Metals and non-metals						
Arsenic	**32**[12] 37	**35**[12] 40	**43**[12] 49	**640**[12] 640	*79* 79	*170* 170
Antimony		***550***		***7500***	***1500***	***3300***
Selenium	**350**	**600**	**120**	**13000**	*1100*	*1800*
Inorganic chemicals						
Cyanide	34	34	34	34	34	34
Organic contaminants						
Aliphatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_6	*78*	*78*	*1700*	*5900*	*590000*	*130000*
$EC_{>6}$ - EC_8	*230*	*230*	*5600*	*17000*	*610000*	*220000*
$EC_{>8}$ - EC_{10}	*65*	*65*	*770*	*4800*	*13000*	*18000*
EC_{10}-EC_{12}	*330*	*330*	*4400*	*23000*	*13000*	*23000*
EC_{12}-EC_{16}	*2400*	*2400*	*13000*	*82000*	*13000*	*25000*
$EC_{>16}$ - EC_{35}	*92000*	*92000*	*270000*	*1700000*	*250000*	*480000*
$EC>_{35}$ - EC_{44}	*92000*	*92000*	*270000*	*1700000*	*250000*	*480000*
Aromatic risk banded hydrocarbons - TPHCWG method						
$EC>_5$ - EC_7	*140*	*690*	*27*	*46000*	*56000*	*84000*
$EC>_7$ - EC_8	*290*	*1800*	*51*	*110000*	*56000*	*95000*
$EC_{>8}$ - EC_{10}	*83*	*110*	*21*	*8100*	*5000*	*8500*
EC_{10} - EC_{12}	*180*	*590*	*31*	*28000*	*5000*	*9700*
EC_{12} - EC_{16}	*330*	*2300*	*57*	*37000*	*5100*	*10000*
$EC_{>16}$ - EC_{21}	*540*	*1900*	*110*	*28000*	*3800*	*7700*
$EC_{>21}$ - EC_{35}	*1500*	*1900*	*820*	*28000*	*3800*	*7800*
$EC>_{35}$ - EC_{44}	*1500*	*1900*	*820*	*28000*	*3800*	*7800*
Aliph + Arom EC >44-70	*1800*	*1900*	*2100*	*28000*	3800	7800
Aromatic						
Benzene	**0.16**	**0.49**	**0.035**	**50**	*72*	*100*
Ethyl benzene	**150**	**380**	**39**	**1200**[8] [35000]	**1200**[8] [*24000*]	**1200**[8] [*22000*]
Toluene	**270**	**1300**	**51**	**1900**[8] [110000]	**1900**[8] [*56000*]	**1900**[8] [*95000*]
Xylene[9]	**98**	**120**	**70**	**1200**[8] [14000]	**1200**[8] [*42000*]	**1200**[8] [*23000*]
Phenol	**290**	**420**	**140**	**1500**[14] (35000)	**1500**[14] (*10000*)	**1500**[14] (*8300*)
Polycyclic Aromatic Hydrocarbons (PAH)						
Naphthalene	*5.6*	*5.6*	*10*	*460*	*4900*	*1900*
Acenaphthylene	*420*	*4600*	*69*	*97000*	*15000*	*30000*
Acenaphthene	*510*	*4700*	*85*	*97000*	*15000*	*30000*
Fluorene	*400*	*3800*	*67*	*68000*	*9900*	*20000*
Phenanthrene	*220*	*1500*	*38*	*22000*	*3100*	*6200*
Anthracene	*5400*	*35000*	*950*	*540000*	*74000*	*150000*
Fluoranthene	*560*	*1600*	*130*	*23000*	*3100*	*6300*
Pyrene	*1200*	*3800*	*270*	*54000*	*7400*	*15000*
Benz(a)anthracene	*11*	*14*	*6.5*	*170*	*29*	*56*
Chrysene	*22*	*31*	*9.4*	*350*	*57*	*110*
Benzo(b)fluoranthene	*3.3*	*4.0*	*2.1*	*44*	*7.2*	*15*
Benzo(k)fluoranthene	*93*	*110*	*75*	*1200*	*190*	*410*
Benzo(a)pyrene	*2.7*	*3.2*	*2*	*35*	*5.7*	*12*
Indeno(123cd)pyrene	*36*	*46*	*21*	*510*	*82*	*170*
Dibenzo(ah)anthracene	*0.28*	*0.32*	*0.27*	*3.6*	*0.57*	*1.3*
Benzo(ghi)perylene	*340*	*360*	*470*	*4000*	*640*	*1500*
Chlorinated Aliphatic Hydrocarbons						
Vinyl chloride	*0.00087*	*0.001*	*0.001*	*0.077*	*3.5*	*5*
Trichloroethene (TCE)	*0.034*	*0.036*	*0.091*	*2.6*	*120*	*91*
1,1,1,2 Tetrachlorethane	*2.8*	*3.5*	*1.9*	*250*	*1400*	*1800*
Tetrachlorethene (PCE)	*0.39*	*0.4*	*1.5*	*42*	*1400*	*1100*
1,1,1 Trichlorethane	*18*	*18*	*110*	*1300*	*140000*	*76000*

Notes

1. All values above are in mg/kg
2. **Numbers in bold are SGVs or GAC that are derived based on SGV report input parameters**, *numbers in italics are S4ULs*, ***numbers in bold-italics are based on EIC/AGS/CL:AIRE numbers & input parameters*** and underlined numbers are C4SLs
3. Soil organic matter (SOM) is assumed to be 2.5% - DEFAULT VALUE
4. Soil type is assumed to be sandy loam - DEFAULT SOIL TYPE
5. For residential, the building type is conservatively assumed to be a small terrace house where the development includes bungalows change to more conservative bungalow setting in computer model
6. For commercial, the building type is conservatively assumed to be a pre 1970s office building, where the proposed development comprises houses, flat with living spaces changes setting in model accordingly
7. For classrooms consider increasing the dust loading fator in the 'Soil and Building Data' of the CLEA 1.04 model from 50 to 100µg m^{-3}
8. Based on vapour saturation limt as suggested by EA / [ ] model value
9. Lowest of o-, m- and p-xylene
10. Based on comparison of inhalation exposure with inhalation TDI
11. Based on comparison of oral, dermal, and inhalation exposure with the oral TDI
12. Based on a comparison of oral and dermal soil exposure with oral Index Dose only
13. Averaged over and based on lifetime exposure
14. Based on critical concentration for skin irritation in humans arising from contact with phenol in aqueous solution (number in brackets based on health effects following long term exposure for illustration)
15. NA: Not applicable

Adopted Soil Generic Assessment Criteria
Sandy loam with 1% SOM

curtins

Contaminants	Residential with home grown produce	Residential without home grown produce	Allotments	Commercial	Public open space near residential housing POS_{resi}	Public park POS_{park}
Metals						
Beryllium	*1.7*	*1.7*	*35*	*12*	*2.2*	*63*
Boron	*290*	*11,000*	*45*	*240,000*	*21,000*	*46,000*
Cadmium	**10**[13] 22	**85**[13] 150	**1.8** 3.9	**230** 410	*120* 220	*560* 880
Chromium III	*910*	*910*	*18,000*	*8,600*	*1,500*	*33,000*
Chromium VI	*6* 21	*6* 21	*1.8* 170	*33* 49	*7.7* 21	*220* 250
Lead	200	310	80	2,300	630	1,300
Mercury *(elemental)*	**1**	**1**	**26**	**26**	*16*	**26**[8] *[30]*
Mercury (inorganic)	**170**	**240**	**80**	**3600**	*120*	*240*
Nickel	*130*[10]	*180*[10]	*53*[11]	*980*[10]	*230*	*800*
Vanadium	*410*	*1200*	*91*	*9000*	*2000*	*5000*
Copper	*2400*	*7100*	*520*	*68000*	*12000*	*44000*
Zinc	*3700*	*40000*	*620*	*730000*	*81000*	*170000*
Semi-Metals and non-metals						
Arsenic	**32**[12] 37	**35**[12] 40	**43**[12] 49	**640**[12] 640	*79* 79	*170* 170
Antimony		***550***		***7500***	***1500***	***3300***
Selenium	**350**	**600**	**120**	**13000**	*1100*	*1800*
Inorganic chemicals						
Cyanide	34	34	34	34	34	34
Organic contaminants						
Aliphatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_6	*42*	*42*	*730*	*3200*	*570000*	*95000*
$EC_{>6}$ - EC_8	*100*	*100*	*2300*	*7800*	*600000*	*150000*
$EC_{>8}$ - EC_{10}	*27*	*27*	*320*	*2000*	*13000*	*14000*
EC_{10}-EC_{12}	*130*	*130*	*2200*	*9700*	*13000*	*21000*
EC_{12}-EC_{16}	*1100*	*1100*	*11000*	*59000*	*13000*	*25000*
$EC_{>16}$ - EC_{35}	*65000*	*65000*	*260000*	*1600000*	*250000*	*450000*
$EC>_{35}$ - EC_{44}	*65000*	*65000*	*260000*	*1600000*	*250000*	*450000*
Aromatic risk banded hydrocarbons - TPHCWG method						
$EC>_5$ - EC_7	*70*	*370*	*13*	*26000*	*56000*	*76000*
$EC>_7$ - EC_8	*130*	*860*	*22*	*56000*	*56000*	*87000*
$EC_{>8}$ - EC_{10}	*34*	*47*	*8.6*	*3500*	*5000*	*7200*
EC_{10} - EC_{12}	*74*	*250*	*13*	*16000*	*5000*	*9200*
EC_{12} - EC_{16}	*140*	*1800*	*23*	*36000*	*5100*	*10000*
$EC_{>16}$ - EC_{21}	*260*	*1900*	*46*	*28000*	*3800*	*7600*
$EC_{>21}$ - EC_{35}	*1100*	*1900*	*370*	*28000*	*3800*	*7800*
$EC>_{35}$ - EC_{44}	*1100*	*1900*	*370*	*28000*	*3800*	*7800*
Aliph + Arom EC >44-70	*1600*	*1900*	*1200*	*28000*	3800	7800
Aromatic						
Benzene	**0.08**	**0.3**	**0.017**	**28**	*72*	*90*
Ethyl benzene	**65**	**170**	**16**	**520**[8] [17000]	**520**[8] *[24000]*	**520**[8] *[17000]*
Toluene	**120**	**610**	**22**	**860**[8] [59000]	**860**[8] *[56000]*	**860**[8] *[87000]*
Xylene[9]	**41**	**53**	**28**	**480**[8] [69000]	**480**[8] *[41000]*	**480**[8] *[17000]*
Phenol	**180**	**310**	**66**	**760**[14] (31000)	**760**[14] *(10000)*	**760**[14] *(7600)*
Polycyclic Aromatic Hydrocarbons (PAH)						
Naphthalene	*2.3*	*2.3*	*4.1*	*190*	*4900*	*1200*
Acenaphthylene	*170*	*2900*	*28*	*83000*	*15000*	*29000*
Acenaphthene	*210*	*3000*	*34*	*84000*	*15000*	*29000*
Fluorene	*170*	*2800*	*27*	*63000*	*9900*	*20000*
Phenanthrene	*95*	*1300*	*15*	*22000*	*3100*	*6200*
Anthracene	*2400*	*31000*	*380*	*520000*	*74000*	*150000*
Fluoranthene	*280*	*1500*	*52*	*23000*	*3100*	*6300*
Pyrene	*620*	*3700*	*110*	*54000*	*7400*	*15000*
Benz(a)anthracene	*7.2*	*11*	*2.9*	*170*	*29*	*49*
Chrysene	*15*	*30*	*4.1*	*350*	*57*	*93*
Benzo(b)fluoranthene	*2.6*	*3.9*	*0.99*	*44*	*7.1*	*13*
Benzo(k)fluoranthene	*77*	*110*	*37*	*1200*	*190*	*370*
Benzo(a)pyrene	*2.2*	*3.2*	*0.97*	*35*	*5.7*	*11*
Indeno(123cd)pyrene	*27*	*45*	*9.5*	*500*	*82*	*150*
Dibenzo(ah)anthracene	*0.24*	*0.31*	*0.14*	*3.5*	*0.57*	*1.1*
Benzo(ghi)perylene	*320*	*360*	*290*	*3900*	*640*	*1400*
Chlorinated Aliphatic Hydrocarbons						
Vinyl chloride	*0.00064*	*0.00077*	*0.00055*	*0.059*	*3.5*	*4.8*
Trichloroethene (TCE)	*0.016*	*0.017*	*0.041*	*1.2*	*120*	*70*
1,1,1,2 Tetrachlorethane	*1.2*	*1.5*	*0.79*	*110*	*1400*	*1500*
Tetrachlorethene (PCE)	*0.18*	*0.18*	*0.65*	*19*	*1400*	*810*
1,1,1 Trichlorethane	*8.8*	*9*	*48*	*660*	*140000*	*57000*

Notes

1. All values above are in mg/kg
2. **Numbers in bold are SGVs or GAC that are derived based on SGV report input parameters**, *numbers in italics are S4ULs*, ***numbers in bold-italics are based on EIC/AGS/CL:AIRE numbers & input parameters*** and underlined numbers are C4SLs
3. Soil organic matter (SOM) is assumed to be 1% - DEFAULT VALUE
4. Soil type is assumed to be sandy loam - DEFAULT SOIL TYPE
5. For residential, the building type is conservatively assumed to be a small terrace house where the development includes bungalows change to more conservative bungalow setting in computer model
6. For commercial, the building type is conservatively assumed to be a pre 1970s office building, where the proposed development comprises houses, flat with living spaces changes setting in model accordingly
7. For classrooms consider increasing the dust loading fator in the 'Soil and Building Data' of the CLEA 1.04 model from 50 to 100µg m^{-3}
8. Based on vapour saturation limt as suggested by EA / [ ] model value
9. Lowest of o-, m- and p-xylene
10. Based on comparison of inhalation exposure with inhalation TDI
11. Based on comparison of oral, dermal, and inhalation exposure with the oral TDI
12. Based on a comparison of oral and dermal soil exposure with oral Index Dose only
13. Averaged over and based on lifetime exposure
14. Based on critical concentration for skin irritation in humans arising from contact with phenol in aqueous solution (number in brackets based on health effects following long term exposure for illustration)
15. NA: Not applicable

Appendix H Risk Assessment Methodology

The site-specific risk assessment, presented in this report, follows the principle of establishing whether there is a viable linkage between a contaminant source to a potential receptor, via an exposure pathway.

The risk assessment corresponds with the total site area and incorporates both descriptive (qualitative) and, where available, numerical (quantitative) lines of evidence.

Risk assessment is the process of collating known information on a hazard or set of hazards to estimate actual or potential risk to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected to the source by one or several exposure pathways such as direct contact for example. Risks are generally managed by isolating the receptor or intercepting the exposure pathway or by isolating or removing the hazard.

Without the three essential components of a source, pathway and receptor there can be no risk. Therefore, the presence of contaminant source on a site does not necessarily mean there is a risk.

The risk assessment considers the likelihood of an event taking place (accounting for the presence of the source and receptor and the viability of the exposure pathway) in conjunction with the severity of the potential consequence (accounting for the potential severity of the hazard and the sensitivity of the receptor).

In the risk assessment, the consequence of the hazard has been classified as severe or medium or mild or minor and the probability (likelihood) of the circumstances occurring classified as high likelihood or likely or low likelihood or unlikely.

The consequences and probabilities are subsequently cross-correlated to give a qualitative estimation of the risk using Department of the Environment risk classifications as detailed in the table below and as referenced in EA LCRM, Version 3.

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability (Likelihood)	**High Likelihood**	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

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In accordance with DoE guidance, the following categorisation of **consequence** has been developed.

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to an ecosystem or organisation forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health. Pollution of sensitive water resources. A significant change in an ecosystem or organism forming part of such ecosystem.	Concentration of a contaminant from site exceeds the generic or site-specific assessment criteria. Leaching of contaminants from a site to a Principal or Secondary A aquifer. Death of a species within a designated nature reserve. Lesser toxic and asphyxiate effects
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater (inc. Secondary B aquifers). Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

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In accordance with DoE guidance, the following categorisation of **probability** has been developed.

Classification	Definition
High Likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

In accordance with DoE guidance, the following categorisation of **risk** has been developed.

Classification	Definition
Very High Risk	There is a *high probability* that *severe harm* could arise to a designated receptor from an identified hazard at the site without appropriate further action.
High Risk	*Harm* is *likely to arise* to a designated receptor from an identified hazard at the site without appropriate further action.
Moderate Risk	*It is possible* that without appropriate further action *harm could arise* to a designated receptor. It is relatively *unlikely* that any such harm would be *severe,* and if any harm were to occur it is *more likely* that such harm would be *relatively mild.*
Low Risk	*It is possible* that *harm could arise* to a designated receptor from an identified hazard. It is *likely* that, at worst, if any harm was realised any effects would be *mild.*
Very Low Risk	The presence of an identified hazard does not give rise to the potential to cause harm to a designated receptor.

The term ‘risk’ in this instance refers to the risk that the source, pathway, receptor linkage for a given source of contamination is complete. It does not refer to immediate risk to individuals or features present on the site from potential contaminants and is intended to be used as a tool to assess the necessity of further investigation.

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