AJP Ltd

New Victoria Manchester, Phase 2

Phase 1 - Preliminary Environmental Assessment

May 2022 – Revision B

Vertase FLI

Contaminated Land, Brownfield & Environmental Contracting

REPORT TITLE:	Phase 1 – Preliminary Environmental Assessment
REPORT NUMBER:	**1946AJP-001**
CLIENT NAME:	AJP Ltd

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Phase 1 Preliminary Environmental Risk Assessment – 1946AJP-001		
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1.0 Introduction

1.1 Terms of Reference

VertaseFLI Limited (VertaseFLI) has been appointed by AJP Ltd to undertake a preliminary environmental assessment of the site New Victoria Manchester Phase 2 off Corporation Street, Manchester, M3 1NX (see Appendix A – Site Location Plan).

VertaseFLI understands that the proposed use of the site is a 10 storey building, including ground floor, plus roof terrace and basement for commercial/retail use.

1.2 Objectives

The objective of this Phase 1 Preliminary Environmental Assessment is to identify the likely ground conditions and environmental setting of the site. This will be used to determine potential issues, which may have associated environmental liability and/or constraints that could affect the proposed site development.

1.3 Scope of Works

The scope of works is identified as the provision of a desktop study and site walkover to determine the current and former uses of the site and its surroundings.

The works include an assessment of potential ground contamination sources (including pathway-receptor linkages) and geotechnical constraints associated with the site's future redevelopment for the intended end-use. The works also includes a review of any past reports available for the site.

In order to identify the current conditions and land-use on the site, and immediate surrounds, readily available information in the public domain has been obtained and reviewed, this includes:

- Historical maps;
- Geology, hydrogeology, hydrology;
- Flood risk and ground hazards;
- Waste management licences including landfill licences;
- Discharge/abstraction licences; and
- Reported pollution incidents.

This report presents a review of the acquired information, together with the preliminary conceptual site model (CSM) and an associated Preliminary (Tier 1) Risk Assessment. The principal components of this assessment are generally as detailed in Section 6.2 of BS 10175:2011+A2:2017 and LCRM: Land Contamination and Risk Management.

1.4 Information provided by AJP

The following information was provided by AJP Ltd in order to facilitate the compilation of this report:

- Site location plans with proposed layout, including the marked site boundary.

1.5 Production of this Report

This report has been produced in general accordance with recognised best practice as detailed in:

- Environment Agency, Land Contamination and Risk Management (LCRM);
- BS10175:2011+A2:2017 - Investigation of Contaminated Site – Code of Practice; and
- The National Planning Policy Framework, 2021.

This report contains information which is copyright of the following:

- British Geological Survey;
- Britain From Above and Historic England;
- Zetica UXO;
- Environment Agency; and
- Landmark Information Group Ltd.

2.0 Site Setting

2.1 Site Location

The site location and ownership are described in Table 2.1.

Table 2.1 – Site Location and Ownership

Item	Description
Site name and address	New Victoria Manchester Phase 2, off Corporation Street, Manchester, M3 1NX
Site Location and National Grid Reference	National Grid Reference SJ840989 (X 384092, Y 398971)

Please note from hereon in 'the site' is defined as the area shown on the attached Piercy & Company drawing. Please refer to Appendix A for a site location plan.

2.2 Site Description and Surrounding Land Use

A VertaseFLI engineer visited site on 12 April 2022. At the time of the site visit the site was inaccessible due to it being used as a construction compound for the New Victoria development adjacent to the site. Although the site was inaccessible it was possible to gather pertinent information and a photographic record of this survey is provided in Appendix B. A summary description of the site and its immediate surrounds (based on the Envirocheck Report, Google Earth images and the aforementioned site visit) is presented in Table 2.2.

Table 2.2 – Site Description and Surrounding Land Use

Item	Description
Site access	The site is accessed from to the south west off Corporation Street.
Current land use	The site was visited on 12th April 2022 by a VertaseFLI engineer. The site was inaccessible due to it being in use as a construction compound for development adjacent to the site. However, it was noted that the site appeared to be predominantly hardstanding with cabins/offices associated with the adjacent construction located at the west and east of the site. Skips, small scale fuel storage and material storage are located at the east of the site and, generally, housekeeping appears to be good. Contractor car-parking was located in the south of the site and a large, newly built substation was located at the north eastern boundary.
Site boundaries and surrounding land	The site boundary was undefined to the north west, north east and south west as it lies entirely within the boundaries of the construction compound. The south eastern boundary was defined by either metal fencing or hoarding. The adjacent land use (determined from the site visit and Envirocheck data) is as follows: • North East: New Victoria Phase 1 construction site; • North West: New Victoria Phase 1 construction site, culverted section of the River Irk and Victoria Station beyond.; • South East: Corporation Street with, predominantly, commercial properties; • South West: Metrolink tram lines.

3.0 Previous Reports

3.1 Introduction

Two previous site investigations carried out on a wider area of land off Corporation Street, Manchester have been obtained for review. The reports (attached at Appendix C) are a factual report of a ground investigation carried out by Allied Exploration & Geotechnics Ltd (AEG) dated April 2016 (ref: PR1591) and a site investigation report completed by Vertase FLI in April 2018 (ref: 1730MUS – Issue 03). Only information relevant to the subject site has been reviewed, the findings of which are summarised below.

3.2 AEG Ground Investigation

Scope

The scope of the AEG works consisted of:

- Seven cable percussion boreholes, three of which (BHA04, BHA05 and BHA06) were on the subject site of which one was completed using rotary coring methods;
- Three windowless sample boreholes, two of which (WSA01 and WSA02) were in close proximity to the subject site;
- Seven machine excavated trial trenches, none of which were on the subject site;
- Sampling for laboratory analysis;
- In-situ Standard Penetration Tests and use of a Photo-Ionisation Detector;
- Installation of gas/groundwater monitoring instrumentation in boreholes; and
- Post SI gas and groundwater monitoring.

Ground Conditions

Made Ground was encountered in all exploratory hole locations on the subject site during the AEG investigation. The Made Ground varied in thickness from 2.3m thick, in WSA02 to the north east of the site, to 7.2m thick, in BHA06 to the north of the site. The Made Ground generally comprised brown or black, clayey sandy gravel or sand and gravel. The gravel fraction was predominantly brick and concrete with ash, mortar, typical aggregate and slag.

The Made Ground, where proven, was underlain by the bedrock geology described as an extremely weak or very weak, red, fine to coarse grained sandstone.

Observations of Contamination

A "chemical odour" was noted at 1.2m bgl in borehole BHA06.

Laboratory Results

The laboratory results have been reviewed and the recorded concentrations of lead and Polycyclic Aromatic Hydrocarbons (PAH) in a number of samples and petroleum hydrocarbons in one sample of Made Ground were elevated with respect to residential land use screening criteria. However, only the recorded concentration of PAH in one sample (BHA07-1.0m) was elevated with respect to screening criteria for a commercial land use scenario.

Asbestos was identified in five samples (BHA04-0.3m, BHA04-2.0m, WSA01-1.0m, WSA02-0.2m and WSA02-1.0m). The samples were subject to quantification analysis and concentrations ranging from <0.001% to 0.003% were recorded.

Geotechnical

Three samples of made ground from the site were tested for moisture content with the values ranging from 8.3% to 17.3%.

Two samples of made ground from the site were sent to the laboratory for Particle Size Distribution Testing with the results showing the material to be very gravelly sand or sandy, very cobbly, gravel.

Two samples of natural material from the site were sent to the laboratory for Particle Size Distribution Testing with the results showing the material to be sand.

Two samples of made ground from the site were sent to the laboratory for compaction testing. The optimum moisture content recorded in the samples was 10.1% and 14.7% and the maximum dry density was 1.76Mg/m^3 and 1.97Mg/m^3.

One sample of natural material from the site was sent to the laboratory for compaction testing. The optimum moisture content recorded was 12% and the maximum dry density was 1.91Mg/m^3.

Two samples of made ground were submitted to the laboratory for sulphate testing with the results ranging from 43mg/l to 260mg/l. One sample of natural material was submitted to the laboratory for sulphate testing with the recorded result being 33mg/l.

3.3 Vertase FLI Site Investigation

Scope

The scope of the VFLI works consisted of:

- Ten cable percussion boreholes, one of which (SA10[A-D]) was on the subject site but was abandoned at shallow depth after five attempts due to obstructions;
- Thirteen machine excavated trial pits, of which nine were on the subject site;
- Six windowless sample boreholes, two of which were on the subject site;
- Sampling for laboratory analysis, primarily for asbestos;

- In-situ Standard Penetration Tests;
- Installation of gas/groundwater monitoring instrumentation in boreholes; and
- Post SI gas and groundwater monitoring.

Ground Conditions

Made Ground was encountered in all exploratory holes that formed part of the VertaseFLI site investigation. The Made Ground ranged in thickness from 0.91m in TP08 to 2.58m in TP06 light brownish red or dark grey sand and gravel. The gravel fraction generally consisted of brick, sandstone, ceramic tiles, concrete, ash and clinker with wood, polythene and metal observed in some locations.

Bedrock comprising sandstone (Chester Formation) was recorded beneath the made ground in two trial pits, TP06 and TP08, at depths ranging of 2.58m and 0.91mbgl, respectively.

Observations of Contamination

Observations of contamination form the exploratory hole logs are summarised below:

- A layer of probable ash and clinker was observed in TP04 at 1.77m to 1.89m bgl;
- A "moderate hydrocarbon tar odour" was noted at 1.89m to 2.2m bgl in trial pit TP04;
- A "moderate hydrocarbon tar odour" was noted at 0.31m to 0.45m bgl in trial pit TP04;
- Layers of probable ash and clinker was observed in TP06 at 0.95m to 1.01m bgl and 1.6m to 1.92m bgl;
- A "moderate hydrocarbon tar odour" was noted at the base of trial pit TP07; and
- A "moderate hydrocarbon tar odour" was noted at 0.26m to 0.4m bgl in trial pit TP08.

Laboratory Results

One sample from the site was submitted for laboratory analysis of a general suite of contaminants, TP04-2.1m. The results recorded concentrations of lead, Polycyclic Aromatic Hydrocarbons (PAH) and petroleum hydrocarbons that were elevated with respect to residential land use screening criteria. However, none of the recorded concentrations were elevated with respect to screening criteria for a commercial land use scenario.

Asbestos was identified in one sample, TP02 1.0m-1.7m. The sample was subject to quantification analysis and the recorded concentration was 0.003%.

4.0 Historical Site Setting

4.1 Site History

Historical maps provided in the LIG report have been used to identify previous land uses, including any significant potentially contaminative uses. Where other features that may influence the development of the site have been identified, they are described.

Table 4.1 summarises the history of the site and its immediate vicinity from about 1891 to the present day.

Table 4.1 – Historical Maps – Key Features

Date	Site Land Use	Adjacent Land Use
1891-1896	Long Millgate is shown running through the centre of the site with commercial premises, including hotels, on either side.	The site is surrounded by primarily commercial and industrial premises with some apparent residential land use to the east. Victoria Carriage Works is located adjacent to the site to the west. The River Irk is located 10m north of the site with Victoria Saw Mills 20m north on the opposite side of the river. Victoria Station is located 40m north of the site.
1908-1909	The northern half of the site is identified as being part of Victoria Station.	Land to the north and west of the site is now entirely occupied by Victoria Station with Victoria Saw Mills and Victoria Carriage Works no longer identified and the River Irk in culvert.
1922-1923	No significant change.	No significant change.
1931-1938	No significant change.	No significant change.
1951-1972	No significant change.	No significant change.
1980-1992	The site no longer contains any buildings.	Adjacent to the site to the north is no longer occupied by Victoria Station.
1999-2016	No significant change.	No significant change.
Present Day	Compound for construction on adjacent plot.	Construction of high rise development adjacent to the site to the north east.

5.0 Environmental Setting

5.1 Introduction

This section provides information relating to the site's environmental setting including geology, hydrogeology, hydrology, flood risk and ground hazards.

5.2 Geology, Hydrogeology and Geochemistry

British Geological Society (BGS) maps and previous site investigation identify the site to be underlain by Made Ground and bedrock of the Chester Formation sandstone (see Table 5.2.1).

Table 5.2.1 – Stratum Description and Aquifer Designation *(Source BGS/Envirocheck/Previous SI)*

Geological Stratum	Description	Aquifer Designation
Made Ground	Between 0.91m and 7.2m thick of predominantly comprised sand and gravel of brick, sandstone, ceramic tiles, concrete, ash and clinker.	N/A
Chester Formation	Extremely weak or very weak, red, fine to coarse grained sandstone	Principal Aquifer

The Chester Formation is classified as Principal Aquifer by The Environment Agency. Principal aquifers are defined as 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 aquifers.

The site is not located within a Source Protection Zone.

The BGS identified background soil chemistry at the site is outlined in Table 5.2.2.

Table 5.2.2 – BGS Soil Chemistry *(Background)*

Element	Arsenic	Cadmium	Chromium	Lead	Nickel
Concentration (mg/kg)	<15	<1.8	40-60	<100	15-30

5.3 Surface Water Features

The site walkover, undertaken on the 12th April 2022, did not identify any water features to be present on the site. A culverted section of the River Irk is identified as the closest surface water feature and is located at the northern site boundary. It is not known whether this feature is sealed or hydraulically isolated.

Table 4.3 – Surface Water Features

Surface Water Feature	Location	Feature Description
River Irk	Culverted section along northern boundary	Construction is unknown. GQA River Quality Grade E (Poor)

5.4 Site Ecology, Designated Ecological Sites and Other Sensitive Land Uses

The presence of any protected species on site is deemed unlikely due to the nature of the site (i.e. concrete hardstanding).

No Sites of Special Scientific Interest, Ramsar, Special Areas of Conservation, World Heritage Sites, Special Protection Areas are identified within 1 km of the site.

The area is noted as a 'nitrate vulnerable zone'.

5.5 Licenced Abstractions/Discharges

There are no licenced water abstractions within 250 m of the site (a total of 28 water abstraction licences are identified within 1 km of the site). The closest abstractions are all groundwater abstractions and relate to operations at Strangeways Brewery approximately 350m north west of the site.

There are 19 active discharge consents within 250 m of the site (a further 86 discharge consents are identified within 1 km of the site). The discharge consents within 250m of the site all relate to storm sewer overflow into the River Irk operated by United Utilities Ltd.

5.6 Flooding

The Environment Agency maintains national flood maps based on ground levels, predicted flood levels, information on flood defences and local knowledge. The flood maps show the predicted likelihood of flooding in an area in the context of current and the proposed land use considered in development planning.

For existing land use purposes, the likelihood of flooding is classed as very low, low, medium or high based on the Environment Agency map entitled Risk of Flooding from Rivers and Sea. The site is within a Very Low-risk area. The chance of flooding each year is less than 1 in 1000 (0.1%).

For planning purposes, the likelihood of flooding is classed as low, medium or high based on flood zones identified in National Planning Policy Guidance (2014) attached to the National Planning Policy Framework (2021) and the EA map entitled Flood Map for Planning (Rivers and Sea). The Flood Map for Planning only applies if the site is intended

for redevelopment. The site is within Zone 1 and has a low probability of flooding. The chance of flooding each year is less than 0.1% (1 in 1,000).

5.7 Ground Hazards (Radon, Mineral Extraction and Ground Stability)

The BGS recorded ground hazards for the site are summarised in Table 4.7.

Table 5.7 – Ground Hazards

Ground Hazard	Hazard
Mining Features	The site is in a Coal Mining Reporting Area. A Coal Authority Report has been obtained and there are no known risks from past underground mining or mine entries at the site.
BGS Recorded Mineral Sites	Strangeways Brick Field was located 543m north of the site and Sherborne Street Brickworks was located 849m north west. Both sites are no longer operational.
BGS Potential for Collapse of Ground	Very low.
BGS Potential for Compression of Ground	Very low.
BGS Potential for Ground Dissolution	No hazard.
BGS Potential for Landslide	Very low.
BGS Potential for Running Sand	Low.
BGS Potential for Shrinkage or Swelling	No hazard.
BGS Radon Potential	The site is in a 'lower probability' radon area (less than 1% of homes are estimated to be at or above the Action Level).

5.8 Unexploded Ordnance

The potential for unexploded ordnance (UXO) is deemed as moderate (via the freely available risk maps provided by Zetica) as a number of known Luftwaffe Targets, including Manchester Victoria Station, are shown to be in the vicinity of the site.

Given that the surrounding area has been extensively developed in the recent past and site investigation works on this site have not encountered any UXO it is considered that the risk of encountering UXO is actually low. However, vigilance should be maintained during any groundworks at the site.

5.9 Historical Structures and Foundations

Examination of historical plans has identified a number of former buildings and structures on site. Relic foundations of these buildings and structures may be present

beneath the site and this is supported by observations from previous site investigation works.

6.0 Land Use with Potential to Cause Contamination

6.1 Introduction

This section provides a summary of current and historical land use, including land use with the potential to cause contaminant impact (both on-site and surrounding the site).

6.2 Notable Land Use (Site and Surrounding Land)

Examination of the Envirocheck Report highlights a number of surrounding land-uses with the potential to cause contaminant impact (see Table 6.2).

The site is surrounded by a large number of commercial and industrial premises. As such we have had to limit points of interest discussed in Table 6.2 to a 100 m radius, we would, however, recommend that anyone using this report also refers to the full Envirocheck report (see Appendix C).

Table 6.2 – Notable Land Use (Site and Surrounding Land (within 100 m))

Notable Land Use	Operator	Location	Method of Identification
Off-Site			
Bus Station	n/a	54m NW	Point of Interest – Public Infrastructure
Manchester Victoria Rail Station	n/a	80m NW	Point of Interest – Public Infrastructure

6.3 Landfill, Waste Management and Hazardous Substances (Site and Surrounding Land)

There are no waste management facilities listed within 250m of the site. There are no historical or registered landfill sites within 500m of the site.

6.4 Pollution Incidents (Site and Surrounding Land)

There are no recorded Category 1 (Major) or Category 2 (Significant) pollution incidents to controlled waters recorded within 250m of the site.

7.0 Conceptual Model and Preliminary Risk Assessment

7.1 General

The preliminary conceptual site model (CSM) uses the desk study findings and an understanding of the way that potential contaminants are likely to behave in the soil, rock and groundwater environment to identify possible pollutant linkages between potential contaminants sources and the likely critical receptor.

Definitions of the three elements of the source-pathway-receptor model are defined in Table 7.1.1.

Table 7.1.1 - Source-Pathway Receptor Definitions

Source	A substance that is above, on or under land and could pose potential harm or adversely affect an identified receptor, or cause pollution to controlled waters.
Pathway	The physical means by which the potential contaminants may reach the receptor.
Receptor	The identified element (either animate or inanimate) that could be adversely affected by the contaminant.

It should be noted that all three of the elements in Table 3 are required for there to be a perceivable risk. Where all three elements are deemed to be present, the risk is a function of the probability of the event occurring and the potential consequence, should the event occur.

The risk classifications assigned to the conceptual model are based on the terminology for consequence and probability outlined in CIRIA C552, with a summary of the resultant risk classifications summarised in Table 7.1.2.

Table 7.1.2 – Risk Classifications

		Consequence			
		Severe	Medium	Mild	Minor
Probability	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

For the purpose of the CSM, groups of contaminants that (in most circumstances) behave in a similar way in the environment have been chosen and linked to potential pathways and receptors.

It should be noted that not all the potential contaminants have been included in the CSM, only those that are considered potentially significant at this stage.

As further up-to-date site-specific information becomes available, the CSM should be updated accordingly.

7.2 Potential Migration Pathways

A summary of potential pathways and receptors is given in Table 7.2.

Some source-pathway-receptor linkages mentioned in the table are not considered likely to be active at the site for the reasons specified in the Comments column.

Table 7.2 – Summary of Potential Pathways and Receptors

Potential Pathway	Potential Receptor	Comments
Exposure via dermal contact with soil	Future residents and construction workers	The site is to be redeveloped as multi-storey office building with a basement. Contamination in the form of lead, TPH, PAH and asbestos has been identified in made ground in previous site investigations. Exposure to contaminated soils is most likely to occur during construction.
Exposure via direct ingestion of soil indoors and outdoors	Future residents and construction workers	
Exposure via inhalation of contaminated dust indoors and outdoors	Future residents and construction workers	
Exposure via consumption of fruit and vegetables grown on the site.	n/a	
Intake via inhalation of ground gases and vapours (indoors and outdoors). Explosion of methane	Future residents and construction workers	TPH and PAH in made ground at the site may be a source of ground gas and/or vapours. Ground gas monitoring undertaken as part of previous investigations recorded negligible/low concentrations of methane and carbon dioxide. Ground gas protection measures are unlikely to be required. The site is in a 'lower probability' radon area (less than 1% of homes are estimated to be at or above the Action Level).

Migration through soil/groundwater	Controlled waters; groundwater	Soluble contaminants may impact on groundwater underlying the site. It is unlikely that the recorded concentrations of mobile contaminants beneath the site will pose a risk to controlled waters, and there will be very little infiltration of water from the surface.
	Controlled waters; surface water	A culverted section of the River Irk is located adjacent to the site. It is likely that this is hydraulically isolated. There are no other sensitive surface water receptors in the vicinity of the site.
	Off-site residents	Significant contamination that could migrate off-site to affect adjoining residents is considered unlikely to be present on the site.

7.4 Critical Receptors

Using the information contained in Table 7.2, the CSM has identified the most sensitive receptor for each potential contaminant source and the critical pathway between the source and receptor.

It is understood that the proposed development will be commercial in nature. The proposed development is likely to consist of predominantly the building footprint and hard surfacing, and future users are unlikely to come into contact with any underlying contaminants. However, construction workers may be exposed to contamination during development works particularly during excavation of the proposed basement and service corridors and if any pile arisings are generated.

7.5 Conceptual Site Model

At this stage, the CSM has determined whether a potentially significant risk exists that would warrant further investigation to refine the risks to the critical receptor. See Table 7.4. Further discussion of the potential risks highlighted is given in Section 7.

Where further investigation is deemed to be required, recommendations are given at the end of this report to better define the potential risks.

In accordance with best practise guidance, the CSM should be updated throughout the investigatory and development process to refine the risks to the critical receptors as further information becomes available.

Table 7.4 – Conceptual Site Model and Preliminary Risk Assessment

Source	Pathways	Receptors	Consequence	Probability	Risk	Investigation/ Mitigation
Site						
Historical use of the site as part of Victoria Station. Results of previous site investigations. Contaminants include: - Lead - PAHs - TPH - Asbestos	Unsaturated soils/materials	Future site users (via inhalation). Off-site residents/workers/ pedestrians (via inhalation).	Medium	Low Likelihood	Moderate/ Low	Targeted intrusive site investigation (collection of soil samples) to delineate areas of previously identified contamination. Followed by a quantitative risk assessment to refine the Conceptual Site Model and Risk Assessment. Installation of a pathway break layer (i.e. hardstanding, clean capping in landscaping). Surface pick any visible surface asbestos.
		Future site workers (via contact, ingestion and inhalation)	Medium	Low Likelihood	Moderate/ Low	Targeted intrusive site investigation (collection of soil samples) to delineate areas of previously identified contamination. Followed by a quantitative risk assessment to refine the Conceptual Site Model and Risk Assessment. Appropriate risk assessment, utilisation of PPE and gas/vapour monitoring equipment (if necessary). Installation of capping layer. Provision of clean service corridors. Surface pick any visible surface asbestos.
		New structures/services.	Medium	Likely	Moderate	Targeted intrusive site investigation (collection of soil samples) to delineate areas of previously identified contamination. Followed by a quantitative risk assessment to refine the Conceptual Site Model and Risk Assessment. Provision of clean service corridors/ ensure foundations are adequately designed (i.e. aggressive ground conditions).
	Perched/shallow water migration	Future site users (via inhalation). Off-site residents/workers/ pedestrians (via inhalation).	Medium	Unlikely	Low	Installation of a pathway break layer (i.e. concrete hardstanding)
		New structures Off-site property *Potential damage to building foundations due to aggressive ground conditions.*	Medium	Unlikely	Low	Incorporation of appropriately designed foundations (i.e. aggressive ground conditions).
		Controlled waters (River Irk)	Mild	Low Likelihood	Low	Further detailed assessment of risks to controlled waters posed by soil contamination. The culverted section of the River Irk is likely to be sealed and/or in hydraulic isolation.
Unexploded Ordnance	Direct contact	Future site users	Severe	Unlikely	Moderate/ Low	The potential for unexploded ordnance (UXO) is deemed as moderate as a number of known Lutwaffe Targets are shown to be in the vicinity of the site. Given that the surrounding area has been extensively developed in the recent past and site investigation works on this site have not encountered any UXO it is considered that the risk of encountering UXO is actually low. However, vigilance should be maintained during any groundworks at the site.
		Future construction workers	Severe	Unlikely	Moderate/ Low	
Off-Site						
Historical adjacent land uses: incl. railway station, carriage works. Results of previous site investigations.	Unsaturated soils/materials	Future site users (via inhalation). Off-site residents/workers/ pedestrians (via inhalation).	Medium	Low Likelihood	Moderate/ Low	Targeted intrusive site investigation (collection of soil samples) to delineate areas of previously identified contamination. Followed by a quantitative risk assessment to refine the Conceptual Site Model and Risk Assessment. Installation of a pathway break layer (i.e. hardstanding, clean capping in landscaping). Surface pick any visible surface asbestos.

Source	Pathways	Receptors	Consequence	Probability	Risk	Investigation/ Mitigation
Contaminants include: - Lead - PAHs - TPH - Asbestos		Future site workers (via contact, ingestion and inhalation)	Medium	Low Likelihood	Moderate/ Low	Targeted intrusive site investigation (collection of soil samples) to delineate areas of previously identified contamination. Followed by a quantitative risk assessment to refine the Conceptual Site Model and Risk Assessment. Appropriate risk assessment, utilisation of PPE and gas/vapour monitoring equipment (if necessary). Installation of capping layer. Provision of clean service corridors. Surface pick any visible surface asbestos.
		New structures/services.	Medium	Likely	Moderate	Targeted intrusive site investigation (collection of soil samples) to delineate areas of previously identified contamination. Followed by a quantitative risk assessment to refine the Conceptual Site Model and Risk Assessment. Provision of clean service corridors/ ensure foundations are adequately designed (i.e. aggressive ground conditions).
	Perched/shallow water migration	Future site users (via inhalation). Off-site residents/workers/ pedestrians (via inhalation).	Medium	Unlikely	Low	Installation of a pathway break layer (i.e. concrete hardstanding)
		New structures Off-site property *Potential damage to building foundations due to aggressive ground conditions.*	Medium	Unlikely	Low	Incorporation of appropriately designed foundations (i.e. aggressive ground conditions).
		Controlled waters (River Irk)	Mild	Low Likelihood	Low	Further detailed assessment of risks to controlled waters posed by soil contamination. The culverted section of the River Irk is likely to be sealed and/or in hydraulic isolation.
Adjacent buildings *Potential asbestos containing materials*	Windblown dust	Future site users (via inhalation) Future construction workers (via inhalation)	Medium	Unlikely	Low	No further action required.
Current Surrounding Commercial/Industrial Land Use Contaminants will depend on the specific commercial/ industrial land use	Surface Water Runoff *(Greatest risk on southern boundary due to the gradient of the site)*	Future site users (via inhalation, contact and ingestion pathways).	Medium	Unlikely	Low	Visual assessment of surface water migrating onto the site with collection of water samples, if contamination suspected.
	Unsaturated soils/materials	Future site users (via inhalation).	Medium	Unlikely	Low	No further action required.
		New structures/services.	Medium	Unlikely	Low	No further action required.
	Perched/shallow water migration, onto the site *Infiltration likely significantly reduced due to extensive*	Future site users (via inhalation).	Medium	Unlikely	Low	No further action required.
		New structures	Medium	Unlikely	Low	No further action required.

Source	Pathways	Receptors	Consequence	Probability	Risk	Investigation/ Mitigation
	commercial/industrial development.					

8.0 Environmental Risk Assessment

8.1 Introduction

The following sections provide an indication of the potentially contaminative activities that have been carried out throughout the historical use of the site and the surrounding land. Likely associated contaminants are also identified. It should be noted that the activities identified may not necessarily have resulted in contamination of the ground.

8.2 On-Site Contamination

The site was occupied by what are assumed to be primarily commercial premises at the time of the earliest historical plan (1891). The north of the site became part of Victoria Station in c. 1908 until all the buildings were removed from the site in c. 1980, from which time it is understood the site operated as a car park. There are currently no buildings on site, and it is currently used as a compound for development of adjacent land.

Previous investigations have identified lead, PAH, TPH and asbestos in made ground at concentrations that were elevated with respect to the screening criteria for a residential end-use for the site. However, only the recorded a concentration of PAH in one sample was elevated with respect to the screening criteria for a commercial end-use.

8.3 Off-Site Contaminants

The site is located in a primarily commercial area of Manchester. Contamination on-site identified by previous investigations is unlikely to have migrated to the site from an off-site source and there is unlikely to be migration of contaminants in the future.

8.4 Ground Gases

Ground gas monitoring carried out as part of previous investigation work has recorded negligible/very low concentrations of methane and carbon dioxide.

The risk posed by ground gases is considered to be low.

8.5 Controlled Waters

A culverted section of the River Irk is located adjacent to the site. However, this is likely to be hydraulically isolated, although this has not been confirmed, and, therefore, at low risk of potential contamination from on-site sources. No other sensitive surface water receptors are identified in the vicinity of the site. The risk to surface water is considered to be Low.

The bedrock is classified as a Principal aquifer. The site is not located within a groundwater Source Protection Zone.

Groundwater resources at the site are considered to be a low sensitivity environmental receptor as although the site is located on a Principal Aquifer it is not in a source protection zone and there are no sensitive groundwater abstractions in the vicinity of the site.

The risk to groundwater is considered to be low.

9.0 Conclusions and Recommendations

9.1 Summary

Based on the available information summarised in this report, the site is considered to present an overall Moderate/Low risk from past on-site use and adjacent operations.

The site is currently used as a compound for construction on the adjacent site. It is understood that redevelopment of the site will take place for use as a multi-storey commercial building with a basement. Therefore, it is considered that the site may represent a significant risk of hazard or environmental liability.

9.2 Recommended Further Works

Based on the information obtained from the Phase 1 Environmental Assessment, it is considered that intrusive investigation and assessment is required to further assess the risks to the identified receptors (including sources and pathways) and to inform design and programming of future redevelopment works.

The following works are recommended:

- Investigation of underground obstructions noted in previous investigation works (hardstanding/foundation depths and thickness);
- Targeted investigation to further characterise and delineate soil contamination previously identified; and
- Further assessment of the geotechnical properties of the underlying materials.

The scope of the proposed intrusive works is identified in Figure 8.2 below.

Figure 8.2 – Scope of recommended intrusive site investigation works

Provision of trial pits to facilitate:

- the collection of soil samples to allow the completion of laboratory analysis;
- logging of the underlying geology;
- assessment of the depth and character of the made ground; and
- assess existing foundation/hardstanding thickness and distribution.

Installation of boreholes to facilitate:

- delineation of the full depth of the made ground where trial pits are unable to do so (north of the site);
- the collection of soil samples to allow the completion of laboratory analysis;
- logging of the underlying geology; and
- standard penetration tests to determine the in-situ strength of materials to facilitate foundation design.

Data generated from the recommended intrusive works will be utilised to provide the following:

- Generic Quantitative (Tier 2) Risk Assessment to determine the risk to human health and controlled waters) of the materials underlying the site;
- Inform the enabling works by determining the likely volume, depth and thickness of foundations/hardstanding that will require removal.

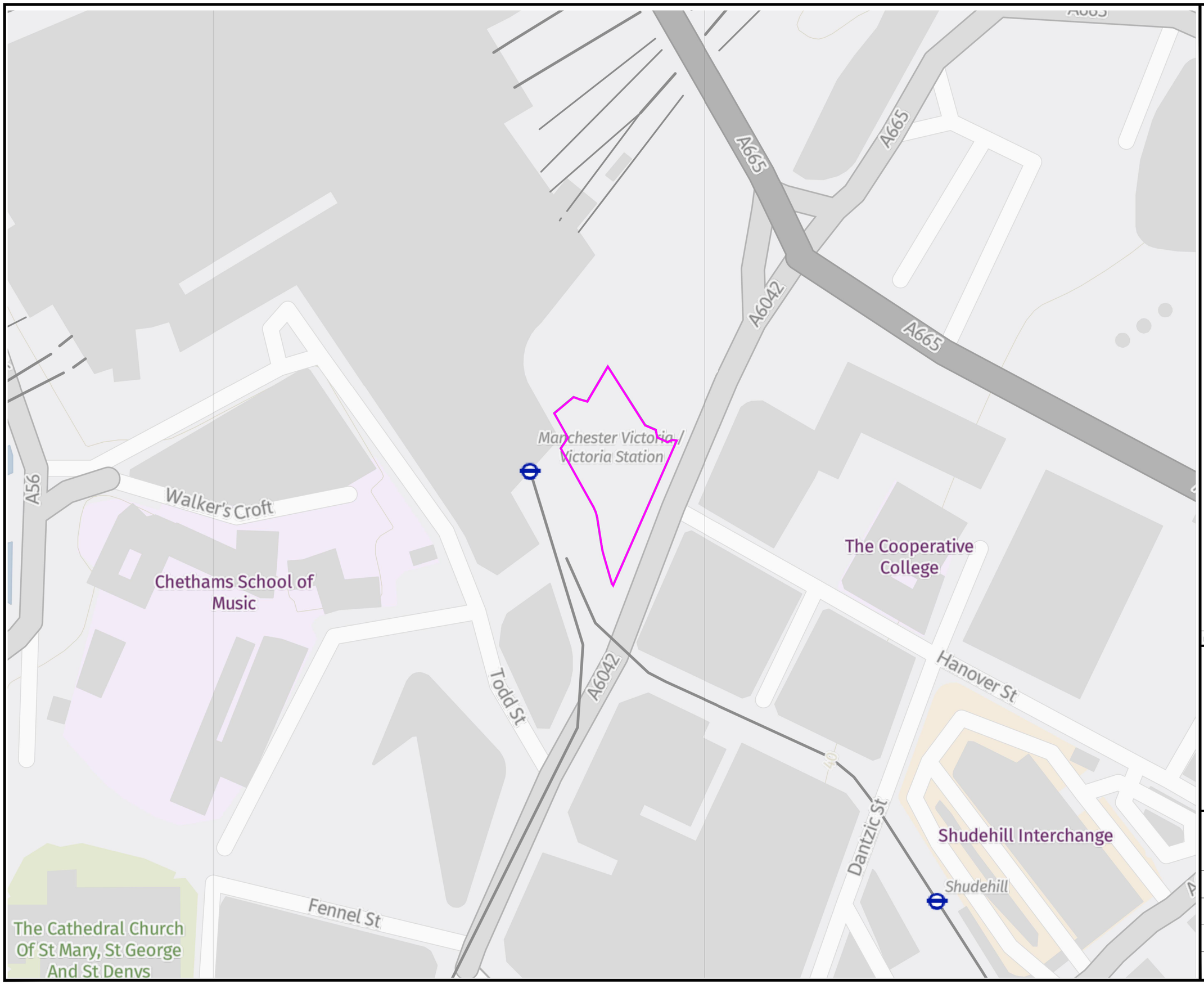
9.3 Potential Design Solutions Mitigating Receptor Risk

If the quantitative risk assessment identifies that source-pathway-receptor linkages are likely to be realised, then potential mitigating design solutions include:

- Provision of clean service corridors/capping layers to protect future groundworkers;
- Inclusion of gas protection measures below buildings, e.g. gas resistant membranes, passive/active venting systems; and/or
- Installation of cut off walls.
- Excavation of unsuitable materials (with subsequent on-site treatment or off-site disposal).
- Handpick of asbestos containing materials (if determined to be present).

APPENDIX A

Site Plans



A2

KEY:

Site Boundary

Rev.	Description	Revised By	Date
	FIRST ISSUE		27-05-2022

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Site Address:

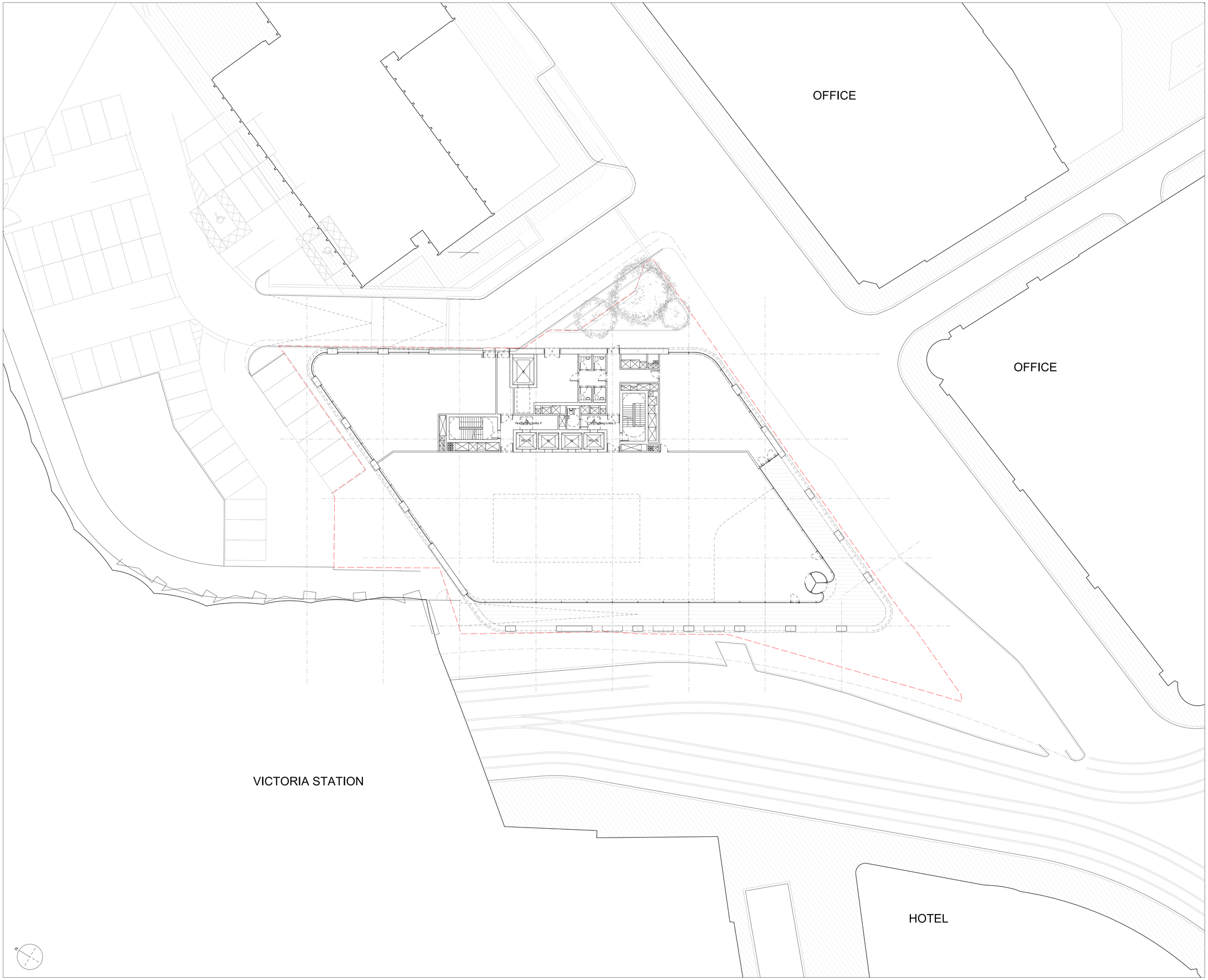
Long Millgate
Manchester

Rev:

Title: Site Location

Client: AJP Ltd

Drawn: AMB	Checked: MK	Approved: MK
Dwg: D1946_01	Contract: 1946AJP	Scale: 1:1000



Notes

This drawing is copyright Piercy&Company. Do not scale from this drawing. All dimensions and levels to be checked on site by the contractor and such dimensions to be his responsibility. Report all drawing errors, omissions and discrepancies to the architect.

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DRAFT
15/03/22

Rev	Date	Description

Key Plan

Project
New Victoria, Manchester

Client
MORGAN CAPITAL

Date
25.11.2021

Drawing Scale
1:200 @ A1 / 1:400 @ A3

Drawing Title
Site Plan
-

Drawn
EZ

Checked
NH

Approved
NH

Drawing Status
For Information

Project	Discipline	Level	Series	Dwg No	Rev
13599	A	00	00	100	-

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APPENDIX B

VertaseFLI Site Walkover

- Photographic Record

Site Visit Photographs 12/04/2022



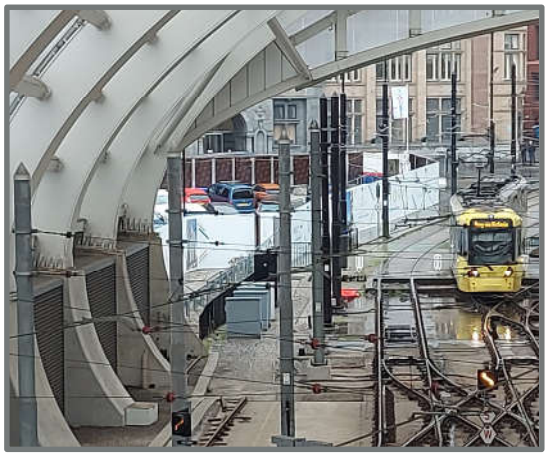
Site access off Corporation St



2nd site access off Corporation St.



New electrical substation at eastern boundary



View of extreme south of the site

APPENDIX C

Past Reports

MANCHESTER NEW VICTORIA GROUND INVESTIGATION



Final Factual Report

Contract Number: PR1531
Client: Muse Developments Ltd.
Consulting Engineer: Ove Arup & Partners Limited

Date: April 2016

Allied Exploration & Geotechnics Ltd.

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MANCHESTER NEW VICTORIA GROUND INVESTIGATION

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Borehole Records	2
Window/Windowless Sample Hole Records	3
Trial Trench Records	4
Groundwater Monitoring Results	5
Gas Monitoring Results	6

***IN-SITU* TESTING ENCLOSURES:**

Test Report Certificate	0
Standard Penetration Test Results (SPT)	1
Photo-Ionisation Detector Test Results	2
Determination of the Soil infiltration Rate for Soakaway Design Test Results	3
In-situ Water Quality Parameter Test Results	4

LABORATORY ENCLOSURES:

Laboratory Report Certificate	0
Sample Description Sheets	1
Moisture Content/Plasticity Index and Moisture Content	2
Particle Size Distribution Sieving and Sedimentation	3
Determination of Sulphate and pH (Tested Externally)	4
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APPENDICES:

Specialist Chemical Testing (Tested Externally) Appendix I

Abbreviation	Definition
CP	Cable Percussion
RC	Rotary Coring
WLS	Windowless Sampling

Text Abbreviations

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1. INTRODUCTION

The site works were commissioned prior to the design and construction of a proposed commercial and residential development adjacent to Victoria Railway Station, Manchester City Centre,

Allied Exploration & Geotechnics Limited (AEG) were contracted by Muse Developments Ltd. with Ove Arup & Partners Limited acting in the capacity of Consulting Engineer to perform a ground investigation at this site. The purpose was to provide information on the subsurface ground and groundwater conditions as well as to obtain samples for geotechnical and specialist chemical testing.

1.1 Scope of Works

The investigation works consisted of the following main elements:

- Seven cable percussion boreholes, three of which were further advanced using rotary coring techniques.
- Three windowless sample holes, utilising a removable liner system.
- Seven machine excavated trial trenches.
- Sampling.
- *In-situ* Standard Penetration, Photo-Ionisation Detector, Soakaway and Water Quality Parameter Testing.
- Installation of post site works gas/groundwater monitoring instrumentation.
- Post site works gas/groundwater monitoring and water sampling.

Site work was carried out between the 27th January and 11th February 2016 with subsequent post site work monitoring, laboratory testing and reporting thereafter. A factual report only was requested.

The comments and opinions expressed in this report are based on the ground conditions encountered during the site work and on the results of tests carried out in the field and in the laboratory. There may, however, be special conditions prevailing on the site which have not been disclosed by this investigation and which have not been taken into account by this report.

2. THE SITE

2.1 Location

The National Grid Reference of the approximate centre of the site is SJ 850 990. This can be found on Ordnance Survey 1:50,000 Sheet Number 109 (Manchester, Bolton & Warrington). Part of this sheet is reproduced as Figure 1, the Site Location Plan.

The site is located in Manchester City Centre immediately adjacent to Victoria Railway Station.

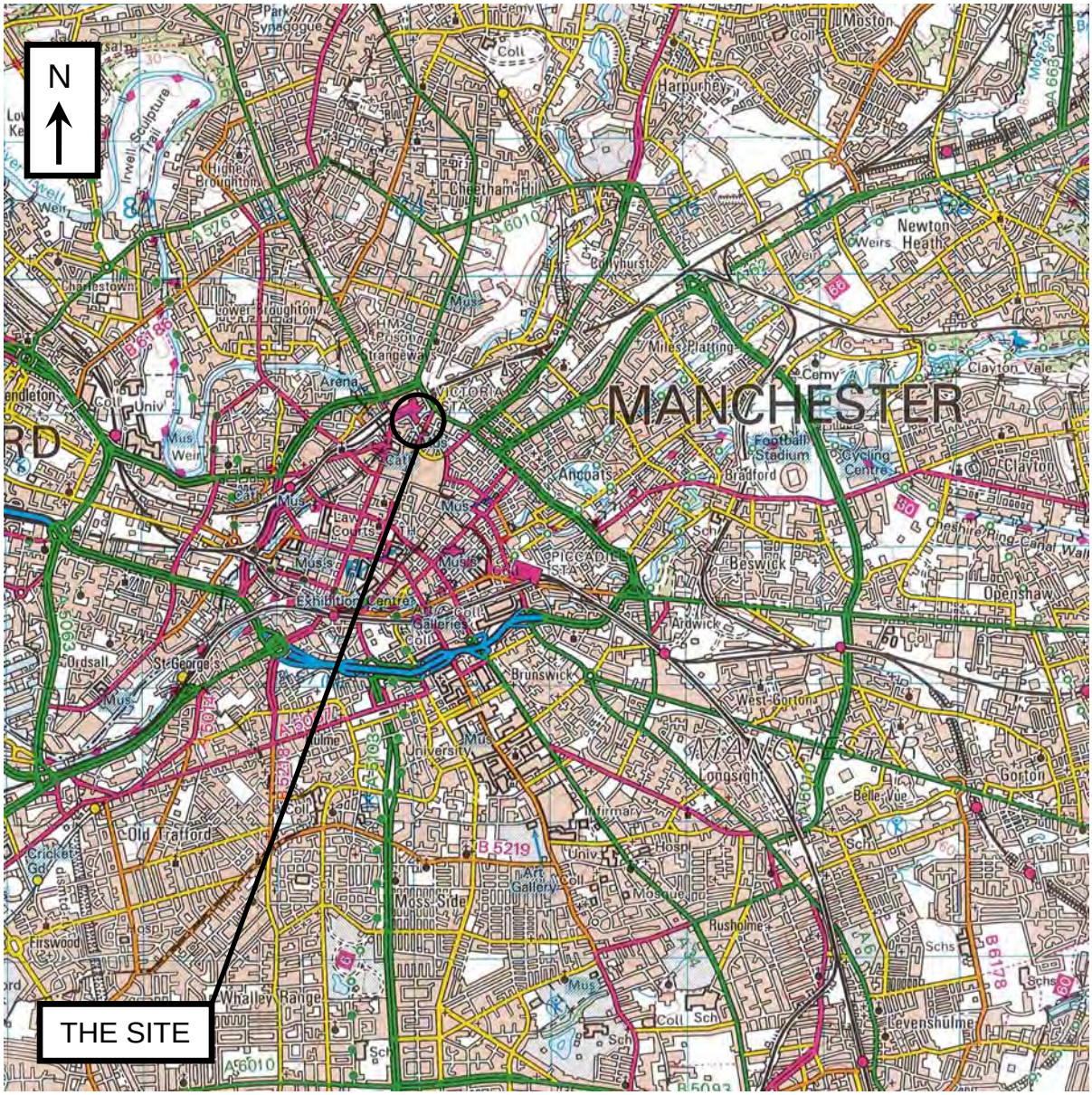


Figure 1: Site Location Plan

Reproduced from the Ordnance Survey 1:50,000 scale Landranger map by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, Crown Copyright. All rights reserved. Licence number AL 100002282.

2.2 Site Description and Topography

The site is located on land to the immediate east of Victoria Railway Station. The site is bound to the north by Cheetham Hill Road, to the south by Victoria Station Approach to the east by Corporation Street and to the west by Victoria Railway Station. Manchester Arena is located further to the west and the River Irwell runs past the southwest of the site.

3. SITE OPERATIONS

3.1 General

All exploratory hole work, associated sampling, *in-situ* testing and logging was carried out in accordance with techniques outlined in Table 1, as appropriate; at positions as near as practicable to those supplied by the Consulting Engineer. These are shown on the Exploratory Hole Location Plan, Field Data Enclosure 1.

Reference Code Number	Title
BS 1377:1990	Methods of Test for Soils for Civil Engineering Purposes (where not in contravention or superseded by Eurocode references)
BS 5930:1999 (A2: August 2010)	Code of Practice for Site Investigation (where not in contravention or superseded by Eurocode references)
BS EN ISO 14689-1:2003	Identification and Classification of Rock
BS EN ISO 14688-1:2002 & 14688-2:2004	Identification and Classification of Soil
BS 10175:2011+A1:2013	Investigation of Potentially Contaminated Sites
BS EN ISO 22476-3: 2005	Geotechnical investigation and testing - Field testing - Part 3 Standard Penetration Testing

Table 1: British Standard Reference Code Number

The depths of all exploratory holes, descriptions of the material encountered, details of any groundwater encountered, samples taken and *in-situ* testing carried out together with any other relevant information can be found on the Borehole, Window/Windowless Sample Hole and Trial Trench Records, Field Data Enclosures 2, 3 and 4 respectively. A key to all symbols and abbreviations used throughout the report is included in the Key Sheets.

In accordance with the Site Investigation Steering Group publication “Guidelines for the Safe Investigation by Drilling of Landfills and Contaminated Land” the site was classified YELLOW.

The primary purpose of ground investigation exploratory holes is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusion should be drawn concerning the presence of, size, lithological nature, and numbers per unit volume of ground cobbles and boulders in soil types such as glacial till (boulder clay). With respect to rotary coring, driller’s records and observations of the recovered core are used to determine any zones of no recovery (core loss). These zones are based on the interpretation of the logging engineer and are therefore subjective.

3.2 Health & Safety Considerations: Services

Before the commencement of any exploratory hole a search for underground services was conducted as prescribed in HSE publication '*Avoiding Underground Services (HSG47)*' and in accordance with in-house internal safety procedure AEG-14.

Service plans were provided by the Client and were consulted prior to using a service locating device (such as a Cable Avoidance Tool or C.A.T.) to scan a working area around the proposed exploratory hole location. Where no services were indicated a '*Permit-to-Work*' form was issued by the investigation supervisor and, with the exception of trial trenches, the position was commenced with a hand excavated inspection pit. The inspection pit was also scanned during the excavation procedure. It should be noted that the digging of an inspection pit only confirms or guards against the possible presence of underground public utility services within the excavated pit. Where no services were indicated by the scanning procedure or inspection pit the exploratory hole was commenced in accordance with the Contract Specification.

Where services were located or there was reasonable belief that they were present, the position was relocated in agreement with the Client. The trial trenches were excavated in order to locate known services so, in this instance, when services were indicated the position was not relocated but was continued with care. Details of any services uncovered/located during this investigation are given in Table 2.

Exploratory Hole Number	Type of Service	Orientation & Depth (size where indicated)	Status (Damaged/Undamaged)	Additional Remarks
TTA01	Black electric cable	350° at 0.60m BGL (40mm diameter)	Undamaged	None
TTA01	Blue plastic water pipe	30° at 0.80m BGL (40mm diameter)	Undamaged	None
TTA01	Cast iron pipe	240° at 0.80m BGL (200mm diameter)	Undamaged	None
TTA02	Blue plastic water pipe	190° at 0.80m BGL (40mm diameter)	Undamaged	None
TTA02	Clay field drain	220° at 1.30m BGL	Damaged/Repaired	None
TTA02	Top of culvert	1.70m BGL	Undamaged	None
TTA03	Yellow plastic pipe	220° at 1.10m BGL (100mm diameter)	Undamaged	None
TTA04	Cast iron T-junction pipe	20° and 240° at 1.10-1.50m BGL (200mm diameter)	Undamaged	None

Table 2: Services Encountered

3.3 Exploratory Holes: Boreholes

Seven boreholes were sunk using either a Dando 2000 or a Dando 175 drilling rig, utilising cable percussive (shell and clay cutter) techniques, to depths of between 3.10m (BHA03) and 10.50m BGL (BHA01). Three boreholes were further advanced using a Massenza MI6 drilling rig, utilising rotary coring methods, to depths of between 9.10m (BHA03) and 13.50m BGL (BHA01).

Rotary coring employed an 'S' (146mm OD) barrel in combination with a PCD drill bit together with air/mist flushing medium. This coring assembly was used to recover 113mm lined cylindrical specimens of rock core.

Borehole Records are presented as Field Data Enclosure 2 and a summary of the drillholes and any relevant remarks are detailed in Table 3.

Exploratory Hole Number	Drilling Method	Completion Depth (m BGL)	Installation	Remarks
BHA01	CP/RC	13.50	Yes – refer to Section 3.8	Advanced to required depth. Rotary coring continued from 10.50m BGL.
BHA02	CP	10.10	Yes – refer to Section 3.8	Advanced to required depth.
BHA03	CP/RC	9.10	Yes – refer to Section 3.8	Advanced to required depth. Rotary coring continued from 3.10m BGL.
BHA04	CP/RC	10.50	Yes – refer to Section 3.8	Advanced to required depth. Rotary coring continued from 4.50m BGL.
BHA05	CP	3.30	Yes – refer to Section 3.8	Advanced to required depth.
BHA06	CP	8.20	Yes – refer to Section 3.8	Advanced to required depth.
BHA07	CP	3.60	Yes – refer to Section 3.8	Advanced to required depth.
Any relevant photographs are presented after the applicable Borehole Record				

Table 3: Borehole Summary

3.4 Exploratory Holes: Window/Windowless Sample Holes

Three windowless sample holes were sunk using a Premier Compact 110 Series tracked rig utilising a removable liner system, to depths of between 2.40m (WSA02) and 3.40m BGL (WSA03). Window/Windowless Sample Hole Records are presented as Field Data Enclosure 3 and a summary of the windowless sample holes and any relevant remarks are detailed in Table 4.

Exploratory Hole Number	Drilling Method	Completion Depth (m BGL)	Installation	Remarks
WSA01	WLS	2.55	No – reinstated	Terminated due to damaged tools.
WSA02	WLS	2.40	No – reinstated	Advanced to required depth.
WSA03	WLS	3.40	No – reinstated	Advanced to required depth.
Any relevant photographs are presented after the applicable Window/Windowless Sample Hole Record				

Table 4: Window/Windowless Sample Hole Summary

3.5 Exploratory Holes: Mechanically Excavated Trial Trenches

Seven trial pits were mechanically excavated using the back-hoe bucket of a tracked excavator to depths of between 0.15m (TTA06) and 5.00m BGL (TTA05). Trial Trench Records are presented as Field Data Enclosure 4 and a summary of the boreholes and any relevant remarks are detailed in Table 5.

Exploratory Hole Number	Excavation Method	Completion Depth (m BGL)	Remarks
TPA04	Machine Excavated	2.40	Advanced to required depth.
TTA01	Machine Excavated	1.20	Terminated on clients instruction due to brick base located (5 bricks deep).
TTA02	Machine Excavated	1.70	Advanced to required depth.
TTA03	Machine Excavated	3.00	Advanced to required depth.
TTA04	Machine Excavated	1.60	Terminated on clients instruction.
TTA05	Machine Excavated	5.00	Advanced to required depth.
TTA06	Machine Excavated	0.15	Terminated on clients instruction due to concrete slab throughout pit.
Any relevant photographs are presented after the applicable Trial Trench Record			

Table 5: Trial Trench Summary

3.6 Samples

Representative samples of soil and rock were obtained from the exploratory holes and were taken to the laboratory for selected geotechnical and specialist chemical testing.

Environmental samples were taken in accordance with the contract specification during the investigation using an approved selection of container types in order to suit the encountered material properties and designated laboratory analytical parameters. Full chain of custody procedures were in place post sampling and during the transportation stage to the nominated specialist chemical laboratory. Environmental samples were administered appropriately following the best practice guidance provided in the contract specification.

3.7 Groundwater

The comments on groundwater conditions are based on the observations made at the time of investigation. It should be noted that groundwater levels may vary due to seasonal and other effects. Furthermore, water was added during advancement of the rotary continuation boreholes in order to facilitate drilling operations. As a consequence there is a possibility that this could have masked the discrete ingress of natural groundwater into the boreholes, which subsequently may have been sealed as a result of progressing the casing.

Groundwater was not encountered in any of the exploratory holes during the site works operation. Standing water levels were recorded in the boreholes continued by rotary coring (BHA01, BHA03 & BHA04) at the beginning and/or end of each drilling shift. The water level is indicated on the applicable Borehole Record as part of the boring progress information.

3.8 Instrumentation & Monitoring

Seven boreholes were installed with monitoring instrumentation in accordance with the requirements of the Consulting Engineer. Details of the installations are shown in Table 6 and on the relevant Borehole Records.

Exploratory Hole Number	Instrumentation	Installation Depth (m BGL)	Response Zone (m BGL)
BHA01	1 No. 50mm diameter slotted standpipe and 1 No. 19mm diameter slotted standpipe	8.50 and 13.50	1.00-8.50 and 9.50-13.50
BHA02	1 No. 50mm diameter slotted standpipe	9.00	2.50-9.00
BHA03	1 No. 50mm diameter slotted standpipe and 1 No. 19mm diameter slotted standpipe	1.00 and 9.00	0.50-1.00 and 6.00-9.00
BHA04	1 No. 50mm diameter slotted standpipe and 1 No. 19mm diameter slotted standpipe	2.50 and 10.00	0.50-2.50 and 4.00-10.00
BHA05	1 No. 50mm diameter slotted standpipe	2.00	0.50-2.00
BHA06	1 No. 50mm diameter slotted standpipe	6.00	1.00-6.00
BHA07	1 No. 50mm diameter slotted standpipe	2.20	0.10-2.50

Table 6: Instrumentation Summary

Instruments were monitored for circulated gas and/or groundwater after the completion of the site works in accordance with the Contract Specification. A record of the groundwater readings is presented per

installation as Field Data Enclosure 5 (Groundwater Monitoring Results). The circulated gas readings are presented in date order as Field Data Enclosure 6 (Circulated Gas Results).

Groundwater sampling was undertaken from one installation during one round of post site works monitoring. Water Quality Parameters were recorded for the purged water prior to sampling (see Section 4.5). Surface water samples were also taken from the River Irwell at locations both upstream and downstream of the site. The samples were scheduled for chemical testing, the results of which are presented within Appendix I.

3.9 Operative Observations: Potential Contamination

For the purposes of determining the condition of the site, with regard to human health and environmental issues, reference should specifically be made to any specialist chemical testing undertaken as part of the investigation scheme, as well as any supporting desk study and risk assessment documentation. The information given herein collates the observations made by the operatives involved in the investigation only and comments that have been indicated on the engineering records.

Where there was potential evidence of contamination, principally as a consequence of olfactory and visual identification, information is provided in Table 7.

Exploratory Hole Number	Occurrence (*in-situ*/surface/ laboratory sample)	Visual / Olfactory / Laboratory Testing	Depth (m BGL)	Occurrence Type	Additional Remarks
BHA01	Laboratory sample	Olfactory	1.20	Chemical odour	None
BHA01	Laboratory sample	Olfactory	5.00	Chemical odour	None
BHA02	Laboratory sample	Olfactory	2.50	Chemical odour	None
BHA06	Laboratory sample	Olfactory	1.20	Chemical odour	None
BHA07	Laboratory sample	Olfactory	0.60-2.00	Strong chemical odour	None

Table 7: Potential Contamination Encountered

It should be stressed that the information provided herein is subjective, as it is based on the perceptions of individuals and not specialists routinely involved in the chemical determination of contaminated residues, liquors, vapours or solid contaminants.

3.10 Surveying

The investigation positions were surveyed after completion of site works using a Leica Smartrover (Model ATX 1230+ GNSS) GPS based instrument which provides corrected Ordnance Survey co-ordinates in real time to an accuracy of within ± 30mm vertical and ± 30mm horizontal. These positions have been subsequently plotted in AutoCAD® software and are shown on the Exploratory Hole Location Plan, Field Data Enclosure 1.

4. *IN-SITU* TESTING

4.1 General

In-situ testing as specified by the Consulting Engineer was carried out in selected boreholes, windowless sample holes and trial trenches in accordance with techniques outlined in the relevant British Standard and/or AEG Quality Procedure. The results are presented in the *In-situ* Testing Enclosures with a number of the test results summarised at the relevant depth on the Borehole, Window/Windowless Sample Hole and Trial Trench Records.

4.2 Standard Penetration Test Results

Standard Penetration Testing (SPT) was carried out in the boreholes and windowless sample holes in accordance with techniques outlined in BS EN ISO 22476-3: 2005 in order to determine the relative density and consistency of the strata encountered. The 'N' value (number of blows per 300mm penetration) or the penetration per blow was recorded for each test. Uncorrected 'N' values or penetration per blow data are provided on the applicable Borehole and Window/Windowless Sample Hole Records. (Refer to page 6 of the key sheets for further details).

More detailed information concerning the standard penetration testing is given in *In-situ* Testing Enclosure 1 which includes the following;

- Initial exploratory hole conditions prior to the test procedure.
- Calibration and energy ratio (E_m) information for the SPT hammer device used to carry out the test.
- A breakdown of blows for each 75mm penetration interval.
- Rod length (C_R) and energy (C_E) correction ratios.
- Uncorrected 'N' value.
- Corrected 'N_{60}' value that applies the rod (C_R) and energy (C_E) corrections indicated.
- Pertinent remarks corresponding to the test procedure.

In addition to the above, a graph has been prepared for each exploratory hole which plots the uncorrected and corrected 'N' value results against depth. Calibration certificates for the SPT apparatus used during the testing procedure are also presented for reference within this *In-situ* Testing Enclosure.

4.3 Photo Ionisation Detector (PID)

Photo-ionisation detector (PID) screening for semi-volatile and volatile organic compounds was conducted on selected environmental samples taken during the investigation. The results for the sample based PID tests are recorded in tabular format as *In-situ* Testing Enclosure 2 and, where applicable, on the relevant Borehole and Window/Windowless Sample Hole Records.

4.4 Soil Infiltration Determination (Soakaway Design)

One soakaway test was performed in TPA04 utilising the methods described in BRE Digest 365:1991, in accordance to the requirements of the Consulting Engineer. The results are presented in *In-Situ* Testing Enclosure 3 with reference to the individual test carried out in the general remarks section of the relevant Trial Trench Record.

4.5 *In-situ* Water Quality Parameter Testing

Groundwater sampling was undertaken from a single installation (BHA01) during one post site works monitoring visit in accordance with techniques outlined in the relevant British Standard and/or AEG Quality Procedure. Water Quality Parameters were recorded for the purged water prior to sampling. The parameters tested were pH, temperature, electrical conductivity, redox potential and dissolved oxygen. The results are presented in tabular format as *In-situ* Testing Enclosure 4.

5. LABORATORY TESTING

5.1 General

Laboratory testing as scheduled by the Consulting Engineer was carried out on selected samples in accordance with techniques outlined in BS 1377:1990, AEG Laboratory Quality Procedures or other appropriate standard as quoted.

5.2 Geotechnical Testing

The results are presented in the Laboratory Enclosures with an outline list of the procedures undertaken given in Table 8.

Test	Procedure
Moisture Content	BS 1377 Part 2 1990 (BS EN ISO 17892-1:2014)
Plasticity Index and Moisture Content	BS 1377 Part 2 1990 (BS EN ISO 17892-1:2014)
Particle Size Distribution Sieving	BS 1377 Part 2 1990
Particle Size Distribution Sedimentation	BS 1377 Part 2 1990
Determination of Sulphate and pH (Tested externally)	BS 1377 Part 3 1990
Determination of Dry Density/Moisture Content Relationship	BS 1377 Part 4 1990
Undrained Shear Strength in Triaxial Cell without Pore Water Pressure Measurement	BS 1377 Part 7 1990
Determination of Point Load Index	ISRM 1985
Determination of Unconfined Compressive Strength (Tested externally)	ISRM 1985

Table 8: Geotechnical Testing

5.3 Specialist Chemical Testing

Selected samples have been submitted for chemical analysis as specified by the Consulting Engineer, conducted under a subcontract arrangement with Derwentside Environmental Testing Services (DETS). The results of this testing are presented as Appendix I.

5.4 Laboratory Identified Asbestos

Selected samples were analysed for asbestos content as specified by the Consulting Engineer. Any identified asbestos is presented in Table 9 which has been summarised from specialist chemical testing results (see Appendix I for further details).

Exploratory Hole Number	Occurrence	Depth (m BGL)	Occurrence Type	Additional Remarks
BHA01	Laboratory Sample	0.30	White asbestos	Bundle of Chrysotile fibres present
BHA04	Laboratory Sample	0.30	Brown and White asbestos	Bundles of Amosite/Chrysotile Fibres present
BHA04	Laboratory Sample	2.00	Brown asbestos	Bundle of Amosite fibres present
WSA01	Laboratory Sample	1.00	White asbestos	Bundles of Chrysotile fibres present
WSA02	Laboratory Sample	0.20	White asbestos	Small Bundles of Chrysotile fibres present
WSA02	Laboratory Sample	1.00	Blue, Brown and White asbestos	Clump of Crocidolite, Amosite and Chrysotile
WSA03	Laboratory Sample	0.20	White asbestos	Bundles of Chrysotile fibres present
WSA03	Laboratory Sample	2.00	Brown and White asbestos	Bundles of Amosite and Chrysotile Fibres present

Table 9: Laboratory Identified Asbestos

KEY SHEETS

Key Sheets

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Allied Exploration and Geotechnics Limited
Key Sheets

INTRODUCTION

The following explanatory notes define the terminologies, abbreviations and symbols pertaining to each individual column or section of the Exploratory Hole records. 'Exploratory Hole' is used as a general term in this report to comprise borehole, drillhole, and trial pit. All exploratory hole records have been produced using ' gINT®', which is an integrated software environment for the storage and manipulation of subsurface data.

The primary purpose of ground investigation exploratory holes is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusion should be drawn concerning the presence of, size, lithological nature, and numbers per unit volume of ground cobbles and boulders in soil types such as glacial till (boulder clay). With respect to rotary coring, driller's records and observations of the recovered core are used to determine any zones of no recovery (core loss). These zones are based on the interpretation of the logging engineer and are therefore potentially subjective.

INFORMATION COMMON TO ALL EXPLORATORY HOLE RECORDS

Status Box
The status box in the top right hand corner of each exploratory hole record gives the status of each individual record i.e. PRELIM1, PRELIM2, PRELIM3 FINAL etc. The date shown relates to the last instance the data was revised. This information is for AEG Quality Assurance only.

Exploratory Hole No
The identity number used throughout the report.

Project
The ground investigation project name. Occasionally the project name may be shortened or abbreviated due to string length restraints imposed by the gINT® computer programme.

Client
Client's name responsible for funding the ground investigation project. The Client's name may be shortened or abbreviated due to string length restraints imposed by the gINT® computer programme.

Location
The exploratory hole position given as either national grid co-ordinates, local grid if specified, or a reference name normally pertaining to the area of investigation.

Method (Equipment)
Represents the drilling, excavation or boring method(s) or equipment used.

Ground Level (m(AOD))
The precise ground level in metres above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated.

Date
The date relating to the start of the exploratory hole excavation.

Sheet
The sheet number and total number of sheets for the particular record.

Checked By
Printed signature of the person who has carried out the technical quality check on the log.

Logged By
The name of the engineer who has carried out the logging of the exploratory hole.

Contract No.
The Allied Exploration & Geotechnics Limited reference number for the project.

Allied Exploration and Geotechnics Limited
Key Sheets

INFORMATION RELEVANT TO BOREHOLE AND WINDOW/WINDOWLESS SAMPLE HOLE RECORDS

Sample & Tests Columns

Depth	The depth over which a sample or test is taken is shown in depth column of the exploratory hole record in a "from...to" format.
Type No	Indicates the type of sample/test and number given by the driller.
Test Result	Result of the test given in the applicable units.

Water Column

Water Strike	Level of groundwater strike within an exploratory hole. The symbol 1 denotes a water strike and is suffixed with a number, which indicates the strike order. The corresponding unfilled symbol 1 is the depth the strike rose to.
Seepage	Groundwater seepage within an exploratory hole is denoted by the symbol.

Strata Columns

Reduced Level	The corresponding reduced level of each soil or rock boundary in metres Ordnance Datum.
Legend	A graphical representation of the materials encountered using BS 5930:1999 Amendment No.2 (Aug 2010) recommended symbols for soil and rock.
Depth (Thickness)	The depth below ground level of each soil or rock boundary in metres and the thickness of each individual stratigraphic unit (given in brackets).
Description	Engineering description of each individual soil or rock type follows recommendations outlined in Section 6 of BS 5930:1999 Amendment No.2 (Aug 2010) with the following implementation:

1 The amendment of section 6 incorporates the guidance indicated in BS EN ISO 14688-1:2002, BS EN ISO 14688-2:2004 and BS EN ISO 14689-1:2003 European Standard with particular emphasis on current UK practice.

2 Supplementary laboratory or in-situ assessed measurements of undrained strength are provided where applicable information is available in parenthesis in accordance with clause 41.3.2 BS 5930:1999 Amendment No.2 (Aug 2010) after the field strength determined consistency. The description based measurement table indicating the quantitative undrained strength classification divisions is provided in Key Sheets Table 1.

Term based on measurement	**Undrained strength classification definition cu, in kPa** (from BS EN ISO 14688-2:2004, 5.3, Table 5)
Extremely low	<10
Very low	10-20
Low	20-40
Medium	40-75
High	75-150
Very High	150-300
Extremely High	300-600

KEY SHEETS TABLE 1

3 Cobble and boulder content is expressed in accordance with the terms provided in EN ISO 14688-2: 2004 where visually identified in trial pit excavations, or inferred/recovered during the drilling operations. The assessment of frequency and spatial occurrence of coarse and very coarse rock material should not be considered as precise, but only an indicator or estimate of the potential conditions. It should be noted that the recovery of coarse or very coarse particles in boreholes is dependent on the limitations imposed by the casing diameter. The terminology used is outlined in Key Sheets Table 2.

Fraction	Percent by Mass	Term
Boulders	<5	Low boulder content
	5 to 20	Medium boulder content
	>20	High boulder content
Cobbles	<10	Low cobble content
	10 to 20	Medium cobble content
	>20	High cobble content

KEY SHEETS TABLE 2

4 Rock Strength based on assessed field or measured unconfined compressive strength follows the classification scheme given in clause 44.2.1 BS5930:1999 Amendment No.2 (Aug 2010) as outlined in Key Sheets Table 3.

Term for use in field or based on measurement	Definition for field use	Definition on basis of Unconfined Compressive Strength measurement (MPa)	*Old Classification of rock strength: Terminology (Strength Range MPa)*	*Old Classification of rock strength: Determination Method*
Extremely weak	Can be indented by thumbnail. Gravel sized lumps crush between finger and thumb.	0.6-1.0	*Very Weak (<1.25)*	*Lumps can be crushed between fingers*
Very weak	Crumbles under firm blows with point of geological hammer. Can be peeled by a pocket knife.	1-5	*Weak (1.25 – 5)*	*Lumps can be broken with heavy hand pressure*
Weak	Can be peeled by a pocket knife with difficulty. Shallow indentations made by firm blow with the point of geological hammer.	5-25	*Moderately Weak (5-12.50)*	*This slab can be broken with heavy pressure*
Medium Strong	Cannot be scraped with pocket knife. Can be fractured with a single firm blow of geological hammer.	25-50	*Moderately Strong (12.50-50)*	*Rock can be broken in the hand with a hammer*
Strong	Requires more than one blow of geological hammer to fracture.	50-100	*Strong (50-100)*	*Rock can be broken on a flat surface using a hammer*
Very Strong	Requires many blows of geological hammer to fracture.	100-250	*Very Strong (100-200)*	*Rock chipped by blows with a hammer*
Extremely strong	Can only be chipped with geological hammer.	>250	*Extremely Strong (>200)*	*Rock rings when hit with a hammer*
Based on BS EN ISO 14689-1:2003 4.2.7, Table 5			*BS5930: 1999 – Section 6 (Superseded Version)*	

KEY SHEETS TABLE 3

5 Where 'rock weathering classification' can be applied it is 'Approach 4' which will be used. If any other approach is used the factual text of the report will provide details of the applicable specific approach. (Ref.: Figure 19, p143, BS 5930:1999 Amendment No.2 (Aug 2010)). An outline of the 'Approach 4' rock weathering classification scheme is provided as Key Sheets Table 4.

APPROACH 4 CLASSIFICATION INCORPORATING MATERIAL AND MASS FEATURES		
Class	**Classifier**	**Typical characteristics**
A	Unweathered	Original strength, colour, fracture spacing
B	Partially weathered	Slightly reduced strength, slightly closer fracture spacing, weathering penetrating in from fractures, brown oxidation
C	Distinctly weathered	Further weathered, much closer fracture spacing grey reduction
D	Destructured	Greatly weakened, mottled, ordered lithorelics in matrix becoming weakened and disordered, bedding disturbed.
E	Residual or reworked	Matrix with occasional altered random or 'apparent' lithorelics, bedding destroyed. Classed as reworked when foreign inclusions are present as a result of transportation.

KEY SHEETS TABLE 4

Instrument/Backfill Column

A graphical representation of backfill material or instrumentation detail using graphic legends. Its placement in the column is relative to depth in metres and corresponds to the exploratory hole in scale.

Boring Progress and Water Observations Columns

This section provides information on each day's production as a daily log.

Date	Date of shift.
Depth	Depth of hole at the start of the shift.
Casing	Casing's depth at the start of the shift.
Casing Dia	Casing's diameter at the start of the shift.
Water Depth	Water level within the borehole at the start and end of shift.

Chiselling Columns

Indicates where hard strata occurred in the borehole and breaking out was carried out to advance the borehole.

From	The depth commenced.
To	The depth finished.
Hours	The time spent for breaking out.

Water Added Columns

Indicates the depth range where water was added to the borehole to facilitate boring or to prevent stress relief disturbance "blowing/boiling" in granular soils.

From	Depth in metres from where water was added.
To	Depth in metres to where water was added.

General Remarks

Any remarks believed to be relevant to the exploratory hole.

INFORMATION RELEVANT TO PIT/TRENCH RECORDS

The pit/trench records follow the same format as the borehole and window/windowless sample hole records for the Samples & Tests, Water and Strata columns. However, in addition to these there are the following:

Plan

A schematic plan view of the pit showing its excavated dimensions together with its orientation, given as a compass bearing to magnetic north.

Groundwater

Notes on water bearing horizons.

Stability

The engineer's comments outlining the stability of the sides during pit excavation.

General Remarks

The engineer's comments of any other information relevant to construction of the pit.

Additional Information

An indication if a sketch and/or photographs accompany the record.

Underground Services

Depth	Depth service was encountered.
Orientation	Orientation given as a compass bearing to magnetic north.
Type	Type of service encountered.
Diameter	Diameter of service encountered.
Condition	Condition the service encountered was noticed in.

INFORMATION RELEVANT TO DRILLHOLE RECORDS AND ROTARY CONTINUATION

Run Details Columns

Depth	Each drill run is highlighted by a horizontal line with the top and bottom depths shown in metres. Core diameter (C Dia) is presented also within each run.
TCR (SCR) RQD	Information provided on the total core recovery, solid core recovery and rock quality designation. Refer to Abbreviations for further details.
Fracture Index	Information given relating to the fracture index of the rock.

Strata Columns

As the strata columns for borehole and window/windowless sample hole records except for description which is as follows:

Discontinuities Detail	Information on core discontinuities, localised variations in weathering, lithology, strength and structure follows recommendations outlined in Section 6 BS 5930:1999 Amendment No.2 (Aug 2010):Clause 44.
Main	Engineering description of each individual soil or rock type follows recommendations outlined in Section 6 of BS 5930:1999 Amendment No.2 (Aug 2010).

Instrument/Backfill Column

A graphical representation of backfill material or instrumentation detail using graphic legends. Its placement in the column is relative to depth in metres and corresponds to the exploratory hole in scale.

Drilling Progress and Water Observations Columns

Date	Date of shift.
Depth	Depth of hole at the start of the shift.
Casing	Casing's depth at the start of the shift.
Water Strike	Depth at which water was encountered.
Water Standing	Depth at which water in the hole levelled off.
Water Remarks	Any remarks believed to be relevant to the water e.g. Artesian.

Standard Penetration Test

Depth	The depth commenced.
Type	Type of standard penetration test (SPT).
Result	Result of SPT.

Flush

From	The depth commenced.
To	The depth finished.
Type	Details of the type of flush used. A = Air, F = Foam, W = Water and Pol = Polymer.
Returns	An indication of the percentage of the returned flush material.

General Remarks

Any remarks believed to be relevant to the exploratory hole.

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Key Sheets

SAMPLES

B	Bulk disturbed sample.
ES	Environmental soil sample.
EW	Environmental water sample.
G	Gas sample.
J	Small disturbed sample.
LB	Large bulk disturbed sample.
P	Piston sample.
P*	An attempted but failed undisturbed piston sample.
U	Undisturbed sample.
U*	An attempted but failed general purpose undisturbed sample.
$U_{(ss)}$	Sample has been subsampled.
$ES_{(U)}$	Brackets following a sample denotes a subsample. The sample information within the brackets is the origin of the subsample.
W	Water sample.

IN-SITU TESTS

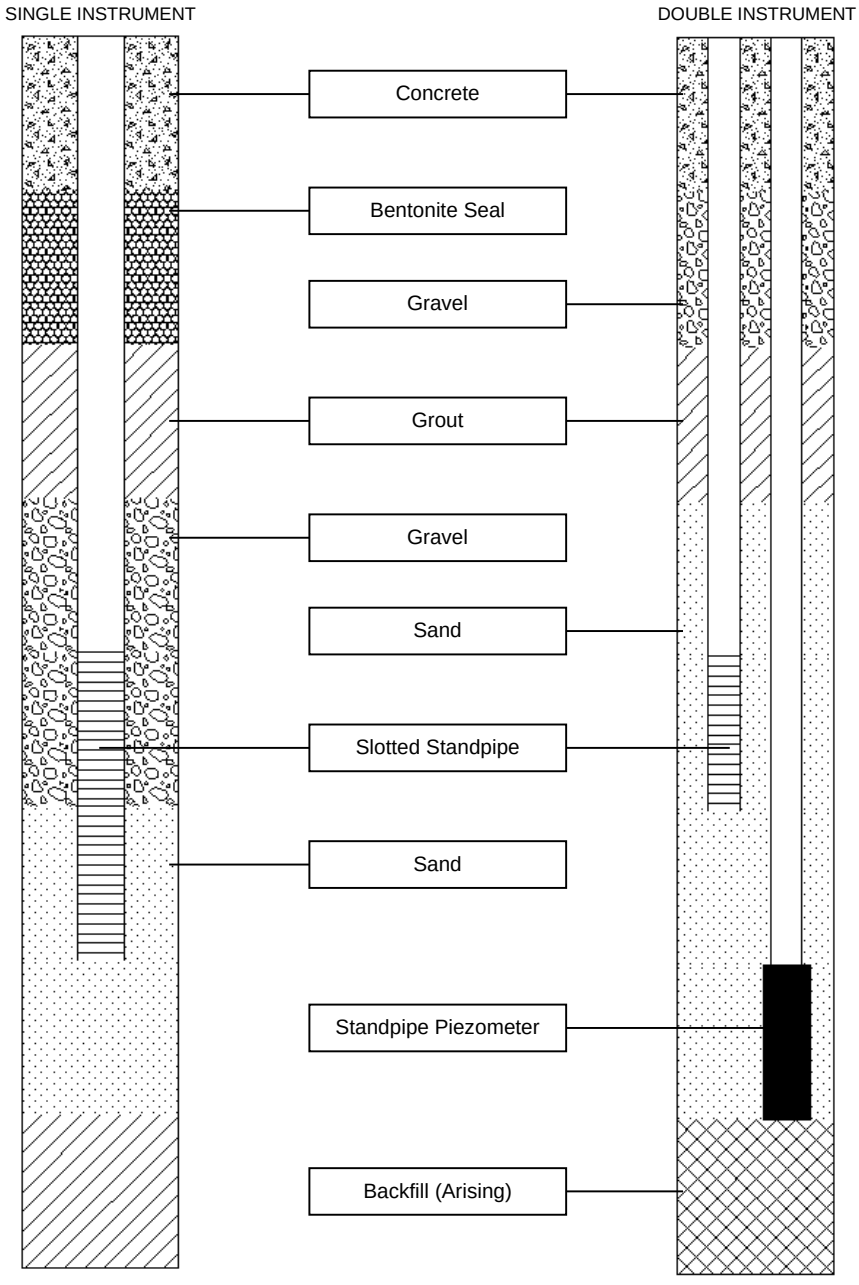
CBR	California Bearing Ratio mould sample or test.
HSV	In-situ hand shear vane.
HSV*	An attempted but failed in-situ hand shear vane.
HSV result of e.g 80(20)kPa	Denotes average HSV peak result followed by average HSV residual result (in brackets).
HP	Hand penetrometer test.
K (F)	Falling head permeability test.
K (R)	Rising head permeability test.
K (C)	Constant head permeability test.
K (P)	Packer permeability test.
PT	Pressuremeter test.
PID	Photo ionisation detector test.
FID	Flame ionisation detector test.
S	Standard Penetration Test (SPT) using the split barrel sampler (shoe). The corresponding uncorrected 'N' value is given in the test result column with more detailed information provided in the In-Situ Testing Enclosures where applicable. Testing has been conducted in accordance with BS EN ISO 22476-3: 2005.
C	Denotes SPT test using a solid cone in preference to the split barrel sampler (usually in coarse granular soil) with all other reporting requirements as outlined above for the split barrel sampler.
S/C result of e.g. 1/2.94	Denotes where full penetration has not been achieved during the SPT test. In such cases the penetration (mm) per blow is recorded in the test result column e.g. 1/2.94 is 2.94mm of penetration per single blow.
SV	In-situ down-the-hole shear vane test. The remoulded shear strength is given in brackets.

ROCK QUALITY AND CORE RECOVERY

TCR	Total Core Recovery - the length of the recovered core expressed as a percentage of the length of core run.
SCR	Solid Core Recovery - the sum length of all core pieces that are recovered with at least one full diameter, expressed as a percentage of the length of core run.
RQD	Rock Quality Designation - The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run.
FI	Fracture Index - The number of fractures per 1000mm length of solid core.
NI	Non-intact - The material recovered in a non-intact state.
NR	No recovery from the core run. These zones are based on the interpretation of the logging engineer and are therefore potentially subjective.

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Key Sheets

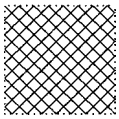
Symbols and Abbreviations: Explanation of Instrumentation Legends Used



Allied Exploration and Geotechnics Limited
Key Sheets

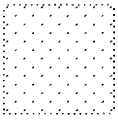
Symbols and Abbreviations: Explanation of Legends Used

Soils	Rocks		
	Sedimentary	*Metamorphic*	*Igneous*

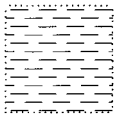

Made Ground


Cobbles and Boulders

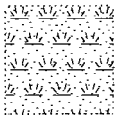

Gravel


Sand


Silt

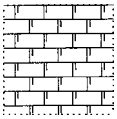

Clay

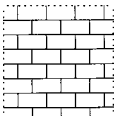

Peat

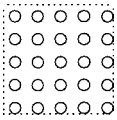

Topsoil

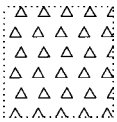
Note: Composite soil types will be signified by combined symbols e.g.

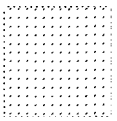

Silty Sand

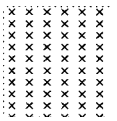

Chalk


Limestone


Conglomerate


Breccia


Sandstone


Siltstone

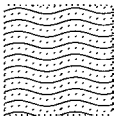

Mudstone

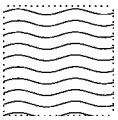

Shale

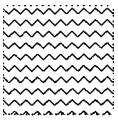

Coal

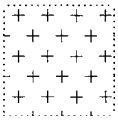

Pyroclastic (Volcanic Ash)

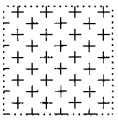

Gypsum


Coarse Grained


Medium Grained


Fine Grained


Coarse Grained


Medium Grained


Fine Grained

Exploratory Hole Location Plan

FIELD DATA ENCLOSURE 1

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Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeguk.net

KEY:

BOREHOLE

WINDOW/WINDOWLESS SAMPLE HOLE

TRIAL PIT

TRIAL TRENCH

N
W E
S

Base Plan Supplied by Consulting Engineer

Drawing Title:
ENC 01 : Exploratory Hole Location Plan

Drawing No.:
AEG/PR1531/01

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
1:500 @ A3

Date:
03/03/2016

FIELD DATA ENCLOSURE 2

Borehole Records

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.202 N:399027.422		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.046	**Date:** 01/02/2016	**Sheet:** 1 of 2

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
				32.946		(0.10) 0.10	MADE GROUND (Macadam over subbase). (MG)	
0.30 0.30 0.30 0.50-1.00	PID J1 ES2 B3	1.1ppm					MADE GROUND (Loose black slightly clayey gravelly sand/sandy gravel with occasional fragments of glass, wood, ceramic and plastic. Sand includes ash. Gravel is fine to coarse angular to subrounded and includes sandstone, limestone, brick and concrete). (MG)	
1.00 1.00 1.20-1.65	PID ES4 CB5	1.0ppm 1/0.80					at c.1.20m BGL ... clayey very sandy gravel with chemical odour.	
2.00 2.00 2.00-2.45	PID ES6 CB7	5.7ppm N5						
3.00 3.00 3.00-3.45	PID ES8 CB9	18.8ppm N5						
4.00 4.00 4.00-4.45	PID ES10 CB11	4.8ppm N5				(9.10)		
5.00 5.00 5.00-5.45	PID ES12 CB13	3.0ppm N5					at c.5.00m BGL ... very gravelly with chemical odour.	
6.00 6.00 6.00	PID ES14 CB15	0.8ppm N6						
7.00	PID	1.6ppm						
7.50 7.50-7.95	ES16 CB17	N6						

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
01/02/2016	0.00	0.00		

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To
1.20	1.60	01:00		

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter slotted standpipe and one 19mm diameter slotted standpipe installed to 8.50m and 13.50m BGL respectively.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.202 N:399027.422		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.046	**Date:** 01/02/2016	**Sheet:** 2 of 2

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.00	PID	2.1ppm					(As sheet 1 of 2).	
8.00	ES18						MADE GROUND (Loose black slightly clayey gravelly sand/sandy gravel with occasional fragments of glass, wood, ceramic and plastic. Sand includes ash. Gravel is fine to coarse angular to subrounded and includes sandstone, limestone, brick and concrete).	
9.00	PID	2.0ppm		23.846		9.20		
9.00	ES19	1/0.93					Very weak red fine to medium grained SANDSTONE partially weathered. (Recovered as red brown gravelly sand). (SSW)	
9.00-9.45	SJ20					(1.20)		
9.50-10.00	B21							
10.00	PID	2.9ppm						
10.00	ES22			22.646		10.40		
				22.546		(0.10) 10.50	Weak red fine to medium grained SANDSTONE partially weathered.	
10.50	SJ23	1/0.40					Boring complete at 10.50m BGL - continued by rotary coring.	

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
01/02/2016	10.50	10.50	150	Dry

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To
10.20	10.50	01:00		

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter slotted standpipe and one 19mm diameter slotted standpipe installed to 8.50m and 13.50m BGL respectively.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.202 N:399027.422		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.046	**Date:** 01/02/2016	**Sheet:** 1 of 2

RUN DETAILS			STRATA					
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION: Discontinuities Detail	DESCRIPTION: Main	Instrument/ Backfill
10.50	95 (75) 47	20	22.546		(0.07) 10.50	10.50-10.77m ... horizontal to subhorizontal extremely closely to closely spaced stepped planar rough moderately open to open clean discontinuities.	Boring complete at 10.50m BGL - continued by rotary coring. (1) Red SANDSTONE. (SSW)	
			22.476		10.57			
			22.276		(0.20) 10.77			
		5				10.50-10.63m ... non-intact.	Very weak thinly bedded red brown fine to coarse grained SANDSTONE distinctly weathered. (SSW)	
						10.77-12.00m ... oblique (45 degrees) and vertical very closely to medium spaced planar smooth undulating rough tight to moderately open clean discontinuities.	Extremely weak thinly to medium bedded red brown fine to medium grained SANDSTONE partially weathered. (SSW)	
C Dia (113mm)					(1.23)			
							11.80-12.00m ... weak to medium strong.	
12.00			21.046		12.00			
	96 (58) 27	10				12.00-13.50m ... horizontal to subhorizontal very closely to closely spaced stepped planar smooth moderately open to very open clean discontinuities.	Weak to medium strong medium bedded red brown fine to medium grained SANDSTONE partially weathered. (SSW)	
C Dia (113mm)						12.60-12.68m ... non-intact.		
					(1.50)			
						13.10-13.15m ... 1 No. vertical discontinuity.		
			19.546		13.50			
							Borehole complete at 13.50m BGL.	

Drilling Progress and Water Observations

Date	Depth	Casing	Water Strike	Water Standing	Water Remarks
03/02/2016	10.50	10.50		10.00	
03/02/2016	13.50	10.50		13.00	

Standard Penetration Test

Depth	Type	Result
10.50	S	1/0.40
12.00	S	1/0.00
13.50	S	1/0.00

Flush

From	To	Type	Returns (%)
10.50	12.00	A/M	100
12.00	13.50	A/M	100

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter slotted standpipe and one 19mm diameter slotted standpipe installed to 8.50m and 13.50m BGL respectively.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.202 N:399027.422		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.046	**Date:** 01/02/2016	**Sheet:** 2 of 2

PHOTOGRAPHS



Figure BHA01.1
BHA01 10.50-12.50m BGL.



Figure BHA01.2
BHA01 12.50-13.50m BGL.

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384118.071 N:399048.324		
Method (Equipment): Cable Percussion (Dando 175)	**Ground Level (m(AOD)):** 32.940	**Date:** 28/01/2016	**Sheet:** 1 of 2

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
						(0.40)	MADE GROUND (Macadam over subbase). (MG)	
0.30	PID	3.4ppm		32.540		0.40		
0.30	ES1						MADE GROUND (Black brown clayey gravelly sand with occasional pottery, tile, glass, plastic and metal fragments. Occasional interbeds of slightly clayey gravelly sand. Gravel is fine to coarse subrounded to angular and includes limestone, sandstone, brick and mortar). (MG)	
0.30	J2							
0.50	B3							
1.00	PID	3.6ppm						
1.00	ES4					(1.60)		
1.00	J5							
1.50	B6	(60)						
1.50-1.95	U7							
				30.940		2.00		
2.00	B8						MADE GROUND (Soft black brown slightly sandy gravelly clay with occasional glass, metal, pottery and brick fragments. Occasional interbeds. Sand includes ash. Gravel is fine to medium subrounded to angular and includes sandstone, limestone and slag). (MG)	
2.50-2.95	SJ9	N8					at c.2.50m BGL ... slightly clayey gravelly sand with chemical odour.	
2.50-3.00	B10							
3.00	PID	4.1ppm						
3.00	ES11							
3.50	J12	(50)					at c.3.50m BGL ... low strength.	
3.50-3.95	U13							
4.00	PID	3.4ppm						
4.00	J14							
4.00-4.50	B15							
4.00	ES16							
4.50-4.95	SJ17	N6					at c.4.50m BGL ... clay of low plasticity.	
4.50-5.00	B18							
5.00	PID	2.2ppm						
5.00	ES19							
5.00	J20							
5.50-5.95	U21	(50)					at c.5.50m BGL ... medium strength.	
						(8.00)		
6.00	PID	1.5ppm						
6.00	ES22							
6.20-6.70	B23							
7.00-7.45	SJ24	N5					at c.7.00m BGL ... clay of low plasticity.	
7.00-7.50	B25							

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
28/01/2016	0.00	0.00		

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) One 50mm diameter slotted standpipe installed to 9.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384118.071 N:399048.324		
Method (Equipment): Cable Percussion (Dando 175)	**Ground Level (m(AOD)):** 32.940	**Date:** 28/01/2016	**Sheet:** 2 of 2

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.00	PID	1.9ppm					(As sheet 1 of 2).	
8.00	ES26						MADE GROUND (Soft black brown slightly sandy gravelly clay with occasional glass, metal, pottery and brick fragments. Occasional interbeds. Sand includes ash. Gravel is fine to medium subrounded to angular and includes sandstone, limestone and slag).	
8.00-8.50	B27						between c.8.00-9.00m BGL ... clayey very gravelly sand.	
8.50-8.95	U28	(60)						
9.00	PID	2.1ppm						
9.00	J29							
9.00-9.50	B30							
9.00	ES31							
				22.940		10.00		
10.00	SJ32	1/0.80		22.840		(0.10) 10.10	Weak red fine to medium grained SANDSTONE partially weathered. (SSW)	
10.10	CB33	1/1.52					Borehole complete at 10.10m BGL.	

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
28/01/2016	10.10	10.00	150	Dry

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To
10.00	10.10	01:00		

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) One 50mm diameter slotted standpipe installed to 9.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384116.964 N:398997.281		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.458	**Date:** 02/02/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Instrument/ Backfill
				33.258		(0.20) 0.20	MADE GROUND (Macadam over subbase). (MG)	
						(0.70)	MADE GROUND (Concrete). (MG)	
				32.558		0.90		
0.90	PID	2.2ppm		32.258		(0.30) 1.20	MADE GROUND (Black grey sand with brick and concrete fragments. Sand includes ash). (MG)	
0.90	ES1							
0.90	J2							
1.20-1.65	SJ3	1/0.50					Extremely weak to very weak red fine to medium grained SANDSTONE distinctly weathered. (Recovered as red brown clayey slightly gravelly sand). (SSW)	
1.99	PID	1.7ppm						
2.00	ES4	1/0.80				(1.90)		
2.00-2.45	CB5							
2.99	PID	1.5ppm		30.358		3.10		
3.00	ES6	1/0.50					Boring complete at 3.10m BGL - continued by rotary coring.	
3.00	C7							

Boring Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth
02/02/2016	0.00	0.00		
02/02/2016	3.10	3.00	150	Dry

Chiselling

From	To	Hours (hh:mm)
1.80	2.10	00:40
2.70	3.00	01:00
3.00	3.10	00:20

Water Added

From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter and one 19mm diameter slotted standpipe installed to 1.00m and 9.00m respectively.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation		**Exploratory Hole No.** BHA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384116.964 N:398997.281	
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.458 / **Date:** 02/02/2016	**Sheet:** 1 of 4

RUN DETAILS			STRATA					
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION: Discontinuities Detail	DESCRIPTION: Main	Instrument/ Backfill
3.10	98 (77) 61	30	30.358		3.10	3.10-3.40m ... horizontal to subhorizontal very closely to closely spaced stepped planar smooth moderately open to open clean discontinuities.	Boring complete at 3.10m BGL - continued by rotary coring.	
			30.058		(0.30) 3.40	3.10-3.15m ... non-intact.	Very weak thinly bedded red brown fine to coarse grained SANDSTONE partially weathered. (SSW)	
		3				3.37-3.40m ... non-intact.		
C Dia (113mm)						3.40-5.10m ... horizontal to subhorizontal very closely to medium spaced planar rough tight to open clean discontinuities.	Extremely weak thinly bedded red brown fine to medium grained SANDSTONE partially weathered. (SSW)	
					(0.85)			
			29.208		4.25			
					(0.33)		Weak to medium strong thinly bedded red brown fine to medium grained SANDSTONE unweathered. (SSW)	
4.60			28.878		4.58	4.57-4.69m ... non-intact.		
	99 (80) 56						Extremely weak medium bedded red brown fine to medium grained SANDSTONE unweathered. (SSW) 4.58-4.69m ... clay interbed.	
					(0.65)			
		7	28.228		5.23	5.10-7.10m ... horizontal to subhorizontal closely spaced planar smooth to rough tight to open clean discontinuities. 5.21-5.24m ... non-intact.	Very weak to weak medium bedded red brown fine to coarse grained SANDSTONE unweathered. (SSW)	
C Dia (113mm)								
6.10								
	99 (63) 51							
					(2.42)	6.42-6.50m ... 1 No. oblique (40 degrees) discontinuity. 6.45-6.49m ... non-intact.		
C Dia (113mm)								

Drilling Progress and Water Observations

Date	Depth	Casing	Water Strike	Water Standing	Water Remarks
03/02/2016	3.10	3.00		3.00	

Standard Penetration Test

Depth	Type	Result
4.60	S	1/0.00
6.10	S	1/0.00

Flush

From	To	Type	Returns (%)
3.10	4.60	A/M	100
4.60	6.10	A/M	100
6.10	7.60	A/M	100

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter and one 19mm diameter slotted standpipe installed to 1.00m and 9.00m respectively.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384116.964 N:398997.281		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.458	**Date:** 02/02/2016	**Sheet:** 2 of 4

RUN DETAILS			STRATA					
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION: Discontinuities Detail	DESCRIPTION: Main	Instrument/ Backfill
7.60		5				7.10-9.10m ... horizontal closely to medium spaced planar to undulating smooth tight to very open clean discontinuities. 7.17-7.31m ... non-intact. 7.39-7.42m ... non-intact.	(As sheet 1 of 4). Very weak to weak medium bedded red brown fine to coarse grained SANDSTONE unweathered.	
	100 (71) 59		25.808		7.65	7.58-7.62m ... non-intact. 7.67-7.70m ... non-intact.		
C Dia (113mm)			25.358		(0.45) 8.10		Extremely weak medium bedded red brown fine to medium grained SANDSTONE unweathered. (SSW) 7.95-8.10m ... clay interbed.	
			24.358		(1.00) 9.10		Medium strong thinly to medium bedded red brown fine to medium grained SANDSTONE unweathered. (SSW)	
							Borehole complete at 9.10m BGL.	

Drilling Progress and Water Observations					
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks
03/02/2016	9.10	3.10		8.50	

Standard Penetration Test		
Depth	Type	Result
7.60	S	1/0.00
9.10	S	1/0.00

Flush			
From	To	Type	Returns (%)
7.60	9.10	A/M	100

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter and one 19mm diameter slotted standpipe installed to 1.00m and 9.00m respectively.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384116.964 N:398997.281		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.458	**Date:** 02/02/2016	**Sheet:** 3 of 4

PHOTOGRAPHS



Figure BHA03.1
BHA03 3.10-5.10m BGL



Figure BHA03.2
BHA03 5.10-7.10m BGL

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384116.964 N:398997.281		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.458	**Date:** 02/02/2016	**Sheet:** 4 of 4

PHOTOGRAPHS



Figure BHA03.3
BHA03 7.10-9.10m BGL

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384095.820 N:398923.950		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.859	**Date:** 02/02/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
				33.759		(0.10) 0.10	MADE GROUND (Macadam over subbase). (MG)	
0.30	PID	3.2ppm					MADE GROUND (Dark brown to brown sand and gravel with high cobble content. Sand is medium to coarse. Gravel is fine to coarse subangular to angular and includes slag, brick and concrete. Cobbles include angular brick). (MG)	
0.30	J1							
0.30	ES2							
1.00	PID	4.1ppm						
1.00	ES3							
1.20	CB4	N16				(2.90)		
2.00	PID	2.2ppm						
2.00	ES5	N5						
2.00-2.45	CB6			30.859		3.00		
3.00	PID	1.4ppm					Very weak red fine to medium grained SANDSTONE distinctly weathered. (Recovered as red brown clayey slightly gravelly sand).	
3.00	ES7	1/0.60						
3.00-3.45	SJ8					(1.50)		
4.00	PID	1.9ppm						
4.00	ES9	1/0.60						
4.00-4.45	SJ10							
4.00-4.50	B11			29.359		4.50		
							Boring complete at 4.50m BGL - continued by rotary coring.	

Boring Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth
02/02/2016	0.00	0.00		
02/02/2016	1.65	0.00		Dry
03/02/2016	1.65	0.00		Dry
03/02/2016	4.50	3.50	150	Dry

Chiselling

From	To	Hours (hh:mm)
4.20	4.50	01:00

Water Added

From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter and one 19mm diameter slotted standpipe installed to 2.50m and 10.00m respectively.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation		**Exploratory Hole No.** BHA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384095.820 N:398923.950	
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.859 / **Date:** 02/02/2016	**Sheet:** 1 of 4

RUN DETAILS			STRATA					
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION: Discontinuities Detail	DESCRIPTION: Main	Instrument/ Backfill
4.50	99 (60) 19	NI	29.359		4.50	4.50-5.25m ... non-intact.	Boring complete at 4.50m BGL - continued by rotary coring. Extremely weak red brown medium to coarse grained SANDSTONE destructured. (Recovered as gravelly coarse grained sand). (SSW)	
					(0.60)			
			28.759		5.10		Firm red brown sandy CLAY. (SSW)	
C Dia (113mm)			28.609		(0.15) 5.25			
		14				5.25-6.00m ... horizontal closely spaced undulating rough moderately open infilled (sand) discontinuities.	Very weak to weak red brown medium to coarse grained SANDSTONE unweathered. (SSW)	
6.00								
	99 (75) 22	12				6.00-8.00m ... horizontal closely spaced undulating rough moderately open infilled (sand and gravel) discontinuities.		
C Dia (113mm)								
7.50								
	99 (90) 37				(5.25)			
		8				8.00-10.50m ... horizontal closely to medium spaced undulating rough open to moderately open infilled (sand and gravel) discontinuities.		
C Dia (113mm)								

Drilling Progress and Water Observations

Date	Depth	Casing	Water Strike	Water Standing	Water Remarks
04/02/2016	4.50	3.50		4.00	

Standard Penetration Test

Depth	Type	Result
6.00	S	1/0.00
7.50	S	1/0.00

Flush

From	To	Type	Returns (%)
4.50	6.00	A/M	100
6.00	7.50	A/M	100
7.50	9.00	A/M	100

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter and one 19mm diameter slotted standpipe installed to 2.50m and 10.00m respectively.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384095.820 N:398923.950		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.859	**Date:** 02/02/2016	**Sheet:** 2 of 4

RUN DETAILS			STRATA					
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION: Discontinuities Detail	DESCRIPTION: Main	Instrument/ Backfill
9.00							(As sheet 1 of 4).	
C Dia (113mm)	97 (92) 47		23.359		10.50		Very weak to weak red brown medium to coarse grained SANDSTONE unweathered.	
							Borehole complete at 10.50m BGL.	

Drilling Progress and Water Observations

Date	Depth	Casing	Water Strike	Water Standing	Water Remarks
04/02/2016	10.50	4.50		10.00	

Standard Penetration Test

Depth	Type	Result
9.00	S	1/0.00
10.50	S	1/0.00

Flush

From	To	Type	Returns (%)
9.00	10.50	A/M	100

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) Double installation: One 50mm diameter and one 19mm diameter slotted standpipe installed to 2.50m and 10.00m respectively.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384095.820 N:398923.950		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.859	**Date:** 02/02/2016	**Sheet:** 3 of 4

PHOTOGRAPHS



Figure BHA04.1
BHA04 4.50-6.50m BGL



Figure BHA04.2
BHA04 6.50-8.50m BGL

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ROTARY CONTINUATION

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384095.820 N:398923.950		
Method (Equipment): Cable Percussion/Rotary Coring (Dando 2000/Massenza MI6)	**Ground Level (m(AOD)):** 33.859	**Date:** 02/02/2016	**Sheet:** 4 of 4

PHOTOGRAPHS



Figure BHA04.3
BHA04 8.50-10.50m BGL

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA05
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.087 N:398942.960		
Method (Equipment): Cable Percussion (Dando 2000)	**Ground Level (m(AOD)):** 33.723	**Date:** 03/02/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
				33.623		(0.10) 0.10	MADE GROUND (Macadam over subbase). (MG)	
0.30	PID	0.9ppm					MADE GROUND (Dark brown to brown sand and gravel with high cobble content. Sand is medium to coarse. Gravel is fine to coarse subangular to angular and includes slag, brick and concrete. Cobbles include angular brick). (MG)	
0.30	ES1							
0.50-1.00	B3							
1.00	PID	1.2ppm						
1.00	ES2							
1.20-1.65	C	N14				(2.40)		
2.00	PID	583ppm						
2.00	ES4	N29						
2.00-2.45	C			31.223		2.50		
2.50-3.00	B5						Very weak red fine to medium grained SANDSTONE partially weathered. (Recovered as clayey sand). (SSW)	
3.00	PID	8.1ppm				(0.80)		
3.00	ES6	1/0.90		30.423		3.30		
3.00-3.45	SJ7	1/0.60						
3.30	C						Borehole complete at 3.30m BGL.	

Boring Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth
03/02/2016	0.00	0.00		
03/02/2016	3.30	3.30	150	Dry

Chiselling

From	To	Hours (hh:mm)
2.80	3.00	01:00
3.00	3.30	01:00

Water Added

From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) One 50mm diameter slotted standpipe installed to 2.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation		**Exploratory Hole No.** BHA06
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.877 N:398978.386	
Method (Equipment): Cable Percussion (Dando 2000)	**Ground Level (m(AOD)):** 33.376 / **Date:** 28/01/2016	**Sheet:** 1 of 2

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
				33.276		(0.10) 0.10	MADE GROUND (Macadam and subbase). (MG)	
				32.776		(0.50) 0.60	MADE GROUND (Reinforced concrete). (MG)	
0.60	PID	1.5ppm					MADE GROUND (Soft grey brown sandy gravelly clay with occasional wood and ceramic fragments. Gravel is fine to coarse angular to subangular and includes brick and concrete). (MG)	
0.60	J1							
0.60	ES2					(0.90)		
1.20	PID	2.1ppm					at c.1.20m BGL ... clayey gravelly sand with a chemical odour.	
1.20-1.65	SJ3	N7		31.876		1.50		
1.20	ES4						MADE GROUND (Loose, in places medium dense, and dense red brown clayey gravelly sand with occasional wood and ceramic fragments and cobbles noted. Gravel is fine to coarse angular to subangular and includes brick, concrete and mortar). (MG)	
1.20-1.65	B5							
2.00	PID	1.8ppm						
2.00	ES6	N3						
2.00-2.45	SJ7							
3.00	PID	1.5ppm						
3.00	ES8	N7						
3.00-3.45	SJ9							
4.00	PID	2.0ppm					at c.4.00m BGL ... dense.	
4.00	ES10	N36						
4.00-4.45	CB11					(5.70)		
5.00	PID	1.8ppm					at c.5.00m BGL ... medium dense.	
5.00	ES12	N10						
5.00-5.45	CB13							
6.00	PID	1.4ppm					at c.6.00m BGL ... very gravelly.	
6.00	ES14	N2						
6.00-6.45	SJ15							
6.00-6.45	B16							
7.00	PID	2.6ppm		26.176		7.20		
7.00	ES17						Extremely weak red fine to medium grained SANDSTONE distinctly weathered. (Recovered as gravelly sand. Gravel is fine to coarse angular to subangular). (SSW)	
7.20	J18							
7.50-7.95	SJ19	1/0.40				(0.70)		
7.50-7.95	B20			25.476		7.90		

Boring Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth
28/01/2016	0.00	0.00		
28/01/2016	1.20	0.00		Dry
29/01/2016	1.20	0.00		Dry

Chiselling

From	To	Hours (hh:mm)
7.90	8.20	01:00

Water Added

From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) 50mm slotted standpipe installed to 6.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. PR1531

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA06
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384101.877 N:398978.386		
Method (Equipment): Cable Percussion (Dando 2000)	**Ground Level (m(AOD)):** 33.376	**Date:** 28/01/2016	**Sheet:** 2 of 2

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.20 8.20	J21 C22	1/0.20		25.176		(0.30) 8.20	Very weak to weak red fine to medium grained SANDSTONE partially weathered. (SSW) Borehole complete at 8.20m BGL.	

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
29/01/2016	8.20	8.20	150	Dry

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) 50mm slotted standpipe installed to 6.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: *N.V.*	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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BOREHOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** BHA07
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384136.558 N:399018.430		
Method (Equipment): Cable Percussion (Dando 175)	**Ground Level (m(AOD)):** 33.281	**Date:** 27/01/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.00-0.50	B2					(0.40)	(1) MADE GROUND (Macadam over subbase). (MG)	
0.30	PID	1.4ppm		32.881		0.40		
0.30	ES1						MADE GROUND (Black slightly clayey gravelly sand with much wood and occasional ceramic and plastic fragments. Strong chemical odour noted. Gravel is fine to coarse angular to subangular and includes brick and concrete). (MG)	
0.60	J4							
0.70-1.20	B5							
1.00	PID	4159ppm						
1.00	ES3					(1.60)	between c.0.60 and 0.90m BGL ... railway sleeper noted.	
1.40	J6						at c.0.70m BGL ... rootlets.	
1.50-1.95	U7	(50)						
				31.281		2.00		
2.00	PID	662ppm					MADE GROUND (Red brown slightly clayey slightly gravelly sand with occasional wood. Gravel is fine to medium subrounded to subangular and includes sandstone, granite and brick). (MG)	
2.00	ES8					(0.50)		
2.00-2.50	B9			30.781		2.50		
2.50-2.95	SJ10	1/0.11					Extremely weak red fine to medium grained SANDSTONE distinctly weathered. (Recovered as gravelly sand. Gravel is fine to coarse angular to subangular). (SSW)	
2.50-3.00	B11					(1.00)		
3.30	J12			29.781		3.50		
3.50	SJ13	1/0.40		29.681		(0.10) 3.60	Very weak red fine to medium grained SANDSTONE partially weathered. (SSW)	
3.60	C14	1/0.20					Borehole complete at 3.60m BGL.	

Boring Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth
27/01/2016	0.00	0.00		
27/01/2016	3.60	3.60	150	Dry

Chiselling

From	To	Hours (hh:mm)
3.50	3.60	01:00

Water Added

From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.
(3) 50mm slotted standpipe installed to 2.30m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

FIELD DATA ENCLOSURE 3

Window/Windowless Sample Hole Records

Blank Page

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
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WINDOW/WINDOWLESS SAMPLE HOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** WSA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384082.640 N:398977.625		
Method (Equipment): Windowless Sampling (PC Tracker S110)	**Ground Level (m(AOD)):** 33.381	**Date:** 02/02/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Instrument/ Backfill
0.05	J1			33.331		(0.05) 0.05	MADE GROUND (Macadam). (MG)	
0.20	PID	2.7ppm					MADE GROUND (Grey sandy gravel. Gravel is fine to medium subangular and includes limestone and dolomite). (MG)	
0.20	ES2					(1.15)		
0.40-0.80	B3							
1.00	PID	3.2ppm		32.181		1.20		
1.00	ES4						MADE GROUND (Loose and medium dense black clayey sandy gravel with medium cobble content. Sand includes ash and mortar. Gravel is fine to coarse angular to subangular and includes brick and concrete. Cobbles include brick and concrete). (MG)	
1.20-1.65	SJ5	N10						
1.20-2.10	$U6_{(SS)}$	(162)				(1.35)		
2.00	PID	1.9ppm					at c.2.10m BGL ... very dense.	
2.00	$ES8_{(U6)}$	1/4.79						
2.10-2.55	SJ7			30.831		2.55		
							Windowless sample hole terminated at 2.55m BGL - due to damaged tools.	

Boring Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth
02/02/2016	0.00			
02/02/2016	2.55			Dry

Chiselling

From	To	Hours (hh:mm)

Water Added

From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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WINDOW/WINDOWLESS SAMPLE HOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** WSA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384118.828 N:398964.043		
Method (Equipment): Windowless Sampling (PC Tracker S110)	**Ground Level (m(AOD)):** 35.239	**Date:** 02/02/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.05	J1			35.139		(0.10) 0.10	MADE GROUND (Macadam over subbase). (MG)	
0.10	J2	2.4ppm					MADE GROUND (Loose grey clayey sandy gravel with cobbles noted. Sand includes ash. Gravel is fine to coarse angular to subrounded and includes brick and mortar). (MG)	
0.20	PID							
0.20	ES3							
0.40-0.80	B4							
1.00	PID	2.2ppm						
1.00	ES5					(2.20)		
1.20-2.65	SJ6	N9 (22)						
1.20-2.10	U7							
2.10-2.35	SJ8	1/5.11		32.939		2.30		
2.10-2.40	U9	(160)		32.839		(0.10) 2.40	Very weak to weak red brown fine to medium grained SANDSTONE partially weathered. (SSW)	
2.40	SJ10	1/0.25					Windowless sample hole complete at 2.40m BGL.	

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
02/02/2016	0.00			
02/02/2016	2.40			Dry

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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WINDOW/WINDOWLESS SAMPLE HOLE RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** WSA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384132.738 N:399057.646		
Method (Equipment): Windowless Sampling (PC Tracker S110)	**Ground Level (m(AOD)):** 32.846	**Date:** 01/02/2016	**Sheet:** 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.10 0.20 0.20 0.40-0.80	J1 PID ES2 B3	2.7ppm		32.546		(0.30) 0.30	MADE GROUND (Macadam over subbase). (MG)	
1.00 1.00 1.20-1.65 1.20-2.10	PID ES4 SJ5 $U6_{(SS)}$	2.1ppm N4 (46)					MADE GROUND (Loose black to brown slightly silty sandy gravel with cobbles noted. Sand includes ash. Gravel is fine to medium angular to subrounded and includes sandstone, brick and occasional mortar). (MG)	
2.00 2.00 2.10-2.55 2.10-3.00	PID $ES10_{(U6)}$ SJ7 U8	1.8ppm N6 (35)				(3.10)		
3.00 3.00-3.40 3.00	PID $SJ9_{(SS)}$ $ES11_{(U8)}$	2.0ppm N8		29.446		3.40		
							Windowless sample hole complete at 3.40m BGL.	

Boring Progress and Water Observations				
Date	Depth	Casing	Casing Dia (mm)	Water Depth
01/02/2016	0.00			
01/02/2016	3.40			Dry

Chiselling			Water Added	
From	To	Hours (hh:mm)	From	To

General Remarks

(1) Description derived from drillers daily report.
(2) Inspection pit dug prior to drilling.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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FIELD DATA ENCLOSURE 4

Trial Trench Records

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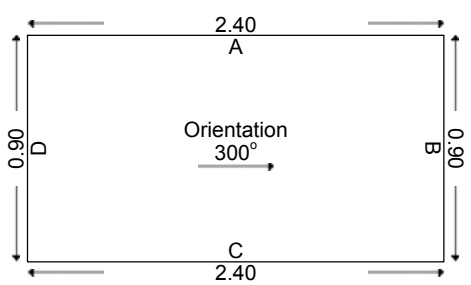
TRIAL TRENCH RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TPA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384083.841 N:399008.993		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.037	**Date:** 11/02/2016	**Sheet:** 1 of 3

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				32.987		(0.05) 0.05	MADE GROUND (Macadam). (MG)
				32.937		(0.05) 0.10	MADE GROUND (Yellow white slightly clayey/silty slightly sandy gravel. Gravel is fine angular to subangular and includes dolomite and macadam). (MG)
						(1.40)	MADE GROUND (Grey brown sandy slightly gravelly silt with medium to high brick cobble content and occasional wood content and plastic fragments. Gravel is fine to coarse angular to subrounded and includes sandstone and brick fragments). (MG)
				31.537		1.50	at c.1.40m BGL ... brick work structure encountered.
						(0.90)	Firm yellow brown slightly sandy gravelly CLAY with high cobble content. Gravel is fine to coarse rounded to subrounded and includes quartz, sandstone and granite. Cobbles are rounded to subrounded and includes sandstone and granite. (GTD)
				30.637		2.40	Trial trench complete at 2.40m BGL.

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Soakaway Testing was performed at 1.50-2.40m BGL - refer to *In-Situ* Testing Enclosure for further details.
(2) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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TRIAL TRENCH RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TPA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384083.841 N:399008.993		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.037	**Date:** 11/02/2016	**Sheet:** 2 of 3

PHOTOGRAPHS



Figure TPA04.1
TPA04



Figure TPA04.2
TPA04

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TRIAL TRENCH RECORD

Status:- FINAL
Date:- 01/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TPA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384083.841 N:399008.993		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.037	**Date:** 11/02/2016	**Sheet:** 3 of 3

PHOTOGRAPHS



Figure TPA04.3
TPA04 Spoil



Figure TPA04.4
TPA04 Reinstatement

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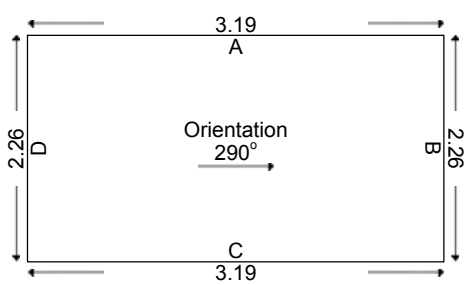
TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384125.476 N:399034.242		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 32.969	**Date:** 09/02/2016	**Sheet:** 1 of 4

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				32.909		(0.06) 0.06	MADE GROUND (Macadam). (MG)
						(1.14)	MADE GROUND (Black brown silty slightly sandy gravel with occasional wood and glass fragments. Gravel is fine to coarse angular to subrounded and includes sandstone, brick, cement and concrete). (MG) at c.0.60m BGL ... 40mm diameter black electric cable running c.350 degrees. at c.0.80m BGL ... 40mm diameter blue plastic water pipe running c.30 degrees. at c.0.80m BGL ... 200mm diameter metal pipe running c.240 degrees.
				31.769		1.20	Trial trench terminated at 1.20m BGL - on clients instruction due to brick base located (5 bricks deep).

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition
0.60	350	Black elecric cable	40	Undamaged
0.80	030	Blue water pipe	40	Undamaged
0.80	240	Metal	200	Undamaged

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384125.476 N:399034.242		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 32.969	**Date:** 09/02/2016	**Sheet:** 2 of 4

PHOTOGRAPHS



Figure TTA01.1
TTA01



Figure TTA01.2
TTA01

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384125.476 N:399034.242		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 32.969	**Date:** 09/02/2016	**Sheet:** 3 of 4

PHOTOGRAPHS



Figure TTA01.3
TTA01



Figure TTA01.4
TTA01

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA01
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384125.476 N:399034.242		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 32.969	**Date:** 09/02/2016	**Sheet:** 4 of 4

PHOTOGRAPHS



Figure TTA01.5
TTA01 Reinstatement

Figure TTA01.2

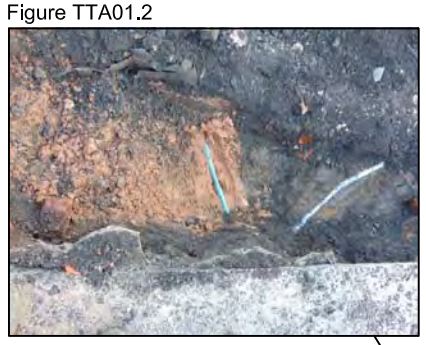




Figure TTA01.1

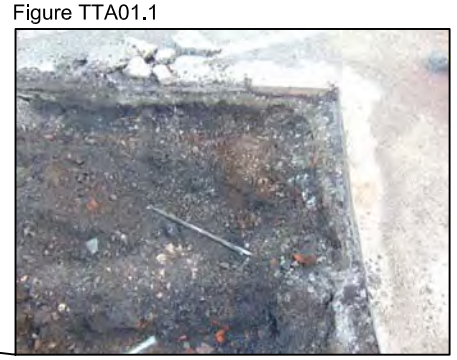


Figure TTA01.3



Figure TTA01.4



ALL MEASUREMENTS IN METRES UNLESS OTHERWISE STATED

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(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

- Surveyed Point/Line of Pipe (Seen)
- Assumed Line of Pipe (Not Seen)
- Brick Work
- Sandstone Block

N
W E
S

Drawing Title:
TTA01 - Sketch

Drawing No.:
AEG/PR1531/SKETCH/TTA01

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
15/04/2016

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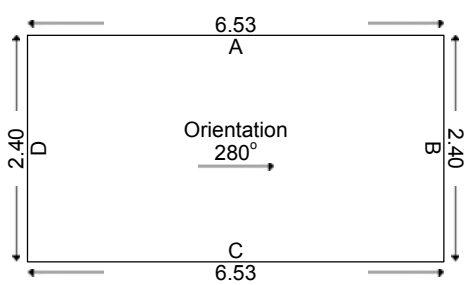
TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384128.196 N:399020.011		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.204	**Date:** 10/02/2016	**Sheet:** 1 of 4

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				33.154		(0.05) 0.05	MADE GROUND (Macadam). (MG)
				32.954		(0.20) 0.25	MADE GROUND (Black silty slightly sandy gravel. Gravel is fine to medium angular to subrounded and includes dolomite, macadam and slag). (MG)
						(1.45)	MADE GROUND (Black orange to brown slightly silty gravelly fine to coarse sand with high cobble/boulder content. Gravel is fine to medium subangular to subrounded and includes sandstone, brick and cement. Cobbles/boulders include brick and sandstone blocks). (MG)
				31.504		1.70	at c.0.80m BGL ... 40mm diameter blue plastic water pipe running c.250 degrees. at c.0.90m BGL ... concrete slab and brick work structure. at c.1.30m BGL ... 200mm diameter clay field drain running c.320 degrees. at c.1.70m BGL ... top of culvert. Trial trench complete at 1.70m BGL.

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition
0.80	190	Blue water pipe	40mm	Undamaged
1.30	220	Clay field drain		Damaged/repaired

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384128.196 N:399020.011		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.204	**Date:** 10/02/2016	**Sheet:** 2 of 4

PHOTOGRAPHS



Figure TTA02.1
TTA02



Figure TTA02.2
TTA02

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation				**Exploratory Hole No.** TTA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384128.196 N:399020.011			
Method (Equipment): Machine Excavated (Tracked Excavator)		**Ground Level (m(AOD)):** 33.204	**Date:** 10/02/2016	**Sheet:** 3 of 4

PHOTOGRAPHS



Figure TTA02.3
TTA02



Figure TTA02.4
TTA02

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA02
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384128.196 N:399020.011		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.204	**Date:** 10/02/2016	**Sheet:** 4 of 4

PHOTOGRAPHS



Figure TTA02.5
TTA02 Spoil



Figure TTA02.6
TTA02 Reinstatement

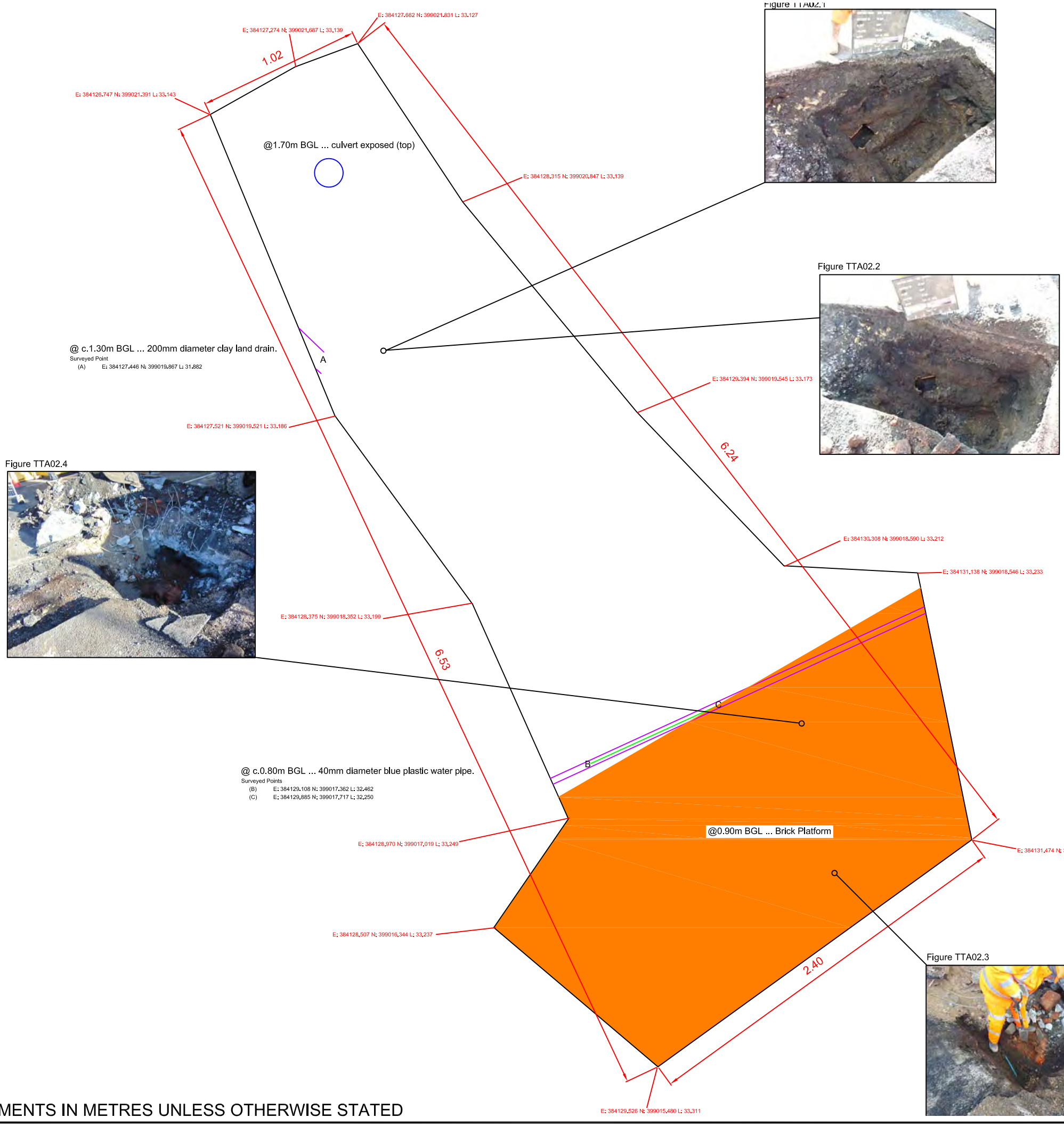


Figure TTA02.1

Figure TTA02.2

Figure TTA02.4

Figure TTA02.3



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Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

- Surveyed Point/Line of Pipe (Seen)
- Assumed Line of Pipe (Not Seen)
- Brick Work
- Culvert Exposed (top)

N
W E
S

Drawing Title:
TTA02 - Sketch

Drawing No.:
AEG/PR1531/SKETCH/TTA02

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
15/04/2016

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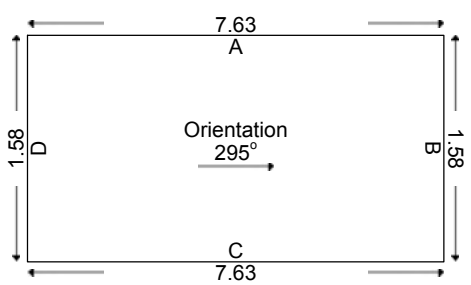
TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384103.639 N:399020.404		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.160	**Date:** 09/02/2016	**Sheet:** 1 of 4

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				33.110		(0.05) 0.05	MADE GROUND (Macadam). (MG)
				33.060		(0.05) 0.10	MADE GROUND (Yellow to white slightly sandy gravel. Gravel is fine to medium angular to subrounded and includes dolomite, cement and macadam). (MG)
						(2.90)	MADE GROUND (Brown grey slightly sandy gravelly silt with occasional plastic, wood, metal and ceramic fragments. Gravel is fine to coarse angular to subrounded and includes sandstone, brick, cement and concrete). (MG) at c.1.10m BGL ... 100mm diameter yellow plastic land drain running c.220 degrees. at c.1.65m BGL ... culvert wall edge at 1.65m extending to 1.90m BGL across trial trench.
				30.160		3.00	Trial trench complete at 3.00m BGL.

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition
1.10	220	Yellow plastic land drain	100	Undamaged

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384103.639 N:399020.404		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.160	**Date:** 09/02/2016	**Sheet:** 2 of 4

PHOTOGRAPHS



Figure TTA03.1
TTA03



Figure TTA03.2
TTA03

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384103.639 N:399020.404		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.160	**Date:** 09/02/2016	**Sheet:** 3 of 4

PHOTOGRAPHS



Figure TTA03.3
TTA03



Figure TTA03.4
TTA03 Spoil

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA03
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384103.639 N:399020.404		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.160	**Date:** 09/02/2016	**Sheet:** 4 of 4

PHOTOGRAPHS



Figure TTA03.5
TTA03 Reinstatement

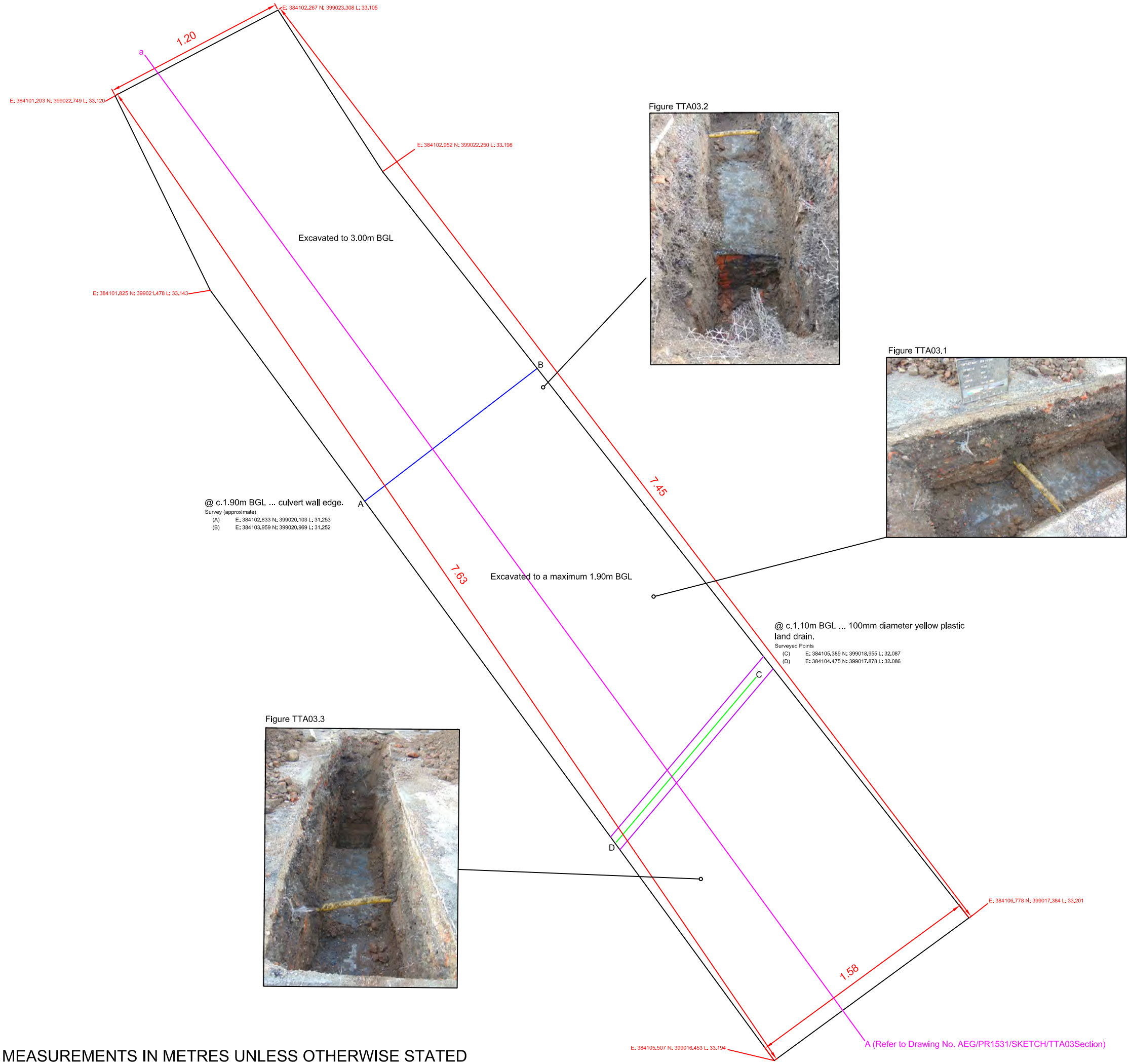


Figure TTA03.2

Figure TTA03.1

Figure TTA03.3

ALL MEASUREMENTS IN METRES UNLESS OTHERWISE STATED

Allied Exploration and Geotechnics Limited
Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

- Surveyed Point/Line of Pipe (Seen)
- Line of Pipe
- Culvert Wall Edge
- Section

N W E S

Drawing Title:
TTA03 - Sketch

Drawing No.:
AEG/PR1531/SKETCH/TTA03

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

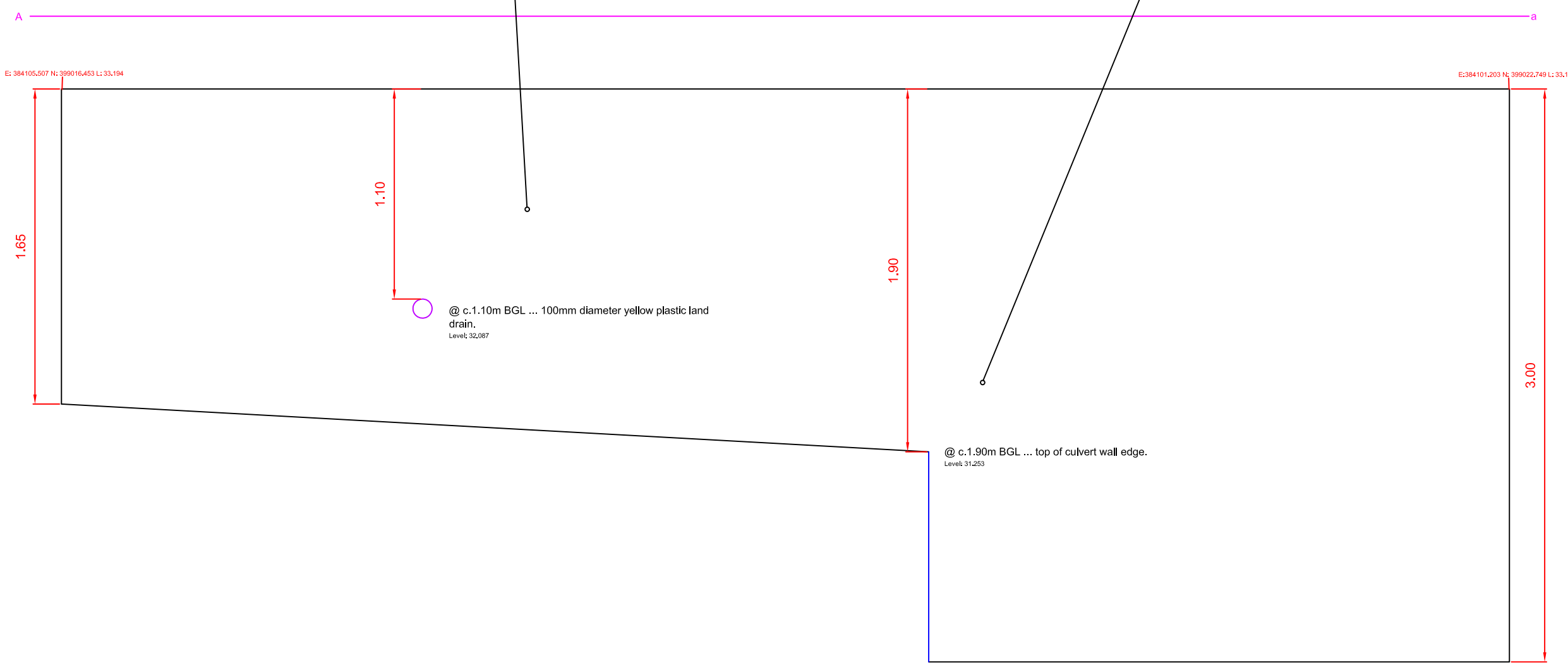
Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
15/04/2016







ALL MEASUREMENTS IN METRES UNLESS OTHERWISE STATED

Allied Exporation and Geotechnics Limited
Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

- Surveyed Point/Line of Pipe (Seen)
- Line of Pipe
- Culvert Wall Edge
- Section

Drawing Title:
TTA03 - Sketch (Section)

Drawing No.:
AEG/PR1531/SKETCH/TTA03Section

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
31/04/2016

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

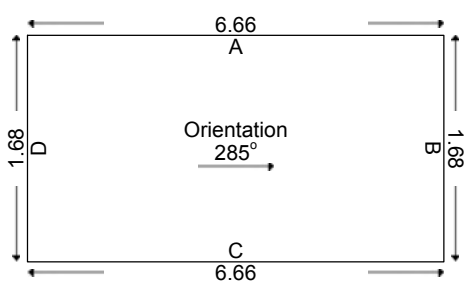
TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384110.129 N:399001.097		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 34.171	**Date:** 10/02/2016	**Sheet:** 1 of 3

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				34.121		(0.05) 0.05	MADE GROUND (Macadam).
				33.971		(0.15) 0.20	(MG)
							MADE GROUND (Yellow white slightly sandy gravel. Gravel is fine to medium angular to subrounded and includes dolomite, cement and brick).
							(MG)
						(1.40)	MADE GROUND (Brown grey slightly sandy gravelly silt with high cobble/boulder content and some wood, metal, plastic and ceramic fragments. Gravel is fine to coarse angular to subrounded and includes quartz, sandstone and limestone. Cobbles/boulders include angular brick).
				32.571		1.60	(MG)
							at c.1.10m BGL ... two bricked platforms encountered.
							between c.1.10-1.50m BGL ... 2No. 200mm diameter cast iron T-junction.
							Trial trench terminated at 1.60m BGL - on clients instruction.

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition
1.10		Cast Iron T-junction	200	Undamaged

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384110.129 N:399001.097		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 34.171	**Date:** 10/02/2016	**Sheet:** 2 of 3

PHOTOGRAPHS



Figure TTA04.1
TTA04



Figure TTA04.2
TTA04

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA04
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384110.129 N:399001.097		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 34.171	**Date:** 10/02/2016	**Sheet:** 3 of 3

PHOTOGRAPHS



Figure TTA04.3
TTA04 Spoil



Figure TTA04.4
TTA04 Reinstatement

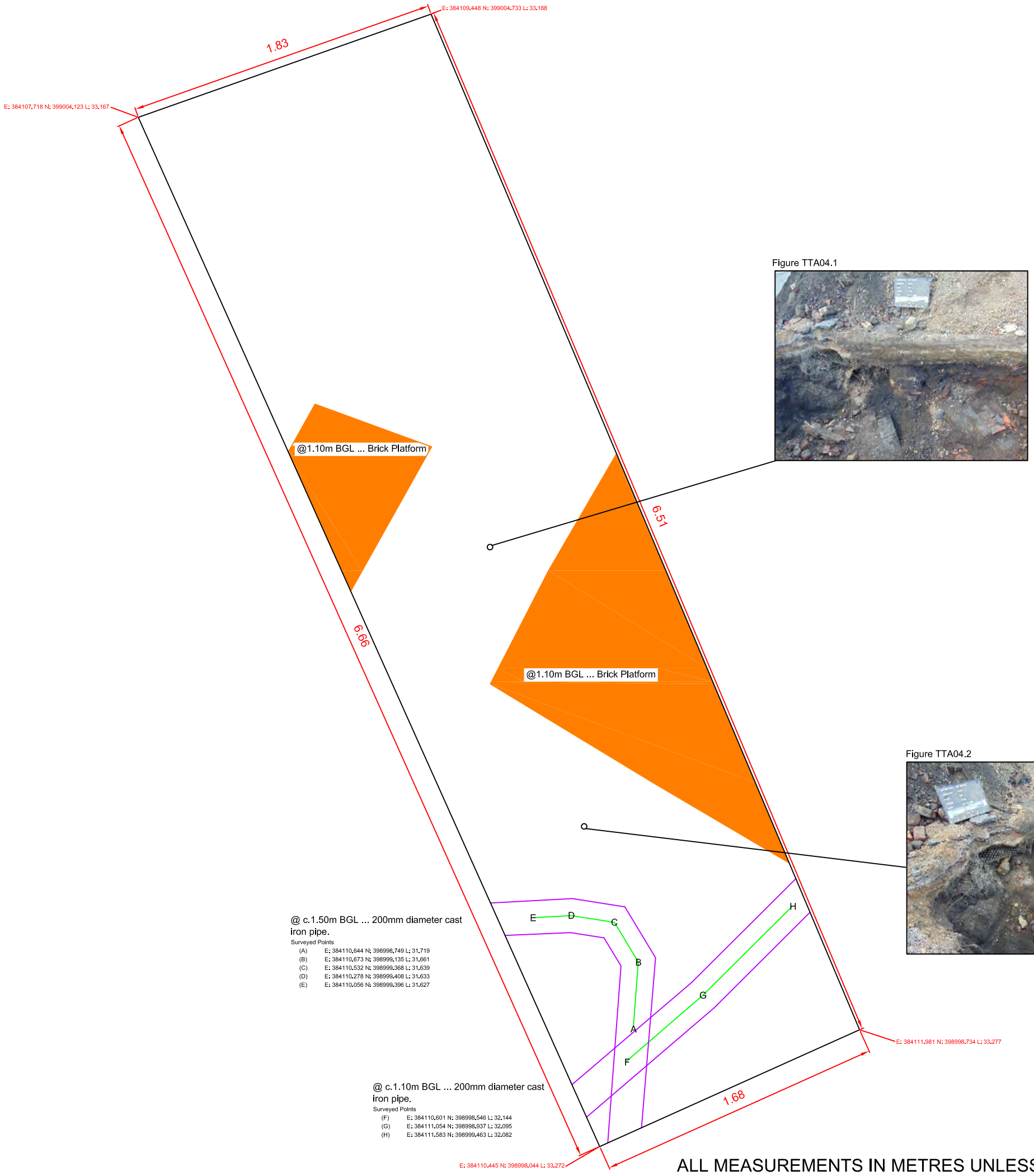


Figure TTA04.1

Figure TTA04.2



ALL MEASUREMENTS IN METRES UNLESS OTHERWISE STATED

Allied Exploration and Geotechnics Limited
Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

- Surveyed Line of Pipe (Seen)
- Assumed Line of Pipe (Not Seen)
- Brick Work

N
W E
S

Drawing Title:
TTA04 - Sketch

Drawing No.:
AEG/PR1531/SKETCH/TTA04

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
15/04/2016

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

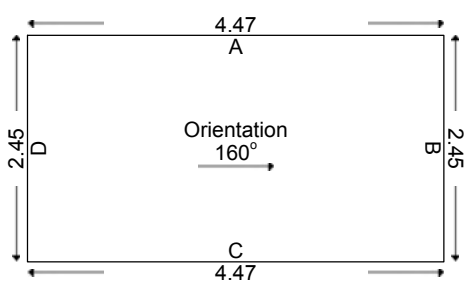
TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA05
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384105.775 N:399022.815		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.045	**Date:** 11/02/2016	**Sheet:** 1 of 4

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				32.995		(0.05) 0.05	MADE GROUND (Macadam). (MG)
				32.925		(0.07) 0.12	MADE GROUND (Yellow white slightly silty slightly sandy gravel. Gravel is fine to medium angular to subangular and includes dolomite and brick). (MG)
						(0.88)	
				32.045		1.00	MADE GROUND (Black slightly silty slightly gravelly sand with high cobble/boulder content. Gravel is fine to coarse subangular to subrounded and includes brick, cement and sandstone. Cobbles/boulders include angular brick). (MG)
				31.745		(0.30) 1.30	MADE GROUND (Soft brown orange sandy slightly gravelly clay. Gravel is fine to medium subrounded to subangular and includes sandstone, quartzite and brick). (MG)
							MADE GROUND (Black slightly silty slightly gravelly sand with high cobble/boulder content and occasional glass fragments. Gravel is fine to coarse subangular to subrounded and includes sandstone, brick and cement. Cobbles/boulders include angular brick). (MG)
						(3.70)	
				28.045		5.00	
							Trial trench complete at 5.00m BGL.

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA05
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384105.775 N:399022.815		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.045	**Date:** 11/02/2016	**Sheet:** 2 of 4

PHOTOGRAPHS



Figure TTA05.1
TTA05



Figure TTA05.2
TTA05

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA05
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384105.775 N:399022.815		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.045	**Date:** 11/02/2016	**Sheet:** 3 of 4

PHOTOGRAPHS



Figure TTA05.3
TTA05

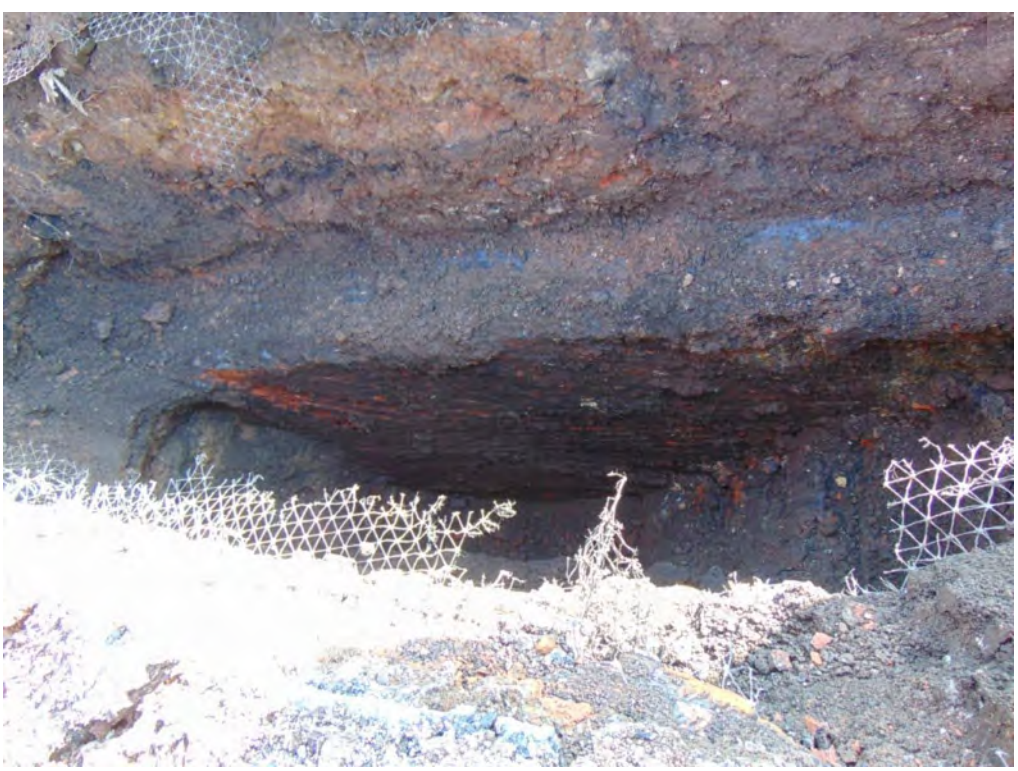


Figure TTA05.4
TTA05

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

TRIAL PIT RECORD

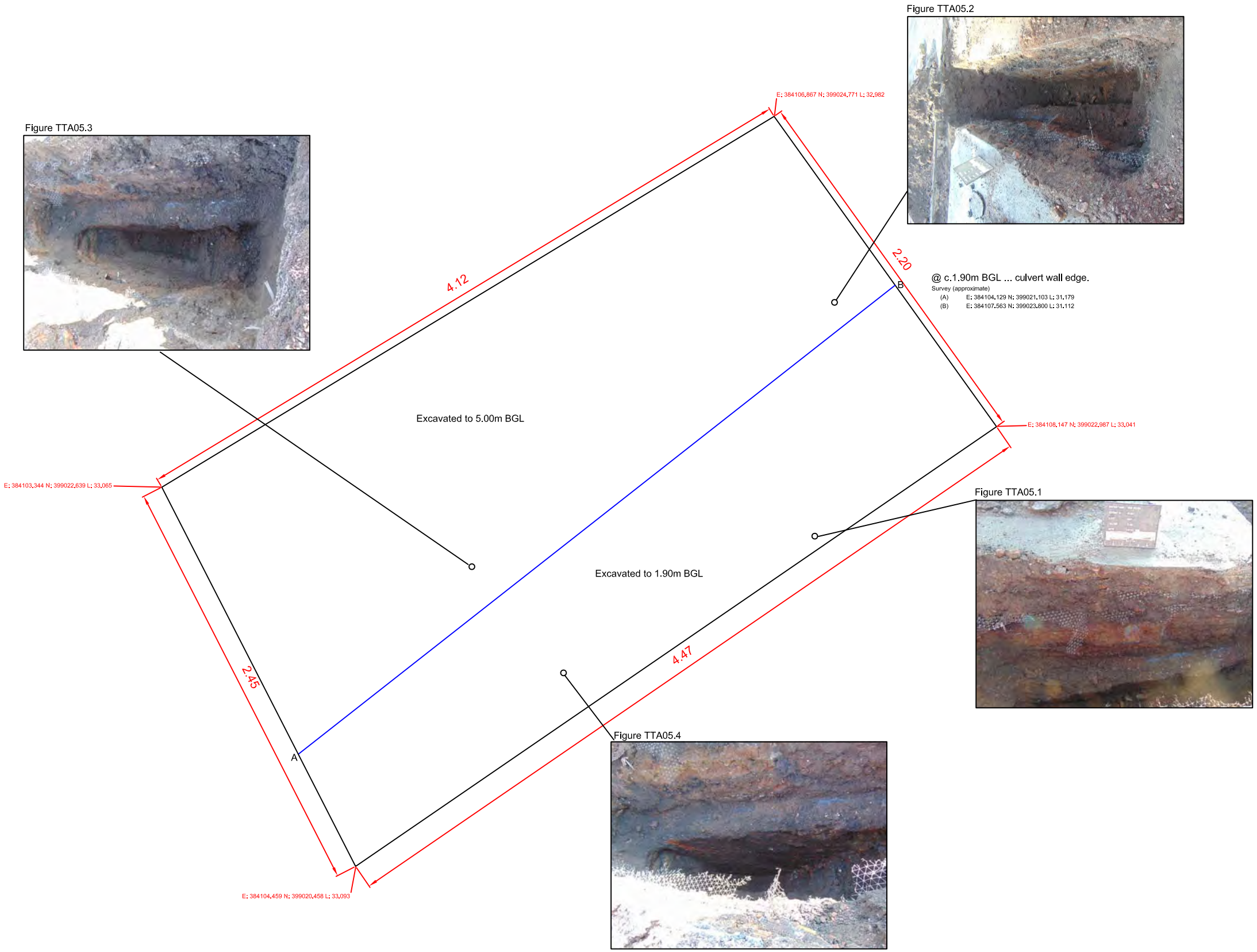
Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA05
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384105.775 N:399022.815		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.045	**Date:** 11/02/2016	**Sheet:** 4 of 4

PHOTOGRAPHS



Figure TTA05.5
TTA05 Spoil



Allied Exporation and Geotechnics Limited
Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

- Surveyed Line of Pipe (Seen)
- Assumed Line of Pipe (Not Seen)
- Culvert Wall Edge

N W E S

Drawing Title:
TTA05 - Sketch

Drawing No.:
AEG/PR1531/SKETCH/TTA05

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
15/04/2016

ALL MEASUREMENTS IN METRES UNLESS OTHERWISE STATED

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

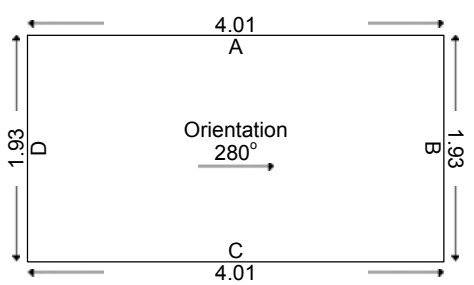
TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA06
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384119.593 N:399010.337		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.351	**Date:** 11/02/2016	**Sheet:** 1 of 2

SAMPLES & TESTS			Water	STRATA			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION
				33.311		(0.04) 0.04	MADE GROUND (Macadam). (MG)
				33.201		(0.11) 0.15	MADE GROUND (White yellow slightly sandy gravel. Gravel is fine to medium and includes dolomite and limestone). (MG)
							Trial trench terminated at 0.15m BGL - on clients instruction due to concrete slab throughout whole of pit.

PLAN



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

GENERAL REMARKS
(1) Refer to following sketch for further details.

ADDITIONAL INFORMATION

Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

UNDERGROUND SERVICES

Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: N.V.	Logged by: A. Greene	Contract No. **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

TRIAL PIT RECORD

Status:- FINAL
Date:- 15/04/2016

Project: Manchester New Victoria Ground Investigation			**Exploratory Hole No.** TTA06
Client: Muse Developments Ltd	**Location:** Manchester City Centre E:384119.593 N:399010.337		
Method (Equipment): Machine Excavated (Tracked Excavator)	**Ground Level (m(AOD)):** 33.351	**Date:** 11/02/2016	**Sheet:** 2 of 2

PHOTOGRAPHS



Figure TTA06.1
TTA06



Figure TTA06.2
TTA06 Reinstatement

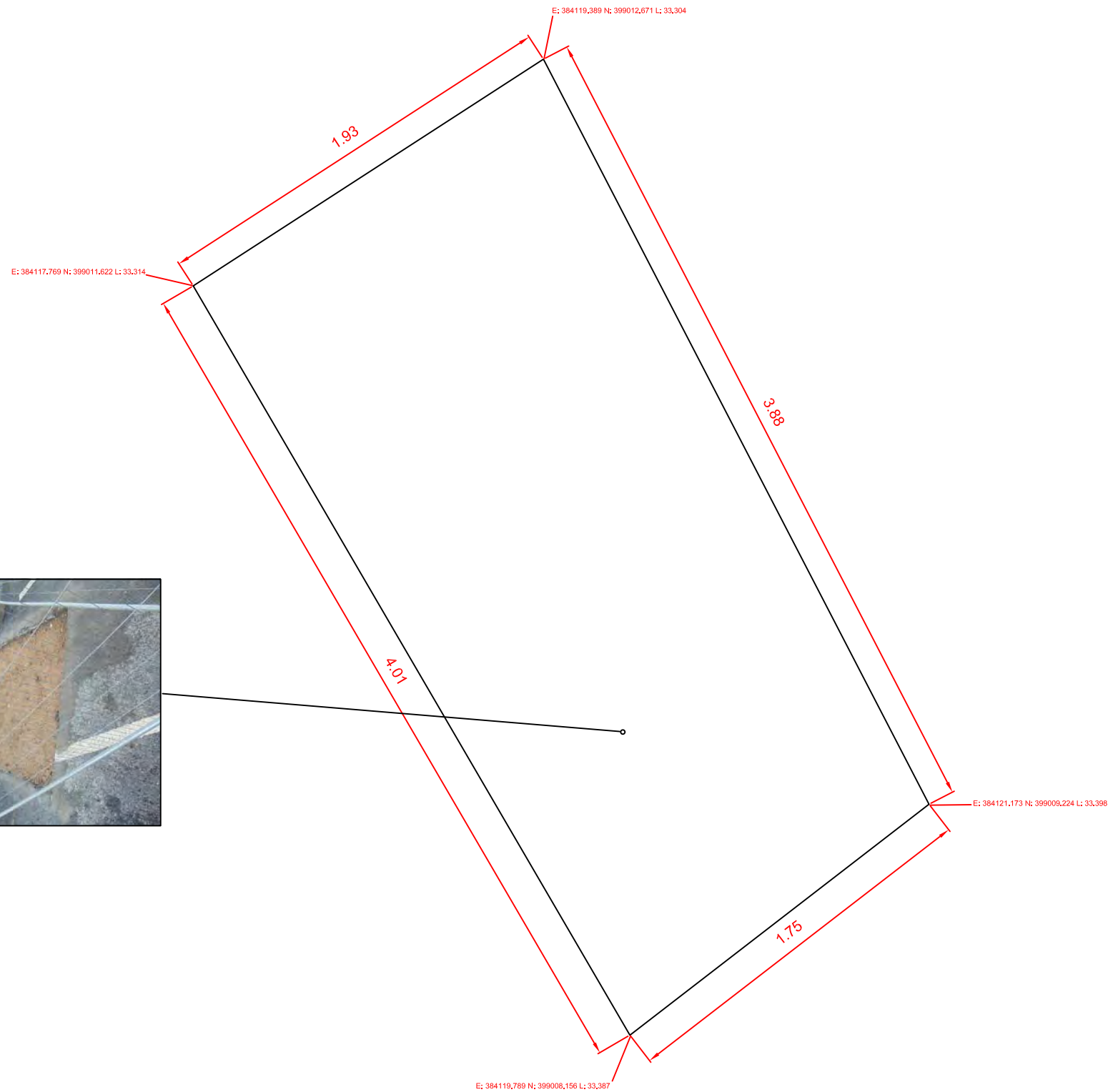


Figure TTA06.1



ALL MEASUREMENTS IN METRES UNLESS OTHERWISE STATED

Allied Exporation and Geotechnics Limited
Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:

N
W E
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Drawing Title:
TTA06 - Sketch

Drawing No.:
AEG/PR1531/SKETCH/TTA06

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
NOT TO SCALE

Date:
31/04/2016

FIELD DATA ENCLOSURE 5

Groundwater Monitoring Results

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
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GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA01	12/02/2016	11:10	See Remarks	8.50 (50mm SP)	Dry
BHA01	18/02/2016	10:25	See Remarks	8.50 (50mm SP)	Dry
BHA01	22/02/2016	14:05	See Remarks	8.50 (50mm SP)	Dry*
BHA01	29/02/2016	13:00	See Remarks	8.50 (50mm SP)	Dry*
BHA01	08/03/2016	13:30	See Remarks	8.50 (50mm SP)	Dry
BHA01	16/03/2016	16:20	See Remarks	8.50 (50mm SP)	Dry*

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Certificate No :-	Date of Issue :-	Page No. :-
PR1531\BHA01\1	01/04/2016	1 of 10
Checked by :- CW	**Approved by :-** LC	**AEG Contract No. :-** **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA01	12/02/2016	11:10	9.00 (24.05)	13.50 (19mm SP)	
BHA01	18/02/2016	10:40	8.93 (24.12)	13.50 (19mm SP)	
BHA01	22/02/2016	14:05	9.00 (24.05)	13.50 (19mm SP)	
BHA01	29/02/2016	13:00	9.10 (23.95)	13.50 (19mm SP)	
BHA01	08/03/2016	13:30	9.50 (23.55)	13.50 (19mm SP)	
BHA01	16/03/2016	16:20	9.10 (23.95)	13.50 (19mm SP)	

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA02	12/02/2016	11:30	See Remarks	9.00 (50mm SP)	Dry
BHA02	18/02/2016	10:05	8.71 (24.23)	9.00 (50mm SP)	
BHA02	22/02/2016	13:40	See Remarks	9.00 (50mm SP)	Dry*
BHA02	29/02/2016	14:00	See Remarks	9.00 (50mm SP)	Dry*
BHA02	08/03/2016	14:00	8.63 (24.31)	9.00 (50mm SP)	
BHA02	16/03/2016	16:45	See Remarks	9.00 (50mm SP)	Dry*

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA03	12/02/2016	10:40	See Remarks	1.00 (50mm SP)	Dry
BHA03	18/02/2016	10:45	See Remarks	1.00 (50mm SP)	Dry*
BHA03	22/02/2016	12:50	See Remarks	1.00 (50mm SP)	Dry*
BHA03	29/02/2016	14:45	See Remarks	1.00 (50mm SP)	Dry
BHA03	08/03/2016	15:00	See Remarks	1.00 (50mm SP)	Dry
BHA03	16/03/2016	15:50	See Remarks	1.00 (50mm SP)	Dry

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA03	12/02/2016	10:40	See Remarks	9.00 (19mm SP)	Dry
BHA03	18/02/2016	10:45	See Remarks	9.00 (19mm SP)	Dry
BHA03	22/02/2016	12:50	8.18 (25.28)	9.00 (19mm SP)	
BHA03	29/02/2016	14:45	See Remarks	9.00 (19mm SP)	Dry*
BHA03	08/03/2016	15:00	8.30 (25.16)	9.00 (19mm SP)	
BHA03	16/03/2016	15:50	See Remarks	9.00 (19mm SP)	Dry*

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :- **Manchester New Victoria Ground Investigation**	Client :- **Muse Developments Ltd**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA04	12/02/2016	11:00	See Remarks	2.50 (50mm SP)	Dry
BHA04	18/02/2016	11:40	See Remarks	2.50 (50mm SP)	Dry
BHA04	22/02/2016	12:30	See Remarks	2.50 (50mm SP)	Dry*
BHA04	29/02/2016	15:15	See Remarks	2.50 (50mm SP)	Dry
BHA04	08/03/2016	13:05	See Remarks	2.50 (50mm SP)	Dry
BHA04	16/03/2016	17:05	See Remarks	2.50 (50mm SP)	Unable to monitor - Car over position

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

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GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA04	12/02/2016	11:00	See Remarks	10.00 (19mm SP)	Dry
BHA04	18/02/2016	11:35	8.51 (25.35)	10.00 (19mm SP)	
BHA04	22/02/2016	12:30	8.55 (25.31)	10.00 (19mm SP)	
BHA04	29/02/2016	15:15	See Remarks	10.00 (19mm SP)	Dry
BHA04	08/03/2016	13:05	6.16 (27.70)	10.00 (19mm SP)	
BHA04	16/03/2016	17:05	See Remarks	10.00 (19mm SP)	Unable to monitor - Car over position

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Certificate No :-	Date of Issue :-	Page No. :-
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Checked by :- CW	**Approved by :-** LC	**AEG Contract No. :-** **PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA05	12/02/2016	10:45	See Remarks	2.00 (50mm SP)	Dry
BHA05	18/02/2016	11:55	See Remarks	2.00 (50mm SP)	Dry
BHA05	22/02/2016	12:00	See Remarks	2.00 (50mm SP)	Dry*
BHA05	29/02/2016		See Remarks	2.00 (50mm SP)	Unable to monitor - Car over position
BHA05	08/03/2016		See Remarks	2.00 (50mm SP)	Unable to monitor - Car over position
BHA05	16/03/2016	17:05	See Remarks	2.00 (50mm SP)	Unable to monitor - Car over position

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA06	12/02/2016		See Remarks	6.00 (50mm SP)	Unable to monitor - Car over position
BHA06	18/02/2016	12:15	See Remarks	6.00 (50mm SP)	Dry
BHA06	22/02/2016		See Remarks	6.00 (50mm SP)	Unable to monitor - Car over position
BHA06	29/02/2016	12:30	See Remarks	6.00 (50mm SP)	Dry
BHA06	08/03/2016	15:40	See Remarks	6.00 (50mm SP)	Unable to monitor - Car over position
BHA06	16/03/2016	15:20	See Remarks	6.00 (50mm SP)	Dry

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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GROUNDWATER MONITORING RESULTS

Exploratory Hole No.	Date	Time	Water Depth (Reduced Level) (m)	Tip Depth (m) (Type)	Remarks
BHA07	12/02/2016	10:20	See Remarks	2.50 (50mm SP)	Dry
BHA07	18/02/2016	09:40	See Remarks	2.50 (50mm SP)	Dry
BHA07	22/02/2016	13:15	See Remarks	2.50 (50mm SP)	Dry*
BHA07	29/02/2016	14:20	See Remarks	2.50 (50mm SP)	Dry
BHA07	08/03/2016	14:30	See Remarks	2.50 (50mm SP)	Dry
BHA07	16/03/2016	17:05	See Remarks	2.50 (50mm SP)	Unable to monitor - Car over position

SPIE = Standpipe Piezometer, SP = Gas/Water Standpipe, Dry* = wet at tip

Contract Title :- **Manchester New Victoria Ground Investigation**	Client :- **Muse Developments Ltd**

Certificate No :- PR1531\BHA07\10	Date of Issue :- 01/04/2016	Page No. :- 10 of 10	
Checked by :- CW	Approved by :- LC	AEG Contract No. :- **PR1531**	

FIELD DATA ENCLOSURE 6

Circulated Gas Monitoring Results

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ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA01	**Date of Test**	12/02/2016	**Time of Test**	11:10:00
Weather Condition (Inc. Temp)	**FR (10°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	Dry	**Base of hole** (m)	8.50	**Volume of Gas in well** (m^3)	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks : Unable to take gas readings - Gas tap missing. Dual gas tap fitted for next visit.

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: GW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA02	**Date of Test**	12/02/2016	**Time of Test**	11.30.00
Weather Condition (Inc. Temp)		**FR (10°C)**		**Operator**	**A.R.**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (21.1%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.3**
Water Depth (m)	Dry	**Base of hole** (m)	9.00	**Volume of Gas in well** (m^3)	**0.018**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.7	20.7	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.4	20.4	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.4	20.4	<1.0	<1.0
Circulated 2 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 3 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 4 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 5 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 6 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 7 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 8 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 9 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Circulated 10 Minute	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Final Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.3	20.3	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA03	**Date of Test**	12/02/2016	**Time of Test**	10:40:00
Weather Condition (Inc. Temp)	**FR (10°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.41**
Water Depth (m)	Dry	**Base of hole** (m)	1.00	**Volume of Gas in well** (m^3)	**0.002**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.1	21.1	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.9	20.9	<1.0	1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated Readings											
Circulated 1 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	2.0
Circulated 2 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 3 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 4 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 5 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 6 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 7 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 8 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 9 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Circulated 10 Minute	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Final Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: GW

Approved By: LC

Page No. : Page 3 of 7

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA04	**Date of Test**	12/02/2016	**Time of Test**	11.00.00
Weather Condition (Inc. Temp)	**FR (10°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**4.02**
Water Depth (m)	Dry	**Base of hole** (m) 2.50	**Volume of Gas in well** (m^3)		**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.9	20.9	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.9	20.9	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 2 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 3 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 4 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 5 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 6 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 7 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 8 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 9 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 10 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Final Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: GW		Approved By: LC	
Page No. : Page 4 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA05	**Date of Test**	12/02/2016	**Time of Test**	10.45.00
Weather Condition (Inc. Temp)		**FR (10°C)**		**Operator**	**A.R.**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (21.1%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.36**
Water Depth (m)	Dry	**Base of hole** (m)	2.00	**Volume of Gas in well** (m^3)	**0.004**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 2 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 3 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 4 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 5 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 6 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 7 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 8 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 9 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Circulated 10 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Final Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.0	21.0	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA06	**Date of Test**	12/02/2016	**Time of Test**	-
Weather Condition (Inc. Temp)	**FR (10°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole** (m)	8.50	**Volume of Gas in well** (m^3)	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks : Unable to monitor - car parked over installation

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: GW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA07	**Date of Test**	12/02/2016	**Time of Test**	10:20:00
Weather Condition (Inc. Temp)	**FR (10°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.52**
Water Depth (m)	Dry	**Base of hole (m)**	2.50	**Volume of Gas in well (m^3)**	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 2 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 3 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 4 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 5 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 6 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 7 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 8 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 9 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Circulated 10 Minute	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Final Readings											
Shallow 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Shallow 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Shallow 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Deep 5 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Deep 30 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0
Deep 60 seconds	992	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.1	21.1	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: GW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA01	**Date of Test**	18/02/2016	**Time of Test**	10.25.00
Weather Condition (Inc. Temp)	**FR (2°C)**			**Operator**	**A.G.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.4%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-2.76**
Water Depth (m)	Dry	**Base of hole (m)**	8.50	**Volume of Gas in well (m^3)**	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.4	21.4	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	18.8	18.8	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.4	17.4	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.4	17.4	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.3	17.3	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.3	17.3	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Circulated 2 Minute	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Circulated 3 Minute	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Circulated 4 Minute	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Circulated 5 Minute	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.3	17.3	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	4.0	4.0	17.2	17.2	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: GW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA02	**Date of Test**	18/02/2016	**Time of Test**	10.05.00
Weather Condition (Inc. Temp)	**FR (2°C)**			**Operator**	**A.G.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.4%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**2.9**
Water Depth (m)	8.71	**Base of hole** (m)	9.00	**Volume of Gas in well** (m^3)	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.3	21.3	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.9	0.9	20.5	20.5	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.5	19.5	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.5	19.5	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.5	19.5	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.5	19.5	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.5	19.5	<1.0	<1.0
Circulated 2 Minute	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Circulated 3 Minute	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Circulated 4 Minute	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Circulated 5 Minute	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.6	19.6	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.6	19.6	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	1.7	1.7	19.6	19.6	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

Page No. : Page 2 of 7

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA03	**Date of Test**	18/02/2016	**Time of Test**	10.45.00
Weather Condition (Inc. Temp)		**FR (2°C)**		**Operator**	**A.G.**
Ambient Gas Concentration		**CH4 (<0.1%)**	**CO2 (<0.1%)**		**O2 (21.4%)**
Flow (l/h)		<0.1	**Differential Pressure (mb)**		**-1.45**
Water Depth (m)	Dry*	**Base of hole** (m)	1.00	**Volume of Gas in well** (m^3)	**0.002**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Circulated 2 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Circulated 3 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Circulated 4 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Circulated 5 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.3	21.3	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA04	**Date of Test**	18/02/2016	**Time of Test**	11.40.00
Weather Condition (Inc. Temp)	**FR (2°C)**			**Operator**	**A.G.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.5%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**6.43**
Water Depth (m)	Dry	**Base of hole** (m)	2.50	**Volume of Gas in well** (m^3)	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 2 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 3 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 4 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0

Remarks :			
Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: CW		Approved By: LC	
Page No. : Page 4 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA05	**Date of Test**	18/02/2016	**Time of Test**	11.55.00
Weather Condition (Inc. Temp)	**FR (2°C)**			**Operator**	**A.G.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.5%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-1.64**
Water Depth (m)	Dry	**Base of hole (m)** 2.00	**Volume of Gas in well (m^3)**		**0.004**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.4	21.4	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.4	21.4	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 2 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 3 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 4 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.1	0.1	21.5	21.5	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA06	**Date of Test**	18/02/2016	**Time of Test**	12.15.00
Weather Condition (Inc. Temp)		**FR (2°C)**		**Operator**	**A.G.**
Ambient Gas Concentration		**CH4 (<0.1%)**	**CO2 (0.1%)**		**O2 (21.5%)**
Flow (l/h)		<0.1	**Differential Pressure (mb)**		**-1.82**
Water Depth (m)	Dry	**Base of hole** (m)	6.00	**Volume of Gas in well** (m^3)	**0.012**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.4	21.4	<1.0	<1.0
Shallow 30 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.4	21.4	<1.0	<1.0
Shallow 60 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 30 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 60 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 2 Minute	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 3 Minute	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 4 Minute	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Shallow 30 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Shallow 60 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 30 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0
Deep 60 seconds	1006	0.1	0.1	2.0	2.0	0.1	0.1	21.5	21.5	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: CW		Approved By: LC	
Page No. : Page 6 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA07	**Date of Test**	18/02/2016	**Time of Test**	09.40.00
Weather Condition (Inc. Temp)	**FR (2°C)**			**Operator**	**A.G.**
Ambient Gas Concentration	**CH4 (0.1%)**		**CO2 (0.1%)**		**O2 (21.3%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**2.9**
Water Depth (m)	Dry	**Base of hole** (m)	2.30	**Volume of Gas in well** (m^3)	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.4	21.4	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 2 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 3 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 4 Minute	1006	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.5	21.5	<1.0	<1.0
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.4	21.4	<1.0	<1.0
Shallow 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.4	21.4	<1.0	<1.0
Shallow 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.4	21.4	<1.0	<1.0
Deep 5 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.4	21.4	<1.0	<1.0
Deep 30 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.4	21.4	<1.0	<1.0
Deep 60 seconds	1006	<0.1	<0.1	<2.0	<2.0	0.3	0.3	21.4	21.4	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA01	**Date of Test**	22/02/2016	**Time of Test**	14.05.00
Weather Condition (Inc. Temp)		**FR (12°C)**		**Operator**	**A.R.**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (21.1%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.08**
Water Depth (m)	Dry*	**Base of hole (m)**	8.50	**Volume of Gas in well (m^3)**	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.6	20.6	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.6	20.6	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.6	20.6	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.9	20.9	<1.0	<1.0
Circulated 2 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.6	20.6	<1.0	<1.0
Circulated 3 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.6	20.6	<1.0	<1.0
Circulated 4 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.6	20.6	<1.0	<1.0
Circulated 5 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.5	20.5	<1.0	<1.0
Circulated 6 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.5	20.5	<1.0	<1.0
Circulated 7 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.5	20.5	<1.0	<1.0
Circulated 8 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.5	20.5	<1.0	<1.0
Circulated 9 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.5	20.5	<1.0	<1.0
Circulated 10 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.5	20.5	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

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AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA02	**Date of Test**	22/02/2016	**Time of Test**	13.40.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.1**
Water Depth (m)	Dry*	**Base of hole** (m)	9.00	**Volume of Gas in well** (m^3)	**0.018**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.6	20.6	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.3	20.3	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.3	20.3	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 2 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 3 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 4 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 5 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 6 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 7 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 8 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 9 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Circulated 10 Minute	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.3	20.3	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.3	20.3	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.4	20.4	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

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AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA03	**Date of Test**	22/02/2016	**Time of Test**	12.50.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.49**
Water Depth (m)	Dry*	**Base of hole (m)**	1.00	**Volume of Gas in well (m^3)**	**0.002**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.4	21.4	<1.0	<1.0
Circulated 2 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.2	21.2	<1.0	<1.0
Circulated 3 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.1	21.1	<1.0	<1.0
Circulated 4 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 5 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 6 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 7 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 8 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 9 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 10 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: GW

Approved By: LC

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AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA04	**Date of Test**	22/02/2016	**Time of Test**	12.30.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.24**
Water Depth (m)	Dry*	**Base of hole (m)**	2.50	**Volume of Gas in well (m^3)**	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 2 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 3 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 4 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 5 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 6 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 7 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 8 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 9 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 10 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

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AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA05	**Date of Test**	22/02/2016	**Time of Test**	12.00
Weather Condition (Inc. Temp)		**FR (12°C)**		**Operator**	**A.R.**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (20.9%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.24**
Water Depth (m)	Dry*	**Base of hole** (m)	2.00	**Volume of Gas in well** (m^3)	**0.004**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.9	20.9	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.1	21.1	<1.0	<1.0
Circulated 2 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated 3 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 4 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 5 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 6 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 7 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 8 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 9 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 10 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: aw

Approved By: LC

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AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA06	**Date of Test**	22/02/2016	**Time of Test**	12:00:00
Weather Condition (Inc. Temp)	**FR (10°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole (m)**	6.00	**Volume of Gas in well (m^3)**	**0.012**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks :	Unable to monitor - car parked over installation		
Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: CW		Approved By: LC	
Page No. : Page 6 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA07	**Date of Test**	22/02/2016	**Time of Test**	13.15
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	0.2		**Differential Pressure (mb)**		**3.25**
Water Depth (m)	Dry*	**Base of hole (m)**	2.30	**Volume of Gas in well (m^3)**	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 2 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.9	20.9	<1.0	<1.0
Circulated 3 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 4 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 5 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 6 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 7 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 8 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 9 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Circulated 10 Minute	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Shallow 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Shallow 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Deep 5 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Deep 30 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0
Deep 60 seconds	1004	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.7	20.7	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: aw

Approved By: LC

Page No. : Page 1 of 1

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA01	**Date of Test**	29/02/2016	**Time of Test**	13.00.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.2%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**0.27**
Water Depth (m)	Dry*	**Base of hole** (m)	8.50	**Volume of Gas in well** (m^3)	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.2	21.2	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.1	3.1	17.8	17.8	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.1	17.1	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.1	17.1	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.3	17.3	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.3	17.3	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 2 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 3 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 4 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 5 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 6 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 7 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 8 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 9 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Circulated 10 Minute	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.2	17.2	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.0	17.0	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.0	17.0	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.0	17.0	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.0	17.0	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.0	17.0	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	3.2	3.2	17.0	17.0	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA02	**Date of Test**	29/02/2016	**Time of Test**	14.00.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**0.1**
Water Depth (m)	Dry*	**Base of hole (m)**	9.00	**Volume of Gas in well (m^3)**	**0.018**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.8	20.8	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.6	18.6	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.6	18.6	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.4	18.4	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 2 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.3	18.3	<1.0	<1.0
Circulated 3 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 4 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 5 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 6 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 7 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 8 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 9 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Circulated 10 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.7	2.7	18.4	18.4	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.5	18.5	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.5	18.5	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.5	18.5	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.5	18.5	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.5	18.5	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	18.5	18.5	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA03	**Date of Test**	29/02/2016	**Time of Test**	14:45:00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.2%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**0.10**
Water Depth (m)	Dry	**Base of hole** (m)	1.00	**Volume of Gas in well** (m^3)	**0.002**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Circulated 2 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Circulated 3 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 4 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 5 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 6 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 7 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 8 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 9 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 10 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.5	20.5	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: aw

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA04	**Date of Test**	29/02/2016	**Time of Test**	15.15.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.2%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**0.16**
Water Depth (m)	Dry*	**Base of hole (m)**	2.50	**Volume of Gas in well (m^3)**	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.4	20.4	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.6	20.6	<1.0	<1.0
Circulated 2 Minute	1021	<0.1	<0.1	<2.0	<2.0	0.6	0.6	20.2	20.2	<1.0	<1.0
Circulated 3 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 4 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 5 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 6 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 7 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 8 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 9 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Circulated 10 Minute	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	1.4	1.4	19.8	19.8	<1.0	<1.0

Remarks : Dry* = Installation wet at tip

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: GW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA05	**Date of Test**	29/02/2016	**Time of Test**	-
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.2%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole** (m)	2.00	**Volume of Gas in well** (m^3)	**0.004**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks :	Unable to monitor - car parked over installation		
Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: AW		Approved By: LC	
Page No. : Page 5 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA06	**Date of Test**	29/02/2016	**Time of Test**	12.30.00
Weather Condition (Inc. Temp)		**FR (12°C)**		**Operator**	**A.R.**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (21.2%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.11**
Water Depth (m)	Dry	**Base of hole** (m)	6.00	**Volume of Gas in well** (m^3)	**0.012**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.1	2.1	20.6	20.6	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.0	2.0	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.0	2.0	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.0	2.0	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.5	2.5	19.9	19.9	<1.0	<1.0
Circulated 2 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 3 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 4 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 5 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 6 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 7 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 8 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 9 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Circulated 10 Minute	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.5	2.5	19.8	19.8	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	2.6	2.6	19.8	19.8	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

Page No. : Page 6 of 7

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA07	**Date of Test**	29/02/2016	**Time of Test**	14.20.00
Weather Condition (Inc. Temp)	**FR (12°C)**			**Operator**	**A.R.**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.14**
Water Depth (m)	Dry	**Base of hole** (m)	2.30	**Volume of Gas in well** (m^3)	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.8	20.8	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.0	5.0	16.8	16.8	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.3	5.3	16.7	16.7	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.3	5.3	16.4	16.4	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.6	16.6	<1.0	<1.0
Circulated 2 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 3 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 4 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 5 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 6 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 7 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 8 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 9 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Circulated 10 Minute	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Shallow 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Shallow 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Deep 5 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Deep 30 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0
Deep 60 seconds	1021	<0.1	<0.1	<2.0	<2.0	5.2	5.2	16.4	16.4	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: aw

Approved By: LC

Page No. : Page 7 of 7

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA01	**Date of Test**	08/03/2016	**Time of Test**	13.30.00
Weather Condition (Inc. Temp)	**SH (10°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.3%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.24**
Water Depth (m)	Dry	**Base of hole** (m)	8.50	**Volume of Gas in well** (m^3)	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	2.8	2.8	17.8	17.8	<1.0	<1.0
Shallow 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	2.8	2.8	17.5	17.5	<1.0	<1.0
Shallow 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	2.9	2.9	17.1	17.1	<1.0	<1.0
Deep 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	2.9	2.9	16.9	16.9	<1.0	<1.0
Deep 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	2.9	2.9	16.8	16.8	<1.0	<1.0
Deep 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	2.9	2.9	16.8	16.8	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 2 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 3 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 4 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 5 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 6 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 7 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 8 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 9 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Circulated 10 Minute	1001	<0.1	<0.1	<2.0	<2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1001	0.1	0.1	2.0	2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Shallow 30 seconds	1001	0.1	0.1	2.0	2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Shallow 60 seconds	1001	0.1	0.1	2.0	2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Deep 5 seconds	1001	0.1	0.1	2.0	2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Deep 30 seconds	1001	0.1	0.1	2.0	2.0	3.0	3.0	16.8	16.8	<1.0	<1.0
Deep 60 seconds	1001	0.1	0.1	2.0	2.0	3.0	3.0	16.8	16.8	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA02	**Date of Test**	08/03/2016	**Time of Test**	14.00.00
Weather Condition (Inc. Temp)		**SH (10°C)**		**Operator**	**AR**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (21.2%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**0.06**
Water Depth (m)	8.63	**Base of hole** (m)	9.00	**Volume of Gas in well** (m^3)	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.3	19.3	<1.0	7.0
Shallow 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.1	19.1	<1.0	8.0
Shallow 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.0	19.0	<1.0	8.0
Deep 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.0	19.0	<1.0	8.0
Deep 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.0	19.0	<1.0	8.0
Deep 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated Readings											
Circulated 1 Minute	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 2 Minute	1001	<0.1	<0.1	<2.0	<2.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 3 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 4 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 5 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 6 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 7 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 8 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 9 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Circulated 10 Minute	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	8.0
Final Readings											
Shallow 5 seconds	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	7.0
Shallow 30 seconds	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	7.0
Shallow 60 seconds	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	7.0
Deep 5 seconds	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	7.0
Deep 30 seconds	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	7.0
Deep 60 seconds	1001	0.2	0.2	4.0	4.0	1.5	1.5	19.0	19.0	<1.0	7.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Checked By: aw

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA03	**Date of Test**	08/03/2016	**Time of Test**	15.00.00
Weather Condition (Inc. Temp)		**SH (10°C)**		**Operator**	**AR**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (21.2%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.10**
Water Depth (m)	Dry	**Base of hole** (m)	1.00	**Volume of Gas in well** (m^3)	**0.002**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Shallow 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Deep 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	21.0	21.0	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 2 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 3 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 4 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 5 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 6 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 7 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 8 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 9 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Circulated 10 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.5	20.5	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.4	20.4	<1.0	<1.0
Shallow 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Shallow 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	20.4	20.4	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Limited**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA04	**Date of Test**	08/03/2016	**Time of Test**	13:05:00
Weather Condition (Inc. Temp)	**SH (10°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.3%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.22**
Water Depth (m)	Dry	**Base of hole** (m)	2.50	**Volume of Gas in well** (m^3)	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.2	21.2	<1.0	2.0
Shallow 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.2	21.2	<1.0	2.0
Shallow 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	3.0
Deep 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	3.0
Deep 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	3.0
Deep 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated Readings											
Circulated 1 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 2 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 3 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 4 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 5 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 6 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 7 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 8 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 9 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Circulated 10 Minute	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Final Readings											
Shallow 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Shallow 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Shallow 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Deep 5 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Deep 30 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0
Deep 60 seconds	1001	<0.1	<0.1	<2.0	<2.0	0.2	0.2	21.1	21.1	<1.0	2.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA05	**Date of Test**	08/03/2016	**Time of Test**	-
Weather Condition (Inc. Temp)	**FR (13°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole** (m)	2.00	**Volume of Gas in well** (m^3)	-

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks :	Unable to monitor - car parked over installation

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title: **Manchester New Victoria Ground Investigation**	Client: **Muse Developments Limited**
Checked By: GW	Approved By: LC
Page No. : Page 5 of 7	AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA06	**Date of Test**	08/03/2016	**Time of Test**	15:40:00
Weather Condition (Inc. Temp)	**SH (10°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.2%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole** (m) 6.00	**Volume of Gas in well** (m^3)		-

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks :	Unable to monitor - car parked over installation		
Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Limited**	
Checked By: CW		Approved By: LC	
Page No. : Page 6 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA07	**Date of Test**	08/03/2016	**Time of Test**	14.30.00
Weather Condition (Inc. Temp)	**SH (10°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (21.1%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**-0.04**
Water Depth (m)	Dry	**Base of hole** (m)	2.50	**Volume of Gas in well** (m^3)	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.2	20.2	<1.0	<1.0
Shallow 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	20.0	20.0	<1.0	<1.0
Shallow 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	19.8	19.8	<1.0	<1.0
Deep 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.3	0.3	19.8	19.8	<1.0	<1.0
Deep 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	19.8	19.8	<1.0	<1.0
Deep 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	19.8	19.8	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	19.8	19.8	<1.0	<1.0
Circulated 2 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	19.8	19.8	<1.0	<1.0
Circulated 3 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.4	0.4	19.8	19.8	<1.0	<1.0
Circulated 4 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	19.8	19.8	<1.0	<1.0
Circulated 5 Minute	1002	<0.1	<0.1	<2.0	<2.0	0.5	0.5	19.8	19.8	<1.0	<1.0
Circulated 6 Minute	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.0	19.0	<1.0	<1.0
Circulated 7 Minute	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.0	19.0	<1.0	<1.0
Circulated 8 Minute	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	19.0	19.0	<1.0	<1.0
Circulated 9 Minute	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.8	18.8	<1.0	<1.0
Circulated 10 Minute	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.8	18.8	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.0	18.0	<1.0	<1.0
Shallow 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.0	18.0	<1.0	<1.0
Shallow 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.0	18.0	<1.0	<1.0
Deep 5 seconds	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.0	18.0	<1.0	<1.0
Deep 30 seconds	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.0	18.0	<1.0	<1.0
Deep 60 seconds	1002	<0.1	<0.1	<2.0	<2.0	1.6	1.6	18.0	18.0	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	05/01/2016

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Limited

Checked By: GW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA01	**Date of Test**	16/03/2016	**Time of Test**	16.20.00
Weather Condition (Inc. Temp)		**FR (13°C)**		**Operator**	**AR**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (20.9%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**0.23**
Water Depth (m)	Damp	**Base of hole (m)**	8.50	**Volume of Gas in well (m^3)**	**0.017**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Shallow 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Shallow 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Circulated 2 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Circulated 3 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Circulated 4 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Circulated 5 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Circulated 6 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Circulated 7 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Circulated 8 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Circulated 9 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Circulated 10 Minute	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.3	20.3	<1.0	<1.0
Shallow 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Shallow 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA02	**Date of Test**	16/03/2016	**Time of Test**	16.45.00
Weather Condition (Inc. Temp)		**FR (13°C)**		**Operator**	**AR**
Ambient Gas Concentration		**CH4 (<0.1%)**		**CO2 (<0.1%)**	**O2 (20.9%)**
Flow (l/h)		<0.1		**Differential Pressure (mb)**	**-0.06**
Water Depth (m)	Damp	**Base of hole** (m)	9.00	**Volume of Gas in well** (m^3)	**0.018**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<0.1	<0.1
Shallow 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<0.1	<0.1
Shallow 60 seconds	1026	0.1	0.1	2.0	2.0	0.6	0.6	19.6	19.6	<0.1	<0.1
Deep 5 seconds	1026	0.1	0.1	2.0	2.0	0.7	0.7	19.6	19.6	<0.1	<0.1
Deep 30 seconds	1026	0.1	0.1	2.0	2.0	0.8	0.8	19.6	19.6	<0.1	<0.1
Deep 60 seconds	1026	0.1	0.1	2.0	2.0	0.9	0.9	19.6	19.6	<0.1	<0.1
Circulated Readings											
Circulated 1 Minute	1026	0.1	0.1	2.0	2.0	1.2	1.2	18.2	18.2	<0.1	<0.1
Circulated 2 Minute	1026	0.1	0.1	2.0	2.0	1.2	1.2	18.2	18.2	<0.1	<0.1
Circulated 3 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	18.2	18.2	<0.1	<0.1
Circulated 4 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	18.2	18.2	<0.1	<0.1
Circulated 5 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	17.6	17.6	<0.1	<0.1
Circulated 6 Minute	1026	0.2	0.2	4.0	4.0	1.3	1.3	17.6	17.6	<0.1	<0.1
Circulated 7 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	17.6	17.6	<0.1	<0.1
Circulated 8 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	17.6	17.6	<0.1	<0.1
Circulated 9 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	17.6	17.6	<0.1	<0.1
Circulated 10 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	17.6	17.6	<0.1	<0.1
Final Readings											
Shallow 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.0	1.0	19.4	19.4	<0.1	<0.1
Shallow 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.1	1.1	18.6	18.6	<0.1	<0.1
Shallow 60 seconds	1026	0.2	0.2	4.0	4.0	1.2	1.2	18.4	18.4	<0.1	<0.1
Deep 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	18.4	18.4	<0.1	<0.1
Deep 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	18.4	18.4	<0.1	<0.1
Deep 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.3	1.3	18.4	18.4	<0.1	<0.1

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA03	**Date of Test**	16/03/2016	**Time of Test**	15.50.00
Weather Condition (Inc. Temp)	**FR (13°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)	<0.1		**Differential Pressure (mb)**		**0.19**
Water Depth (m)	Dry	**Base of hole** (m)	1.00	**Volume of Gas in well** (m^3)	**0.002**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	20.4	20.4	<1.0	<1.0
Shallow 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Shallow 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Deep 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.2	20.2	<1.0	<1.0
Deep 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.2	20.2	<1.0	<1.0
Deep 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	0.2	0.2	20.1	20.1	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1026	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.3	20.3	<1.0	<1.0
Circulated 2 Minute	1026	<0.1	<0.1	<2.0	<2.0	0.3	0.3	20.1	20.1	<1.0	<1.0
Circulated 3 Minute	1026	<0.1	<0.1	<2.0	<2.0	0.8	0.8	19.8	19.8	<1.0	<1.0
Circulated 4 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Circulated 5 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Circulated 6 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Circulated 7 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Circulated 8 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Circulated 9 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Circulated 10 Minute	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Shallow 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Shallow 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Deep 5 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Deep 30 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0
Deep 60 seconds	1026	<0.1	<0.1	<2.0	<2.0	1.2	1.2	19.8	19.8	<1.0	<1.0

Remarks :

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd.

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA04	**Date of Test**	16/03/2016	**Time of Test**	17:05:00
Weather Condition (Inc. Temp)	**FR (13°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole (m)**	2.50	**Volume of Gas in well (m^3)**	**0.005**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks :	Unable to monitor - car parked over installation
Monitoring Equipment	GA 2000 Plus
Date of Calibration	15/09/2015
Contract Title: **Manchester New Victoria Ground Investigation**	Client: **Muse Developments Ltd.**
Checked By: CW	Approved By: LC
Page No. : Page 4 of 7	AEG Contract No. : **PR1531**

ALLIED EXPLORATION GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 387 4700 Fax: 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - Tel: 01772 735 300 Fax: 01772 735 999

CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA05	**Date of Test**	16/03/2016	**Time of Test**	17:05:00
Weather Condition (Inc. Temp)	**FR (13°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole** (m)	2.00	**Volume of Gas in well** (m^3)	-

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated Readings											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks :	**Unable to monitor - car parked over installation**

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: CW		Approved By: LC	
Page No. : Page 5 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA06	**Date of Test**	16/03/2016	**Time of Test**	15.20.00
Weather Condition (Inc. Temp)		**FR (13°C)**		**Operator**	**AR**
Ambient Gas Concentration		**CH4 (<0.1%)**	**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)		<0.1	**Differential Pressure (mb)**		**0.12**
Water Depth (m)	Dry	**Base of hole** (m)	6.00	**Volume of Gas in well** (m^3)	**0.012**

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.9	20.9	<1.0	<1.0
Shallow 30 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Shallow 60 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated Readings											
Circulated 1 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.5	20.5	<1.0	<1.0
Circulated 2 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.5	20.5	<1.0	<1.0
Circulated 3 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.5	20.5	<1.0	<1.0
Circulated 4 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated 5 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated 6 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated 7 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated 8 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated 9 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Circulated 10 Minute	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Final Readings											
Shallow 5 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Shallow 30 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Shallow 60 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Deep 5 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Deep 30 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Deep 60 seconds	1026	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	20.4	20.4	<1.0	<1.0
Remarks :											

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015
Contract Title: **Manchester New Victoria Ground Investigation**		Client: **Muse Developments Ltd.**	
Checked By: CW		Approved By: LC	
Page No. : Page 6 of 7		AEG Contract No. : **PR1531**	

ALLIED EXPLORATION GEOTECHNICS LIMITED

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CIRCULATED GAS AND GROUNDWATER MONITORING

Monitoring Point	BHA07	**Date of Test**	16/03/2016	**Time of Test**	17:05:00
Weather Condition (Inc. Temp)	**FR (13°C)**			**Operator**	**AR**
Ambient Gas Concentration	**CH4 (<0.1%)**		**CO2 (<0.1%)**		**O2 (20.9%)**
Flow (l/h)	-		**Differential Pressure (mb)**		-
Water Depth (m)	-	**Base of hole** (m)	2.50	**Volume of Gas in well** (m^3)	-

TIME	ATM PRESSURE RANGE	METHANE % v/v		METHANE % LEL		CARBON DIOXIDE % v/v		OXYGEN % v/v		HYDROGEN SULPHIDE	CARBON MONOXIDE
		PEAK	STEADY	PEAK	STEADY	PEAK	STEADY	LOW DECLINE	STEADY		
Detection Limit	mbar	0.1 (%)	0.1 (%)	2.0 (%)	2.0 (%)	0.1 (%)	0.1 (%)	0.1 (%)	0.1 (%)	1.0 (ppm)	1.0 (ppm)
Initial Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											
Circulated 1 Minute											
Circulated 2 Minute											
Circulated 3 Minute											
Circulated 4 Minute											
Circulated 5 Minute											
Circulated 6 Minute											
Circulated 7 Minute											
Circulated 8 Minute											
Circulated 9 Minute											
Circulated 10 Minute											
Final Readings											
Shallow 5 seconds											
Shallow 30 seconds											
Shallow 60 seconds											
Deep 5 seconds											
Deep 30 seconds											
Deep 60 seconds											

Remarks : Unable to monitor - Car parked over position

Monitoring Equipment	GA 2000 Plus	Date of Calibration	15/09/2015

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Ltd.**

Checked By: CW

Approved By: LC

AEG Contract No. : **PR1531**

CERTIFICATION OF CALIBRATION

Geotech
A subsidiary of IAMTEC

ISSUED BY: GEOTECH LABORATORY
Date Of Calibration: 15-Sep-2015
Certificate Number: GA12205_1/15071

UKAS CALIBRATION
No. 4533

Approved by Signatory

Dawn Hemings
Laboratory Inspection

GEOTECHNICAL INSTRUMENTS (UK) LTD
Sovereign House, Queensway, Leamington Spa, Warwickshire, CV31 3JR United Kingdom
Tel: +44 (0) 1926 338111 Fax: +44 (0) 1926 338110
E-mail: service@geotech.co.uk www.geotechuk.com

Customer: ***Allied Exploration & Geotechnics Ltd***

25 Stella Gill Industrial Estate
Pelton Fell
CHESTER LE STREET
County Durham
DH2 2RG
UNITED KINGDOM

Description: Gas Analyser ***Model:*** GA2000Plus
Serial Number: GA12205

UKAS Accredited results:

Results after adjustment :

Methane (CH4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.41
15.0	15.0	0.64
50.1	49.4	0.94

Carbon Dioxide (CO2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	4.8	0.43
15.0	14.7	0.70
49.9	50.2	1.1

Oxygen (O2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
21.0	21.0	0.31

The inwards assessment was carried out on 08-Sep-2015.
The maximum adjustment is larger than the inwards assessment uncertainty.
Inwards assessment data is available if requested.

All concentrations are molar.
CH4, CO2 readings recorded at : 32.1 °C ± 1.5 °C
O2 reading recorded at : 24.0 °C ± 1.5 °C
Barometric Pressure : 0988 mbar ± 3 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using reference gases.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATION OF CALIBRATION

UKAS ACCREDITED CALIBRATION LABORATORY NO. 4533

Certificate Number
GA12205_1/15071

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

Non-UKAS Accredited results:

Barometer (mbar)	
Reference	**Instrument Reading**
988	988

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	481	483
H2S	51.0	51.5

Internal Flow	
Applied (l/hr)	**Instrument Reading (l/hr)**
5	5.1
10	10

End of Certificate

CERTIFICATION OF CALIBRATION

Geotech
A subsidiary of LANTEC

ISSUED BY: GEOTECH LABORATORY
Date Of Calibration: 05-Jan-2016
Certificate Number: GA12206_1/15672

UKAS CALIBRATION
No. 4533

Approved by Signatory

Graham Ingles
Laboratory Inspection

GEOTECHNICAL INSTRUMENTS (UK) LTD
Sovereign House, Queensway, Leamington Spa, Warwickshire, CV31 3JR United Kingdom
Tel: +44 (0) 1926 338111 Fax: +44 (0) 1926 338110
E-mail: service@geotech.co.uk www.geotechuk.com

Customer: ***Allied Exploration & Geotechnics Ltd***

25 Stella Gill Industrial Estate
Pelton Fell
CHESTER LE STREET
County Durham
DH2 2RG
UNITED KINGDOM

Description: Gas Analyser ***Model:*** GA2000Plus
Serial Number: GA12206

UKAS Accredited results:

Results after adjustment :

Methane (CH4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.41
15.0	15.0	0.64
50.0	49.3	0.94

Carbon Dioxide (CO2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	4.8	0.43
15.0	14.8	0.70
50.0	50.1	1.1

Oxygen (O2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
20.9	21.0	0.31

The inwards assessment was carried out on 23-Dec-2015.
The maximum adjustment was less than the inwards assessment uncertainty.
Inwards assessment data is available if requested.

All concentrations are molar.
CH4, CO2 readings recorded at : 30.4 °C ± 1.5 °C
O2 reading recorded at : 22.2 °C ± 1.5 °C
Barometric Pressure : 0977 mbar ± 3 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using reference gases.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATION OF CALIBRATION

UKAS ACCREDITED CALIBRATION LABORATORY NO. 4533

Certificate Number
GA12206_1/15672

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

Non-UKAS Accredited results:

Barometer (mbar)	
Reference	**Instrument Reading**
977	977

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	481.0	479.0
H2S	51.7	51.7

Internal Flow	
Applied (l/hr)	**Instrument Reading (l/hr)**
5.0	5.07
10.0	9.97

End of Certificate

In-situ Test Report Certificate

IN-SITU TESTING ENCLOSURES

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - Tel: 0191 3874700 Fax: 0191 3874710
Regional Office: Unit 2B Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL – Tel: 01722 735 300 Fax: 01722 735 999

IN-SITU TESTING REPORT CERTIFICATE

UKAS TESTING
1367

Contract Title: Manchester New Victoria Ground Investigation **AEG Reference:** PR1531

Client Address: Muse Developments Ltd.
Anchorage One
Anchorage Quay
Salford
Manchester
M1 3BN

I certify that *In-situ* testing was carried out on the above contract in accordance with techniques outlined in BS 1377: 1990: Part 9 or other appropriate standards as quoted, and the following results, given on the attached enclosures, were obtained.

The tests carried out are indicated in the attached table showing the enclosure number and the total number of pages.

For and on behalf of Allied Exploration & Geotechnics Limited

☑ Nick Vater (Technical Director)

☐ Kevin Warriner (HSE & Quality Director)

Signed _____ Date: 08 March 2016

Tests marked not UKAS accredited in this certificate are not included in the UKAS accreditation schedule for our laboratory. Any opinions and interpretations expressed herein are outside the scope of the laboratory's UKAS accreditation

IN-SITU TESTING REPORT CERTIFICATE

ENCLOSURES

Enclosure Number	Description	UKAS Accredited	Reference	No. of Pages
0	Test Report Certificate	N/A		2
1	Standard Penetration Test Results (SPT)	Yes	BS 1377 Part 9 1990	16
2	Photo-Ionisation Detector Test Results	No		4
3	Determination of the Soil Infiltration Rate for Soakaway Design	No	BRE Digest 365:1991	1
4	*In-situ* Water Quality Parameter Test Results	No		1
-	Density by Sand Replacement Method	Yes	BS 1377 Part 9 1990	-
-	Density by Core Cutter Method	Yes	BS 1377 Part 9 1990	-
-	Determination of the Vane Shear Strength (Down the Hole)	Yes	BS 1377 Part 9 1990	-
-	Shallow Pad (skip) Load Test Results	No	BS 1377 Part 9 1990	-
-	Determination of the California Bearing Ratio	Yes	BS 1377 Part 9 1990	-
-	Plate Loading Test Results	No	BS 1377 Part 9 1990	-
-	Apparent Resistivity of Soil	No	BS 1377 Part 9 1990	-
-	Redox Potential of Soil	No	BS 1377 Part 9 1990	-

Standard Penetration Test Results

IN-SITU TESTING ENCLOSURE 1

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS

(BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio E_m	SEATING DRIVE						TEST DRIVE										Rod Length Corr. C_R	Energy Ratio Corr. C_E	Pen (mm)/Blow	SPT'N' Value	SPT'N' Value (Corr.) N_{60}	Shoe or Cone	Remarks
						Pen	Blows	Pen	Blows	Total Pen	Total Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Total Pen	Total Blows							
	m	m	m			mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.						S/C	
BHA01	1.20 (31.85)	(1.20)	1.20	AR1181	0.56	30	25			30	25	40	50							40	50	0.65	0.93	0.80	-	-	C	Water depth = Dry
BHA01	2.00 (31.05)	(2.00)	2.00	AR1181	0.56	75	2	75	1	150	3	75	1	75	1	75	2	75	1	300	5	0.68	0.93	60.00	5	3	C	Water depth = Dry
BHA01	3.00 (30.05)	(3.00)	3.00	AR1181	0.56	75	3	75	3	150	6	75	2	75	1	75	1	75	1	300	5	0.72	0.93	60.00	5	3	C	Water depth = Dry
BHA01	4.00 (29.05)	(4.00)	4.00	AR1181	0.56	75	2	75	2	150	4	75	1	75	1	75	2	75	1	300	5	0.76	0.93	60.00	5	4	C	Water depth = Dry
BHA01	5.00 (28.05)	(5.00)	5.00	AR1181	0.56	75	3	75	2	150	5	75	1	75	2	75	1	75	1	300	5	0.80	0.93	60.00	5	4	C	Water depth = Dry
BHA01	6.00 (27.05)	(6.00)	6.00	AR1181	0.56	75	2	75	1	150	3	75	2	75	1	75	1	75	2	300	6	0.84	0.93	50.00	6	5	C	Water depth = Dry
BHA01	7.50 (25.55)	(7.50)	7.50	AR1181	0.56	75	3	75	2	150	5	75	2	75	1	75	2	75	1	300	6	0.90	0.93	50.00	6	5	C	Water depth = Dry
BHA01	9.00 (24.05)	(9.00)	9.00	AR1181	0.56	75	3	75	5	150	8	40	25	30	50					70	75	0.96	0.93	0.93	-	-	S	Water depth = Dry
BHA01	10.50 (22.55)	(10.50)	10.50	AR1181	0.56	10	25			10	25	20	50							20	50	1.00	0.93	0.40	-	-	S	Water depth = Dry
BHA01	12.00 (21.05)	(10.50)	12.00	AR328	0.68							0	50							0	50	1.00	1.13	0.00	-	-	S	
BHA01	13.50 (19.55)	(10.50)	13.50	AR328	0.68							0	50							0	50	1.00	1.13	0.00	-	-	S	
BHA02	2.50 (30.44)	(2.50)	2.50	AR1120	0.64	75	1	75	2	150	3	75	2	75	2	75	2	75	2	300	8	0.70	1.07	37.50	8	6	S	Water depth = Dry

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N' values are presented on the attached graphical plot relative to each Exploratory Hole.

Contract Title :- Manchester New Victoria Ground Investigation		Client :- Muse Developments Ltd	AEG Contract No :- PR1531
Date of Issue :- 08/03/2016	Page No. :- 1 of 5	Checked By :- LC	Approved By :- Certificate No. :- SPT/PR1531/1

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS

(BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio E_m	SEATING DRIVE						TEST DRIVE										Rod Length Corr. C_R	Energy Ratio Corr. C_E	Pen (mm)/Blow	SPT'N' Value	SPT'N' Value (Corr.) N_{60}	Shoe or Cone	Remarks
						Pen	Blows	Pen	Blows	Total Pen	Total Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Total Pen	Total Blows							
	m	m	m			mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.						S/C	
BHA02	4.50 (28.44)	(4.50)	4.50	AR1120	0.64	75	1	75	1	150	2	75	2	75	1	75	1	75	2	300	6	0.78	1.07	50.00	6	5	S	Water depth = Dry
BHA02	7.00 (25.94)	(7.00)	7.00	AR1120	0.64	75	1	75	2	150	3	75	2	75	1	75	1	75	1	300	5	0.88	1.07	60.00	5	5	S	Water depth = Dry
BHA02	10.00 (22.94)	(10.00)	10.00	AR1120	0.64	75	28	75	22	150	50	30	35	10	15					40	50	1.00	1.07	0.80	-	-	S	Water depth = Dry
BHA02	10.10 (22.84)	(10.00)	10.10	AR1120	0.64	75	32	25	18	100	50	75	40	10	16					85	56	1.00	1.07	1.52	-	-	C	Water depth = Dry
BHA03	1.20 (32.26)	(1.20)	1.20	AR1181	0.56	75	20	5	5	80	25	25	50							25	50	0.65	0.93	0.50	-	-	S	Water depth = Dry
BHA03	2.00 (31.46)	(2.00)	2.00	AR1181	0.56	30	25			30	25	40	50							40	50	0.68	0.93	0.80	-	-	C	Water depth = Dry
BHA03	3.00 (30.46)	(3.00)	3.00	AR1181	0.56	10	25			10	25	25	50							25	50	0.72	0.93	0.50	-	-	C	Water depth = Dry
BHA03	4.60 (28.86)	(3.10)	4.60	AR328	0.68	75	44	75	49	150	93	0	50							0	50	0.78	1.13	0.00	-	-	S	
BHA03	6.10 (27.36)	(3.10)	6.10	AR328	0.68							0	50							0	50	0.84	1.13	0.00	-	-	S	
BHA03	7.60 (25.86)	(3.10)	7.60	AR328	0.68							0	50							0	50	0.90	1.13	0.00	-	-	S	
BHA03	9.10 (24.36)	(3.10)	9.10	AR328	0.68							0	50							0	50	0.96	1.13	0.00	-	-	S	
BHA04	1.20 (32.66)	(1.20)	1.20	AR1181	0.56	75	2	75	2	150	4	75	2	75	2	75	5	75	7	300	16	0.65	0.93	18.75	16	10	C	Water depth = Dry

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N' values are presented on the attached graphical plot relative to each Exploratory Hole.

Contract Title :- Manchester New Victoria Ground Investigation		Client :- Muse Developments Ltd	AEG Contract No :- PR1531
Date of Issue :- 08/03/2016	Page No. :- 2 of 5	Checked By :- LC	Approved By :- NW
Certificate No. :- SPT/PR1531/2			

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS

(BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio E_m	SEATING DRIVE						TEST DRIVE										Rod Length Corr. C_R	Energy Ratio Corr. C_E	Pen (mm)/Blow	SPT'N' Value	SPT'N' Value (Corr.) N_{60}	Shoe or Cone	Remarks
						Pen	Blows	Pen	Blows	Total Pen	Total Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Total Pen	Total Blows							
	m	m	m			mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.						S/C	
BHA04	2.00 (31.86)	(2.00)	2.00	AR1181	0.56	75	2	75	1	150	3	75	1	75	1	75	2	75	1	300	5	0.68	0.93	60.00	5	3	C	Water depth = Dry
BHA04	3.00 (30.86)	(3.00)	3.00	AR1181	0.56	75	25			75	25	30	50							30	50	0.72	0.93	0.60	-	-	S	Water depth = Dry
BHA04	4.00 (29.86)	(4.00)	4.00	AR1181	0.56	10	25			10	25	30	50							30	50	0.76	0.93	0.60	-	-	S	Water depth = Dry
BHA04	6.00 (27.86)	(4.50)	6.00	AR328	0.68	75	49	75	49	150	98	0	50							0	50	0.84	1.13	0.00	-	-	S	
BHA04	7.50 (26.36)	(4.50)	7.50	AR328	0.68	75	47			75	47	0	50							0	50	0.90	1.13	0.00	-	-	S	
BHA04	9.00 (24.86)	(4.50)	9.00	AR328	0.68							0	50							0	50	0.96	1.13	0.00	-	-	S	
BHA04	10.50 (23.36)	(4.50)	10.50	AR328	0.68							0	50							0	50	1.00	1.13	0.00	-	-	S	
BHA05	1.20 (32.52)	(1.20)	1.20	AR1181	0.56	75	2	75	3	150	5	75	3	75	4	75	3	75	4	300	14	0.65	0.93	21.43	14	8	C	Water depth = Dry
BHA05	2.00 (31.72)	(2.00)	2.00	AR1181	0.56	75	3	75	5	150	8	75	8	75	7	75	7	75	7	300	29	0.68	0.93	10.34	29	18	C	Water depth = Dry
BHA05	3.00 (30.72)	(3.00)	3.00	AR1181	0.56	75	15	10	10	85	25	45	50							45	50	0.72	0.93	0.90	-	-	S	Water depth = Dry
BHA05	3.30 (30.42)	(3.30)	3.30	AR1181	0.56	15	25			15	25	30	50							30	50	0.73	0.93	0.60	-	-	C	Water depth = Dry
BHA06	1.20 (32.18)	(1.20)	1.20	AR1181	0.56	75	2	75	3	150	5	75	2	75	2	75	2	75	1	300	7	0.65	0.93	42.86	7	4	S	Water depth = Dry

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N' values are presented on the attached graphical plot relative to each Exploratory Hole.

Contract Title :-	Client :-	AEG Contract No :-
Manchester New Victoria Ground Investigation	Muse Developments Ltd	PR1531

Date of Issue :-	Page No. :-	Checked By :-	Approved By :-	Certificate No. :-
08/03/2016	3 of 5	LC	NW	SPT/PR1531/3

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS

(BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio E_m	SEATING DRIVE						TEST DRIVE										Rod Length Corr. C_R	Energy Ratio Corr. C_E	Pen (mm)/Blow	SPT'N' Value	SPTN' Value (Corr.) N_{60}	Shoe or Cone	Remarks
						Pen	Blows	Pen	Blows	Total Pen	Total Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Total Pen	Total Blows							
	m	m	m			mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.						S/C	
BHA06	2.00 (31.38)	(2.00)	2.00	AR1181	0.56	75	2	75	1	150	3	75	1	75	1	75	0	75	1	300	3	0.68	0.93	100.00	3	2	S	Water depth = Dry
BHA06	3.00 (30.38)	(3.00)	3.00	AR1181	0.56	75	2	75	3	150	5	75	3	75	2	75	1	75	1	300	7	0.72	0.93	42.86	7	5	S	Water depth = Dry
BHA06	4.00 (29.38)	(4.00)	4.00	AR1181	0.56	75	3	75	5	150	8	75	10	75	10	75	9	75	7	300	36	0.76	0.93	8.33	36	25	C	Water depth = Dry
BHA06	5.00 (28.38)	(5.00)	5.00	AR1181	0.56	75	3	75	4	150	7	75	4	75	3	75	2	75	1	300	10	0.80	0.93	30.00	10	7	C	Water depth = Dry
BHA06	6.00 (27.38)	(6.00)	6.00	AR1181	0.56	75	1	75	1	150	2	75	0	75	0	75	1	75	1	300	2	0.84	0.93	150.00	2	2	S	Water depth = Dry
BHA06	7.50 (25.88)	(7.50)	7.50	AR1181	0.56	10	25			10	25	20	50							20	50	0.90	0.93	0.40	-	-	S	Water depth = Dry
BHA06	8.20 (25.18)	(8.20)	8.20	AR1181	0.56	5	25			5	25	10	50							10	50	0.93	0.93	0.20	-	-	C	Water depth = Dry
BHA07	2.50 (30.78)	(2.50)	2.50	AR1120	0.64	75	10	40	40	115	50	5	45							5	45	0.70	1.07	0.11	-	-	S	Water depth = Dry
BHA07	3.50 (29.78)	(3.50)	3.50	AR1120	0.64	24	50			24	50	20	50							20	50	0.74	1.07	0.40	-	-	S	Water depth = Dry
BHA07	3.60 (29.68)	(3.60)	3.60	AR1120	0.64	15	50			15	50	10	50							10	50	0.74	1.07	0.20	-	-	C	Water depth = Dry
WSA01	1.20 (32.18)		1.20	ATHDP04	0.81	75	1	75	2	150	3	75	1	75	2	75	4	75	3	300	10	0.65	1.35	30.00	10	9	S	Water depth = Dry.
WSA01	2.10 (31.28)		2.10	ATHDP04	0.81	75	1	75	2	150	3	75	12	75	25	75	10			225	47	0.68	1.35	4.79	-	-	S	Water depth = Dry.

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N' values are presented on the attached graphical plot relative to each Exploratory Hole.

Contract Title :-	Client :-	AEG Contract No :-
Manchester New Victoria Ground Investigation	Muse Developments Ltd	PR1531

Date of Issue :-	Page No. :-	Checked By :-	Approved By :-	Certificate No. :-
08/03/2016	4 of 5	LC	NW	SPT/PR1531/4

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS

(BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio E_m	SEATING DRIVE						TEST DRIVE										Rod Length Corr. C_R	Energy Ratio Corr. C_E	Pen (mm)/Blow	SPT'N' Value	SPT'N' Value (Corr.) N_{60}	Shoe or Cone	Remarks
						Pen	Blows	Pen	Blows	Total Pen	Total Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Total Pen	Total Blows							
	m	m	m			mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.						S/C	
WSA02	1.20 (34.04)		1.20	ATHDP04	0.81	75	1	75	1	150	2	75	1	75	1	75	2	75	5	300	9	0.65	1.35	33.33	9	8	S	Water depth = Dry.
WSA02	2.10 (33.14)		2.10	ATHDP04	0.81	75	1	75	6	150	7	75	11	75	21	75	12			225	44	0.68	1.35	5.11	-	-	S	Water depth = Dry.
WSA02	2.40 (32.84)		2.40	ATHDP04	0.81	19	50			19	50	25	100							25	100	0.70	1.35	0.25	-	-	S	Water depth = Dry.
WSA03	1.20 (31.65)		1.20	ATHDP04	0.81	75	1	75	1	150	2	75	2	75	1	75	1	75	0	300	4	0.65	1.35	75.00	4	4	S	Water depth = Dry.
WSA03	2.10 (30.75)		2.10	ATHDP04	0.81	75	1	75	2	150	3	75	2	75	1	75	1	75	2	300	6	0.68	1.35	50.00	6	6	S	Water depth = Dry.
WSA03	3.00 (29.85)		3.00	ATHDP04	0.81	75	1	75	2	150	3	75	2	75	2	75	2	75	2	300	8	0.72	1.35	37.50	8	8	S	Water depth = Dry.

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N' values are presented on the attached graphical plot relative to each Exploratory Hole.

Contract Title :-	Client :-	AEG Contract No :-
Manchester New Victoria Ground Investigation	Muse Developments Ltd	PR1531

Date of Issue :-	Page No. :-	Checked By :-	Approved By :-	Certificate No. :-
08/03/2016	5 of 5	LC	NW	SPT/PR1531/5

UKAS TESTING 1367

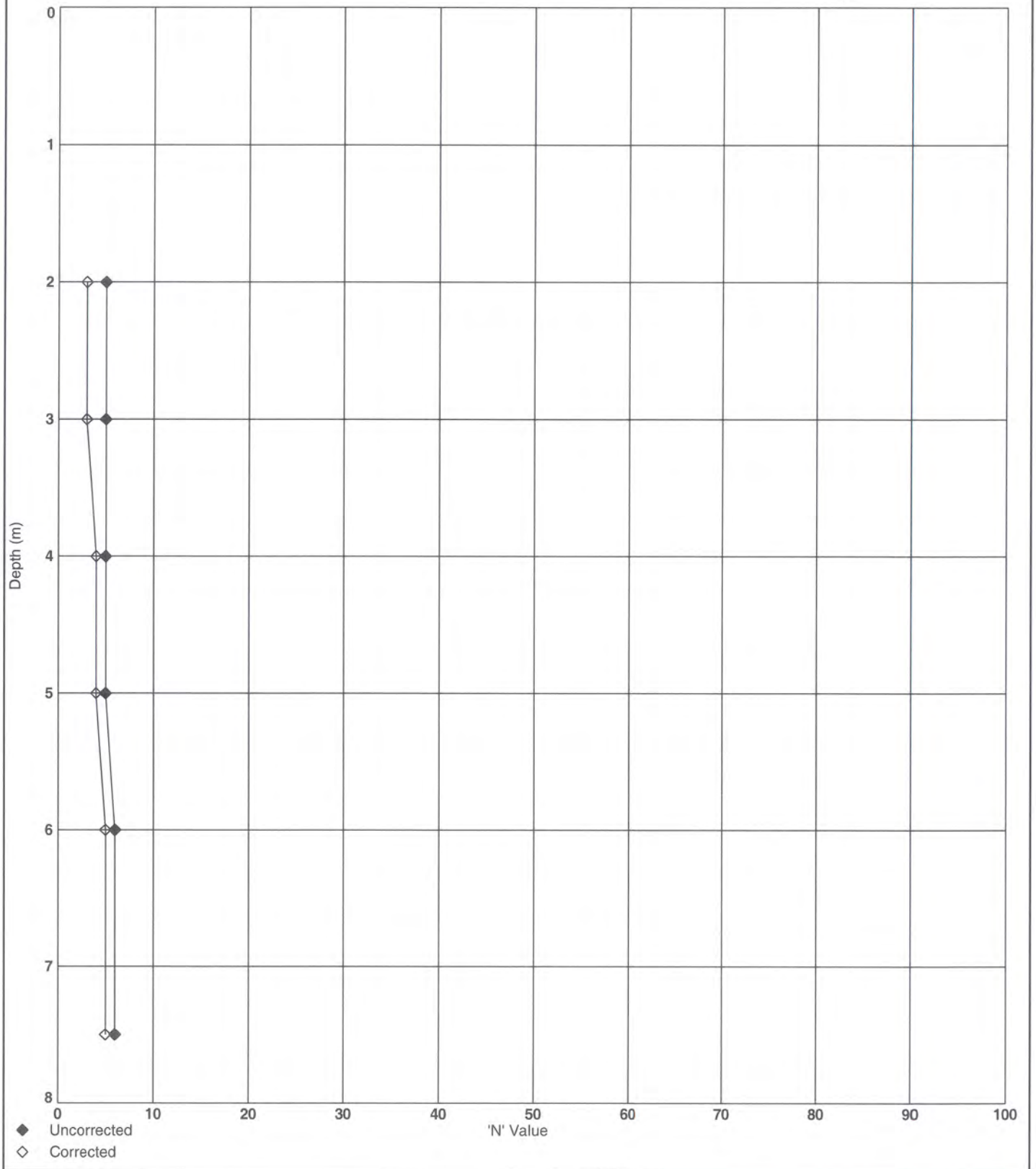
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

BHA01



Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/BHA01	Operator :- D.H./C.S.	
Checked By :-	Approved By :-	AEG Contract No. :- PR1531	UKAS TESTING 1367

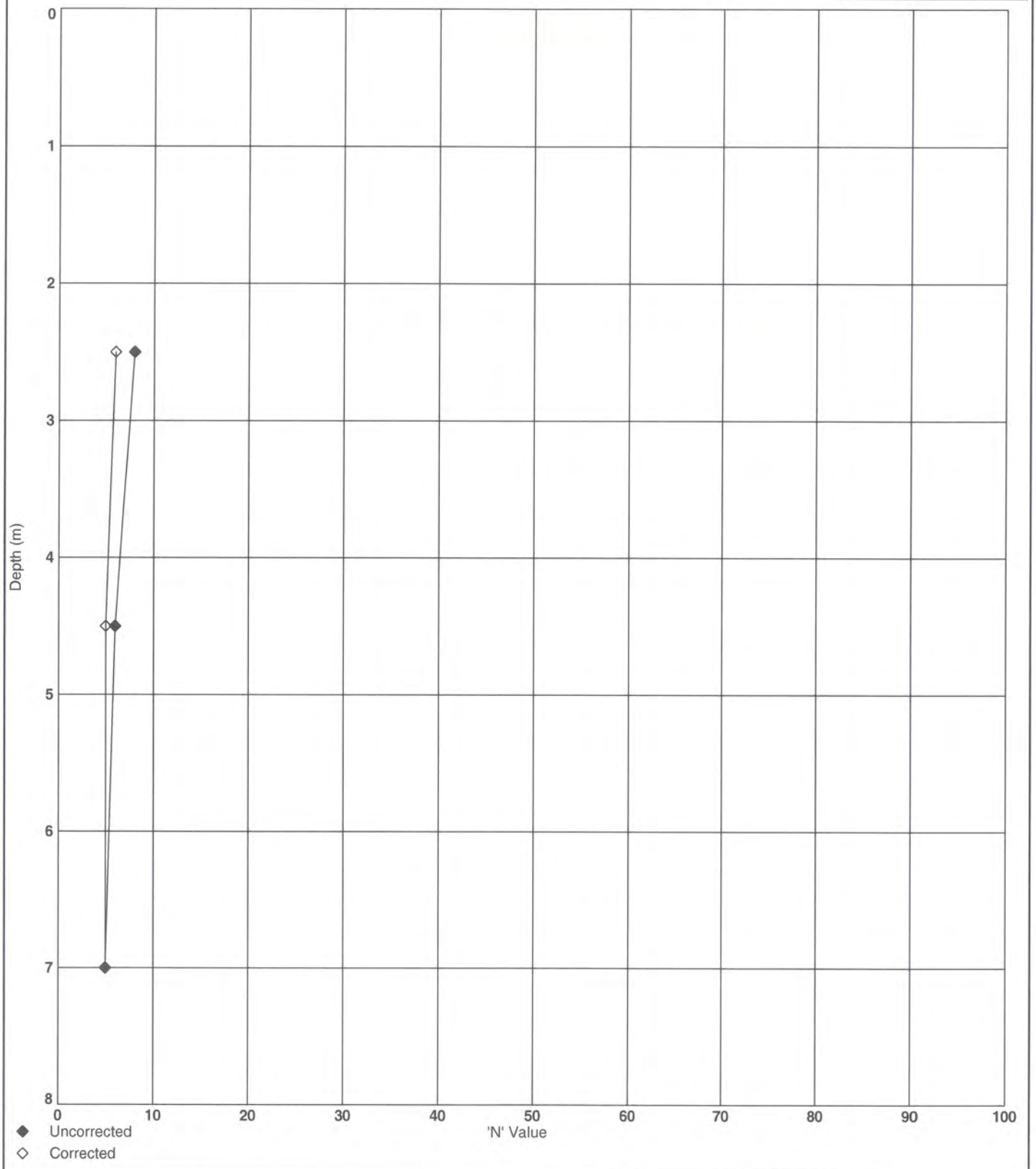
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

BHA02



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/BHA02	Operator :- D. Maughen	UKAS TESTING 1367
Checked By :- LC	Approved By :-	AEG Contract No. :- PR1531	

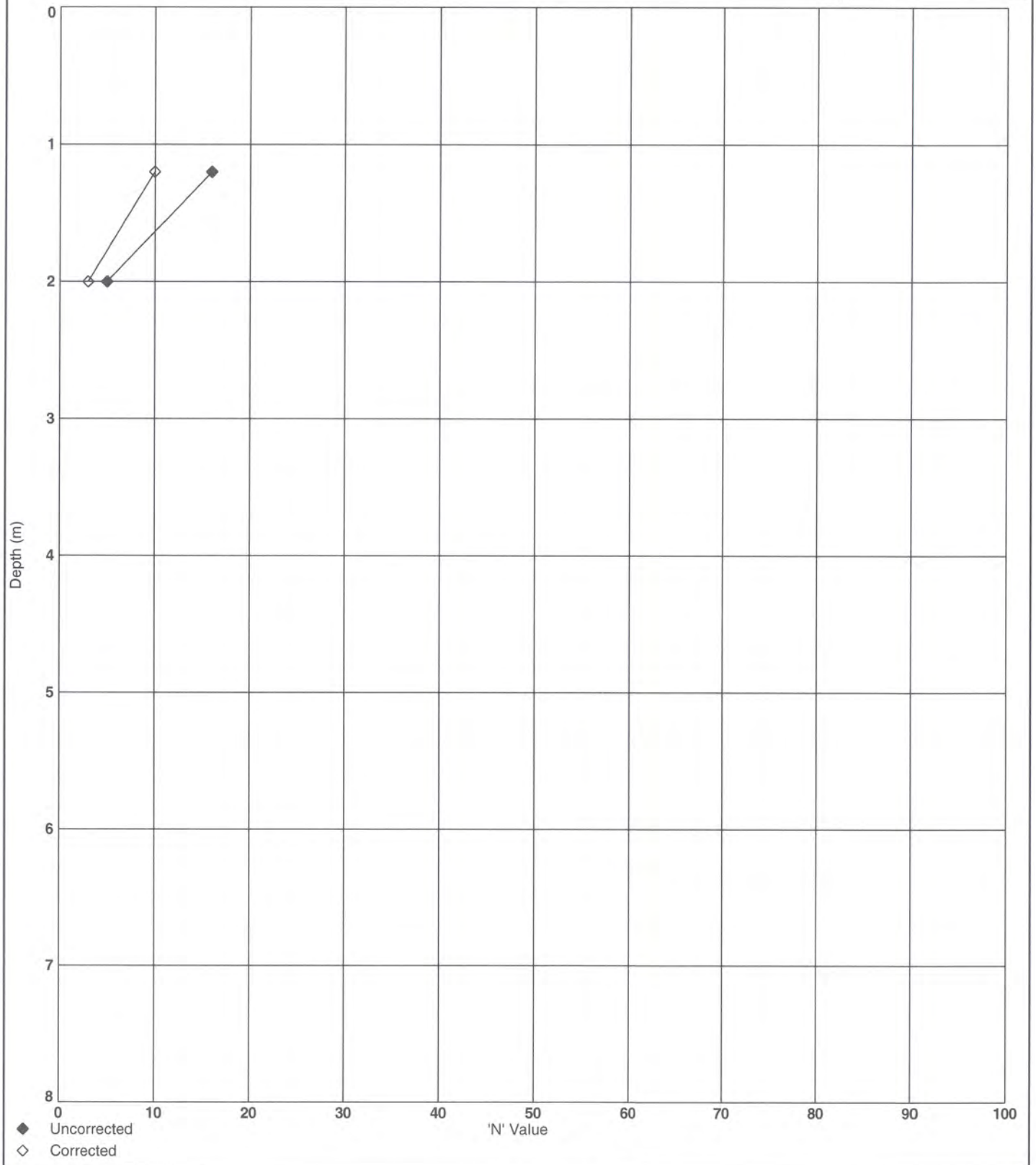
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

BHA04



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/BHA04	Operator :- D.H./C.S.	UKAS TESTING 1367
Checked By :- LC	Approved By :-	AEG Contract No. :- PR1531	

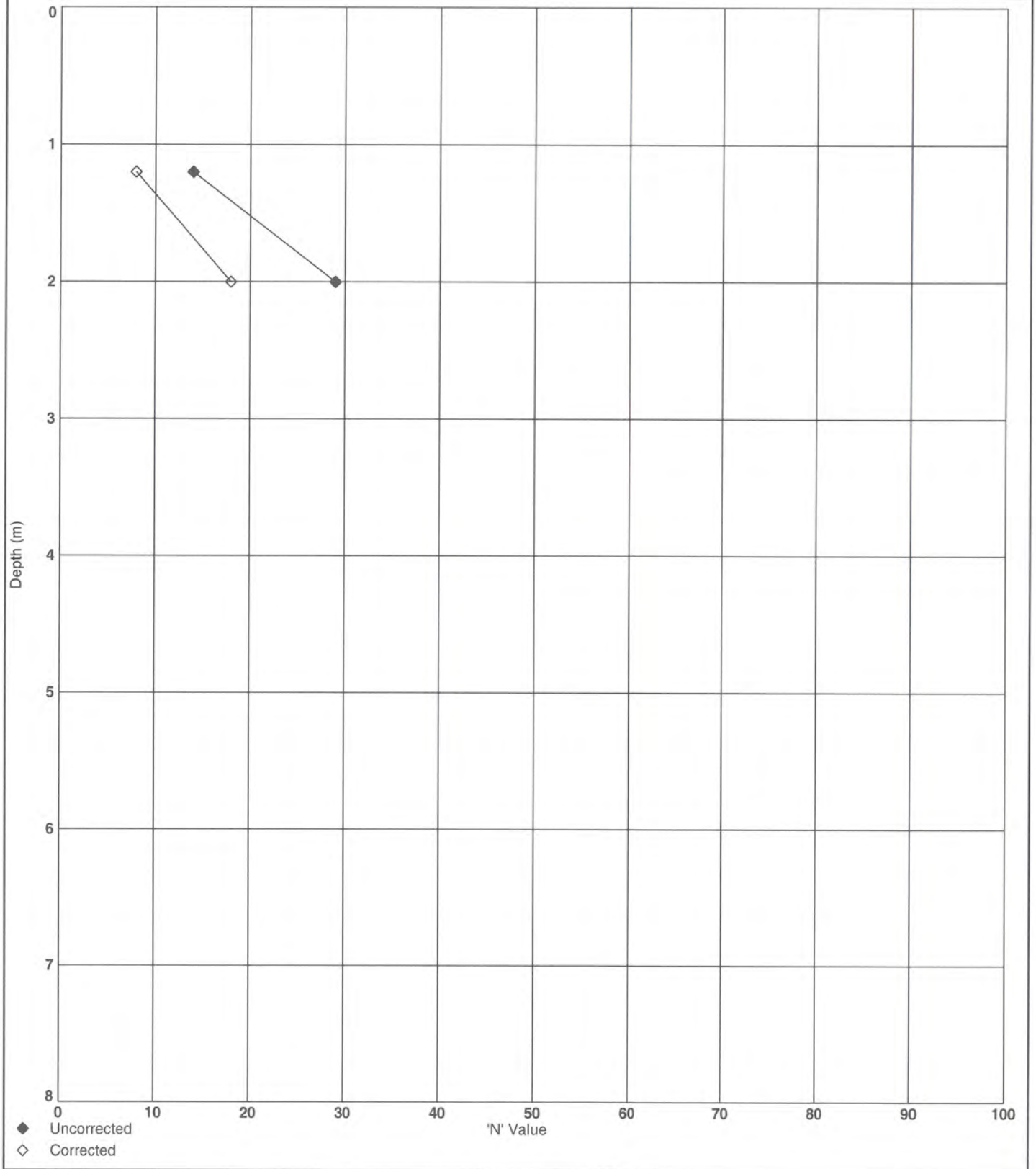
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

BHA05



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/BHA05	Operator :- D. Harvard	
Checked By :- LC	Approved By :-	AEG Contract No. :- PR1531	UKAS TESTING 1367

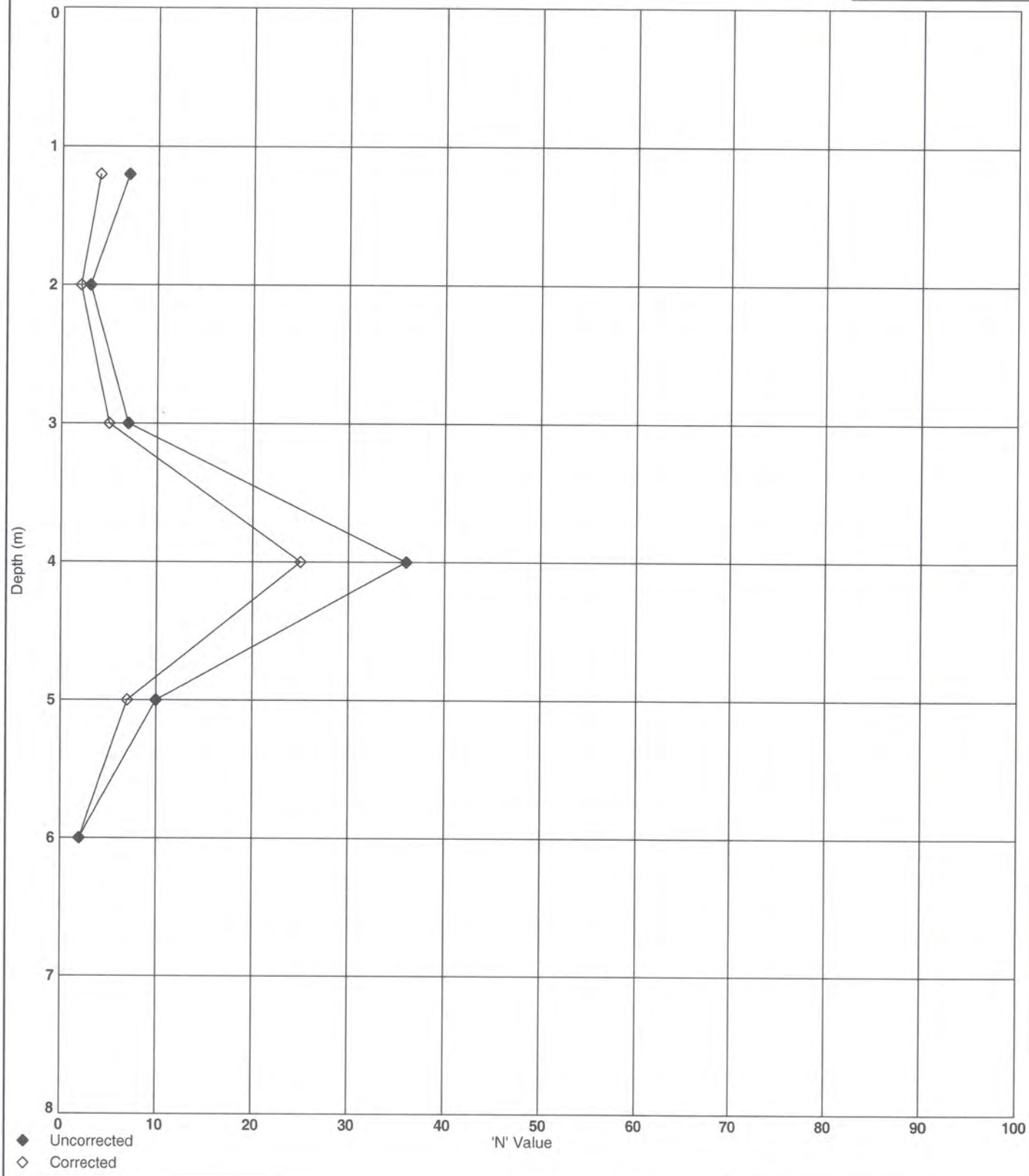
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

BHA06



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/BHA06	Operator :- D. Harvard	UKAS TESTING 1367
Checked By :- LC	Approved By :- NW	AEG Contract No. :- PR1531	

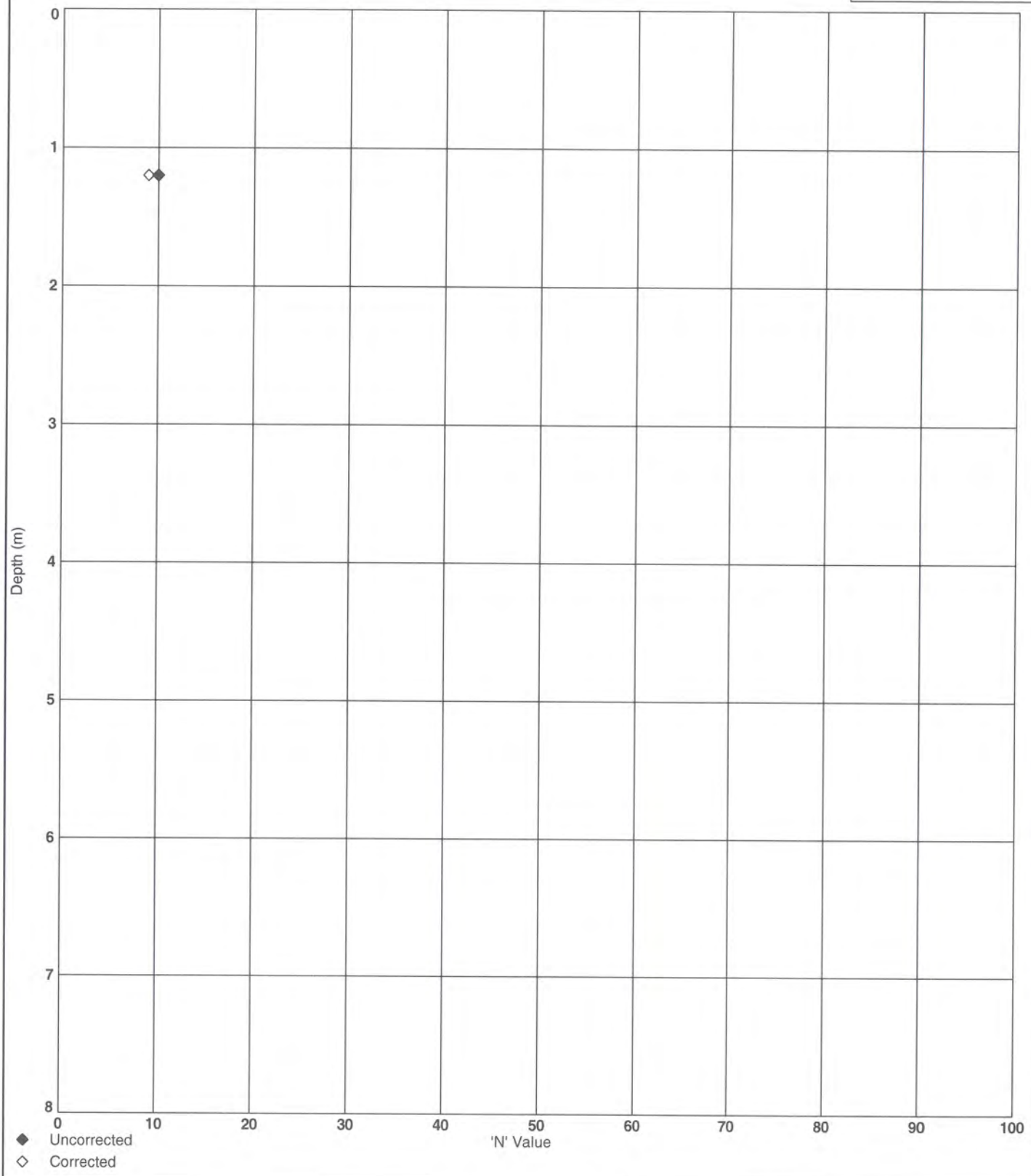
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

WSA01



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/WSA01	Operator :- R. Kennedy	UKAS TESTING 1367
Checked By :- LC	Approved By :- NW	AEG Contract No. :- PR1531	

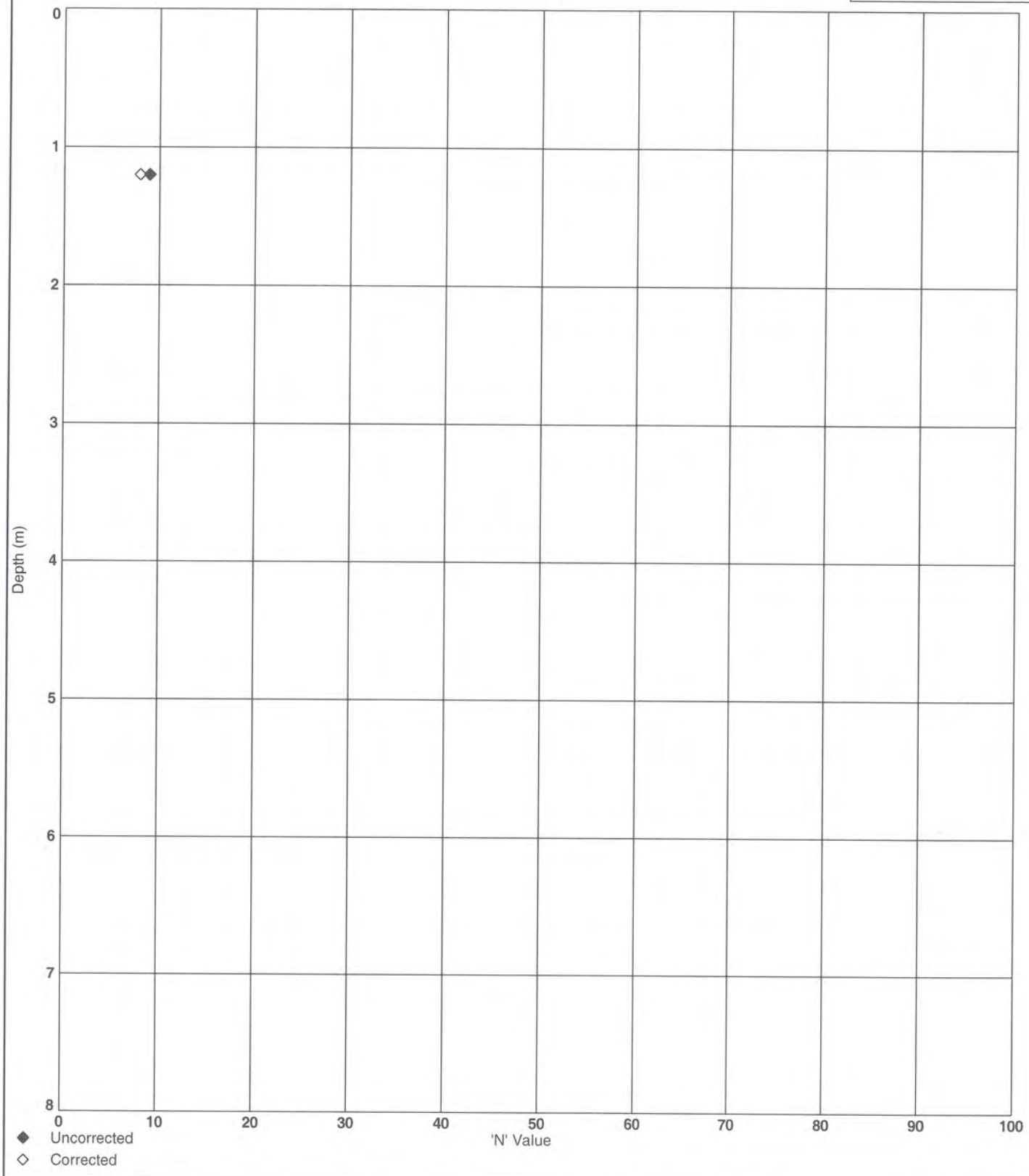
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

WSA02



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/WSA02	Operator :- R. Kennedy	
Checked By :- LC	Approved By :- NW	AEG Contract No. :- PR1531	UKAS TESTING 1367

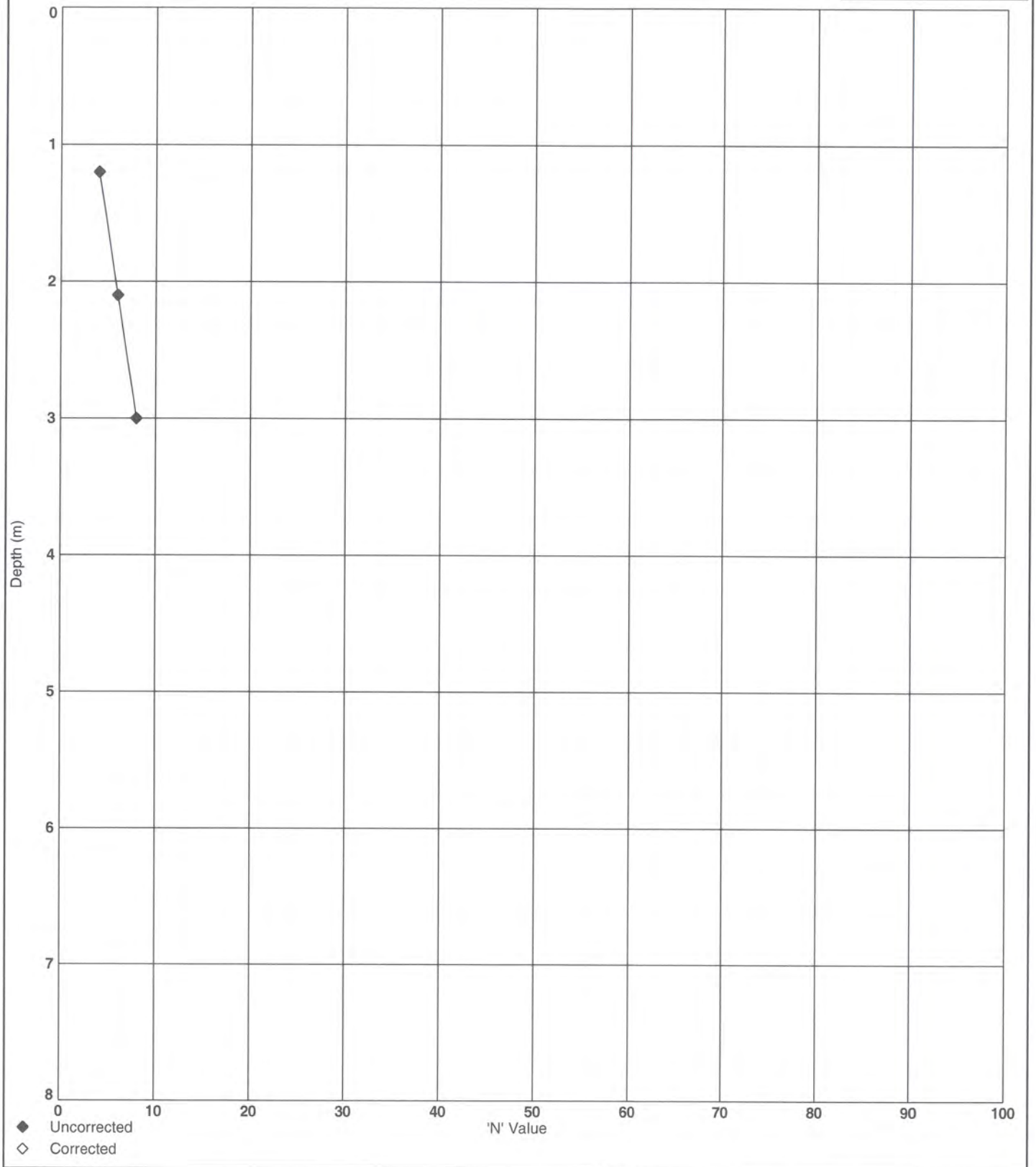
ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

STANDARD PENETRATION TEST RESULTS
(BS EN ISO 22476-3: 2005)

Exploratory Hole No

WSA03



Contract Title :- Manchester New Victoria Ground Investigation	Client :- Muse Developments Ltd

Date of issue :- 08/03/2016	Certificate No :- SPT/PR1531/Graph/WSA03	Operator :- R. Kennedy	
Checked By :- LC	Approved By :- NW	AEG Contract No. :- PR1531	UKAS TESTING 1367

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR1181
Test Date:	12/01/2016
Report Date:	12/01/2016
File Name:	AR1181.spt
Test Operator:	SH

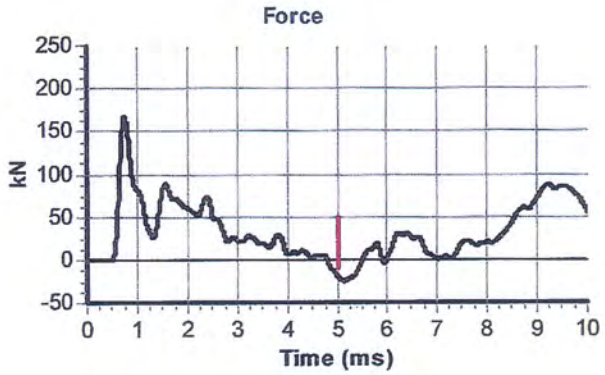
Instrumented Rod Data

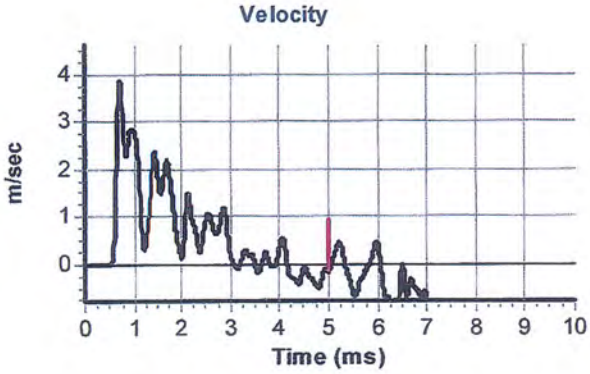
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.1
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7079
Accelerometer No.2:	7080

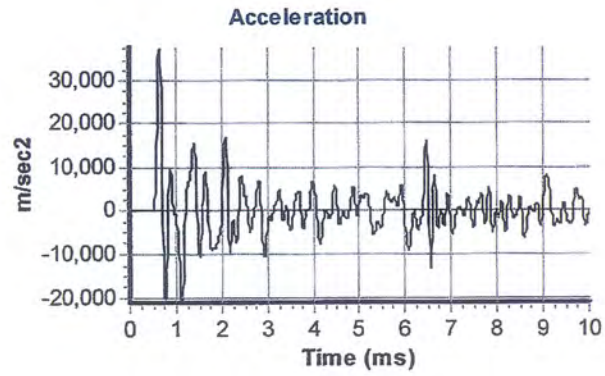
SPT Hammer Information

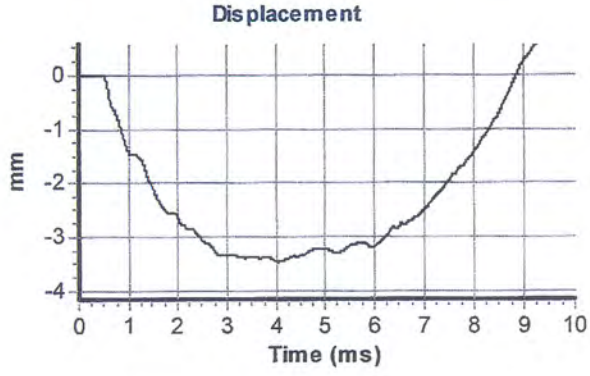
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location
CALIBRATION









Calculations

Area of Rod A (mm2):	918
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	267

Energy Ratio E_r (%): 56

Signed: M.GARDNER
Title: FITTER

The recommended calibration interval is 12 months

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SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR328
Test Date:	06/11/2015
Report Date:	11/6/2015
File Name:	AR328.spt
Test Operator:	SH

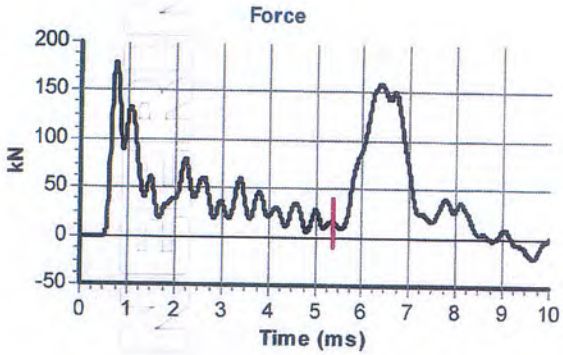
Instrumented Rod Data

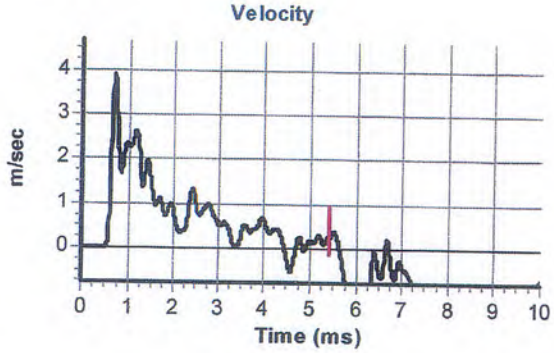
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.1
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7079
Accelerometer No.2:	7080

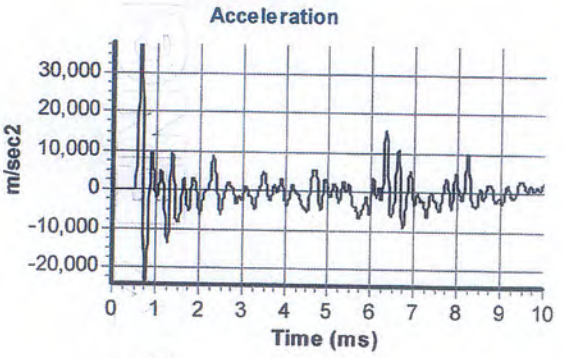
SPT Hammer Information

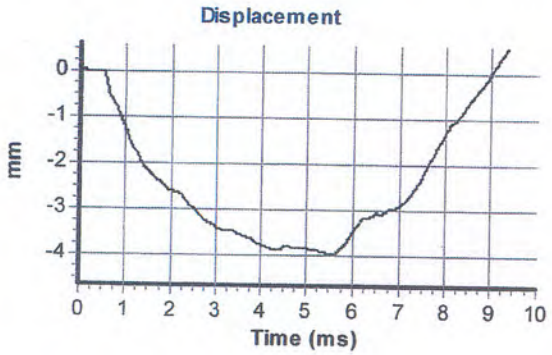
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.0

Comments / Location
CALIBRATION









Calculations

Area of Rod A (mm2):	918
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	322

Energy Ratio E_r (%): 68

Signed: M.GARDNER
Title: FITTER

The recommended calibration interval is 12 months

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SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR1120
Test Date:	06/11/2015
Report Date:	11/6/2015
File Name:	AR1120.spt
Test Operator:	SH

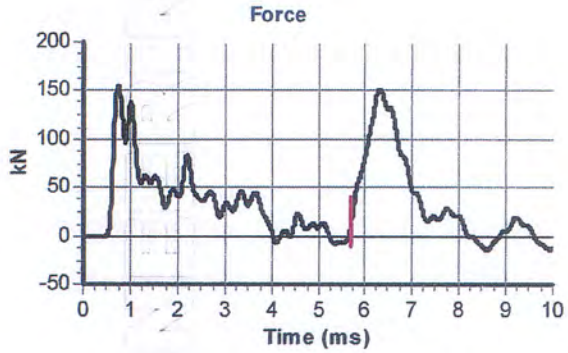
Instrumented Rod Data

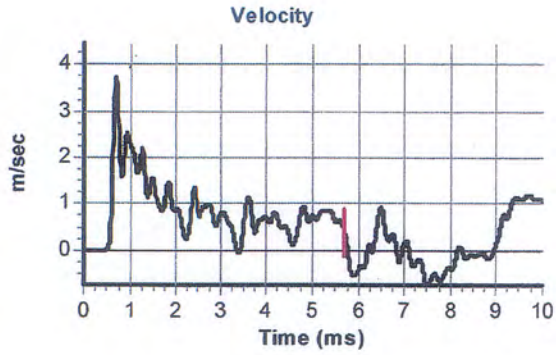
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.1
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7079
Accelerometer No.2:	7080

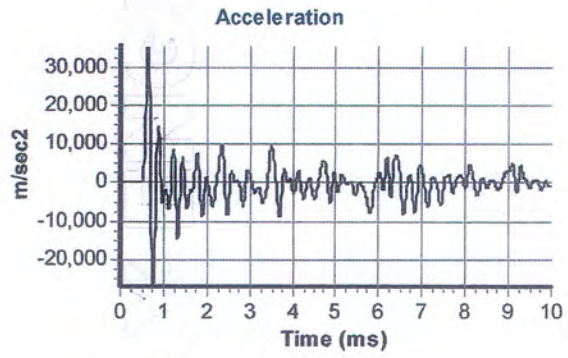
SPT Hammer Information

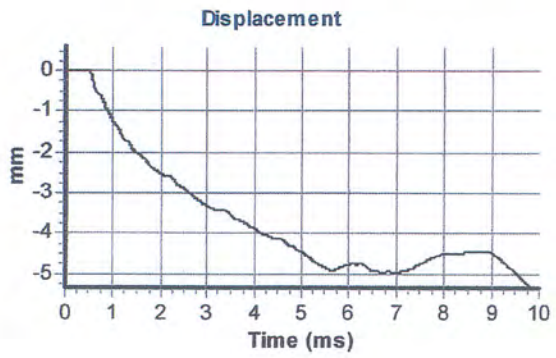
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.0

Comments / Location
CALIBRATION









Calculations

Area of Rod A (mm2):	918
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	303

Energy Ratio E_r (%): **64**

Signed: M.GARDNER
Title: FITTER

The recommended calibration interval is 12 months

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Photo-Ionisation Detector Test Results

IN-SITU TESTING ENCLOSURE 2

Blank Page

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

PHOTO-IONISATION DETECTOR

Exploratory Hole No.	Depth (m)	PID (ppm)	Date Tested	Remarks
BHA01	0.30	1.1	01/02/2016	
BHA01	1.00	1.0	01/02/2016	
BHA01	2.00	5.7	01/02/2016	
BHA01	3.00	18.8	01/02/2016	
BHA01	4.00	4.8	01/02/2016	
BHA01	5.00	3.0	01/02/2016	
BHA01	6.00	0.8	01/02/2016	
BHA01	7.00	1.6	01/02/2016	
BHA01	8.00	2.1	01/02/2016	
BHA01	9.00	2.0	01/02/2016	
BHA01	10.00	2.9	01/02/2016	
BHA02	0.30	3.4	28/01/2016	
BHA02	1.00	3.6	28/01/2016	
BHA02	3.00	4.1	28/01/2016	
BHA02	4.00	3.4	28/01/2016	
BHA02	5.00	2.2	28/01/2016	
BHA02	6.00	1.5	28/01/2016	
BHA02	8.00	1.9	28/01/2016	
BHA02	9.00	2.1	28/01/2016	
BHA03	0.90	2.2	02/02/2016	
BHA03	2.00	1.7	02/02/2016	
BHA03	3.00	1.5	02/02/2016	
BHA04	0.30	3.2	02/02/2016	
BHA04	1.00	4.1	02/02/2016	
BHA04	2.00	2.2	02/02/2016	
BHA04	3.00	1.4	02/02/2016	
BHA04	4.00	1.9	02/02/2016	
BHA05	0.30	0.9	03/02/2016	
BHA05	1.00	1.2	03/02/2016	
BHA05	2.00	583.0	03/02/2016	
BHA05	3.00	8.1	03/02/2016	
BHA06	0.60	1.5	28/01/2016	
BHA06	1.20	2.1	28/01/2016	
BHA06	2.00	1.8	29/01/2016	
BHA06	3.00	1.5	29/01/2016	
BHA06	4.00	2.0	29/01/2016	
BHA06	5.00	1.8	29/01/2016	
BHA06	6.00	1.4	29/01/2016	
BHA06	7.00	2.6	29/01/2016	
BHA07	0.30	1.4	27/01/2016	

See attached Calibration Certificate for Model No. and any other details

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	Muse Developments Ltd

Calibration Compliant :-	Date of Issue :-	Page No. :-
YES	01/04/2016	1 of 2
Checked by :-	**Approved by :-**	**AEG Contract No. :-**
LC	AW	**PR1531**

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

PHOTO-IONISATION DETECTOR

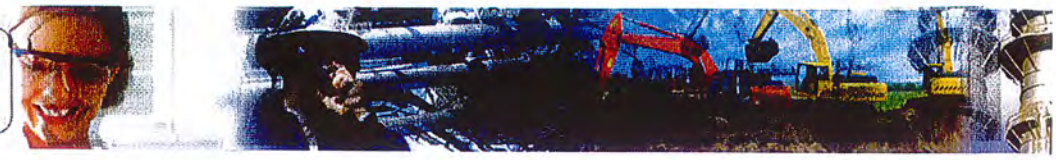
Exploratory Hole No.	Depth (m)	PID (ppm)	Date Tested	Remarks
BHA07	1.00	4159.0	27/01/2016	
BHA07	2.00	662.0	27/01/2016	
WSA01	0.20	2.7	02/02/2016	
WSA01	1.00	3.2	02/02/2016	
WSA01	2.00	1.9	02/02/2016	
WSA02	0.20	2.4	02/02/2016	
WSA02	1.00	2.0	02/02/2016	
WSA03	0.20	2.7	01/02/2016	
WSA03	1.00	2.1	01/02/2016	
WSA03	2.00	1.8	01/02/2016	
WSA03	3.00	2.0	01/02/2016	

See attached Calibration Certificate for Model No. and any other details

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	Muse Developments Ltd

Calibration Compliant :-	Date of Issue :-	Page No. :-
YES	01/04/2016	2 of 2
Checked by :-	**Approved by :-**	**AEG Contract No. :-**
LC	CW	**PR1531**

Ribble Enviro Ltd
www.ribble-enviro.co.uk
...everything gas detection



Certificate of Calibration

Customer: *Allied Exploration & Geotechnics Ltd*

Instrument: MiniRAE 2000

Job: Test, Service & Calibration

Serial number: 110-900113

Fleet Number: N/A

Certificate no: 900113/091115

Next calibration due date: 09.11.2016

Tested on: 09.11.2015

Calibrated for: Isobutylene

Applied Gas Concentration:	***Cylinder Reference:***	***Initial Sensor Reading***	***Final Sensor Reading***	***Accuracy Limits***
Isobutylene 100ppm	10409/4415	118.0ppm	100.0ppm	+/- 10%

The Instrument has been calibrated after Re-Zeroing & Introducing Span Calibration Gas, using gas that is traceable to national standards and has been prepared in accordance with BSENISO6145-6:2008

Calibration Engineer: Chris Shillitoe

Signed: .....

Tel: 01200 445 804 **Fax:** 01200 445 809 **Email:** info@ribble-enviro.co.uk
Ribble Enviro Ltd., Unit 4, Gisburn Business Park, Gisburn, Nr Clitheroe, BB7 4JP, UK

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Determination of the Soil Infiltration Rate for Soakaway Design

IN-SITU TESTING ENCLOSURE 3

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ALLIED EXPLORATION & GEOTECHNICS LTD.
Unit 25, Stella Gill Industrial Site, Pelton Fell, Chester-le-Street, County Durham, DH2 2RG

SOIL INFILTRATION DETERMINATION (SOAKAWAY DESIGN (BRE Digest 365))
Installation Type: Trial Pit

CONTRACT & POSITION DETAILS

SITE: Manchester New Victoria Ground Investigation

CONTRACT: PR1531 **PIT:** TPA04 **DEPTH:** 2.40 **mBGL**

SOAKAWAY PIT CONDITIONS

Soakaway Depth:	2.40	mBGL
Soakaway Length:	2.40	m
Soakaway Width:	0.90	m
Filled Water Level:	1.65	mBGL
Operator:	**A. Greene**	
Test Date:	12/02/2016	

EFFECTIVE DEPTH DETAILS

Soakaway 25% Full:	2.213		m
Soakaway 75% Full:	1.838		m
Soakaway 50% Full:	2.025		m
Test No.:	**1 of 3**		
Weather Conditions:	Overcast		
Test Zone (m):	1.65	to	2.40

TEST CALCULATION

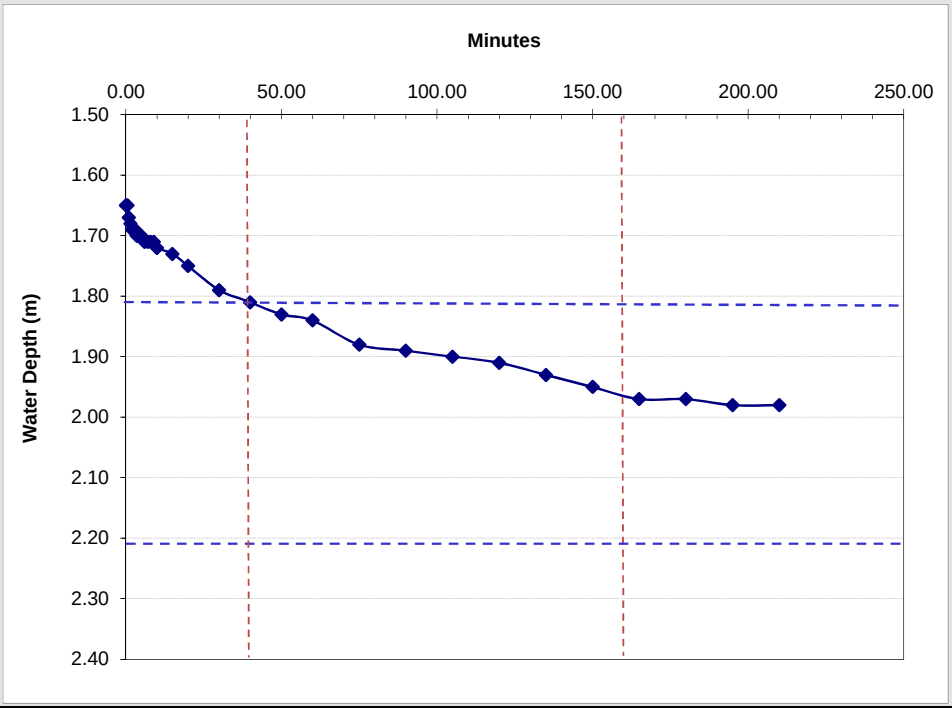
Soil Infiltration (*f*)

$$f = \frac{V_{p\ 75-25}}{a_{p50} \times t_{p75-25}}$$ **Equation (i)**

$V_{p\ 75-25}$ = the effective storage volume of water in the trial pit 75% and 25% effective depth.

a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = the time for the water level to fall from 75% to 25% effective depth.



Minutes	Water Depth (m)	Remarks
0.00	1.65	**Test Start**
0.50	1.65	
1.00	1.67	
1.50	1.68	
2.00	1.69	
2.50	1.69	
3.00	1.69	
3.50	1.70	
4.00	1.70	
4.50	1.70	
5.00	1.70	
6.00	1.71	
7.00	1.71	
8.00	1.71	
9.00	1.71	
10.00	1.72	
15.00	1.73	
20.00	1.75	
30.00	1.79	
40.00	1.81	
50.00	1.83	
60.00	1.84	
75.00	1.88	
90.00	1.89	
105.00	1.90	
120.00	1.91	
135.00	1.93	
150.00	1.95	
165.00	1.97	
180.00	1.97	
195.00	1.98	
210.00	1.98	**Test Finish**

Time (from Graph) 75% Full: 40.0 Minutes
Time (from Graph) 25% Full: n/a Minutes

t_{p75-25} = **n/a** **Minutes**

MATERIAL TYPE

Firm yellow brown slightly sandy gravelly CLAY with high cobble content.

REMARKS

(1) Water level did not reach 25% effective depth level during test - test should be considered failed - no infiltraton rate (f) calculated. (2) Soakaway terminated after 210 minutes.

Calculated: K.W **Date:** 08/03/2016

SOIL INFILTRATION RESULTS

$V_{p\ 75-25}$ = 0.810 m^3

a_{p50} = 4.635 m^2

Soil Infiltration Rate (*f*) = **n/a** **m/s** **From (i)**

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In-situ Water Quality Parameter Test Results

IN-SITU TESTING ENCLOSURE 4

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ALLIED EXPLORATION GEOTECHNICS LIMITED

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IN-SITU WATER QUALITY PARAMETER MONITORING RESULTS

Date of Test	29/02/2016	Operator	A.R.
Weather Condition (inc temperature)	Fair (12°C)		

Monitoring Point	Well Volumes	pH	Temp (°C)	Electrical Conductivity (µs)	Redox Potential (mv)	Dissolved Oxygen (%)
BHA01	1	7.25	11.41	1079.8	69.8	73.8
	2	7.71	11.34	1088.8	51.7	53.5
	3	7.86	11.29	1078.2	47.1	39.7
	4	7.92	11.16	1068.9	44.4	34.0

Remarks :

Contract Title: **Manchester New Victoria Ground Investigation**

Client: **Muse Developments Limited**

Checked By: LC

Approved By: CW

Date Issued: 08/02/2016

Page No. : 1 of 1

AEG Contract No. : **PR1531**

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Laboratory Report Certificate

LABORATORY TESTING ENCLOSURES

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit 2B Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL – Tel: 01722 735 300 Fax: 01722 735 999

UKAS TESTING
1367

LABORATORY REPORT CERTIFICATE

Contract Title: Manchester New Victoria Ground Investigation

AEG Reference: PR1531

Client Address: Muse Developments Ltd
Anchorage One
Anchorage Quay
Salford Quays
Manchester
M1 3BN

We certify that Laboratory testing was carried out on samples from the above contract in accordance with techniques outlined in BS 1377: 1990, BS EN ISO 17892:2014 or other appropriate standards as quoted. The samples were received from February 2016 and the following results, given on the attached enclosures, were obtained.

The tests carried out are indicated in the attached table showing the enclosure number and the total number of pages.

For and on behalf of Allied Exploration & Geotechnics Limited

- ☐ Nick Vater (Technical Director)
- ☐ Kevin Warriner (HSE & Quality Director)
- ☑ Michelle Selkirk (Laboratory Manager)

Signed mselk Date: 29 February 2016

Tests marked not UKAS accredited in this certificate are not included in the UKAS accreditation schedule for our laboratory. Any opinions and interpretations expressed herein are outside the scope of the laboratory's UKAS accreditation.

Please note the material was derived from samples taken outside the control of the laboratory.

LABORATORY REPORT CERTIFICATE

ENCLOSURES

Enclosure Number	Description	UKAS Accredited	Reference	No. of Pages
0	Laboratory Report Certificate	N/A		3
1	Sample Description Sheets	N/A		2
2	Moisture Content	Yes	BS 1377 Part 2 1990 (BS EN ISO 17892-1:2014) and ISRM 1981	2
2	Plasticity Index and Moisture Content	Yes	BS 1377 Part 2 1990 (BS EN ISO 17892-1:2014)	1
-	Determination of Density by Linear Measurement	Yes	BS 1377 Part 2 1990 (BS EN ISO 17892-2:2014)	-
-	Determination of Particle Density	Yes	BS 1377 Part 2 1990	-
3	Particle Size Distribution Sieving	Yes	BS 1377 Part 2 1990	9
3	Particle Size Distribution Sedimentation	No	BS 1377 Part 2 1990	2
4	Determination of Sulphate and pH (Tested externally)	No	See DETS certificates	3
5	Determination of Dry Density/Moisture Content Relationship	Yes	BS 1377 Part 4 1990	5
-	Determination of Dry Density/Moisture/CBR Relationship	Yes	BS 1377 Part 4 1990	-
-	Determination of Moisture Condition Value	Yes	BS 1377 Part 4 1990	-
-	Determination of MCV / Moisture Relationship	Yes	BS 1377 Part 4 1990	-
-	Determination of California Bearing Ratio	Yes	BS 1377 Part 4 1990	-
-	Determination of One Dimensional Consolidation Properties	Yes	BS 1377 Part 5 1990	-
-	Determination of Permeability (Falling Head)	Yes	*In-house* Method	-
-	Determination of Permeability in a Triaxial Cell	Yes	BS 1377 Part 6 1990	-
-	Shear Strength by Hand Vane	No		-
-	Shear Strength by Direct Shear	Yes	BS 1377 Part 7 1990	-
6	Undrained Shear Strength in Triaxial Cell without Pore Water Pressure Measurement	Yes	BS 1377 Part 7 1990	1
-	Consolidated Undrained Shear Strength in Triaxial Cell with Measurement of Pore Pressure	No	BS 1377 Part 8 1990	-
-	Consolidated Drained Shear Strength in Triaxial Cell with Measurement of Volume Change	No	BS 1377 Part 8 1990	-
7	Determination of Point Load Index	Yes	ISRM 1985	2
8	Determination of Unconfined Compressive Strength (Tested externally)	No	ISRM 1985	1

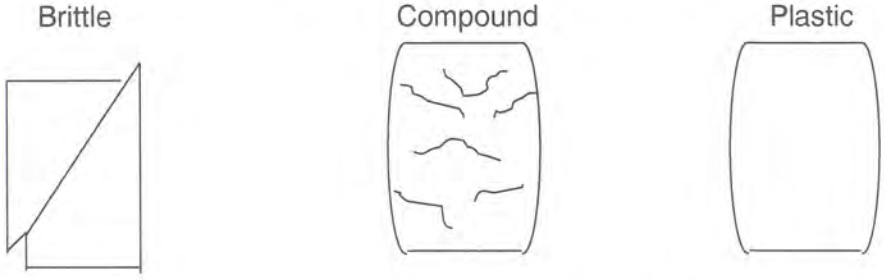
LABORATORY REPORT CERTIFICATE

ABBREVIATIONS

All the abbreviations used on the laboratory certificates are given below:

Br	Brittle	**PSD**	Particle Size Distribution by sieve analysis
C	Compound	**SB**	Shear Box
CBR	California Bearing Ratio	**SED**	Sedimentation Analysis
CDT	Consolidated Drained Triaxial	**SO3**	Sulphate (total, water extract, groundwater)
CL	Chloride content (water or soil)	**CP2**	Dry Density/Moisture Content 2.5kg rammer
US	Unsuitable sample for test	**CP4**	As above using 4.5kg rammer
UUT	Undrained Unconsolidated Triaxial	**CPV**	As above using vibrating hammer
HSV	Vane Test	**CUT**	Consolidated Undrained Triaxial
IS	Insufficient sample for test	**R**	Remoulded
LOI	Loss On Ignition	**U**	Undisturbed
M	Multi-stage testing	**MC**	Moisture Content
MCV	Moisture Content Value	**PL**	Point Load
NAT	Natural preparation method	**NMC**	Natural (or as received) moisture content
P	Plastic	**PFH**	Permeability Falling Head Method
OED	Oedometer	**PTXL**	Permeability in Triaxial Cell
OMC	Optimum Moisture Content	**ORG**	Organic content
B	Large disturbed (bulk) sample	**PD**	Particle Density (SG)
J	Small disturbed (jar) sample	**PI**	Liquid limit, plastic limit and plasticity index

Typical Mode of Failure for Triaxial Testing



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LABORATORY TESTING ENCLOSUE 1

Sample Description Sheets

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

LABORATORY SAMPLE DESCRIPTION SHEET

Exploratory Hole No.	Sample Depth	Sample ID	Description	Laboratory Tests/Remarks
BHA01	1.20	B5	MADE GROUND (Black brown clayey very sandy gravel including wood, glass, tar, brick and ceramic fragments). (Sample has a chemical odour).	MC PSD
BHA01	2.00	B7	MADE GROUND (Black brown slightly clayey gravelly sand. Gravel includes wood, brick and ceramic fragments).	BRE
BHA01	5.00	B13	MADE GROUND (Brown clayey very gravelly sand. Gravel includes glass, brick and ceramic fragments). (Sample has a chemical odour).	MC PSD SED
BHA01	6.00	B15	MADE GROUND (Black brown clayey gravelly sand. Gravel includes wood, brick and ceramic fragments).	BRE
BHA01	9.50	B21	Red brown clayey gravelly SAND.	MC PI(NP) PSD
BHA02	1.50	B6	MADE GROUND (Black brown clayey gravelly sand. Gravel includes wood, glass, slate, brick and ceramic fragments).	US for CP2
BHA02	2.00	B8	MADE GROUND (Brown black clayey gravelly sand. Gravel includes wood,glass,brick and ceramic fragments).	CP2
BHA02	2.50	J9	MADE GROUND (Black brown slightly clayey gravelly sand. Gravel includes brick fragments). (Sample has a chemical odour).	PI(IS for LL)
BHA02	3.50	U13	MADE GROUND (Low strength dark brown sandy slightly gravelly clay. Gravel includes coal, ash and brick fragments).	UUT
BHA02	4.50	B18	MADE GROUND (Brown sandy gravelly clay of low plasticity. Gravel includes brick and ceramic fragments).	PI
BHA02	5.50	U21	MADE GROUND (Medium strength brown slightly sandy gravelly clay. Gravel slag and brick fragments).	UUT
BHA02	7.00	J24	MADE GROUND (Brown sandy gravelly clay of low plasticity. Gravel includes glass,brick and ceramic fragments).	PI
BHA02	7.00	B25	MADE GROUND (Brown sandy gravelly clay. Gravel includes glass, brick and ceramic fragments).	BRE
BHA02	8.00	B27	MADE GROUND (Brown clayey very gravelly sand. Gravel includes wood, brick and ceramic fragments).	MC PSD SED
BHA02	8.50	U28	MADE GROUND (Reddish brown slightly clayey gravelly sand. Gravel includes ceramics and brick fragments).	US for UUT
BHA03	2.00	B5	Red black clayey slightly gravelly SAND.	MC PI(NP) PSD
BHA04	4.00	B11	Red brown clayey slightly gravelly SAND.	MC PI(NP) PSD
BHA05	2.50	B5	Red brown clayey SAND.	MC PSD BRE CP2
BHA06	1.20	B5	MADE GROUND (Dark brown clayey gravelly sand. Gravel includes wood, brick and ceramic fragments). (Sample has a chemical odour).	CP2
BHA06	5.00	B13	MADE GROUND (Red brown slightly clayey gravelly sand. Gravel includes wood, brick and ceramic fragments).	BRE
BHA06	6.00	B16	MADE GROUND (Brown black clayey very gravelly sand. Gravel includes rootlets, wood, brick and ceramics fragments).	MC PSD CP2

Contract Title :- **Manchester New Victoria Ground Investigation**

Client :- **Muse Developments Ltd**

Signed :- msene

Name :- M. SELKIRK

Date of issue :- 01/03/2016

Certificate No :- SD/PR1531/1

AEG Contract No. :- **PR1531**

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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LABORATORY SAMPLE DESCRIPTION SHEET

Exploratory Hole No.	Sample Depth	Sample ID	Description	Laboratory Tests/Remarks
BHA07	0.70	B5	MADE GROUND (Brown black slightly clayey gravelly sand. Gravel includes wood, rootlets,glass,plastic, brick and ceramics fragments). (Sample has a strong chemical odour).	US for PSD
BHA07	2.00	B9	MADE GROUND (Red brown slightly clayey gravelly sand. Gravel includes wood, glass, brick and ceramic fragments). (Sample has a chemical odour).	CP2
BHA07	2.50	B11	MADE GROUND (Red brown slightly clayey gravelly sand. Gravel includes wood, brick and ceramic fragments).	BRE
WSA01	1.20	U6	MADE GROUND (Brown clayey sandy gravel with a high cobble content. Gravel includes wood, glass and brick fragments).	MC PSD BRE

Contract Title :- **Manchester New Victoria Ground Investigation**	Client :- **Muse Developments Ltd**

Signed :- msenl	Name :- M SELKIRK	Page 2 of 2	
Date of issue :- 01/03/2016	Certificate No :- SD/PR1531/2	AEG Contract No. :- **PR1531**	UKAS TESTING 1367

LABORATORY TESTING ENCLOSUE 2

Moisture Content/Plasticity Index and Moisture Content

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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MOISTURE CONTENT CERTIFICATE

BS 1377 : Part 2 : Clause 3.2 (BS EN ISO 17892-1:2014)

Exploratory Hole No.	Sample Depth (m)	Sample ID	Moisture Content (%)	Date Tested	Remarks
BHA01	1.20	B5	13.2	19/02/2016	
BHA01	5.00	B13	17.9	19/02/2016	
BHA02	8.00	B27	20.5	19/02/2016	
BHA05	2.50	B5	13.4	18/02/2016	
BHA06	6.00	B16	17.3	18/02/2016	
WSA01	1.20	U6	8.3	19/02/2016	

For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :- **Manchester New Victoria Ground Investigation**

Client :- **Muse Developments Ltd**

Signed :-

Name :-

Page 1 of 1

Date of issue :- 29/02/2016

Certificate No :- MC/PR1531/1

AEG Contract No. :- **PR1531**

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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MOISTURE CONTENT CERTIFICATE

ISRM : 1981

Exploratory Hole No.	Sample Depth (m)	Sample ID	Moisture Content (%)	Date Tested	Remarks
BHA01	11.83	C	10.8	19/02/2016	
BHA01	12.30	C	10.6	19/02/2016	
BHA01	13.20	C	9.7	19/02/2016	
BHA03	3.90	C	10.8	19/02/2016	
BHA03	4.46	C	10.5	19/02/2016	
BHA03	5.35	C	12.8	19/02/2016	
BHA03	6.24	C	10.6	19/02/2016	
BHA03	6.90	C	10.6	19/02/2016	
BHA03	8.17	C	8.6	19/02/2016	
BHA03	9.00	C	10.4	19/02/2016	
BHA04	5.30	C	10.8	19/02/2016	
BHA04	6.62	C	11.3	19/02/2016	
BHA04	8.00	C	12.9	19/02/2016	
BHA04	8.87	C	11.5	19/02/2016	
BHA04	10.25	C	9.9	19/02/2016	

For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :- **Manchester New Victoria Ground Investigation**

Client :- **Muse Developments Ltd**

Signed :- MSone

Name :- HLK

Page 1 of 1

Date of issue :- 29/02/2016

Certificate No :- RMC/PR1531/1

AEG Contract No. :- **PR1531**

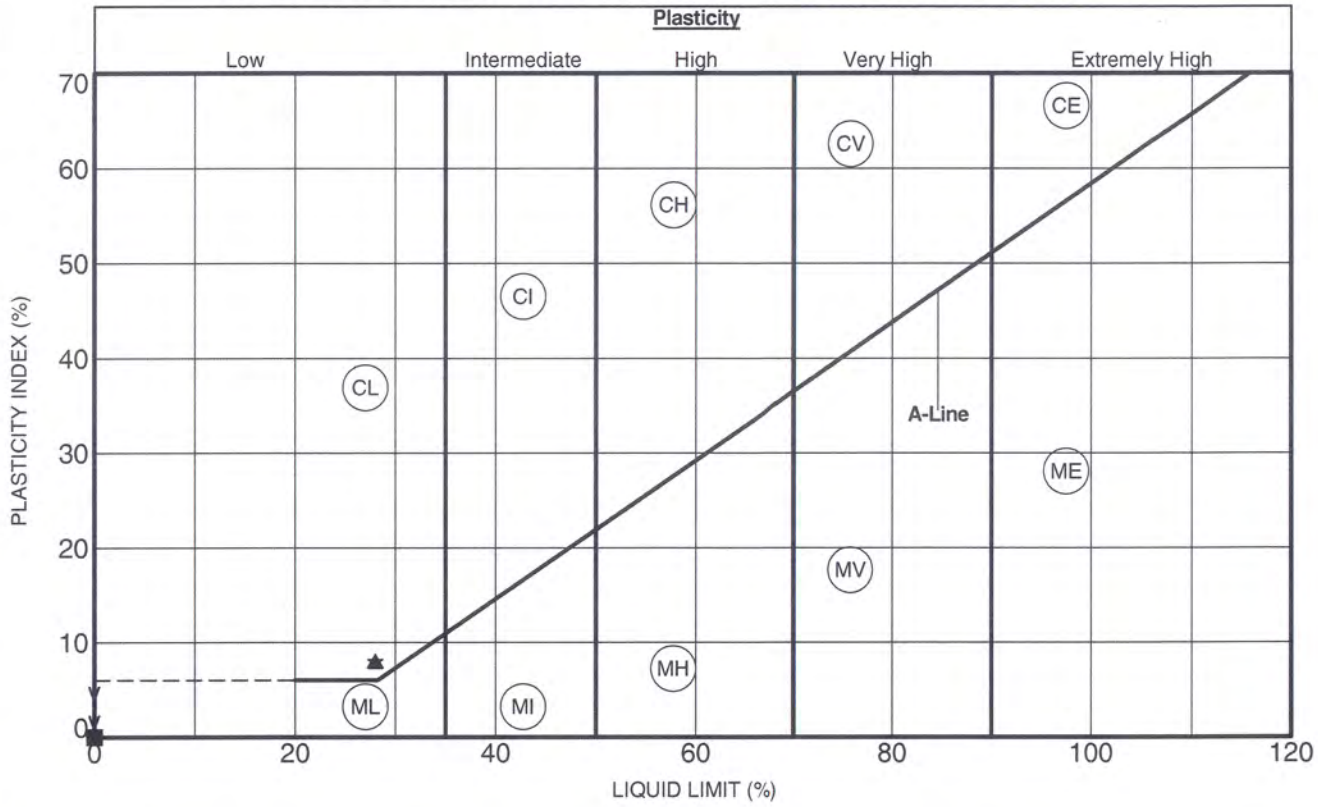
UKAS TESTING 1367

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ATTERBERG LIMITS & NATURAL MOISTURE CONTENT

Test Method :- BS 1377 : Part 2 : Clause 3.2, 4.1 to 4.4 & 5 : 1990 (BS EN ISO 17892-1:2014)



	Specimen Identification			LL	PL	PI	I_c	<0.425mm (%)	m/c (%)	Date Tested	
●	BHA01	9.50	B21					NAT	21.3	24/02/2016	NP
⧓	BHA02	2.50	J9		18			NAT		18/02/2016	#
▲	BHA02	4.50	B18	28	20	8		NAT		19/02/2016	
★	BHA02	7.00	J24	28	20	8		34		23/02/2016	
⊙	BHA03	2.00	B5					NAT	27.7	19/02/2016	NP
✿	BHA04	4.00	B11					NAT	23.4	19/02/2016	NP

For description of sample please refer to the Laboratory Sample Description Sheet. # = Insufficient for 4 point PI
NAT = Sample prepared in the natural state therefore we are unable to determine % retained on the 0.425mm test sieve.

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Signed :-	Name :-		Page 1 of 1
Date of issue :- 29/02/2016	Certificate No :- PI/PR1531/1	AEG Contract No. :- **PR1531**	

UKAS TESTING 1367

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LABORATORY TESTING ENCLOSUE 3

Particle Size Distribution Seiving and Sedimentation

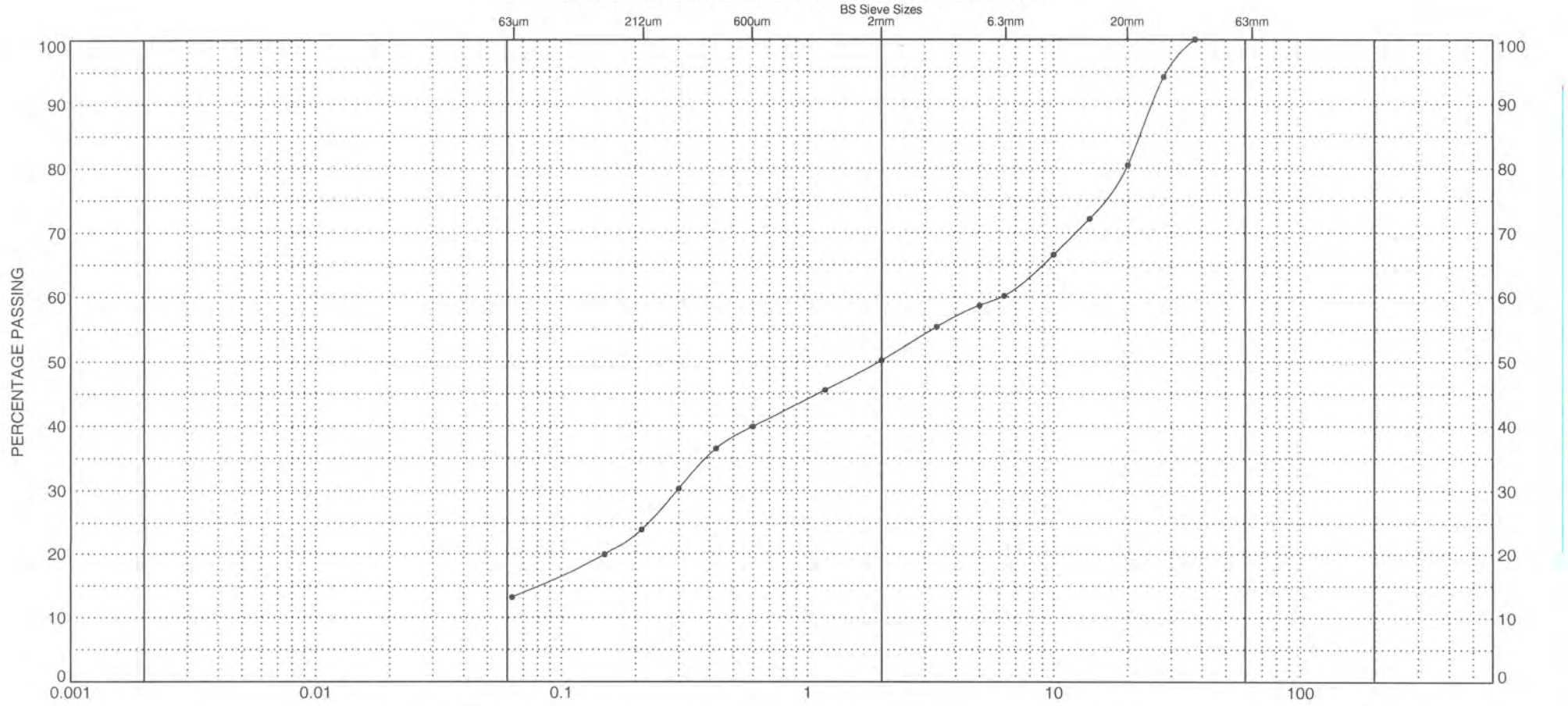
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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA01**	Depth :- **1.20**	Sample Type & No :- **B5**	Date Tested :- **19/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA01/B5/1.20	MSelkirk	M. SELKIRK	

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

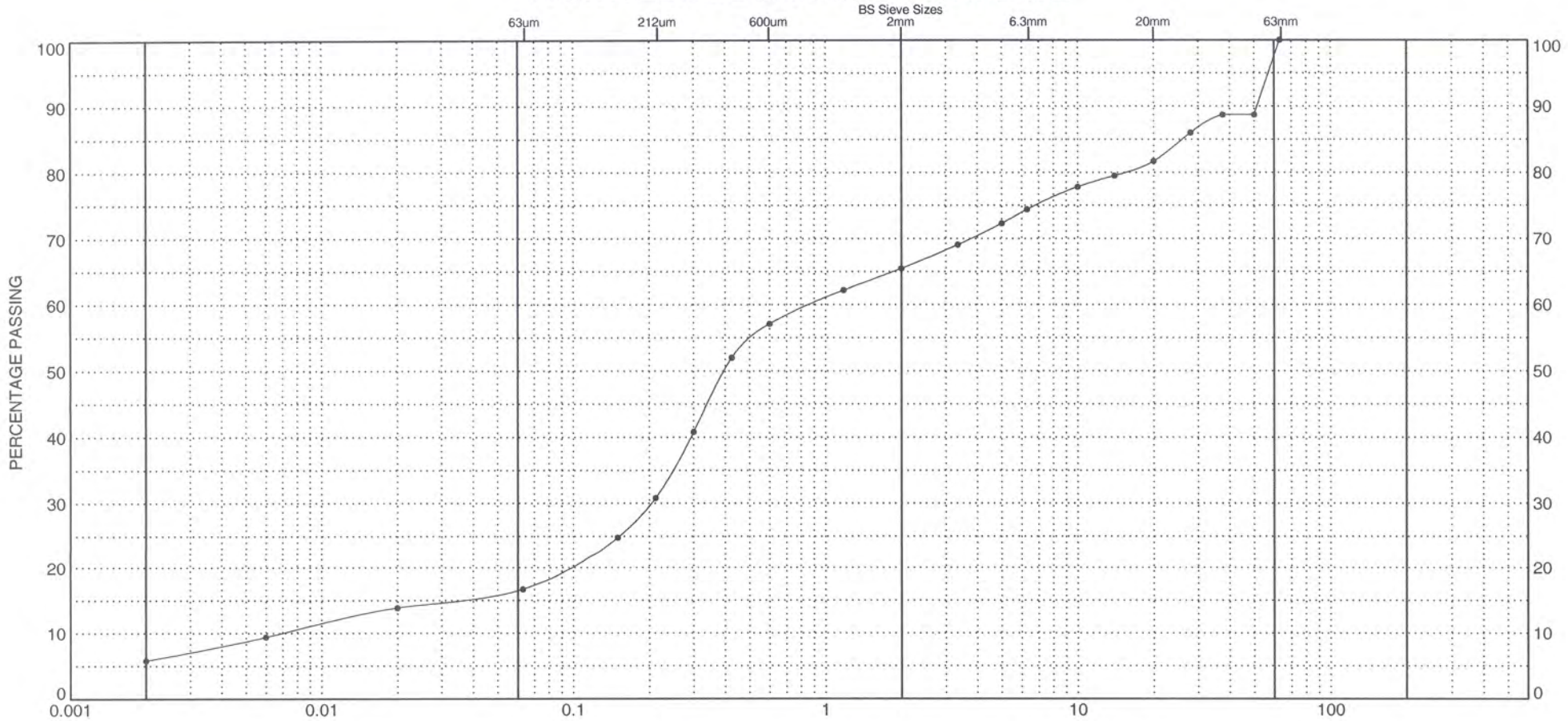
UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA01**	Depth :- **5.00**	Sample Type & No :- **B13**	Date Tested :- **19/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA01/B13/5.00		M SELKIRK	

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

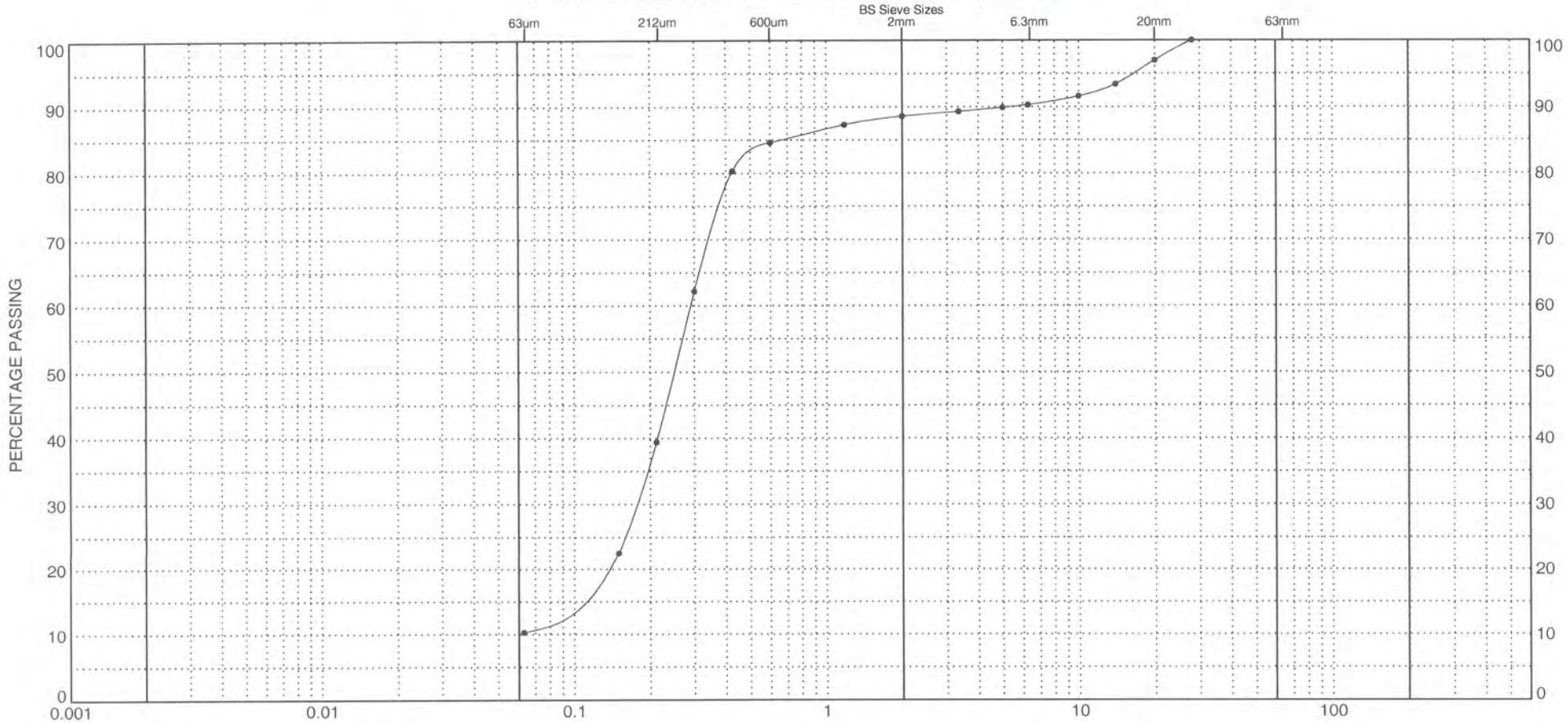
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Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA01**	Depth :- **9.50**	Sample Type & No :- **B21**	Date Tested :- **24/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA01/B21/9.50	MBene		

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

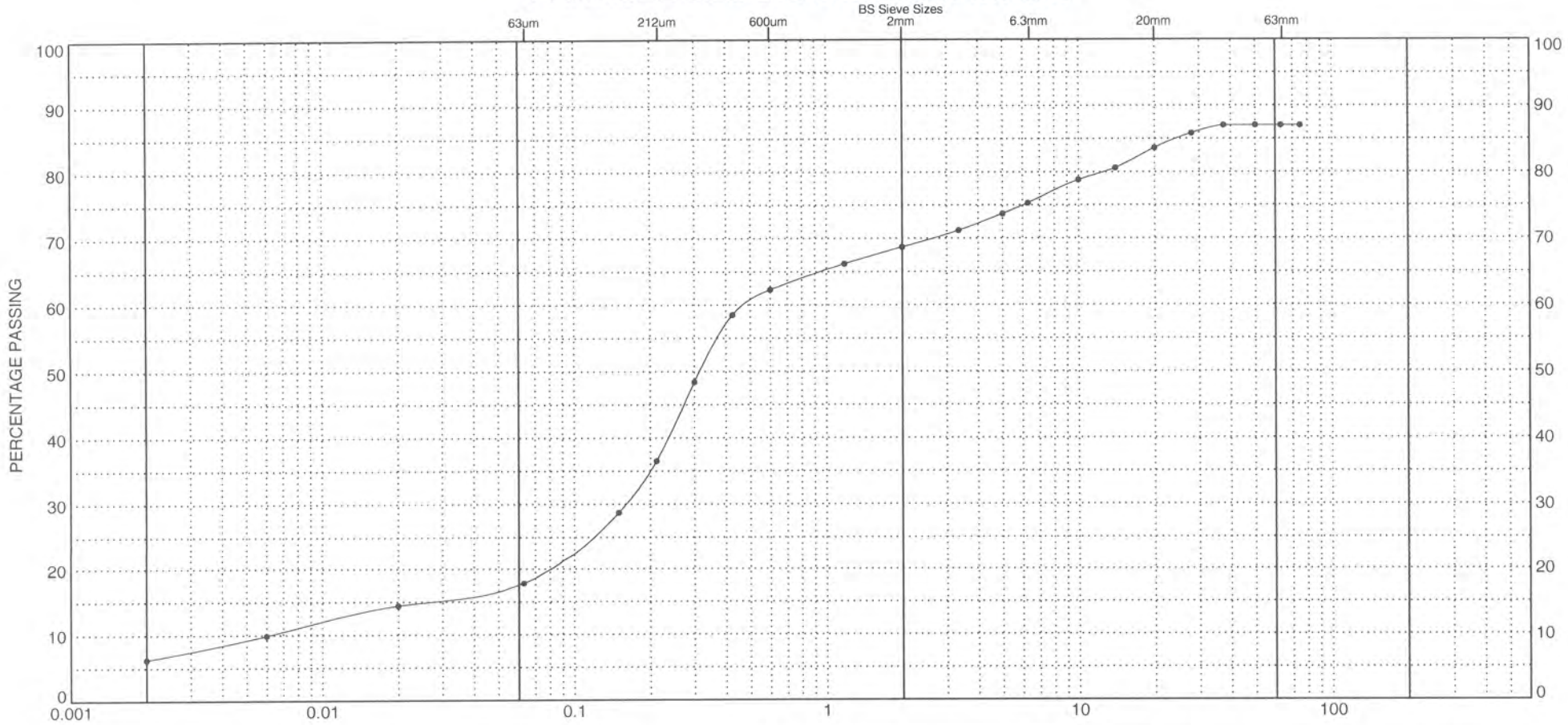
UKAS TESTING 1367

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Test Method :- **Not To BS 1377**	Exploratory Hole No :- **BHA02**	Depth :- **8.00**	Sample Type & No :- **B27**	Date Tested :- **19/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA02/B27/8.00			

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

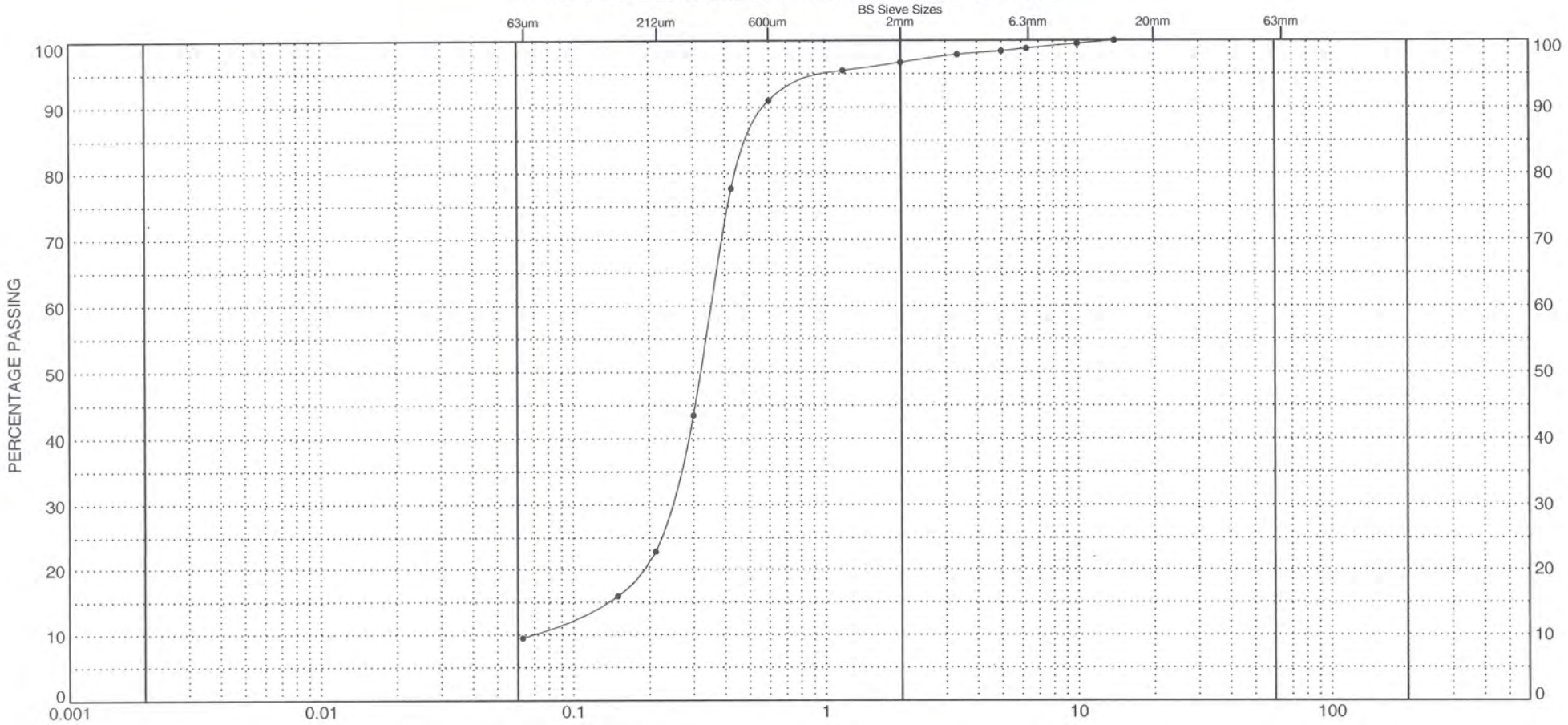
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Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA03**	Depth :- **2.00**	Sample Type & No :- **B5**	Date Tested :- **19/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA03/B5/2.00	MSere	[illegible]	

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

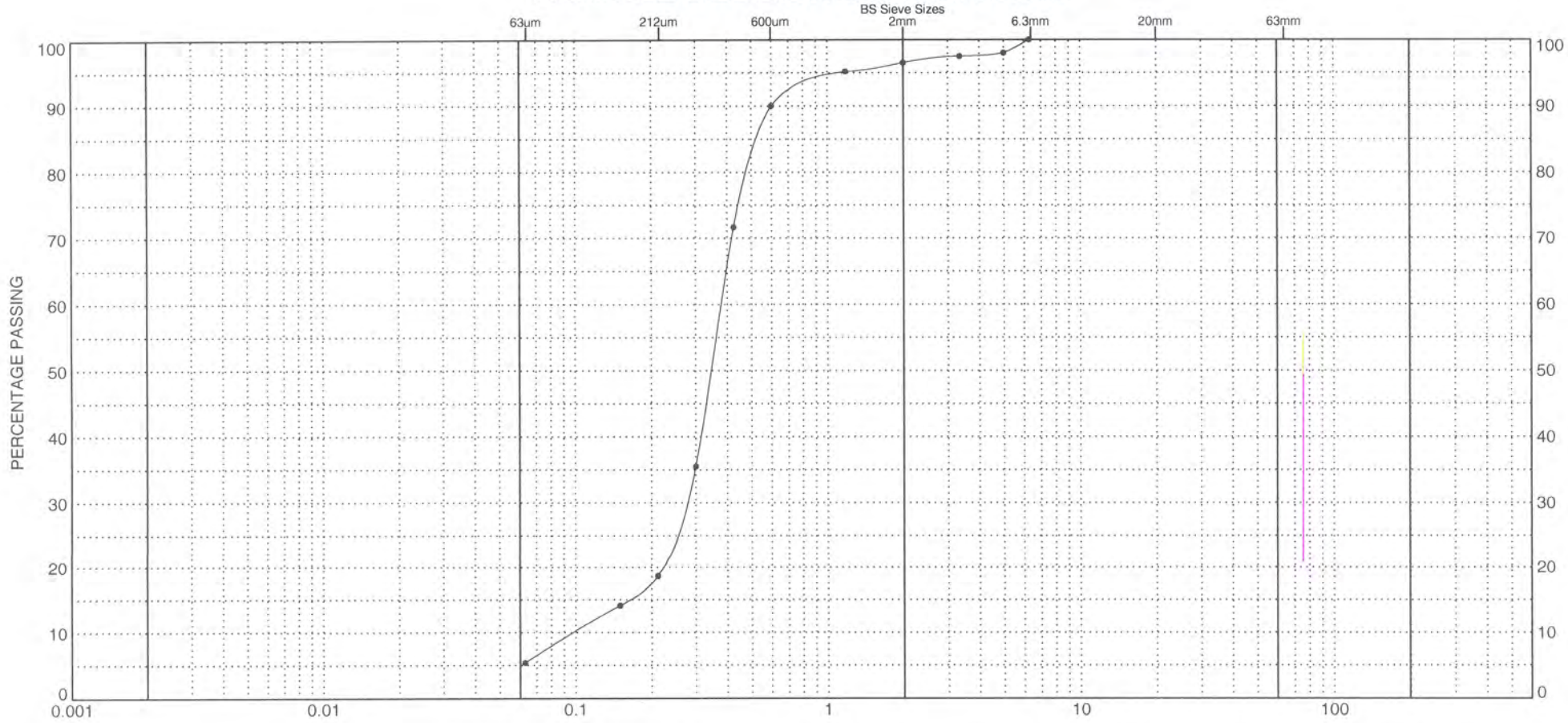
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Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA04**	Depth :- **4.00**	Sample Type & No :- **B11**	Date Tested :- **19/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA04/B11/4.00	msone	M. [illegible]	

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

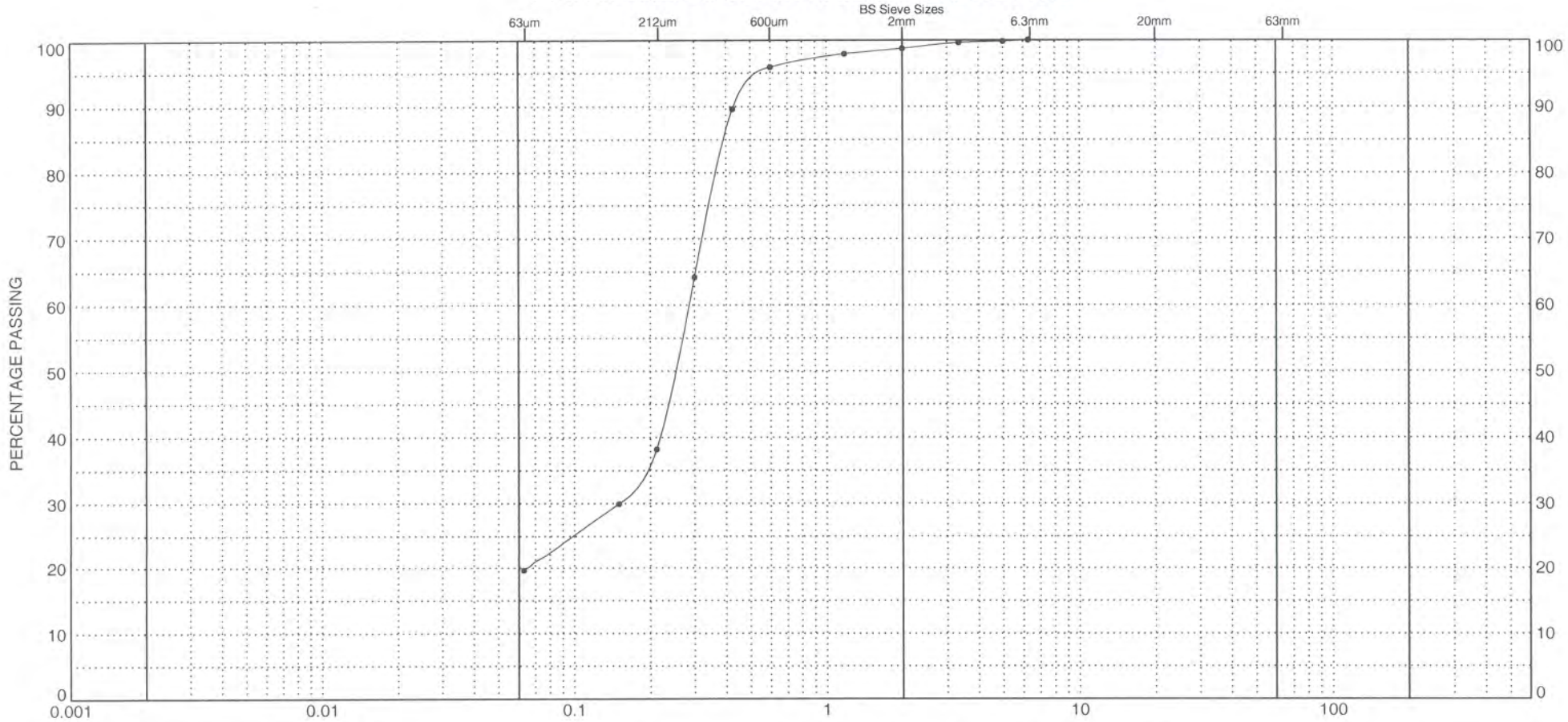
UKAS TESTING
1367

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Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA05**	Depth :- **2.50**	Sample Type & No :- **B5**	Date Tested :- **18/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA05/B5/2.50	mseve		

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

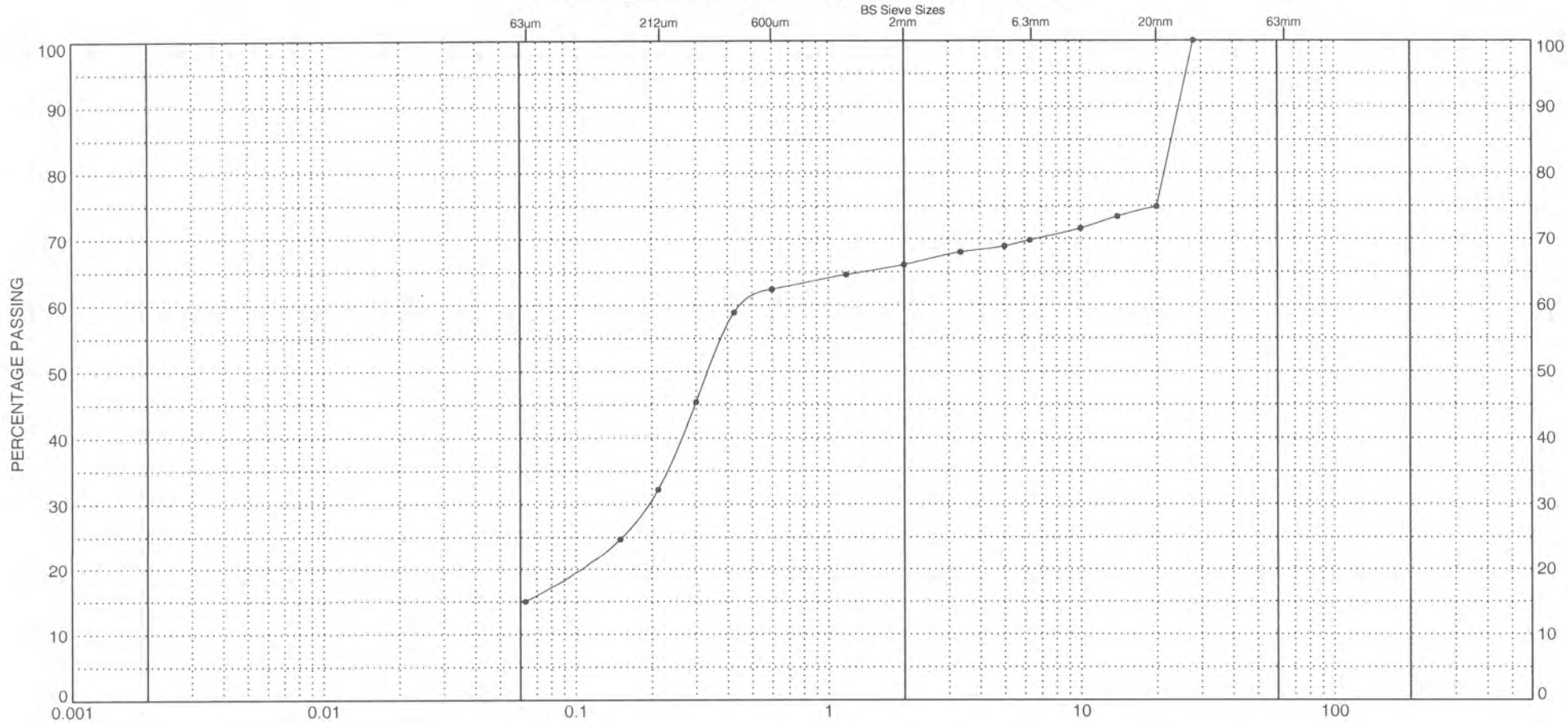
UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **BHA06**	Depth :- **6.00**	Sample Type & No :- **B16**	Date Tested :- **18/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/BHA06/B16/6.00		M SELKIRK	

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

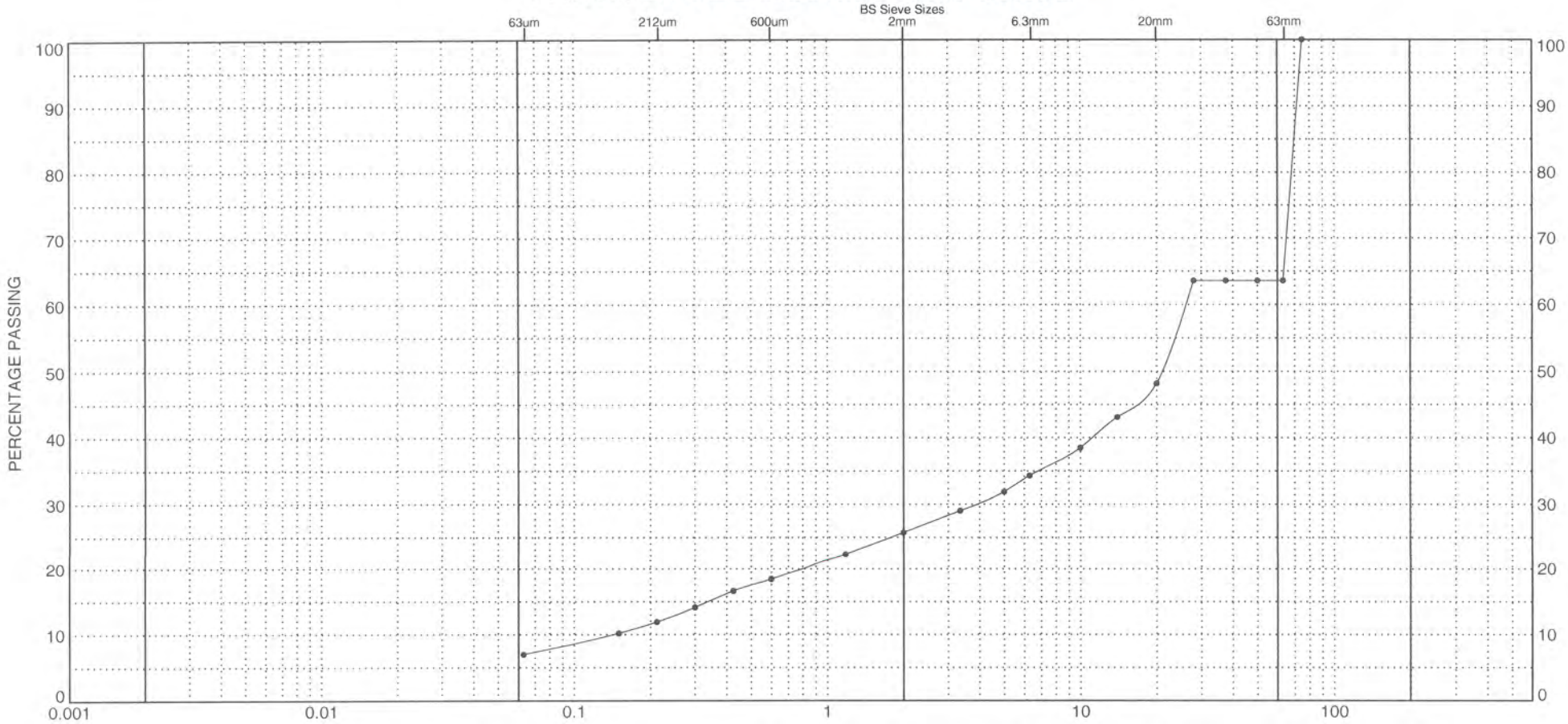
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Test Method :- **BS1377 : Part 2 : Clause 9.2 & 9.4 : 1990**	Exploratory Hole No :- **WSA01**	Depth :- **1.20**	Sample Type & No :- **J5**	Date Tested :- **19/02/2016**

PARTICLE SIZE DISTRIBUTION CURVE



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

For description of sample please refer to the Laboratory Sample Description Sheet

Date of issue :-	Certificate No :-	Signed :-	Name :-	Page 1 of 1
29/02/2016	PSD/PR1531/WSA01/J5/1.20			

Client :-	Contract Title :-	AEG Contract No :-
Muse Developments Ltd	Manchester New Victoria Ground Investigation	PR1531

UKAS TESTING 1367

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LABORATORY TESTING ENCLOSUE 4

Determination of Sulphate and pH

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Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 16-58770

25-Feb-16

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference 16-58770

Client Reference PR1531

Order No LA1659

Contract Title Manchester New Victoria Ground Investigation

Description 7 Soil samples.

Date Received 20-Feb-16

Date Started 20-Feb-16

Date Completed 25-Feb-16

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 16-58770
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

				Lab No	945545	945546	945547	945548	945549	945550	945551
				Sample ID	BHA01	BHA01	BHA02	BHA05	BHA06	BHA07	WSA01
				Depth	2.00	6.00	7.00	2.50	5.00	2.50	1.20
				Other ID	7	15	25	5	13	11	6
				Sample Type	B	B	B	B	B	B	U
				Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
Inorganics											
pH	DETSC 2008#				7.4	7.9	8.2	8.9	9.1	8.1	8.7
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l		230	31	48	33	43	19	260

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 16-58770
Client Ref PR1531
Contract Manchester New Victoria Ground Investigation

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
945545	BHA01 2.00 SOIL		PT 500ml	Sample date not supplied	
945546	BHA01 6.00 SOIL		PT 500ml	Sample date not supplied	
945547	BHA02 7.00 SOIL		PT 500ml	Sample date not supplied	
945548	BHA05 2.50 SOIL		PT 500ml	Sample date not supplied	
945549	BHA06 5.00 SOIL		PT 500ml	Sample date not supplied	
945550	BHA07 2.50 SOIL		PT 500ml	Sample date not supplied	
945551	WSA01 1.20 SOIL		PT 500ml	Sample date not supplied	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

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LABORATORY TESTING ENCLOSUE 5

Determination of Dry Density/Moisture Content Relationship

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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MOISTURE CONTENT/DRY DENSITY RELATIONSHIP

BS 1377 : Part 4 : 1990

Specimen Identification

Exploratory Hole No :- **BHA02** Depth (mBGL) :- **2.00** Sample Type & No :- **B8**

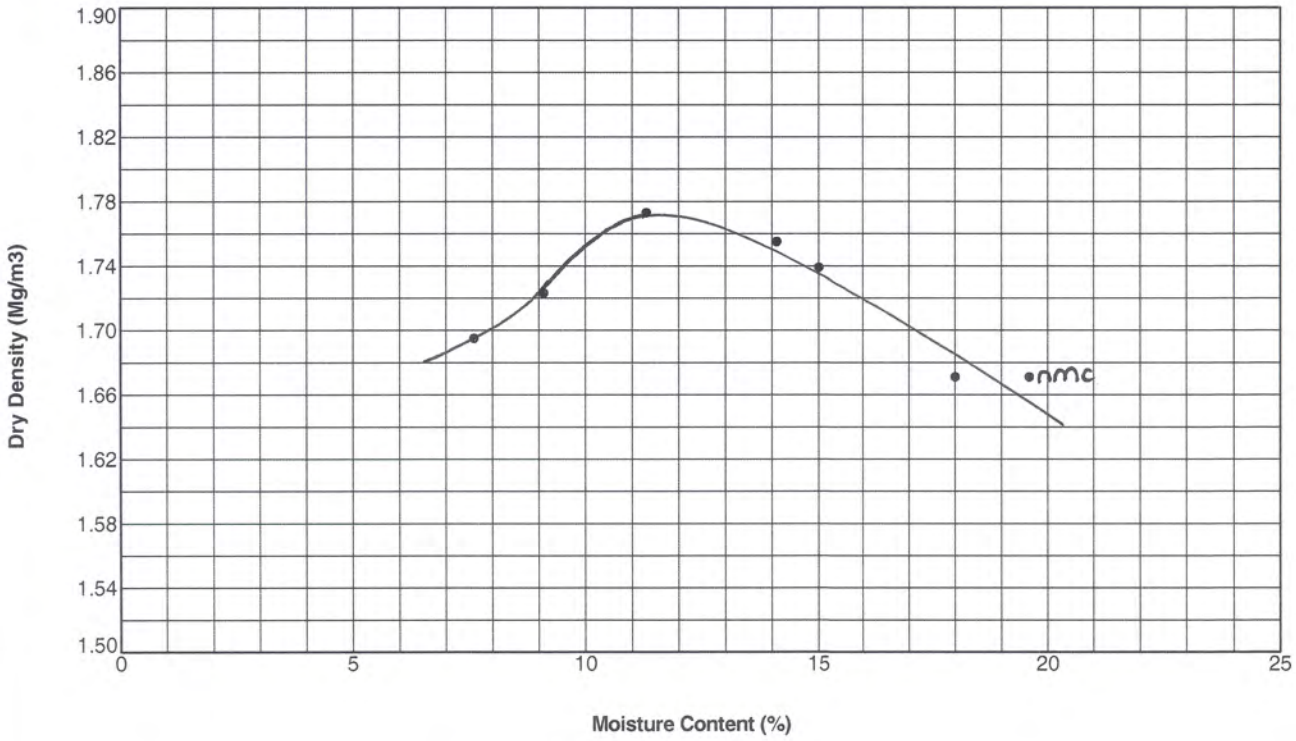
Test Method 2.5kg Compaction Single Sample

Test Results

Optimum Moisture Content (%) = **11.3** Particle Density (Assumed) = **2.50**

Maximum Dry Density (Mg/m3) = **1.77** Retained on 20mm Sieve (%) = **18.0**

Date Tested = **29/02/2016** Retained on 37.5mm Sieve (%) = **0.0**



For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Signed :-	Name :- M. SELKIRK		Page 1 of 1
Date of issue :- 29/02/2016	Certificate No :- COMP/PR1531/1	AEG Contract No. :- **PR1531**	

UKAS TESTING 1367

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MOISTURE CONTENT/DRY DENSITY RELATIONSHIP

BS 1377 : Part 4 : 1990

Specimen Identification

Exploratory Hole No :- **BHA05** Depth (mBGL) :- **2.50** Sample Type & No :- **B5**

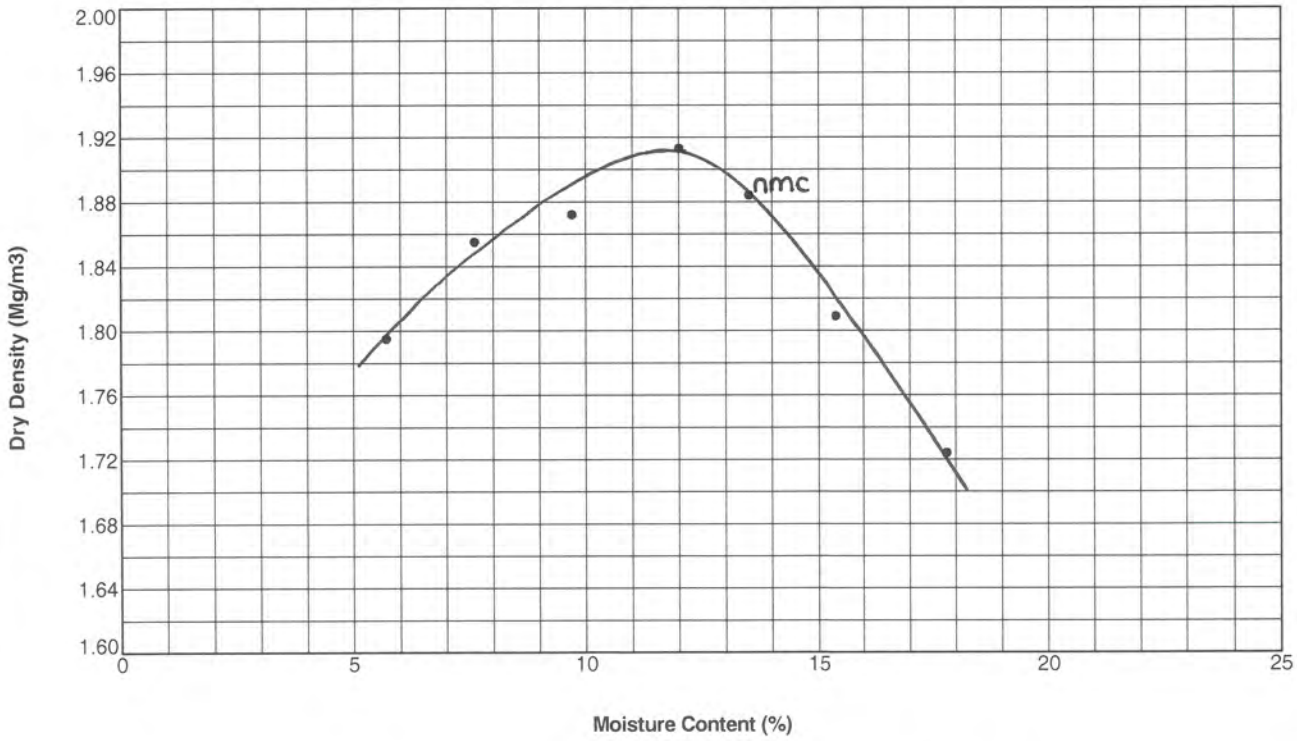
Test Method 2.5kg Compaction Single Sample

Test Results

Optimum Moisture Content (%) = **12.0** Particle Density (Assumed) = **2.55**

Maximum Dry Density (Mg/m3) = **1.91** Retained on 20mm Sieve (%) = **0.0**

Date Tested = **25/02/2016** Retained on 37.5mm Sieve (%) = **0.0**



For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Signed :- MSone	Name :- [illegible]		Page 1 of 1
Date of issue :- 29/02/2016	Certificate No :- COMP/PR1531/2	AEG Contract No. :- **PR1531**	

UKAS TESTING 1367

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MOISTURE CONTENT/DRY DENSITY RELATIONSHIP

BS 1377 : Part 4 : 1990

Specimen Identification

Exploratory Hole No :- **BHA06** Depth (mBGL) :- **1.20** Sample Type & No :- **B5**

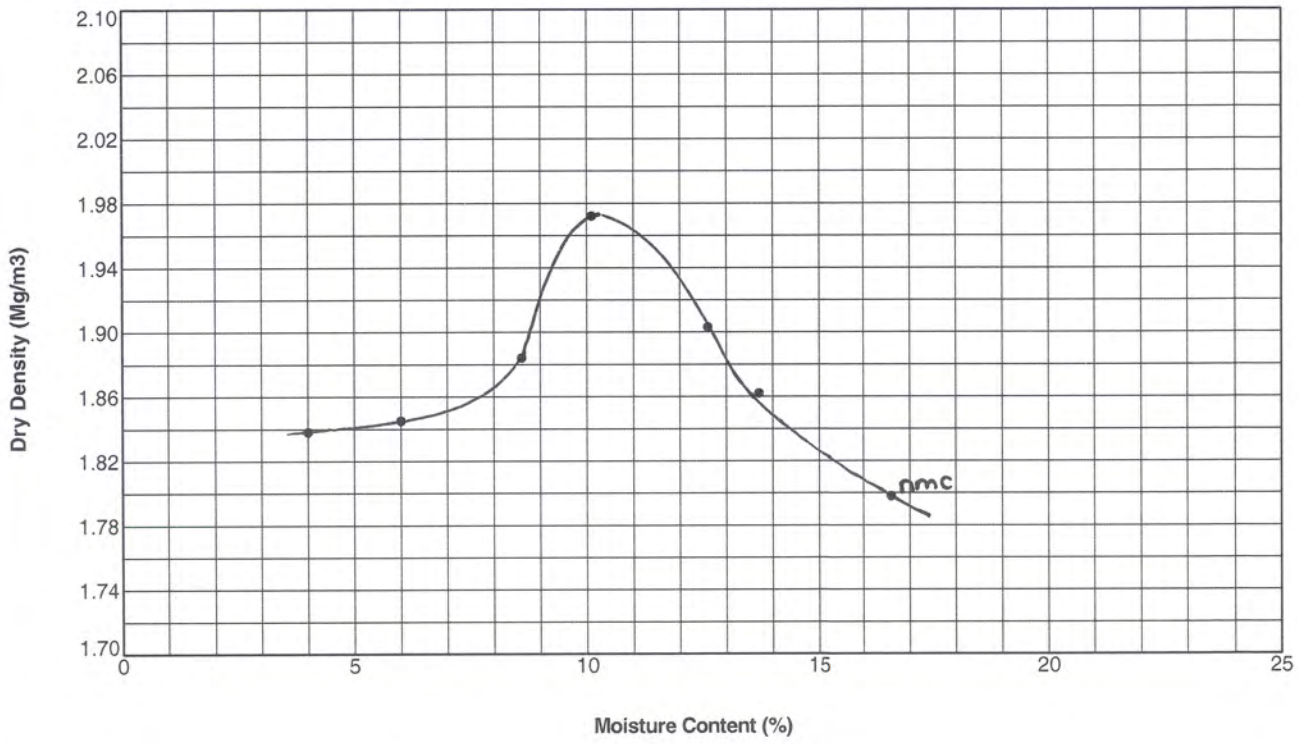
Test Method 2.5kg Compaction Single Sample

Test Results

Optimum Moisture Content (%) = **10.1** Particle Density (Assumed) = **2.55**

Maximum Dry Density (Mg/m3) = **1.97** Retained on 20mm Sieve (%) = **23.9**

Date Tested = **25/02/2016** Retained on 37.5mm Sieve (%) = **12.7**



For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Signed :-	Name :- M. SELKIRK		Page 1 of 1
Date of issue :- 29/02/2016	Certificate No :- COMP/PR1531/1	AEG Contract No. :- **PR1531**	UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

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MOISTURE CONTENT/DRY DENSITY RELATIONSHIP

BS 1377 : Part 4 : 1990

Specimen Identification

Exploratory Hole No :- **BHA06** Depth (mBGL) :- **6.00** Sample Type & No :- **B16**

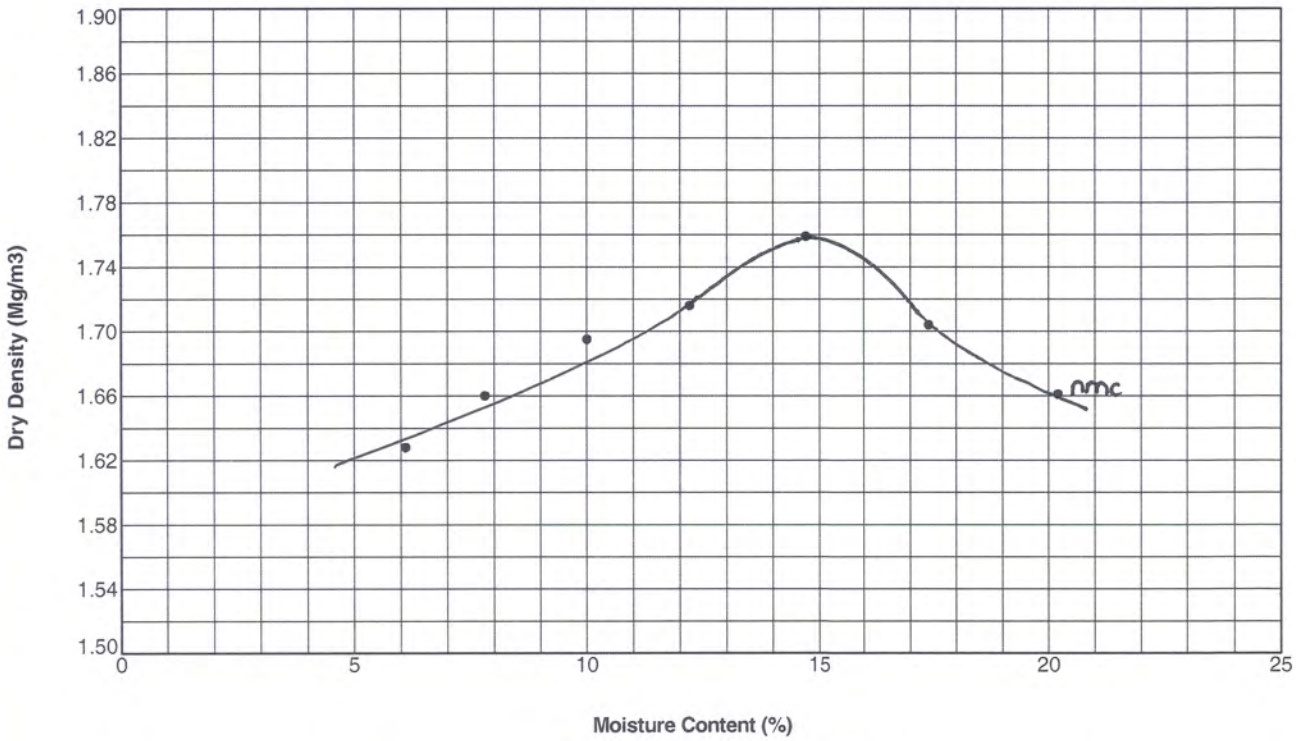
Test Method 2.5kg Compaction Single Sample

Test Results

Optimum Moisture Content (%) = **14.7** Particle Density (Assumed) = **2.50**

Maximum Dry Density (Mg/m3) = **1.76** Retained on 20mm Sieve (%) = **7.3**

Date Tested = **26/02/2016** Retained on 37.5mm Sieve (%) = **0.0**



For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Signed :- MSelk	Name :- M. SELKIRK		Page 1 of 1
Date of issue :- 29/02/2016	Certificate No :- COMP/PR1531/1	AEG Contract No. :- **PR1531**	UKAS TESTING 1367

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MOISTURE CONTENT/DRY DENSITY RELATIONSHIP

BS 1377 : Part 4 : 1990

Specimen Identification

Exploratory Hole No :- **BHA07** Depth (mBGL) :- **2.00** Sample Type & No :- **B9**

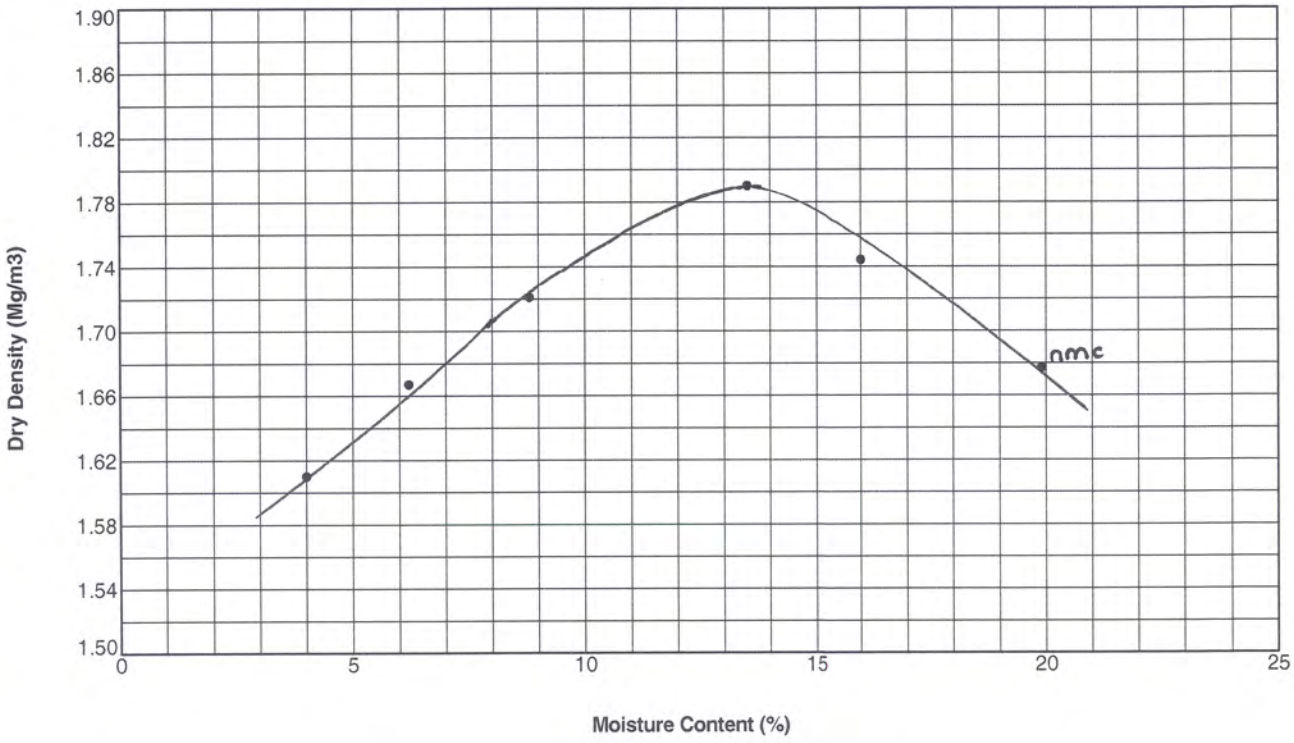
Test Method 2.5kg Compaction Single Sample

Test Results

Optimum Moisture Content (%) = **13.5** Particle Density (Assumed) = **2.55**

Maximum Dry Density (Mg/m3) = **1.79** Retained on 20mm Sieve (%) = **0.8**

Date Tested = **25/02/2016** Retained on 37.5mm Sieve (%) = **0.0**



For description of sample please refer to the Laboratory Sample Description Sheet

Contract Title :-	Client :-
Manchester New Victoria Ground Investigation	**Muse Developments Ltd**

Signed :- mSelr	Name :- M. SELKIRK		Page 1 of 1
Date of issue :- 29/02/2016	Certificate No :- COMP/PR1531/1	AEG Contract No. :- **PR1531**	UKAS TESTING 1367

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LABORATORY TESTING ENCLOSUE 6

Undrained Shear Strength in Triaxial Cell without Pore Water Pressure Measurement

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

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UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

BS 1377 : Part 7 : Clauses 8 & 9 : 1990 Part 2 Clause 3.2 (BS EN ISO 17892-1:2014)

Exploratory Hole	Sample ID Depth (m)	Sample ID Type	Specific Depth (m)	Diameter (mm)	Length (mm)	Prep. Method	Stage No.	Initial Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Membrane Thickness (mm)	Membrane Correction (kPa)	Cell Pressure (kPa)	Corrected Deviator Stress (kPa)	Failure Strain (%)	Mode of Failure	cu (kPa)	Date Tested
BHA02	3.50	U13	3.50	104.6	193.5	U	1	28.5	1.92	1.50	0.30	0.95	70	72.4	17.0	P	36	22/02/2016
BHA02	5.50	U21	5.60	104.7	193.2	U	1	18	2.12	1.80	0.40	1.45	110	125.4	20.0	P	63	22/02/2016

For description of sample please refer to the Laboratory Sample Description Sheet. Please note the rate of strain was 2% per minute and the orientation of the test specimen was vertical. Latex membrane used.

Date of issue :- 29/02/2016	Certificate No :- TXL/PR1531/1	Signed :-	Name :-	Page 1 of 1
Client :- Muse Developments Ltd	Contract Title :- Manchester New Victoria Ground Investigation			AEG Contract No :- PR1531

UKAS TESTING 1367

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LABORATORY TESTING ENCLOSUE 7

Determination of Point Load Index

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ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

POINT LOAD STRENGTH INDEX

ISRM : 1985

Exploratory Hole No	Depth (m)	Type/ Orientation	Width (mm)	Platen Separation (mm)+	Failure Load (kN)*	De^2 (mm^2)	Point Load (IS) (MN/m^2)	Size Factor	Point Load Index (IS50) (MN/m^2)	Type	Date Tested
BHA01	11.83	Diametrical	157.8	89.2	1.6	7956.6	0.20	1.30	0.261	Sandstone	19/02/2016
BHA01	11.83	Axial	90.2	69.4	2.5	7970.3	0.31	1.30	0.407	Sandstone	19/02/2016
BHA01	12.30	Diametrical	200.1	106.0	3.1	11236.0	0.28	1.40	0.387	Sandstone	19/02/2016
BHA01	12.30	Axial	106.2	79.1	2.2	10695.7	0.21	1.39	0.285	Sandstone	19/02/2016
BHA01	13.20	Diametrical	176.5	106.1	1.1	11257.2	0.10	1.40	0.137	Sandstone	19/02/2016
BHA01	13.20	Axial	106.3	76.7	5.0	10381.0	0.48	1.38	0.664	Sandstone #	19/02/2016
BHA03	3.90	Axial	107.0	69.6	0.2	9482.1	0.02	1.35	0.028	Sandstone	19/02/2016
BHA03	4.46	Diametrical	157.8	105.2	0.2	11067.0	0.02	1.40	0.025	Sandstone	19/02/2016
BHA03	4.46	Axial	105.3	72.9	0.2	9773.9	0.02	1.36	0.028	Sandstone	19/02/2016
BHA03	5.35	Diametrical	158.0	106.0	0.2	11236.0	0.02	1.40	0.025	Sandstone	19/02/2016
BHA03	5.35	Axial	106.1	73.0	0.2	9861.6	0.02	1.36	0.028	Sandstone #	19/02/2016
BHA03	6.24	Diametrical	191.4	104.6	0.3	10941.2	0.03	1.39	0.038	Sandstone	19/02/2016
BHA03	6.24	Axial	105.5	74.7	0.4	10034.2	0.04	1.37	0.054	Sandstone #	19/02/2016
BHA03	6.90	Diametrical	159.1	105.2	0.3	11067.0	0.03	1.40	0.038	Sandstone	19/02/2016
BHA03	6.90	Axial	105.4	77.6	0.5	10413.9	0.05	1.38	0.066	Sandstone	19/02/2016

NOTE - +Tested specimen measured using calibrated vernier calipers *Loads of less than 10kN Outside of UKAS accreditation # - Invalid Failure (Did not pass through both points)

Date of issue :- 29/02/2016	Certificate No :- PL/PR1531/1	Signed :- MSelk	Name :- M. SELKIRK	Page 1 of 2
Client :- Muse Developments Ltd	Contract Title :- Manchester New Victoria Ground Investigation			AEG Contract No :- PR1531

UKAS TESTING 1367

ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG - **Tel:** 0191 387 4700 **Fax:** 0191 387 4710
Regional Office: Unit B2 Anchorage Business Park, Chain Caul Way, Riversway Docklands, Preston, PR2 2YL - **Tel:** 01772 735 300 **Fax:** 01772 735 999

POINT LOAD STRENGTH INDEX

ISRM : 1985

Exploratory Hole No	Depth (m)	Type/ Orientation	Width (mm)	Platen Separation (mm)+	Failure Load (kN)*	De^2 (mm^2)	Point Load (IS) (MN/m^2)	Size Factor	Point Load Index (IS50) (MN/m^2)	Type	Date Tested
BHA03	8.17	Diametrical	131.5	105.6	0.2	11151.4	0.02	1.40	0.025	Sandstone #	19/02/2016
BHA03	8.17	Axial	105.9	60.4	0.4	8144.1	0.05	1.30	0.064	Sandstone	19/02/2016
BHA03	9.00	Axial	107.0	96.7	2.5	13174.1	0.19	1.45	0.276	Sandstone #	19/02/2016
BHA04	5.30	Diametrical	118.4	105.2	0.2	11067.0	0.02	1.40	0.025	Sandstone	19/02/2016
BHA04	5.30	Axial	106.3	64.0	0.2	8662.1	0.02	1.32	0.031	Sandstone	19/02/2016
BHA04	6.62	Axial	106.0	93.4	0.5	12605.6	0.04	1.44	0.057	Sandstone	19/02/2016
BHA04	8.00	Diametrical	217.7	106.2	0.8	11278.4	0.07	1.40	0.100	Sandstone	19/02/2016
BHA04	8.01	Axial	106.4	69.1	1.0	9361.2	0.11	1.35	0.144	Sandstone	19/02/2016
BHA04	8.87	Axial	106.6	95.8	2.7	13002.7	0.21	1.45	0.301	Sandstone #	19/02/2016
BHA04	10.25	Diametrical	167.4	106.2	0.4	11278.4	0.04	1.40	0.050	Sandstone #	19/02/2016
BHA04	10.25	Axial	106.6	85.9	2.5	11659.0	0.21	1.41	0.303	Sandstone #	19/02/2016

NOTE - +Tested specimen measured using calibrated vernier calipers *Loads of less than 10kN Outside of UKAS accreditation # - Invalid Failure (Did not pass through both points)

Date of issue :- 29/02/2016	Certificate No :- PL/PR1531/2	Signed :-	Name :- M. SELKIRK	Page 2 of 2	UKAS TESTING 1367
Client :- Muse Developments Ltd	Contract Title :- Manchester New Victoria Ground Investigation			AEG Contract No :- PR1531	

LABORATORY TESTING ENCLOSUE 8

Determination of Unconfined Compressive Strength (Tested Externally)

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Test Report: **Determination of Unconfined Compressive Strength. ISRM Suggested Methods Vol 16, No. 2, pp. 135-140 1979..**

Date: 25-Feb-16
Contract Number: 30020-
Client reference: PR1531
Location: Manchester New Victoria Ground Investigation
Sample Type: Core
Sample Preparation: Sawing and grinding
Operator: Wayne Honey

Borehole Number	Depth (m) From	Depth (m) To	Diameter mm (mm)	Length mm (mm)	Initial mass g (g)	Bulk Density Mg/m3	Dry Density Mg/m3	Moisture Content %	Load Failure kN	Maximum Compressive Strength (mpa)	Date Tested
BH-A03	8.67		106.50	258.70	5361.3	2.33	2.09	11.10	145.9	16.4	24-Feb-16

For and behalf of GEO Site & Testing Services Limited

Paul Evans - Technical/Quality Manager
Emma Sharp - Office Manager
Ben Sharp- Contracts Manager

Date Approved: 25.2.16

GSTL
GEO SITE & TESTING SERVICES LTD

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APPENDIX I

Specialist Chemical Testing

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Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 16-57694-2

07-Mar-16

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference 16-57694-2

Client Reference PR1531

Order No CH-1264

Contract Title Manchester New Victoria Ground Investigation

Description 18 Soil samples, 8 Leachate samples.

Date Received 09-Feb-16

Date Started 09-Feb-16

Date Completed 15-Feb-16

Test Procedures Identified by prefix DETSn (details on request).

Notes **This report supersedes 16-57694-1. Asbestos comments amended**
Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Sample ID	Other ID	Depth	Lab No	Completed	Matrix Description
BHA03	1	0.9	939256	11/02/2016	Brown, gravelly, sandy CLAY
BHA03	4	2	939257	11/02/2016	Brown, gravelly, sandy SILT (sample matrix outside MCERTS scope of accreditation)
BHA03	6	3	939258	11/02/2016	Brown, gravelly, sandy SILT (sample matrix outside MCERTS scope of accreditation)
BHA04	2	0.3	939259	11/02/2016	Brown, gravelly, sandy CLAY
BHA04	5	2	939260	11/02/2016	Brown, gravelly, sandy CLAY
BHA04	9	4	939261	11/02/2016	Brown, gravelly, sandy SILT (sample matrix outside MCERTS scope of accreditation)
WSA01	2	0.2	939262	11/02/2016	Grey, gravelly, sandy CLAY
WSA01	4	1	939263	11/02/2016	Grey, gravelly, sandy CLAY
WSA01	8	2	939264	11/02/2016	Dark brown, gravelly, sandy CLAY
WSA02	3	0.2	939265	11/02/2016	Brown, gravelly, sandy CLAY
WSA02	6	1	939266	11/02/2016	Brown, gravelly, sandy CLAY
BHA01	1	0.3	939267	11/02/2016	Black, gravelly, sandy CLAY
BHA01	6	2	939268	11/02/2016	Dark brown, gravelly, sandy CLAY
BHA01	14	6	939269	11/02/2016	Dark brown, gravelly, sandy CLAY
BHA01	19	9	939270	11/02/2016	Dark brown, gravelly, sandy CLAY
WSA03	2	0.2	939271	11/02/2016	Black, gravelly, sandy CLAY
WSA03	10	2	939272	11/02/2016	Black, gravelly, sandy CLAY
WSA03	11	3	939273	11/02/2016	Black, gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939256	939257	939258	939259	939260	939261
			Sample ID	BHA03	BHA03	BHA03	BHA04	BHA04	BHA04
			Depth	0.90	2.00	3.00	0.30	2.00	4.00
			Other ID	1	4	6	2	5	9
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0					Y	Y	
Metals									
Antimony	DETSC 2301*	1	mg/kg	< 1.0	5.6	1.3	6.0	3.5	1.0
Arsenic	DETSC 2301#	0.2	mg/kg	4.5	3.3	3.5	16	7.3	2.4
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	0.4	0.5	1.0	0.4	0.3
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.4	1.9	0.4	0.9	1.1	0.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.3	0.1	0.5	0.3	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	8.1	8.3	7.1	100	16	5.9
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13	25	8.2	40	38	4.5
Lead	DETSC 2301#	0.3	mg/kg	27	23	19	530	87	26
Mercury	DETSC 2325#	0.05	mg/kg	0.44	< 0.05	< 0.05	0.42	0.22	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.6	6.6	6.9	140	12	5.9
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.2	< 0.5	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	12	6.9	7.5	45	19	6.2
Zinc	DETSC 2301#	1	mg/kg	20	89	15	160	120	19
Inorganics									
pH	DETSC 2008#			11.8	11.4	10.2	9.2	11.4	9.5
Cyanide Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.5	0.2	< 0.1
Total Organic Carbon	DETSC 2002	0.1	%	1.0	0.7	1.0	1.2	0.8	0.7

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

				Lab No	939256	939257	939258	939259	939260	939261
				Sample ID	BHA03	BHA03	BHA03	BHA04	BHA04	BHA04
				Depth	0.90	2.00	3.00	0.30	2.00	4.00
				Other ID	1	4	6	2	5	9
				Sample Type	ES	ES	ES	ES	ES	ES
				Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.01	< 0.01		< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	0.01		< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5		< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2		< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5		4.7		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	12	56		43		41
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	12	57		48		41
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	0.01	< 0.01		< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.04	0.04		< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	1.4	< 0.9		< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	3.3	< 0.5		< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	13	< 0.6		< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	14	< 1.4		42		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	31	< 10		42		< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	44	57		90		41
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01		< 0.01		< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01		< 0.01		< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	0.01	< 0.01		< 0.01		< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	0.02	0.03		< 0.01		< 0.01
PAHs										
Naphthalene	DETSC 3301	0.1	mg/kg	1.4	< 0.1		< 0.1		< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	0.2	< 0.1		< 0.1		< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	0.5	< 0.1		< 0.1		< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	0.6	< 0.1		< 0.1		< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	3.7	< 0.1		< 0.1		< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	0.8	< 0.1		< 0.1		< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	3.0	< 0.1		< 0.1		< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	3.2	< 0.1		< 0.1		< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	1.8	< 0.1		< 0.1		< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	1.7	< 0.1		< 0.1		< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	1.4	< 0.1		< 0.1		< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.7	< 0.1		< 0.1		< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.2	< 0.1		< 0.1		< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	1.1	< 0.1		< 0.1		< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.4	< 0.1		< 0.1		< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.9	< 0.1		< 0.1		< 0.1
PAH	DETSC 3301	1.6	mg/kg	23	< 1.6		< 1.6		< 1.6

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939256	939257	939258	939259	939260	939261
			Sample ID	BHA03	BHA03	BHA03	BHA04	BHA04	BHA04
			Depth	0.90	2.00	3.00	0.30	2.00	4.00
			Other ID	1	4	6	2	5	9
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PCBs									
PCB 77	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 81	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 105	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 114	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 118	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 123	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 126	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 156	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 157	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 167	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 169	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 189	DETSC 3401*	0.01	mg/kg	< 0.01			< 0.01		
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenol	DETSC 3451*	0.01	mg/kg	0.03			< 0.01		
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.01			< 0.01		
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01			< 0.01		
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01			< 0.01		
p-cresol	DETSC 3451*	0.01	mg/kg	0.04			< 0.01		
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01			< 0.01		
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01			< 0.01		
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01			< 0.01		

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939262	939263	939264	939265	939266	939267
			Sample ID	WSA01	WSA01	WSA01	WSA02	WSA02	BHA01
			Depth	0.20	1.00	2.00	0.20	1.00	0.30
			Other ID	2	4	8	3	6	1
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0			Y		Y	Y	Y
Metals									
Antimony	DETSC 2301*	1	mg/kg	< 1.0	1.6	53	3.6	3.6	8.4
Arsenic	DETSC 2301#	0.2	mg/kg	2.6	3.6	6.0	9.6	11	15
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	0.3	0.6	0.5	0.7	0.7
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	0.7	1.0	1.4	0.8	0.9	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.5	0.4	0.5	1.2	0.6
Chromium	DETSC 2301#	0.15	mg/kg	6.7	14	8.3	14	30	21
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	7.5	1400	49	29	34	57
Lead	DETSC 2301#	0.3	mg/kg	17	32	1000	160	240	220
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	1.1	0.23	0.25	0.14
Nickel	DETSC 2301#	1	mg/kg	3.4	9.8	14	12	35	23
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	11	16	13	18	27	34
Zinc	DETSC 2301#	1	mg/kg	26	30	56	100	240	89
Inorganics									
pH	DETSC 2008#			10.6	9.7	8.8	8.8	9.5	8.7
Cyanide Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	4.4	0.5	0.6	0.4
Total Organic Carbon	DETSC 2002	0.1	%	0.9	1.1	2.1	0.7	0.9	2.2

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Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

				Lab No	939262	939263	939264	939265	939266	939267
				Sample ID	WSA01	WSA01	WSA01	WSA02	WSA02	BHA01
				Depth	0.20	1.00	2.00	0.20	1.00	0.30
				Other ID	2	4	8	3	6	1
				Sample Type	ES	ES	ES	ES	ES	ES
				Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	01/02/16
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		0.01	< 0.01	< 0.01	< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		0.01	0.01	< 0.01	< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	0.01	< 0.01	< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5	< 1.5	< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2	< 1.2	< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	4.4	< 1.5	2.1		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		25	53	19	76		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		25	57	19	78		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	0.01	< 0.01	< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	0.01	< 0.01	< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		0.06	0.05	0.01	0.03		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9	< 0.9	< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	7.7	< 0.5	< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	40	< 0.6	4.2		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	110	< 1.4	83		
Aromatic C5-C35	DETSC 3072*	10	mg/kg		< 10	160	< 10	87		
TPH Ali/Aro	DETSC 3072*	10	mg/kg		25	220	19	170		
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01	0.01	< 0.01	< 0.01		
Ethylbenzene	DETSC 3321#	0.01	mg/kg		0.01	< 0.01	< 0.01	< 0.01		
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01	0.01	< 0.01	< 0.01		
Xylene	DETSC 3321#	0.01	mg/kg		0.04	0.02	0.01	0.03		
PAHs										
Naphthalene	DETSC 3301	0.1	mg/kg		< 0.1	1.8	< 0.1	< 0.1		
Acenaphthylene	DETSC 3301	0.1	mg/kg		< 0.1	1.8	< 0.1	< 0.1		
Acenaphthene	DETSC 3301	0.1	mg/kg		< 0.1	1.0	< 0.1	< 0.1		
Fluorene	DETSC 3301	0.1	mg/kg		< 0.1	1.9	< 0.1	< 0.1		
Phenanthrene	DETSC 3301	0.1	mg/kg		1.0	16	0.4	0.8		
Anthracene	DETSC 3301	0.1	mg/kg		0.3	3.7	0.2	0.3		
Fluoranthene	DETSC 3301	0.1	mg/kg		1.3	23	0.5	1.4		
Pyrene	DETSC 3301	0.1	mg/kg		1.3	23	0.6	1.6		
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg		< 0.1	11	< 0.1	< 0.1		
Chrysene	DETSC 3301	0.1	mg/kg		< 0.1	8.8	< 0.1	< 0.1		
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg		< 0.1	6.7	< 0.1	< 0.1		
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg		< 0.1	3.6	< 0.1	< 0.1		
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg		< 0.1	8.8	< 0.1	< 0.1		
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg		< 0.1	14	< 0.1	< 0.1		
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg		< 0.1	0.9	< 0.1	< 0.1		
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg		< 0.1	6.6	< 0.1	< 0.1		
PAH	DETSC 3301	1.6	mg/kg		3.9	130	1.7	4.1		

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Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939262	939263	939264	939265	939266	939267
			Sample ID	WSA01	WSA01	WSA01	WSA02	WSA02	BHA01
			Depth	0.20	1.00	2.00	0.20	1.00	0.30
			Other ID	2	4	8	3	6	1
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PCBs									
PCB 77	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 81	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 105	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 114	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 123	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 126	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 156	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 157	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 167	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 169	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 189	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01	< 0.01	< 0.01
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenol	DETSC 3451*	0.01	mg/kg		< 0.01	0.22	< 0.01	< 0.01	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.10	< 0.01	< 0.01	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.10	< 0.01	< 0.01	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.10	< 0.01	< 0.01	< 0.10
p-cresol	DETSC 3451*	0.01	mg/kg		< 0.01	0.22	< 0.01	< 0.01	0.11
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.10	< 0.01	< 0.01	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.10	< 0.01	< 0.01	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.10	< 0.01	< 0.01	< 0.10

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

				Lab No	939268	939269	939270	939271	939272	939273
				Sample ID	BHA01	BHA01	BHA01	WSA03	WSA03	WSA03
				Depth	2.00	6.00	9.00	0.20	2.00	3.00
				Other ID	6	14	19	2	10	11
				Sample Type	ES	ES	ES	ES	ES	ES
				Sampling Date	01/02/16	01/02/16	01/02/16	01/02/16	01/02/16	01/02/16
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Asbestos Quantification OHR	DETSC 1102	0					Y	Y	
Metals										
Antimony	DETSC 2301*	1	mg/kg	5.9	5.5	3.7	3.3	8.3	6.5
Arsenic	DETSC 2301#	0.2	mg/kg	27	19	16	5.6	24	16
Beryllium	DETSC 2301#	0.2	mg/kg	1.0	1.0	0.8	0.3	1.1	0.3
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	0.8	1.1	0.9	0.4	0.8	0.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.4	0.4	0.6	2.0	2.9
Chromium	DETSC 2301#	0.15	mg/kg	22	19	25	26	18	22
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	92	66	80	19	120	38
Lead	DETSC 2301#	0.3	mg/kg	370	320	140	78	470	1400
Mercury	DETSC 2325#	0.05	mg/kg	2.8	2.1	0.54	< 0.05	0.21	0.08
Nickel	DETSC 2301#	1	mg/kg	28	19	19	23	26	20
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	34	24	22	24	36	25
Zinc	DETSC 2301#	1	mg/kg	77	65	72	61	130	180
Inorganics										
pH	DETSC 2008#			7.9	8.2	8.3	9.4	8.1	8.5
Cyanide Total	DETSC 2130#	0.1	mg/kg	1.4	0.7	0.4	< 0.1	0.1	0.1
Total Organic Carbon	DETSC 2002	0.1	%	2.5	1.7	1.4	1.3	4.8	1.5

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Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

				Lab No	939268	939269	939270	939271	939272	939273
				Sample ID	BHA01	BHA01	BHA01	WSA03	WSA03	WSA03
				Depth	2.00	6.00	9.00	0.20	2.00	3.00
				Other ID	6	14	19	2	10	11
				Sample Type	ES	ES	ES	ES	ES	ES
				Sampling Date	01/02/16	01/02/16	01/02/16	01/02/16	01/02/16	01/02/16
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	0.16		0.05	< 0.01		0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.33		0.04	0.01		0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.23		0.07	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	5.1		< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	16		< 1.2	1.6		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	15		< 1.5	8.9		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	33		< 3.4	70		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	70		< 10	81		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	0.01		< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	0.02		< 0.01	< 0.01		0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.33		0.11	0.09		0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	110		1.0	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	270		< 0.5	3.9		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	760		5.5	42		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	900		2.0	310		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	2000		< 10	360		< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	2100		< 10	440		< 10
Benzene	DETSC 3321#	0.01	mg/kg	0.01		< 0.01	< 0.01		< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	0.02		< 0.01	0.01		< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	0.02		< 0.01	< 0.01		0.01
Xylene	DETSC 3321#	0.01	mg/kg	0.10		0.02	0.06		< 0.01
PAHs										
Naphthalene	DETSC 3301	0.1	mg/kg	56		2.8	1.0		< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	28		0.6	0.9		< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	36		0.6	1.5		< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	71		1.2	1.5		< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	330		6.3	11		1.9
Anthracene	DETSC 3301	0.1	mg/kg	72		1.3	3.5		0.5
Fluoranthene	DETSC 3301	0.1	mg/kg	300		4.8	23		2.1
Pyrene	DETSC 3301	0.1	mg/kg	310		5.1	22		2.2
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	140		3.2	12		1.4
Chrysene	DETSC 3301	0.1	mg/kg	150		2.4	11		1.0
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	86		1.6	9.7		< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	51		0.9	5.6		< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	130		2.2	14		< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	69		1.3	9.0		< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	13		0.2	1.5		< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	70		1.1	9.0		< 0.1
PAH	DETSC 3301	1.6	mg/kg	1900		36	140		9.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

	Lab No	939268	939269	939270	939271	939272	939273
	Sample ID	BHA01	BHA01	BHA01	WSA03	WSA03	WSA03
	Depth	2.00	6.00	9.00	0.20	2.00	3.00
	Other ID	6	14	19	2	10	11
	Sample Type	ES	ES	ES	ES	ES	ES
	Sampling Date	01/02/16	01/02/16	01/02/16	01/02/16	01/02/16	01/02/16
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PCBs									
PCB 77	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 81	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 105	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 114	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 118	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 123	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 126	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 156	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 157	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 167	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 169	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 189	DETSC 3401*	0.01	mg/kg		< 0.01		< 0.01		
PCB 7 Total	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenol	DETSC 3451*	0.01	mg/kg				< 0.10		
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg				< 0.10		
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg				< 0.10		
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg				< 0.10		
p-cresol	DETSC 3451*	0.01	mg/kg				< 0.10		
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg				< 0.10		
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg				< 0.10		
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg				< 0.10		

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939256	939257	939259	939261	939263	939264
			Sample ID	BHA03	BHA03	BHA04	BHA04	WSA01	WSA01
			Depth	0.90	2.00	0.30	4.00	1.00	2.00
			Other ID	1	4	2	9	4	8
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
VOCs									
Vinyl Chloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939256	939257	939259	939261	939263	939264
			Sample ID	BHA03	BHA03	BHA04	BHA04	WSA01	WSA01
			Depth	0.90	2.00	0.30	4.00	1.00	2.00
			Other ID	1	4	2	9	4	8
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
sec-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939256	939257	939259	939261	939263	939264
			Sample ID	BHA03	BHA03	BHA04	BHA04	WSA01	WSA01
			Depth	0.90	2.00	0.30	4.00	1.00	2.00
			Other ID	1	4	2	9	4	8
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
SVOCs									
Phenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1		
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1		
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1		
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1		
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1	< 0.1	0.8
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1		
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1	< 0.1	1.2
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939256	939257	939259	939261	939263	939264
			Sample ID	BHA03	BHA03	BHA04	BHA04	WSA01	WSA01
			Depth	0.90	2.00	0.30	4.00	1.00	2.00
			Other ID	1	4	2	9	4	8
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1	< 0.1	1.6

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Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939265	939266	939268	939270	939271	939273
			Sample ID	WSA02	WSA02	BHA01	BHA01	WSA03	WSA03
			Depth	0.20	1.00	2.00	9.00	0.20	3.00
			Other ID	3	6	6	19	2	11
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	01/02/16	01/02/16	01/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
VOCs									
Vinyl Chloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.10	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.36	< 0.01	< 0.01	0.02
trans-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.10	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	0.01	0.69	0.01	0.03	0.01
o-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.62	0.01	0.02	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.17	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.03	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.05	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.84	0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.36	0.02	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939265	939266	939268	939270	939271	939273
			Sample ID	WSA02	WSA02	BHA01	BHA01	WSA03	WSA03
			Depth	0.20	1.00	2.00	9.00	0.20	3.00
			Other ID	3	6	6	19	2	11
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	01/02/16	01/02/16	01/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
sec-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.11	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.19	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939265	939266	939268	939270	939271	939273
			Sample ID	WSA02	WSA02	BHA01	BHA01	WSA03	WSA03
			Depth	0.20	1.00	2.00	9.00	0.20	3.00
			Other ID	3	6	6	19	2	11
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	01/02/16	01/02/16	01/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
SVOCs									
Phenol	DETSC 3433	0.1	mg/kg			1.3	< 0.1		< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	0.7	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	1.7	0.1	0.2	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg			1.4	< 0.1		< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg			< 0.1	< 0.1		< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg			< 0.1	< 0.1		< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	30	0.4	0.2	0.4
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg			< 0.1	< 0.1		< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	21	0.3	0.5	0.4
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939265	939266	939268	939270	939271	939273
			Sample ID	WSA02	WSA02	BHA01	BHA01	WSA03	WSA03
			Depth	0.20	1.00	2.00	9.00	0.20	3.00
			Other ID	3	6	6	19	2	11
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	01/02/16	01/02/16	01/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	12	0.2	0.6	0.7

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939274	939275	939276	939277	939278	939279
			Sample ID	BHA03	BHA04	WSA01	WSA02	BHA01	BHA01
			Depth	2.00	4.00	1.00	1.00	2.00	9.00
			Other ID	4	9	4	6	6	19
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	01/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
Leachate 10:1	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.24	0.27	0.79	5.5	0.44	0.63
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.0	0.42	0.52	0.77	1.7	1.3
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.47	< 0.25	0.36	< 0.25	< 0.25	0.50
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8	0.4	< 0.4	0.7	0.6	0.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.43	0.17	< 0.09	1.8	0.95	0.94
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.02	< 0.01	< 0.01	0.04	0.03	0.02
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25	0.64	0.26
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.5	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
Inorganics									
pH	DETSC 2008			8.9	8.3	8.7	8.3	8.5	8.8
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Hardness	DETSC 2303	0.1	mg/l	0.11	8.85	8.67	11.4	10.2	0.73
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015	< 0.015	0.036	0.16	0.53
Chloride	DETSC 2055	0.1	mg/l	1.7	0.92	1.3	2.8	1.8	1.6
Petroleum Hydrocarbons									
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939274	939275	939276	939277	939278	939279
			Sample ID	BHA03	BHA04	WSA01	WSA02	BHA01	BHA01
			Depth	2.00	4.00	1.00	1.00	2.00	9.00
			Other ID	4	9	4	6	6	19
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16	01/02/16	01/02/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	0.84	0.51	0.42	0.62	4.8	2.1
Acenaphthylene	DETS 074*	0.01	ug/l	0.11	< 0.01	< 0.01	0.70	0.50	0.57
Acenaphthene	DETS 074*	0.01	ug/l	0.15	< 0.01	< 0.01	0.27	1.1	0.30
Fluorene	DETS 074*	0.01	ug/l	0.20	< 0.01	< 0.01	0.36	0.96	0.58
Phenanthrene	DETS 074*	0.01	ug/l	1.2	< 0.01	0.14	3.9	5.5	3.4
Anthracene	DETS 074*	0.01	ug/l	0.29	< 0.01	< 0.01	1.0	1.4	0.94
Fluoranthene	DETS 074*	0.01	ug/l	1.2	< 0.01	0.12	6.6	6.1	3.7
Pyrene	DETS 074*	0.01	ug/l	1.1	< 0.01	0.10	6.6	6.5	3.8
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.56	< 0.01	< 0.01	3.0	3.2	2.0
Chrysene	DETS 074*	0.01	ug/l	0.59	< 0.01	< 0.01	3.1	3.5	2.0
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	0.64	< 0.01	< 0.01	4.0	3.9	2.4
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	0.22	< 0.01	< 0.01	1.3	1.4	0.84
Benzo(a)pyrene	DETS 074*	0.01	ug/l	0.53	< 0.01	< 0.01	1.3	3.7	2.3
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	0.23	< 0.01	< 0.01	1.7	1.4	0.86
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.45	0.47	0.27
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	0.20	< 0.01	< 0.01	2.2	1.8	1.1
PAH	DETS 074*	0.2	ug/l	8.1	0.51	0.78	37	46	27
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939280	939281
			Sample ID	WSA03	WSA03
			Depth	0.20	3.00
			Other ID	2	11
			Sample Type	ES	ES
			Sampling Date	01/02/16	01/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
Leachate 10:1	DETS 036*			Y	Y
Metals					
Antimony, Dissolved	DETSC 2306	0.17	ug/l	2.6	0.91
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.99	0.93
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.52	0.37
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.7	2.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	9.1	6.9
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.01	0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.29
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.8	0.7
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.5	2.4
Inorganics					
pH	DETSC 2008			8.9	8.4
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40
Hardness	DETSC 2303	0.1	mg/l	8.73	0.11
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.5	< 0.015
Chloride	DETSC 2055	0.1	mg/l	1.1	1.2
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	939280	939281
			Sample ID	WSA03	WSA03
			Depth	0.20	3.00
			Other ID	2	11
			Sample Type	ES	ES
			Sampling Date	01/02/16	01/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PAHs					
Naphthalene	DETS 074*	0.01	ug/l	0.30	0.35
Acenaphthylene	DETS 074*	0.01	ug/l	0.60	0.34
Acenaphthene	DETS 074*	0.01	ug/l	0.48	0.19
Fluorene	DETS 074*	0.01	ug/l	0.37	0.14
Phenanthrene	DETS 074*	0.01	ug/l	2.6	1.3
Anthracene	DETS 074*	0.01	ug/l	1.3	1.0
Fluoranthene	DETS 074*	0.01	ug/l	7.2	3.3
Pyrene	DETS 074*	0.01	ug/l	7.2	3.5
Benzo(a)anthracene	DETS 074*	0.01	ug/l	4.3	2.0
Chrysene	DETS 074*	0.01	ug/l	4.7	2.2
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	8.2	3.3
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	2.7	1.1
Benzo(a)pyrene	DETS 074*	0.01	ug/l	7.3	2.9
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	4.1	1.5
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	1.1	0.41
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	5.3	1.8
PAH	DETS 074*	0.2	ug/l	58	25
Phenols					
Phenol	*	0.5	ug/l	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
939256	BHA03 1 0.90	SOIL	NAD	none	Andrew Little
939257	BHA03 4 2.00	SOIL	NAD	none	Andrew Little
939258	BHA03 6 3.00	SOIL	NAD	none	Andrew Little
939259	BHA04 2 0.30	SOIL	Amosite Chrysotile	Bundles of Amosite/Chrysotile Fibres present	Andrew Little
939260	BHA04 5 2.00	SOIL	Amosite	Bundle of Amosite fibres present	Andrew Little
939261	BHA04 9 4.00	SOIL	NAD	none	Andrew Little
939262	WSA01 2 0.20	SOIL	NAD	none	Andrew Little
939263	WSA01 4 1.00	SOIL	Chrysotile	Bundles of Chrysotile fibres present	Andrew Little
939264	WSA01 8 2.00	SOIL	NAD	none	Andrew Little
939265	WSA02 3 0.20	SOIL	Chrysotile	Small Bundles of Chrysotile fibres present	Andrew Little
939266	WSA02 6 1.00	SOIL	Crocidolite Amosite Chrysotile	Clump of Crocidolite & Amosite & Chrysotile	Andrew Little
939267	BHA01 1 0.30	SOIL	Chrysotile	Bundle of Chrysotile fibres present	Andrew Little
939268	BHA01 6 2.00	SOIL	NAD	none	Andrew Little
939269	BHA01 14 6.00	SOIL	NAD	none	Andrew Little
939270	BHA01 19 9.00	SOIL	NAD	none	Andrew Little
939271	WSA03 2 0.20	SOIL	Chrysotile	Bundles of Chrysotile fibres present	Andrew Little
939272	WSA03 10 2.00	SOIL	Amosite Chrysotile	Bundles of Amosite and Chrysotile Fibres present	Andrew Little
939273	WSA03 11 3.00	SOIL	NAD	none	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

		Lab No	939259	939260	939263	939265
		Sample ID	BHA04	BHA04	WSA01	WSA02
		Depth	0.30	2.00	1.00	0.20
		Other ID	2	5	4	3
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	03/02/16	03/02/16	03/02/16	03/02/16
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.003**	**< 0.001**	**0.002**	**0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.003	<0.001	0.002	0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	1024.46	971.78	143.73	562.74
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	0.002	<0.001	na	na
% Serpentine bundles in sample		Mass %	0.001	na	0.002	0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 16-57694-2
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

		Lab No	939266	939267	939271	939272
		Sample ID	WSA02	BHA01	WSA03	WSA03
		Depth	1.00	0.30	0.20	2.00
		Other ID	6	1	2	10
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	03/02/16	01/02/16	01/02/16	01/02/16
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**	**< 0.001**	**0.003**	**0.002**
Gravimetric Quantification (a)	DETSC 1102	Mass %	0.000	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	na	<0.001	0.003	0.002
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	469.39	885.72	984.98	481.67
ACMs present*		type				
Mass of ACM in sample		g	0.06			
% ACM by mass		%	0.01			
% asbestos in ACM		%				
% asbestos in sample		%	0.000			
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	0.001
% Serpentine bundles in sample		Mass %	na	<0.001	0.003	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
denotes deviating sample

Information in Support of the Analytical Results

Our Ref 16-57694-2
Client Ref PR1531
Contract Manchester New Victoria Ground Investigation

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
939256	BHA03 0.90 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939257	BHA03 2.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939258	BHA03 3.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939259	BHA04 0.30 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939260	BHA04 2.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939261	BHA04 4.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939262	WSA01 0.20 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939263	WSA01 1.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939264	WSA01 2.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939265	WSA02 0.20 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939266	WSA02 1.00 SOIL	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939267	BHA01 0.30 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939268	BHA01 2.00 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939269	BHA01 6.00 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939270	BHA01 9.00 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939271	WSA03 0.20 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939272	WSA03 2.00 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939273	WSA03 3.00 SOIL	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2	pH + Conductivity (7 days)	
939274	BHA03 2.00 LEACHATE	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939275	BHA04 4.00 LEACHATE	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939276	WSA01 1.00 LEACHATE	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939277	WSA02 1.00 LEACHATE	03/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939278	BHA01 2.00 LEACHATE	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939279	BHA01 9.00 LEACHATE	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
939280	WSA03 0.20 LEACHATE	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

Information in Support of the Analytical Results

Our Ref 16-57694-2
Client Ref PR1531
Contract Manchester New Victoria Ground Investigation

939281	WSA03 3.00 LEACHATE	01/02/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 16-57608

12-Feb-16

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference 16-57608

Client Reference PR1531

Order No CH-1264

Contract Title Manchester New Victoria Ground Investigation

Description 3 Soil samples, 2 Leachate samples.

Date Received 08-Feb-16

Date Started 08-Feb-16

Date Completed 12-Feb-16

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Sample ID	Other ID	Depth	Lab No	Completed	Matrix Description
BHA05	1	0.3	938851	12/02/2016	Brown and red, gravelly, sandy CLAY (Possible made ground -brick)
BHA05	2	1	938852	12/02/2016	Brown and red, gravelly, sandy CLAY (Possible made ground -brick)
BHA05	4	2	938853	12/02/2016	Brown and red, gravelly, sandy CLAY (Possible made ground -brick)

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938851	938852	938853
			Sample ID	BHA05	BHA05	BHA05
			Depth	0.30	1.00	2.00
			Other ID	1	2	4
			Sample Type	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Antimony	DETSC 2301*	1	mg/kg	11	< 1.0	1.2
Arsenic	DETSC 2301#	0.2	mg/kg	32	9.2	27
Beryllium	DETSC 2301#	0.2	mg/kg	1.7	0.5	1.3
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.8	1.8	1.7
Cadmium	DETSC 2301#	0.1	mg/kg	1.2	0.3	0.9
Chromium	DETSC 2301#	0.15	mg/kg	45	17	41
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	77	18	95
Lead	DETSC 2301#	0.3	mg/kg	1100	180	1100
Mercury	DETSC 2325#	0.05	mg/kg	0.17	0.15	0.21
Nickel	DETSC 2301#	1	mg/kg	36	11	34
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	80	24	57
Zinc	DETSC 2301#	1	mg/kg	200	45	250
Inorganics						
pH	DETSC 2008#			9.4	8.8	11.0
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.1	0.6
Total Organic Carbon	DETSC 2002	0.1	%	0.5	0.7	0.7
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.18		0.06
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5		5.0
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	8.5		28
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10		33
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.33		0.19
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	3.0		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	8.0		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	8.0		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	19		< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	28		33
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938851	938852	938853
			Sample ID	BHA05	BHA05	BHA05
			Depth	0.30	1.00	2.00
			Other ID	1	2	4
			Sample Type	ES	ES	ES
			Sampling Date	03/02/16	03/02/16	03/02/16
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
PAHs						
Naphthalene	DETSC 3301	0.1	mg/kg	0.2		< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	0.6		< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	1.1		< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	1.1		< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	11		0.6
Anthracene	DETSC 3301	0.1	mg/kg	2.8		0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	16		0.6
Pyrene	DETSC 3301	0.1	mg/kg	11		0.6
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	4.8		< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	4.2		< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	2.7		< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	1.8		< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	3.7		< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	3.2		< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.8		< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	2.1		< 0.1
PAH	DETSC 3301	1.6	mg/kg	68		1.9
PCBs						
PCB 77	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 81	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 105	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 114	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 118	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 123	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 126	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 156	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 157	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 167	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 169	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 189	DETSC 3401*	0.01	mg/kg	< 0.01		
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01		
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3
Phenol	DETSC 3451*	0.01	mg/kg	< 0.01		
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.01		
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01		
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01		
p-cresol	DETSC 3451*	0.01	mg/kg	< 0.01		
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01		
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01		
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01		

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

				Lab No	938851	938853
				Sample ID	BHA05	BHA05
				Depth	0.30	2.00
				Other ID	1	4
				Sample Type	ES	ES
				Sampling Date	03/02/16	03/02/16
				Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938851	938853
			Sample ID	BHA05	BHA05
			Depth	0.30	2.00
			Other ID	1	4
			Sample Type	ES	ES
			Sampling Date	03/02/16	03/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Bromobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938851	938853
			Sample ID	BHA05	BHA05
			Depth	0.30	2.00
			Other ID	1	4
			Sample Type	ES	ES
			Sampling Date	03/02/16	03/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg		< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg		< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg		< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg		< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg		< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938851	938853
			Sample ID	BHA05	BHA05
			Depth	0.30	2.00
			Other ID	1	4
			Sample Type	ES	ES
			Sampling Date	03/02/16	03/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938854	938855
			Sample ID	BHA05	BHA05
			Depth	0.30	2.00
			Other ID	1	4
			Sample Type	ES	ES
			Sampling Date	03/02/16	03/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
Leachate 10:1	DETS 036*			Y	Y
Metals					
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.80	1.6
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	3.6	3.1
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	1.9	4.5
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.7	2.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	14	8.9
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.07	0.05
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.32
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.4	1.5
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	1.5
Inorganics					
pH	DETSC 2008			8.7	9.0
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40
Hardness	DETSC 2303	0.1	mg/l	21.4	28.0
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.077	0.095
Chloride	DETSC 2055	0.1	mg/l	1.0	0.96

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	938854	938855
			Sample ID	BHA05	BHA05
			Depth	0.30	2.00
			Other ID	1	4
			Sample Type	ES	ES
			Sampling Date	03/02/16	03/02/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETS 074*	0.01	ug/l	0.03	0.08
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	0.01
Phenanthrene	DETS 074*	0.01	ug/l	0.14	0.27
Anthracene	DETS 074*	0.01	ug/l	0.03	0.06
Fluoranthene	DETS 074*	0.01	ug/l	0.17	0.24
Pyrene	DETS 074*	0.01	ug/l	0.14	0.24
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.08	0.12
Chrysene	DETS 074*	0.01	ug/l	0.04	0.06
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	0.08	0.10
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	0.03	0.03
Benzo(a)pyrene	DETS 074*	0.01	ug/l	0.08	0.08
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	0.09	0.05
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	0.10	0.07
PAH	DETS 074*	0.2	ug/l	0.99	1.4
Phenols					
Phenol	*	0.5	ug/l	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 16-57608
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
938851	BHA05 1 0.30	SOIL	NAD	none	Michael Kay
938852	BHA05 2 1.00	SOIL	NAD	none	Michael Kay
938853	BHA05 4 2.00	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 16-57608
Client Ref PR1531
Contract Manchester New Victoria Ground Investigation

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
938851	BHA05 0.30 SOIL	03/02/16	GJ 250ml x2, GV x2, PT 1L x2		
938852	BHA05 1.00 SOIL	03/02/16	GJ 250ml x2, GV x2, PT 1L x2		
938853	BHA05 2.00 SOIL	03/02/16	GJ 250ml x2, GV x2, PT 1L x2		
938854	BHA05 0.30 LEACHATE	03/02/16	GJ 250ml x2, GV x2, PT 1L x2		
938855	BHA05 2.00 LEACHATE	03/02/16	GJ 250ml x2, GV x2, PT 1L x2		

Key: G-Glass P-Plastic J-Jar V-Vial T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number 16-57218-1

15-Feb-16

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference 16-57218-1

Client Reference PR1531

Order No CH-1264

Contract Title MANCHESTER New Victoria Ground Investigation

Description 11 Soil samples, 3 Leachate samples.

Date Received 03-Feb-16

Date Started 03-Feb-16

Date Completed 15-Feb-16

Test Procedures Identified by prefix DETSn (details on request).

Notes **This report supersedes 16-57218, Extra Testing**

Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

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Summary of Chemical Analysis
Matrix Descriptions

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

Sample ID	Other ID	Depth	Lab No	Completed	Matrix Description
BHA02	1	0.3	936674	09/02/2016	Black, gravelly, sandy CLAY
BHA02	10	3	936675	09/02/2016	Brown, gravelly, sandy CLAY (Made ground -) brick
BHA02	19	5	936676	09/02/2016	Brown, gravelly, sandy CLAY (Made ground -) brick
BHA02	26	8	936677	09/02/2016	Brown, gravelly, sandy CLAY (Made ground -) brick
BHA07	1	0.3	936678	09/02/2016	Black, gravelly, sandy CLAY
BHA07	3	1	936679	09/02/2016	Black, gravelly, sandy CLAY (Made ground -)brick
BHA07	8	2	936680	09/02/2016	Brown, gravelly, sandy CLAY (Made ground -) possible brick
BHA06	2	0.6	936940	09/02/2016	Dark brown, clayey, gravelly SAND
BHA06	6	2	936941	09/02/2016	Brown, gravelly, sandy CLAY
BHA06	12	5	936942	09/02/2016	Brown, gravelly, sandy CLAY (Made ground - brick)
BHA06	17	7	936943	09/02/2016	Brown, gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936674	936675	936676	936677	936678	936679	936680
			Sample ID	BHA02	BHA02	BHA02	BHA02	BHA07	BHA07	BHA07
			Depth	0.30	3.00	5.00	8.00	0.30	1.00	2.00
			Other ID	1	10	19	26	1	3	8
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	28/01/16	28/01/16	28/01/16	28/01/16	27/01/16	27/01/16	27/01/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Antimony	DETSC 2301*	1	mg/kg	5.5	4.9	3.8	6.3	1.9	9.7	4.1
Arsenic	DETSC 2301#	0.2	mg/kg	7.7	11	13	9.4	4.1	9.0	5.2
Beryllium	DETSC 2301#	0.2	mg/kg	1.5	0.6	0.6	0.4	0.3	0.7	0.3
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	2.7	0.6	0.6	0.5	1.1	1.0	0.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.8	0.8	0.6	0.5	0.5	0.9	0.4
Chromium	DETSC 2301#	0.15	mg/kg	19	42	22	45	20	24	13
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	61	100	81	66	19	99	31
Lead	DETSC 2301#	0.3	mg/kg	120	53	47	48	15	440	68
Mercury	DETSC 2325#	0.05	mg/kg	0.08	0.24	0.24	0.22	< 0.05	0.28	0.09
Nickel	DETSC 2301#	1	mg/kg	19	30	26	23	16	28	13
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	2.1	0.6	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	31	38	28	31	34	42	18
Zinc	DETSC 2301#	1	mg/kg	170	120	82	64	42	150	38
Inorganics										
pH	DETSC 2008#			9.9	8.2	8.8	8.3	10.0	8.4	8.6
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.2	0.2	0.3	0.3	< 0.1	< 0.1
Total Organic Carbon	DETSC 2002	0.1	%	2.6	1.2	1.7	1.4	4.9	6.8	1.0
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		2.0	0.12
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		0.01		< 0.01		0.01	0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		0.06		< 0.01		15	10
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5		< 1.5		< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2		< 1.2		< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5		< 1.5		2.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4		< 3.4		46	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		< 10		< 10		66	11
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		0.04	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		0.01		< 0.01		< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9		< 0.9		300	1.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		7.3		< 0.5		24	2.4
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		32		< 0.6		120	16
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		43		< 1.4		320	40
Aromatic C5-C35	DETSC 3072*	10	mg/kg		83		< 10		760	60
TPH Ali/Aro	DETSC 3072*	10	mg/kg		83		< 10		830	71
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		0.04	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

				Lab No	936674	936675	936676	936677	936678	936679	936680
				Sample ID	BHA02	BHA02	BHA02	BHA02	BHA07	BHA07	BHA07
				Depth	0.30	3.00	5.00	8.00	0.30	1.00	2.00
				Other ID	1	10	19	26	1	3	8
				Sample Type	ES	ES	ES	ES	ES	ES	ES
				Sampling Date	28/01/16	28/01/16	28/01/16	28/01/16	27/01/16	27/01/16	27/01/16
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
PAHs											
Naphthalene	DETSC 3301	0.1	mg/kg		5.8		< 0.1		5.8	0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg		3.1		< 0.1		6.6	0.7
Acenaphthene	DETSC 3301	0.1	mg/kg		15		< 0.1		11	0.7
Fluorene	DETSC 3301	0.1	mg/kg		16		< 0.1		12	0.7
Phenanthrene	DETSC 3301	0.1	mg/kg		74		< 0.1		69	4.5
Anthracene	DETSC 3301	0.1	mg/kg		17		< 0.1		19	1.3
Fluoranthene	DETSC 3301	0.1	mg/kg		58		< 0.1		100	7.8
Pyrene	DETSC 3301	0.1	mg/kg		59		< 0.1		95	7.6
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg		24		< 0.1		39	3.5
Chrysene	DETSC 3301	0.1	mg/kg		26		< 0.1		40	3.2
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg		15		< 0.1		28	2.2
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg		9.2		< 0.1		20	1.5
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg		21		< 0.1		39	3.2
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg		11		< 0.1		20	1.7
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg		2.0		< 0.1		2.2	0.2
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg		11		< 0.1		22	1.8
PAH	DETSC 3301	1.6	mg/kg		370		< 1.6		530	41
PCBs											
PCB 77	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 81	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 105	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 114	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 118	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 123	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 126	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 156	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 157	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 167	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 169	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 189	DETSC 3401*	0.01	mg/kg		< 0.01				< 0.01	
PCB 7 Total	DETSC 3401#	0.01	mg/kg		< 0.01				0.02	

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936674	936675	936676	936677	936678	936679	936680
			Sample ID	BHA02	BHA02	BHA02	BHA02	BHA07	BHA07	BHA07
			Depth	0.30	3.00	5.00	8.00	0.30	1.00	2.00
			Other ID	1	10	19	26	1	3	8
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	28/01/16	28/01/16	28/01/16	28/01/16	27/01/16	27/01/16	27/01/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
p-cresol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01				< 0.01	

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Summary of Chemical Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investig

			Lab No	936940	936941	936942	936943
			Sample ID	BHA06	BHA06	BHA06	BHA06
			Depth	0.60	2.00	5.00	7.00
			Other ID	2	6	12	17
			Sample Type	ES	ES	ES	ES
			Sampling Date	28/01/16	29/01/16	29/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Antimony	DETSC 2301*	1	mg/kg	1.9	4.0	3.3	2.8
Arsenic	DETSC 2301#	0.2	mg/kg	10	13	20	9.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.6	0.4	0.9
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	0.9	0.8	0.7	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.3	0.2
Chromium	DETSC 2301#	0.15	mg/kg	14	48	34	13
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	44	210	25	36
Lead	DETSC 2301#	0.3	mg/kg	67	130	57	53
Mercury	DETSC 2325#	0.05	mg/kg	0.20	0.12	0.16	< 0.05
Nickel	DETSC 2301#	1	mg/kg	14	21	21	14
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	19	33	13	14
Zinc	DETSC 2301#	1	mg/kg	47	60	44	32
Inorganics							
pH	DETSC 2008#			11.8	10.8	9.3	8.5
Cyanide Total	DETSC 2130#	0.1	mg/kg	1.2	1.0	0.6	0.1
Total Organic Carbon	DETSC 2002	0.1	%	0.8	1.0	0.8	0.7
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01		0.02	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2		< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5		3.1	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4		45	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10		48	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.02		0.13	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9		4.0	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	5.6		8.2	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	29		40	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	30		57	
Aromatic C5-C35	DETSC 3072*	10	mg/kg	65		110	
TPH Ali/Aro	DETSC 3072*	10	mg/kg	65		160	
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01		< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01		0.01	

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Summary of Chemical Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investig

			Lab No	936940	936941	936942	936943
			Sample ID	BHA06	BHA06	BHA06	BHA06
			Depth	0.60	2.00	5.00	7.00
			Other ID	2	6	12	17
			Sample Type	ES	ES	ES	ES
			Sampling Date	28/01/16	29/01/16	29/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
PAHs							
Naphthalene	DETSC 3301	0.1	mg/kg	2.5		4.7	
Acenaphthylene	DETSC 3301	0.1	mg/kg	1.0		1.9	
Acenaphthene	DETSC 3301	0.1	mg/kg	2.7		2.0	
Fluorene	DETSC 3301	0.1	mg/kg	2.9		3.2	
Phenanthrene	DETSC 3301	0.1	mg/kg	16		17	
Anthracene	DETSC 3301	0.1	mg/kg	3.6		3.6	
Fluoranthene	DETSC 3301	0.1	mg/kg	17		14	
Pyrene	DETSC 3301	0.1	mg/kg	18		16	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	7.9		6.4	
Chrysene	DETSC 3301	0.1	mg/kg	8.5		6.6	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	5.4		3.9	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	3.5		2.7	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	8.3		5.9	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	5.3		3.2	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	1.0		0.6	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	5.6		3.3	
PAH	DETSC 3301	1.6	mg/kg	110		94	
PCBs							
PCB 77	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 81	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 105	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 114	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 118	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 123	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 126	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 156	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 157	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 167	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 169	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 189	DETSC 3401*	0.01	mg/kg				< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg				< 0.01

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investig

			Lab No	936940	936941	936942	936943
			Sample ID	BHA06	BHA06	BHA06	BHA06
			Depth	0.60	2.00	5.00	7.00
			Other ID	2	6	12	17
			Sample Type	ES	ES	ES	ES
			Sampling Date	28/01/16	29/01/16	29/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
Phenol	DETSC 3451*	0.01	mg/kg				< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg				< 0.01
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg				< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg				< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg				< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg				< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg				< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg				< 0.01

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936675	936677	936679	936680	936940	936942
			Sample ID	BHA02	BHA02	BHA07	BHA07	BHA06	BHA06
			Depth	3.00	8.00	1.00	2.00	0.60	5.00
			Other ID	10	26	3	8	2	12
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	28/01/16	28/01/16	27/01/16	27/01/16	28/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
VOCs									
Vinyl Chloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431*	0.01	mg/kg	< 0.01	0.05	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.84	0.04	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.21	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
4-chlorotoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936675	936677	936679	936680	936940	936942
			Sample ID	BHA02	BHA02	BHA07	BHA07	BHA06	BHA06
			Depth	3.00	8.00	1.00	2.00	0.60	5.00
			Other ID	10	26	3	8	2	12
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	28/01/16	28/01/16	27/01/16	27/01/16	28/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
sec-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	1.5	0.07	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs									
Phenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	0.2	0.2
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	1.6	< 0.1	2.1	< 0.1	1.5	2.2
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg		< 0.1		< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	4.4	< 0.1	4.6	< 0.1	1.8	1.5
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936675	936677	936679	936680	936940	936942
			Sample ID	BHA02	BHA02	BHA07	BHA07	BHA06	BHA06
			Depth	3.00	8.00	1.00	2.00	0.60	5.00
			Other ID	10	26	3	8	2	12
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	28/01/16	28/01/16	27/01/16	27/01/16	28/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	2.6	< 0.1	5.1	< 0.1	2.4	1.9

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936681	936682	936944
			Sample ID	BHA02	BHA07	BHA06
			Depth	8.00	2.00	5.00
			Other ID	26	10	12
			Sample Type	ES	ES	ES
			Sampling Date	28/01/16	27/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Preparation						
Leachate 2:1 250g Non-WAC	DETS 036*			Y	Y	Y
Metals						
Antimony, Dissolved	DETSC 2306	0.17	ug/l	2.0	1.5	0.97
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.8	1.8	6.4
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.50	0.35	2.6
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.3	1.3	1.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.76	2.1	0.14
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	0.9
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.41	0.52	0.88
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	< 0.6	1.3
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	< 1.3	2.3
Inorganics						
pH	DETSC 2008			8.1	8.1	8.0
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40
Hardness	DETSC 2303	0.1	mg/l	28.2	2.73	12.5
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015	< 0.015
Chloride	DETSC 2055	0.1	mg/l	1.1	3.3	1.9
Petroleum Hydrocarbons						
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

			Lab No	936681	936682	936944
			Sample ID	BHA02	BHA07	BHA06
			Depth	8.00	2.00	5.00
			Other ID	26	10	12
			Sample Type	ES	ES	ES
			Sampling Date	28/01/16	27/01/16	29/01/16
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
PAHs						
Naphthalene	DETS 074*	0.01	ug/l	0.05	0.08	0.25
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	0.25	0.06
Fluorene	DETS 074*	0.01	ug/l	< 0.01	0.14	0.14
Phenanthrene	DETS 074*	0.01	ug/l	0.05	0.15	0.41
Anthracene	DETS 074*	0.01	ug/l	< 0.01	0.08	0.06
Fluoranthene	DETS 074*	0.01	ug/l	0.02	0.20	0.13
Pyrene	DETS 074*	0.01	ug/l	0.04	0.18	0.14
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.02	0.06	0.04
Chrysene	DETS 074*	0.01	ug/l	0.01	0.04	0.03
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	0.05	0.03
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	0.02	0.02
Benzo(a)pyrene	DETS 074*	0.01	ug/l	0.01	0.05	0.03
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	0.05	0.03
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	0.05	0.03
PAH	DETS 074*	0.2	ug/l	0.22	1.4	1.4
Phenols						
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 16-57218-1
Client Ref PR1531
Contract Title MANCHESTER New Victoria Ground Investigation

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
936674	BHA02 1 0.30	SOIL	NAD	none	Michael Kay
936675	BHA02 10 3.00	SOIL	NAD	none	Michael Kay
936676	BHA02 19 5.00	SOIL	NAD	none	Michael Kay
936677	BHA02 26 8.00	SOIL	NAD	none	Michael Kay
936678	BHA07 1 0.30	SOIL	NAD	none	Michael Kay
936679	BHA07 3 1.00	SOIL	NAD	none	Michael Kay
936680	BHA07 8 2.00	SOIL	NAD	none	Michael Kay
936940	BHA06 2 0.60	SOIL	NAD	none	Keith Wilson
936941	BHA06 6 2.00	SOIL	NAD	none	Keith Wilson
936942	BHA06 12 5.00	SOIL	NAD	none	Keith Wilson
936943	BHA06 17 7.00	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 16-57218-1
Client Ref PR1531
Contract MANCHESTER New Victoria Ground Investigation

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
936674	BHA02 0.30 SOIL	28/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936675	BHA02 3.00 SOIL	28/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936676	BHA02 5.00 SOIL	28/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936677	BHA02 8.00 SOIL	28/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936678	BHA07 0.30 SOIL	27/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936679	BHA07 1.00 SOIL	27/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936680	BHA07 2.00 SOIL	27/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936681	BHA02 8.00 LEACHATE	28/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936682	BHA07 2.00 LEACHATE	27/01/16	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
936940	BHA06 0.60 SOIL	28/01/16	GJ 250ml x2, GV x2, PT 1L x2		
936941	BHA06 2.00 SOIL	29/01/16	GJ 250ml x2, GV x2, PT 1L x2		
936942	BHA06 5.00 SOIL	29/01/16	GJ 250ml x2, GV x2, PT 1L x2		
936943	BHA06 7.00 SOIL	29/01/16	GJ 250ml x2, GV x2, PT 1L x2		
936944	BHA06 5.00 LEACHATE	29/01/16	GJ 250ml x2, GV x2, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 16-61696

31-Mar-16

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference	16-61696
Client Reference	PR1531
Order No	CH-1264
Contract Title	Manchester New Victoria Ground Investigation
Description	2 Water samples.
Date Received	22-Mar-16
Date Started	22-Mar-16
Date Completed	31-Mar-16
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	961792	961793
			Sample ID	Upstream	Downstream
			Depth		
			Other ID		
			Sample Type	EW	EW
			Sampling Date	21/03/16	21/03/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.75	1.5
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	3.8	2.4
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.04
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	3.4
Chromium, Hexavalent	DETSC 2203	3	ug/l	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.2	4.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.32	0.66
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	5.4	6.8
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.74	0.62
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	4.1	3.8
Zinc, Dissolved	DETSC 2306	1.3	ug/l	37	37
Inorganics					
pH	DETSC 2008			8.0	7.9
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40
Hardness	DETSC 2303	0.1	mg/l	218	140
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Chloride	DETSC 2055	0.1	mg/l	44	32

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	961792	961793
			Sample ID	Upstream	Downstream
			Depth		
			Other ID		
			Sample Type	EW	EW
			Sampling Date	21/03/16	21/03/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total	DETSC 3072*	10	ug/l	< 10	< 10
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	961792	961793
			Sample ID	Upstream	Downstream
			Depth		
			Other ID		
			Sample Type	EW	EW
			Sampling Date	21/03/16	21/03/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PAHs					
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETS 074*	0.2	ug/l	< 0.20	< 0.20
PCBs					
PCB 7 Total	DETSC 3402	1	ug/l	< 1.0	< 1.0
Phenols					
Phenol	*	0.5	ug/l	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

	Lab No	961792	961793
	Sample ID	Upstream	Downstream
	Depth		
	Other ID		
	Sample Type	EW	EW
	Sampling Date	21/03/16	21/03/16
	Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	961792	961793
			Sample ID	Upstream	Downstream
			Depth		
			Other ID		
			Sample Type	EW	EW
			Sampling Date	21/03/16	21/03/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	961792	961793
			Sample ID	Upstream	Downstream
			Depth		
			Other ID		
			Sample Type	EW	EW
			Sampling Date	21/03/16	21/03/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
SVOCs					
Phenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Aniline	DETS 071*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETS 071*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETS 071*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETS 071*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETS 071*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETS 071*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETS 071*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETS 071*	1	ug/l	< 1.0	< 1.0
1,2-Dinitrotoluene	DETS 071*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETS 071*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETS 071*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETS 071*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETS 071*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETS 071*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETS 071*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETS 071*	1	ug/l	< 1.0	< 1.0
2,3,4,6-Tetrachlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETS 071*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-61696
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

			Lab No	961792	961793
			Sample ID	Upstream	Downstream
			Depth		
			Other ID		
			Sample Type	EW	EW
			Sampling Date	21/03/16	21/03/16
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
4-Chlorophenylphenylether	DETS 071*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETS 071*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETS 071*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETS 071*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETS 071*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETS 071*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETS 071*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETS 071*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETS 071*	1	ug/l	< 1.0	3.5
Di-n-octylphthalate	DETS 071*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETS 071*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETS 071*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETS 071*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETS 071*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETS 071*	1	ug/l	< 1.0	< 1.0
Carbazole	DETS 071*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 16-61696
Client Ref PR1531
Contract Manchester New Victoria Ground Investigation

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
961792	Upstream WATER	21/03/16	GB 1L x2, GV x2, PB 1L x2		
961793	Downstream WATER	21/03/16	GB 1L x2, GV x2, PB 1L x2		

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 16-59987-1

10-Mar-16

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference 16-59987-1

Client Reference PR1531

Order No CH-1264

Contract Title Manchester New Victoria Ground Investigation

Description One Water sample.

Date Received 03-Mar-16

Date Started 03-Mar-16

Date Completed 10-Mar-16

Test Procedures Identified by prefix DETSn (details on request).

Notes **This report supersedes 16-59987. Sample date added**

Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Water Samples

Our Ref 16-59987-1
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	952446
Sample ID	BHA01
Depth	
Other ID	
Sample Type	EW
Sampling Date	29/02/16
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.33
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	4.0
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.04
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium, Hexavalent	DETSC 2203	3	ug/l	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.76
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	4.4
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.87
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.9
Zinc, Dissolved	DETSC 2306	1.3	ug/l	12
Inorganics				
pH	DETSC 2008			7.2
Cyanide, Total	DETSC 2130	40	ug/l	< 40
Hardness	DETSC 2303	0.1	mg/l	579
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.8
Chloride	DETSC 2055	0.1	mg/l	81
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total	DETSC 3072*	10	ug/l	< 10
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-59987-1
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	952446
Sample ID	BHA01
Depth	
Other ID	
Sample Type	EW
Sampling Date	29/02/16
Sampling Time	n/s

Test	Method	LOD	Units	
PAHs				
Naphthalene	DETS 074*	0.01	ug/l	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01
PAH Total	DETS 074*	0.2	ug/l	< 0.20
PCBs				
PCB 7 Total	DETSC 3402	1	ug/l	< 1.0
Phenols				
Phenol	*	0.5	ug/l	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-59987-1
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	952446
Sample ID	BHA01
Depth	
Other ID	
Sample Type	EW
Sampling Date	29/02/16
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-59987-1
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	952446
Sample ID	BHA01
Depth	
Other ID	
Sample Type	EW
Sampling Date	29/02/16
Sampling Time	n/s

Test	Method	LOD	Units	
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
SVOCs				
Phenol	DETS 071*	1	ug/l	< 1.0
Aniline	DETS 071*	1	ug/l	< 1.0
2-Chlorophenol	DETS 071*	1	ug/l	< 1.0
Benzyl Alcohol	DETS 071*	1	ug/l	< 1.0
2-Methylphenol	DETS 071*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETS 071*	1	ug/l	< 1.0
3&4-Methylphenol	DETS 071*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETS 071*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETS 071*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETS 071*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETS 071*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETS 071*	1	ug/l	< 1.0
2-Methylnaphthalene	DETS 071*	1	ug/l	< 1.0
1,2-Dinitrotoluene	DETS 071*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETS 071*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETS 071*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETS 071*	1	ug/l	< 1.0
2-Chloronaphthalene	DETS 071*	1	ug/l	< 1.0
2-Nitroaniline	DETS 071*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETS 071*	1	ug/l	< 1.0
3-Nitroaniline	DETS 071*	1	ug/l	< 1.0
4-Nitrophenol	DETS 071*	1	ug/l	< 1.0
Dibenzofuran	DETS 071*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETS 071*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETS 071*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 16-59987-1
Client Ref PR1531
Contract Title Manchester New Victoria Ground Investigation

Lab No	952446
Sample ID	BHA01
Depth	
Other ID	
Sample Type	EW
Sampling Date	29/02/16
Sampling Time	n/s

Test	Method	LOD	Units	
Diethylphthalate	DETS 071*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETS 071*	1	ug/l	< 1.0
4-Nitroaniline	DETS 071*	1	ug/l	< 1.0
Diphenylamine	DETS 071*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETS 071*	1	ug/l	< 1.0
Hexachlorobenzene	DETS 071*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETS 071*	1	ug/l	< 1.0
Pentachlorophenol	DETS 071*	1	ug/l	< 1.0
Di-n-butylphthalate	DETS 071*	1	ug/l	< 1.0
Butylbenzylphthalate	DETS 071*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETS 071*	1	ug/l	< 1.0
Di-n-octylphthalate	DETS 071*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETS 071*	1	ug/l	< 1.0
Dimethylphthalate	DETS 071*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETS 071*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETS 071*	1	ug/l	< 1.0
Azobenzene	DETS 071*	1	ug/l	< 1.0
Carbazole	DETS 071*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 16-59987-1
Client Ref PR1531
Contract Manchester New Victoria Ground Investigation

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
952446	BHA01 WATER	29/02/16	GB 1L x2, GV x2, PB 1L		

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Quality Control

Quality Systems.

Derwentside Environmental Testing Services employs numerous measures to ensure high levels of confidence in the results produced. Our laboratory has been accredited by the United Kingdom Accreditation Service (UKAS) since its inception and operates in full compliance with the internationally recognised standard ISO17025 and the Environment Agency's MCERTS (Monitoring & Certification Scheme) standard for soils and waters, which provides greater assurance to all parties of the reliability of data from chemical analysis.

To obtain a copy of our full UKAS schedule visit the UKAS website at www.ukas.org and search for our laboratory number 2139.

2139

Proficiency Testing Schemes.

DETS participates in seven external proficiency testing schemes in order to monitor and ensure the continuing quality of analysis. These schemes are:

Internal Quality Control.

DETS runs a strict internal quality control system. A minimum of 5% of all samples that undergo analysis in our laboratories are quality control samples. This way we can ensure a high level of confidence in all of the analytical data produced. In addition, MCERTS accredited tests must meet strict, ongoing limits for precision and bias in order to maintain their accreditation status.

SAMPLE HOLDING TIME INFORMATION

Soil

Analyte	Container type	Minimum sample required	Reference	Maximum holding time from sampling	
				pre drying/extraction[1]	post drying/extraction[2]
Ammonium	Glass or plastic	20g	BS ISO18512:2007	1 week	
Anions	Glass or plastic	20g	BS ISO18512:2007	1 month	3 years
BTEX	60ml glass jar	Full container	EPA 8260	2 weeks	N/A
Conductivity	Glass or plastic	20g	BS ISO18512:2007	1 week	3 years
Cyanide	Glass or plastic	20g	EPA 9010B/9012	2 weeks	
Heavy metals	Glass or plastic	10g	BS ISO18512:2007	6 months	30 years
Hexavalent chromium	Glass or plastic	20g	BS ISO18512:2007	1 month	
Loss on ignition	Glass or plastic	10g	BS ISO18512:2007	1 month	
OCP	Glass	20g	BS ISO18512:2007	1 month	
Oil & grease	Glass	20g	EPA 9070/1	1 month	
Organic matter/TOC	Glass or plastic	20g	BS ISO18512:2007	1 month	
PAH	Glass	20g	EPA 8100/8270	2 weeks	6 weeks
PCB	Glass	20g	BS ISO18512:2007	1 month	
pH	Glass or plastic	20g	BS ISO18512:2007	1 week	3 years
Phenols	Glass	20g	EPA 8270	2 weeks	6 weeks
PRO	60ml glass jar	Full container	EPA 8015	2 weeks	N/A
Sulphide	Glass or plastic	20g	BRE SD1	3 weeks	1 month
SVOC	Glass	20g	EPA 8270	2 weeks	6 weeks
TEM/CEM	Glass	20g	EPA 418.1	2 weeks	6 weeks
Thiocyanate	Glass or plastic	20g	EPA 9251	No special requirement	
Total sulphur	Glass or plastic	20g	BS ISO18512:2007	1 month	3 years
TPH (C10-C40)	Glass	20g	EPA 418.1	2 weeks	6 weeks
VOC	60ml glass jar	Full container	EPA 8260	2 weeks	N/A

Sample storage environment 5°C

1. From sampling to extraction
2. Once extracted

Waters

Analyte	Container type	Min sample required (ml)	Reference	Preservative required	Max holding time until extraction
Alkalinity	Glass or plastic	100	EPA 310.2	none	2 weeks
Ammonium	Glass or plastic	20	ISO 5667 3:2012	Sulphuric acid	3 weeks
BOD	Glass or plastic	500	EPA 405.1 5120B	none	2 days
BTEX	Glass vial	Full container	Lab validation	none	2 weeks
Chloride	Glass or plastic	20	ISO 5667 3:2012	none	1 month
COD	Glass or plastic	20	ISO 5667 3:2012	Sulphuric acid	1 month
Conductivity/TDS	Glass or plastic	100	EPA 160.1	none	1 week
Cyanide	Plastic	50	EPA 9012/335.3	Sodium hydroxide	2 weeks
Hexavalent chromium	Glass or plastic	20	ISO 5667 3:2012	none	4 days
Metals	Glass or plastic	20	ISO 5667 3:2012	Nitric acid	1 month
Nitrate	Glass or plastic	20	EPA 353.2	none	2 days
Nitrite	Glass or plastic	20	EPA 600/4 079-020	none	2 days
OCP	Glass	500	EPA 8081A/608	none	1 week
Oil & grease	Glass	500	ISO 5667 3:2012	Hydrochloric acid	1 month
PAH	Glass	500	ISO 5667 3:2012	none	1 week
pH	Glass or plastic	50	Lab validation	none	1 week
PCB	Glass	500	EPA 8082A	none	6 weeks
Phenols	Glass	500	ISO 5667 3:2012	Sulphuric acid	3 weeks
Phosphate	Glass or plastic	20	ISO 5667 3:2012	Sulphuric acid	1 month
PRO	Glass vial	Full container	EPA 8015	none	2 weeks
Sulphate	Glass or plastic	20	ISO 5667 3:2012	none	1 month
Sulphide	Plastic	50	ISO 5667 3:2012	NaOH/Zinc acetate	1 week
Suspended solids	Glass or plastic	100	EPA 160.2 2540D	none	1 week
SVOC	Glass	500	EPA 8270/625	none	1 week
TOC	Glass or plastic	20	ISO 5667 3:2012	Sulphuric/Phosphoric acid	1 week
TON	Glass or plastic	20	EPA 353.2	none	1 month
TPH/EPH	Glass	500	Lab validation	none	1 weeks
VOC	Glass vial	Full container	Lab validation	none	1 week

Sample storage environment 3°C ± 2°C

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETS 036	**Leachate Preparation** **(NRA Method and BS EN 12457 Parts 1-3)**	Leachates are prepared as per the NRA (1994) method and as per BS EN 12457 Parts 1 - 3 one and two stage leachate preparation.	Leaching Test Method for the Assessment of Contaminated Land, Interim Guidance, NRA(1994) BS EN 12457 Part 1,2 & 3	n/a	Not Accredited
DETS 073	**Acid Neutralisation Capacity of Soils and Other Solids**	ANC is a measure of the buffering capacity of soils and other waste materials. The analysis measures the amount of acid required to bring the sample to a fixed pH. The initial pH of the sample extract must be measured before analysis begins. Analysis is performed by the addition of acid in conjunction with pH measurement by pH meter until the specified pH has been reached as indicated by the meter. The result is expressed in mol/kg (dry wt).	Annex B (Preliminary determination of the acid/base consumption) – CEN/TC 292 – WI 292046 – Characterization of waste – Leaching behaviour tests – Acid and Base neutralization capacity test	1.0 mol/kg	Not Accredited
DETS 074	**Low Level PAH by HPLC Fluorescence**	PAH is extracted from one litre of filtered water sample by solid phase extraction. PAH is eluted from the SPE column with DCM evaporated to dryness under nitrogen and redissolved in acetonitrile. Analysis of samples is carried out by HPLC fluorescence.	EPA Method 550 The Analyst 2001, 126:1336-1331 Phenomonex Strata X Application Note for PAH by SPE	0.01ug/L each 5.0 ug/L Total	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 1001	**Sample Pre-Treatment and Preparation of Solids**	Solid samples are classified and identified. Samples requiring analysis for unstable or volatile determinands are analysed as received. Samples requiring analysis for stable and non-volatile determinands are dried at <30◦C or 50◦C, depending on requirements, for a minimum of 16hrs (overnight). Dried samples are crushed in a jaw crusher, if necessary, and then ground using a mechanical mixer mill and sieved through a 250µm sieve to ensure they are homogenous.	BS1377:1990 – Soils for Civil Engineering Purposes The preparation and pre-treatment of potentially contaminated soils prior to chemical analysis – MEWAM – 2006 – Environment Agency (Updated procedure under preparation)	n/a	Not Accredited
DETSC 1002	**Description of Soil Sample Type**	This method outlines the procedure used to describe soil samples with respect to basic type, predominant colour and inclusions. The procedure is carried out during the sample preparation stage.	BS 5930:Section 6:1999	n/a	Not Accredited
DETSC 1003	**Stone and Glass / Metal / Plastic Content of Soil**	This method outlines the procedure used to determine the Stone and Glass/Metal/Plastic content of soil samples. The procedure is carried out during the sample preparation stage.	BS 3882:2007 BS 1377:1990	0.1%	Not Accredited
DETSC 1004	**Moisture Content/Loss on Drying of Soil**	Loss on drying is determined by loss of mass on drying in an oven set at 28ºC or 50ºC. Moisture content is determined by loss of mass on drying in an oven set at 105ºC. The procedure is carried out during the sample preparation stage.	Practical Environmental Analysis. Radojevic & Bashkin. RSC 1999 BS 1377: Part 2:1990 DETS drying time study	0.1%	Not Accredited
DETSC 1101	**Asbestos - Bulk Analysis**	Samples are examined visually for the presence of asbestos containing materials or asbestos fibres. Suspect fibres are removed from the sample and examined using polarised light microscopy to determine whether they are asbestos fibres. If no asbestos fibres are identified by the method after an adequate length of examination time, and after at least two small pinch samples have been examined, then the sample may be reported as 'NAD' (no asbestos detected).	HSG 248 Asbestos: The Analysis Guide for Sampling, Analysis and Clearance Procedures. 2005 McCrone W.C., Asbestos Identification (Second Edition), The McCrone Research Institute, 1987 LAB 30, Application of ISO/IEC17025 for Asbestos Sampling and Testing, UKAS, Edition 2, April 2008	n/a	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 1102	**Quantification of asbestos in soils, loose aggregates and ballast**	The method of quantification is divided into three procedures: Gravimetric analysis, detailed gravimetric analysis and PCOM analysis. The analysis may be affected by the client's requirements as determined by contract review, and by the nature of the asbestos found in the sample, e.g. whether ACMs are present, and whether fibre bundles large enough to pick out using tweezers are have been found in the sample.	HSG 248 Asbestos: The Analysis Guide for Sampling, Analysis and Clearance Procedures. 2005 HSG264 Asbestos: The survey guide. HSE Books, 2010. Davies, L. S.T., Wetherill, G. Z., McIntosh, C., McGonagle, C., Addison, J. 1996. Development and validation of an analytical method to determine the amount of asbestos in soils and loose aggregates. HSE Contract Research Report N0. 83/1996. HSE Books	Gravimetric Analysis: 0.01% for 1kg sample Detailed Gravimetric Analysis: 0.001% for 50g sample PCOM Analysis: 0.001%	UKAS
DETSC 1103	**Asbestos Water Absorption Test**	This test involves a sample of the asbestos product being dried and weighed before being immersed in water for a period of time. The sample is then removed from the water and re-weighed. If the amount of water absorbed is <30% by weight, then the sample should be reported as 'Not Licensed'. If ≥30% water is absorbed then the sample should be reported as being 'Licensed', i.e. an asbestos material for which a licence is required to work on.	Work with Materials Containing Asbestos: Approved Code of Practice and Guidance. HSE Books, 2006.	n/a	UKAS
DETSC 2002	**Organic matter content of soil**	The procedure is based upon Walkley and Black's method. Organic matter in soil is oxidised with potassium dichromate in the presence of concentrated sulphuric acid. The excess dichromate is titrated with ferrous sulphate using diphenylamine as an external indicator. The organic matter content is calculated from the amount of dichromate used during the oxidation process based on an empirical relationship.	BS1377 : Part 3 : 1990 Method 3 BS1377 : Part 1 : 1990 BS 3882:2007	0.1%	UKAS MCERTS(Soils)

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

DETSC 2003	**Loss On Ignition**	Soil is ignited at 440C and the amount of sample lost on ignition is determined gravimetrically. Other specified temperatures may be used but are not accredited.	BS1377 : Part 3 : 1990 Method 4 BS1377 : Part 1 : 1990	0.01%	UKAS MCERTS(Soils)
Method Number	**Title**	**Description**	**Reference**	**LOD**	**Accreditation Status**
DETSC 2004	**Sulphate Content of Soil and Water**	The sulphate in the soil is dissolved in dilute hydrochloric acid, or in an aqueous extract having a water:soil ratio of 2:1 and the insoluble residue is removed by filtration. Waters are also filtered prior to analysis. The sulphate in the filtrate is precipitated as barium sulphate which is then filtered, ignited and weighed.	BS1377 : Part 3 : 1990 Method 5 BS1377 : Part 1 : 1990 BRE SD1: 2005 Concrete in Aggressive Ground	**Acid Soluble:** 0.01% **Water Soluble** 100mg/l **Waters** 10mg/l	UKAS MCERTS(Soils)
DETSC 2005	**Carbonate content of soil by Rapid Titration**	The carbonate present in the soil reacts with a known excess of hydrochloric acid liberating carbon dioxide. The acid remaining after the reaction is determined by titration against sodium hydroxide. The result is calculated in terms of the equivalent proportion of carbon dioxide.	BS 1377: Part 1: 1990. BS 1377: Part 3: 1990: Method 5	1%	UKAS
DETSC 2006	**Water Soluble Chloride Content of Soil & Chloride Content of Water**	The chloride in the soil is dissolved in water and the insoluble material is removed by filtration. Waters are filtered before analysis. The chloride is analysed by Mohr's method. The chloride in a neutral solution is titrated against standard silver nitrate using potassium chromate as an indicator. The colour change is from yellow to brick red.	BS1377 : Part 3 : 1990 Method 7.2 BS1377: Part 1: 1990	**Soil:** 0.01% **Water:** 10mg/l	UKAS MCERTS(Soils)
DETSC 2007	**Acid Soluble Chloride Content of Soil and Concrete**	The chloride in the sample is dissolved in nitric acid and the insoluble material is removed by filtration. The dissolved chloride is analysed by Volhard's method. The chloride in solution is precipitated with a known excess of standard silver nitrate. The excess silver nitrate is titrated against standard ammonium thiocyanate using ferric alum as an indicator. The colour change is white to red.	BS1377 : Part 3 : 1990 Method 7.3 BS1377: Part 1: 1990 BS 1881-124:1988	0.01%	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2008	**pH Value of Soil and Water**	The pH value of a soil suspension in water or a groundwater sample is determined electrometrically using a glass electrode.	BS1377: Part 3: 1990 – Soils for Civil Engineering Purposes – Chemical and Electrochemical Methods	n/a	UKAS (Soils + Waters) MCERTS (Soils + Waters-Trade Effluent only)
DETSC 2009	**Electrical Conductivity of Soil & Water**	The electrical conductance of a soil suspension in water or of a water sample is determined by voltammetry using a conductivity meter. In some cases, the soil may need to be extracted with an aqueous solution of an inorganic salt e.g. the conductivity of topsoil is determined by preparing a suspension of the soil in saturated calcium sulphate.	Standard Methods for the Examination of water and Wastewater Part 2510B 21st Edition 2005 APHA, AWWA, WEF BS3882:2007 Specification for Topsoil	1uS/cm	UKAS
DETSC 2019	**Loose Packed Dry Soil Density**	Dried, ground soil is transferred to a dry, tared measuring cylinder and the volume recorded. The cylinder and its contents are then weighed and the density of the soil calculated.	BS3882:2007 Specification for Topsoil	n/a	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2024	**Sulphide in Soil and Water by Iodometry**	Hydrogen sulphide is liberated by acidification of the sample with hydrochloric acid in a steam distillation unit. The hydrogen sulphide produced is carried over with the steam and is absorbed in alkaline zinc acetate. The zinc sulphide produced reacts with iodine formed when iodate-iodide is acidified and the excess iodine titrated with standard thiosulphate.	In House Method based on: Environment Agency The determination of easily liberated sulphide in soils and similar matrices (2010) - Blue Book 228 Method D - The determination of easily liberated sulphide in as received or air-dried samples following acid steam distillation with iodometric titration. Environment Agency The determination of sulphide in waters and associated materials (2007) Draft Method D - The determination of easily liberated sulphide in as received or air-dried samples following phosphoric acid steam distillation with iodometric titration.	**Soils:** 10mg/kg . **Waters:** 250ug/l	**Soils:** UKAS MCERTS(Soils) **Waters:** Not Accredited
DETSC 2030	**Alkalinity in Water**	Alkalinity of a water sample is determined by indicator end point titration with a strong acid from sample pH to pH8.3 (where applicable) and then to pH4.5. From the titres obtained the total alkalinity and concentrations and types of alkalinity present can be calculated.	SCA Method ISBN 0 11 751601 5 The Determination of Alkalinity and Acidity in Water 1981 Instruction Manual for Skalar SP50 Robotic Analyser	20mg/l as CaCO3	UKAS MCERTS(Waters) Trade Effluent only
DETSC 2031	**5 Day Biochemical Oxygen Demand**	The sample, either diluted or undiluted, is placed in a BOD bottle and the initial dissolved oxygen content of the sample is measured using a dissolved oxygen meter. The bottle is placed in an incubator at 20ºC in the dark for 5 days. After this time the bottle is removed and the residual dissolved oxygen content of the sample is measured. The BOD of the sample is calculated from the reduction in the concentration of dissolved oxygen over 5 days.	SCA Method ISBN 0 117522120 5 Day Biochemical Oxygen Demand (BOD5) Second Edition 1988	1 mg/l	UKAS MCERTS(Waters)- Trade Effluent only

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2032	**Chemical Oxygen Demand**	Oxidisable substances react with sulphuric acid – potassium dichromate solution in the presence of silver sulphate as a catalyst. Chloride is masked by mercury sulphate. The reduction in the yellow colouration of Cr6+ is evaluated using a spectrophotometer for the low range tubes (LCK 314) whilst the green colouration of Cr3+ is evaluated for the medium and high range tubes (LCK 014 and LCK 114).	Environment Agency The determination of chemical oxygen demand in waters and effluents (2007) Methods for the Examination of Waters and Associated Materials	10 mg/l	UKAS MCERTS(Waters)-Trade Effluent only
DETSC 2033	**Total and Dissolved Organic Carbon in Water**	The term TOC (Total Organic Carbon) is used to describe the total content of organically bound carbon in dissolved and undissolved compounds. The TOC content is expressed in mg/l. If DOC (Dissolved Organic Carbon) is required, samples are filtered through a 0.45µm filter paper prior to analysis. Inorganic carbon is expelled by acidification of the sample. TOC is then determined by digestion of the sample with sulphuric acid and peroxodisulphate. Carbon containing compounds are transformed into carbon dioxide. The carbon dioxide evolves and reacts with an indicator solution. The colour change is measured using a spectrophotometer.	Hach-Lange Technical Instructions: LCK 385, LCK 386, LCK 387	2 mg/l	UKAS
DETSC 2034	**Suspended and Settleable Solids in Water**	Suspended matter is removed from a measured volume of sample by filtration under reduced pressure through a pre-treated, pre-weighed glass fibre filter paper. The paper is washed with deionised water to remove dissolved salts and the total suspended matter is determined gravimetrically after drying at 105 ±5°C Settleable solids are determined by subtracting the solids left in suspension after settlement for 1 hour (or other agreed time) from the total suspended matter in the sample.	SCA Method ISBN 011 751957 X Suspended, Settleable and Total Dissolved Solids in Waters and Effluents 1980	5 mg/l	**Suspended Solids:** UKAS MCERTS(Waters)-Trade Effluent only **Settleable Solids:** Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2035	**Total Dissolved Solids in Water**	Water samples are pre-filtered to remove any suspended solids and evaporated in an oven at 180°C. The amount of residual dissolved solids is determined gravimetrically. An estimate of the total dissolved solids can be obtained by measuring the conductivity of the sample. This method is not accredited.	SCA Method ISBN 011 751957 X Suspended, Settleable and Total Dissolved Solids in Waters and Effluents 1980 BS1377: Part 3 : 1990 Section 8	5 mg/l	UKAS
DETSC 2047	**Formaldehyde in Water**	Formaldehyde in soil is extracted in water, with a water to soil ratio of 10:1. The insoluble residue is removed by filtration prior to analysis. Waters are filtered prior to analysis to remove any particulates in suspension. Formaldehyde in the extract or water sample reacts with chromatropic acid-sulphuric acid solution to form a purple coloured complex. The absorbance of the coloured solution is read at 580nm using a suitable visible spectrophotometer.	Formaldehyde by visible absorption spectrophotometry – Method 3500, Issue 2 – NIOSH Manual of Analytical Methods, Fourth edition, August 1994	**Soil:** 0.2mg/kg **Water:** 20µg/l	Not Accredited
DETSC 2048	**Dissolved Oxygen Content of Water**	The dissolved oxygen content of the sample is measured using a dissolved oxygen meter either electrochemically or by fluorescence, or by the titrimetric method developed by Winkler.	SCA Method ISBN 0.11 751442X Dissolved Oxygen in Natural and Waste Waters 1979	0.1 mg/l	Not Accredited
DETSC 2055	**Anions in Water and Aqueous Soil Extracts by Ion Chromatography**	Liquid samples and aqueous soil extracts are filtered through a 0.22µm syringe filter prior to analysis. The filtered samples are injected into an Ion Chromatograph. The anions of interest are separated on the basis of their affinity for the active sites of the column packing material. The separated anions are converted into their highly conductive acid forms and measured by conductivity. The anions are identified on the basis of retention time as compared to standards and quantisation is by measurement of peak area.	Standard Methods for the Examination of Water and Wastewater Section 4110 21st Edition 2005 APHA, AWWA, WEF	**Soil:** 1.0 mg/kg **Water:** 0.1 mg/L	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2076	**Sulphate and Magnesium Content of 2:1 Aqueous Extract of Soil by ICP-OES**	The sulphate and magnesium in the soil are extracted in an aqueous extract having water: soil ratio of 2:1 and the insoluble material is removed by filtration. The concentrations of sulphate and magnesium in the filtrate are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). The wavelengths used for identification and quantification are 181.972nm for sulphate and 285.213nm for magnesium.	BS1377 : Part 3: 1990 Method 5 BS1377 : Part 1: 1990 TRL 447 Sulphate Specification for Structural Backfills 2005 BRE SD1:2005 Concrete in Aggressive Ground 2005	10mg/L	**Sulphate:** UKAS MCERTS(Soils) **Magnesium:** Not Accredited
DETSC 2084	**Total Organic Carbon by PrimacATC Analyser**	Soil samples are treated with phosphoric acid to expel any inorganic carbonates. The samples are then heated at high temperature in a continuous flow of air so that any organic carbon is oxidised to carbon dioxide. The gas is then allowed to cool and analysed by an infra-red detector.	PrimacsATC Analyser – User Manual, Skalar	0.47%	MCERTS(Soils)
DETSC 2085	**Total and Dissolved Organic Carbon in Water**	**Direct TOC Analysis** The sample is acidified, stirred and purged to remove the IC before the sample is injected and handled as in the TC Analysis. The sample is filtered before acidification for DOC. **TC Analysis** The sample is injected by an automated septum less rotary port into a high temperature reactor. In the reactor, at a temperature of 750 - 950°C all organic and inorganic carbon is oxidized to the gaseous carbon dioxide (CO2). The catalyst that is present in the reactor catalysis the oxidation to completion. A flow of air transports these oxidation products to the detectors. The oxygen required for reaction is taken from the airflow. The products are led into the non-dispersive infrared detector where the carbon dioxide is determined. The carbon dioxide is measured at a wavelength of 4.2 µm by NDIR detection.	Standard Methods for the Examination of Water and Wastewater Section 5310 B 21st Edition 2005 APHA, AWWA, WEF HMSO Methods for the Examination of Waters and Associated Materials – The Instrumental Determination of Total Organic Carbon and Related Determinands 1995	lmg/l as C	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2119	**Exchangeable Ammonia in Soil**	An intense blue-green complex, related to indophenol blue, is formed by the reaction of ammonia with hypochlorite and sodium salicylate, with sodium nitroprusside acting as a catalyst. The complex is measured at 655nm and is related to the ammonia concentration by means of a calibration curve. Sodium citrate is added to overcome interfering ions.	MAFF/ADAS Reference Book 427 – the Analysis of Agricultural Materials – Method 53, Ammonium, Nitrate and Nitrite-Nitrogen, Potassium Chloride Extractable	0.5mg/kg	UKAS MCERTS(Soils)
DETSC 2120	**Ammonia in Water by Spectrophotometry**	An intense blue-green complex, related to indophenol blue, is formed by the reaction of ammonia with hypochlorite and sodium salicylate, with sodium nitroprusside acting as a catalyst. The complex is measured at 655nm and is related to the ammonia concentration by means of a calibration curve. Sodium citrate is added to overcome interfering ions.	Environment Agency Ammonia in Waters 1981 ISBN 0117516139 Methods for the Examination of Waters and Associated Materials	20µg/l	UKAS
DETSC 2121	**Total Kjeldahl Nitrogen Content of Soils and Waters**	The sample is digested with sulphuric acid and a mixture of catalysts to convert organic nitrogen to ammonia. The sample is then distilled under alkaline conditions, and the distilled ammonia is absorbed in sulphuric acid. The ammonia content of the distillate is then determined colorimetrically either using the UV/vis spectrophotometer or the Konelab 60i. Ammonia reacts with hypochlorite ions generated by the alkaline hydrolysis of sodium dichloroisocyanurate to form monochloramine. Monochloramine reacts with salicylate ions in the presence of sodium nitroprusside at around pH 12.6 to form a blue compound. The absorbance of this compound is measured spectrophotometrically at wavelength 660nm	The Analysis of Agricultural Materials – MAFF/ADAS Reference Book 427 – HMSO BS 3882: 2007 Specification for topsoil Standard Methods for the Examination of Water and Wastewater Part 4500-N. 21st Edition 2005 APHA, WWA, WEF	**Soil:** 0.01% **Water:** 2mg/l	Not Accredited
DETSC 2123	**Water Soluble Boron in Soil & Boron in Water**	Boron in soil is extracted in boiling saline water. Waters are filtered prior to analysis to remove any particulates in suspension. The water soluble boron in the extract or filtrate reacts with azomethine–H to produce a yellow coloured complex. The resulting colour absorbance is measured at 420nm using a suitable visible spectrophotometer.	SecondSite Property (now National Grid Property Holdings) - Guidance for assessing and managing potential contamination on former gasworks and associated sites (Part I) (Version 3) Method 17.12 The analysis of Agricultural materials MAFF/ADAS – reference book 427	**Soil:** 0.2mg/kg **Water:** 100ug/L	UKAS MCERTS(Soils)

			HMSO		

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2130	**Cyanides & Monohydric Phenols by Skalar**	Water samples are filtered through a 0.45µm syringe filter and solid samples are extracted with 1M caustic soda prior to analysis on the automated flow analyser. The method determines total cyanide, easily liberated cyanide, complex cyanide, thiocyanate and monohydric phenols	Skalar methods: I295-001 w/r+P7 I295-002 w/r+P7 293-902 w/r+P7 497-001	**Soils mg/kg:** Total & Free CN=0.1, Thio=0.6, Phenol=0.3 **Waters ug/L:** Total CN=40, Free CN=20, Thio=20, Phenol=100	UKAS MCERTS(Soils)
DETSC 2140	**Sugar in Mixing Water for Cement**	Waters are filtered prior to analysis to remove any particulates in suspension. The sugar in the filtrate reacts with phenol and sulphuric acid to produce a yellow-orange coloured complex. The resulting colour absorbance is measured at 490nm using a suitable visible spectrophotometer.	Colorimetric Method for Determination of Sugars and Related Substances MICHEL DUBOIS, K. A. GILLES, J. K. HAMILTON, P. A. REBERS, and FRED SMITH - Division of Biochemistry, University of Minnesota, St. Paul, Minnesota.	10mg/l	Not Accredited
DETSC 2201	**Nitrite in Waters and Leachates by Konelab 60i**	Nitrite is determined colorimetrically using the Konelab60i autoanalyser. The nitrite colour reaction occurs at pH 2.0 to 2.5 by coupling diazotized Sulphanilamide with N-1-naphthyl-ethylenediamine. The absorbance of this compound is measured spectrophotometrically at 520nm.	Standard Methods for the Examination of Water and Wastewater Part 4500-NO2 B – 21st Edition 2005 APHA, AWWA, WEF Aquakem Method Nitrite in Waters Iss No 2 Methods for the Examination of Water and Associated Materials Oxidised Nitrogen in Waters 1981.	0.04mg/l (as N)	UKAS

			EPA Method 354.1 Nitrite, spectrophotometric (Approved at 40 CFR Part 136, not approved at Part 141)		

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2202	**Total Oxidised Nitrogen in Waters and Leachates by Konelab 60i**	Nitrate is reduced to nitrite by hydrazine under alkaline conditions. The total nitrite ions are then reacted with sulphanilamide and N-1-naphthylethylenediamine dihydrochloride under acidic conditions to form a reddish purple azo-dye. The absorbance of this compound is measured spectrophotometrically at 540 nm using the Konelab 60i autoanalyser.	Standard Methods for the Examination of Water and Wastewater Part 4500-NO2 B and Part 4500-NO3 H – 21st Edition 2005 APHA, AWWA, WEF Aquakem Method Total Oxidised Nitrogen. Methods for the Examination of Water and Associated Materials Oxidised Nitrogen in Waters 1981. EPA Method 353.1 Nitrate, Nitrite Colorimetric Automated Hydrazine Reduction (Approved at 40 CFR Part 136, Not approved at Part 141)	0.7mg/l (as N)	UKAS
DETSC 2203	**Hexavalent Chromium in Waters and Leachates by Konelab 60i**	Hexavalent Chromium is determined colorimetrically using the Konelab 60i autoanalyser. Hexavalent chromium reacts with diphenylcarbizide in acid solution and produces a red-violet colour. The absorbance of this compound is measured spectrophotometrically at 540nm.	Standard Methods for the Examination of Water and Wastewater Part 3500-Cr – 21st Edition 2005 APHA, AWWA, WEF USEPA 7196-A Aquakem Method. Hexavalent Chromium	10µg/l	UKAS
DETSC 2204	**Hexavalent Chromium in Soil by Konelab 60i**	Hexavalent Chromium is determined colorimetrically using the Konelab 60i autoanalyser. Hexavalent chromium reacts with diphenylcarbizide in acid solution and produces a red-violet colour. The absorbance of this compound is measured spectrophotometrically at 540nm.	Aquakem Method. Hexavalent Chromium	1mg/kg	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2205	**Reactive & Total Phosphorus in Waters and Leachates by Konelab 60i**	Phosphate is determined colorimetrically using the Konelab60i autoanalyser. The orthophosphate ion reacts with ammonium molybdate and antimony potassium tartrate under acidic conditions to form a 12-molybdophosphoric acid complex. The complex is then reduced with ascorbic acid to form a blue heteropoly compound. The absorbance of this compound is measured spectrophotometrically at wavelength 880nm.	Standard Methods for the Examination of Water and Wastewater Part 4500-P E– 21st Edition 2005 APHA, AWWA, WEF Aquakem Method. Phosphate in Waters Issue 2	0.01mg/l	**Reactive Phosphorus:** UKAS MCERTS (Waters-Trade Effluent only) **Total Phosphorus:** Not Accredited
DETSC 2206	**High Level Ammonia in Waters and Leachates by Konelab 60i**	Ammonia is determined colorimetrically using the Konelab60i autoanalyser. Ammonia reacts with hypochlorite ions generated by the alkaline hydrolysis of sodium dichloroisocyanurate to form monochloramine. Monochloramine reacts with salicylate ions in the presence of sodium nitroprusside at around pH 12.6 to form a blue compound. The absorbance of this compound is measured spectrophotometrically at wavelength 660nm.	Methods for the Examination of Waters and Associated Materials Ammonia in Waters 1981 ISBN 0117516139. Aquakem Method. Ammonia in Waters Issue 2	0.8mg/l	UKAS
DETSC 2207	**Low Level Ammonia in Waters and Leachates by Konelab 60i**	Ammonia is determined colorimetrically using the Konelab60i autoanalyser. Ammonia reacts with hypochlorite ions generated by the alkaline hydrolysis of sodium dichloroisocyanurate to form monochloramine. Monochloramine reacts with salicylate ions in the presence of sodium nitroprusside at around pH 12.6 to form a blue compound. The absorbance of this compound is measured spectrophotometrically at wavelength 660nm.	Methods for the Examination of Waters and Associated Materials Ammonia in Waters 1981 ISBN 0117516139. Aquakem Method. Ammonia in Waters Issue 2	0.015mg/l	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2208	**Sulphide in Waters and Leachates by Konelab 60i**	Sulphide is determined colorimetrically using the Konelab60i autoanalyser. Potassium Dichromate converts N-N-Diethyl-p-phenylenediamine to the free radical which reacts rapidly with sulphide to produce the coloured 'DPD Blue' or 'Ethylene Blue'. The absorbance can then be measured at wavelength 660nm.	The determination of sulphide in waters and associated materials (2007) - SCA - Draft (March 2007) Aquakem Method. Sulphide SP001 Issue 2 Standard Methods for the Examination of Water and Wastewater, 21st Edition 2005, Part 4500. ISBN0-87553-223-3	10µg/l	UKAS
DETSC 2210	**Ferrous Iron in Waters and Leachates by Konelab 60i**	Three molecules of phenanthroline chelate with each atom of ferrous iron to form an orange/red complex. The intensity of the coloured solution is stable between pH3 to pH9. Rapid colour development occurs between pH2.9 and pH3.5 in the presence of excess phenanthroline. The resulting colour absorbance is measured at 510nm	Aquakem Method Ferrous Iron FIR001 Issue 2	0.1mg/l	Not Accredited
DETSC 2211	**Silicate in Waters and Leachates by Konelab 60i**	Reactive forms of silicon in acid solution, below pH2, react with ammonium molybdate ions to form a yellow silicomolybdate. Ascorbic acid reduces the yellow silicomolybdate to produce a blue silicomolybdate complex. Oxalic acid is added to destroy any molybdophosphoric acid formed.	ASTM D7126 - 10 Standard Test Method for On-Line Colorimetric Measurement of Silica Aquakem Method Silica SIL Issue 2	0.1mg/l	Not Accredited
DETSC 2301	**Metals in Soil by ICP-OES** As, Ba, Be, Cd, Cr, Co, Cu, Fe, Mn, Mo, Ni, Pb, Se, V, Zn	Metals in soil are extracted using aqua regia and their concentrations are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Any metals not listed can be determined but are not accredited under UKAS or MCERTS for soils.	Standard Methods for the Examination of Water and Wastewater Part 3120 B – 21st Edition 2005, AWWA, WEF	**mg/kg:** As, Be Cu, Ni =0.2, Ba=1.5, Cd=0.1, Cr=0.15, Co=0.7, Mn=20, Mo=0.4, Pb=0.3, Fe=1200, Se=0.5, V=0.8, Zn=1.0	UKAS (all listed) MCERTS (All soils listed except Fe)

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2302	**Metals in Waters by ICP-OES** Al, As, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Se, Zn	Concentrations of metals in water are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Any metals not listed can be determined but are not accredited under UKAS or MCERTS for waters	Standard Methods for the Examination of Water and Wastewater Part 3120 B – 21st Edition 2005 APHA, AWWA, WEF	**µg/l:** Al=6.5, As= 7.1, Ca=100, Cd=0.3, Cr=0.75, Cu=0.75, Fe=70, K=20, Mg=5, Na=12, Ni=2.7, Pb=4, Se=11.3, Zn=3.8	**Dissolved:** UKAS (all listed) MCERTS(Waters)-Trade Effluent only (Al, Cd, Cr, Cu, Ni, Pb, Zn) **Total:** Not Accredited
DETSC 2303	**Total Hardness (By Calculation)**	The concentrations of calcium and magnesium are determined using the appropriate methodologies. The hardness is a measure of the sum of the calcium and magnesium concentration expressed as calcium carbonate.	Standard Methods for the Examination of Water and Wastewater Part 3120 B – 21st Edition 2005 APHA, AWWA, WEF	n/a	UKAS
DETSC 2304	**Zinc Equivalent in Soil (By Calculation)**	The concentrations of copper, nickel and zinc concentrations are determined using the appropriate methodologies. The zinc equivalent is a measure of the combined toxicity of the three metals, relative to the toxicity of zinc.	n/a	n/a	Not Accredited
DETSC 2306	**Metals in Waters by ICP-MS** Ag, Al, As, Ba, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Sn, V, Zn	Concentrations of metals in water are determined by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS). Any metals not listed can be determined but are not accredited under UKAS.	Standard Methods for the Examination of Water and Wastewater Part 3125 B – 21st Edition 2005 APHA, AWWA, WEF	**µg/l:** Ag=0.13, Al=10.0, As=0.16, Ba=0.26, Ca=90, Cd=0.03, Co=0.16, Cr=0.25, Cu=0.40, Fe=5.50, Hg=0.01, K=80, Mg=20, Mn=0.22, Mo=1.1, Na=70, Ni=0.50, P=18.0, Pb=0.09, Sb=0.17, Se=0.25, Sn=0.40, V=0.60, Zn=1.3	**Dissolved:** UKAS (all listed) **Total:** Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2320	**Total Sulphur in Soil by ICP**	Sulphur compounds in soil are extracted using aqua regia and the insoluble residue is removed by filtration. The concentration of sulphur in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Loss of sulphur as H2S is prevented by oxidation of the sulphur compounds to sulphate by the aqua regia.	TRL 447 Sulphate Specification for Structural Backfills 2005 BRE SD1 Concrete in Aggressive Ground 2005	0.01%	UKAS
DETSC 2321	**Total Sulphate content of Soil by ICP-OES**	The sulphate in the soil is extracted in dilute hydrochloric acid and the insoluble residue is removed by filtration. The filtrate is made up to volume and the concentration of sulphate in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES).	BS1377 : Part 3: 1990 Method 5 BS1377 : Part 1 : 1990	0.01%	UKAS MCERTS(Soils)
DETSC 2322	**Total Potential Sulfate and Total Oxidisable Sulphur (By Calculation)**	Sulphur compounds in soil are extracted using aqua regia and the insoluble residue is removed by filtration. The concentration of sulphur in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Loss of sulphur as H2S is prevented by oxidation of the sulphur compounds to sulphate by the aqua regia. The wavelength used for identification and quantification of sulphate is 181.972nm. The sulphate in the soil is extracted in dilute hydrochloric acid and the insoluble residue is removed by filtration. The filtrate is made up to volume and the concentration of sulphate in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). The wavelength used for identification and quantification of sulphate is 181.972nm. The two results obtained from the above tests may then be combined to calculate the Total Potential Sulphate and Total Oxidisable Sulphur content	BS1377 : Part 3: 1990 Method 5 BS1377 : Part 1 : 1990	0.01%	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2324	**Mercury in Waters by Atomic Fluorescence Spectroscopy**	Waters and aqueous samples are preserved by fixing with concentrated nitric acid. Treatment with tin (II) chloride reduces mercury (II) to mercury (0) vapour which is detected using atomic fluorescence spectrometry.	Standard Methods for the Examination of Water and Wastewater Part 3112 B – 21st Edition 2005 APHA, AWWA, WEF PSA Method – Millennium Merlin Method for Total Mercury in Drinking, Surface, Ground, Industrial and Domestic Wastewaters and Saline Waters	0.05µg/l	UKAS
DETSC 2325	**Mercury in Soil Atomic Fluorescence Spectroscopy**	The mercury is extracted from soil in aqua regia with gentle refluxing. The extract is filtered to remove particulates and diluted to volume. Treatment with tin (II) chloride reduces mercury (II) to mercury (0) vapour which is detected using atomic fluorescence spectrometry.	PSA Method – Millennium Merlin Method for Mercury in Sludge, Soils and Sediments	0.05 mg/kg	UKAS MCERTS(Soils)
DETSC 2332	**Inorganic and Methyl Mercury Speciation**	Soils are air-dried and crushed before being subjected to a two-stage microwave extraction procedure for Inorganic (Hg(II)) and Methyl (MeHg) mercury. Waters and aqueous samples are filtered to remove particulates. An aliquot is separated via HPLC before treatment with bromate-bromide and tin (II) chloride to generate mercury and the mercury is determined by atomic fluorescence spectroscopy.	USEPA Method 3200 – Mercury Species Fractionation and Quantification by Microwave Assisted Extraction. PSA Application Note 053 – Mercury Speciation Using The Millenium Merlin Speciation System	**Soil:** 100µg/kg **Water:** 1µg/l	Not Accredited
DETSC 2333	**Elemental Mercury Speciation**	Soils, waters and aqueous samples are tested on an as-received bases. A known quantity of sample is extracted using argon and the released elemental mercury is trapped. The trapped mercury is released upon heating in a scarifier module and determined by atomic fluorescence spectroscopy.		**Soil:** 0.6µg/kg **Water:** 1µg/l	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2400	**Unified Barge Bioaccessible Metals in Soils**	The Unified BARGE Method (UBM) is a an in vitro method for simulating the human digestive system. Synthetic digestive fluids are used to simulate the fluids present in the body. Both inorganic solutions (Containing inorganic salts such as KCl, NaCletc), and organic solutions (Containing organic compounds such as Urea, Glucose etc) are mixed with enzymes to produce 4 Synthetic digestive fluids saliva (S), Gastric fluid (G), duodenal fluid (D) and bile (B). These solutions are then used to mimic the effect of a sample passing through a human gastro intestinal tract by shaking portions of the sample at 37^0C, human body temperature (17.4).	EPA 9200.2-86 April 2012- Standard Operating Procedure for an In Vitro Bioaccessibility Assay for Lead in Soil BGS Chemical& Biological Hazards Programme Open Report OR/07/027 - Inter-laboratory Trial of a Unified Bioaccessibility Procedure	V = 1.0mg/kg Cr = 5.0mg/kg Co = 1.0mg/kg Ni = 5.0mg/kg As = 0.5mg/kg Se = 0.5mg/kg Cd = 0.5mg/kg Pb = 1.0mg/kg	Not Accredited
DETSC 3001	**Solvent Extractable Matter in Soil**	Soil samples are extracted with a water-immiscible solvent and filtered to remove the water. The solvent is evaporated and the amount of extractable matter in the sample is determined gravimetrically.	In-house method based on:- Problems Arising from the Redevelopment of Gas Works and Similar Sites - AERE Harwell Laboratory 1981. Environmental Agency The Determination of Material Extractable by Carbon Tetrachloride and of Certain Hydrocarbon Oil and Grease Components in sewage Sludge – 1978	40mg/kg	**Toluene & Cyclohexane:** UKAS **Other Solvents:** Not Accredited
DETSC 3002	**Oil & Grease/Solvent Extractable Matter in Waters**	A known volume of sample is acidified to pH<2 and extracted three times with an organic solvent, such as n-Hexane, in a separating funnel. The solvent is removed by evaporation and the amount of extractable matter in the sample is determined gravimetrically.	APHA 21st Edition, 2005 – Method 5520 B. Oil & Grease - Partition Gravimetric Method USEPA Method 1664, Revision A: n-Hexane Extractable Material (HEM: Oil & Grease) and Silica Treated N-Hexane Extractable Material (SGT-HEM; Non Polar Material) by Extraction and Gravimetry.	1mg/l for 500ml sample	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3049	**Elemental Sulphur in Soils and Waters by HPLC**	Soils are extracted in dichloromethane (DCM) by sonication. The elemental sulphur concentration is determined by high performance liquid chromatography (HPLC) with UV detection using a C_{18} (e.g. 250mm x 4.6mm) column and a mobile phase composed of 95% methanol and 5% water. Waters and aqueous extracts of soils are extracted using DCM in a separating funnel, filtered, and the concentration determined using HPLC.	National Grid Property Holdings Limited, Methods for the Collection and Analysis of Samples from National Grid Sites, Version 1, September 2006. Section 3.12 Soil Analysis: Elemental Sulphur.	**Soil:** 0.75mg/kg **Waters:** 90ug/l	**Soil:** UKAS MCERTS(Soils) **Water:** UKAS
DETSC 3072	**Aliphatic / Aromatic TPH by GC-FID**	Aliphatic and aromatic petroleum hydrocarbons (C_{10}-C_{35}) are extracted from soil and water using n-Hexane. The fractions are separated by solid phase extraction using silica columns, whereby the aliphatic fraction is eluted first with n-Hexane and the aromatic portion is eluted second with dichloromethane. The total, aliphatic, and aromatic concentrations are determined by gas chromatography flame ionisation detection (GC-FID) using a capillary column and hydrogen as the carrier gas. The chromatographic data is further characterized by subdivision into approximate boiling point/carbon number ranges with respect to n-alkane retention time markers.	National Grid Property Holdings Limited, Methods for the Collection and Analysis of Samples from National Grid Sites, Version 1, September 2006. Section 3.12 Soil Analysis: Draft TNRCC Method 1006	**Soil mg/kg:** AL10-12 =1.5 AL12-16 =1.2 AL16-21 =1.5 AL21-35 =3.4 AR10-12 =0.9 AR12-16 =0.5 AR16-21 =0.6 AR21-35 =1.4 **Water:** 1ug/l	**Soil:** UKAS MCERTS(Soils) (C10-C35 only) **Water:** Not Accredited
DETSC 3301	**PAH in Soil by GC-FID**	Soils and associated materials are extracted in dichloromethane (DCM) using sonication. The PAH concentration is recorded both as "Total PAH" and as "Speciated PAH", specified in terms of the 16 US EPA "Priority Pollutant" Polycyclic Aromatic Hydrocarbons. Concentrations are determined by gas chromatography using a BPX 50 (30m; 0.25µm ID; 0.25µm film) capillary column (or equivalent).	In-house method based on US EPA Method 8100, Polynuclear Aromatic Hydrocarbons	0.5 mg/kg each 1.6 mg/kg Total PAH	UKAS (16 PAH's only)
DETSC 3302	**Hexane / Acetone Extracted PAH in Soil by GC-FID**	Soils are extracted into hexane: acetone by shaking. The PAH concentration is recorded both as "Total PAH" and as "Speciated PAH", specified in terms of the 16 US EPA "Priority Pollutant" Polycyclic Aromatic Hydrocarbons. Concentrations are determined by gas chromatography using a BPX 50 (30m; 0.25µm ID; 0.25µm film) capillary column (or equivalent).	In-house method based on US EPA Method 8100, Polynuclear Aromatic Hydrocarbons	0.1 mg/kg each 1.6 mg/kg Total PAH	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3303	**Polyaromatic Hydrocarbons in Soils by GC-MS**	The PAHs in the soil sample are extracted into hexane: acetone by shaking. The PAHs in the extract are separated by gas chromatography and identified by the mass selective detector. The concentration of each PAH is determined by referencing individual mass peak areas to the appropriate internal standard mass peak area. Quantification is carried out within the instrument software.	In-house method based on EPA Method 8270- US EPA Method 8270, Revision C, Semivolatile Organic Compounds by Gas Chromatography – Mass Spectrometry (GC/MS)	0.03 mg/kg each 0.10 mg/kg Total PAH	UKAS (All 16 PAH's) MCERTS (not Fluorene, Anthracene, Chrysene or Total)
DETSC 3304	**Polyaromatic Hydrocarbons in Waters by GC-MS**	The PAHs in the water sample are extracted into dichloromethane by shaking. The PAHs in the extract are separated by gas chromatography and identified by the mass selective detector. The concentration of each PAH is determined by referencing individual mass peak areas to the appropriate internal standard mass peak area. Quantification is carried out within the Instrument software.	In-house method based on EPA Method 8270- US EPA Method 8270, Revision 3, Semivolatile Organic Compounds by Gas Chromatography – Mass Spectrometry (GC/MS) In-house method based on EPA Method 3510C- EPA Method 3510C, Revision 3, Separatory Funnel Liquid-Liquid Extraction	10 ng/l each	UKAS (16 PAH's only)
DETSC 3311	**Extractable Petroleum Hydrocarbons (EPH) in Soil, Ballast and Water**	This method is designed to determine total concentrations of extractable petroleum hydrocarbons (EPH) in solid and aqueous matrices. This method uses a dichloromethane (DCM) extraction followed by quantification using gas chromatography/flame ionisation detection (GC-FID) analysis using a 1:1 mixture of diesel and mineral oil as calibration standards and n-alkane markers to establish the boiling point ranges. This method is used for the quantitative analysis of "Total EPH" (C10-C40) and as "Speciated EPH", specified in terms of the "diesel range" (C10-C24), and "mineral oil range" (C24-C40).	USEPA Method 3550C – Ultrasonic Extraction USEPA Method 8015B – Non-Halogenated Organics Using GC/FID	**Soil:** 10 mg/kg **Ballast:** 10mg/kg **Water:** 10µg/l	**Soil:** UKAS MCERTS(Soils) **Water:** UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3312	**Hexane Extractable Petroleum Hydrocarbons (HPH)**	This method is designed to determine total concentrations of extractable petroleum hydrocarbons (EPH) in solid matrices. This method uses a hexane: acetone (9.4) extraction followed by quantification using gas chromatography/flame ionisation detection (GC-FID) analysis using a 1:1 mixture of diesel and mineral oil as calibration standards and n-alkane markers to establish the boiling point ranges. This method is used for the quantitative analysis of "Total EPH" (C10-C40) and as "Speciated EPH", specified in terms of the "diesel range" (C10- C24) and "mineral oil range" (C24-C40).	USEPA Method 8015B – Non-Halogenated Organics Using GC/FID	**Soil:** 5 mg/kg	Not Accredited
DETSC 3321	**BTEX, MTBE & PRO in Soils by Headspace GC-FID**	BTEX, MTBE and PRO in soils are determined via Headspace GC-FID. Individual aromatic compounds are quantified by external calibration against known standards. PRO range is banded using alkane markers to define retention time windows.	EPA Methods 5021 and 8015D	0.01 mg/kg	UKAS MCERTS(Soils) Not accredited for PRO range (C5-10)
DETSC 3322	**BTEX, MTBE & PRO in Waters & Leachates by Headspace GC-FID**	BTEX, MTBE and PRO in soils are determined via Headspace GC-FID. Individual aromatic compounds are quantified by external calibration against known standards. PRO range is banded using alkane markers to define retention time windows.	EPA Methods 5021 and 8015D	1 µg/l	UKAS
DETSC 3401	**PCBs in Soils by GC-MS**	An as-received soil sample is extracted in Hexane:Acetone (1:2) using sonication methodology. The sample is separated by gas chromatography and identified by mass selective detector. Quantification is carried out within the instrument software.	EPA Method 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography.	**µg/kg** PCB 28=1.25 PCB 52=1.12 PCB 101=1.32 PCB 118=1.43 PCB 153=2.08 PCB 138=1.35 PCB 180=1.42	UKAS MCERTS(Soils)

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3402	**Polychlorinated Biphenols in Waters by GC/MS**	The water sample is extracted in DCM on a reciprocal shaker. The sample is separated by gas chromatography and identified by mass selective detector. Quantification is carried out within the GC-MS software using an internal standard.	EPA Method 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography.	**ng/l** PCB 28=208 PCB 52=161 PCB 101=211 PCB 118+123=513 PCB 153=163 PCB 138=107 PCB 180=132 PCB 105=133 PCB 114=253 PCB 126=399 PCB 156=253 PCB 157=119 PCB 167=248 PCB 169=181 PCB 189=271 PCB 77=202 PCB 81=186	UKAS
DETSC 3432	**Volatile Organic Compounds in Waters by Headspace GC-MS**	The method covers the range of volatile organic compounds with boiling points up to 220°C. Water samples are heated and agitated in a crimp cap vial. This drives the volatile components in to the headspace. An aliquot of the headspace is taken and injected in to a gas chromatograph with mass selective detection (GC-MS).The detector operates in full scan mode and is calibrated with standards containing known concentrations of the compounds of interest.	USEPA Method 8260B Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2, December 1996	1 ug/l except: DCM (27), 2,2-Dichloropropane (2), Bromochloromethane (4), Bromodichloromethane (4), m+p-Xylene (2), 1,3-Dichlorobenzene (2)	UKAS except: Trichlorofluoromethane, Methylene Chloride, 1,1,1-Trichloroethane,

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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3433	**Semi-Volatile Organic Compounds in Soils by GCMS**	The SVOCs in the soil sample are extracted into DCM: Acetone by shaking. The SVOCs in the extract are separated by gas chromatography and identified by the mass selective detector. The concentration of each SVOC is determined by referencing individual mass peak areas to the appropriate internal standard mass peak area. Quantification is carried out within the instrument software.	In-house method based on EPA Method 8270- US EPA Method 8270, Revision 3, Semi volatile Organic Compounds by Gas Chromatography – Mass Spectrometry (GC/MS)	Individual SVOCs 0.1 mg/kg	UKAS
DETSC 5001	**Ash Content of Coal**	The ash content of the sample is determined gravimetrically. A known weight of the sample is placed in a prepared ash crucible and placed in a furnace. The furnace is heated to 750ºC ±10ºC where the temperature is maintained. Following combustion the crucible and sample are removed, cooled and reweighed.	ASTM D3174-11 BS 1016-104.4 1998 ISO 1171: 2010	0.1%	UKAS
DETSC 5002	**Ash & LOI Content of Solid Biomass & Solid Recovered Fuels**	The ash and LOI content of the sample is determined gravimetrically. A known weight of the sample is placed in a prepared ash crucible and placed in a furnace. The furnace is heated to 550ºC ±10ºC where the temperature is maintained. Following combustion the crucible and sample are removed, cooled and reweighed.	BS EN 14775:2009 BS EN 15403:2011	0.1%	UKAS
DETSC 5003	**Volatile Matter Content of Solid Biomass, Solid Recovered Fuels and Coal**	A known weight of the sample produced for volatile matter determination is placed in a suitable crucible fitted with a lid. The crucible and sample is weighed and heated in a furnace with a limited air through put at a temperature of 900ºC ±10ºC for 7 minutes. The sample and crucible are re-weighed and the volatile matter content determined by difference.	BSEN15148:2009 – Solid Biofuels Determination of the Content of Volatile Matter BS EN 15402:2011 - Solid Recovered Fuels - Determination of the Content of Volatile Matter	0.1%	UKAS

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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5004	**Total Moisture / Dry Solids Content of Solid Biomass & Solid Recovered Fuels & Coal**	The sample produced for general analysis is placed into a suitable prepared and weighed tray and reweighed. The sample is dried at 105ºC to constant weight and the total moisture / dry solids content is calculated from the reduction in weight.	BSEN 14774 Parts 1 & 2 2009 DD CEN/TS 15414 Parts 1 & 2: 2010	0.1%	UKAS
DETSC 5005	**Analysis Moisture Content of Solid Biomass, Solid Recovered Fuels & Coal**	The sample produced for total moisture determination in accordance with DETSC 5009 or DETSC 5010 is placed in a suitable pre-weighed tray and reweighed. The sample is then dried at 105°C ±2°C to constant weight and then weighed again. The analysis moisture content is calculated from the reduction in weight.	BS EN 14774-3 2009 BS EN 15414-3 2011 BS 1016-104.1 -1999 ISO 11722 – 1999	n/a	UKAS
DETSC 5007	**Calorific Value of Solid Biomass, Solid Recovered Fuels & Coal**	Calorific value of a material is determined in an Isoperbol calorimeter by burning it in pure oxygen in a combustion bomb. A known amount of sample is placed in a combustion bomb which is then pressurised to 30bar with oxygen. A calorimeter bucket is filled with a known amount of deionised water which is placed in the calorimeter and the bomb placed in the bucket. The system is allowed to equilibrate and the bomb fired by electrical connection. The difference in temperature of the water in the calorimeter bucket caused by the ignition of the material in the bomb is measured and the calorific value calculated	BS EN 14918: Solid biofuels – Determination of calorific value BS EN 15400: Solid recovered fuels - Determination of calorific value	1MJ/kg	UKAS
DETSC 5008	**Calorific Value of Soil**	A known amount of sample material is burnt in a combustion bomb that is immersed in water in a calorimeter and the difference in the water temperature before and after ignition measured. The calorific value of the sample material is calculated making any necessary corrections for heat generation not associated with the combusting sample. A gelatine capsule will be required to assist combustion which is also corrected for in the final calculations.	BS 1016-105 1992 ISO 19208 ASTM 5865	1MJ/kg	UKAS

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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5009	**Sample Preparation of Solid Biomass & Solid Recovered Fuels**	If analysis is required on the original material (i.e. Bulk Density) a sub-sample will be taken after initial mixing after which the sample is then reduced by cutting/chopping oversized pieces of material. The material is then mixed and subdivided by manual means during which process representative samples are taken for analysis i.e. total moisture. The remainder of the sample is dried and then reduced to <1mm and again mixed and subdivided to produce the sample for laboratory analysis.	BS EN 14780:2011 BS EN 15413:2011	n/a	Not Accredited
DETSC 5010	**Sample Preparation of Coal**	If required the sample received is first mixed and a sample taken for bulk density or bulk density is carried out on the whole initial sample. The remaining sample or the whole sample used for bulk density is then reduced to <10mm preferably by jaw crushing. The material is then mixed and subdivided by mechanical or manual means during which process representative samples are taken for any analysis required at this stage i.e. total moisture, The remainder of the sample is again mixed and subdivided to produce the sample for laboratory analysis which may require drying prior to crushing to <212 microns. If there is excessive water content a pre- drying stage of the whole sample may have to be carried out before sample blending and subdivision commences.	BS ISO 13909-4: 2001	n/a	Not Accredited
DETSC 5011	**Calculation of Fixed Carbon Content of Coal, SRF and Solid Biomass Fuels**	The total moisture, analysis moisture, ash and volatile matter content are determined by approved methods. The values obtained are deducted from 100 and this gives the fixed carbon value of the fuel.	DD CENT/S 15296:2006 BS 1016.100:1994 BS ISO 17246:2005	0.1%	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5012	**Determination of Biomass Content of SRF**	Approximately 5g of the sample is dissolved in 150ml of 78% Sulphuric Acid for 16 hours ±2 hours after which 35ml of 30% Hydrogen Peroxide is added and the sample left for an additional 5 hours ±1 hour. At the end of this period 300ml of deionised water is added to the sample and the residue remaining filtered off using a glass fibre filter paper, washing the residue with an additional 300ml of deionised water. The filter paper and residue are placed in a pre-weighed crucible and dried at 1500C until completely dry. The filter paper is reweighed after drying and the non biomass residue determined. Corrections for carbonates content is made by determining the ash content of the original sample and the non biomass residue remaining. The result can also be expressed by percentage calorific value by performing a calorific valve on the solid captured on the filter paper.	BS EN 15440 Solid recovered fuels - Methods for the determination of biomass content	n/a	UKAS
DETSC 5013	**Determination Of Carbon, Hydrogen, Nitrogen & Oxygen In Solid Biomass, Solid Recovered Fuels & Coal**	A known mass of fuel is weighed into tin capsules which are dropped sequentially into the combustion reactor prior to the arrival of oxygen. The sample and tin capsule react with oxygen and combust at temperatures of 1700-1800 °C and the sample is broken down into its elemental components N2, CO2, and H2O. High performance copper wires absorb the excess oxygen not used for sample combustion. The gases flow through the gas chromatographic (GC) separation column which is kept at a constant temperature. As they pass through the GC column, the gases are separated and are detected sequentially by the thermal conductivity detector (TCD). The TCD generates a signal, which is proportional to the amount of element in the sample. The instrument software compares the elemental peak to a known standard material (after calibration) and generates a report for each element on a weight basis. The oxygen is calculated by deducting these quantities from 100 along with the moisture, ash, sulphur & chlorine contents determined by other methods.	BS EN 15104:2011 Solid biofuels - Determination of total content of carbon, hydrogen and nitrogen - Instrumental methods BS EN 15407:2011 Solid recovered fuels - Methods for the determination of carbon (C), hydrogen (H) and nitrogen(N) content BS EN 15296:2011 Solid biofuels - Conversion of analytical results from one basis to another	Carbon 0.10% Nitrogen 0.30% Hydrogen 0.30% Oxygen 3.55%	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5014	**Metals in Coal, SRF and Biomass by ICP**	Metals in coal, solid recovered fuel (SRF) and biomass samples are extracted by microwave using Hydrogen Peroxide (to oxidise and break down organic matter) and Aqua Regia (to dissolve the matrix and hold the metals in solution). Their concentrations are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES).	BS EN 15410 - Solid recovered fuels - Methods for the determination of the content of major elements (Al, Ca, Fe, K, Mg, Na, P, Si, Ti) BS EN 15411 - Solid recovered fuels - Methods for the determination of the content of trace elements (As, Ba, Be, Cd, Co, Cr, Cu, Hg, Mo, Mn, Ni, Pb, Sb, Se, Tl, V and Zn) BS EN 15290 - Solid biofuels - Determination of major elements - Al, Ca, Fe, Mg, P, K, Si, Na and Ti BS EN 15297 - Solid biofuels - Determination of minor elements - As, Cd, Co, Cr, Cu, Hg, Mn, Mo, Ni, Pb, Sb, V and Zn	**0.1 mg/kg:** As, Be, Cd, Co, Mn, Ni, P, Pb, Sb, Se, Sn, Ti, V, Zn **0.2mg/kg:** Cr, Cu, Tl **0.5mg/kg:** Mo **1mg/kg:** Al, Fe, K, Mg **5mg/kg:** Ca **10mg/kg:** Ag, Ba, Rh, Sr, Te	UKAS: Al, As (SRF only), Ca, Cd, Co, Cr, Cu, K, Mg, Mn, Na (SRF only), Ni, P, Pb, Se, Sn, Tl, V, Zn All other metals not accredited
DETSC 5015	**Mercury in Coal, SRF and Biomass by Atomic Fluorescence Spectroscopy**	The mercury is extracted from coal, SRF and biomass in aqua regia with gentle refluxing. The extract is filtered to remove particulates and diluted to volume. Treatment of the resulting solution with tin (II) chloride reduces mercury (II) to mercury (0) vapour which is then quantitatively detected using atomic fluorescence spectrometry.	PSA Method – Millennium Merlin Method for Mercury in Sludge, Soils and Sediments.	0.055mg/kg	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5016	**Total Sulphur Content Of Coal, SRF And Biomass**	Sulphur compounds in SRF and biomass are extracted using aqua regia / hydrogen peroxide and the insoluble residue is removed by filtration. The concentration of sulphur in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Loss of sulphur as H2S is prevented by oxidation of the sulphur compounds to sulphate by the aqua regia. The use of hydrogen peroxide enhances the oxidation properties of nitric acid especially in the digestion of organics. Sulphur compounds in coal are determined by ICP-OES from the aqueous washings of the combustion products after firing in a bomb calorimeter.	TRL Report TRL447 (Updated) - Sulphate specification for structural backfills 2005	0.001mg/kg	UKAS
DETSC 5017	**Sulphur, Chlorine, Fluorine & Bromine Content of Solid Biomass, Solid Recovered Fuels and Coal by IC**	A known weight of fuel is burnt in a pressurised bomb in pure oxygen. After firing of the bomb, it is stood for a minimum of five minutes to allow the combustion products to settle then the oxygen is slowly released over a period of at least three minutes. The bomb is then taken apart and the bomb electrodes rinsed with deionised water into the inside of the bomb. These washings are then decanted into a 50ml volumetric flask. The inside of the bomb is rinsed with deionised water and the washings added to those in the volumetric flask. The contents of the volumetric flask are made up to volume with deionised water and stored for the analysis of sulphur, chloride, fluoride and bromide by ion chromatography.	Operating Instruction Manual No. 442M 6200 Parr Oxygen Bomb Calorimeter Operating Instruction Manual No. 205M 1108 Oxygen Combustion Bomb Operating Instruction Manual No. 454M 6510 Water Handling System	0.01% Chlorine 0.01% Fluorine 0.01% Bromine 0.04% Sulphur (Coal only)	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5018	**XRF Analysis of Coal, Biomass, SRF and Cement**	When X-rays are targeted at a material they will cause electrons to be ejected from the component atoms (Ionisation). The ejection of electrons will cause the electronic structure of the component atoms to become unstable resulting in electrons from the higher energy outer orbitals "falling" into the inner orbitals to compensate. This causes a release of energy in the form of a photon equal to the energy difference between the two orbitals involved. Thus the material emits radiation which has energy characteristics of the atoms present. In energy dispersive X-ray fluorescence the fluorescent X-rays emitted are directed to a detector from which the data is processed by a multichannel analyser, producing a digital spectrum which is processed to obtain analytical data. The instrument analytical parameters are set up for the matrix type. A sample cell is prepared by placing a piece of prolene film over the outer cell and then inserting the inner cell. This gives a complete cell with a clear prolene base. A portion of the sample is placed into the cell and then analysed.	Rigaku NEX CG EDXRF instruction manual	**Cement:** 0.01% BaO, Cr_2O_3, CuO, PbO, Rb_2O, SrO, ZnO 0.02% Cl, V_2O_5 0.05% TiO_2 0.1% Mn_2O_3, P_2O_5, SO_3 0.5% K_2O 1% Al_2O_3, CaO, CdO, Co_2O_3, Fe_2O_3, MgO, Na_2O, NiO, SiO_2, Y_2O_3 **Fuel:** 0.01% Co, Cr, Cu, I, Li, Mn, Ni, P, Pb, Sn, Ti, V, Zn 0.02% Al, Ba, S, Si 0.1% Mg 0.2% Ca 0.5% As, Cd, Hg, Mo, Na, Sb, Se, Th, Tl 1% Ag	UKAS Al, As, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, P, Sb, Si, Sn, Tl, Ti, V, Zn Al2O3, BaO, CaO, Cl, Cr2O3, CuO, Fe2O3, K2O, MgO, Mn2O3, Na2O, P2O5, PbO, Rb2O, SiO2, SO3, SrO, TiO2, V2O5, ZnO All other testing not accredited
DETSC 5019	**Determination of Biodegradable Municipal Waste Content (Compositional Analysis)**	The method is based on handpicking the BMW fraction from the municipal waste sample, and then weighing the amount of BMW sorted and expressing this as a percentage on a wet weight basis of the weight of the whole municipal waste sample.	ENVIRONMENT AGENCY: Guidance on monitoring of MBT and other treatment processes for the landfill allowances schemes (LATS and LAS) for England and Wales	n/a	Not Accredited
DETSC 5020	**Determination of Bulk Density in Solid Biomass and Solid Recovered Fuels**	The test portion is filled into a standard container of a given size and shape and weighed afterwards. Bulk density is calculated from the net weight per standard volume and reported for the moisture content.	BS EN 15103:2009 Solid Biofuels- Determination of bulk density BS EN 15401:2010 Solid Recovered Fuels- Determination of bulk density	0.5kg/m^3	Not Accredited

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5021	**Auto Ignition Temperature**	A quantity of the sample is placed into a metal tray or crucible and placed into an oven or furnace. The temperature of the oven / furnace is increased in predefined increments and the temperature in which the sample ignites is noted.	None	25°C	Not Accredited

Muse Developments Ltd

New Victoria Station, Manchester

Site Investigation

Issue 03

Thursday 12th April 018

Vertase FLI

Contaminated Land, Brownfield & Environmental Contracting

REPORT TITLE: **Site Investigation**

REPORT NUMBER: **1730MUS Issue 03**

CLIENT NAME: **Muse Developments Ltd**

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1.0 Introduction

1.1 General

1.1.1 Vertase F.L.I. Limited (VertaseFLI) were appointed by Muse Developments Ltd (the client) to carry out supplementary site investigation at the proposed New Victoria development site located at Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Millgate Street, Manchester, M3 1NX (the site).

1.1.2 It is understood that the client intends to redevelop the site for a mixed use, comprising: an office space tower and two residential towers, with private resident car parking, and landscaped public open space.

1.2 Scope of Work

1.2.1 Previous site investigations carried out at the site have identified asbestos in made ground.

1.2.2 The principal objective of this site investigation is to further quantify and delineate asbestos within the made ground in order to develop an appropriate strategy for managing risks posed by asbestos impacted soils.

1.2.3 Additional site investigation methods employed during these works include: advancing a series of trial pits; windowless sample holes; and cable percussion boreholes – in order to obtain soil samples for laboratory asbestos analysis.

1.2.4 Additional asbestos analysis carried out during this site investigation will refine understanding of the lateral and vertical extent of asbestos impacted soils at site.

1.2.5 This will inform design of a suitable plan for managing asbestos impacted soils in accordance with The Control of Asbestos Regulations 2012 (CAR2012) and CAR-SOIL™ (CL:AIRE (2016), 'Control of Asbestos Regulations 2012 – Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials: Industry Guidance', dated 2016).

1.2.6 Previous site investigation also identified elevated concentrations of lead, mercury and a range of polyaromatic hydrocarbons (PAHs).

Geochemical samples were obtained to further inform the risk assessment and site conceptual model.

1.2.7 *In situ* standard penetration tests (SPTs) were carried out within boreholes to further characterise geotechnical properties of the made ground and the natural strata to inform piling design.

1.2.8 As part of the wider site investigation VertaseFLI carried out a verification (type A) survey in accordance with 'PAS 128:2014 – Specification for Underground Utility Detection, Verification and Location'. The findings of the verification survey are reported under separate cover, with the report included in Appendix H of this document.

1.2.9 An archaeological investigation was conducted by Salford Archaeology. This archaeology investigation ran concurrent with the VertaseFLI site investigation and Type A utility verification survey. The findings of the archaeology investigation do not fall within VertaseFLI's scope of works and are reported under separate cover by others.

1.2.10 This report presents the factual details of the works conducted onsite by VertaseFLI only during the period Friday 10th November 2017 to Friday 15th December 2017.

1.3 Previous Work

1.3.1 Previous site investigations carried out at the site are reviewed and summarised in:

- 'New Victoria Ground Investigation Report' for Muse Developments Ltd by Ove Arup & Partners Ltd, Issue 1 dated 23 May 2016 (hereafter referred to as 'Arup 2016').

2.0 Environmental Setting

2.1 The Site

2.1.1 The site is located in Manchester city centre directly adjacent to Manchester Victoria Station and Metrolink (see drawing SK1730_05 in Appendix 1). The grid reference for the approximate centre of the site is SJ841990.

2.1.2 During the November / December 2018 site investigation and at the time of reporting, the site was a privately operated (APCOA) public pay and display car park.

2.1.3 The site is bound directly to the northwest by Manchester Victoria Station and Metrolink, followed by the Manchester Arena. To the north and east the site is bound by Cheetham Hill Road and Corporation Street followed by commercial office blocks. To the south the site is bound by the Metrolink tramlines and a hotel development (under construction), followed by the National Football Museum.

2.1.4 The site is bisected in the south by Long Millgate Street which is approximately orientated northeast - southwest. The north of site is primarily occupied by the main APCOA pay and display carpark. The southeast section of site is occupied by two smaller carparks – also owned by APCOA – which are bisected by Hanover Street (approximately orientated northwest – south east).

2.1.5 The culverted River Irk runs beneath the site from northeast to southwest.

2.2 Geology

2.2.1 The British Geological Survey (BGS) indicates that bedrock geology at the site is the Chester Formation Sandstone, which is part of the Sherwood Sandstone Group.

2.2.2 The BGS map records no superficial geology at the site.

2.2.3 Previous site investigations have identified a substantial stratum of made ground at the site, with reported thickness ranging between 1.2 metres and 10 metres. Made ground is reported as being variable in nature and is generally described as loose blackish brown slightly clayey, gravelly sand with some areas described as gravelly clay. The

made ground is reported to contain deleterious materials including brick, concrete, glass, wood, ceramic and plastic.

2.3 Hydrogeology

2.3.1 The Chester Formation Sandstone is part of the Sherwood Sandstone Formation, which is a principal aquifer and the second most important aquifer in the UK. Environment Agency hydrogeology maps show that the site is not located within a groundwater source protection zone (SPZ). The nearest watercourse is the culverted River Irk, which runs directly beneath the site.

3.0 Site Investigation

3.1 General

3.1.1 VertaseFLI mobilised to site on Friday 10th November 2017, completing all works and demobilising from site on Friday 15th December 2017.

3.1.2 The as-built survey showing the location of all site investigation locations is displayed on drawing D1730_05 in Appendix A.

3.2 Trial Pits

3.2.1 Thirteen trial pits were excavated within the main carpark area on site using a JCB3CX. The purpose of trial pits was to obtain representative samples for asbestos analysis and to obtain geochemical samples where required based on visual and olfactory evidence.

3.2.2 Representative samples were collected for asbestos analysis at a frequency of one sample per vertical metre in each trial pit.

3.2.3 The objective for trial pits was to excavate to the maximum reach of the JCB 3CX (approximately 3.0mbgl). However, the majority of trial pits were terminated at a shallower depth. Reasons for termination are listed in table 3.1.1 below.

Table 3.1. Reasons for terminating trial pit excavations

Reason for terminating	Trial Pit references
Maximum reach of the excavator	TP01; TP05; TP10;
Encountered sandstone	TP06; TP08; TP09
Encountered obstruction	TP02;
Encountered possible roof of river culvert	TT01; TT02; TP03; TP04; TP07;
Unstable trial pit / collapse	TP11;
Terminated by archaeologists	TP02; TP06; TP08; TP09; TP12; TP13

3.2.4 In order to maximise efficiency, trial pits (listed in table 3.1.1 as terminated by archaeologists) were located within archaeological investigation trenches. These trenches were excavated by Salford archaeology who had been commissioned independently of VFLI works but were undertaken during the same period. The archaeological trenches were left open to allow the VertaseFLI site engineer to collect samples.

3.2.5 In TP02 the trial pit was terminated at 1.7mbgl due to encountering an intact tile base, which appeared to be part of a former building / structure.

3.2.6 Three trial pits were terminated due to encountering natural sandstone strata.

3.2.7 Five trial pits were terminated due to encountering a hard-tarmac base. These trial pits were within the footprint of the River Irk culvert and the tarmac base may be the roof of the river culvert. This is discussed in greater detail in the Type A Utility Verification Report, located in Appendix H of this document.

3.2.8 All trial pits were logged in accordance with BS5930:2015 and Eurocode 7 by the VertaseFLI site engineer. Trial pits were photographed and samples for laboratory analysis were collected prior to reinstatement.

3.2.9 Trial pits were reinstated with arisings to approximately 0.15mbgl. During reinstatement, the trial pits were compacted by the excavator to avoid creating soft spots within the carpark. Surplus material was removed to a site skip for offsite disposal. Trial pits were temporarily reinstated to surface with Type 1 stone in order to allow the location of the trial pit to be re-opened for car parking.

3.2.10 Prior to completion of the works type 1 stone was excavated down to 0.65mbgl and trial pits were permanently reinstated with asphalt.

3.2.11 A photographic log of Trial pits is located in Appendix B and trial pit logs are located in Appendix C.

3.3 Windowless Sample Holes

3.3.1 Six windowless sample holes were advanced on the eastern boundary of the site outside of the main car park. The primary purpose of the windowless sample holes was to identify the ground conditions and geotechnical strength of the ground above the existing retaining wall to help inform construction of a piling platform during installation of the proposed new retaining wall. Additionally, representative samples were collected from any made ground for asbestos analysis in order to assess the risk posed by potential asbestos exposure during proposed piling works for a new sheet pile wall adjacent to Corporation Street.

3.3.2 Standard Penetration Tests (SPTs) were carried out in situ at 1.0m intervals to collect geotechnical data of the made ground and the natural strata to inform piling design.

3.3.3 Windowless sample holes were excavated to 1.0mbgl using an MTS Dino 3 vacuum excavation rig as a precaution to ensure that the sample hole was clear of utilities. Windowless sample holes were advanced beyond 1.0mbgl using an Archway Engineering Competitor Dart window sample rig.

3.3.4 Representative samples were collected for asbestos analysis at a frequency of one sample per vertical metre in windowless sample hole.

3.3.5 The objective for windowless sample holes was to excavate to natural strata.

3.3.6 Windowless sample hole WS01 was terminated at 0.7mbgl due to encountering a concrete obstruction.

3.3.7 WS01 was relocated to WS01a, however, the same concrete obstruction was encountered at 0.74mbgl. Subsequently, attempts to advance WS01 were terminated.

3.3.8 WS02 was excavated to 1.07mbgl using vacuum excavation. Made ground is WS02 was characterised by cobbles of brick and concrete demolition rubble, similar to material encountered in archaeological trenches AT01 (including TP02); AT02; AT03 and AT04. WS02 could not be advanced further using the window sampler due to large cobbles. As the made ground in the surrounding trial pits was similar to that in WS02, this sample hole was abandoned.

3.3.9 WS03 and WS04 were terminated within possible weathered sandstone due to obstructions (possible sandstone or weathered sandstone cobbles). WS06 was terminated due to encountering sandstone.

3.3.10 WS05 was terminated due to encountering an obstruction at 3.0mbgl. It is possible that the obstruction was sandstone, however, there was no sandstone returned in the core sample.

3.3.11 Upon completion windowless sample holes were reinstated with arisings to 0.15mbgl. Where there was a shortfall in material for reinstatement, surplus trial pit arisings were reclaimed from the site skip. Sample holes were then reinstated to 0.65mbgl with type 1 stone.

3.3.12 Where possible, paving slabs were reinstated at surface on pavements. Where paving slabs had been damaged during excavation or where the original pavement surface was asphalt the windowless sample holes were completed with hot lay asphalt.

3.3.13 Photographs of sample cores are presented in Appendix B and windowless sample logs are located in Appendix C.

3.4 Cable Percussion and Rotary Core

3.4.1 Six cable percussion holes were advanced in the northwest of site (SA01 – SA06). There were three objectives for cable percussion holes SA01 – SA06. Firstly, representative samples were collected for asbestos analysis in order to assess the risk posed by potential asbestos exposure during proposed piling works. Secondly, geochemical samples were collected in order to characterise potential contamination. Finally, the cable percussion holes were intended to prove the depth of made ground and the depth of sandstone rockhead.

3.4.2 Cable percussion holes were excavated to 1.0mbgl using an MTS Dino 3 vacuum excavation rig or by hand excavation. Cable percussion holes were advanced beyond 1.0mbgl using a Dando 2500 cable percussion rig.

3.4.3 Representative samples were collected for asbestos analysis at a frequency of one sample per vertical 0.5 metres.

3.4.4 Representative geochemical samples were collected at a frequency of one per vertical metre, every other metre (0.0-1.0mbgl, 3.0-4.0mbgl, 5.0-6.0mbgl etc). Additional geochemical samples were collected based on visual and olfactory evidence.

3.4.5 Cable percussion boreholes SA01 – SA06 were all successfully advanced to rockhead.

3.4.6 Four additional holes (SA07 – SA10) were advanced using a combination of cable percussion and wet flush rotary coring. Cable percussion was used to advance the boreholes to rockhead. Once rockhead was encountered, rotary coring was deployed to advance the holes into rockhead.

3.4.7 In addition to the objectives listed in 3.4.1, SPTs were carried out *in situ* at 1.0m intervals to 5.0mbgl and at 1.5m intervals beyond 5.0mbgl. The purpose of this testing was to collect geotechnical data of the made ground and the natural strata to inform piling design.

3.4.8 It was intended that SA07 – SA10 would be installed with boreholes to supplement boreholes existing on site for ground gas monitoring and groundwater monitoring.

3.4.9 Boreholes were advanced into rockhead using a Comacchio GEO205 rig utilising wet flush rotary coring methods.

3.4.10 Borehole SA07 was successfully advanced to rockhead at 9.6mbgl utilising cable percussion. SA07 was advanced to 14.6mbgl utilising rotary coring.

3.4.11 Upon completion SA07 was reinstated to 13.0mbgl with bentonite grout. 63mm OD slotted HDPE well pipe was installed from 13.0mbgl to 7.0mbgl within a gravel pack. 63mm OD plan pipe was installed to surface. Bentonite pellets were used to reinstate to borehole from 7.0mbgl to 0.3mbgl. The borehole was completed at surface with concrete and a flush well cover.

3.4.12 Borehole SA08 was terminated at 0.16mbgl due to a concrete structure and was relocated to SA08a. SA08a was advanced to rockhead at 4.6mbgl utilising cable percussion and was advanced to 9.6mbgl utilising rotary coring.

3.4.13 Upon completion SA08a was reinstated to 5.0mbgl with bentonite grout. 63mm OD slotted HDPE pipe was installed from 5.0mbgl to 1.0mbgl along with a gravel pack. 63mm OD plan pipe was installed to surface. Bentonite pellets were used to reinstate to borehole from 1.0mbgl to 0.3mbgl. The borehole was completed at surface with concrete and a flush well cover.

3.4.14 SA09 was terminated at 0.34mbgl due to a concrete structure and relocated to SA09a.

3.4.15 SA09a was advanced to 4.4mbgl utilising cable percussion. The cable percussion rig was unable to advance the borehole beyond 4.4mbgl after an hour due to an obstruction. Returns from 3.36mbgl to 4.4mbgl were light brownish red sand and gravel suggesting that this was natural weathered sandstone. The hole was advanced beyond 4.4mbgl using the Comacchio GEO205 with wet flush rotary methods, however, there were no returns in cores from 4.4mbgl to 7.0mbgl. At approximately 7.0mbgl a solid brick and concrete cobble was present in the core. Beyond 7.0mbgl there was a void. The borehole was dipped with an interface probe with water encountered at 7.7mbgl. The base of the void was encountered at 8.1mbgl.

3.4.16 The borehole was terminated and reinstated with bentonite pellets to 0.3mbgl. SA09a was completed with concrete to 0.15mbgl and asphalt to surface.

3.4.17 Attempts to advance SA10 were terminated four times due to encountering brick and concrete structures directly beneath sub base (type 1 stone).

3.4.18 SA10d was advanced to 1.5mbgl using open hole rotary coring methods but was terminated due to an obstruction. SA10d could not be advanced beyond 1.5mbgl after one hour.

3.4.19 Due to the presence of structures attempts to advance SA10 were abandoned.

3.4.20 With the exception of SA07, SA08a and SA09a, all boreholes were reinstated with arisings to 0.15mbgl. Where there was a shortfall in material for reinstatement, surplus trial pit arisings were reclaimed

from the site skip. Sample holes were then reinstated to 0.65mbgl with type 1 stone and asphalt to surface.

3.4.21 Photographs of sample cores (sandstone only) are presented in Appendix B and geological logs are presented in Appendix C.

4.0 Results

4.1 Geology

4.1.1 Made ground was encountered in all exploratory holes that formed part of the VertaseFLI site investigation, PAS128:2014 Type A Utility Survey and archaeology investigation. Made ground was recoded at thickness ranging from 0.91m (TP08) to 10.0m (SA04).

4.1.2 Within the main car park, the made ground was thinnest in the south-eastern section, bounded by Long Millgate and Corporation Street (incorporating trial pits TP06; TP08; and TP09).

4.1.3 From the south-eastern section of the main car park the thickness of made ground rapidly increases to the northeast and northwest towards the River Irk culvert.

4.1.4 Where depth was proven, the made ground was thickest in the north and north-western sections of the main car park.

4.1.5 The thickness of made ground encountered in the pavement adjacent to Corporation Street was recorded as 3.85m (WS03); 2.07m (WS04); 3.00m (WS05) and 4.64m (WS06) respectively.

4.1.6 The made ground encountered within the main car park and in windowless sample holes WS03 – WS06 adjacent to Corporation Street was found to be variable in nature and was generally described as grey or brown silty, sand and gravel with some areas described as a greyish brown sandy, gravelly, clay. Made ground consistently contained gravel of brick and concrete with occurrences of deleterious materials including fragments of glass, wood, ceramic, metal and plastic. Hydrocarbon odours were noted in a number of trial pits, generally towards the base of trial pits and boreholes.

4.1.7 In the two smaller carparks to the south of site the depth of made ground was not proven.

4.1.8 Made ground observed in four archaeological trenches in the southern section of site was relatively similar, comprising light reddish brown, sandy, gravelly, cobbles of brick and concrete rubble and deleterious materials of wood, plastic, metal ceramics and slate.

4.1.9 In borehole SA07 possible river terrace deposits – described as light brown sand and gravel of flint – were encountered from 9.6mbgl to 10.4mbgl.

4.1.10 Bedrock comprising sandstone (Chester Formation) was recorded beneath the made ground in a number of boreholes and trial pits and one windowless sample hole (WSA06), at depths ranging from 0.91mbgl (TP08) to 10.40mbg (SA07).

4.1.11 In boreholes SA03 and SA02 and windowless sample holes WS03 and WS04 weathered sandstone was recorded directly above the sandstone.

4.2 Groundwater

4.2.1 Groundwater ingress was encountered in three boreholes. Where present, groundwater ingress was encountered between 9.5-9.6mbgl. Groundwater rose in boreholes to 8.94-9.2mbgl after 2 hours.

4.2.2 Occurrence of groundwater in boreholes in summarised in table 4.1 below.

Table 4.1. Summary of boreholes in which water was encountered

Borehole Reference	Groundwater Ingress (mbgl)	Groundwater after 2 hours (mbgl)
SA04	9.5	9.01
SA06	9.68	9.2
SA07	9.6	8.94

4.3 Laboratory analysis – Asbestos

4.3.1 In total 187 samples were sampled for asbestos presence at an independent laboratory. Of the 187 samples 12 tested positive for asbestos 11 samples went on for laboratory quantification, with 1 sample being a bulk asbestos sample and not suitable for quantification. The bulk sample was asbestos containing cement, which was recovered from WS02 at 0.9mbgl.

4.3.2 Asbestos fibres detected by the laboratory included Chrysotile and Amosite.

4.3.3 The concentration of asbestos in soil ranged between <0.001-0.013% w / w.

4.3.4 Asbestos materials identified in the made ground samples included: loose fibres; loose fibrous debris; and bitumen products.

4.3.5 Samples which tested positive for asbestos presence were generally within the top metre of made ground on site. However, in borehole SA09 asbestos was detected in samples between 1.0mbgl and 3.0mbgl.

4.3.6 In trial pit TP02 asbestos was detected between 1.0mbgl and 1.7mbgl.

4.3.7 Table 4.2 below provides a summary of asbestos identified during the site investigation.

Table 4.2. Summary of Laboratory Asbestos Analysis

Report number	Location	Depth	% Asbestos	Fibres	Material Type
17-68067	TP02	1.0-1.7	0.003	Amosite	Loose Fibers
17-68064	WS02	0.9		Chrysotile	Bulk Cement Product
17-68064	WS02	0.0-1.0	0.001	Amosite	Loose Fibrous Debris
17-69537	SA06	0.0-0.5	<0.001	Amosite	Loose Fibres
17-69696	SA02	0.0-0.5	<0.001	Amosite	Loose Fibrous Debris
17-70274	SA09	1.0-1.5	<0.001	Chrysotile	Loose Fibres
17-70274	SA09	1.5-2.0	0.013	Chrysotile	Loose Fibres & Bitumen
17-70274	SA09	2.0-2.5	<0.001	Chrysotile	Loose Fibres
17-70274	SA09	2.5-3.0	<0.001	Chrysotile	Loose Fibres
17-70277	SA07	0.5-1.0	<0.001	Chrysotile	Loose Fibres
17-71030	TT01a	0.5-1.0	<0.001	Chrysotile	Loose Fibres
17-71030	TT01b	0.5-1.0	<0.001	Chrysotile	Loose Fibres

4.4 Laboratory analysis – Geochemical

4.4.1 In total, 41 samples of made ground were sent to an independent laboratory where they were analysed for the following determinants:

- Soil moisture content;
- Speciated Polyaromatic Hydrocarbons (US EPA 16);
- Heavy Metals / Metalloids;
- BTEX;
- MTBE;
- Speciated Total Petroleum Hydrocarbons.

4.4.2 For the purposes of this report generic assessment criteria (GACs) for human health only have been selected for initial screening of the geochemical laboratory results.

4.4.3 The GACs selected for screening are the LQM/CIEH S4ULs:

Nathanial, C.P., McCaffrey, C., Gillett, A.G., Ogden, R.C. and Nathaniel, J.F., (2015). 'The LQM/CIEH S4ULs for Human Health Risk Assessment', Land Quality Press, dated 2015. Copyright Land Quality Management Limited and reproduces with permission; Publication Number S4UL3113. All rights reserved.

4.4.4 The selected land use considered most appropriate for initial screening is 'residential without homegrown produce' with a conservative assumption for soil organic matter (SOM) of 1% for made ground containing a high content of brick and concrete rubble.

4.4.5 S4ULs are available for all contaminants screened with the exception of lead and MTBE.

4.4.6 The C4SL GAC has been selected for lead from the following publication:

Harries, N., Quint, M., Firth, S., Stutt, E., Bull, S., Pease., C, Hart, A., Macarthur, R., Kennedy, M., Moreby, S., (2014). 'SP1010 – Development of Category 4 Screening Levels for Land Affected by Contamination, Final Project Report (Revision 2)', Contaminated Land: Applications in Real Environments (CL:AIRE), dated September 24th 2014.

4.4.7 There are no suitable GACs available at the time of writing for screening MTBE.

4.4.8 Table 4.3 below provides a summary of contaminants which have exceeded the generic screening criteria, although it should be noted that MTBE is below laboratory limits of detect in all samples.

4.4.9 A summary table showing chemical results for all samples tested screened against the GACs is included in Appendix D.

Table 4.3. Summary of soil screening criteria exceedances

Determinant	Range (mg/kg)	Screening Criteria (mg/kg)	Total No of samples exceeding screening criteria	Number of samples tested from <1.0mbgl	No of samples exceeding screening criteria <1.0mbgl
Arsenic	10-47	40	3	10	1
Lead	83-1300	130	37	10	10
Naphthalene	0.73-180	2.3	31	10	7
Benzo(a)anthracene	1.4-130	11	19	10	5
Chrysene	1.5-130	30	4	10	3
Benzo(b)fluoranthene	1.5-98	3.9	35	10	10
Benzo(a)pyrene	1.4-120	3.2	38	10	10
Dibenz(a,h)anthracene	0.18-11	0.31	38	10	10
TPH-CWG - Aromatic >EC16 - EC21	13-2500	1,900	1	10	0
TPH-CWG - Aromatic >EC21 - EC35	24-7300	1,900	2	10	0

4.5 Soil Moisture Content

4.5.1 Analysis of soil moisture content was carried out on all samples scheduled for testing at the laboratory. Proper consideration of soil moisture is a driving factor in determining risks posed by asbestos in soils.

The average soil moisture content of the made ground is 14.65%. The minimum reported concentration is 4.9%, with maximum soil moisture reported at 25%.

4.6 Standard Penetration Tests

4.6.1 SPTs undertaken within the made ground produced SPT N values were generally between 3 and 11. The average SPT N value is 7.

4.6.2 For a granular material the typical range of SPT N values reported in this site investigation indicate a very loose to loose material which is consistent with the material descriptions observed in this site investigation.

4.6.3 Six of twenty-seven SPTs were refusals as full depth was achieved by the seating blows.

4.6.4 Two SPT N values were reported as 35 and 58 (WS05 at 2.0-2.45mbgl and 3.0-3.45mbgl respectively). The geological log suggests for WS05 suggests that although the strata at the depths reported was made ground, the ground contains no brick concrete or deleterious materials and is possibly reworked natural weathered sandstone. The strata is not considered to be natural as there is a layer of sand and gravel below the possible reworked weathered sandstone layer which is not consistent with observations of natural strata observed in other boreholes. Therefore, these two SPT N values are disregarded from the calculation of the mean SPT N for made ground.

4.6.5 Out of seven tests within the sandstone only two SPT N values were produced. WS04 at 3.0-3.45mbgl produced a SPT N value of 7 in a layer of weathered sandstone. SA08a produced a SPT N Value of 18 at 5.0-5.45mbgl at the top of the sandstone strata.

4.6.6 Four SPT tests within sandstone were refused due to the strength of the sandstone. Where SPT tests were refused, the SPT N values were

extrapolated by dividing 300mm (penetration depth of a completed SPT test) by pentration as measured in the field and multiplied by number of blows:

$$(300mm \div Penetration\ as\ measured\ in\ field) \times No.of\ blows\ in\ field$$

4.6.7 A summary of SPT's where the N value has been extrapolated is shown below:

Table 4.3. Summary of SPT tests where SPT N extrapolated

Sample Location	Depth (mbgl)	Blows	Penetration (mm)	N Value extrapolated over 300mm	Reported Result
SA07	11-11.035	75	35	643	*N=643 (75 for 35mm)
SA08a	6.9-6.930	75	30	750	*N=750 (75 for 30mm)
SA08a	8.4-8.435	73	35	626	*N=626 (73 for 35mm)
SA08a	9.6-9.625	75	25	900	*N=900 (75 for 25mm)

4.7 Ground Gas Monitoring

4.7.1 Seven gas standpipes were monitored on up to six occasions between December 14th 2017 – March 21st 2018.

4.7.2 The location of ground gas monitoring standpipes are shown on Drawings D1730_05 and AEG/PR1531/01 in Appendix A.

4.7.3 Monitoring standpipe BHA03, could not be accessed on December 14th 2017 and subsequently, could not be monitored.

4.7.4 Two monitoring rounds were undertaken during periods of low and falling atmospheric pressure (<999mb). Four monitoring rounds were undertaken during periods of falling pressure.

4.7.5 Ground gas results are summarised in Table 4.4 below.

4.7.6 Ground gas monitoring records are presented in Appendix F.

Table 4.4. Summary of Ground Gas Monitoring

Location	No. Visits	Methane		Carbon Dioxide			Oxygen		Gas flow Range (l/h)
		Range % v/v	No. >1% v/v	Range % v/v	No. exceed		Range % v/v	No. below 18% v/v	
					1.5% v/v	5% v/v			
BHA01	6	<0.1	0	<0.1 - 6.9	6	4	13.3 - 20.9	6	<0.1 - 2.2
BHA02	6	<0.1	0	<0.1 - 6.9	6	1	14.8 - 20.9	6	<0.1 - 2.3
BHA03	5	<0.1 - 0.1	0	<0.1 - 0.7	0	0	18.5 - 21.5	0	<0.1 - 1.8
BHA06	6	<0.1	0	<0.1 - 0.8	0	0	19.2 - 21.4	0	<0.1 - 1.9
BHA07	6	<0.1	0	<0.1 - 0.1	0	0	20.1 - 21.6	0	<0.1 - 1.9
SA07	6	<0.1	0	<0.1 - 1.9	3	0	13.5 - 21.7	3	<0.1 - 1.8
SA08a	6	<0.1	0	<0.1 - 0.6	0	0	19.1 - 21.7	0	<0.1 - 1.8

4.7.7 Low concentrations of methane were detected in borehole BHA03 of with a maximum recorded concentration of 0.1% v/v.

4.7.8 Low concentrations of carbon dioxide were detected in four of the monitoring standpipes. Carbon dioxide concentrations exceeding 1.5% v/v were recorded in three standpipes (BHA01, BHA02 and BH SA07) and exceeded 5% v/v in two standpipes (BHA01 and BHA02). The peak carbon dioxide concentration was 6.9% v/v recorded in both BHA01 and BHA02. Concentrations exceeding 5% v/v were recorded on four occasions in BHA01 compared to one occasion in BHA02.

4.7.9 Depleted oxygen concentrations were recorded in BHA01, BHA02 and BHA07 with a lowest concentration of 13.3% v/v (BHA01).

4.7.10 Gas flow was recorded in all monitoring standpipes ranging from <0.1 l/h to 2.2 l/h. The highest recorded gas flow was 2.2 l/h recorded in standpipe BHA02. No negative gas flows were detected.

4.8 Groundwater Monitoring

4.8.1 Groundwater within the standpipes was monitored on five occasions between February 8th 2018 – March 21st 2018.

4.8.2 The location of the monitoring standpipes are shown on Drawings D1730_05 and AEG/PR1531/01 in Appendix A.

4.8.3 Groundwater level data is presented in the ground gas monitoring records located in Appendix F.

4.8.4 Groundwater samples were obtained from borehole SA07. Groundwater in the remaining standpipes was insufficient to obtain samples on all occasions.

4.8.5 Laboratory certificates for groundwater samples obtained from borehole SA07 are located in Appendix G.

5.0 Conceptual Site Model

5.1 General

5.1.1 Arup 2016 produced a conceptual site model (CSM), taking in to account revised understanding of potential sources of contamination, pathways and possible receptors in the vicinity of the site.

5.1.2 The human health aspect of the Arup CSM has been revised further in this document, to consider the specific risks posed by the presence of asbestos in made ground at the site.

5.2 Initial Asbestos Assessment

5.2.1 Asbestos has been identified in 12 samples collected from trial pits and cable percussion / rotary core boreholes advanced as part of this investigation.

5.2.2 The concentration of asbestos in soil ranged between <0.001-0.013% w / w, with Chrysotile and Amosite fibres identified by laboratory analytical methods.

5.2.3 Asbestos materials identified in the made ground samples included: loose fibres; loose fibrous debris; and bitumen products.

5.2.4 Asbestos fibres identified during this site investigation are generally located in made ground to the northwest, northeast and southeast areas of the main car park and additionally, in the made ground in the two smaller carparks to the south of site.

5.2.5 Samples which tested positive for asbestos presence were generally within the top metre of made ground on site. However, in borehole SA09 asbestos was detected in samples between 1.0mbgl and 3.0mbgl.

5.2.6 As asbestos is within the shallow made ground at site, it is likely that this material would be disturbed in any future redevelopment works.

5.2.7 CIRIA C733 'Asbestos in soil and made ground: a guide to understanding and managing risks', states, that potential for fibre release (all asbestos types) from soils is almost entirely eliminated where soil moisture contents are above 15%. However, it should be noted that the 15% figure is based upon a different methodology for measuring moisture content in soils than was probably used in the site

investigations for this site. Further, due to the heterogeneous nature of made ground, there is a potential for varying moisture contents.

5.2.8 The average soil moisture content of the made ground is 14.65%. However, as noted in CIRIA C733, the moisture content of the made ground is variable, with the minimum reported content being 4.9%, and maximum soil moisture content reported at 25%.

5.2.9 Additional to the above, soil moisture from 38 samples collected from the top metre of made ground have an average soil moisture content of 12%, with a minimum of 5.5% and a maximum of 20%.

5.2.10 Exposure to asbestos can cause debilitating diseases and can be fatal. As a result, it is considered that exposure to asbestos is potentially a major hazard.

5.2.11 Based on the moisture content of made ground on site – particularly within the top metre and considering the variable nature of made ground, it is considered that the probability of asbestos release without implementing appropriate controls is high.

5.2.12 Table 5.1. below presents the updated CSM for the site, considering the presence of asbestos in made ground as far as it relates to human health. Consideration is given to construction workers who may be employed at the site during redevelopment, future site users and offsite receptors. For offsite receptors, consideration is given to the proximity of several nationally important public attractions / destinations, as well as public roads and pavements, residential and commercial blocks, all of which are in close proximity to the site.

5.2.13 Table 5.1. shows that the risk of exposure to asbestos without controls is classified between severe to moderate. With appropriate controls and management of asbestos impacted soils (ACS) the risk classification is considered to be low to negligible.

Table 5.1. Updated Conceptual Site Model for consideration of risk posed by asbestos impacted soils (ACS)

Potential Receptor	Source	Potential Pathways	Potential Severity / Hazard	Probability of risk without controls	Risk classification without controls	Mitigation of Risk	Risk classification with controls
Human Health (construction workers)	Asbestos impacted soils (ACS)	Inhalation / ingestion of soils, and dust	Major Hazard	High	Severe Risk	- Asbestos Risk Assessment (ARA) conducted by competent and experienced personnel in accordance with CAR2012 regulation 6. - Plan of Works (POW) developed by competent and experienced personnel in accordance with CAR2012 regulation 7 and CARSOIL™ for appropriate management of ACS at the site – detailing all necessary controls, including, but not limited to: • Designated Areas (for asbestos works); • Appropriate and controlled dust mitigation; • PPE including appropriate respiratory protective equipment; • Reassurance air monitoring; • Appropriate management of asbestos waste; • Adequate and appropriate emergency procedures.	Low
Human Health (off-site)	ACS dust migrating off site and ACS being spread outside of asbestos work area of dust and soils	Inhalation / ingestion of soils, and dust	Major Hazard	Medium	Moderate Risk	Controls required to significantly reduce the risk of *the spread* of asbestos dust or ACS (CAR2012 Regulation 16) to offsite receptors include the controls stated above and particularly: • Appropriate and controlled dust mitigation; • Reassurance air monitoring carried out by competent and qualified asbestos analyst; • Ongoing review of results of air monitoring, working practices and review of the ARA and POW as necessary by competent and experienced personnel; • Preventing unauthorized access to site.	Negligible
Human Health (on-site users following redevelopment)	Asbestos impacted soils (ACS)	Inhalation / ingestion of soils, and dust	Major Hazard	High	Severe Risk	Excavation and management of ACS in accordance with CAR2012 and CAR-SOIL™. Where site will be covered by buildings and hard-standing direct contact of soils will be prevented. Soft landscaping areas will require a clean capping layer and topsoil.	Negligible

6.0 Recommendations

6.1 Asbestos Works

6.1.1 Asbestos impacted made ground has only been identified within the proposed reduce level excavation to the underside of deepest pile cap or foundation within plot 1. In plot 1 the proposed reduced level excavation is to 29.95mAOD, with asbestos presence proven to approximately 31.6mAOD.

6.1.2 Asbestos impacted made ground within plot 2 has been proven to approximately 30.25mAOD, with the proposed reduce level dig being 30.45mAOD. In order to reduce the likelihood of personnel being exposed to asbestos during piling works it is proposed that plot 2 be reduced to nominal 30.25mAOD in order to remove asbestos impacted made ground proven during this site investigation.

6.1.3 It is proposed that asbestos impacted made ground be excavated and stockpiled onsite pending sampling to classify the arisings. Following classification of the soil, all asbestos impacted soils and materials should be sent offsite for disposal at a suitably licensed landfill. Similarly, surplus inert material that cannot be reused in the redevelopment scheme should be sent offsite to a suitably licensed facility.

6.1.4 Asbestos made ground should be excavated to an appropriate depth for classification and disposal within proposed service corridors and areas of soft landscaping.

6.1.5 The above works should be undertaken as asbestos works in accordance with the Control of Asbestos Regulations 2012 (CAR2012) and CAR-SOIL™ (CL:AIRE (2016), 'Control of Asbestos Regulations 2012 – Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials: Industry Guidance', dated 2016).

6.1.6 There is the potential to use surplus and waste soils to create an embankment access to the proposed high-level piling works within plot 2 prior to disposal of the asbestos impacted soils and surplus material. However, strict control of impacted soils must be implemented to prevent exposure of personnel and the public to asbestos and

additionally, to prevent cross contamination of asbestos free soil by impacted soils.

6.1.7 Cross contamination of asbestos free soils may be prevented by placing a high visibility geotextile marker layer between the impacted soils and clean soils or imported 6F2 used during construction of the proposed piling platform.

6.1.8 Once piling is complete and the high-level piling platform is no longer required, impacted soils can be disposed as per paragraph 6.1.3.

6.1.9 Excavations should be validated to prove asbestos contamination has been removed or to inform the risk posed by residual asbestos within made ground left *in situ*. Following completion of asbestos works, clean material may be imported as suitable fill for construction of piling platforms.

6.1.10 Samples of imported materials for the construction of piling platforms (such as 6F2) should be obtained in order to prove that imported materials are free of asbestos fibres and materials.

6.1.11 The above recommendations should significantly reduce the likelihood of encountering asbestos impacted soils during piling activities.

6.1.12 Notwithstanding this, piling contractors should be aware of the potential for asbestos impacted soils within the pile arisings. Follow on trades including piling contractors should as a minimum be trained in Asbestos Awareness (Category A training), to enable identification of asbestos containing materials.

6.1.13 Additionally, an asbestos Plan of Works (POW) should be developed to inform the piling contractor of the low risk of encountering asbestos impacted made ground during works and the appropriate emergency procedures should previously unidentified asbestos be encountered.

6.1.14 It is advisable that a suitably competent and qualified asbestos supervisor attend site during piling works that produce arisings to conduct a watching brief.

7.0 Summary

7.1 General

7.1.1 Vertase F.L.I. Limited (VertaseFLI) were appointed by Muse Developments Ltd (client) to carry out supplementary site investigation at the proposed New Victoria development site located at Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Millgate Street, Manchester, M3 1NX (the site).

7.1.2 The principal objective of this site investigation is to further quantify and delineate asbestos within the made ground in order to develop an appropriate strategy for managing risks posed by asbestos impacted made ground during the proposed development.

7.1.3 Geochemical samples were obtained to further inform the risk assessment and site conceptual model.

7.1.4 *In situ* standard penetration tests (SPTs) were carried out within boreholes to further inform piling design.

7.1.5 As part of the wider site investigation VertaseFLI carried out a verification (type A) survey in accordance with 'PAS 128:2014 – Specification for Underground Utility Detection, Verification and Location'. The findings of this survey are reported under separate cover, with the report included in Appendix H of this document.

7.1.6 VertaseFLI mobilised to site on Friday 10th November 2017, completing all works and demobilising from site on Friday 15th December 2017.

7.1.7 Made ground was encountered in all exploratory holes at thickness ranging from 0.91m (TP08) to 10.0m (SA04).

7.1.8 Where encountered, bedrock was present at depths ranging from 0.91mbgl (TP08) to 10.40mbg (SA07).

7.1.9 Groundwater ingress was encountered in three boreholes (SA04, SA06 and SA07). Where present, groundwater ingress was encountered between 9.5-9.68mbgl. Groundwater rose in boreholes to 8.94-9.2mbgl after 2 hours.

7.1.10 Asbestos was identified in 12 samples collected from trial pits, boreholes and windowless sample holes advanced as part of this investigation. Asbestos concentrations ranged from <0.001% to

0.013% w /w, with Chrysotile and Amosite fibres identified by laboratory analytical methods. Samples where asbestos was identified were generally collected from the top metre of made ground, with one location (SA09a) testing positive for asbestos down to 3.0mbgl.

7.1.11 Geochemical samples collected during the site investigation were screened against generic assessment criteria (GACs). Determinants were elevated in a number of locations when screened against the GACs. Determinants which were elevated include heavy metals (arsenic and lead) PAHs and heavy chain aromatic hydrocarbons.

7.1.12 SPTs undertaken within the made ground produced SPT N values were generally between 3 and 11. The average SPT N value is 7.

7.1.13 Out of seven tests within the sandstone only two SPT N values were produced. WS04 at 3.0-3.45mbgl produced a SPT N value of 7 in a layer of weathered sandstone. SA08a produced a SPT N Value of 18 at the top of the sandstone strata. Four SPT tests within sandstone were refused due to strength of the rock. Where SPT tests were refused, the SPT N value has been extrapolated.

7.1.14 Arup 2016 produced a conceptual site model (CSM) taking in to account revised understanding of potential sources of contamination, pathways and possible receptors in the vicinity of the site.

7.1.15 The human health aspect of the Arup CSM has been revised further in this document in order to consider the specific risks posed by the presence of asbestos in made ground at the site.

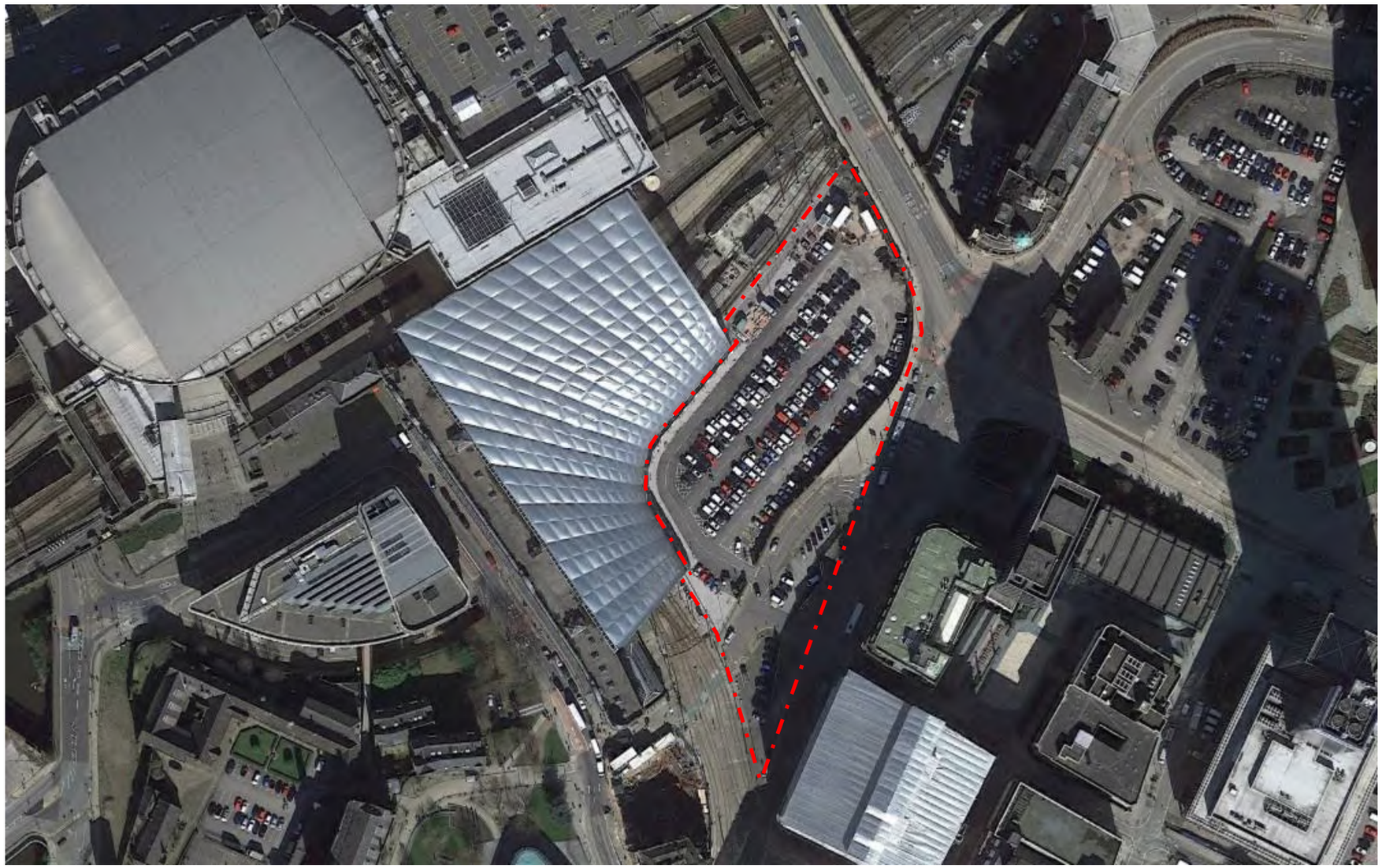
7.1.16 It is recommended that works which will disturb asbestos contaminated soils be carried out in accordance with the Control of Asbestos Regulations 2012 (CAR2012) and CAR-SOIL™ (CL:AIRE (2016), 'Control of Asbestos Regulations 2012 – Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials: Industry Guidance', dated 2016).

An asbestos risk assessment (ARA) should be conducted by a competent and experienced person in accordance with the Control of Asbestos Regulations 2012 (CAR2012) regulation 6. A Plan of Work (POW) for managing asbestos works should be developed in accordance with CAR2012 regulation 7.

Appendix A

Drawings

***Not to scale**



A3

Legend

Site Boundary

Rev.	Description	Revised By	Date
	FIRST ISSUE		24/01/18

Vertase FLI

Contaminated Land, Brownfield & Environmental Contracting Specialists

email: info@vertasefli.co.uk
www.vertasefli.co.uk

■ Bristol Head Office: Tel: 01275 397600 Fax: 01275 397601

□ Sheffield Office: Tel: 01246 813289 Fax: 01246 812963

Site Address:
Long Millgate Car Park (APCOA), Manchester Victoria Station, Long Millgate, Manchester, M3 1NX

Rev: **0**

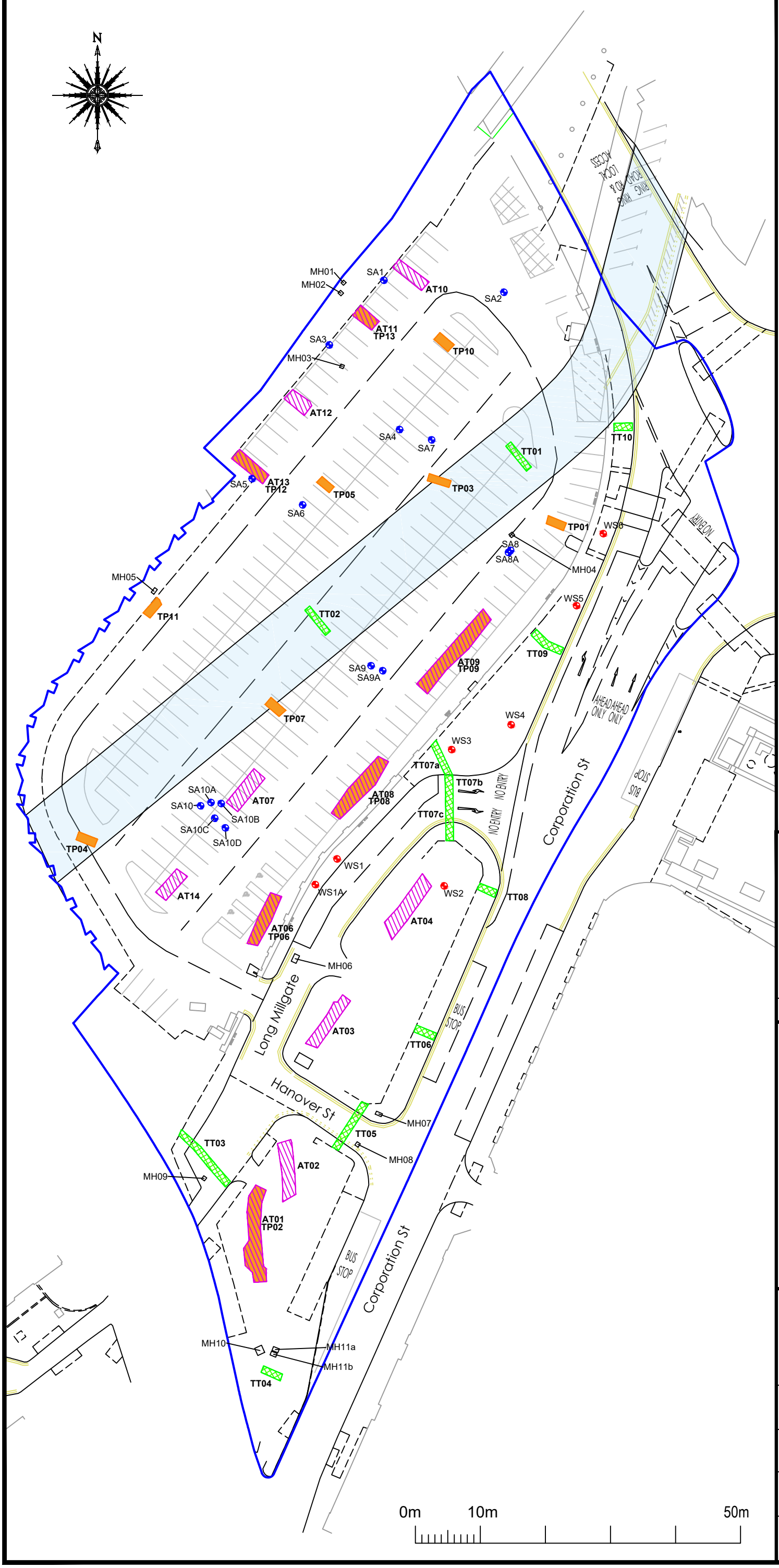
Title: **Site location map with site boundary**

Client: **Muse Developments Ltd**

Drawn:	Checked:	Approved:
IS	**CL**	**CL**

Dwg:	Contract:	Scale:
SK1730_05	**1730MUS**	**NTS**

A3



Legend

- Utility Survey Trench
- VertaseFLI Trial Pit
- Archaeology Investigation Trench (GMAAS)
- SA Boreholes
- WS Windowless Sample Holes
- Culvert

Rev.	Description	Revised By	Date
	FIRST ISSUE		26-01-2018

Vertase FLI

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- Sheffield Office: Tel: 01246 813289 Fax: 01246 812963
- Hertford Office: Tel: 01992 535757 Fax: 01992 535858
- Manchester Office: Tel: 0161 4372708 Fax: 0161 4376300

Rev:

Site Address:

New Victoria
Manchester

Title: Site Investigation Location Plan

Client: Muse Developments Ltd

Drawn: SCG	Checked: IS	Approved: CL
Dwg: D1730_05	Contract: 1730MUS	Scale: NTS



Allied Exploration and Geotechnics Limited
Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeguk.net

KEY:

BOREHOLE

WINDOW/WINDOWLESS SAMPLE HOLE

TRIAL PIT

TRIAL TRENCH

N
W E
S

Base Plan Supplied by Consulting Engineer

Drawing Title:
ENC 01 : Exploratory Hole Location Plan

Drawing No.:
AEG/PR1531/01

Contract Title:
Manchester New Victoria Ground Investigation

Client:
Muse Developments Ltd

Consultant:
Ove Arup & Partners Limited

Contract No.:
PR1531

Scale:
1:500 @ A3

Date:
03/03/2016

Appendix B

Photographic Log



Figure 1. Trial Pit 1 – Down hole image.



Figure 2. Location of TP01.



Figure 3. Trial Pit 2 – Down hole image.



Figure 4. Location of TP02.



Figure 5. Trial Pit 3 – Down hole image.



Figure 6. Location of TP03.



Figure 7. Trial Pit 4 – Down hole image.



Figure 8. Location of TP04.



Figure 9. Trial Pit 5 – Down hole image.



Figure 10. Location of TP05.



Figure 11. Trial Pit 6 – Down hole image.



Figure 12. Location of TP06.



Figure 13. Trial Pit 7 – Down hole image



Figure 14. Location of TP07.



Figure 15. Trial Pit 8 – Down hole image.



Figure 16. Location of TP08.



Figure 17. Trial Pit 9 – Down hole image.



Figure 18. Location of TP09.



Figure 19. Trial Pit 10 – Down hole image



Figure 20. Location of TP10.



Figure 21. Trial Pit 11 – Down hole image.



Figure 22. Location of TP11.



Figure 23. Trial Pit 12 – Down hole image.



Figure 24. Location of TP12.



Figure 25. Trial Pit 13 – Down hole image.



Figure 26. Location of TP13.



Figure 27. Trial Trench 1 – Down hole image.



Figure 28. Location of TT01.



Figure 29. Trial Trench 2 – Down hole image.



Figure 30. Location of TT02.



Figure 31. WS01 – down hole image. Terminated due to concrete obstruction.



Figure 32. WS01a – downhole image. Terminated due to concrete obstruction.



Figure 31. Location of WS01 (foreground) and WS01a (background) marked by arrows.



Figure 32. WS02 down hole image. Hole terminated due to abundant cobbles of brick and concrete rubble.



Figure 33. Location of WS02.



Figure 34. WS03 cores – with depths labelled.



Figure 35. Location of WS03.



Figure 36. WS04 cores – with depths labelled.



Figure 37. WS05 cores – with depths labelled.



Figure 38. WS06 cores – with depths labelled.



Figure 39. Cable percussion rig at work over borehole SA04.



Figure 40. Cable percussion rig at work over borehole SA05.



Figure 41. SA07 sandstone cores – with depths labelled.



Figure 42. SA07 sandstone cores – with depths labelled.



Figure 43. SA08a sandstone cores – with depths labelled.



Figure 44. SA08a sandstone cores – with depths labelled.



Figure 45. SA10 downhole. Terminated due to brick and concrete structure.



Figure 46. SA10a downhole. Terminated due to brick and concrete structure.



Figure 47. SA10b downhole. Terminated due to brick and concrete structure.



Figure 48. SA10c downhole. Terminated due to brick and concrete structure.



Figure 49. Location and configuration of SA10 – SA10d.

Appendix C

Geological Logs

Vertase FLI
Number One Middlebridge
Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Borehole Log

Borehole No.
SA01
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384111.30 - 399060.00	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.82	Scale 1:50
Client:	Muse Developments Ltd		Dates:	30/11/2017 - 30/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.08	32.74		ASPHALT (FILL)
		0.00 - 1.00	ES					Greyish brown slightly clayey coarse SAND and fine to coarse subrounded to angular GRAVEL size limestone, brick and concrete and occasional metal, polythene, plastic bag, and ree-bar (MADE GROUND)
		0.50 - 1.00	ES					
		1.00 - 1.50	ES					
		1.50 - 2.00	ES					
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES		2.48	30.34		Greyish brown very clayey medium to coarse SAND and fine to medium subrounded to angular GRAVEL size limestone, brick and concrete (MADE GROUND)
		3.00 - 3.50	ES					
		3.50 - 4.00	ES					
		4.00 - 4.50	ES		3.82	29.00		Brownish red medium to coarse SAND and fine to coarse rounded to angular GRAVEL size sandstone, brick and concrete with rare ceramic tile and oyster shell (MADE GROUND)
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00 - 5.50	ES					
		5.50 - 6.00	ES					
		6.00 - 6.50	ES					
		6.00 - 7.00	ES		6.07	26.75		Brown slightly sandy gravelly CLAY with rare ceramic tile and wood. Sand is medium to coarse. Gravel is fine to medium, subangular to rounded sandstone brick and concrete (MADE GROUND)
		6.50 - 7.00	ES					
					6.96	25.86		Brownish red SANDSTONE (CHESTER FORMATION)
					7.02	25.80		Chiselling for 60 minutes for 70mm from 6.96mbgl. Borehole terminated
								End of borehole at 7.02 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to sandstone - possible natural strata

AGS

Vertase FLI
Number One Middlebridge
Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Borehole Log

Borehole No.
SA02
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384129.71 - 399058.13	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.64	Scale 1:50
Client:	Muse Developments Ltd		Dates:	01/12/2017 - 01/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.06	32.58		ASPHALT (FILL)
		0.00 - 1.00	ES		0.14	32.50		Grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES		0.65	31.99		Dark greyish brown silty fine to coarse SAND and fine to coarse subangular to angular GRAVEL with probable ash and clinker and rare asphalt. (MADE GROUND)
		1.00 - 1.50	ES					
		1.50 - 2.00	ES		1.70	30.94		Dark reddish brown medium to coarse SAND and fine to medium subangular to very angular GRAVEL size brick and sandstone with coal and probable clinker and rare ceramic tile and clay pipe (MADE GROUND)
		2.00 - 2.50	ES					Brown slightly sandy very clayey fine to coarse subangular to angular GRAVEL size limestone, brick and concrete with frequent deleterious ceramic tile, clay pipe, wood, plastic bag and metal fragments. Sand is coarse (MADE GROUND)
		2.00 - 3.00	ES					
		2.50 - 3.00	ES					
		3.00 - 3.50	ES					
		3.50 - 4.00	ES		3.35	29.29		Greyish brown slightly sandy gravelly CLAY with occasional ceramic tile, glass and wood. Sand is fine to coarse. Gravel is fine to coarse, angular to very angular concrete (MADE GROUND)
		4.00 - 4.50	ES					
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00 - 5.50	ES					
		5.50 - 6.00	ES					
		6.00 - 6.50	ES					
		6.00 - 7.00	ES					
		6.50 - 7.00	ES		6.28	26.36		Brownish grey clayey medium to coarse SAND and fine to medium subrounded to angular GRAVEL size sandstone, brick and concrete with occasional ceramic, crockery, wood, polythene and glass fragments (MADE GROUND)
		7.00 - 7.50	ES					
		7.50 - 8.00	ES					
					7.92	24.72		Light brownish red medium to coarse SAND and fine to medium subrounded to subangular GRAVEL sized sandstone (PROBABLE WEATHERED SANDSTONE)
					8.30	24.34		Brownish red SANDSTONE (CHESTER FORMATION)
					8.33	24.31		Chiselling for 60 minutes for 30mm from 8.3mbgl. Borehole terminated
								End of borehole at 8.33 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to sandstone - possible natural strata

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
SA03
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384102.90 - 399049.99	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 32.77	Scale 1:50
Client:	Muse Developments Ltd		Dates: 30/11/2017 - 01/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.07	32.70		ASPHALT (FILL)
		0.00 - 1.00	ES		0.19	32.58		Grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES					Greyish brown slightly silty gravelly fine to coarse SAND with frequent polythene, tile, wood and plastic bottle. Sand is fine to coarse. Gravel is fine to coarse, subangular to very angular sized brick and concrete (MADE GROUND)
		1.00 - 1.50	ES		1.24	31.53		Dark greyish brown sandy gravelly CLAY with probable coal and clinker. Sand is medium to coarse. Gravel is fine to medium, subangular to angular brick and concrete (MADE GROUND)
		1.50 - 2.00	ES					
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES					
		3.00 - 3.50	ES		2.87	29.90		Brownish red slightly silty silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size sandstone (MADE GROUND)
		3.50 - 4.00	ES		3.45	29.32		Brown slightly silty fine to coarse SAND and fine to medium GRAVEL sized brick and concrete with probable coal and clinker and rare ceramic tile fragments, clay pipe fragments and oyster shell fragments (MADE GROUND)
		4.00 - 4.50	ES					
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00 - 5.50	ES					
		5.50 - 6.00	ES					
		6.00 - 6.50	ES					
		6.00 - 7.00	ES					
		6.50 - 7.00	ES		6.40	26.37		Light brownish red medium to coarse SAND and fine medium subrounded to subangular GRAVEL size sandstone (POSSIBLE WEATHERED SANDSTONE)
					6.65	26.12		Brownish red SANDSTONE (CHESTER FORMATION)
					6.80	25.97		Chiselling for 60 minutes for 150mm from 6.65mbgl. Borehole terminated
								End of borehole at 6.80 m

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to sandstone - possible natural strata

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
SA04
Sheet 1 of 2

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384113.68 - 399036.99	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.92	Scale 1:50
Client:	Muse Developments Ltd		Dates:	28/11/2017 - 28/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.07	32.85		ASPHALT (FILL)
		0.00 - 1.00	ES		0.17	32.75		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES					
		1.00 - 1.50	ES		0.85	32.07		Dark brown silty fine to medium SAND and fine to medium subrounded to subangular GRAVEL size brick and concrete (MADE GROUND)
		1.50 - 2.00	ES					Dark greyish brown medium to coarse SAND and small to medium subangular to very angular GRAVEL size brick and concrete with probable ash and clinker (MADE GROUND)
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES		2.33	30.59		Greyish brown fine to coarse SAND small to medium subangular to angular GRAVEL size brick and concrete with occasional wood fragments (MADE GROUND)
		3.00 - 3.50	ES		2.78	30.14		Light brownish red sandy gravelly CLAY with frequent ceramic and crockery. Sand is medium to coarse. Gravel is small to large, subangular to very angular brick and concrete (MADE GROUND)
		3.50 - 4.00	ES		3.28	29.64		Dark grey probable ASH and CLINKER (MADE GROUND)
		4.00 - 4.50	ES		3.39	29.53		Brownish red occasionally dark grey sandy gravelly CLAY with probable ash and clinker. Sand is medium to coarse. Gravel is fine to coarse subangular to very angular brick and concrete (MADE GROUND)
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00 - 5.50	ES		5.00	27.92		Light brownish red sandy gravelly CLAY with rare clay pipe. Sand is coarse. Gravel is fine to medium, subangular to very angular brick and concrete (MADE GROUND)
		5.50 - 6.00	ES					
		6.00 - 6.50	ES		5.82	27.10		Brownish red occasionally dark grey sandy gravelly CLAY with probable coal and clinker and occasional slate and ceramic tile. Sand is medium to coarse. Gravel is fine to coarse, subangular to very angular brick and concrete (MADE GROUND)
		6.00 - 7.00	ES					
		6.50 - 7.00	ES		6.34	26.58		Brownish red gravelly CLAY with low cobble content. Gravel is medium to large, subangular to angular brick. Cobbles are subangular to very angular brick and concrete (MADE GROUND)
		7.00 - 7.50	ES		6.98	25.94		Brownish red dark mottled medium to coarse SAND and fine to coarse subangular to angular GRAVEL size brick and concrete with probable coal and clinker and frequent slate, ceramic, crockery and wood. (MADE GROUND)
		7.50 - 8.00	ES					
		8.00 - 8.50	ES					
		8.00 - 9.00	ES		8.30	24.62		Dark brownish grey clayey fine to coarse SAND and medium to coarse subangular to angular GRAVEL with probable clinker and frequent wood. Cobble size timber fragments after 9.9mbgl. Moderate hydrocarbon tar odour (MADE GROUND)
		8.50 - 9.00	ES					
	▼	9.00 - 9.50	ES					Groundwater encountered at 9.5mbgl. Groundwater rises to 9.01mbgl after 120 minutes
	▽				10.00	22.92		Continued on next sheet

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to obstruction - timber fragments in arisings from base of borehole

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
SA04
Sheet 2 of 2

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384113.68 - 399036.99	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.92	Scale 1:50
Client:	Muse Developments Ltd		Dates:	28/11/2017 - 28/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Chiselling for 45 minutes at 10mbgl. Returning timber fragments - no advancement (possible railway sleeper). Borehole terminated End of borehole at 10.00 m

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Remarks
No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to obstruction - timber fragments in arisings from base of borehole

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
SA05
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384091.02 - 399029.43	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.76	Scale 1:50
Client:	Muse Developments Ltd		Dates:	30/11/2017 - 30/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.05	32.71		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.00 - 1.00	ES		0.14	32.62		
		0.50 - 1.00	ES		0.25	32.51		Brown silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size concrete and brick (MADE GROUND)
		1.00 - 1.50	ES					Brownish grey sandy fine to medium subangular to angular GRAVEL size brick, concrete and limestone. Sand is fine to coarse (MADE GROUND)
		1.50 - 2.00	ES					Brown very silty fine to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick and concrete with low cobble content and occasional wood, ceramic tile and plastic bag. Cobbles are elongate, subangular to very angular brick (MADE GROUND)
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES					
		3.00 - 3.50	ES		2.85	29.91		Greyish brown very silty fine to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick and concrete with occasional wood (MADE GROUND)
		3.50 - 4.00	ES					
		4.00 - 4.50	ES					
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00 - 5.50	ES					
		5.50 - 6.00	ES		5.34	27.42		Greyish brown clayey medium to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick, concrete and sandstone with low cobble content and occasional wood, ceramic, crockery, glass and polythene. Cobbles are elongate, angular to very angular brick and concrete (MADE GROUND)
		6.00 - 6.50	ES					
		6.00 - 7.00	ES					
		6.50 - 7.00	ES					
		7.00 - 7.50	ES					
		7.50 - 8.00	ES					
					7.79	24.97		Brownish red SANDSTONE (CHESTER FORMATION)
					7.88	24.88		Chiselling for 45 minutes for 90mm from 7.79mbgl. Borehole terminated
								End of borehole at 7.88 m

1 2 3 4 5 6 7 8 9 10

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to sandstone - possible natural strata

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
SA06
Sheet 1 of 2

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384098.78 - 399025.38	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.86	Scale 1:50
Client:	Muse Developments Ltd		Dates:	29/11/2017 - 29/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.07	32.80		ASPHALT (FILL)
		0.00 - 1.00	ES		0.18	32.68		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES					
					0.80	32.06		Greyish brown sandy, gravelly CLAY and frequent wood, glass, metal, plastic bag and ree-bar. Sand is medium to coarse. Gravel is fine to coarse, subangular to subrounded brick and concrete (MADE GROUND)
		1.00 - 1.50	ES					
		1.50 - 2.00	ES					Greyish brown clayey medium to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick, concrete and limestone with occasional glass (MADE GROUND)
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES					
		3.00 - 3.50	ES					
		3.50 - 4.00	ES					
		4.00 - 4.50	ES					
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00 - 5.50	ES					
		5.50 - 6.00	ES		5.50	27.36		Greyish brown sandy very gravelly CLAY with occasional polythene, ceramic tile and wood. Sand is fine to coarse. Gravel is fine to coarse subangular to very angular brick and concrete (MADE GROUND)
		6.00 - 6.50	ES					
		6.00 - 7.00	ES					
		6.50 - 7.00	ES					
		7.00 - 7.50	ES					
					7.34	25.52		
		7.50 - 8.00	ES		7.57	25.29		Dark grey probable ASH and CLINKER (MADE GROUND)
								Dark brownish grey slightly clayey fine to coarse SAND and fine to coarse, subangular to angular GRAVEL size brick and concrete (MADE GROUND)
		8.00 - 8.50	ES					
		8.00 - 9.00	ES					
		8.50 - 9.00	ES					Water strike at 9.68mbgl. Water rises to 9.2mbgl after 140 minutes
		9.00 - 9.50	ES					
		9.50 - 10.00	ES					
					9.72	23.14		Brownish red SANDSTONE (CHESTER
					9.76	23.10		

Continued on next sheet

Remarks
No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to sandstone - possible natural strata

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
SA06
Sheet 2 of 2

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384098.78 - 399025.38	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.86	Scale 1:50
Client:	Muse Developments Ltd		Dates:	29/11/2017 - 29/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								FORMATION) Chiselling for 90 for minutes for 40mm from 9.72mbgl. Borehole terminated End of borehole at 9.76 m

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Remarks
No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig; Borehole reinstated with arisings to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to sandstone - possible natural strata

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Number One Middlebridge
Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Borehole Log

Borehole No. **SA07**

Sheet 1 of 2

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384118.63 - 399035.39	Hole Type CP+RC
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	32.77	Scale 1:50
Client:	Muse Developments Ltd		Dates:	04/12/2017 - 07/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.08	32.68		ASPHALT (FILL)
		0.00 - 1.00	ES		0.12	32.65		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES					Loose brown very silty fine to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with probable clinker and rootlets and rare wood (MADE GROUND)
		1.00		N=8 (1,2/2,2,2,2)				
		1.00 - 1.45	SPTLS		1.20	31.56		Light greyish brown sandy gravelly CLAY with rare ceramic, crockery and glass. Sand is medium to coarse. Gravel is fine to medium, subangular to angular brick and concrete (MADE GROUND)
		1.00 - 1.50	ES					
		1.50 - 2.00	ES					Loose to very loose light greyish brown silty fine to coarse SAND and fine to medium GRAVEL size brick and concrete with rare glass (MADE GROUND)
		2.00		N=7 (1,2/2,1,2,2)	1.95	30.82		
		2.00 - 2.45	SPTLS					
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES					
		3.00		N=6 (1,1/2,2,1,1)				
		3.00 - 3.45	SPTLS					
		3.00 - 3.50	ES					
		3.50 - 4.00	ES					
		4.00		N=4 (1,0/1,0,1,2)				
		4.00 - 4.45	SPTLS					
		4.00 - 4.50	ES					
		4.00 - 5.00	ES					
		4.50 - 5.00	ES					
		5.00		N=5 (1,1/2,1,1,1)				
		5.00 - 5.45	SPTLS					
		5.00 - 5.50	ES		5.50	27.26		Brown sandy gravelly CLAY with probable coal and clinker and rare wood. Sand is medium to coarse. Gravel is fine to medium, subangular to angular brick and concrete (MADE GROUND)
		5.50 - 6.00	ES					
		6.00 - 6.50	ES					
		6.00 - 7.00	ES					
		6.50		N=7 (1,2/2,1,2,2)	6.30	26.46		Loose dark greyish brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete with probable coal and clinker (MADE GROUND)
		6.50 - 6.95	SPTLS					
		6.50 - 7.00	ES					
		7.00 - 7.50	ES		7.05	25.72		Brown sandy gravelly CLAY with probable coal and clinker and rare wood. Sand is medium to coarse. Gravel is fine to medium, subangular to angular brick and concrete (MADE GROUND)
		7.50 - 8.00	ES					
		8.00		N=3 (1,0/1,2,0,0)				Groundwater ingress at 9.6mbgl. Water rises to 8.94mbgl after 120 minutes
		8.00 - 8.45	SPTLS					
		8.00 - 8.50	ES					
		8.00 - 9.00	ES					
		8.50 - 9.00	ES					
		9.00 - 9.50	ES					
		9.00 - 10.00	ES					
		9.50		N=6 (4,2/2,2,1,1)	9.60	23.16		Loose light brown fine to medium SAND and fine coarse rounded to subangular GRAVEL sized
		9.50 - 9.95	SPTLS					
		9.50 - 10.00	ES					

Continued on next sheet

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig to rock head, Comacchio GEO205 Rotary Coring Rig to finish; Borehole reinstated with bentonite grout from 13.0-14.6mbgl, gravel fill from 7.0-13.0mbgl, bentonite pellets from 0.3-7.0mbgl, concrete and below ground well cover installation at surface; Standpipe installation is plain from 0.0-7.0mbgl, slotted from 7.0-13.0mbgl; BH terminated due to specification depth.

*SPT extrapolated to 300mm

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Borehole Log

Borehole No.
SA07
Sheet 2 of 2

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384118.63 - 399035.39	Hole Type CP+RC
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 32.77	Scale 1:50
Client:	Muse Developments Ltd		Dates: 04/12/2017 - 07/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					10.40	22.36		flint (POSSIBLE RIVER TERRACE DEPOSITS)
		11.00 11.00 - 11.04	SPTL S	*N=643 (75 for 35mm)	11.10	21.66		Thinly bedded brownish red medium to coarse grained SANDSTONE (CHESTER FORMATION). Joint Set: 66:130:227 very closely to medium spaced. RQD: 18; SCR: 35; TCR: 44 (RQD, SCR, TCR estimated from core photographs)
								Thinly bedded brownish red medium to coarse grained SANDSTONE (CHESTER FORMATION). Joint set: 52:81:140 very closely to closely spaced. RQD: 30; SCR: 60; TCR: 62 (RQD, SCR, TCR estimated from core photographs)
					12.60	20.16		Thinly bedded brownish red medium to coarse grained SANDSTONE (CHESTER FORMATION). Joint Set: 43:88:176 very closely to closely spaced. RQD: 19; SCR: 76; TCR: 81 (RQD, SCR, TCR estimated from core photographs)
					14.10	18.66		End of borehole at 14.10 m

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig to rock head, Comacchio GEO205 Rotary Coring Rig to finish; Borehole reinstated with bentonite grout from 13.0-14.6mbgl, gravel fill from 7.0-13.0mbgl, bentonite pellets from 0.3-7.0mbgl, concrete and below ground well cover installation at surface; Standpipe installation is plain from 0.0-7.0mbgl, slotted from 7.0-13.0mbgl; BH terminated due to specification depth.

*SPT extrapolated to 300mm

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Borehole Log

Borehole No.
SA08
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384130.83 - 399018.37	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 33.08	Scale 1:50
Client:	Muse Developments Ltd		Dates: 05/12/2017 - 05/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.08 0.16	33.01 32.92		ASPHALT (FILL) Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL) End of borehole at 0.16 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Vacuum excavation rig with hand held pneumatic breaker; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to ree-bar reionforced concrete structure / obstruction (possible edge of adjacent below ground surface water drain) and relocated (SA8a)

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Borehole Log

Borehole No. **SA08a**
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384130.46 - 399018.11	Hole Type CP+RC
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	33.09	Scale 1:50
Client:	Muse Developments Ltd		Dates:	05/12/2017 - 07/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.08	33.01		ASPHALT (FILL)
		0.00 - 1.00	ES		0.25	32.84		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES					Loose dark grey fine to medium SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete and low cobble content with probable ash and clinker. Cobbles are elongate, subangular to very angular brick and concrete (MADE GROUND)
		1.00		N=5 (1,1/1,1,1,2)				
		1.00 - 1.45	SPTLS					
		1.00 - 1.50	ES					
		1.00 - 2.00	ES					
		1.50 - 2.00	ES		1.75	31.34		
		2.00		N=8 (1,2/2,2,2,2)				Light greyish brown gravelly CLAY. Gravel is fine to coarse, angular to very angular brick and concrete (MADE GROUND)
		2.00 - 2.45	SPTLS					
		2.00 - 2.50	ES					
		2.50 - 3.00	ES					
		3.00		N=4 (1,0/1,1,1,1)	3.00	30.08		
		3.00 - 3.45	SPTLS		3.20	29.88		Very loose dark grey probable ASH and CLINKER (MADE GROUND)
		3.00 - 3.50	ES					Brownish red sandy gravelly CLAY. Sand is medium to coarse. Gravel is fine to coarse, subangular to subrounded sandstone (MADE GROUND)
		3.50 - 4.00	ES					
		3.50 - 4.50	ES					
		4.00		N=4 (1,0/1,1,1,1)				
		4.00 - 4.45	SPTLS					
		4.00 - 4.50	ES					
		4.50 - 5.00	ES		4.60	28.48		
		5.00		N=18 (8,6/5,5,4,4)				Thinly bedded brownish red medium to coarse grained SANDSTONE (CHESTER FORMATION). Joint Set: 75:118:158 very closely to closely spaced. RQD: 42; SCR: 55; TCR: 63 (RQD, SCR, TCR estimated from core photographs)
		5.00 - 5.45	SPTLS					
		6.10		*N=750 (75 for 30mm)	6.10	26.98		
		6.10 - 6.13	SPTLS					Thinly bedded brownish red medium to coarse grained SANDSTONE (CHESTER FORMATION). Joint set: 37:80:271 very closely to medium spaced. RQD: 35; SCR: 85; TCR: 87 (RQD, SCR, TCR estimated from core photographs)
		7.60		*N=626 (73 for 35mm)	7.60	25.48		
		7.60 - 7.64	SPTLS					Thinly bedded brownish red medium to coarse grained SANDSTONE (CHESTER FORMATION). Joint Set: 44:77:113 very closely to closely spaced. RQD: 21; SCR: 56; TCR: 58 (RQD, SCR, TCR estimated from core photographs)
		9.10		*N=900 (75 for 25mm)	9.10	23.98		
		9.10 - 9.12	SPTLS					End of borehole at 9.10 m

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig to rock head, Comacchio GEO205 Rotary Coring Rig to finish; Borehole reinstated with bentonite grout from 5.0-9.7mbgl, gravel fill from 1.0-5.0mbgl, bentonite pellets from 0.3-1.0mbgl, concrete and below ground well cover installation at surface; Standpipe installation is plain from 0.0-1.0mbgl, slotted from 1.0-5.0mbgl; BH terminated due to specification depth.

*SPT extrapolated to 300mm

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Borehole Log

Borehole No.
SA09
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384109.30 - 399000.67	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 33.24	Scale 1:50
Client:	Muse Developments Ltd		Dates: 05/12/2017 - 05/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	33.17		ASPHALT (FILL)
					0.34	32.90		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
								End of borehole at 0.34 m

1 2 3 4 5 6 7 8 9 10

Remarks
No services detected on CAT & Signal Generator; Plant used: Vacuum excavation rig with hand held pneumatic breaker; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to concrete structure / obstruction and relocated (SA9a)

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Borehole Log

Borehole No.
SA09a
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384111.06 - 398999.90	Hole Type CP+RC
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 33.25	Scale 1:50
Client:	Muse Developments Ltd		Dates: 06/12/2017 - 08/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.50	ES		0.07	33.18		ASPHALT (FILL)
		0.00 - 1.00	ES		0.16	33.09		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.50 - 1.00	ES					Loose dark grey silty sandy fine to coarse subrounded to angular GRAVEL size brick and concrete with probable ash and clinker. Sand is fine to coarse (MADE GROUND)
		1.00		N=5 (1,1/1,2,1,1)				
		1.00 - 1.45	SPTLS					
		1.00 - 1.50	ES					
		1.50 - 2.00	ES					
		2.00		N=5 (2,1/2,2,1,0)				
		2.00 - 2.45	SPTLS		2.14	31.11		Dark brownish grey sandy gravelly CLAY with probable coal and clinker and rare glass. Sand is medium to coarse. Gravel is fine to coarse subangular to very angular limestone, brick and concrete (MADE GROUND)
		2.00 - 2.50	ES					
		2.00 - 3.00	ES					
		2.50 - 3.00	ES					
		3.00		N=8 (1,2/2,2,2,2)				
		3.00 - 3.45	SPTLS					
					3.36	29.89		Loose light brownish red fine to coarse SAND and fine to medium subrounded to subangular GRAVEL size sandstone (MADE GROUND)
					7.00	26.25		Light brownish red GRAVEL size brick and concrete (MADE GROUND)
					7.02	26.23		VOID
					8.10	25.15		End of borehole at 8.10 m

Remarks

No services detected on CAT & Signal Generator; Plant used: Dando 2500 Cable Percussion Rig to rock head, Comacchio GEO205 Rotary Coring Rig to finish; Borehole reinstated with bentonite from 0.3-7.0mbgl, concrete to surface; BH terminated at 7.2mbgl due to void (possible structure or culvert). Borehole dipped with interface probe. Water encountered at 7.7mbgl, base of void at 8.1mbgl

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Borehole Log

Borehole No.
SA10
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384083.11 - 398979.13	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	33.18	Scale 1:50
Client:	Muse Developments Ltd		Dates:	05/12/2017 - 05/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	33.12		ASPHALT (FILL)
					0.15	33.03		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
					0.33	32.85		Light brownish red COBBLE size brick and concrete (PROBABLE STRUCTURE)
								End of borehole at 0.33 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Vacuum excavation rig with hand held pneumatic breaker; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to brick and concrete structure / obstruction and relocated (SA10a)

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Borehole Log

Borehole No.
SA10a
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384084.69 - 398979.64	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 33.19	Scale 1:50
Client:	Muse Developments Ltd		Dates: 05/12/2017 - 05/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	33.12		ASPHALT (FILL)
					0.12	33.07		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
					0.43	32.76		Light brownish red COBBLE size brick and concrete (PROBABLE STRUCTURE)
								End of borehole at 0.43 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Vacuum excavation rig with hand held pneumatic breaker; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to brick and concrete structure / obstruction and relocated (SA10b)

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Borehole Log

Borehole No.
SA10b
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384085.27 - 398977.21	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	33.20	Scale 1:50
Client:	Muse Developments Ltd		Dates:	05/12/2017 - 05/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	33.14		ASPHALT (FILL)
					0.38	32.82		Light brownish red COBBLE size brick and concrete (PROBABLE STRUCTURE)
								End of borehole at 0.38 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Vacuum excavation rig with hand held pneumatic breaker; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to brick and concrete structure / obstruction and relocated (SA10c)

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Borehole Log

Borehole No.
SA10c
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384085.27 - 398977.21	Hole Type CP
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	33.20	Scale 1:50
Client:	Muse Developments Ltd		Dates:	05/12/2017 - 05/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	33.14		ASPHALT (FILL)
					0.40	32.80		Light brownish red COBBLE size brick and concrete (PROBABLE STRUCTURE)
								End of borehole at 0.40 m

Remarks
No services detected on CAT & Signal Generator; Plant used: Vacuum excavation rig with hand held pneumatic breaker; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to brick and concrete structure / obstruction and relocated (SA10d)

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Borehole Log

Borehole No.
SA10d
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384086.91 - 398975.74	Hole Type RO
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	33.19	Scale 1:50
Client:	Muse Developments Ltd		Dates:	07/12/2017 - 07/12/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	33.12		ASPHALT (FILL) Light greyish red coarse SAND and fine to coarse angular to very angular GRAVEL size brick and concrete (PROBABLE STRUCTURE)
					1.50	31.69		End of borehole at 1.50 m

Remarks
No services detected on CAT & Signal Generator; Comacchio GEO205 Rotary Coring Rig; Borehole reinstated with type 1 stone to 0.065mbgl and compacted with Rammer BS50-2; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to obstruction

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Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP01
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384137.92 - 399022.46 Level: 32.97	Date 15/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.90	2.95 × 1.2	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.16	32.81		ASPHALT (FILL)
				0.36	32.61		Dark grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
				0.42	32.55		ASPHALT (FILL)
				0.90	32.07		Dark grey sandy fine to medium angular to subangular GRAVEL size brick and concrete with high cobble content. Sand is coarse. Cobbles are elongate, angular to very angular brick and concrete (MADE GROUND) 63mm blue alkathene pipe running from NNE to SSW in east side of trial pit at 0.7mbgl
	1.00 - 2.00	ES					Light greyish brown gravelly CLAY with low cobble content. Gravel is fine to coarse, angular to subangular brick and concrete. Cobbles are elongate, subangular to very angular brick and concrete (MADE GROUND)
	2.00 - 2.90	ES		2.30	30.67		Light reddish brown gravelly CLAY with low cobble content. Gravel is fine to coarse, angular to subangular brick and concrete. Cobbles are elongate, subangular to very angular brick and concrete (MADE GROUND)
				2.90	30.07		End of pit at 2.90 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to maximum reach of JCB 3CX.

Stability: Stable - No Collapse

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Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP02
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384091.52 - 398912.42 Level: 33.97	Date 15/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 1.70	14 × 2	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.08 0.17	33.89 33.80		ASPHALT (FILL) Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
	1.00 - 1.70	ES					Light reddish grey sandy gravelly elongate subangular to very angular COBBLES of brick and concrete with occasional wood, metal, clay pipe, ceramic tile, crockery, household electric cable, polythene bag and fibrous cement tile fragments. Sand is fine to coarse. Gravel is fine to course, subangular to very angular brick and concrete (MADE GROUND)
				1.70	32.27		End of pit at 1.70 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to in-tact tile floor (Trial Pit in Archeological Trench 2)

Stability: Moderately unstable - collapse of brick rubble between 0.17-1.12mbgl

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Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP03
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384119.97 - 399029.04 Level: 32.84
Date	16/11/2017		
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 1.40	3.6 × 1.05
Scale	1:25		
Client:	Muse Developments Ltd		Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	32.77		ASPHALT (FILL)
				0.26	32.58		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
				0.55	32.29		Dark brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size concrete (MADE GROUND)
				0.78	32.06		Dark brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete with low cobble content. Cobbles are elongate, angular to very angular brick and concrete (MADE GROUND)
	1.00 - 1.40	ES		1.26	31.58		Dark greyish brown sandy, gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to angular brick and concrete. Cobbles are elongate, subrounded to angular brick and concrete (MADE GROUND)
				1.40	31.44		63mm blue alkathene pipe running north to south through east side of trial pit
							Dark greyish brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete (MADE GROUND)
							End of pit at 1.40 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to hard base - possible top of river culvert

Stability: Stable - No Collapse

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Trial Pit Log

Trialpit No **TP04**
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384065.57 - 398973.93 Level: 33.21	Date 16/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.20	3.13 × 1.31	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	33.14		ASPHALT (FILL)
				0.10	33.11		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse. (FILL)
							Light brownish red medium to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with low cobble content and occasional polythene, wood metal and ree-bar. Cobbles are elongate, subangular to angular brick (MADE GROUND) Geogrid layers at 0.26mbgl, 0.58mbgl, 0.78mbgl and 1.08mbgl
	1.00 - 2.00	ES					
				1.12	32.09		Light brownish red medium to coarse SAND and fine to coarse subrounded to subangular GRAVEL size flint and sandstone with low cobble content. Cobbles are elongate round to subangular flint and sandstone fragments (MADE GROUND)
				1.77	31.44		Dark grey probable ASH and CLINKER (MADE GROUND)
				1.89	31.32		Dark grey medium to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick concrete and flint with low cobble content and rare wood and polythene. Cobbles are elongate, subrounded to angular brick concrete and sandstone. Moderate hydrocarbon tar odour (MADE GROUND)
	2.00 - 2.20	ES					
	2.10	ES					
				2.20	31.01		End of pit at 2.20 m

Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to hard base - possible top of river culvert

Stability: Stable - no collapse

AGS

Vertase FLI

Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TP05
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384102.37 - 399028.33 Level: 32.85	Date 16/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 3.10	2.74 × 1.26	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	32.79		ASPHALT (FILL)
				0.10	32.75		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
				0.30	32.55		Dark brown silty fine to coarse SAND and fine to medium subangular to angular GRAVEL (MADE GROUND) Geogrid Layer at 0.22mbgl
	1.00 - 2.00	ES					Dark Brown silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete with rare wood (MADE GROUND) Geogrid Layers at 0.42mbgl and 0.7mbgl
				1.12	31.73		Light brownish red slightly clayey fine to medium SAND (MADE GROUND)
				1.33	31.52		Dark brown silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete with low cobble content and probable coal and clinker and occasional fibrous tile, wood, slate, glass bottles and glass. Cobbles are elongate, subrounded to angular brick and concrete (MADE GROUND)
	1.90	ES					
	2.00 - 3.00	ES		2.03	30.82		Grey silty gravelly fine to coarse SAND. Gravel is fine to medium, subangular to angular brick and concrete (MADE GROUND)
				2.45	30.40		Light brownish red sandy gravelly CLAY. Sand is medium to coarse. Gravel is fine to coarse, subangular to angular brick (MADE GROUND)
				3.10	29.75		End of pit at 3.10 m

Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to maximum reach of JCB 3CX

Stability: Stable - No Collapse

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Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP06
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384093.12 - 398961.66 Level: 33.32	Date 21/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.69	4.4 × 0.8	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.16	33.16		ASPHALT (FILL)
				0.25	33.07		CONCRETE (FILL)
				0.31	33.01		TARMACADAM. Moderate hydrocarbon tar odour (POSSIBLE HISTORIC ROAD SURFACE)
	0.45 - 1.00	ES		0.45	32.87		Cobble stones and bitumen. Moderate hydrocarbon tar odour (POSSIBLE HISTORIC ROAD SURFACE)
				0.68	32.64		Light brownish red medium to coarse SAND and fine to coarse subangular to angular GRAVEL size brick and low cobble content. Cobbles are elongate, subangular to angular brick (MADE GROUND)
				0.92	32.40		Light brownish red gravelly medium to coarse SAND. Gravel is fine to medium, subrounded to subangular sandstone (MADE GROUND)
	1.00 - 2.00	ES		0.95	32.37		
				1.01	32.31		Dark grey probable ASH and CLINKER (MADE GROUND)
							Light brownish red gravelly medium to coarse SAND. Gravel is fine to medium, subrounded to subangular sandstone fragments (MADE GROUND)
				1.60	31.72		Brown clayey medium to coarse SAND and fine to coarse rounded to angular GRAVEL size brick and sandstone (MADE GROUND)
							Dark grey probable ASH and CLINKER (MADE GROUND)
	2.00 - 2.58	ES		1.92	31.40		Light brownish red gravelly fine to coarse SAND with medium cobble content and rare animal bone, ceramic tiles and crockery. Gravel is fine to coarse subrounded to very angular brick and sandstone. Cobbles are elongate, angular to very angular brick (MADE GROUND)
				2.58	30.74		Brownish red SANDSTONE (CHESTER FORMATION)
				2.69	30.63		End of pit at 2.69 m

Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to natural strata (Trial Pit in Archeological Trench 6)

Stability: Stable - No Collapse

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Vertase FLI

Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP07
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384094.72 - 398994.20 Level: 33.22	Date 21/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.25	3.01 × 1.28	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.06	33.16		ASPHALT (FILL)
				0.25	32.97		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
				0.36	32.86		Light brownish white sandy fine to medium subangular to angular GRAVEL and rare ree-bar. Sand is medium to coarse (MADE GROUND)
							Brown silty fine to coarse SAND and fine to medium subangular to very angular GRAVEL size brick and concrete with probable ash and clinker and occasional ceramic pipe and glass (MADE GROUND) Geogrid layer at 0.51mbgl
	1.00 - 2.00	ES					Brick wall structure on northwest and southeast ends of trial pit between 0.76mbgl to base of trial pit
				1.13	32.09		Dark brown clayey fine to coarse SAND and fine to medium subangular to angular GRAVEL size sandstone brick and concrete with probable ash and clinker and occasional wood and glass. Moderate odour of hydrocarbon tar at base of trial pit (MADE GROUND)
				2.25	30.97		End of pit at 2.25 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to hard base - possible top of river culvert

Stability: Stable - No Collapse

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Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP08
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384108.06 - 398982.28 Level: 33.30	Date 21/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Dimensions (m): Depth 1.28 — 4.2 — 1	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.11	33.19		ASPHALT (FILL)
				0.22	33.08		CONCRETE (FILL)
				0.26	33.04		Tarmacadam. Moderate Hydrocarbon tar Odour (POSSIBLE HISTORIC ROAD SURFACE)
	0.40 - 0.91	ES		0.40	32.90		Cobble stones and bitumen. Moderate hydrocarbon odour (POSSIBLE HISTORIC ROAD SURFACE)
							Light brownish red gravelly fine to coarse SAND with medium cobble content and rare ceramic and crockery. Gravel is small to medium, subangular to angular brick and sandstone. Cobbles are rounded to subangular sandstone (MADE GROUND)
				0.91	32.39		Brownish red SANDSTONE (CHESTER FORMATION)
				1.28	32.02		End of pit at 1.28 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to natural strata (Trial Pit in Archeological Trench 8)

Stability: Stable - No Collapse

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Vertase FLI

Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP09
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384122.81 - 399003.62 Level: 33.27	Date 23/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Dimensions (m): Depth 1.50 (7 × 2)	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.06	33.21		ASPHALT (FILL)
							COBBLE STONES (POSSIBLE HISTORIC ROAD SURFACE)
	0.26 - 0.96	ES		0.26	33.01		Brownish red silty fine to coarse SAND and fine to medium subrounded to angular GRAVEL size brick and concrete (MADE GROUND)
				0.52	32.75		Dark grey probable ASH and CLINKER (MADE GROUND)
				0.58	32.69		
				0.67	32.60		Light brownish red gravelly medium to coarse SAND. Gravel is fine to medium, subrounded to subangular sandstone (MADE GROUND)
				0.77	32.50		Dark grey probable ASH and CLINKER (MADE GROUND)
				0.96	32.31		Light brownish red clayey medium to coarse SAND and fine to medium subrounded to angular GRAVEL size brick and concrete with rare clay pipe, ceramic and crockery (MADE GROUND)
							Brownish red COBBLE structure (MADE GROUND)
				1.47	31.80		Brownish red SANDSTONE (CHESTER FORMATION)
				1.50	31.77		End of pit at 1.50 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to natural strata (Trial Pit in Archeological Trench 9)

Stability: Stable - No collapse

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Vertase FLI

Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TP10
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384120.50 - 399050.37 Level: 32.68	Date 22/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 3.00	2.81 × 1.49	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.08	32.60		ASPHALT (FILL)
				0.40	32.28		Dark brown silty medium to coarse SAND and fine to medium subrounded to subangular GRAVEL size brick and concrete with rare slate (MADE GROUND)
				0.48	32.20		Grey medium to coarse SAND and fine subrounded to subangular GRAVEL (MADE GROUND)
				0.65	32.03		Light brownish white slightly sandy fine to medium subangular to angular GRAVEL size brick and concrete. Sand is medium to coarse (MADE GROUND)
	1.00 - 2.00	ES		0.98	31.70		Light brown silty sandy fine to coarse subangular to angular GRAVEL size brick and concrete with high cobble content. Sand is fine to coarse. Cobbles are elongate, very angular brick. Cobbles are part of brick structure (MADE GROUND)
				1.26	31.42		Greyish brown gravelly CLAY with probable coal and clinker. Gravel is is fine to coarse subangular to angular brick (MADE GROUND)
				1.70	30.98		Light brown and dark grey medium to coarse SAND and medium to coarse subangular to very angular GRAVEL size brick and concrete and occasional wood (MADE GROUND)
							6" clay pipe running length ways through trial pit (northwest - southeast) at 1.29mbgl. Pipe completely filled with dark grey silt
	2.00 - 3.00	ES					Light brown gravelly CLAY with low cobble content. Gravel is medium to coarse, subangular to angular brick and concrete. Cobbles are elongate, angular to very angular brick and concrete (MADE GROUND)
				3.00	29.68		End of pit at 3.00 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to maximum reach of JCB 3CX

Stability: Stable - No Collapse

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Number One Middlebridge Business Park,
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Bristol, BS20 6PN

Trial Pit Log

Trialpit No **TP11**
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384075.70 - 399009.48 Level: 32.99	Date 23/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.70	3 / 1.2	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	32.92		ASPHALT (FILL)
				0.15	32.84		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
							Greyish brown medium to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick and concrete with low cobble content and rare wood, slate, polythene, rope and domestic electric cable. Cobbles are elongate, angular to very angular brick and concrete (MADE GROUND) Geogrid layer at 0.48mbgl
	1.00 - 2.00	ES					
				1.45	31.54		Northwest half of trial pit: Light brownish white sandy fine to medium subrounded to subangular GRAVEL. Sand is medium to coarse (Possible FILL around surface water drain adjacent to the north west of trial pit) Southeast half of trial pit: Light brownish red slightly clayey slightly gravelly medium to coarse SAND. Gravel is fine to coarse, subangular to angular brick (MADE GROUND)
	2.00 - 2.70	ES					
				2.70	30.29		End of pit at 2.70 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to collapse

Stability: Unstable - collapse of sandy gravel fill around surface water drain below 1.45 mbgl on northwest half of pit

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Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TP12
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384090.81 - 399031.35 Level: 32.85	Date 28/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.72	6.1 / 1.8	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.08 0.13	32.77 32.72		ASPHALT (FILL) Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL) Brown gravelly fine to coarse SAND with medium cobble content and frequent ceramic pipe, crockery, glass, wood, ree-bar, oyster shells, domestic electric cable. Cobbles are elongate, subrounded to angular brick and concrete (MADE GROUND)
	1.00 - 2.00	ES					
	2.00 - 2.72	ES					
				2.72	30.13		End of pit at 2.72 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated by archeologists (Trial Pit in Archeological Trench 13)

Stability: Stable - No Collapse

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Vertase FLI

Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TP13
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384108.77 - 399054.10 Level: 32.77	Date 28/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.74	3.89 × 1.81	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	32.70		ASPHALT (FILL)
				0.13	32.65		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
							Grey sandy fine to medium subangular to angular GRAVEL size brick and concrete and occasional wood, glass and polythene. Sand is medium to coarse (MADE GROUND)
				0.52	32.25		
				0.60	32.17		Grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (MADE GROUND)
				0.78	31.99		Dark grey probable ASH and CLINKER (MADE GROUND)
				0.85	31.92		Light brownish white sandy fine to coarse subangular to angular GRAVEL size limestone brick and concrete with medium cobble content. Sand is medium to coarse. Cobbles are elongate, subangular to angular limestone, brick and concrete (MADE GROUND)
	1.00 - 2.00	ES					Brownish red fine to coarse SAND and fine to coarse subangular to angular GRAVEL size brick and concrete (MADE GROUND)
				1.65	31.12		Brown sandy gravelly CLAY with frequent ceramic tiles, crockery, clay pipe, glass, wood, slate and ree-bar. Sand is medium to coarse. Gravel is fine to coarse, subangular to angular brick and concrete (MADE GROUND)
	2.00 - 2.74	ES					
				2.31	30.46		Brownish red slightly gravelly sandy CLAY with occasional ceramic, crockery, clay pipe, glass, wood, slate, ree-bar and oyster shells. Sand is medium to coarse. Gravel is fine to coarse, subangular to angular brick and concrete (MADE GROUND)
				2.74	30.03		End of pit at 2.74 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated by archeologists (Trial Pit in Archeological Trench 11)

Stability: Stable - No Collapse

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Vertase FLI

Number One Middlebridge Business Park,
Bristol Road,
Portishead,
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Trial Pit Log

Trialpit No
TT01
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384132.03 - 399032.81 Level: 32.80	Date 11/12/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 0.97	5 / 1	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.50	ES					ASPHALT (FILL)
	0.00 - 0.50	ES		0.07	32.74		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
	0.00 - 0.50	ES		0.17	32.63		Dark grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (MADE GROUND)
				0.30	32.50		Dark brownish grey slightly silty fine to coarse SAND and fine to coarse subangular to angular GRAVEL size brick and concrete with occasional wood, glass and ceramic tile. (MADE GROUND)
	0.50 - 1.10	ES					Greyish brown slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to angular size brick and concrete. Cobbles are elongate, angular to very angular brick and concrete. Mild hydrocarbon diesel odour (MADE GROUND)
	0.50 - 1.10	ES					4" Belgian Cast Pipe running across trial pit (east - west) - redundant gas pipe - excavated
	0.50 - 1.10	ES		0.62	32.18		End of pit at 0.97 m
				0.97	31.83		

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to top of river culvert

Stability: Stable - No Collapse

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Vertase FLI

Number One Middlebridge Business Park,
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Trial Pit Log

Trialpit No
TT02
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384101.06 - 399007.73 Level: 33.10	Date 12/12/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 1.46	5 × 1	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.50	ES		0.07	33.03		ASPHALT (FILL)
				0.16	32.94		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
	0.50 - 1.00	ES		0.49	32.61		Light greyish brown silty fine to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with frequent wood, glass, plastic pipe, ceramic tiles and occasional wall cobbles, and kerb stone (MADE GROUND) Geogrid layer at 0.49mbgl
				0.78	32.32		Dark grey silty, fine to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with probable coal and clinker and rare metal (MADE GROUND)
	1.00 - 1.50	ES		1.06	32.04		Light greyish brown slightly sandy gravelly CLAY with rare clay pipe and glass. Sand is fine to medium. Gravel is coarse, subangular to angular brick and concrete (MADE GROUND)
				1.46	31.64		Dark brownish red medium to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick and concrete (MADE GROUND) End of pit at 1.46 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to top of river culvert

Stability: Stable - No Collapse

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Vertase FLI
Number One Middlebridge
Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Borehole Log

Borehole No.
WS01
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384104.08 - 398970.97	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	34.55	Scale 1:50
Client:	Muse Developments Ltd		Dates:	13/11/2017 - 13/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	34.48		ASPHALT (FILL)
					0.12	34.43		CONCRETE (FILL)
								Dark brown gravelly SILT. Gravel is fine to coarse, subangular to very angular brick and concrete (MADE GROUND)
					0.70	33.85		End of borehole at 0.70 m

1 2 3 4 5 6 7 8 9 10

Remarks
No services detected on CAT & Signal Generator; Borehole Vacuum excavated to 0.7mbgl; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to brick and concrete structure (possible retaining wall)

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Number One Middlebridge
Business Park,
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Borehole Log

Borehole No.
WS01a
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384100.76 - 398967.01	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 34.33	Scale 1:50
Client:	Muse Developments Ltd		Dates: 13/11/2017 - 13/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	34.26		ASPHALT (FILL)
					0.12	34.21		CONCRETE (FILL)
								Dark greyish brown gravelly SILT. Gravel is fine to coarse, subangular to very angular brick (MADE GROUND)
					0.74	33.59		End of borehole at 0.74 m

Remarks
No services detected on CAT & Signal Generator; Borehole Vacuum excavated to 0.7mbgl; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to brick and concrete structure (possible retaining wall)

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Borehole Log

Borehole No.
WS02
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384120.56 - 398966.74	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	35.24	Scale 1:50
Client:	Muse Developments Ltd		Dates:	13/11/2017 - 13/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 1.00	ES		0.08	35.16		ASPHALT (FILL)
					0.17	35.07		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		0.90	ES		1.07	34.17		Light reddish grey sandy gravelly elongate angular to very angular COBBLE size brick and concrete with occasional wood, metal pipe, clay pipe, ceramic pipe, ceramic tile, slate, redundant domestic electric cable, polythene bag and fibrous cement tile fragments. Sand is fine to coarse. Gravel is fine to course, subangular to very angular brick and concrete (MADE GROUND)
								End of borehole at 1.07 m

Remarks

No services detected on CAT & Signal Generator; Borehole Vacuum excavated to 1.07mbgl; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH could not be advanced using window sample rig due to oversize brick and concrete obstructions

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Borehole Log

Borehole No.
WS03
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384121.74 - 398987.71	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	35.62	Scale 1:50
Client:	Muse Developments Ltd		Dates:	13/11/2017 - 13/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	35.56		CONCRETE (PAVING STONE)
					0.15	35.47		CONCRETE (FILL)
								Dark brownish grey medium to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete (MADE GROUND)
		1.00		0 (1 for 450mm)				
		1.00 - 1.45	SPTLS					
		1.00 - 2.00	ES		1.60	34.02		Dark brown slightly sandy gravelly SILT with probable coal and clinker. Sand is fine to coarse. Gravel is fine to medium, subangular to angular brick (MADE GROUND)
		2.00		0 (3 for 450mm)				
		2.00 - 2.45	SPTLS					
		2.00 - 3.00	ES		2.60	33.02		Light brown silty fine to medium SAND with occasional oyster shell fragments (MADE GROUND)
					2.80	32.82		
		3.00		0 (2 for 450mm)				Dark brown slightly sandy gravelly SILT with probable coal and clinker and rare ceramic and crockery. Sand is fine to coarse. Gravel is fine to medium, subangular to angular brick (MADE GROUND)
					3.15	32.47		
		3.00 - 3.45	SPTLS					
		3.00 - 4.00	ES		3.52	32.10		
					3.85	31.77		Dark brown slightly sandy gravelly SILT with abundant oyster shell fragments and probable coal and clinker. Sand is fine to coarse. Gravel is fine, subangular to angular brick (MADE GROUND)
					4.00	31.62		Light reddish brown slightly silty slightly gravelly fine SAND. Gravel is fine, subangular brick (MADE GROUND)
								Light brownish red slightly gravelly fine to medium SAND. Gravel is fine to medium, subrounded sandstone (POSSIBLE WEATHERED SANDSTONE)
								Chiselling for 60 minutes at 4.0mbgl. No advancement. Borehole terminated
								End of borehole at 4.00 m

1 2 3 4 5 6 7 8 9 10

Remarks
No services detected on CAT & Signal Generator; Borehole Vacuum excavated to 1.0mbgl; Plant used: Archway Engineering Competitor Dart; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with original paving slab; BH terminated due to obstruction (possible natural sandstone strata)

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Number One Middlebridge
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Borehole Log

Borehole No.
WS04
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384130.83 - 398991.57	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level: 36.15	Scale 1:50
Client:	Muse Developments Ltd		Dates: 13/11/2017 - 13/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	36.08		CONCRETE (PAVING STONE)
					0.16	35.98		CONCRETE (FILL)
					0.29	35.85		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
		1.00 1.00 - 1.45	SPTL S	N=23 (1,2/3,6,7,7)				Medium dense dark brownish grey medium to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete (MADE GROUND)
		1.00 - 2.00	ES					
					1.60	34.54		Dark grey probable ASH and CLINKER (MADE GROUND)
					1.70	34.44		
					1.92	34.22		Brown slightly sandy, slightly gravelly SILT. Sand is coarse. Gravel is fine to medium, subrounded to angular (MADE GROUND)
		2.00 2.00 - 2.45	SPTL S	N=12 (2,2/3,3,3,3)	2.07	34.08		Dark reddish brown slightly silty gravelly fine to coarse SAND. Gravel is fine to coarse, subrounded to subangular concrete (MADE GROUND)
		3.00 3.00 - 3.45	SPTL S	N=7 (1,1/1,4,1,1)	3.00	33.15		Loose light brownish red slightly gravelly fine to medium SAND. Gravel is small to medium, rounded to subrounded sandstone (POSSIBLE WEATHERED SANDSTONE) Chiselling for 45 minutes at 3.0mbgl. No advancement. Borehole terminated End of borehole at 3.00 m

1 2 3 4 5 6 7 8 9 10

Remarks

No services detected on CAT & Signal Generator; Plant used: Archway Engineering Competitor Dart; Borehole Vacuum excavated to 1mbgl; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to natural strata

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Borehole Log

Borehole No.
WS05
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384140.89 - 399009.87	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	36.78	Scale 1:50
Client:	Muse Developments Ltd		Dates:	25/11/2017 - 25/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	36.71		CONCRETE (PAVING STONE)
		0.30 - 1.30	ES		0.13	36.65		CONCRETE (FILL)
								Dark greyish brown silty sandy fine to medium subangular to angular GRAVEL size brick and concrete with low cobble content. Sand is fine to coarse. Cobbles are subrounded to angular (MADE GROUND)
		1.30		N=11 (2,2/2,3,3,3)	1.32	35.46		
		1.30 - 2.40	ES		1.53	35.24		Dark grey slightly gravelly probable ASH and CLINKER. Gravel is fine to medium, angular to very angular concrete (MADE GROUND)
					1.63	35.15		
					1.70	35.08		Light greyish brown sandy gravelly CLAY. Sand is coarse. Gravel is fine, subrounded to subangular concrete (MADE GROUND)
		2.00		N=58 (6,8/28,15,8,7)	2.07	34.70		
					2.23	34.54		Dark grey probable ASH and CLINKER (MADE GROUND)
					2.35	34.42		Light greyish brown sandy gravelly CLAY. Sand is coarse. Gravel is fine, subrounded to angular brick and concrete (MADE GROUND)
		3.00		N=35 (5,5/7,9,9,10)	3.00	33.78		Dark grey probable ASH and CLINKER (MADE GROUND)
								Light brownish red slightly gravelly fine to medium SAND. Gravel is small to medium, rounded to subrounded. sandstone (POSSIBLE REWORKED SANDSTONE)
								Light brownish yellow fine to medium SAND and fine to coarse rounded to subangular GRAVEL size flint (POSSIBLE RIVER TERRACE DEPOSITS)
								Chiselling for 60 minutes at 3.0mbgl. No advancement. Borehole terminated
								End of borehole at 3.00 m

1 2 3 4 5 6 7 8 9 10

Remarks

No services detected on CAT & Signal Generator; Borehole Vacuum excavated to 1.0mbgl; Plant used: Archway Engineering Competitor Dart; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with cold lay concrete asphalt and compacted with Rammer BS50-2; BH terminated due to obstruction

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Borehole Log

Borehole No.
WS06
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords:	384144.47 - 399019.47	Hole Type WS
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX		Level:	37.05	Scale 1:50
Client:	Muse Developments Ltd		Dates:	25/11/2017 - 25/11/2017	Logged By IS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 1.40	ES		0.07	36.98		CONCRETE (PAVING STONE)
					0.14	36.91		CONCRETE (FILL)
					0.30	36.75		Dark greyish brown silty sandy fine to medium subangular to angular GRAVEL size brick and concrete with low cobble content. Sand is fine to coarse. Gravel is fine to medium. Cobbles are angular to very angular brick and concrete (MADE GROUND)
					0.72	36.33		
					1.06	35.99		
		1.40		0 (1 for 450mm)	1.35	35.70		Dark brownish grey silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size concrete with probable ash and clinker and rare ceramic tile (MADE GROUND)
		1.40 - 2.00	ES					
		1.40 - 2.15	SPTLS					
		2.00		0 (1 for 450mm)	2.00	35.05		Greyish brown sandy gravelly CLAY. Sand is medium to coarse. Gravel is fine to medium, subangular to angular brick and concrete (MADE GROUND)
		2.00 - 2.45	SPTLS					
		2.00 - 3.00	ES					Brownish grey silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete (MADE GROUND)
		3.00		0 (1 for 450mm)				Light greyish brown fine to coarse SAND and fine to medium rounded to angular GRAVEL size brick and concrete (MADE GROUND)
		3.00 - 3.45	SPTLS		3.38	33.67		Light greyish brown fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete with rare oyster shells (MADE GROUND)
		3.00 - 4.00	ES					
		4.00		N=11 (1,2/3,3,2,3)				Light greyish brown medium to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick with low cobble content. Cobbles are elongate, subangular to very angular brick (MADE GROUND)
		4.00 - 4.45	SPTLS					
		4.00 - 5.00	ES					
					4.64	32.41		Brownish red SANDSTONE (CHESTER FORMATION)
		5.00		50 (8,12/50 for 150mm)	5.00	32.05		Chiselling for 60 minutes for 170mm. Chiselling for a further 30 minutes at 5 metres. No further advancement. Borehole terminated.
		5.00 - 5.45	SPTLS					End of borehole at 5.00 m

Remarks

No services detected on CAT & Signal Generator; Plant used: Archway Engineering Competitor Dart; Borehole reinstated with arisings and compacted with Rammer BS50-2 to 0.15mbgl; Reinstated with sand to 0.065mbgl; Surface reinstated with original paving slab; BH terminated due to obstruction (possible natural strata)

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Appendix D

Laboratory Analysis Summary Spreadsheet

Project/Site name: New Victoria Site Investigation

Analytical Report Number:					17-69712	17-69712	17-69712	17-69712	17-69712	17-69712	17-69712	17-69712	17-69532	17-69532	17-69532	17-69532	17-69218	17-69218
Lab Sample Number					869656	869657	869658	869659	869652	869653	869654	869655	868697	868698	868699	868700	867063	867064
Sample Reference					SA1	SA1	SA1	SA1	SA2	SA2	SA2	SA2	SA3	SA3	SA3	SA3	SA4	SA4
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					**0.00-1.00**	2.00-3.00	4.00-5.00	6.00-7.00	**0.00-1.00**	2.00-3.00	4.00-5.00	6.00-7.00	**0.00-1.00**	2.00-3.00	4.00-5.00	6.00-7.00	**0.00-1.00**	2.00-3.00
Date Sampled					01/12/2017	01/12/2017	01/12/2017	01/12/2017	01/12/2017	01/12/2017	01/12/2017	01/12/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**LQM / CIEH S4ULs Generic Assessment Criteria (GACS) for minimal risk protective Of Human Health - *Residential without homegrown produce assuming 1% soil organic matter***														
Stone Content	%	0.1	NONE	N / A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	34	22	< 0.1
Moisture Content	%	N/A	NONE	N / A	9.0	17	18	17	11	12	11	14	19	17	13	9.3	12	14
Total mass of sample received	kg	0.001	NONE	N / A	0.56	0.61	0.59	0.57	0.54	0.52	0.53	0.52	0.51	0.51	0.50	0.57	0.52	0.50
Speciated PAHs																		
Naphthalene	mg/kg	0.05	MCERTS	2.3	9.8	5	2.9	0.73	4.1	3.4	0.73	9.7	6.4	24	33	0.76	4.3	10
Acenaphthylene	mg/kg	0.05	MCERTS	2,900	2	0.83	0.61	0.2	0.7	1.3	0.24	0.27	1.6	5.8	6.5	0.17	0.94	2.7
Acenaphthene	mg/kg	0.05	MCERTS	3,000	13	6	2.3	0.32	1.1	0.82	0.55	8	2.1	4.3	4.8	0.31	3.3	7.6
Fluorene	mg/kg	0.05	MCERTS	2,800	13	5.8	2.6	0.46	1.7	1.9	0.76	7.7	3.3	9.3	11	0.37	4.2	11
Phenanthrene	mg/kg	0.05	MCERTS	1,300	90	33	20	3.3	12	13	5.4	33	25	63	68	2.8	26	50
Anthracene	mg/kg	0.05	MCERTS	31,000	21	8.4	4.5	0.65	2.2	2.6	1.2	9.1	4.8	12	13	0.51	5.9	11
Fluoranthene	mg/kg	0.05	MCERTS	1,500	86	32	16	3	9	11	5	23	25	51	46	2.5	31	52
Pyrene	mg/kg	0.05	MCERTS	3,700	89	33	16	3.2	9	12	5	23	26	54	48	2.7	30	52
Benzo(a)anthracene	mg/kg	0.05	MCERTS	11	42	19	7.9	1.6	5	6.7	2.3	11	14	28	23	1.4	17	25
Chrysene	mg/kg	0.05	MCERTS	30	39	19	8.1	1.6	3.8	5	2.5	9.9	13	24	21	1.5	13	23
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.9	45	19	7	1.5	4.3	5.8	2	10	14	22	20	1.7	15	22
Benzo(k)fluoranthene	mg/kg	0.05	A27D27:AF27	110	13	7.7	3.4	0.79	1.5	2.1	1.2	3.6	4.6	15	9.5	0.76	8.6	12
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	39	17	6.9	1.4	4.1	5.1	1.9	9	12	25	20	1.5	15	22
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	45	14	6.9	2.8	0.66	1.5	2.1	0.86	3.7	5.1	8.5	7.5	0.87	6.4	8.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.31	3.8	2	0.88	0.18	0.36	0.53	0.22	0.95	1.6	3.1	2.9	0.22	2.3	2.9
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	360	18	9.2	3.9	0.9	2.2	2.9	1.3	5.3	6.6	11	9.7	1.2	8.8	11
Heavy Metals / Metalloids																		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	40	29	11	16	19	14	16	11	25	24	36	18	37	30	20
Boron (water soluble)	mg/kg	0.2	MCERTS	11,000													0.8	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	85	0.8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	6	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	910	37	25	33	30	22	27	17	38	28	24	15	34	28	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7,100	150	39	70	90	100	89	61	140	110	170	140	130	130	140
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	430	83	260	260	340	270	99	350	890	480	370	800	1200	440
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	56	0.9	0.4	1.3	0.6	0.8	0.9	0.6	0.6	2.9	2.6	1.2	0.9	2.2	1
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	180	46	29	29	33	23	26	19	34	26	34	20	36	44	38
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	430	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	40,000	220	46	59	81	98	75	47	78	69	140	63	160	93	73
Monoaromatics																		
Benzene	mg/kg	1	MCERTS	0.38	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	1	MCERTS	880	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	1	MCERTS	83	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	1	MCERTS	79	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	1	MCERTS	88	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	1	MCERTS		<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Petroleum Hydrocarbons																		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	42	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	100	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	27	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	130	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.1	3.2
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	1,100	13	5.4	< 2.0	< 2.0	< 2.0	2.3	4	< 2.0	< 2.0	< 2.0	3.6	< 2.0	13	9.8
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	N / A	34	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	26	11
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	N / A	210	29	< 8.0	< 8.0	83	13	22	17	15	11	8.1	< 8.0	130	43
Total TPH-CWG - Aliphatic >EC16 - EC35	mg/kg			65,000	244.00	29.00	< 8.0	< 8.0	83.00	13.00	22.00	17.00	15.00	11.00	8.10	< 8.0	156.00	54.00
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	N / A	260	42	< 10	< 10	92	17	33	22	18	16	14	< 10	180	67
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	370	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	860	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	47	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	250	20	5.4	3.2	5.1	5.9	7.8	< 1.0	17	11	50	32	< 1.0	12	20
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	1,800	120	51	21	14	16	22	5.6	59	40	120	78	2.5	44	84
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	1,900	580	170	61	24	56	81	23	160	160	380	260	13	190	280
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	1,900	980	220	73	52	100	120	31	180	210	490	260	24	400	400
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	N / A	1700	450	160	95	180	230	60	420	420	1000	630	40	650	790

Analytical Report Number:	17-69218	17-69218	17-69218	17-69218	17-69532	17-69532	17-69532	17-69532	17-69532	17-69532	17-69532	17-69532	17-69532
Lab Sample Number	867065	867066	867067	867068	868688	868689	868690	868691	868692	868693	868694	868695	868696
Sample Reference	SA4	SA4	SA4	SA4	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	4.00-5.00	6.00-7.00	8.00-9.00	9.00-10.00	**0.00-1.00**	2.00-3.00	4.00-5.00	6.00-7.00	**0.00-1.00**	2.00-3.00	4.00-5.00	6.00-7.00	8.00-9.00
Date Sampled	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	51	< 0.1	< 0.1	< 0.1	19	< 0.1	< 0.1	< 0.1
Moisture Content	17	15	17	19	9.3	8.3	14	16	13	15	17	16	17
Total mass of sample received	0.47	0.47	0.51	0.54	0.56	0.47	0.53	0.52	0.48	0.59	0.53	0.56	0.51
Speciated PAHs													
Naphthalene	40	3.1	180	97	1.4	2.4	1.5	1.2	68	9.4	18	35	24
Acenaphthylene	8.5	0.38	< 0.05	< 0.05	0.76	0.67	0.91	0.45	9.7	1.6	2.7	5.2	4
Acenaphthene	3.1	0.99	100	62	1.7	1.5	1.3	0.81	13	4.3	5.7	13	6.6
Fluorene	11	1.1	110	71	2.4	1.9	2	1.1	25	5.4	7.3	17	10
Phenanthrene	58	7	480	300	16	11	14	7.2	150	35	52	110	65
Anthracene	14	1.3	120	70	3.5	2.5	3.1	1.6	33	7.5	11	22	13
Fluoranthene	53	6.7	260	160	17	9.3	14	7.2	110	26	39	84	49
Pyrene	51	6.8	300	180	16	9.5	14	7.3	110	27	43	85	51
Benzo(a)anthracene	29	3.9	130	82	8.5	4.8	7.2	3.8	57	14	21	41	29
Chrysene	28	3.2	130	71	7.7	4.6	6.7	3.3	42	12	17	41	25
Benzo(b)fluoranthene	33	3.1	98	61	9.6	4.8	6.9	3.7	52	14	19	36	22
Benzo(k)fluoranthene	16	2.2	52	27	3	1.9	2.6	1.2	19	4.9	9.3	22	17
Benzo(a)pyrene	32	3.4	120	72	8	4.3	6.3	3.2	49	12	19	39	26
Indeno(1,2,3-cd)pyrene	16	1.8	43	25	3.8	1.9	3.2	1.5	16	4.8	7.2	14	8.2
Dibenz(a,h)anthracene	5.4	0.56	11	6	0.98	0.56	0.86	0.32	6.5	1.7	2.5	5.4	2.4
Benzo(ghi)perylene	20	2.3	59	35	5	2.6	3.7	2	21	5.8	8.8	18	11
Heavy Metals / Metalloids													
Arsenic (aqua regia extractable)	17	35	22	16	15	10	47	44	18	23	28	26	21
Boron (water soluble)	2	0.9	2.2	1.6									
Cadmium (aqua regia extractable)	< 0.2	< 0.2	< 0.2	< 0.2	0.5	0.4	< 0.2	< 0.2	0.9	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	17	32	41	43	25	20	57	44	52	70	36	27	18
Copper (aqua regia extractable)	55	69	110	57	130	120	300	290	140	120	130	160	92
Lead (aqua regia extractable)	85	140	160	150	300	130	290	390	240	350	370	270	220
Mercury (aqua regia extractable)	0.6	0.4	0.5	0.5	1.5	0.8	1.7	1.9	1	2	1.8	2.5	2.4
Nickel (aqua regia extractable)	18	29	47	19	19	16	26	28	25	59	42	34	24
Selenium (aqua regia extractable)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	49	69	63	55	110	77	210	220	110	88	110	97	65
Monoaromatics													
Benzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	< 0.001	< 0.001	0.01	0.03	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	< 0.001	< 0.001	0.01	0.08	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	< 0.001	< 0.001	0.01	0.06	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	< 0.001	< 0.001	0.01	0.04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Petroleum Hydrocarbons													
TPH-CWG - Aliphatic >EC5 - EC6	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	13	< 1.0	6.7	2.4	1.2	1.1	< 1.0	< 1.0	2.2	1.9	1.4	1	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	25	< 2.0	34	13	2.8	3.4	< 2.0	< 2.0	5.1	5.5	4.2	3.2	2.2
TPH-CWG - Aliphatic >EC16 - EC21	32	< 8.0	73	23	13	9.3	< 8.0	< 8.0	19	15	13	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	200	< 8.0	110	37	89	99	< 8.0	< 8.0	67	120	79	8.7	< 8.0
Total TPH-CWG - Aliphatic >EC16 - EC35	232.00	< 8.0	183.00	60.00	102.00	108.30	<8.0	<8.0	86.00	135.00	92.00	8.70	<8.0
TPH-CWG - Aliphatic (EC5 - EC35)	270	< 10	220	75	110	110	< 10	< 10	94	150	97	17	< 10
TPH-CWG - Aromatic >EC5 - EC7	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	< 0.001	< 0.001	0.008	0.029	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	< 0.001	< 0.001	0.054	0.28	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	20	6.7	150	91	3.5	9.7	5.9	3.1	55	18	22	45	27
TPH-CWG - Aromatic >EC12 - EC16	87	19	750	570	26	31	25	7	160	52	59	160	97
TPH-CWG - Aromatic >EC16 - EC21	260	40	1600	1300	110	91	89	43	560	190	240	530	320
TPH-CWG - Aromatic >EC21 - EC35	450	51	2100	1800	210	250	150	67	930	330	380	550	350
TPH-CWG - Aromatic (EC5 - EC35)	820	120	4600	3700	350	380	270	120	1700	590	700	1300	800

Analytical Report Number:	17-70279	17-70279	17-70279	17-70279	17-70279	17-70279	17-70279	17-70279	17-70279	17-70279	17-70279	17-68062	17-71026	17-71026
Lab Sample Number	872960	872961	872962	872963	872964	872965	872966	872967	872968	872969	872970	860456	877700	877701
Sample Reference	SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA9	SA9	TP04_2.1m	TT01	TT01
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	**0.00-1.00**	2.00-3.00	4.00-5.00	6.00-7.00	8.00-9.00	9.00-10.00	**0.00-1.00**	1.00-2.00	3.50-4.50	0.00-1.00	2.00-3.00	2.10	**0.00-0.50**	**0.50-1.10**
Date Sampled	06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017	07/12/2017	07/12/2017	07/12/2017	07/12/2017	07/12/2017	16/11/2017	13/12/2017	13/12/2017
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	15	17	14	16	19	19	9.4	9.0	17	9.7	10	22	13	21
Total mass of sample received	0.45	0.43	0.40	0.43	0.42	0.45	0.45	0.44	0.45	0.47	0.47	0.52	0.52	0.62
Speciated PAHs														
Naphthalene	1.9	13	2.4	5.6	2.3	2.4	1.1	0.94	1.1	2.6	3.7	10.00	4.7	76
Acenaphthylene	0.69	2.4	0.25	1.1	0.93	0.8	2.1	0.93	1.4	0.27	0.47	1.4	1.6	4.6
Acenaphthene	13	6	1.2	2.3	1.9	1.8	1.8	1.6	0.67	2.6	5	2.9	0.9	2.8
Fluorene	12	7.4	1.3	3.1	2.1	2	1.9	1.7	0.71	2.3	4.2	4.8	1	5.4
Phenanthrene	41	40	9.7	19	15	15	29	24	9.5	10	22	21	11	26
Anthracene	11	9.1	1.7	4.6	3.4	3.4	8	6.2	2.4	2.4	4.9	5.6	4.4	6.9
Fluoranthene	23	30	7.8	17	15	16	66	44	26	9	18	17	37	33
Pyrene	17	29	7.6	17	15	17	58	39	24	7.8	16	19	41	33
Benzo(a)anthracene	8.3	16	4.3	11	8.1	8.5	40	25	18	4.2	7.7	11	21	14
Chrysene	5.8	15	3.7	8.7	9	9.4	36	21	13	3.7	7.3	7.9	19	13
Benzo(b)fluoranthene	5.3	14	3.7	9	9.1	8.8	39	24	19	4	6.8	9	30	15
Benzo(k)fluoranthene	3.4	6.1	1.8	5.5	3	4.7	25	13	7	2.2	4.3	4.1	9.7	7.5
Benzo(a)pyrene	3.4	13	3.4	9.1	7.7	8.5	37	22	16	3.3	6.4	10	22	16
Indeno(1,2,3-cd)pyrene	1.6	5.8	1.6	4.4	3.4	4.2	17	11	8.4	2	3.6	3.8	10	8.5
Dibenz(a,h)anthracene	0.55	1.7	0.46	1.4	1	1.3	5.2	3.1	2.5	0.6	1	0.75	3.3	1.5
Benzo(ghi)perylene	2	7.3	2	5.5	4.3	5	20	12	9.3	2.3	4.4	4.3	12	11
Heavy Metals / Metalloids														
Arsenic (aqua regia extractable)	46	14	12	18	18	22	15	11	23	13	16	33	36	30
Boron (water soluble)													1.3	1.5
Cadmium (aqua regia extractable)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.6	0.6	< 0.2	0.4	0.5	1.1	< 0.2	< 0.2
Chromium (hexavalent)	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	79	61	23	20	23	23	29	26	38	23	31	24	47	25
Copper (aqua regia extractable)	230	84	48	130	110	130	98	94	83	94	110	220	140	110
Lead (aqua regia extractable)	1300	410	94	140	300	350	370	380	390	810	930	230	880	480
Mercury (aqua regia extractable)	0.3	0.7	0.5	0.5	1	1.1	0.4	0.4	0.8	0.4	< 0.3	7	< 0.3	0.3
Nickel (aqua regia extractable)	70	31	28	63	32	38	29	27	36	25	33	16	62	37
Selenium (aqua regia extractable)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	190	64	52	69	120	120	110	97	86	150	220	270	260	230
Monoaromatics														
Benzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.01	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.01	0.00	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Petroleum Hydrocarbons														
TPH-CWG - Aliphatic >EC5 - EC6	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.14	0.077	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	3.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	20	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	9	4.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	4.3	< 2.0	3	6.6	720	17	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	47	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	16	13	< 8.0	15	24	700	56	11
TPH-CWG - Aliphatic >EC21 - EC35	420	40	< 8.0	< 8.0	< 8.0	9.2	83	110	45	220	300	2800	390	110
Total TPH-CWG - Aliphatic >EC16 - EC35	467.00	40.00	<8.0	<8.0	<8.0	9.20	99.00	123.00	45.00	235.00	324.00	3500.00	446.00	121.00
TPH-CWG - Aliphatic (EC5 - EC35)	480	52	< 10	11	< 10	12	99	120	52	240	330	4300	470	130
TPH-CWG - Aromatic >EC5 - EC7	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.013	0.007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	< 0.001	6.8	< 0.001	< 0.001	< 0.001	< 0.001	0.008	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	1.9	20	3.1	11	4.4	3.6	1.9	< 1.0	2.3	3	6	44	5.1	99
TPH-CWG - Aromatic >EC12 - EC16	65	72	13	33	22	23	18	15	9.9	16	27	1200	21	48
TPH-CWG - Aromatic >EC16 - EC21	120	190	39	100	73	77	200	190	120	57	64	2500	260	180
TPH-CWG - Aromatic >EC21 - EC35	310	220	33	170	82	110	540	520	250	680	520	7300	840	390
TPH-CWG - Aromatic (EC5 - EC35)	500	510	88	320	180	210	760	730	390	760	610	11000	1100	710

*Target for p-xylene as more conservative

Appendix E

Laboratory Certificates

Ian Stephenson
Vertase Ltd
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Analytical Report Number : 17-71030

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	15/12/2017
Your job number:	1730MUS	**Samples instructed on:**	15/12/2017
Your order number:		**Analysis completed by:**	22/12/2017
Report Issue Number:	1	**Report issued on:**	22/12/2017
Samples Analysed:	7 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-71030

Project / Site name: New Victoria Site Investigation

Lab Sample Number				877714	877715	877716	877717	877718
Sample Reference				TT01	TT01	TT01	TT01	TT02
Sample Number				A	A	B	B	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	0.00-0.50	0.50-1.00	0.00-0.50
Date Sampled				13/12/2017	13/12/2017	13/12/2017	13/12/2017	14/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	22	9.9	15	6.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	< 0.001	-

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Analytical Report Number: 17-71030

Project / Site name: New Victoria Site Investigation

Lab Sample Number				877719	877720			
Sample Reference				TT02	TT02			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.50-1.00	1.00-1.50			
Date Sampled				14/12/2017	14/12/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	15			

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-			
Asbestos Quantification Total	%	0.001	ISO 17025	-	-			

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Analytical Report Number: 17-71030
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
877715	TT01	0.50-1.00	113	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
877717	TT01	0.50-1.00	124	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 17-71030

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-68064

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	17/11/2017
Your job number:	1730MUS	**Samples instructed on:**	17/11/2017
Your order number:		**Analysis completed by:**	24/11/2017
Report Issue Number:	1	**Report issued on:**	24/11/2017
Samples Analysed:	6 soil samples - 1 bulk sample		

Signed CCStone

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

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

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

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

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

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Analytical Report Number: 17-68064

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860472	860473	860474	860475	860476
Sample Reference				WS4	WS4	WS3b	WS3b	WS3b
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	2.00-3.00
Date Sampled				14/11/2017	14/11/2017	14/11/2017	14/11/2017	14/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13	11	14	20	20
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-68064

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860477				
Sample Reference				WS2				
Sample Number				None Supplied				
Depth (m)				0.00-1.00				
Date Sampled				14/11/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.001				
Asbestos Quantification Total	%	0.001	ISO 17025	0.001				

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-68064
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
860477	WS2	0.00-1.00	129	Loose Fibrous Debris	**Amosite**	0.001	**0.001**

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Analytical Report Number: 17-68064

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860478				
Sample Reference				WS2				
Sample Number				None Supplied				
Depth (m)				0.90				
Date Sampled				14/11/2017				
Time Taken				None Supplied				
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material				

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Analytical Report Number : 17-68064

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-68067

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	17/11/2017
Your job number:	1730MUS	**Samples instructed on:**	17/11/2017
Your order number:		**Analysis completed by:**	24/11/2017
Report Issue Number:	1	**Report issued on:**	24/11/2017
Samples Analysed:	13 soil samples - 1 bulk sample		

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-68067

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860485	860486	860487	860488	860489
Sample Reference				TP01_0.0-1.0m	TP01_1.0-2.0m	TP01_2.0-2.9m	TP02_0.0-1.0m	TP02_1.0-1.7m
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-1.70
Date Sampled				16/11/2017	16/11/2017	16/11/2017	16/11/2017	16/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	20	19	18	8.7	20
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	0.003
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	0.003

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Analytical Report Number: 17-68067

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860490	860491	860492	860493	860494
Sample Reference				TP03_0.0-1.0m	TP03_1.0-1.4m	TP04_0.0-1.0m	TP04_1.0-2.0m	TP04_2.0-2.2m
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-1.00	1.00-1.40	0.00-1.00	1.00-2.00	2.00-2.20
Date Sampled				16/11/2017	16/11/2017	16/11/2017	16/11/2017	16/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	11	23	10	15	12
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-68067

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860495	860496	860497		
Sample Reference				TP05_0.0-1.0m	TP05_1.0-2.0m	TP05_2.0-3.1m		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.00-1.00	1.00-2.00	2.00-3.10		
Date Sampled				16/11/2017	16/11/2017	16/11/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	12	16	25		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-		
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-		

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Analytical Report Number: 17-68067

Project / Site name: New Victoria Site Investigation

Lab Sample Number				860498				
Sample Reference				TP05_1.9m				
Sample Number				None Supplied				
Depth (m)				1.90				
Date Sampled				16/11/2017				
Time Taken				None Supplied				
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	No Asbestos Detected				

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Analytical Report Number: 17-68067
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
860489	P02_1.0-1.7r	1.00-1.70	118	Loose Fibrous Debris	**Amosite**	0.003	**0.003**

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Analytical Report Number : 17-68067

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-68914

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	27/11/2017
Your job number:	1730MUS	**Samples instructed on:**	27/11/2017
Your order number:		**Analysis completed by:**	01/12/2017
Report Issue Number:	1	**Report issued on:**	01/12/2017
Samples Analysed:	8 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-68914

Project / Site name: New Victoria Site Investigation

Lab Sample Number				865134	865135	865136	865137	865138
Sample Reference				WS5_0.3-1.3m	WS5_1.3-2.4m	WS6_0.1-1.4m	WS6_1.4-2.0m	WS6_2.0-3.0m
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-1.30	1.30-2.40	0.10-1.40	1.40-2.00	2.00-3.00
Date Sampled				25/11/2017	25/11/2017	25/11/2017	25/11/2017	25/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	15	22	15	16	14

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-68914

Project / Site name: New Victoria Site Investigation

Lab Sample Number				865139	865140	865141		
Sample Reference				WS6_3.0-4.0m	WS6_4.0-5.0m	WS6_5.0-5.6m		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				3.00-4.00	4.00-5.00	5.00-5.60		
Date Sampled				25/11/2017	25/11/2017	25/11/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13	14	14		

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 17-68914

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-68917

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	27/11/2017
Your job number:	1730MUS	**Samples instructed on:**	27/11/2017
Your order number:		**Analysis completed by:**	01/12/2017
Report Issue Number:	1	**Report issued on:**	01/12/2017
Samples Analysed:	13 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-68917

Project / Site name: New Victoria Site Investigation

Lab Sample Number				865148	865149	865150	865151	865152
Sample Reference				TP06_0.45-1.0m	TP06_1.0-2.0m	TP06_2.0-2.58m	TP07_0.0-1.0m	TP07_1.0-2.0m
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.45-1.00	1.00-2.00	2.00-2.58	0.00-1.00	1.00-2.00
Date Sampled				23/11/2017	23/11/2017	23/11/2017	23/11/2017	23/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	15	13	11	9.9	16
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-68917

Project / Site name: New Victoria Site Investigation

Lab Sample Number				865153	865154	865155	865156	865157
Sample Reference				TP08_0.4-0.91m	TP09_0.26-0.96m	TP10_0.0-1.0m	TP10_1.0-2.0m	TP10_2.0-3.0m
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.91	0.26-0.96	0.00-1.00	1.00-2.00	2.00-3.00
Date Sampled				23/11/2017	23/11/2017	23/11/2017	23/11/2017	23/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	14	13	16	15
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-68917

Project / Site name: New Victoria Site Investigation

Lab Sample Number				865158	865159	865160		
Sample Reference				TP11_0.0-1.0m	TP11_1.0-2.0m	TP11_2.0-2.7m		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.00-1.00	1.00-2.00	2.00-2.70		
Date Sampled				23/11/2017	23/11/2017	23/11/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	11	13	14		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		

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Analytical Report Number : 17-68917

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69186

Project / Site name:	New Vicotria Site Investigation	**Samples received on:**	29/11/2017
Your job number:	1730MUS	**Samples instructed on:**	29/11/2017
Your order number:		**Analysis completed by:**	05/12/2017
Report Issue Number:	1	**Report issued on:**	05/12/2017
Samples Analysed:	6 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69186

Project / Site name: New Vicotria Site Investigation

Lab Sample Number				866895	866896	866897	866898	866899
Sample Reference				TP12	TP12	TP12	TP13	TP13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-1.00	1.00-2.00	2.00-2.72	0.00-1.00	1.00-2.00
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13	14	16	10	13
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69186

Project / Site name: New Vicotria Site Investigation

Lab Sample Number				866900				
Sample Reference				TP13				
Sample Number				None Supplied				
Depth (m)				2.00-2.74				
Date Sampled				29/11/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				

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Analytical Report Number : 17-69186

Project / Site name: New Vicotria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69232

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	29/11/2017
Your job number:	1730MUS	**Samples instructed on:**	29/11/2017
Your order number:		**Analysis completed by:**	06/12/2017
Report Issue Number:	1	**Report issued on:**	06/12/2017
Samples Analysed:	17 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69232

Project / Site name: New Victoria Site Investigation

Lab Sample Number				867125	867126	867127	867128	867129
Sample Reference				SA4	SA4	SA4	SA4	SA4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00-1.50	1.50-2.00	2.00-2.50	2.50-3.00	3.00-3.50
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	15	12	12	15
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69232

Project / Site name: New Victoria Site Investigation

Lab Sample Number				867130	867131	867132	867133	867134
Sample Reference				SA4	SA4	SA4	SA4	SA4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50-4.00	4.00-4.50	4.50-5.00	5.00-5.50	5.50-6.00
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	11	18	15	16	16
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69232

Project / Site name: New Victoria Site Investigation

Lab Sample Number				867135	867136	867137	867138	867139
Sample Reference				SA4	SA4	SA4	SA4	SA4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00-6.50	6.50-7.00	7.50-8.00	8.00-8.50	8.50-9.00
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	12	12	13	17	15
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69232

Project / Site name: New Victoria Site Investigation

Lab Sample Number				867140	867340			
Sample Reference				SA4	SA4			
Sample Number				None Supplied	None Supplied			
Depth (m)				9.00-9.50	7.00-7.50			
Date Sampled				29/11/2017	29/11/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	23	15			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			

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Analytical Report Number : 17-69232

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69530

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	04/11/2017
Your job number:	1730MUS	**Samples instructed on:**	04/12/2017
Your order number:		**Analysis completed by:**	07/12/2017
Report Issue Number:	1	**Report issued on:**	07/12/2017
Samples Analysed:	16 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69530

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868672	868673	868674	868675	868676
Sample Reference				SA5	SA5	SA5	SA5	SA5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				30/11/2017	30/11/2017	30/11/2017	30/11/2017	30/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	8.0	12	10	14
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69530

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868677	868678	868679	868680	868681
Sample Reference				SA5	SA5	SA5	SA5	SA5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	4.50-5.00
Date Sampled				30/11/2017	30/11/2017	30/11/2017	30/11/2017	30/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	12	16	13	15	12
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69530

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868682	868683	868684	868685	868686
Sample Reference				SA5	SA5	SA5	SA5	SA5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	7.00-7.50
Date Sampled				30/11/2017	30/11/2017	30/11/2017	30/11/2017	30/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	12	20	18	16
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69530

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868687				
Sample Reference				SA5				
Sample Number				None Supplied				
Depth (m)				7.50-8.00				
Date Sampled				30/11/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	18				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				

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Analytical Report Number : 17-69530

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69536

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	04/12/2017
Your job number:	1730MUS	**Samples instructed on:**	04/12/2017
Your order number:		**Analysis completed by:**	07/12/2017
Report Issue Number:	1	**Report issued on:**	07/12/2017
Samples Analysed:	14 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69536

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868745	868746	868747	868748	868749
Sample Reference				SA3	SA3	SA3	SA3	SA3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				30/11/2017	30/11/2017	30/11/2017	30/11/2017	30/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13	16	17	15	17
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-69536

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868750	868751	868752	868753	868754
Sample Reference				SA3	SA3	SA3	SA3	SA3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	4.50-5.00
Date Sampled				30/11/2017	30/11/2017	30/11/2017	30/11/2017	30/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	18	8.7	9.1	13	12
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69536

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868755	868756	868757	868758	
Sample Reference				SA3	SA3	SA3	SA3	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	
Date Sampled				30/11/2017	30/11/2017	30/11/2017	30/11/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	11	13	12	12	

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	

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Analytical Report Number : 17-69536

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69537

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	01/12/2017
Your job number:	1730MUS	**Samples instructed on:**	01/12/2017
Your order number:		**Analysis completed by:**	08/12/2017
Report Issue Number:	1	**Report issued on:**	08/12/2017
Samples Analysed:	20 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69537

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868725	868726	868727	868728	868729
Sample Reference				SA6	SA6	SA6	SA6	SA6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	17	11	15	15	15
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	-	-	-

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Analytical Report Number: 17-69537

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868730	868731	868732	868733	868734
Sample Reference				SA6	SA6	SA6	SA6	SA6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	4.50-5.00
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	15	16	19	21	20

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-69537

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868735	868736	868737	868738	868739
Sample Reference				SA6	SA6	SA6	SA6	SA6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	7.00-7.50
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	14	18	13	17	14

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-69537

Project / Site name: New Victoria Site Investigation

Lab Sample Number				868740	868741	868742	868743	868744
Sample Reference				SA6	SA6	SA6	SA6	SA6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.50-8.00	8.00-8.50	8.50-9.00	9.00-9.50	9.50-10.00
Date Sampled				29/11/2017	29/11/2017	29/11/2017	29/11/2017	29/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	16	15	17	21	18

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-69537
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
868725	SA6	0.00-0.50	179	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

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

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Analytical Report Number : 17-69537

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69691

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	04/12/2017
Your job number:	1730MUS	**Samples instructed on:**	04/12/2017
Your order number:		**Analysis completed by:**	11/12/2017
Report Issue Number:	1	**Report issued on:**	11/12/2017
Samples Analysed:	14 soil samples		

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69691

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869387	869388	869389	869390	869391
Sample Reference				SA1	SA1	SA1	SA1	SA1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				01/11/2017	01/11/2017	01/11/2017	01/11/2017	01/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	12	13	11	13	12

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69691

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869392	869393	869394	869395	869396
Sample Reference				SA1	SA1	SA1	SA1	SA1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	4.50-5.00
Date Sampled				01/11/2017	01/11/2017	01/11/2017	01/11/2017	01/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13	13	14	11	8.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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Analytical Report Number: 17-69691

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869397	869398	869399	869400	
Sample Reference				SA1	SA1	SA1	SA1	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	
Date Sampled				01/11/2017	01/11/2017	01/11/2017	01/11/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	13	13	15	13	

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	

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Analytical Report Number : 17-69691

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-69696

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	04/12/2017
Your job number:	1730MUS	**Samples instructed on:**	04/12/2017
Your order number:		**Analysis completed by:**	08/12/2017
Report Issue Number:	1	**Report issued on:**	08/12/2017
Samples Analysed:	16 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-69696

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869420	869421	869422	869423	869424
Sample Reference				SA2	SA2	SA2	SA2	SA2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				01/11/2017	01/11/2017	01/11/2017	01/11/2017	01/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	5.7	12	11	20	19
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	-	-	-

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Analytical Report Number: 17-69696

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869425	869426	869427	869428	869429
Sample Reference				SA2	SA2	SA2	SA2	SA2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	4.50-5.00
Date Sampled				01/11/2017	01/11/2017	01/11/2017	01/11/2017	01/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	18	19	17	17	17
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-69696

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869430	869431	869432	869433	869434
Sample Reference				SA2	SA2	SA2	SA2	SA2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	7.00-7.50
Date Sampled				01/11/2017	01/11/2017	01/11/2017	01/11/2017	01/11/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	17	17	18	18	18
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-69696

Project / Site name: New Victoria Site Investigation

Lab Sample Number				869435				
Sample Reference				SA2				
Sample Number				None Supplied				
Depth (m)				7.50-8.00				
Date Sampled				01/11/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	19				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-				
Asbestos Quantification Total	%	0.001	ISO 17025	-				

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Analytical Report Number: 17-69696
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
869420	SA2	0.00-0.50	199	Loose Fibrous Debris	**Amosite**	< 0.001	**< 0.001**

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 17-69696

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number : 17-70272

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	08/12/2017
Your job number:	1730MUS	**Samples instructed on:**	08/12/2017
Your order number:		**Analysis completed by:**	15/12/2017
Report Issue Number:	1	**Report issued on:**	15/12/2017
Samples Analysed:	8 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-70272

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872897	872898	872899	872900	872901
Sample Reference				SA8	SA8	SA8	SA8	SA8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	3.00-3.50
Date Sampled				07/12/2017	07/12/2017	07/12/2017	07/12/2017	07/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	9.1	11	12	11	19
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-70272

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872902	872903	872904		
Sample Reference				SA8	SA8	SA8		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				3.50-4.00	4.00-4.50	4.50-5.00		
Date Sampled				07/12/2017	07/12/2017	07/12/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	19	20	4.9		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 17-70272

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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The results included within the report are representative of the samples submitted for analysis.

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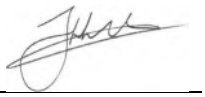
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Analytical Report Number : 17-70274

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	08/12/2017
Your job number:	1730MUS	**Samples instructed on:**	08/12/2017
Your order number:		**Analysis completed by:**	15/12/2017
Report Issue Number:	1	**Report issued on:**	15/12/2017
Samples Analysed:	6 soil samples		

Signed: 

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-70274

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872909	872910	872911	872912	872913
Sample Reference				SA9	SA9	SA9	SA9	SA9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	5.5	8.8	9.9	12	14
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	0.013	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	0.013	< 0.001

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Analytical Report Number: 17-70274

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872914				
Sample Reference				SA9				
Sample Number				None Supplied				
Depth (m)				2.50-3.00				
Date Sampled				06/12/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	8.4				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001				
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001				

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-70274
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
872911	SA9	1.00-1.50	131	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
872912	SA9	1.50-2.00	132	Loose Fibres & Bitumen	**Chrysotile**	0.013	**0.013**
872913	SA9	2.00-2.50	127	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
872914	SA9	2.50-3.00	144	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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Analytical Report Number : 17-70274

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Analytical Report Number : 17-70277

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	08/12/2017
Your job number:	1730MUS	**Samples instructed on:**	08/12/2017
Your order number:		**Analysis completed by:**	15/12/2017
Report Issue Number:	1	**Report issued on:**	15/12/2017
Samples Analysed:	20 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 17-70277

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872933	872934	872935	872936	872937
Sample Reference				SA7	SA7	SA7	SA7	SA7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.50	0.50-1.00	1.00-1.50	1.50-2.00	2.00-2.50
Date Sampled				06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	16	7.0	17	15	16
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	-	-

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Analytical Report Number: 17-70277

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872938	872939	872940	872941	872942
Sample Reference				SA7	SA7	SA7	SA7	SA7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	4.50-5.00
Date Sampled				06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	17	15	15	15	17
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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Analytical Report Number: 17-70277

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872943	872944	872945	872946	872947
Sample Reference				SA7	SA7	SA7	SA7	SA7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	7.00-7.50
Date Sampled				06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	17	19	17	17	17
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-70277

Project / Site name: New Victoria Site Investigation

Lab Sample Number				872948	872949	872950	872951	872952
Sample Reference				SA7	SA7	SA7	SA7	SA7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.50-8.00	8.00-8.50	8.50-9.00	9.00-9.50	9.50-10.00
Date Sampled				06/12/2017	06/12/2017	06/12/2017	06/12/2017	06/12/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	18	20	18	20	18
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 17-70277
Project / Site name: New Victoria Site Investigation
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
872934	SA7	0.50-1.00	128	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 17-70277

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

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

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Appendix F

Ground Gas Monitoring Records

Circulated Gas Monitoring

Monitoring Point BHA01 **Date:** 14/12/2017 **Time of Test:** 15.45

Weather: Overcast **Temp:** 4°C **ATM Pressure:** 980

Ambient Gas Concentration: **CH4:** 0.00% **CO2:** 0.00% **O2:** 20.70%

Flow: l/hr: 0.0 **Operator:** Ian Stephenson

Monitoring Equipment: Gas Data GFM 436 **Calibration Date:** 27/01/2017

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	**980**	0.0	0.0	0.0	0.0	0.0	0.0	20.9	20.7
Shallow 30 Seconds	**980**	0.0	0.0	0.0	0.0	0.0	0.0	20.7	20.6
Shallow 60 Seconds	**980**	0.0	0.0	0.0	0.0	0.0	0.0	20.6	20.6
Deep 5 Seconds	**980**	0.0	0.0	0.0	0.0	3.4	3.4	20.8	20.7
Deep 30 Seconds	**980**	0.0	0.0	0.0	0.0	3.5	3.5	16.1	15.8
Deep 60 Seconds	**980**	0.0	0.0	0.0	0.0	3.5	3.5	15.8	15.8
Circulated 1 Munute	**979**	0.0	0.0	0.0	0.0	3.5	3.4	15.9	15.9
Circulated 2 Munute	**979**	0.0	0.0	0.0	0.0	3.5	3.4	16.0	16.0
Circulated 3 Munute	**979**	0.0	0.0	0.0	0.0	3.3	3.0	16.3	16.2
Circulated 4 Munute	**979**	0.0	0.0	0.0	0.0	3.0	2.9	16.4	16.4
Circulated 5 Munute	**979**	0.0	0.0	0.0	0.0	2.6	2.5	16.8	16.7
Circulated 6 Munute	**979**	0.0	0.0	0.0	0.0	2.4	2.3	17.0	17.0
Circulated 7 Munute	**979**	0.0	0.0	0.0	0.0	2.3	2.2	17.2	17.2
Circulated 8 Munute	**979**	0.0	0.0	0.0	0.0	2.2	2.1	17.2	17.2
Circulated 9 Munute	**979**	0.0	0.0	0.0	0.0	2.1	2.1	17.2	17.2
Circulated 10 Munute	**979**	0.0	0.0	0.0	0.0	2.2	2.1	17.2	17.2
Shallow 5 Seconds	**979**	0.0	0.0	0.0	0.0	0.4	0.1	19.2	19.2
Shallow 30 Seconds	**979**	0.0	0.0	0.0	0.0	0.2	0.1	20.4	20.4
Shallow 60 Seconds	**979**	0.0	0.0	0.0	0.0	0.1	0.1	20.3	20.3
Deep 5 Seconds	**979**	0.0	0.0	0.0	0.0	1.9	1.9	17.7	17.7
Deep 30 Seconds	**979**	0.0	0.0	0.0	0.0	1.9	1.9	17.4	17.4
Deep 60 Seconds	**979**	0.0	0.0	0.0	0.0	1.7	1.9	17.4	17.4

Remarks:

Circulated Gas Monitoring

Monitoring Point: BHA02 **Date:** 14/12/2017 **Time of Test:** 10.11

Weather: Drizzle **Temp:** 4°C **ATM Pressure:** 976

Ambient Gas Concentration: **CH4:** 0.00% **CO2:** 0.00% **O2:** 20.60%

Flow: l/hr: 0.0 **Operator:** Ian Stephenson

Monitoring Equipment: Gas Data GFM 436 **Calibration Date:** 27/01/2017

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.7	20.7
Shallow 30 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.6	20.6
Shallow 60 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.6	20.6
Deep 5 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.4
Deep 30 Seconds	**976**	0.0	0.0	0.0	0.0	1.7	1.7	17.6	17.6
Deep 60 Seconds	**976**	0.0	0.0	0.0	0.0	1.8	1.8	17.4	17.4
Circulated 1 Munute	**976**	0.0	0.0	0.0	0.0	2.0	1.9	17.3	17.2
Circulated 2 Munute	**976**	0.0	0.0	0.0	0.0	2.2	2.1	17.1	17.0
Circulated 3 Munute	**976**	0.0	0.0	0.0	0.0	2.3	2.5	16.9	16.9
Circulated 4 Munute	**976**	0.0	0.0	0.0	0.0	2.4	2.4	16.8	16.7
Circulated 5 Munute	**976**	0.0	0.0	0.0	0.0	2.5	2.5	16.7	16.7
Circulated 6 Munute	**976**	0.0	0.0	0.0	0.0	2.5	2.5	16.6	16.6
Circulated 7 Munute	**976**	0.0	0.0	0.0	0.0	2.6	2.6	16.6	16.6
Circulated 8 Munute	**976**	0.0	0.0	0.0	0.0	2.6	2.6	16.6	16.6
Circulated 9 Munute	**976**	0.0	0.0	0.0	0.0	2.6	2.6	16.6	16.6
Circulated 10 Munute	**976**	0.0	0.0	0.0	0.0	2.6	2.6	16.6	16.6
Shallow 5 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.5
Shallow 30 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.5
Shallow 60 Seconds	**976**	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.5
Deep 5 Seconds	**976**	0.0	0.0	0.0	0.0	2.6	2.6	16.6	16.6
Deep 30 Seconds	**976**	0.0	0.0	0.0	0.0	2.5	2.6	16.6	16.6
Deep 60 Seconds	**976**	0.0	0.0	0.0	0.0	2.5	2.5	16.6	16.6

Remarks:

Circulated Gas Monitoring

Monitoring Point: BHA06 **Date:** 15/12/2017 **Time of Test:** 11.05

Weather: Clear **Temp:** 1°C **ATM Pressure:** 997

Ambient Gas Concentration: **CH4:** 0.00% **CO2:** 0.00% **O2:** 20.30%

Flow: l/hr: 0.3 **Operator:** Ian Stephenson

Monitoring Equipment: Gas Data GFM 436 **Calibration Date:** 27/01/2017

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	997	0.0	0.0	0.0	0.0	0.4	0.1	19.8	19.5
Shallow 30 Seconds	997	0.0	0.0	0.0	0.0	0.1	0.0	19.9	19.9
Shallow 60 Seconds	997	0.0	0.0	0.0	0.0	0.0	0.0	20.1	20.1
Deep 5 Seconds	997	0.0	0.0	0.0	0.0	0.5	0.4	20.4	20.2
Deep 30 Seconds	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Deep 60 Seconds	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Circulated 1 Munute	997	0.0	0.0	0.0	0.0	0.4	0.2	19.4	19.4
Circulated 2 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Circulated 3 Munute	997	0.0	0.0	0.0	0.0	0.6	0.5	19.4	19.4
Circulated 4 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Circulated 5 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Circulated 6 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Circulated 7 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.4
Circulated 8 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.3
Circulated 9 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.3	19.3
Circulated 10 Munute	997	0.0	0.0	0.0	0.0	0.6	0.6	19.3	19.3
Shallow 5 Seconds	997	0.0	0.0	0.0	0.0	0.6	0.4	19.6	19.6
Shallow 30 Seconds	997	0.0	0.0	0.0	0.0	0.0	0.0	20.1	20.1
Shallow 60 Seconds	997	0.0	0.0	0.0	0.0	0.0	0.0	20.1	20.1
Deep 5 Seconds	997	0.0	0.0	0.0	0.0	0.6	0.6	19.4	19.2
Deep 30 Seconds	997	0.0	0.0	0.0	0.0	0.6	0.6	19.5	19.4
Deep 60 Seconds	997	0.0	0.0	0.0	0.0	0.6	0.6	19.5	19.4

Remarks:

Circulated Gas Monitoring

Monitoring Point: BHA07 **Date:** 15/12/2017 **Time of Test:** 9.34

Weather: Clear **Temp:** 1°C **ATM Pressure:** 976

Ambient Gas Concentration: **CH4:** 0.00% **CO2:** 0.00% **O2:** 20.30%

Flow: l/hr: 0.2 **Operator:** Ian Stephenson

Monitoring Equipment: Gas Data GFM 436 **Calibration Date:** 27/01/2017

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.3
Shallow 30 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Shallow 60 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 5 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 30 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 60 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 1 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 2 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 3 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 4 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 5 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 6 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 7 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 8 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 9 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Circulated 10 Munute	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Shallow 5 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Shallow 30 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Shallow 60 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 5 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 30 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 60 Seconds	**996**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3

Remarks: Borehole is slotted to the top of borehole and cannot be sealed. Air monitored in this well is indicative of ambient atmospheric conditions.

Circulated Gas Monitoring

Monitoring Point: SA07 **Date:** 14/12/2017 **Time of Test:** 13.29

Weather: Overcast **Temp:** 5°C **ATM Pressure:** 978

Ambient Gas Concentration: **CH4:** 0.00% **CO2:** 0.00% **O2:** 20.60%

Flow: l/hr: 0.0 **Operator:** Ian Stephenson

Monitoring Equipment: Gas Data GFM 436 **Calibration Date:** 27/01/2017

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	**978**	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.2
Shallow 30 Seconds	**978**	0.0	0.0	0.0	0.0	0.4	0.4	17.8	17.8
Shallow 60 Seconds	**978**	0.0	0.0	0.0	0.0	0.5	0.5	17.5	17.7
Deep 5 Seconds	**978**	0.0	0.0	0.0	0.0	0.0	0.0	20.1	20.2
Deep 30 Seconds	**978**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.3
Deep 60 Seconds	**978**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.2
Circulated 1 Munute	**978**	0.0	0.0	0.0	0.0	0.6	0.5	16.8	16.8
Circulated 2 Munute	**978**	0.0	0.0	0.0	0.0	0.6	0.6	16.7	16.7
Circulated 3 Munute	**978**	0.0	0.0	0.0	0.0	0.6	0.6	16.6	16.5
Circulated 4 Munute	**978**	0.0	0.0	0.0	0.0	0.6	0.6	16.7	16.6
Circulated 5 Munute	**978**	0.0	0.0	0.0	0.0	0.6	0.6	16.6	16.6
Circulated 6 Munute	**978**	0.0	0.0	0.0	0.0	0.6	0.6	16.5	16.5
Circulated 7 Munute	**977**	0.0	0.0	0.0	0.0	0.6	0.6	16.6	16.5
Circulated 8 Munute	**977**	0.0	0.0	0.0	0.0	0.6	0.6	16.6	16.6
Circulated 9 Munute	**977**	0.0	0.0	0.0	0.0	0.6	0.6	16.6	16.6
Circulated 10 Munute	**977**	0.0	0.0	0.0	0.0	0.6	0.6	16.6	16.6
Shallow 5 Seconds	**977**	0.0	0.0	0.0	0.0	0.0	0.0	17.5	17.4
Shallow 30 Seconds	**977**	0.0	0.0	0.0	0.0	0.0	0.0	20.4	20.4
Shallow 60 Seconds	**977**	0.0	0.0	0.0	0.0	0.0	0.0	20.3	20.2
Deep 5 Seconds	**977**	0.0	0.0	0.0	0.0	0.6	0.6	17.5	16.9
Deep 30 Seconds	**977**	0.0	0.0	0.0	0.0	0.6	0.6	16.8	16.6
Deep 60 Seconds	**977**	0.0	0.0	0.0	0.0	0.7	0.6	16.7	16.6

Remarks:

Circulated Gas Monitoring

Monitoring Point: SA08 **Date:** 15/12/2017 **Time of Test:** 10

Weather: Clear **Temp:** 1°C **ATM Pressure:** 995

Ambient Gas Concentration: **CH4:** 0.00% **CO2:** 0.00% **O2:** 20.30%

Flow: l/hr: 0.1 **Operator:** Ian Stephenson

Monitoring Equipment: Gas Data GFM 436 **Calibration Date:** 27/01/2017

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	995	0.0	0.0	0.0	0.0	0.0	0.0	20.2	20.2
Shallow 30 Seconds	995	0.0	0.0	0.0	0.0	0.3	0.3	19.2	19.2
Shallow 60 Seconds	995	0.0	0.0	0.0	0.0	0.3	0.3	19.2	19.2
Deep 5 Seconds	995	0.0	0.0	0.0	0.0	0.3	0.3	19.8	19.8
Deep 30 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	19.2	19.2
Deep 60 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	19.2	19.2
Circulated 1 Munute	995	0.0	0.0	0.0	0.0	0.1	0.1	19.7	19.6
Circulated 2 Munute	995	0.0	0.0	0.0	0.0	0.6	0.6	19.1	19.1
Circulated 3 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 4 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 5 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 6 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 7 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 8 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 9 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Circulated 10 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Shallow 5 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Shallow 30 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Shallow 60 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	19.1	19.1
Deep 5 Seconds	995	0.0	0.0	0.0	0.0	0.3	0.3	19.1	19.1
Deep 30 Seconds	995	0.0	0.0	0.0	0.0	0.3	0.3	19.1	19.1
Deep 60 Seconds	995	0.0	0.0	0.0	0.0	0.3	0.3	19.1	19.1

Remarks:

Circulated Gas Monitoring

Monitoring Point:	**BHA01**	**Date:**	24/01/18	**Time of Test:**	17.30
Weather:	Dusk, damp	**Temp:**	7 °C	**ATM Pressure:**	995 mb
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:** <0.1	**O2:** 20.2
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters		
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	995	0	0	0	0	2.2	2.1	16.9	16.8
Shallow 30 Seconds		0	0	0	0	2.3	2.3	16.6	16.6
Shallow 60 Seconds		0	0	0	0	2.3	2.3	16.6	16.6
Deep 5 Seconds		0	0	0	0	3.6	3.3	13.7	13.6
Deep 30 Seconds		0	0	0	0	5.3	5.3	13.4	13.4
Deep 60 Seconds		0	0	0	0	5.3	5.3	13.5	13.5
Circulated 1 Munute	995	0	0	<<	<<	5.1	5.1	13.6	13.6
Circulated 2 Munute		0	0	<<	<<	5.0	5.0	13.6	13.6
Circulated 3 Munute		0	0	<<	<<	4.9	4.9	13.7	13.7
Circulated 4 Munute		0	0	<<	<<	4.8	4.8	13.8	13.8
Circulated 5 Munute		0	0	0	0	4.7	4.7	13.9	13.9
Circulated 6 Munute		0	0	0	0	4.7	4.7	14.0	14.0
Circulated 7 Munute		0	0	0	0	4.6	4.6	14.1	14.1
Circulated 8 Munute		0	0	0	0	4.4	4.4	14.3	14.3
Circulated 9 Munute		0	0	0	0	4.4	4.4	14.3	14.3
Circulated 10 Munute		0	0	0	0	4.4	4.4	14.3	14.3
Shallow 5 Seconds	995	0	0	0	0	2.4	2.4	16.4	16.4
Shallow 30 Seconds		0	0	0	0	2.3	2.3	16.5	16.5
Shallow 60 Seconds		0	0	<<	<<	2.3	2.3	16.6	16.6
Deep 5 Seconds		0	0	0	0	4.9	4.9	13.9	13.9
Deep 30 Seconds		0	0	<<	<<	4.7	4.7	14.2	14.2
Deep 60 Seconds		0	0	<<	<<	4.4	4.4	14.3	14.3

Remarks: DTW Dry

Circulated Gas Monitoring

Monitoring Point:	**BHA02**	**Date:**	24/01/18	**Time of Test:**	19.45
Weather:	Dark, damp	**Temp:**	6 °C	**ATM Pressure:**	997 mb
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:** <0.1	**O2:** 20.0
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters		
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	997	0	0	0	0	1.8	1.7	17.4	17.4
Shallow 30 Seconds		0	0	0	0	1.8	1.8	17.3	17.3
Shallow 60 Seconds		0	0	0	0	1.9	1.9	17.3	17.3
Deep 5 Seconds		0	0	0	0	1	<0.1	19.8	19.7
Deep 30 Seconds		0	0	0	0	<0.1	<0.1	20.0	20.0
Deep 60 Seconds		0	0	0	0	<0.1	<0.1	20.0	20.0
Circulated 1 Munute	997	0	0	0	0	0.9	0.8	18.6	18.6
Circulated 2 Munute		0	0	0	0	0.9	0.9	18.5	18.4
Circulated 3 Munute		0	0	0	0	1.3	1.3	17.9	17.9
Circulated 4 Munute		0	0	0	0	1.3	1.3	17.9	17.9
Circulated 5 Munute		0	0	0	0	1.4	1.4	17.8	17.8
Circulated 6 Munute		0	0	0	0	1.3	1.3	17.7	17.7
Circulated 7 Munute		0	0	0	0	1.4	1.4	17.8	17.8
Circulated 8 Munute		0	0	0	0	1.6	1.6	17.7	17.7
Circulated 9 Munute		0	0	0	0	1.6	1.6	17.7	17.7
Circulated 10 Munute		0	0	0	0	1.6	1.6	17.7	17.7
Shallow 5 Seconds	997	0	0	0	0	1.8	1.8	17.2	17.2
Shallow 30 Seconds		0	0	0	0	1.9	1.9	17.2	17.2
Shallow 60 Seconds		0	0	0	0	1.9	1.9	17.2	17.2
Deep 5 Seconds		0	0	0	0	1.6	1.6	17.7	17.7
Deep 30 Seconds		0	0	0	0	1.6	1.6	17.7	17.7
Deep 60 Seconds		0	0	0	0	1.6	1.6	17.7	17.7

Remarks: Not possible to dip, borehole is flooded. Bailed water out to allow access to gas taps.

Circulated Gas Monitoring

Monitoring Point:	**BHA03**	**Date:**	24/01/18	**Time of Test:**	20.35		
Weather:	Dark, damp	**Temp:**	5 °C	**ATM Pressure:**	996 mb		
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:**	0.0	**O2:**	20.0
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters				
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	996	0	0	0	0	0.6	0.5	18.7	18.6
Shallow 30 Seconds		0	0	0	0	0.7	0.7	18.5	18.5
Shallow 60 Seconds		0	0	0	0	0.7	0.7	18.5	18.5
Deep 5 Seconds		0	0	0	0	0.1	0.1	19.4	19.4
Deep 30 Seconds		0	0	0	0	0.1	0.1	19.5	19.5
Deep 60 Seconds		0	0	0	0	0.0	0.0	19.5	19.5
Circulated 1 Munute	996	0	0	0	0	0	0	19.5	19.5
Circulated 2 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 3 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 4 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 5 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 6 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 7 Munute		0	0	0	0	0	0	19.6	19.6
Circulated 8 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 9 Munute		0	0	0	0	0	0	19.5	19.5
Circulated 10 Munute		0	0	0	0	0	0	19.5	19.5
Shallow 5 Seconds	996	0	0	0	0	0.4	0.4	19.0	19.0
Shallow 30 Seconds		0	0	0	0	0.5	0.5	18.9	18.9
Shallow 60 Seconds		0	0	0	0	0.5	0.5	18.8	18.8
Deep 5 Seconds		0	0	0	0	0.0	0.0	19.7	19.7
Deep 30 Seconds		0	0	0	0	0.0	0.0	19.7	19.7
Deep 60 Seconds		0	0	0	0	0.0	0.0	19.7	19.7

Remarks: DTW Dry

Circulated Gas Monitoring

Monitoring Point:	**BHA06**	**Date:**	25/01/18	**Time of Test:**	9.20
Weather:	Grey, damp	**Temp:**	5 °C	**ATM Pressure:**	996 mb
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:** <0.1	**O2:** 20.4
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters		
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	996	0	0	<<	<<	0.6	0.6	19.9	19.9
Shallow 30 Seconds		0	0	<<	<<	0.6	0.6	19.8	19.8
Shallow 60 Seconds		0	0	<<	<<	0.6	0.6	19.8	19.8
Deep 5 Seconds		0	0	<<	<<	0.7	0.7	19.9	19.9
Deep 30 Seconds		0	0	<<	<<	0.7	0.7	19.8	19.8
Deep 60 Seconds		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 1 Munute	996	0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 2 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 3 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 4 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 5 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 6 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 7 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 8 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 9 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Circulated 10 Munute		0	0	<<	<<	0.7	0.7	19.8	19.8
Shallow 5 Seconds	996	0	0	<<	<<	0.6	0.6	19.9	19.9
Shallow 30 Seconds		0	0	<<	<<	0.6	0.6	19.8	19.8
Shallow 60 Seconds		0	0	<<	<<	0.6	0.6	19.8	19.8
Deep 5 Seconds		0	0	<<	<<	0.7	0.7	19.8	19.8
Deep 30 Seconds		0	0	<<	<<	0.7	0.7	19.8	19.8
Deep 60 Seconds		0	0	<<	<<	0.7	0.7	19.8	19.8

Remarks: DTW Dry

Circulated Gas Monitoring

Monitoring Point:	**BHA07**	**Date:**	25/01/18	**Time of Test:**	9.05
Weather:	Grey, damp	**Temp:**	4 °C	**ATM Pressure:**	996 mb
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:** <0.1	**O2:** 20.5
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters		
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	996	0	0	<<	<<	0	0	20.3	20.3
Shallow 30 Seconds		0	0	<<	<<	0	0	20.3	20.3
Shallow 60 Seconds		0	0	<<	<<	0	0	20.3	20.3
Deep 5 Seconds		0	0	<<	<<	0	0	20.4	20.4
Deep 30 Seconds		0	0	<<	<<	0	0	20.3	20.3
Deep 60 Seconds		0	0	<<	<<	0	0	20.3	20.3
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: DTW Dry. Borehole slotted to the surface, gas readings are affected by ambient air.

Circulated Gas Monitoring

Monitoring Point:	**SA7**	**Date:**	24/01/18	**Time of Test:**	16.15
Weather:	Grey, damp	**Temp:**	8 °C	**ATM Pressure:**	994 mb
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:** <0.1	**O2:** 20.4
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters		
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	994	0	0	<<	<<	1.2	1.1	17.9	17.8
Shallow 30 Seconds		0	0	<<	<<	1.4	1.4	17.8	17.7
Shallow 60 Seconds		0	0	<<	<<	1.4	1.4	17.7	17.7
Deep 5 Seconds		0	0	0	0	0.9	0.8	19.5	19.4
Deep 30 Seconds		0	0	0	0	0.8	<0.1	20.2	20.2
Deep 60 Seconds		0	0	0	0	<0.1	<0.1	20.2	20.2
Circulated 1 Munute	994	0	0	<<	<<	1.7	1.7	16.9	16.9
Circulated 2 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 3 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 4 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 5 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 6 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 7 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 8 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 9 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Circulated 10 Munute		0	0	<<	<<	1.7	1.7	16.7	16.7
Shallow 5 Seconds	994	0	0	<<	<<	1.4	0.8	13.6	13.5
Shallow 30 Seconds		0	0	<<	<<	0.7	0.7	18.7	18.6
Shallow 60 Seconds		0	0	<<	<<	0.9	0.9	18.3	18.3
Deep 5 Seconds		0	0	<<	<<	0.7	0.6	20.0	19.9
Deep 30 Seconds		0	0	<<	<<	<0.1	<0.1	20.2	20.2
Deep 60 Seconds		0	0	<<	<<	<0.1	<0.1	20.2	20.2

Remarks: DTW 8.416 m bgl. DTB 12.91m bgl. Developed 24.01.18, sampled 25.01.18.

Circulated Gas Monitoring

Monitoring Point:	**SA8**	**Date:**	25/01/18	**Time of Test:**	8.25
Weather:	Grey, damp	**Temp:**	3 °C	**ATM Pressure:**	997 mb
Ambient Gas Concentration:		**CH4:**	0.0	**CO2:** <0.1	**O2:** 20.6
Flow: l/hr:	S: 0.0 D: 0.0	**Operator:**	Melissa Charters		
Monitoring Equipment:	Gas Data GFM 436	**Calibration Date:**	26/01/2018		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	997	0	0	0	0	0.3	0.3	20.1	20.1
Shallow 30 Seconds		0	0	<<	<<	0.3	0.3	20.0	20.0
Shallow 60 Seconds		0	0	<<	<<	0.3	0.3	19.9	19.9
Deep 5 Seconds		0	0	<<	<<	0.4	0.4	19.9	19.9
Deep 30 Seconds		0	0	<<	<<	0.4	0.4	19.9	19.9
Deep 60 Seconds		0	0	<<	<<	0.4	0.4	19.9	19.9
Circulated 1 Munute	997	0	0	<<	<<	0.4	0.4	19.9	19.9
Circulated 2 Munute		0	0	<<	<<	0.4	0.4	19.9	19.9
Circulated 3 Munute		0	0	<<	<<	0.4	0.4	19.9	19.9
Circulated 4 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Circulated 5 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Circulated 6 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Circulated 7 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Circulated 8 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Circulated 9 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Circulated 10 Munute		0	0	<<	<<	0.4	0.4	19.8	19.8
Shallow 5 Seconds	997	0	0	<<	<<	0.4	0.4	19.9	19.9
Shallow 30 Seconds		0	0	<<	<<	0.4	0.4	19.8	19.8
Shallow 60 Seconds		0	0	<<	<<	0.4	0.4	19.8	19.8
Deep 5 Seconds		0	0	<<	<<	0.4	0.4	19.8	19.8
Deep 30 Seconds		0	0	<<	<<	0.4	0.4	19.8	19.8
Deep 60 Seconds		0	0	<<	<<	0.4	0.4	19.8	19.8

Remarks: DTW Dry

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Circulated Gas Monitoring

Monitoring Point:	BHA01	**Date:**	08/02/2018	**Time of Test:**	1337		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	20.2
ATM Pressure:	1016 mb	**Weather:**	Drizzle	**Temp °C:**	6.5		
Relative Pressure:	-90.81 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.9		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	8.49	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1016	0.0	0.0	0.0	0.0	2.0	0.8	20.2	17.1
Shallow 30 Seconds	1016	0.0	0.0	0.0	0.0	3.2	2.8	16.6	16.6
Shallow 60 Seconds	1016	0.0	0.0	0.0	0.0	3.3	3.0	16.5	16.5
Deep 5 Seconds	1016	0.0	0.0	0.0	0.0	3.7	3.3	16.5	16.2
Deep 30 Seconds	1015	0.0	0.0	0.0	0.0	6.9	6.3	13.7	13.7
Deep 60 Seconds	1015	0.0	0.0	0.0	0.0	6.9	6.9	13.3	13.2
Circulated 1 Munute	1015	0.0	0.0	0.0	0.0	6.8	6.8	13.3	13.2
Circulated 2 Munute	1015	0.0	0.0	0.0	0.0	6.7	6.7	13.2	13.2
Circulated 3 Munute	1015	0.0	0.0	0.0	0.0	6.5	6.5	13.2	13.2
Circulated 4 Munute	1015	0.0	0.0	0.0	0.0	6.5	6.5	13.3	13.3
Circulated 5 Munute	1015	0.0	0.0	0.0	0.0	6.5	6.4	13.4	13.3
Circulated 6 Munute	1015	0.0	0.0	0.0	0.0	6.4	6.4	13.4	13.4
Circulated 7 Munute	1015	0.0	0.0	0.0	0.0	6.3	6.3	13.5	13.5
Circulated 8 Munute	1014	0.0	0.0	0.0	0.0	6.3	6.2	13.5	13.5
Circulated 9 Munute	1014	0.0	0.0	0.0	0.0	6.2	6.1	13.6	13.6
Circulated 10 Munute	1014	0.0	0.0	0.0	0.0	6.1	6.0	13.7	13.7
Shallow 5 Seconds	1014	0.0	0.0	0.0	0.0	5.9	5.9	13.8	13.8
Shallow 30 Seconds	1014	0.0	0.0	0.0	0.0	4.7	4.7	15.8	15.8
Shallow 60 Seconds	1014	0.0	0.0	0.0	0.0	5.6	5.6	14.3	14.3
Deep 5 Seconds	1014	0.0	0.0	0.0	0.0	6.0	6.0	13.7	13.7
Deep 30 Seconds	1014	0.0	0.0	0.0	0.0	5.9	5.9	13.7	13.7
Deep 60 Seconds	1014	0.0	0.0	0.0	0.0	5.9	5.9	13.7	13.7

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA01a	**Date:**	08/02/2018	**Time of Test:**	1337
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 20.2
ATM Pressure:	1013 mb	**Weather:**	Drizzle	**Temp °C:**	6.5
Relative Pressure:	-90.81 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	n/a
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	2.6	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA01	**Date:**	08/02/2018	**Time of Test:**	1337		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	20.2
ATM Pressure:	1016 mb	**Weather:**	Drizzle	**Temp °C:**	6.5		
Relative Pressure:	-90.81 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.9		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	8.49	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1016	0.0	0.0	0.0	0.0	2.0	0.8	20.2	17.1
Shallow 30 Seconds	1016	0.0	0.0	0.0	0.0	3.2	2.8	16.6	16.6
Shallow 60 Seconds	1016	0.0	0.0	0.0	0.0	3.3	3.0	16.5	16.5
Deep 5 Seconds	1016	0.0	0.0	0.0	0.0	3.7	3.3	16.5	16.2
Deep 30 Seconds	1015	0.0	0.0	0.0	0.0	6.9	6.3	13.7	13.7
Deep 60 Seconds	1015	0.0	0.0	0.0	0.0	6.9	6.9	13.3	13.2
Circulated 1 Munute	1015	0.0	0.0	0.0	0.0	6.8	6.8	13.3	13.2
Circulated 2 Munute	1015	0.0	0.0	0.0	0.0	6.7	6.7	13.2	13.2
Circulated 3 Munute	1015	0.0	0.0	0.0	0.0	6.5	6.5	13.2	13.2
Circulated 4 Munute	1015	0.0	0.0	0.0	0.0	6.5	6.5	13.3	13.3
Circulated 5 Munute	1015	0.0	0.0	0.0	0.0	6.5	6.4	13.4	13.3
Circulated 6 Munute	1015	0.0	0.0	0.0	0.0	6.4	6.4	13.4	13.4
Circulated 7 Munute	1015	0.0	0.0	0.0	0.0	6.3	6.3	13.5	13.5
Circulated 8 Munute	1014	0.0	0.0	0.0	0.0	6.3	6.2	13.5	13.5
Circulated 9 Munute	1014	0.0	0.0	0.0	0.0	6.2	6.1	13.6	13.6
Circulated 10 Munute	1014	0.0	0.0	0.0	0.0	6.1	6.0	13.7	13.7
Shallow 5 Seconds	1014	0.0	0.0	0.0	0.0	5.9	5.9	13.8	13.8
Shallow 30 Seconds	1014	0.0	0.0	0.0	0.0	4.7	4.7	15.8	15.8
Shallow 60 Seconds	1014	0.0	0.0	0.0	0.0	5.6	5.6	14.3	14.3
Deep 5 Seconds	1014	0.0	0.0	0.0	0.0	6.0	6.0	13.7	13.7
Deep 30 Seconds	1014	0.0	0.0	0.0	0.0	5.9	5.9	13.7	13.7
Deep 60 Seconds	1014	0.0	0.0	0.0	0.0	5.9	5.9	13.7	13.7

Remarks:

Circulated Gas Monitoring

Monitoring Point:	BHA02	**Date:**	08/02/2018	**Time of Test:**	1416
Ambient Gas Concentration %:		**CH4:** 0.0	**CO2:** 0.1	**O2:**	20.2
ATM Pressure:	1013 mb	**Weather:**	Drizzle	**Temp °C:**	6.5
Relative Pressure:	-90.83 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.9
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	9.14	**Groundwater Depth (mbgl):**	8.98		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1013	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.0
Shallow 30 Seconds	1013	0.0	0.0	0.0	0.0	2.9	2.9	18.4	17.4
Shallow 60 Seconds	1013	0.0	0.0	0.0	0.0	2.9	2.9	17.8	17.9
Deep 5 Seconds	1013	0.0	0.0	0.0	0.0	2.8	2.8	17.3	17.3
Deep 30 Seconds	1013	0.0	0.0	0.0	0.0	2.8	2.8	17.3	17.2
Deep 60 Seconds	1013	0.0	0.0	0.0	0.0	6.9	2.9	17.2	17.2
Circulated 1 Munute	1013	0.0	0.0	0.0	0.0	6.8	6.8	17.2	17.2
Circulated 2 Munute	1013	0.0	0.0	0.0	0.0	6.7	6.7	17.1	17.1
Circulated 3 Munute	1013	0.0	0.0	0.0	0.0	6.5	6.5	17.1	17.1
Circulated 4 Munute	1013	0.0	0.0	0.0	0.0	6.5	6.5	17.1	17.1
Circulated 5 Munute	1013	0.0	0.0	0.0	0.0	6.5	6.4	17.1	17.1
Circulated 6 Munute	1013	0.0	0.0	0.0	0.0	6.4	6.4	17.1	17.1
Circulated 7 Munute	1013	0.0	0.0	0.0	0.0	6.3	6.3	17.1	17.1
Circulated 8 Munute	1013	0.0	0.0	0.0	0.0	6.3	6.2	17.1	17.1
Circulated 9 Munute	1013	0.0	0.0	0.0	0.0	6.2	6.1	17.1	17.1
Circulated 10 Munute	1012	0.0	0.0	0.0	0.0	6.1	6.0	17.2	17.2
Shallow 5 Seconds	1012	0.0	0.0	0.0	0.0	5.9	5.9	20.7	20.4
Shallow 30 Seconds	1012	0.0	0.0	0.0	0.0	4.7	4.7	18.2	17.4
Shallow 60 Seconds	1012	0.0	0.0	0.0	0.0	5.6	5.6	17.2	17.2
Deep 5 Seconds	1012	0.0	0.0	0.0	0.0	6.0	6.0	17.2	17.8
Deep 30 Seconds	1012	0.0	0.0	0.0	0.0	5.9	5.9	17.2	17.2
Deep 60 Seconds	1012	0.0	0.0	0.0	0.0	5.9	5.9	17.2	17.1

Remarks:

Circulated Gas Monitoring

Monitoring Point:	**BHA03**	**Date:**	**08/02/2018**	**Time of Test:**	**1450**
Ambient Gas Concentration %:		**CH4:**	**0.0**	**CO2:**	**0.1**
O2:	**20.2**				
ATM Pressure:	**1011 mb**	**Weather:**	**Heavy Rain**	**Temp °C:**	**6.0**
Relative Pressure:	**-90.8 mb**	**Operator:**	**Ian Stephenson**	**Flow (l/hr):**	**1.8**
Monitoring Equipment:	**GA2000**	**Calibration Date:**	**31/01/2018**		
Well depth (mbgl):	**1.9**	**Groundwater Depth (mbgl):**	**Absent**		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1011	0.1	0.1	0.0	0.0	0.1	0.1	20.2	20.2
Shallow 30 Seconds	1011	0.1	0.1	0.0	0.0	0.2	0.1	21.3	21.3
Shallow 60 Seconds	1011	0.1	0.1	0.0	0.0	0.1	0.1	21.3	21.3
Deep 5 Seconds	1011	0.1	0.1	0.0	0.0	0.7	0.7	20.3	20.2
Deep 30 Seconds	1011	0.1	0.1	0.0	0.0	0.7	0.7	20.2	20.2
Deep 60 Seconds	1011	0.1	0.1	0.0	0.0	0.6	0.6	20.1	20.1
Circulated 1 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.5	20.5
Circulated 2 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.5	20.5
Circulated 3 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.5	20.5
Circulated 4 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.5	20.5
Circulated 5 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.5	20.5
Circulated 6 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.5	20.5
Circulated 7 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Circulated 8 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Circulated 9 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Circulated 10 Munute	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Shallow 5 Seconds	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Shallow 30 Seconds	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Shallow 60 Seconds	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Deep 5 Seconds	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Deep 30 Seconds	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6
Deep 60 Seconds	1010	0.1	0.1	0.0	0.0	0.4	0.4	20.6	20.6

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA03a	**Date:**	08/02/2018	**Time of Test:**	1450
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1
O2:	20.2				
ATM Pressure:	1011 mb	**Weather:**	Heavy Rain	**Temp °C:**	6.0
Relative Pressure:	-90.8 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.84	**Groundwater Depth (mbgl):**	8.8		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA06	**Date:**	08/02/2018	**Time of Test:**	1637
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 20.2
ATM Pressure:	1008 mb	**Weather:**	Heavy Rain	**Temp °C:**	5.5
Relative Pressure:	-90.71 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.3	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	19.6	19.4
Shallow 30 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	19.4	19.3
Shallow 60 Seconds	1008	0.0	0.0	0.0	0.0	0.0	0.0	19.3	19.3
Deep 5 Seconds	1008	0.0	0.0	0.0	0.0	0.8	0.6	20.1	20.0
Deep 30 Seconds	1008	0.0	0.0	0.0	0.0	0.6	0.6	20.0	20.0
Deep 60 Seconds	1008	0.0	0.0	0.0	0.0	0.6	0.6	19.9	19.9
Circulated 1 Munute	1008	0.0	0.0	0.0	0.0	0.6	0.5	19.9	19.7
Circulated 2 Munute	1008	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 3 Munute	1008	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 4 Munute	1008	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 5 Munute	1008	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 6 Munute	1007	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 7 Munute	1007	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 8 Munute	1007	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 9 Munute	1007	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 10 Munute	1007	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Shallow 5 Seconds	1007	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Shallow 30 Seconds	1007	0.0	0.0	0.0	0.0	0.3	0.2	19.7	19.7
Shallow 60 Seconds	1007	0.0	0.0	0.0	0.0	0.2	0.2	19.7	19.7
Deep 5 Seconds	1007	0.0	0.0	0.0	0.0	0.5	0.4	19.7	19.7
Deep 30 Seconds	1006	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Deep 60 Seconds	1006	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA07	**Date:**	08/02/2018	**Time of Test:**	1710
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 20.2
ATM Pressure:	1005 mb	**Weather:**	Drizzle	**Temp °C:**	5.5
Relative Pressure:	-90.69 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	2.2	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.2	20.2
Shallow 30 Seconds	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.3	20.1
Shallow 60 Seconds	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Deep 5 Seconds	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Deep 30 Seconds	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Deep 60 Seconds	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 1 Munute	1005	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 2 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 3 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 4 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 5 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 6 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 7 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 8 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 9 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Circulated 10 Munute	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Shallow 5 Seconds	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Shallow 30 Seconds	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Shallow 60 Seconds	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Deep 5 Seconds	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Deep 30 Seconds	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1
Deep 60 Seconds	1004	0.0	0.0	0.0	0.0	0.1	0.1	20.1	20.1

Remarks: Borehole slotted to surface. Gas concentrations are representative of ambient atmospheric conditions.

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	SA07	**Date:**	08/02/2018	**Time of Test:**	1608
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 20.2
ATM Pressure:	1011 mb	**Weather:**	Heavy Rain	**Temp °C:**	6.0
Relative Pressure:	-90.73 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	12.28	**Groundwater Depth (mbgl):**	8.78		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1011	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1011	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1011	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 5 Seconds	1011	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	1011	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1011	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 1 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 2 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 3 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 4 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 5 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 6 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 7 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 8 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 9 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 10 Munute	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 5 Seconds	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 30 Seconds	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 60 Seconds	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 5 Seconds	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 30 Seconds	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 60 Seconds	1010	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7

Remarks:

Circulated Gas Monitoring

Monitoring Point:	**BHA08a**	**Date:**	**08/02/2018**	**Time of Test:**	**1533**
Ambient Gas Concentration %:		**CH4:**	**0.0**	**CO2:**	**0.1**
O2:	**20.2**				
ATM Pressure:	**1009 mb**	**Weather:**	**Drizzle**	**Temp °C:**	**5.5**
Relative Pressure:	**-90.73 mb**	**Operator:**	**Ian Stephenson**	**Flow (l/hr):**	**1.8**
Monitoring Equipment:	**GA2000**	**Calibration Date:**	**31/01/2018**		
Well depth (mbgl):	**5.0**	**Groundwater Depth (mbgl):**	**Absent**		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 5 Seconds	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 1 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 2 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 3 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 4 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 5 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 6 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 7 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 8 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 9 Munute	1009	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 10 Munute	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 5 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 30 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 60 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 5 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 30 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 60 Seconds	1008	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA01	**Date:**	20/02/2018	**Time of Test:**	1418		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.5
ATM Pressure:	1025 mb	**Weather:**	Sunny	**Temp °C:**	8.5		
Relative Pressure:	-90.69 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.5		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	8.49	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.8	0.8	20.2	20.2
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	2.4	2.4	18.0	18.0
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	2.5	2.5	17.9	17.9
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	2.4	2.4	17.9	17.9
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	4.4	4.4	15.9	15.9
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	4.4	4.4	15.9	15.9
Circulated 1 Munute	1025	0.0	0.0	0.0	0.0	4.2	4.2	16.3	16.1
Circulated 2 Munute	1025	0.0	0.0	0.0	0.0	4.2	3.9	16.6	16.3
Circulated 3 Munute	1025	0.0	0.0	0.0	0.0	3.9	3.6	16.8	16.6
Circulated 4 Munute	1025	0.0	0.0	0.0	0.0	3.6	3.4	17.0	16.8
Circulated 5 Munute	1025	0.0	0.0	0.0	0.0	3.4	3.3	17.2	17.0
Circulated 6 Munute	1025	0.0	0.0	0.0	0.0	3.3	3.1	17.4	17.2
Circulated 7 Munute	1025	0.0	0.0	0.0	0.0	3.1	2.9	17.5	17.4
Circulated 8 Munute	1025	0.0	0.0	0.0	0.0	2.9	2.9	17.6	17.5
Circulated 9 Munute	1025	0.0	0.0	0.0	0.0	2.9	2.8	17.6	17.6
Circulated 10 Munute	1025	0.0	0.0	0.0	0.0	2.8	2.8	17.6	17.6
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	2.7	2.7	20.6	17.7
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	2.7	0.7	20.9	20.6
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.7	0.6	20.9	20.9
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	2.8	2.8	17.6	17.6
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	2.8	2.8	17.7	17.6
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	2.8	2.7	17.7	17.7

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA01a	**Date:**	20/02/2018	**Time of Test:**	1418		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.5
ATM Pressure:	1025 mb	**Weather:**	Sunny	**Temp °C:**	8.5		
Relative Pressure:	-90.81 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	n/a		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	2.6	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA02	**Date:**	20/02/2018	**Time of Test:**	1351
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 21.6
ATM Pressure:	1024	**Weather:**	Sunny	**Temp °C:**	9
Relative Pressure:	-90.72 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.6
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	9.14	**Groundwater Depth (mbgl):**	8.93		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1024	0.0	0.0	0.0	0.0	2.0	1.5	20.5	20.5
Shallow 30 Seconds	1024	0.0	0.0	0.0	0.0	2.4	2.4	18.0	18.0
Shallow 60 Seconds	1024	0.0	0.0	0.0	0.0	2.4	2.4	17.6	17.5
Deep 5 Seconds	1024	0.0	0.0	0.0	0.0	2.4	2.4	17.6	17.6
Deep 30 Seconds	1024	0.0	0.0	0.0	0.0	2.4	2.4	17.5	17.5
Deep 60 Seconds	1024	0.0	0.0	0.0	0.0	2.4	2.4	17.5	17.5
Circulated 1 Munute	1024	0.0	0.0	0.0	0.0	2.3	2.3	19.4	19.2
Circulated 2 Munute	1024	0.0	0.0	0.0	0.0	2.3	1.3	19.4	19.4
Circulated 3 Munute	1024	0.0	0.0	0.0	0.0	1.3	1.3	19.4	19.4
Circulated 4 Munute	1024	0.0	0.0	0.0	0.0	1.4	1.4	19.4	19.3
Circulated 5 Munute	1024	0.0	0.0	0.0	0.0	1.4	1.4	19.3	19.3
Circulated 6 Munute	1024	0.0	0.0	0.0	0.0	1.4	1.4	19.3	19.2
Circulated 7 Munute	1025	0.0	0.0	0.0	0.0	1.4	1.4	19.2	19.2
Circulated 8 Munute	1025	0.0	0.0	0.0	0.0	1.4	1.4	19.2	19.2
Circulated 9 Munute	1025	0.0	0.0	0.0	0.0	1.5	1.5	19.2	19.2
Circulated 10 Munute	1025	0.0	0.0	0.0	0.0	1.5	1.5	19.2	19.1
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	1.0	1.0	20.2	20.0
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.8	0.7	20.4	20.4
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.7	0.7	20.5	20.5
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	1.5	1.5	19.1	19.1
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	1.5	1.5	19.3	19.1
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	1.5	1.3	19.3	19.3

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA03	**Date:**	22/02/2018	**Time of Test:**	1249
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 21.3
ATM Pressure:	1025 mb	**Weather:**	Sunny	**Temp °C:**	9.0
Relative Pressure:	-90.74 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.7
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	1.9	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.3
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.3
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.1
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.0
Circulated 1 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Circulated 2 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Circulated 3 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 4 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 5 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.1
Circulated 6 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 7 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 8 Munute	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 9 Munute	1025	0.1	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 10 Munute	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 5 Seconds	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.3	21.2
Shallow 30 Seconds	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 60 Seconds	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.4	21.4
Deep 5 Seconds	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.2	21.2
Deep 30 Seconds	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.2	21.2
Deep 60 Seconds	1025	0.1	0.1	0.0	0.0	0.1	0.1	21.2	21.2

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	**BHA03a**	**Date:**	**22/02/2018**	**Time of Test:**	**1249**		
Ambient Gas Concentration %:		**CH4:**	**0.0**	**CO2:**	**0.1**	**O2:**	**21.3**
ATM Pressure:	**1025 mb**	**Weather:**	**Sunny**	**Temp °C:**	**9.0**		
Relative Pressure:	**-90.74 mb**	**Operator:**	**Ian Stephenson**	**Flow (l/hr):**	**n / a**		
Monitoring Equipment:	**GA2000**	**Calibration Date:**	**31/01/2018**				
Well depth (mbgl):	**8.84**	**Groundwater Depth (mbgl):**	**8.83**				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA06	**Date:**	22/02/2018	**Time of Test:**	1215
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1
ATM Pressure:	1026 mb	**Weather:**	Sunny	**Temp °C:**	5.5
Relative Pressure:	-90.8 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.3	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1026	0.0	0.0	0.0	0.0	0.2	0.1	21.2	21.2
Shallow 30 Seconds	1026	0.0	0.0	0.0	0.0	0.5	0.2	21.2	21.1
Shallow 60 Seconds	1026	0.0	0.0	0.0	0.0	0.5	0.5	21.1	20.9
Deep 5 Seconds	1026	0.0	0.0	0.0	0.0	0.5	0.5	21.0	20.2
Deep 30 Seconds	1026	0.0	0.0	0.0	0.0	0.5	0.1	21.0	21.0
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 1 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.7	20.7
Circulated 2 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.7	20.7
Circulated 3 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.7	20.7
Circulated 4 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.7	20.7
Circulated 5 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.8	20.7
Circulated 6 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.8	20.8
Circulated 7 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.8
Circulated 8 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 9 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 10 Munute	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.5	0.5	21.0	20.9
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	0.5	0.3	21.1	21.1
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.3	0.3	21.1	21.1

Remarks:

Circulated Gas Monitoring

Monitoring Point:	**BHA07**	**Date:**	**22/02/2018**	**Time of Test:**	**1501**		
Ambient Gas Concentration %:		**CH4:**	**0.0**	**CO2:**	**0.1**	**O2:**	**21.5**
ATM Pressure:	**1025 mb**	**Weather:**	**Sunny**	**Temp °C:**	**8.5**		
Relative Pressure:	**-90.75 mb**	**Operator:**	**Ian Stephenson**	**Flow (l/hr):**	**1.7**		
Monitoring Equipment:	**GA2000**	**Calibration Date:**	**31/01/2018**				
Well depth (mbgl):	**2.2**	**Groundwater Depth (mbgl):**	**Absent**				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.5
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 1 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 2 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 3 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 4 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 5 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 6 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 7 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 8 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 9 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 10 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6

Remarks: Borehole slotted to surface. Gas concentrations are representative of ambient atmospheric conditions.

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Circulated Gas Monitoring

Monitoring Point:	SA07	**Date:**	22/02/2018	**Time of Test:**	1439		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.5
ATM Pressure:	1024 mb	**Weather:**	Sunny	**Temp °C:**	8.5		
Relative Pressure:	-90.69 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.5		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	12.28	**Groundwater Depth (mbgl):**	8.68				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.5
Shallow 30 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 60 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 5 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 30 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 60 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 1 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 2 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 3 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 4 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 5 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 6 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 7 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 8 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 9 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Circulated 10 Munute	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 5 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.6
Shallow 30 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 60 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 5 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.6
Deep 30 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Deep 60 Seconds	1024	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7

Remarks:

Circulated Gas Monitoring

Monitoring Point:	BHA08a	**Date:**	22/02/2018	**Time of Test:**	1312		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.3
ATM Pressure:	1025	**Weather:**	Sunny	**Temp °C:**	8.0		
Relative Pressure:	-90.75 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.6		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	5.0	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.6
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.4
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 1 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 2 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 3 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 4 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 5 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 6 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 7 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 8 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 9 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 10 Munute	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 5 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 30 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Deep 60 Seconds	1025	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6

Remarks:

Circulated Gas Monitoring

Monitoring Point:	BHA01	**Date:**	07/03/2018	**Time of Test:**	1216
Ambient Gas Concentration %:		**CH4:** 0.0	**CO2:** 0.1	**O2:**	21.0
ATM Pressure:	997 mb	**Weather:**	Overcast	**Temp °C:**	8
Relative Pressure:	-90.87 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	2.2
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.49	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	997	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.9
Shallow 30 Seconds	997	0.0	0.0	0.0	0.0	4.0	4.0	17.8	17.8
Shallow 60 Seconds	997	0.0	0.0	0.0	0.0	4.0	4.0	16.6	16.6
Deep 5 Seconds	997	0.0	0.0	0.0	0.0	5.8	4.0	16.5	16.5
Deep 30 Seconds	997	0.0	0.0	0.0	0.0	5.9	5.8	15.9	15.9
Deep 60 Seconds	997	0.0	0.0	0.0	0.0	5.8	5.8	15.9	15.9
Circulated 1 Munute	997	0.0	0.0	0.0	0.0	5.5	5.5	16.0	15.9
Circulated 2 Munute	997	0.0	0.0	0.0	0.0	5.5	5.3	16.0	16.0
Circulated 3 Munute	997	0.0	0.0	0.0	0.0	5.3	5.0	16.1	16.0
Circulated 4 Munute	997	0.0	0.0	0.0	0.0	5.0	4.8	16.1	16.1
Circulated 5 Munute	997	0.0	0.0	0.0	0.0	4.8	4.6	16.2	16.1
Circulated 6 Munute	996	0.0	0.0	0.0	0.0	4.6	4.4	16.2	16.2
Circulated 7 Munute	996	0.0	0.0	0.0	0.0	4.4	4.4	16.2	16.2
Circulated 8 Munute	996	0.0	0.0	0.0	0.0	4.4	4.3	16.3	16.2
Circulated 9 Munute	996	0.0	0.0	0.0	0.0	4.3	4.3	16.3	16.3
Circulated 10 Munute	996	0.0	0.0	0.0	0.0	4.3	4.3	16.3	16.3
Shallow 5 Seconds	996	0.0	0.0	0.0	0.0	4.2	4.2	16.4	16.3
Shallow 30 Seconds	996	0.0	0.0	0.0	0.0	4.2	4.2	16.4	16.4
Shallow 60 Seconds	996	0.0	0.0	0.0	0.0	4.3	4.3	16.3	16.3
Deep 5 Seconds	996	0.0	0.0	0.0	0.0	4.3	4.3	16.3	16.3
Deep 30 Seconds	996	0.0	0.0	0.0	0.0	4.6	4.6	16.3	16.3
Deep 60 Seconds	996	0.0	0.0	0.0	0.0	4.6	4.5	16.3	16.3

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA01a	**Date:**	07/03/2018	**Time of Test:**	1216		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.0
ATM Pressure:	997 mb	**Weather:**	Overcast	**Temp °C:**	8		
Relative Pressure:	-90.87 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	n/a		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	2.6	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA02	**Date:**	07/03/2018	**Time of Test:**	1241
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 20.9
ATM Pressure:	996	**Weather:**	Overcast	**Temp °C:**	8
Relative Pressure:	-90.78 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	9.14	**Groundwater Depth (mbgl):**	8.95		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	996	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.9
Shallow 30 Seconds	996	0.0	0.0	0.0	0.0	4.0	4.0	16.1	16.1
Shallow 60 Seconds	996	0.0	0.0	0.0	0.0	4.0	4.0	15.1	15.0
Deep 5 Seconds	996	0.0	0.0	0.0	0.0	3.9	3.9	15.1	15.1
Deep 30 Seconds	996	0.0	0.0	0.0	0.0	3.8	3.8	15.1	15.1
Deep 60 Seconds	996	0.0	0.0	0.0	0.0	3.8	3.8	15.1	15.1
Circulated 1 Munute	996	0.0	0.0	0.0	0.0	4.0	4.0	14.9	14.8
Circulated 2 Munute	996	0.0	0.0	0.0	0.0	4.0	4.0	14.9	14.9
Circulated 3 Munute	996	0.0	0.0	0.0	0.0	4.0	4.0	14.9	14.9
Circulated 4 Munute	996	0.0	0.0	0.0	0.0	4.0	3.9	14.9	14.9
Circulated 5 Munute	996	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Circulated 6 Munute	996	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Circulated 7 Munute	996	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Circulated 8 Munute	996	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Circulated 9 Munute	996	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Circulated 10 Munute	996	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Shallow 5 Seconds	995	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Shallow 30 Seconds	995	0.0	0.0	0.0	0.0	3.9	3.8	15.1	15.1
Shallow 60 Seconds	995	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Deep 5 Seconds	995	0.0	0.0	0.0	0.0	3.9	3.9	14.9	14.9
Deep 30 Seconds	995	0.0	0.0	0.0	0.0	3.9	3.5	15.5	15.5
Deep 60 Seconds	995	0.0	0.0	0.0	0.0	3.8	3.8	15.1	15.1

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA03	**Date:**	07/03/2018	**Time of Test:**	1407
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 21.4
ATM Pressure:	994 mb	**Weather:**	Overcast	**Temp °C:**	8.0
Relative Pressure:	-90.72 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.4
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	1.9	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 30 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Shallow 60 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.9
Deep 5 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.9
Deep 30 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Deep 60 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Circulated 1 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 2 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 3 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.1
Circulated 4 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 5 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 6 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.2
Circulated 7 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 8 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 9 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 10 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Shallow 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Shallow 30 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 60 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA03a	**Date:**	07/03/2018	**Time of Test:**	1407
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 21.4
ATM Pressure:	994 mb	**Weather:**	Overcast	**Temp °C:**	8.0
Relative Pressure:	-90.72 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	n / a
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.84	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA06	**Date:**	07/03/2018	**Time of Test:**	1302
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.1
ATM Pressure:	995 mb	**Weather:**	Overcast	**Temp °C:**	8.0
Relative Pressure:	-90.75 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.7
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.3	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	995	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 30 Seconds	995	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Shallow 60 Seconds	995	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Deep 5 Seconds	995	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Deep 30 Seconds	995	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Deep 60 Seconds	995	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Circulated 1 Munute	995	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 2 Munute	995	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 3 Munute	995	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 4 Munute	995	0.0	0.0	0.0	0.0	0.5	0.4	21.0	21.0
Circulated 5 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	21.0	21.0
Circulated 6 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	21.0	21.0
Circulated 7 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	21.1	21.0
Circulated 8 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	21.1	21.1
Circulated 9 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	21.1	21.1
Circulated 10 Munute	995	0.0	0.0	0.0	0.0	0.4	0.4	21.1	21.1
Shallow 5 Seconds	995	0.0	0.0	0.0	0.0	0.2	0.2	21.4	21.4
Shallow 30 Seconds	995	0.0	0.0	0.0	0.0	0.2	0.2	21.4	21.4
Shallow 60 Seconds	995	0.0	0.0	0.0	0.0	0.2	0.2	21.4	21.4
Deep 5 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	21.1	21.1
Deep 30 Seconds	995	0.0	0.0	0.0	0.0	0.4	0.4	21.1	21.1
Deep 60 Seconds	995	0.0	0.0	0.0	0.0	0.5	0.5	21.1	21.1

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA07	**Date:**	07/03/2018	**Time of Test:**	1423		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.3
ATM Pressure:	993 mb	**Weather:**	Sunny	**Temp °C:**	8.5		
Relative Pressure:	-90.68 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	2.2	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 30 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 60 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 60 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 1 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 2 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 3 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 4 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 5 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 6 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 7 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 8 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 9 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 10 Munute	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 30 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 60 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 60 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4

Remarks: Borehole slotted to surface. Gas concentrations are representative of ambient atmospheric conditions.

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	SA07	**Date:**	07/03/2018	**Time of Test:**	1456
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 21.4
ATM Pressure:	993 mb	**Weather:**	Overcast	**Temp °C:**	8.5
Relative Pressure:	-90.68 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.5
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	12.28	**Groundwater Depth (mbgl):**	8.74		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	993	0.0	0.0	0.0	0.0	0.1	0.1	21.7	21.7
Shallow 30 Seconds	993	0.0	0.0	0.0	0.0	1.8	1.8	17.6	17.6
Shallow 60 Seconds	993	0.0	0.0	0.0	0.0	1.8	1.8	17.3	17.3
Deep 5 Seconds	992	0.0	0.0	0.0	0.0	1.8	1.8	17.3	17.3
Deep 30 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	17.1	17.1
Deep 60 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9
Circulated 1 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9
Circulated 2 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9
Circulated 3 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9
Circulated 4 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9
Circulated 5 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	16.9
Circulated 6 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Circulated 7 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Circulated 8 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Circulated 9 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Circulated 10 Munute	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Shallow 5 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9
Shallow 30 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Shallow 60 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Deep 5 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Deep 30 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	17.0	17.0
Deep 60 Seconds	992	0.0	0.0	0.0	0.0	1.9	1.9	16.9	16.9

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA08a	**Date:**	07/03/2018	**Time of Test:**	1329		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.2
ATM Pressure:	994	**Weather:**	Overcast	**Temp °C:**	8.5		
Relative Pressure:	-90.72 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.5		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	5.0	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 30 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Shallow 60 Seconds	994	0.0	0.0	0.0	0.0	0.2	0.2	21.0	21.0
Deep 5 Seconds	994	0.0	0.0	0.0	0.0	0.2	0.2	21.0	21.0
Deep 30 Seconds	994	0.0	0.0	0.0	0.0	0.2	0.2	21.0	21.0
Deep 60 Seconds	994	0.0	0.0	0.0	0.0	0.3	0.3	20.9	20.9
Circulated 1 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.0	20.9
Circulated 2 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Circulated 3 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Circulated 4 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.0	21.0
Circulated 5 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 6 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 7 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Circulated 8 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.1
Circulated 9 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 10 Munute	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 5 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 30 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 60 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Deep 5 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Deep 30 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Deep 60 Seconds	994	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA01	**Date:**	21/03/2018	**Time of Test:**	1205		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	20.5
ATM Pressure:	1033 mb	**Weather:**	Sunny Spells	**Temp °C:**	7		
Relative Pressure:	-90.75 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.8		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	8.49	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1033	0.0	0.0	0.0	0.0	0.1	0.1	20.5	20.5
Shallow 30 Seconds	1033	0.0	0.0	0.0	0.0	4.0	4.0	16.9	16.9
Shallow 60 Seconds	1033	0.0	0.0	0.0	0.0	4.2	4.2	16.3	16.3
Deep 5 Seconds	1033	0.0	0.0	0.0	0.0	2.4	5.6	16.2	16.2
Deep 30 Seconds	1033	0.0	0.0	0.0	0.0	5.6	4.3	16.2	16.1
Deep 60 Seconds	1033	0.0	0.0	0.0	0.0	4.3	4.3	16.2	16.2
Circulated 1 Munute	1033	0.0	0.0	0.0	0.0	4.3	4.3	16.4	16.3
Circulated 2 Munute	1033	0.0	0.0	0.0	0.0	4.3	4.3	16.4	16.4
Circulated 3 Munute	1033	0.0	0.0	0.0	0.0	4.3	4.2	16.5	16.4
Circulated 4 Munute	1033	0.0	0.0	0.0	0.0	4.2	4.2	16.6	16.5
Circulated 5 Munute	1033	0.0	0.0	0.0	0.0	4.2	4.2	16.6	16.6
Circulated 6 Munute	1033	0.0	0.0	0.0	0.0	4.2	4.2	16.7	16.6
Circulated 7 Munute	1033	0.0	0.0	0.0	0.0	4.2	4.2	16.7	16.7
Circulated 8 Munute	1033	0.0	0.0	0.0	0.0	4.2	4.2	16.7	16.7
Circulated 9 Munute	1033	0.0	0.0	0.0	0.0	4.2	4.1	16.8	16.7
Circulated 10 Munute	1033	0.0	0.0	0.0	0.0	4.1	4.1	16.8	16.8
Shallow 5 Seconds	1033	0.0	0.0	0.0	0.0	4.1	4.1	17.3	16.8
Shallow 30 Seconds	1033	0.0	0.0	0.0	0.0	4.1	3.6	17.3	17.3
Shallow 60 Seconds	1033	0.0	0.0	0.0	0.0	3.7	3.7	17.2	17.2
Deep 5 Seconds	1032	0.0	0.0	0.0	0.0	3.9	3.9	17.0	17.0
Deep 30 Seconds	1032	0.0	0.0	0.0	0.0	4.1	4.1	17.0	17.0
Deep 60 Seconds	1032	0.0	0.0	0.0	0.0	4.1	4.1	16.8	16.8

Remarks:

Circulated Gas Monitoring

Monitoring Point:	BHA01a	**Date:**	21/03/2018	**Time of Test:**	1205		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	20.5
ATM Pressure:	1033 mb	**Weather:**	Sunny Spells	**Temp °C:**	7		
Relative Pressure:	-90.75 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	n/a		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	2.6	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA02	**Date:**	21/03/2018	**Time of Test:**	1140
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1
O2:	21.2				
ATM Pressure:	1034	**Weather:**	Sunny Spells	**Temp °C:**	7
Relative Pressure:	-90.93 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	2.3
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	9.14	**Groundwater Depth (mbgl):**	8.95		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1034	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.9
Shallow 30 Seconds	1034	0.0	0.0	0.0	0.0	3.9	3.9	17.9	17.9
Shallow 60 Seconds	1034	0.0	0.0	0.0	0.0	3.9	3.9	16.9	16.9
Deep 5 Seconds	1034	0.0	0.0	0.0	0.0	3.9	3.9	16.7	16.7
Deep 30 Seconds	1034	0.0	0.0	0.0	0.0	1.5	1.5	18.0	18.0
Deep 60 Seconds	1034	0.0	0.0	0.0	0.0	0.5	0.5	19.7	19.7
Circulated 1 Munute	1034	0.0	0.0	0.0	0.0	0.3	0.3	20.4	20.4
Circulated 2 Munute	1034	0.0	0.0	0.0	0.0	0.3	0.3	20.4	20.4
Circulated 3 Munute	1034	0.0	0.0	0.0	0.0	0.3	0.3	20.4	20.3
Circulated 4 Munute	1034	0.0	0.0	0.0	0.0	0.3	0.3	20.3	20.3
Circulated 5 Munute	1034	0.0	0.0	0.0	0.0	0.4	0.3	20.3	20.3
Circulated 6 Munute	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.3	20.2
Circulated 7 Munute	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.2	20.2
Circulated 8 Munute	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.2	20.2
Circulated 9 Munute	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.2	20.2
Circulated 10 Munute	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.2	20.2
Shallow 5 Seconds	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.1	20.1
Shallow 30 Seconds	1034	0.0	0.0	0.0	0.0	0.5	0.5	20.1	20.1
Shallow 60 Seconds	1034	0.0	0.0	0.0	0.0	0.7	0.7	19.9	19.9
Deep 5 Seconds	1034	0.0	0.0	0.0	0.0	0.4	0.4	20.1	20.1
Deep 30 Seconds	1034	0.0	0.0	0.0	0.0	0.3	0.3	20.2	20.2
Deep 60 Seconds	1033	0.0	0.0	0.0	0.0	0.4	0.4	20.2	20.2

Remarks:

Circulated Gas Monitoring

Monitoring Point:	BHA03	**Date:**	21/03/2018	**Time of Test:**	1252
Ambient Gas Concentration %:		**CH4:** 0.0	**CO2:** 0.1	**O2:** 21.4	
ATM Pressure:	1032 mb	**Weather:**	Sunny Spells	**Temp °C:**	7.0
Relative Pressure:	-90.74 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.7
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	1.9	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 30 Seconds	1032	0.0	0.0	0.0	0.0	0.4	0.2	21.0	21.0
Shallow 60 Seconds	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Deep 5 Seconds	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.1	21.1
Deep 30 Seconds	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Deep 60 Seconds	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 1 Munute	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 2 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Circulated 3 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.2
Circulated 4 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 5 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 6 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 7 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 8 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 9 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Circulated 10 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.3	21.3
Shallow 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Shallow 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Deep 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.3
Deep 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA03a	**Date:**	21/03/2018	**Time of Test:**	1252		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.4
ATM Pressure:	1032 mb	**Weather:**	Sunny Spells	**Temp °C:**	7.0		
Relative Pressure:	-90.74 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	n / a		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	8.84	**Groundwater Depth (mbgl):**	8.83				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									
Circulated 1 Munute									
Circulated 2 Munute									
Circulated 3 Munute									
Circulated 4 Munute									
Circulated 5 Munute									
Circulated 6 Munute									
Circulated 7 Munute									
Circulated 8 Munute									
Circulated 9 Munute									
Circulated 10 Munute									
Shallow 5 Seconds									
Shallow 30 Seconds									
Shallow 60 Seconds									
Deep 5 Seconds									
Deep 30 Seconds									
Deep 60 Seconds									

Remarks: 19mm OD borehole - no gas bung. No gas monitoring

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	BHA06	**Date:**	22/02/2018	**Time of Test:**	1227
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:** 0.1	**O2:** 21.2
ATM Pressure:	1032 mb	**Weather:**	Sunny Spells	**Temp °C:**	7.0
Relative Pressure:	-90.79 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.9
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018		
Well depth (mbgl):	8.3	**Groundwater Depth (mbgl):**	Absent		

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1032	0.0	0.0	0.0	0.0	0.1	0.1	21.2	21.2
Shallow 30 Seconds	1032	0.0	0.0	0.0	0.0	0.3	0.3	21.1	21.1
Shallow 60 Seconds	1032	0.0	0.0	0.0	0.0	0.4	0.4	21.0	21.0
Deep 5 Seconds	1032	0.0	0.0	0.0	0.0	0.4	0.4	20.9	20.9
Deep 30 Seconds	1032	0.0	0.0	0.0	0.0	0.2	0.2	21.1	21.1
Deep 60 Seconds	1032	0.0	0.0	0.0	0.0	0.2	0.2	20.3	20.3
Circulated 1 Munute	1032	0.0	0.0	0.0	0.0	0.4	0.4	20.8	20.8
Circulated 2 Munute	1032	0.0	0.0	0.0	0.0	0.4	0.4	20.8	20.8
Circulated 3 Munute	1032	0.0	0.0	0.0	0.0	0.4	0.4	20.8	20.8
Circulated 4 Munute	1032	0.0	0.0	0.0	0.0	0.4	0.4	20.9	20.8
Circulated 5 Munute	1032	0.0	0.0	0.0	0.0	0.5	0.4	20.9	20.9
Circulated 6 Munute	1032	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 7 Munute	1032	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 8 Munute	1032	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Circulated 9 Munute	1032	0.0	0.0	0.0	0.0	0.6	0.5	20.9	20.9
Circulated 10 Munute	1032	0.0	0.0	0.0	0.0	0.6	0.6	20.9	20.9
Shallow 5 Seconds	1032	0.0	0.0	0.0	0.0	0.5	0.5	20.9	20.9
Shallow 30 Seconds	1032	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Shallow 60 Seconds	1032	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Deep 5 Seconds	1032	0.0	0.0	0.0	0.0	0.5	0.5	21.0	21.0
Deep 30 Seconds	1032	0.0	0.0	0.0	0.0	0.5	0.3	21.3	21.3
Deep 60 Seconds	1032	0.0	0.0	0.0	0.0	0.3	0.3	21.3	21.3

Remarks:

Vertase F.L.I. Limited **1730MUS - New Victoria**

Circulated Gas Monitoring

Monitoring Point:	**BHA07**	**Date:**	**22/02/2018**	**Time of Test:**		**1341**	
Ambient Gas Concentration %:		**CH4:**	**0.0**	**CO2:**	**0.1**	**O2:**	**21.4**
ATM Pressure:	**1031 mb**	**Weather:**	**Overcast**	**Temp °C:**	**7.0**		
Relative Pressure:	**-90.74 mb**	**Operator:**	**Ian Stephenson**	**Flow (l/hr):**		**1.9**	
Monitoring Equipment:	**GA2000**	**Calibration Date:**	**31/01/2018**				
Well depth (mbgl):	**2.2**	**Groundwater Depth (mbgl):**	**Absent**				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 1 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 2 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 3 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 4 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 5 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 6 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 7 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 8 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.5
Circulated 9 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Circulated 10 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.6	21.6
Shallow 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5

Remarks: Borehole slotted to surface. Gas concentrations are representative of ambient atmospheric conditions.

Circulated Gas Monitoring

Monitoring Point:	SA07	**Date:**	21/03/2018	**Time of Test:**	1404		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.5
ATM Pressure:	1031 mb	**Weather:**	Overcast	**Temp °C:**	7.0		
Relative Pressure:	-90.77 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.5		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	12.28	**Groundwater Depth (mbgl):**	8.874				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.7	18.7
Shallow 60 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.5	18.5
Deep 5 Seconds	1030	0.0	0.0	0.0	0.0	1.5	1.5	18.5	18.5
Deep 30 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.1	18.1
Deep 60 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.1	18.1
Circulated 1 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.2	18.2
Circulated 2 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.3	18.2
Circulated 3 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.3	18.3
Circulated 4 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.3	18.3
Circulated 5 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.3
Circulated 6 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Circulated 7 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Circulated 8 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Circulated 9 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Circulated 10 Munute	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Shallow 5 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.3	18.3
Shallow 30 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Shallow 60 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Deep 5 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Deep 30 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.4	18.4
Deep 60 Seconds	1030	0.0	0.0	0.0	0.0	1.4	1.4	18.3	18.3

Remarks:

Circulated Gas Monitoring

Monitoring Point:	BHA08a	**Date:**	21/03/2018	**Time of Test:**	1316		
Ambient Gas Concentration %:		**CH4:**	0.0	**CO2:**	0.1	**O2:**	21.4
ATM Pressure:	1031	**Weather:**	Overcast	**Temp °C:**	7.0		
Relative Pressure:	-90.7 mb	**Operator:**	Ian Stephenson	**Flow (l/hr):**	1.6		
Monitoring Equipment:	GA2000	**Calibration Date:**	31/01/2018				
Well depth (mbgl):	5.0	**Groundwater Depth (mbgl):**	Absent				

Time	ATM Pressure mbar	Methane %V/V		LEL %		CO2 %V/V		O2 %V/V	
		Peak	Stable	Peak	Stable	Peak	Stable	Peak	Stable
Shallow 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.6
Deep 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.4
Deep 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 1 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 2 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 3 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.4	21.4
Circulated 4 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.4
Circulated 5 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 6 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 7 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 8 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 9 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Circulated 10 Munute	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Shallow 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 5 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 30 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5
Deep 60 Seconds	1031	0.0	0.0	0.0	0.0	0.1	0.1	21.5	21.5

Remarks:

Appendix G

Groundwater Laboratory Certificates

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Analytical Report Number : 18-73987

Project / Site name:		**Samples received on:**	26/01/2018
Your job number:	1730MUS	**Samples instructed on:**	26/01/2018
Your order number:		**Analysis completed by:**	01/02/2018
Report Issue Number:	1	**Report issued on:**	01/02/2018
Samples Analysed:	1 water sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 18-73987

Lab Sample Number				895874				
Sample Reference				SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				25/01/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.9				
Sulphate as SO_4	µg/l	45	ISO 17025	258000				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	4.17				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.35				
Hardness - Total	mgCaCO3/l	1	ISO 17025	572				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	0.55				
Acenaphthylene	µg/l	0.01	ISO 17025	0.14				
Acenaphthene	µg/l	0.01	ISO 17025	0.44				
Fluorene	µg/l	0.01	ISO 17025	1.03				
Phenanthrene	µg/l	0.01	ISO 17025	2.51				
Anthracene	µg/l	0.01	ISO 17025	0.43				
Fluoranthene	µg/l	0.01	ISO 17025	1.42				
Pyrene	µg/l	0.01	ISO 17025	1.77				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.76				
Chrysene	µg/l	0.01	ISO 17025	0.86				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.71				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.25				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.57				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.24				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	0.06				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	0.35				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	12.1				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	5.6				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Calcium (dissolved)	mg/l	0.012	ISO 17025	150				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7				
Lead (dissolved)	µg/l	1	ISO 17025	1.3				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	47				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	13				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	10				

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Analytical Report Number: 18-73987

Lab Sample Number				895874				
Sample Reference				SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				25/01/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	760				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	1700				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	790				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	3300				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	75				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	66				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	14				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	150				

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 18-73987

Project / Site name:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

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

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The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number : 18-76426

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	16/02/2018
Your job number:	1730MUS	**Samples instructed on:**	16/02/2018
Your order number:		**Analysis completed by:**	21/02/2018
Report Issue Number:	1	**Report issued on:**	21/02/2018
Samples Analysed:	1 water sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-76426

Project / Site name: New Victoria Site Investigation

Lab Sample Number				910395				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				13/02/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.0				
Sulphate as SO_4	µg/l	45	ISO 17025	273000				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	14.7				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	0.69				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	0.24				
Fluorene	µg/l	0.01	ISO 17025	0.20				
Phenanthrene	µg/l	0.01	ISO 17025	0.42				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	0.18				
Pyrene	µg/l	0.01	ISO 17025	0.17				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	1.90				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	1.9				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7				
Lead (dissolved)	µg/l	1	ISO 17025	15				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	13				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.7				

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 18-76426

Project / Site name: New Victoria Site Investigation

Lab Sample Number				910395				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				13/02/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-76426

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

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

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The results included within the report are representative of the samples submitted for analysis.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH SA7		W	18-76426	910395	c	pH at 20oC in water (automated)	L099-PL	c

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

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Analytical Report Number : 18-76889

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	22/02/2018
Your job number:	1730MUS	**Samples instructed on:**	22/02/2018
Your order number:		**Analysis completed by:**	27/02/2018
Report Issue Number:	1	**Report issued on:**	27/02/2018
Samples Analysed:	1 water sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-76889

Project / Site name: New Victoria Site Investigation

Lab Sample Number				913252				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				20/02/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.8				
Sulphate as SO_4	µg/l	45	ISO 17025	269000				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	2.19				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				

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Analytical Report Number: 18-76889

Project / Site name: New Victoria Site Investigation

Lab Sample Number				913252				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				20/02/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.50				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	0.6				
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.4				
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.9				
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.3				
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 18-76889

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

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

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Analytical Report Number : 18-78619

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	12/03/2018
Your job number:	1730MUS	**Samples instructed on:**	12/03/2018
Your order number:		**Analysis completed by:**	16/03/2018
Report Issue Number:	1	**Report issued on:**	16/03/2018
Samples Analysed:	1 water sample		

Signed:

Rexona Rahman
Head of Customer Services
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-78619

Project / Site name: New Victoria Site Investigation

Lab Sample Number				922757				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				07/03/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.9				
Sulphate as SO_4	µg/l	45	ISO 17025	208000				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	2.80				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	6.17				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	4.6				
Lead (dissolved)	µg/l	0.2	ISO 17025	3.4				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.3				
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.3				
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.9				

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Analytical Report Number: 18-78619

Project / Site name: New Victoria Site Investigation

Lab Sample Number				922757				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				07/03/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 18-78619

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

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

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The results included within the report are representative of the samples submitted for analysis.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH SA7		W	18-78619	922757	c	pH at 20oC in water (automated)	L099-PL	c

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

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Analytical Report Number : 18-80224

Project / Site name:	New Victoria Site Investigation	**Samples received on:**	26/03/2018
Your job number:	1730MUS	**Samples instructed on:**	26/03/2018
Your order number:		**Analysis completed by:**	03/04/2018
Report Issue Number:	1	**Report issued on:**	03/04/2018
Samples Analysed:	1 water sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 18-80224

Project / Site name: New Victoria Site Investigation

Lab Sample Number				932296				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				21/03/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.7				
Sulphate as SO_4	µg/l	45	ISO 17025	266000				
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	7.77				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 18-80224

Project / Site name: New Victoria Site Investigation

Lab Sample Number				932296				
Sample Reference				BH SA7				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				21/03/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.66				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.1				
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.3				
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.9				
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-80224

Project / Site name: New Victoria Site Investigation

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

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

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The results included within the report are representative of the samples submitted for analysis.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH SA7		W	18-80224	932296	c	pH at 20oC in water (automated)	L099-PL	c

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

Appendix H

PAS 128:2014 Type A – Utility Verification Survey

Muse Developments Ltd

New Victoria Station, Manchester

PAS 128:2014 Type A – Utility Verification Survey

Revision 01

Friday 26th January 2018

Contaminated Land, Brownfield & Environmental Contracting

Vertase FLI

REPORT TITLE: **PAS 128:2014 Type A – Utility Verification Survey**

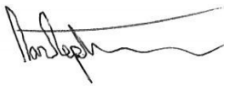
REPORT NUMBER: **1730MUS Revision 01**

CLIENT NAME: **Muse Developments Ltd**

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The findings and opinions contained in this report are based on information from a variety of sources which Vertase FLI Limited believes to be reliable. Whilst this information has been accepted in good faith Vertase FLI Limited cannot guarantee its reliability or authenticity. All potential contamination, constraints or liabilities associated with the site may not necessarily have been revealed. The potential exists for variations in soil and groundwater conditions, including contaminant concentrations, between and beyond the specific locations investigated. No liability can be accepted for such variations.

Author	**Signed**	**Date**
Ian Stephenson		26/01/18
QA Approved	**Signed**	**Date**
Claire Lilley		26/01/18

Issue 1	Revision A	

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1.0 Introduction

1.1 General

1.1.1 Vertase F.L.I. Limited (VertaseFLI) were appointed by Muse Developments Ltd (the client) to carry out an investigation into underground utilities at the proposed New Victoria development site located at Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Millgate Street, Manchester, M3 1NX (the site).

1.1.2 It is understood that the client intends to redevelop the site for a mixed use, comprising: an office space tower and two residential towers, with private resident car parking, and landscaped public open space.

1.2 Scope of Work

1.2.1 The scope of works was to undertake a verification (type A) survey in accordance with 'PAS 128:2014 – Specification for Underground Utility Detection, Verification and Location' (PAS 128).

1.2.2 Underground utilities were to be uncovered in eight trial trenches using vacuum excavation methods (see table 1.1 below).

1.2.3 In summary, the requirements of a *PAS 128* Type A survey within an open excavation include identifying:

- Depth of top utility from existing surface level;
- Nature of utility (pipe, duct, cable etc);
- Configuration of multiple utility layout;
- External diameter of utility;
- Material of utility;
- Observation of the condition of the utility;
- Prevailing ground conditions;
- Backfill materials used;
- Description of any other historical features and obstructions identified;
- Details of backfill materials.

1.2.4 *PAS 128* details data collection requirements for relevant manholes and inspection chambers adjacent to open excavations.

1.2.5 In addition to the above, two trial trenches were excavated within the main car park to identify the roof of the culverted River Irk which runs

beneath the site (see table 1.1 below). The approximate location of the river culvert is shown on drawing D1730_05 in Appendix 1.

Table 1.1.

Trial Trench Reference	Purpose of Trial Trench
TT01 & TT02	Identification of the top of river culvert
TT03 – TT10	Underground utility identification and verification

1.2.6 This report presents the factual details of the works conducted onsite by VertaseFLI only during the period Friday 10th November 2017 to Friday 15th December 2017.

1.3 Previous Work

1.3.1 Preliminary surveys of existing services have been carried out at the site, including:

- *PAS 128* type D survey – desktop utility survey report;
- *PAS 128* type B survey – detection survey conducted utilising ground penetrating radar (GPR) techniques.

1.3.2 Drawing reference SEP S11982-U (included in Appendix 2 and hereafter referred to as the 'GPR detection plan') shows the services as mapped during the GPR detection survey. Relevant existing utility plans are included in Appendix 2.

1.3.3 Further detail of previous utility identification works conducted at the site are summarised in:

- 'New Victoria Utilities Trial Hole Verification Survey Specification' for Muse Developments Ltd by Ove Arup & Partners Ltd, Issue 1 dated 13 July 2017 (Arup 2017);
- 'New Victoria Ground Investigation Report' for Muse Developments by Ove Arup & Partners Ltd, Issue 1 dated 23 May 2016 (Arup 2016);

- 'Manchester New Victoria Ground Investigation, Final Factual Report', for Muse Developments Ltd by Allied Exploration & Geotechnics Ltd, dated April 2016 (Allied 2016).

2.0 Environmental Setting

2.1 The Site

2.1.1 The site is located in Manchester city centre directly adjacent to Manchester Victoria Station and Metrolink (see drawing SK1730_06 in Appendix 1). The grid reference for the approximate centre of the site is SJ841990.

2.1.2 During the November / December 2018 site investigation and at the time of reporting, the site was a privately operated (APCOA) public pay and display car park.

2.1.3 The site is bound directly to the northwest by Manchester Victoria Station and Metrolink, followed by the Manchester Arena. To the north and east the site is bound by Cheetham Hill Road and Corporation Street followed by commercial office blocks. To the south the site is bound by the Metrolink tramlines and a hotel development (under construction), followed by the National Football Museum.

2.1.4 The site is bisected in the south by Long Millgate Street which is approximately orientated northeast - southwest. The north of site is primarily occupied by the main APCOA pay and display carpark. The southeast section of site is occupied by two smaller carparks – also owned by APCOA – which are bisected by Hanover Street (approximately orientated northwest – south east).

2.1.5 The culverted River Irk runs beneath the site from northeast to southwest.

3.0 Utility Investigation

3.1 General

3.1.1 VertaseFLI mobilised to site on Friday 10th November 2017, completing all works and demobilising from site on Friday 15th December 2017.

3.1.2 The location of utility trenches is specified in Arup 2017. Utility trenches were marked on site by a surveying engineer on Friday 10th November 2017.

3.1.3 The as-built survey showing the location of utility trenches is displayed on drawing D1730_05 in Appendix 1.

3.1.4 D1730_04 in Appendix 1 presents all trench cross sections in reference to the location of each trench.

3.2 Excavation

3.2.1 Prior to excavation of a utility trench the existing utility drawings and the GPR detection plan were reviewed to identify utilities expected to be present within the trench.

3.2.2 Following review of the utility plans and GPR detection plan, a surface scan was carried out using a CAT & signal generator. Live electric and other utilities identified by the CAT & signal generator were marked on the ground with non-permanent line marker spray prior to excavation.

3.1 Surface hardstanding was broken out using a pneumatic breaker. Utility trenches TT03 – TT10 were excavated using a MTS Dino 3 vacuum excavation rig, with all arisings temporarily stored within the rigs skip.

3.2.3 Trenches TT01 and TT02 were excavated using a JCB 3CX.

3.2.4 Arisings from the trenches were tipped into the site skip before being exported by an 8-wheeled road wagon to a suitably licensed non-hazardous waste facility.

3.2.5 Obstructions were encountered in utility trenches TT07a; TT07b and TT09. Where there was good access to the utility trench from the surface and underground utilities were not within close proximity these obstructions were broken out with the pneumatic breaker and the arisings were vacuum excavated. Deeper obstructions and

obstructions within close proximity to uncovered services were considered unsafe for removal and were left *in situ*. Details of these obstructions are recorded on the utility trench logs – located in section 5**.0** of this report.

3.3 Geology

3.3.1 Geology was similar across utility trenches TT03 – TT10 and is summarised below:

- Asphalt or paving slabs – between 0.0 to 0.065 metres below ground level (mbgl);
- Type 1 stone or concrete – between 0.065 to 0.15mbgl;
- MADE GROUND: Dark greyish brown silty fine to coarse sand and fine to coarse subangular to angular gravel with occasional brick and concrete cobbles and occasional deleterious material. Gravel includes coal and clinker, brick, concrete and limestone. Deleterious materials include glass, wood, metal and plastic – from 0.15mbgl to utility trench base.

3.3.2 Trenches TT01 and TT02 were excavated using a JCB 3CX and were logged appropriately. Geological logs for trenches TT01 and TT02 are included in Appendix 3.

3.4 Utility Identification

3.4.1 Once underground utilities had been safely exposed, measurements were taken and utilities were identified as far as reasonably practicable. Utilities were identified using a combination of the methods listed below:

- Reference to utility plans;
- Observation of markings on ducts;
- Observation of utility material type;
- Scan with CAT & signal generator to identify live electric and to trace utilities to manholes and additionally, trace utilities between utility trenches;
- Observations of surface scars;
- Email correspondence with representatives of utility providers;

- Site visit by representatives of utility providers to inspect utilities.

3.4.2 The majority of utilities were successfully identified using the above methods. It was not possible to successfully identify a number of underground pipes. These utilities are recorded in section **5.0** of this document as 'unknown'.

3.5 Reinstatement

3.5.1 Utility Trenches TT03 – TT10 were reinstated with imported Type 1 stone in accordance with 'Manual of Contract Documents for Highways Work Volume 1 Specification for Highways Works, Series 600 Earthworks', Amendment – February 2016. Materials were reinstated taking all due caution and care to avoid damage to the uncovered utilities within the utility trenches.

3.5.2 Trenches TT01 and TT02 were reinstated with arisings.

3.5.3 Where possible, paving slabs were reinstated at surface on pavements. Where paving slabs had been damaged during excavation it was not safe to reinstate these at surface. Utility trenches located within the road and where paving slabs could not be used on pavements were reinstated with hot lay asphalt.

4.0 River Irk Culvert Logs

4.0 Trial Trench 1

Drawing 4.1. Trial Trench 1 (TT01) Trench Log – orientated northwest to southeast (left to right)

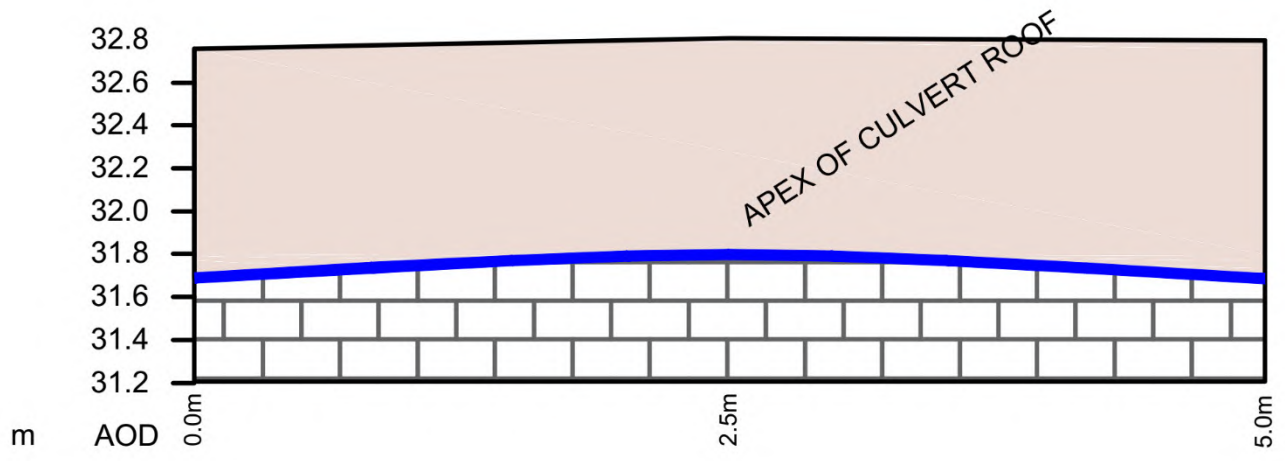


Table 4.1. Trial Trench 1 depth measurements

Location on x-axis	Depth from existing ground level (as of December 2017)	Height against ordinance datum
0.0m	1.07mbgl	31.715 mAOD
2.5m	0.97mbgl	31.833 mAOD
5.0m	1.11mbgl	31.708 mAOD



Figure 4.1.1. Location and orientation of TT01 looking from southeast to northwest



Figure 4.1.2. Image showing base of TT01. Top of the culvert has slight camber with rain water collecting at the northwest side of the trial pit (0.0m on the x-axis on drawing 4.1)



Figure 4.1.3. Northwest side of TT01 looking from south to north. Rain water visibly pooling on left side of trench



Figure 4.1.4. Southeast side of trial trench looking from south to north. Camber on culvert roof clearly visible

4.1 Trial Trench 2

Drawing 4.2. Trial Trench 2 (TT02) Trench Log – orientated northwest to southeast (left to right)

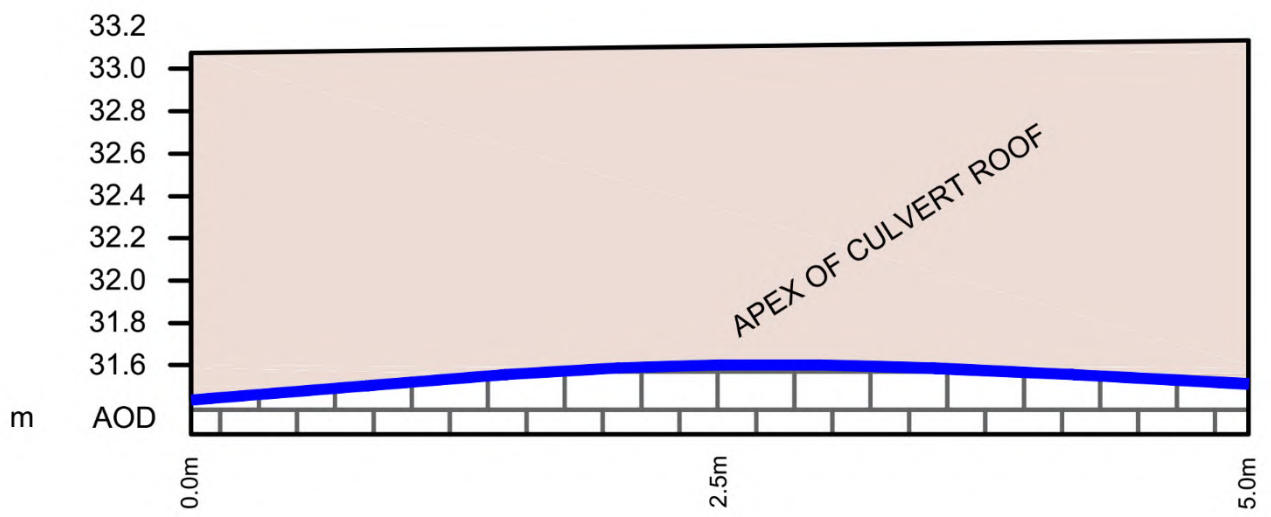


Table 4.2. Trial Trench 2 depth measurements

Location on x-axis	Depth from existing ground level (as of December 2017)	Height against ordinance datum
0.0m	1.64mbgl	31.531 mAOD
2.5m	1.46mbgl	31.665 mAOD
5.0m	1.625mbgl	31.454 mAOD



Figure 4.2.1. Location and orientation of TT02 looking from south to north



Figure 4.2.2. Image showing base of TT02 looking northwest to southeast



Figure 4.2.3. Base of TT01 looking from south to north. Camber on roof of culvert clearly visible

4.2 Additional Information

4.2.1 Culvert and utility identification and verification works at the site were part of a wider site investigation.

4.2.2 During a trial pitting exercise, the culvert roof was potentially identified in three additional locations: TP03; TP04; and TP07. Unlike TT01 and TT02, these trial pits are offset to the north (TP03) and south (TP04 and TP07) from the centre of the culvert. All three trial pits were terminated due to encountering a hard surface.

4.2.3 The hard surface in the three trial pits had the same visual appearance as that encountered in TT01 and TT02. In all five pits the hard surface (roof of culvert) has the appearance and odour (when scraped with excavator bucket) of asphalt.

4.2.4 Arup 2016 contains a sample cross section of the River Irk Culvert from Network Rail Historical Records. This cross section indicates that the roof of the culvert is composed of broken stone and asphalt.

4.2.5 Details of the three trial pits are displayed in table 4.3 below. The location of these trial pits is shown on Drawing D1730_05 in Appendix 1. Geological logs of the trial pits are included in Appendix 3.

4.2.6 Photos of the trial pits are shown below.

Table 4.3. TP04 & TP07

Trial Pit Reference	**Ground level height against ordinance datum**	**Depth to base from existing ground level (as of December 2017)**	**Height against ordinance datum**
TP03	32.84 mAOD	1.4 mbgl	31.44 mAOD
TP04	33.21 mAOD	2.2 mbgl	31.01 mAOD
TP07	33.22 mAOD	2.25 mbg	30.97 mAOD



Figure 4.3.1. Location and orientation of TP03 looking from northwest to southeast



Figure 4.3.2. TP03 – tarmac base visible in base of trial pit.



Figure 4.3.3. Location and orientation of TP04 looking from northwest to southeast



Figure 4.3.4. TP04 – tarmac base visible below collapsed made ground



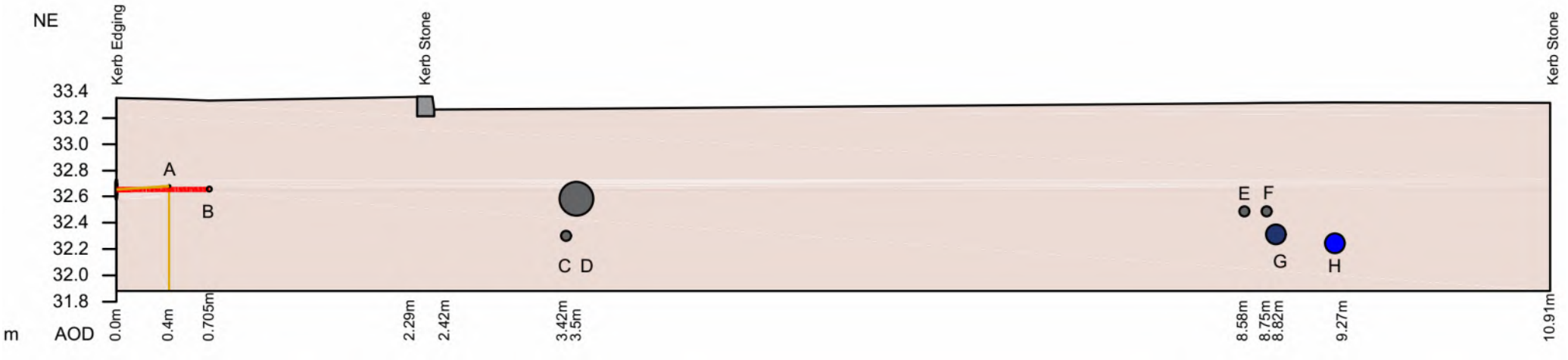
Figure 4.3.5. Location and orientation of TP07 looking from north to south



Figure 4.3.6. TP04 – tarmac base visible below collapsed made ground

5.0 Utility Logs

5.1 Utility Trench TT03



Key

A. Bare Copper Earth Cable to buried Earth Point- entering trench face on west side from 150mm plastic duct

B. LV Electric Cable- entering trench face on west side from 150mm plastic duct and exiting trench face on north side of Trial Trench 3 (Marked B)

C. 3" Cast Iron Pipe - Unidentified

D. 10" Cast Iron Pipe - Unidentified

E. 3" Cast Iron Pipe - Unidentified

F. 3" Cast Iron Pipe - Unidentified

G. 6" Cast Iron Pipe - Redundant Water

H. 6" Cast Iron Pipe - Live Water

Service Reference	A	B	C	D	E	F	G	H
mbgl	-0.66	-0.66	-0.93	-0.56	-0.79	-0.79	-0.93	-1.00
mAOD	32.68	32.67	32.34	32.71	32.52	32.52	32.38	32.32

Table 5.1.1. Utility Trench TT03		**Original Surface:**	Brick cobbles	**Reinstated Surface:**	Asphalt	**Orientation:**	Northwest (0.0m) to southeast (10.9m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A	Cable	Bare Copper	15 mm	Electric	Electric Northwest	Live	Bare copper earth cable running to buried earth point (road pin) uncovered in trench. Configuration Shown on Electric Northwest Utility Plan
B	Cable entering plastic duct	Plastic / Polymer	1.5 inch	Electric	Electric Northwest	Live	Shown on Electric Northwest Utility Plan
C	Pipe	Cast Iron	3 inch	Unknown	Unknown	Unknown	Site Visits by Electric Northwest and Cadent Gas. Not identified by service providers. Does not trace using CAT & signal generator to manholes or other utility Trenches. Does not appear on GPR detection plan or utility plans
D	Pipe	Cast Iron	10 inch	Unknown	Unknown	Unknown	Site Visits by Electric Northwest and Cadent Gas. Not identified by service providers. Cadent Gas abandonment plan shows a redundant gas pipe running in line with this pipe under Long Millgate, however abandonment plan terminates before the trial trench. Possible redundant gas pipe
E	Pipe	Cast Iron	3 inch	Unknown	Unknown	Unknown	Site Visits by Electric Northwest and Cadent Gas. Unclaimed by service providers. Trace on CAT and signal generator shows this service terminates to the south before the Tramlines. Signal traced to three 3" pipes uncovered in utility trenches TT07b and TT07c - one of which has been identified as a historic redundant gas pipe. Possible redundant gas pipes.
F	Pipe	Cast Iron	3 inch	Unknown	Unknown	Unknown	
G	Pipe	Cast Iron	6 inch	Water	United Utilities	Redundant	Confirmed United Utilities assets after site visit by Kenneth Fanshawe (kenneth.fanshawe@uuplc.co.uk) and Joe Horner of United Utilities Water
H	Pipe	Cast Iron	6 inch	Water	United Utilities	Live	



Figure 5.1.1. TT03 looking from southeast to northwest.



Figure 5.1.2. Sub-pavement in TT03. Bare copper earth cable running to buried earth point. LV electric cable running from out of New Victoria Station complex and under the pavement.



Figure 5.1.3. TT03 – sub-road on northwest side. One 3" cast iron pipe of unknown ownership. One 10" cast iron pipe of unknown ownership – see Cadent Gas abandonment plan below.

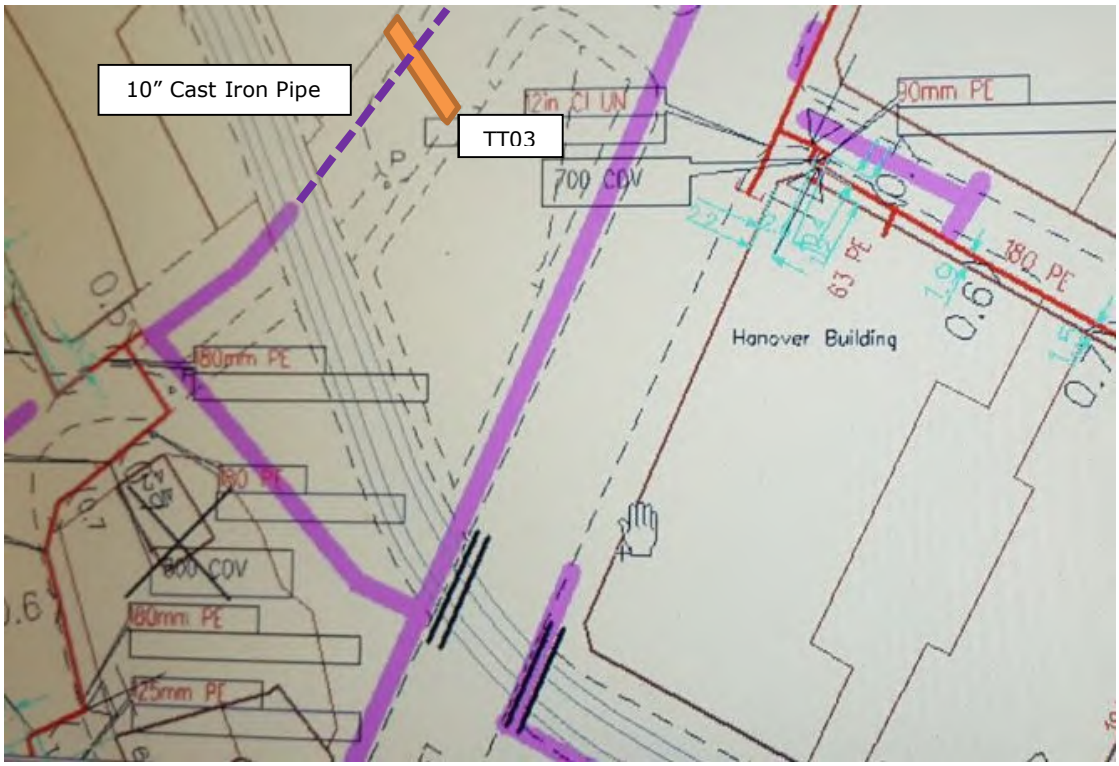


Figure 5.1.4. Cadent gas abandonment plan – photographed in field. Shows abandoned pipe terminating under the Tramlines to southwest of TT03. Abandoned pipe extrapolated to 10" cast iron pipe in TT03.



Figure 5.1.5. TT03 – sub-road on southeast side. Two 3" cast iron pipe of unknown ownership. One redundant 6" cast iron water pipe (below 3" pipes); one live 6" cast iron water pipe – both water pipes are United Utilities assets.

5.2 Utility Trench 3 – additional information

5.2.1 In addition to the services uncovered in utility trench 3, a manhole cover was present 1.36 metres to the southwest of TT03 in the middle of Long Millgate. On inspection the manhole (MH09, shown on drawing D1730_05, Appendix 1) contained surface water drainage.

5.2.2 The distance from surface to drain invert was measured at 3.44mbgl, with distance to top of drain pipe measured as 3.14mbgl. The drain therefore has a diameter of 300mm.

5.2.3 The drain was orientated parallel with Long Millgate (North northeast – south southwest.

5.2.4 An inlet drain is joining the main drainage pipe inside the manhole orientated east – west. The orientation of the inlet drain suggests that water runs from south southwest – north northwest in this manhole.

5.2.5 Photographs of the manhole are shown below.



Figure 5.2.1. Image showing location of manhole (MH09) in relation to TT03 – looking from north northeast – south southwest.



Figure 5.2.2. View inside manhole (MH09). Image orientated south-southwest (left) – north-northeast (right). Inlet visible entering drain from direction of New Victoria Station. Flow direction implied by drain inlet and shown by blue arrows.

5.3 Utility Trench TT04

5.3.1 Utility Trench 4 was broken out at surface and vacuum excavated to 0.15mbgl where a concrete pad was exposed over the full area of the trench.

5.3.2 Inspection of manholes around the area showed a large number of cables in ducts between 0.35mbgl – 0.25mbgl.

5.3.3 Due to the shallow depth of utilities in this area the concrete slab was not broken out or removed. This could have caused damage to shallow utilities and presented a significant health and safety risk to both operatives and the public.



Figure 5.3.1. TT04 looking from northwest to southeast.

5.3.4 Three manholes to the north of TT04 were lifted in order to identify utilities.

5.3.5 Two manholes located on the western pavement on Corporation street are directly adjacent to each other (MH11a and MH11b, shown on drawing D1730_05, Appendix 1).

5.3.6 Both MH11a and MH11b measured 0.6m in width by 1.0m wide and are 0.52m deep.

5.3.7 In MH11b the northeast and northwest sides of the manhole have four 100mm ducts orientated in one row of four with a depth of 0.35mbgl to invert of ducts. On the southwest side (closest to TT04) there are ten 100mm ducts orientated in two stacked rows of five. On the southeast side, (Corporation Street) in addition to the row of four 100mm ducts, there was a single 50mm duct carrying one cable with an invert of 0.18mbgl.

5.3.8 MH11b contains multiple cables entering on the southwest side (facing TT04) of the manhole. Some of the cables turn 90º to exit on the southeast side of the MH11a – running under Corporation street. The remaining cables run straight into the ducts on the northeast side of MH11b into the adjacent MH11a.

5.3.9 MH11a has single rows of four 100mm ducts on all sides, with the exception of with the northeast side of the manhole where there are no ducts. The invert of all ducts in MH11a is 0.35mbgl.

5.3.10 MH11a contains multiple cables entering on the southwest side and then turning 90º to exit on the southeast side of the MH11a – running under Corporation street. Ducts on the northwest side of the manhole were empty.

5.3.11 In both MH11a and MH11b, the row of four ducts on the northwest side (running into the site) are blanked off with concrete.

5.3.12 Photographs of MH11a and MH11b are displayed below.



Figure 5.3.2. MH11a (foreground) and MH11b looking from north to south towards TT04 (visible scar in middle of photograph).



Figure 5.3.3. Southwest side of MH11b (closest to TT04). Ten ducts in 2 x 5 orientation. Two ducts on the east side are empty of cables.

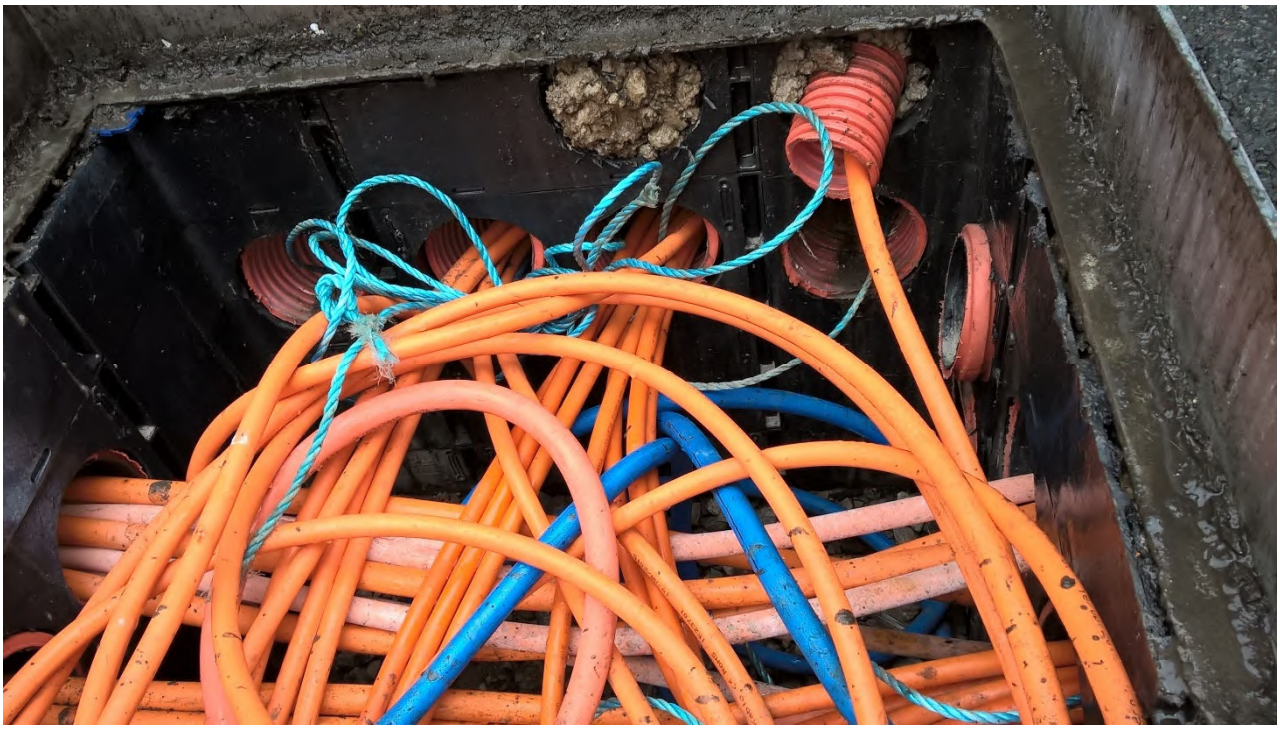


Figure 5.3.4. Southeast side of MH11b (running under Corporation Street). Single configuration of 1 x 4 100mm ducts with a smaller 50mm duct carrying a single cable.

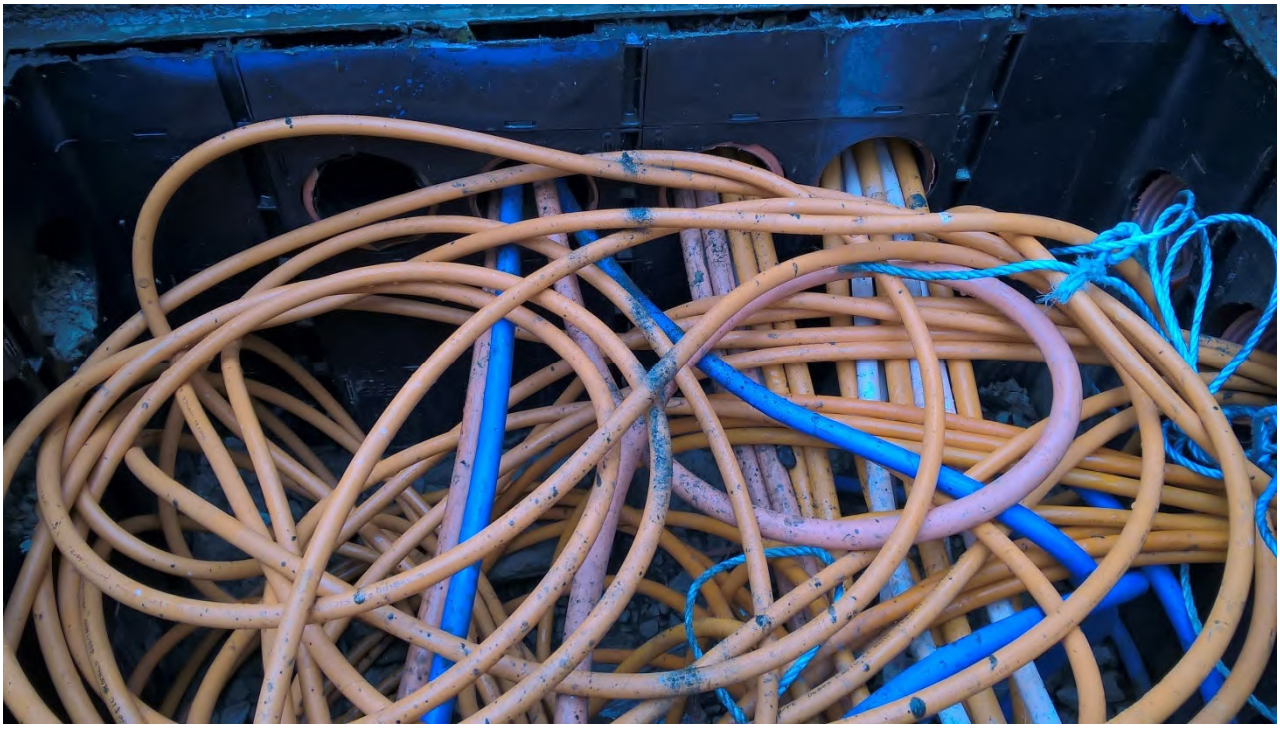


Figure 5.3.5. Northeast side of MH11b (running directly into MH11a). Single configuration of 1 x 4 100mm ducts.



Figure 5.3.6. Southwest side of MH11a. 3 of 4 ducts contain cables.

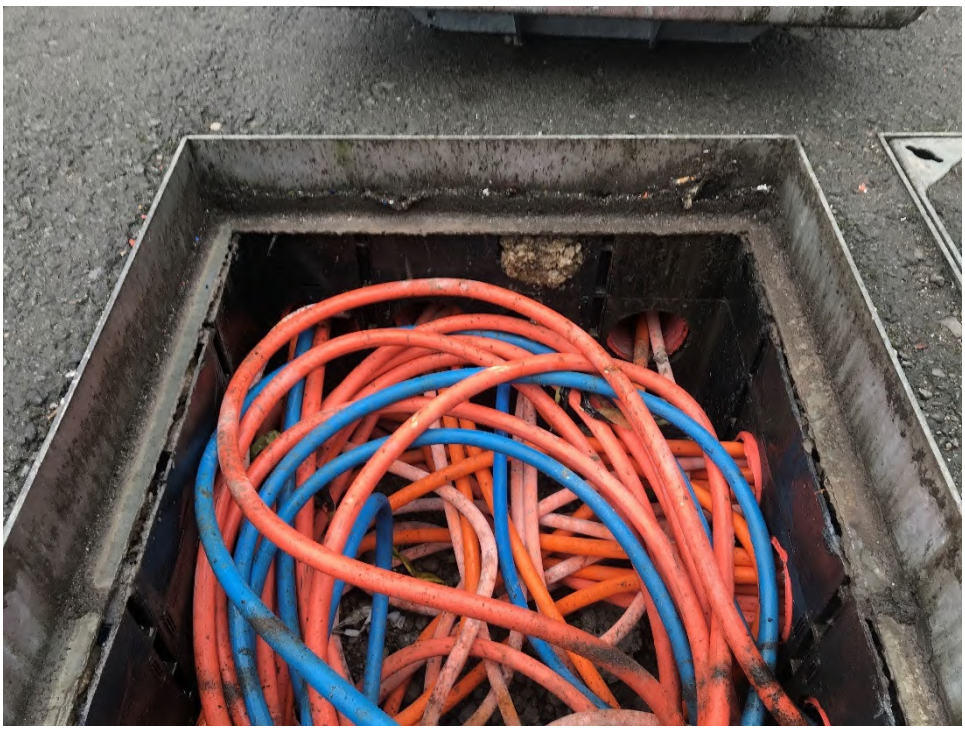


Figure 5.3.7. Southeast side of MH11a. Cables turn and run under Corporation Street. 4 of 4 ducts contained cables.

5.3.13 The third manhole (MH10, shown on drawing D1730_05, Appendix 1) is located to the west of MH11a and MH11b and is located within the boundary of southernmost privately-operated carpark. MH10 was lifted and photographed, however, measurements within the manhole could not be taken later on in the works. Although the MH10 is not located within a parking space, vehicles were parked over the manhole during attempts to lift the manhole cover to acquire measurements (manhole located beneath the vehicle shown in *figure 5.3.2.*).

5.3.14 At surface the manhole measures 1.2m by 1.2m.

5.3.15 Although there were ducts on all sides of this manhole, only the ducts on the southeast side (closest to TT04) and northwest side (facing Victoria Station) contained cables.

5.3.16 Photographs of the manhole interior are displayed below.

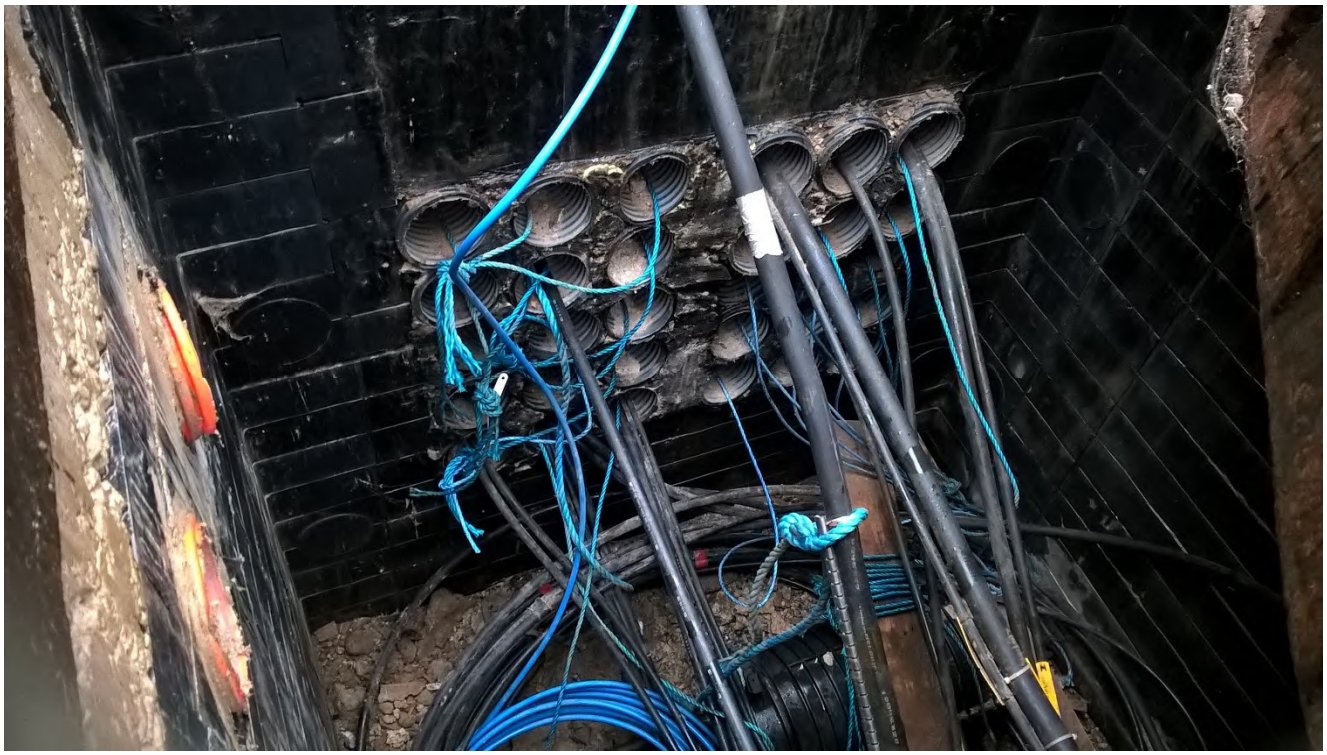
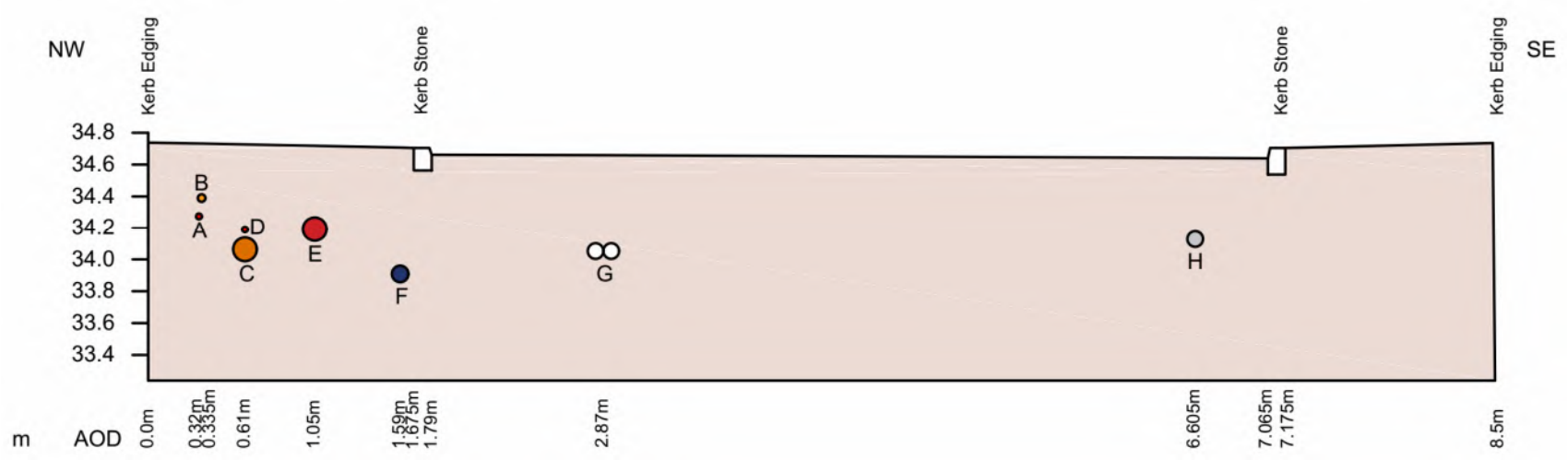


Figure 5.3.8. Southeast side of MH10. 30 ducts present in a 6 x 5 configuration. A further single duct is located above the main duct configuration.



Figure 5.3.9. Southeast side of MH10. 18 ducts present in two 3 x 3 configurations.

5.4 Utility Trench TT05



Key

A. Unducted LV Electric Cable
B. 50mm Orange Plastic Duct
C. 150mm Clay Duct - Telecommunications
D. Taped Armoured LV Electric Cable
E. 150mm Red Plastic Duct containing LV Electric Cable
F. 4" Cast Iron Water Pipe
G. 2x 96.5mm White Plastic Ducts - Telecommunications
H. 100mm Grey Plastic Duct - Telecommunications

Service Reference	A	B	C	D	E	F	G	H
mbgl	-0.44	-0.32	-0.52	-0.59	-0.45	-0.75	-0.56	-0.47
mAOD	34.29	34.41	34.21	34.14	34.27	33.96	34.10	43.18

Table 5.4.1. Utility Trench TT05		Original Surface:	Brick cobbles	Reinstated Surface:	Asphalt	Orientation:	North northeast (0.0m) to south southwest (8.5m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A	Cable	Plastic / Polymer	1.5 inch	Electric	Electric Northwest	Live	Shown on Electric Northwest Utility Plan. 95 Wavecon 600-1000-volt low voltage. Live signal on CAT
B	Duct	Orange Plastic	50 mm	Traffic Signals	Local Authority		Traced back to traffic signal box / service chamber on pavement of Corporation Street where orange corrugated duct identified in TTs 6, 8, 9, 10 turns into the road
C	Duct	Clay	150 mm	Telecoms	BT Openreach	Unknown	Shown on GPR detection plan. Shown on BT Openreach utility plan. Traced to 'BT' marked manhole (MH07 shown on drawing D1730_05, Appendix 1) on north side of junction between Hanover Street and Corporation Street. Likely redundant as duct contains 3 cables which historically supplied terrace house on Corporation Street adjacent to TT06 and TT08 which have been demolished - this feed terminates at the location where the final terrace house was located, between TT06 and TT08
D	Cable	Metal armoured	1.5 inch	Electric	Electric Northwest	Live	Shown on Electric Northwest Utility Plan. Live signal on CAT
E	Duct	Red Plastic	150 mm	Electric	Electric Northwest	Live	Shown on Electric Northwest Utility Plan. Duct contains 1.5 inch 185 Wavecon 600-1000-volt low voltage cable. Traced with CAT & Genny along route of a scar in the road which enters main APCOA car park and runs into green electric box at entrance of car park on Victoria Station side
F	Pipe	Cast Iron	4 inch	Water	United Utilities	Live	Shown on United Utilities Utility Plan. Verbally confirmed United Utilities asset after site visit by Kenneth Fanshawe (kenneth.fanshawe@uuplc.co.uk) and Joe Horner of United Utilities Water
G	2 Ducts	White Plastic	96.5 mm x2	Telecoms	Cityfibre	Live	Shown on Cityfibre utility plan. 'Torch Telecommunications' printed on duct. Traced using CAT & Signal generator to Torch marked manhole on Long Millgate (MH06 – shown on drawing D1730_05, Appendix 1). Email correspondence with Steve Smith (steve.smith@cityfibre.com) of Cityfibre confirms assets marked 'Torch' are now Cityfibre assets
H	Duct	Grey Plastic	100mm	Telecoms	BT Openreach	Live	Shown on GPR detection plan. Shown on BT Openreach utility plan. Ducts printed with 'BT'



Figure 5.4.1. TT05 northern section – looking south-southwest to north-northeast. White Cityfibre duct visible in the foreground beneath concrete protection. 4" water pipe annotated.

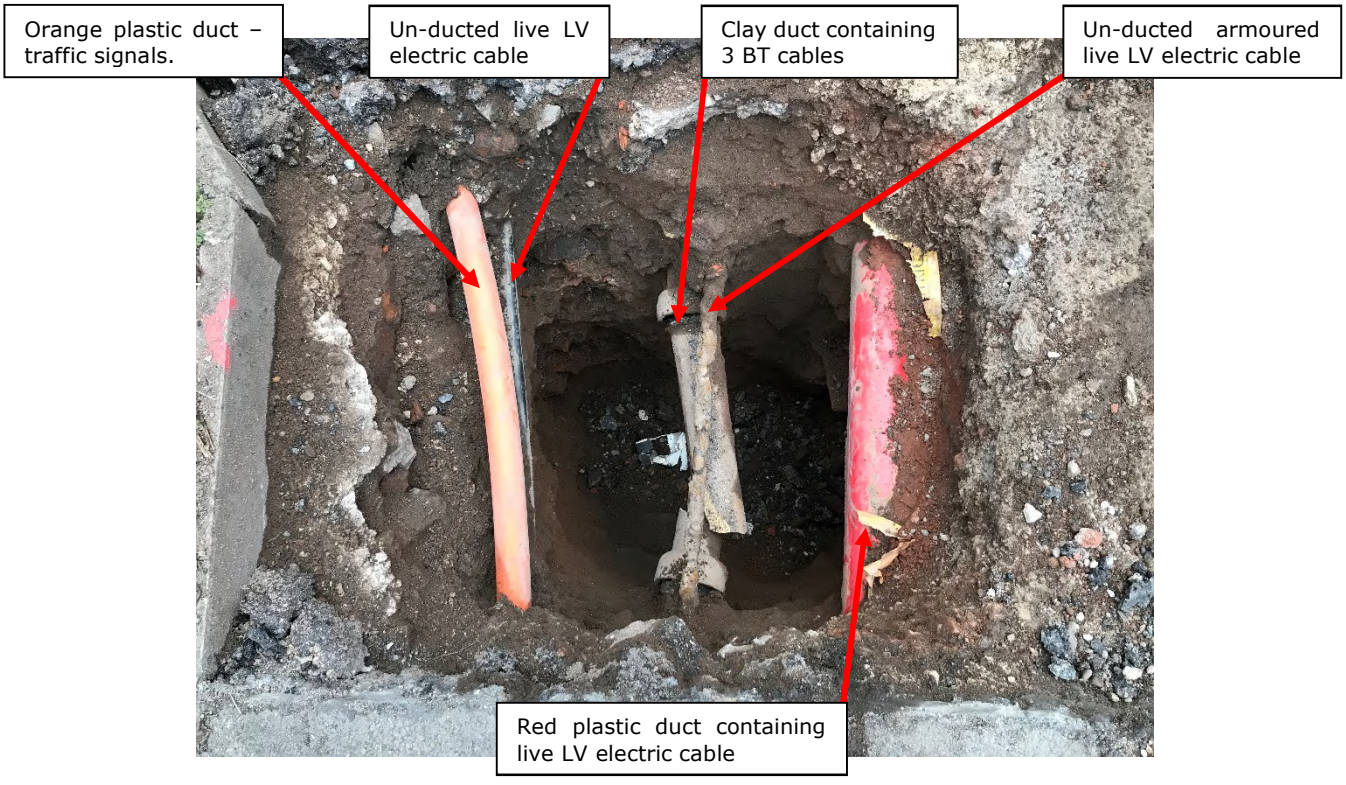


Figure 5.4.2. Multiple utilities sub-pavement. Utilities annotated.



Figure 5.4.3. TT05 southern section – north-northeast looking to south-southwest.



Figure 5.4.4. Grey plastic duct printed with 'BT'.

5.5 Utility Trench 5 – additional information

5.5.1 In addition to the services uncovered in utility trench 5, a manhole cover was present 1.67 metres to the southeast of TT05 in Hanover Street (MH08, shown on drawing D1730_05, Appendix 1). On inspection the manhole contained surface water drainage.

5.5.2 The distance from surface to drain invert was measured at 6.57mbgl.

5.5.3 It was not possible to ascertain the orientation and direction of flow from ground level, however the GPR detection plan (Appendix 1) suggests that the drain flows from southeast to northwest towards the River Irk culvert.

5.5.4 Photographs of the manhole are shown below.

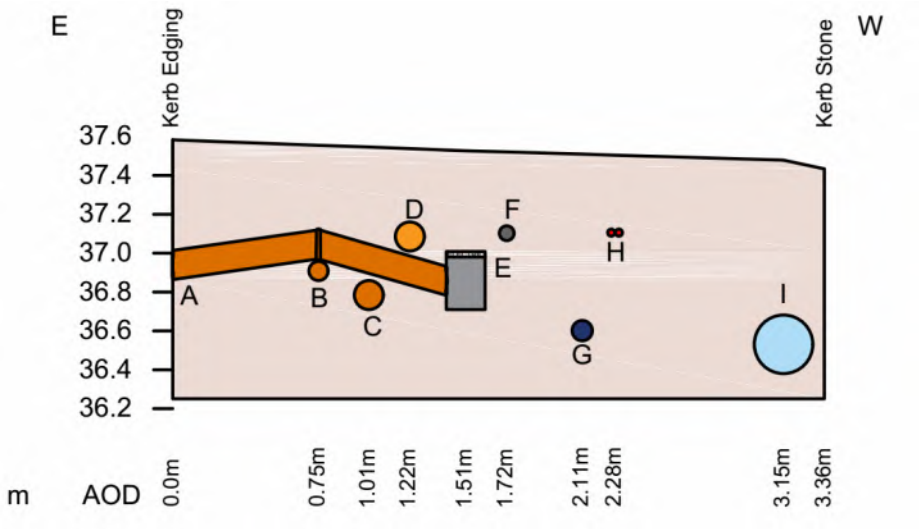


Figure 5.5.1. Manhole cover shown adjacent to TT05 – looking southeast to northwest.



Figure 5.5.2. Image down MH08. Image orientated northwest (left) - southeast (right).

5.6 Utility Trench TT06



Key

A. 150mm Clay Duct containing LV Electric Cable - Spur from Junction Box marked 'E'
B. 100mm Clay Duct containing 2 cables - Telecommunications
C. 150mm Clay Duct containing Taped Armoured LV Electric Cable
D. 150mm Orange ribbed plastic duct - Traffic Signals
E. Cement Tile marked 'Electricity' over junction box
F. 3" Cast Iron Pipe - Unidentified
G. 4" Cast Iron Pipe - Redundant Water
H. 2x 1.5" plastic ducts containing LV Electric Cable
I. 12" Belgian Cast Gas Pipe

Service Reference	A	B	C	D	E	F	G	H	I
mbgl	-0.57	-0.60	-0.69	-0.38	-0.52	-0.38	-0.86	-0.38	-0.80
mAOD	34.82	34.76	34.66	34.96	34.81	34.94	34.45	34.93	34.48

Table 5.6.1. Utility Trench TT06		Original Surface:	Asphalt	Reinstated Surface:	Asphalt	Orientation:	North northeast (0.0m) to south southwest (8.5m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A	Duct	Clay	150 mm	Electric	Electric Northwest	Live	Spur from electric junction box (ref E below). Former domestic feed for historic terrace houses on Corporation Street adjacent to TT06 and TT08
B	Duct	Clay	100 mm	Telecoms	BT Openreach	Unknown	Shown on GPR detection plan. Shown on BT Openreach utility plan. Traced to 'BT' marked manhole (MH07 shown on drawing D1730_05, Appendix 1) on north side of junction between Hanover Street and Corporation Street. Likely redundant as duct contains 2 cables which historically supplied terrace house on Corporation Street adjacent to TT06 and TT08 which have been demolished - this feed terminates between TT06 and TT08
C	Duct	Clay	150 mm	Electric	Unknown	Unknown	Clay duct containing single armoured electric cable. Not shown on Electric Northwest utility plan. No signal recorded on the CAT. Chris Harrison (chris.harrison@enwl.co.uk) of Electric Northwest advises that there is insufficient clearance around the cable to perform Live / Dead test (minimum 300mm clearance)
D	Duct	Ribbed Orange Plastic	150 mm	Traffic Signals	Local Authority	Live	Marked on GPR detection plan. Runs through TT06, TT08, TT09 and TT10 – connecting traffic lights at junction of Corporation Street and Cheetham Hill Road to buried traffic sensor in Corporation Street to the south of TT06
E	Junction Box	Electric tile & box	200 mm x 300 mm box	Electric	Electric Northwest	Live	Live LV electric cable running underneath tiles marked 'electric'. Junction box present beneath tiles. Shown on Electric Northwest Utility Plan and GPR detection plan. Electric Northwest Asset – confirmed by Chris Harrison of Electric Northwest after site visit and email correspondence
F	Pipe	Cast Iron	3 inch	Unknown	Unknown	Unknown	Not claimed by Electric Northwest and Cadent Gas during site visits. Traced using CAT & signal generator to three 3" pipes uncovered in TT07b and TT07c - one of which has been identified as a historic redundant gas pipe. Possible redundant gas pipe
G	Pipe	Cast Iron	4 inch	Water	United Utilities	Redundant	Water pipe is not shown on utility drawings or abandonment plans, but was traced using the CAT & signal generator to an infilled sluice valve on the pavement north of TT08. Confirmed redundant United Utilities asset after site visit by Kenneth Fanshawe (kenneth.fanshawe@uuplc.co.uk) and Joe Horner of United Utilities Water
H	2 Ducts	Orange Plastic	1.5 inch x2	Electric	Local Authority	Live	Traced to adjacent lamppost using CAT & signal generator. Correspondence with Chris Harrison of Electric Northwest indicates that orange ducts are usually property of the Local Authority and / or street furniture supplies
I	Pipe	Belgian Cast	12 inch	Gas	Cadent Gas	Redundant	Redundant gas pipe shown on Cadent Gas abandonment plan. Site visit by Cadent confirms this is a redundant asset



Figure 5.6.1. TT06 looking from southeast to northwest.

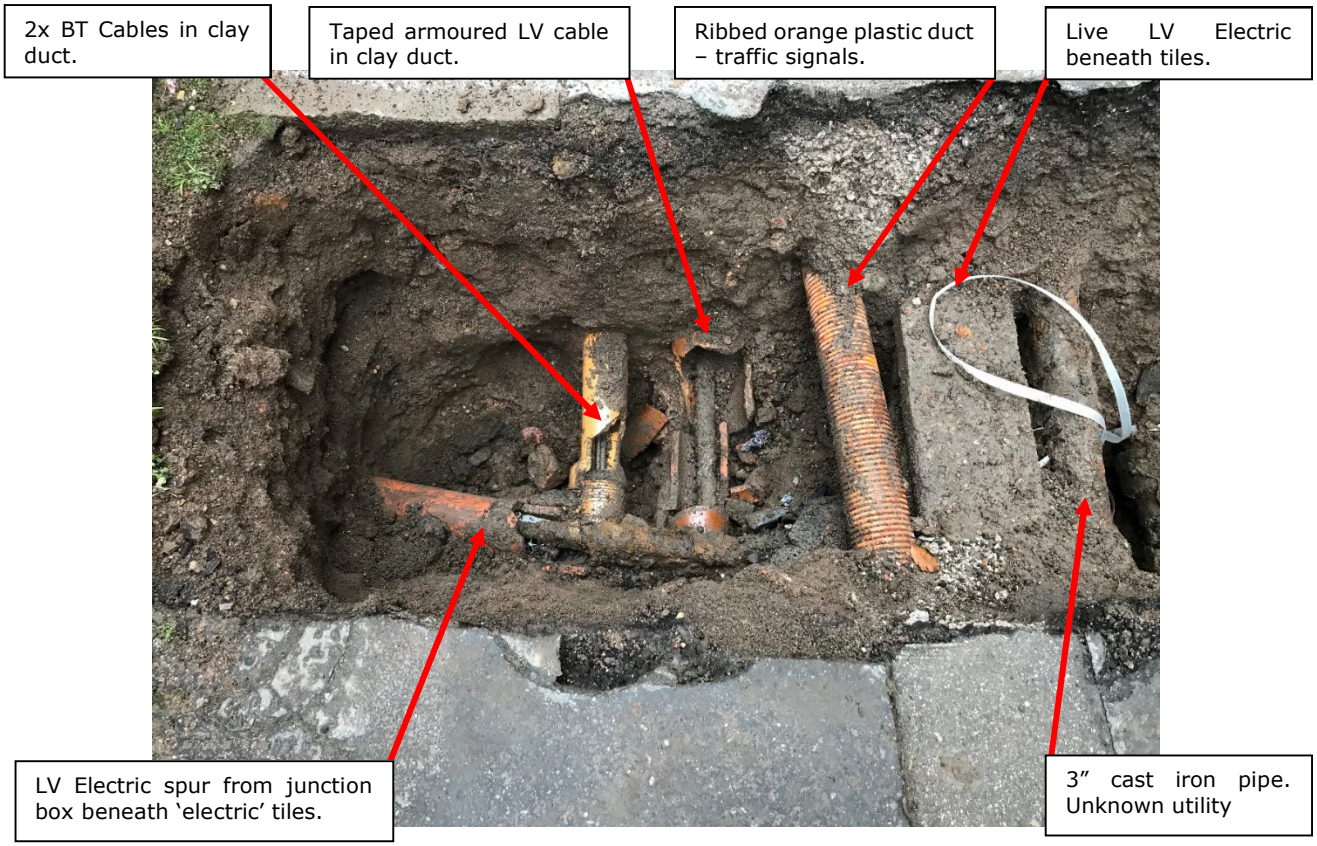


Figure 5.6.2. TT06 northwest end of trench. Utilities annotated.

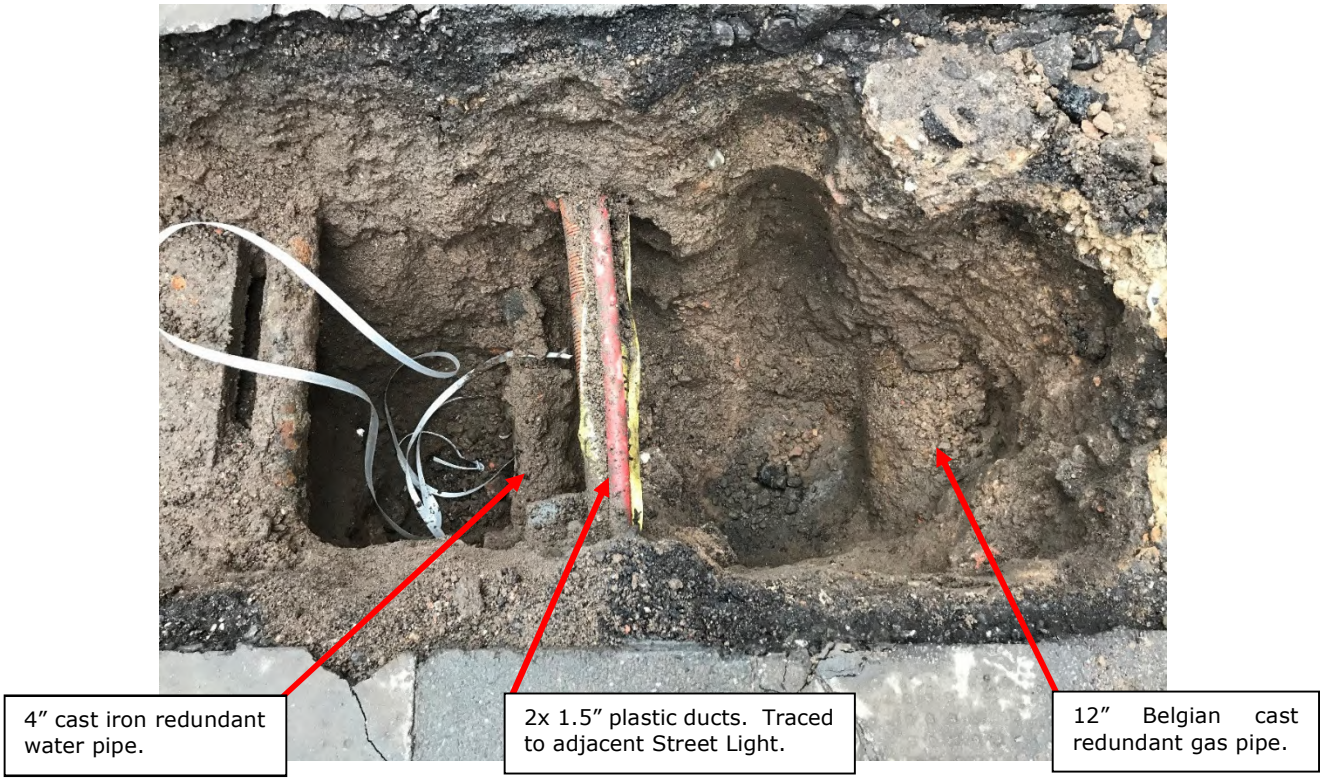


Figure 5.6.3. TT06 southeast end of trench. Services annotated.



Figure 5.6.4. Asphalt filled sluice valve in foreground. 4" cast iron pipe in TT06 (behind bus stop) and TT08 (asphalt reinstated scare behind sluice valve) both trace to this sluice valve – verifying that the pipe is redundant water.



Figure 5.6.5. Manhole covers (foreground and back ground) marked 'BT' on corner of Hanover Street and Corporation Street (TT06 in background).



Figure 5.6.6. Three BT cables running from Hanover Street (identified in clay duct in TT05) through MH07 (shown on drawing D1730_05, Appendix 1) and turning under pavement under Corporation Street. Domestic feeds for historic terrace house (now demolished).

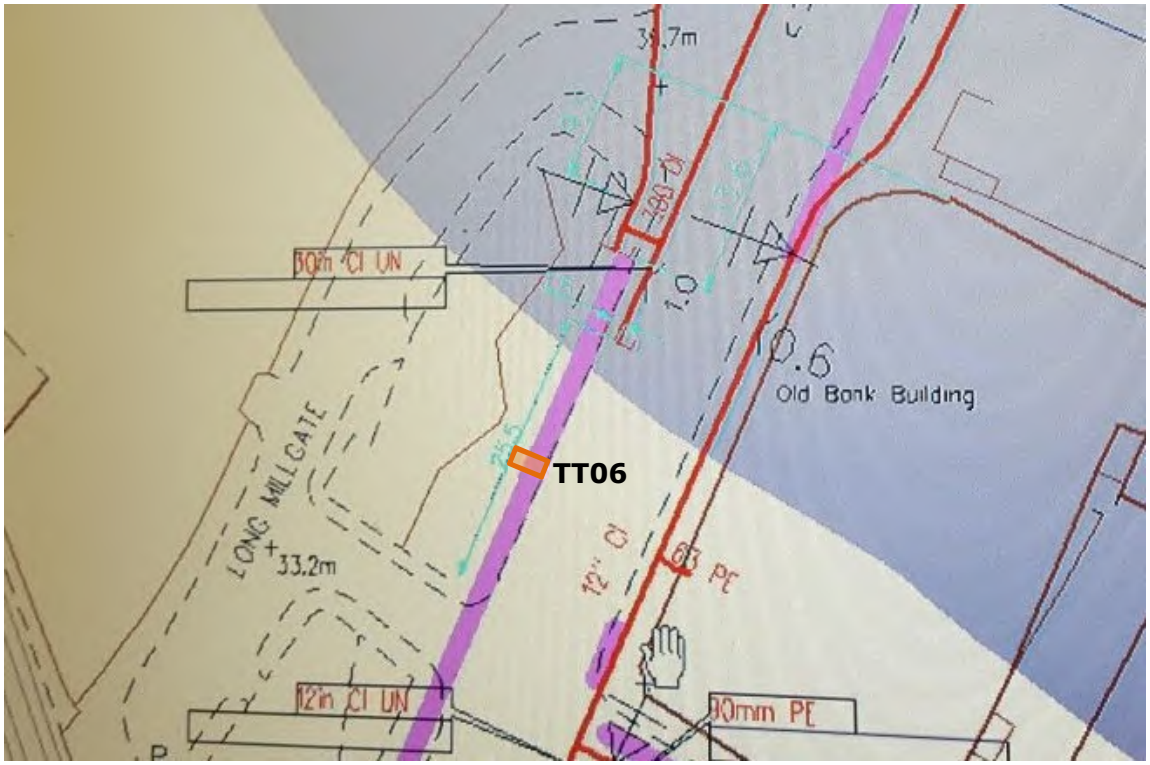
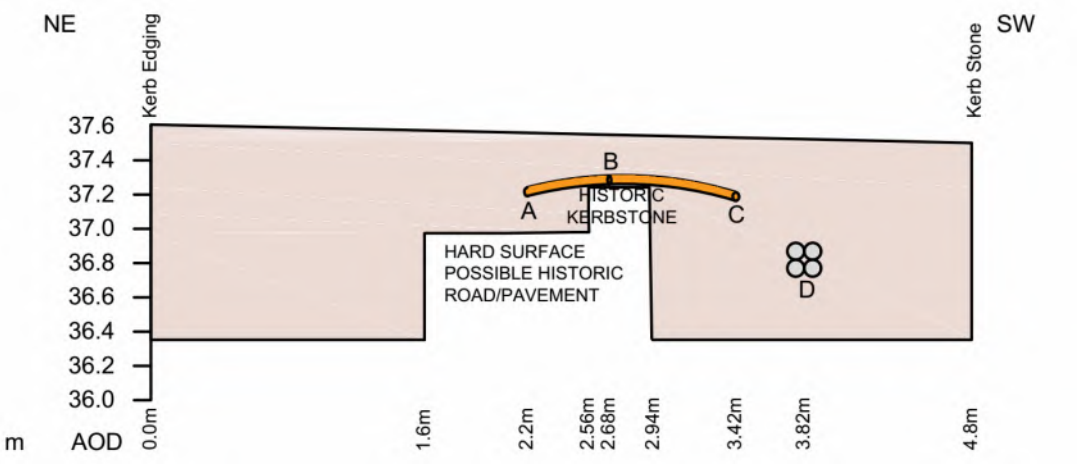


Figure 5.6.7. Cadent gas abandonment plan – photographed in field. Shows abandoned pipe identified in TT06.

5.7 Utility Trench TT07a



Key

A. 50mm Orange ribbed plastic duct containing single LV Electric Cable - exits trench in southwest face

B. 50mm Orange ribbed plastic duct containing single LV Electric Cable - rises over historic kerb stone left in-situ below ground

C. 50mm Orange ribbed plastic duct containing single LV Electric Cable - enters trench in northeast face

D. 4x 96.5mm Grey Plastic Ducts - Telecommunications

Service Reference	A	B	C	D
mbgl	-0.32	-0.24	-0.32	-0.61
mAOD	35.24	35.31	35.21	34.92

Table 5.5.1. Utility Trench TT07a		**Original Surface:**	Paving Slabs	**Reinstated Surface:**	Paving Slabs	**Orientation:**	Northwest (0.0m) to southeast (4.8m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A, B & C	Duct	Ribbed Orange Plastic	50 mm	Electric	Electric Northwest	Live	Marked on GPR detection plan. Marked on United Utilities utility plan. Duct enters trench at 3.42m along northeast face of trench, raises over a historic kerb left in situ and exits trench at 2.2m along the southwest face. Traced using CAT & signal generator to adjacent lamppost. Historic kerb and asphalt surface could not be broken out as may have caused damage to the electric cable. Historic infrastructure scanned with CAT & Signal generator - no live signals detected
D	Duct	Grey Plastic	96.5 mm x4	Telecoms	City Fibre	Live	Shown on Cityfibre utility plan. 'Torch Telecommunications' printed on duct. Traced using CAT & Signal generator to Torch marked manhole on Long Millgate (MH06 – shown on drawing D1730_05, Appendix 1). Email correspondence with Steve Smith (steve.smith@cityfibre.com) of Cityfibre confirms assets marked 'Torch' are now Cityfibre assets



Figure 5.7.1. TT07a looking from south-southeast to north-northwest.



Figure 5.7.2. Single LV cable in duct in TT07a. Rises over historic kerb stone – visible in this photograph.



Figure 5.7.3. Grey telecoms ducts in TT07a printed 'Torch Telecommunications'. Torch assets now Cityfibre assets.

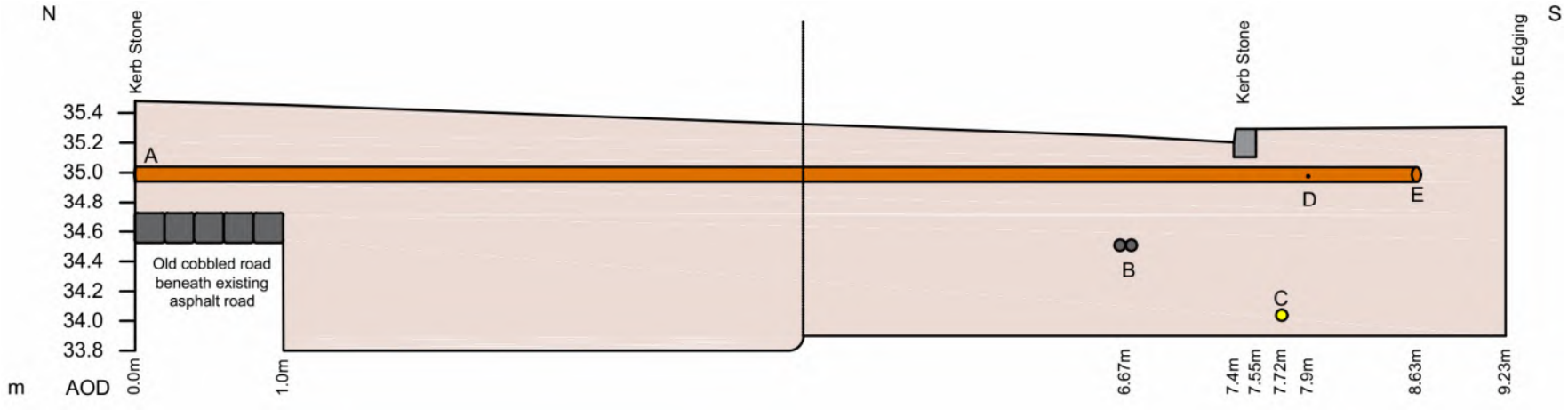


Figure 5.7.4. Cityfibre ducts traced to manhole (foreground) from TT07a (visible in background). Manhole cover cast with 'Torch'.



Figure 5.7.5. View inside (northeast side) of manhole MH06 (see drawing D1730_05, appendix A). Four ducts enter manhole (2 x 2 configuration). Two ducts leave manhole on southwest side of manhole, turn in road and are identified in TT05 – as shown on the Cityfibre service plan.

5.8 Utility Trench TT07b & TT07c



Key

A. 100mm Clay duct containing single LV Electric Cable - enters trench at Point A and runs length of trench joining LV Cable and exiting trench at Point E

B. 2x 3" Cast Iron Pipe - Unidentified

C. 3" Cast Iron Pipe - Redundant Gas

D. Unducted LV Electric Cable

E. 100mm Clay duct containing single LV Electric Cable

Service Reference	A	B	C	D	E
mbgl	-0.44	-0.70	-1.18	-0.32	-0.27
mAOD	35.04	34.55	34.12	34.98	35.03

Table 5.5.2. Utility Trench TT07b & TT07c		Original Surface:	Asphalt	Reinstated Surface:	Asphalt	Orientation:	North northwest (0.0m) to south southeast (9.23m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A	Duct	Clay	100 mm	Electric	Electric Northwest	Live	Marked on GPR detection plan and on Electric Northwest utility plan. Clay duct contains single LV electric cable (clay duct removed to prevent stress on cable and possible damage). Does not at any point in the trial trench cross the surveyed line for identifying services – instead runs length ways through trial trench (north - south of the trench) – exiting the trench beneath the pavement in 100mm clay duct (see 'E' below)
B	2 Pipes	Cast Iron	3 inch x2	Unknown	Unknown	Unknown	Site Visits by Electric Northwest and Cadent Gas. Unclaimed by service providers. Traced using CAT & signal generator to two 3" pipes uncovered in utility trench TT03 and to historic redundant gas pipe (Drawing reference 'C' - see below). Possible redundant gas pipes.
C	Pipe	Cast Iron	3 inch	Gas	Unknown	Redundant	Plug nut on top of pipe removed with pipe wrench – weak odour of gas for a short period from the pipe once plug removed. Cadent Gas field team confirmed it is a historic gas pipe but does not appear on their abandonment plan. Likely to be a Cadent Gas asset. Traced to two 3" cast iron pipes in TT03 and likewise to two 3" cast iron pipes in TT07b (Drawing reference 'B' - see above)
D	Cable	Plastic / Polymer		Electric	Electric Northwest	Live	Single LV electric cable marked on Electric Northwest utility drawing
E	Duct	Clay	100mm	Electric	Electric Northwest	Live	Two LV electric cables inside clay duct (one cable from 'A' above) – as marked on Electric Northwest utility drawing
Historic Cobbled Road		Old cobbled road present throughout length of trial pit at c.0.73mbgl. Not possible to break through these cobbles using vac-ex for circa first metre.					



Figure 5.8.1. TT07b looking from north to south. Old cobbled broken out from trench at 0.73mbgl visible at depth around the faces of the trial pit (also visible in foreground where it could not be broken out).



Figure 5.8.2. TT07c (sub-road) looking from south to north. Two 3" cast iron pipes (unknown assets) running across trench left – right.



Figure 5.8.3. TT07c (sub-pavement) looking from south to north. Two LV cables ('A' & 'E' on drawing and table) entering trench in clay duct to east (right). Single un-ducted LV cable.

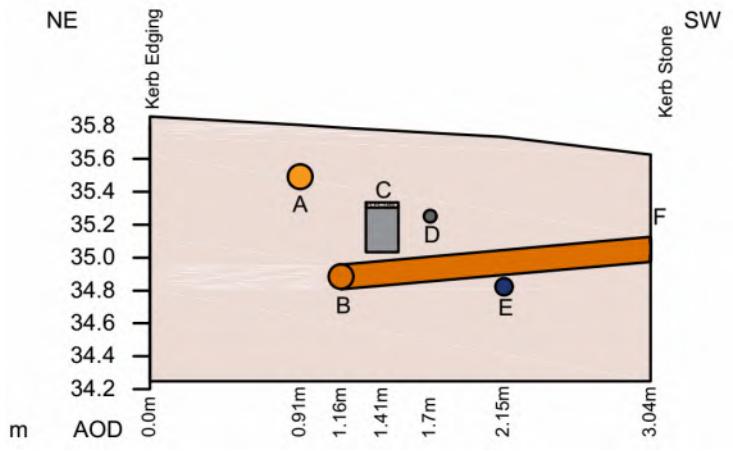


Figure 5.8.4. Plug nut in single 3" cast iron pipe in base of TT07c – removed using pipe wrench.



Figure 5.8.5. Plug nut removed from single 3" cast iron pipe. Weak odour of gas for a short period from the pipe once plug removed. Cadent Gas field team working on live pipe on Corporation Street (separate works) confirmed it is a historic gas pipe but does not appear on Cadent Gas utility or abandonment plans. CAT & signal generator trace link this to pipe to two 3" cast iron pipes in TT07c and two 3" cast iron pipes in TT03.

5.9 Utility Trench TT08



Key

A. 150mm Orange ribbed plastic duct - Traffic Signals

B. 150mm Clay duct containing taped armoured LV Electric Cable - Enters trench at Point B then turns in trench and exits in face of trench at Point F adjacent to Corporation Street

C. Cement tile marked 'Electricity' over junction box

D.3" Cast Iron Pipe - Unidentified

E. 4" Cast Iron Pipe - Redundant Water

Service Reference	A	B	C	D	E	F
mbgl	-0.24	-0.83	-0.44	-0.47	-0.86	-0.50
mAOD	35.57	34.96	35.33	35.29	34.87	35.13

Table 5.9.1. Utility Trench TT08		Original Surface:	Asphalt	Reinstated Surface:	Asphalt	Orientation:	North northeast (0.0m) to south southwest (8.5m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A	Duct	Ribbed Orange Plastic	150 mm	Traffic Signals	Local Authority	Live	Marked on GPR detection plan. Runs through TT06, TT08, TT09 and TT10 – connecting traffic lights at junction of Corporation Street and Cheetham Hill Road to buried traffic sensor in Corporation Street to the south of TT06
B	Duct	Clay	150 mm	Electric	Unknown	Unknown	Clay duct containing single armoured electric cable. Not shown on Electric Northwest utility plan. No signal recorded on the CAT. Chris Harrison (chris.harrison@enwl.co.uk) of Electric Northwest advises that there is insufficient clearance around the cable to perform Live / Dead test (minimum 300mm clearance)
C	Junction Box	Electric tile & box	200 mm x 300 mm box	Electric	Electric Northwest	Live	Live LV electric cable running. Underneath Tiles marked 'electric'. Junction box present beneath tiles. Shown on Electric Northwest Utility Plan and GPR detection plan. Electric Northwest Asset – confirmed by Chris Harrison of Electric Northwest after site visit and email correspondence
D	Pipe	Cast Iron	3 inch	Unknown	Unknown	Unknown	Not claimed by Electric Northwest and Cadent Gas during site visits. Traced using CAT & signal generator to three 3" pipes uncovered in TT07b and TT07c - one of which has been identified as a historic redundant gas pipe. Possible redundant gas pipe
E	Pipe	Cast Iron	4 inch	Water	United Utilities	Redundant	Water pipe is not shown on utility drawings or abandonment plans, but was traced using the CAT & signal generator to an infilled sluice valve on the pavement north of TT08. Confirmed redundant United Utilities asset after site visit by Kenneth Fanshawe (kenneth.fanshawe@uuplc.co.uk) and Joe Horner of United Utilities Water



Figure 5.9.1. TT08 looking from southeast to northwest.

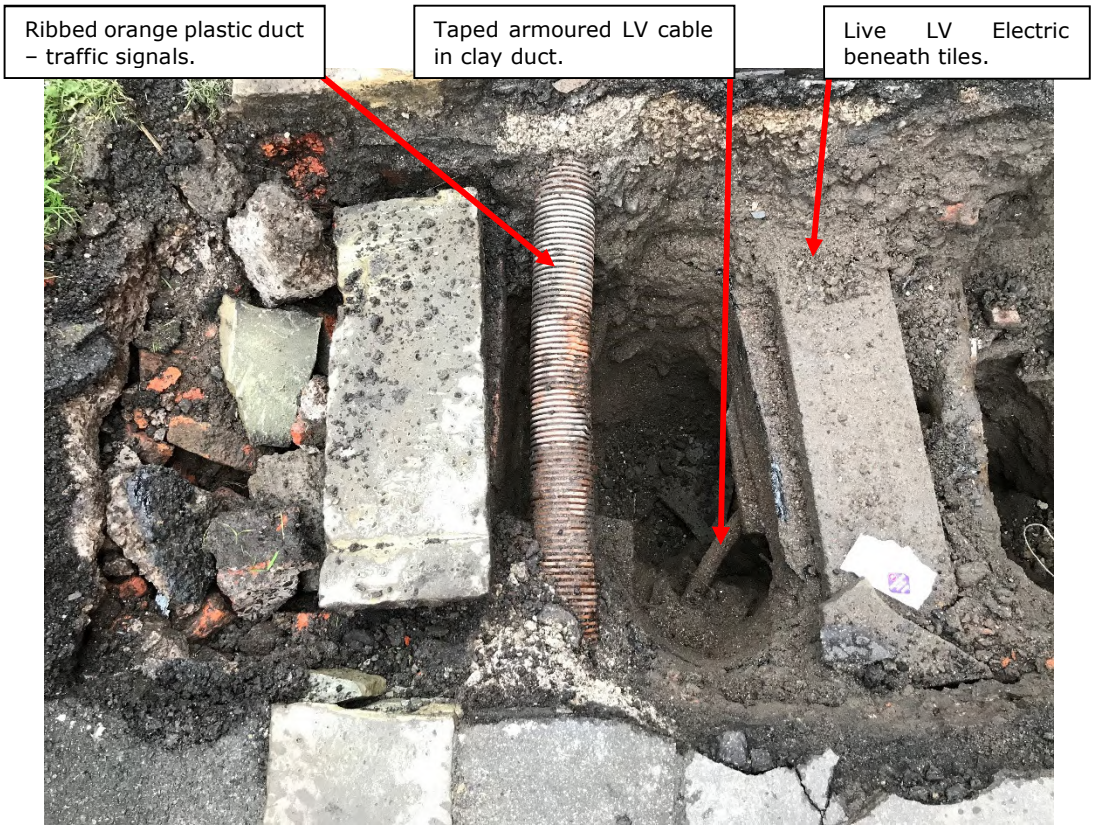


Figure 5.9.2. TT08 northwest end of trench. Utilities annotated.

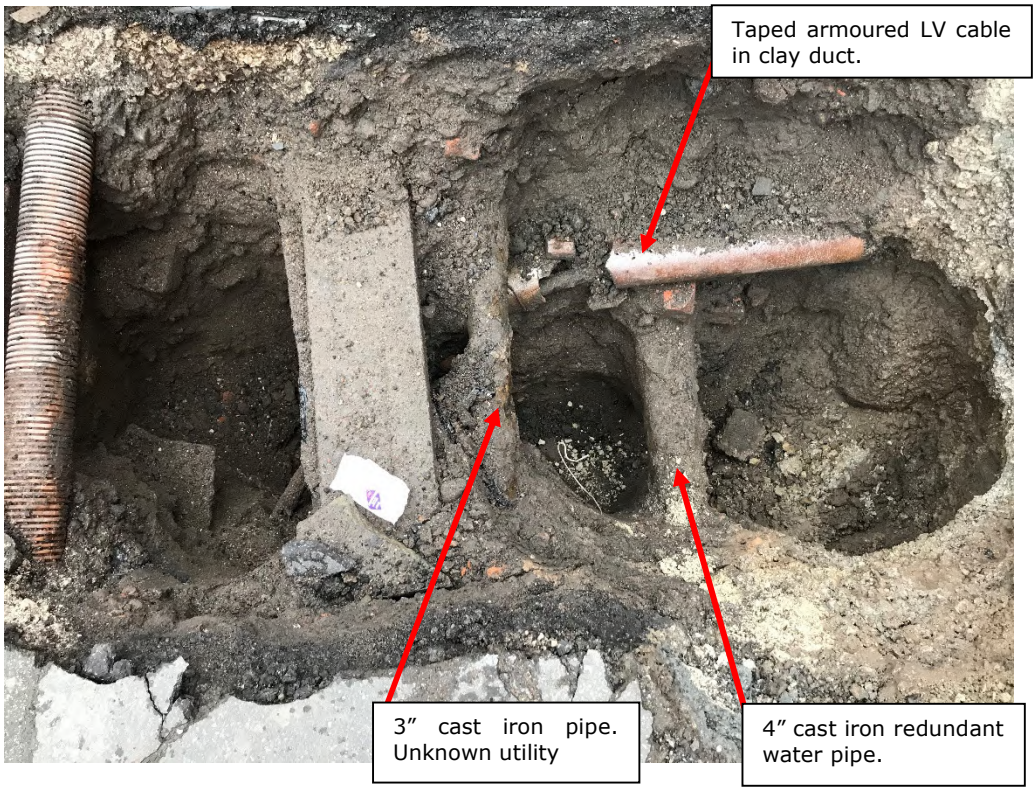
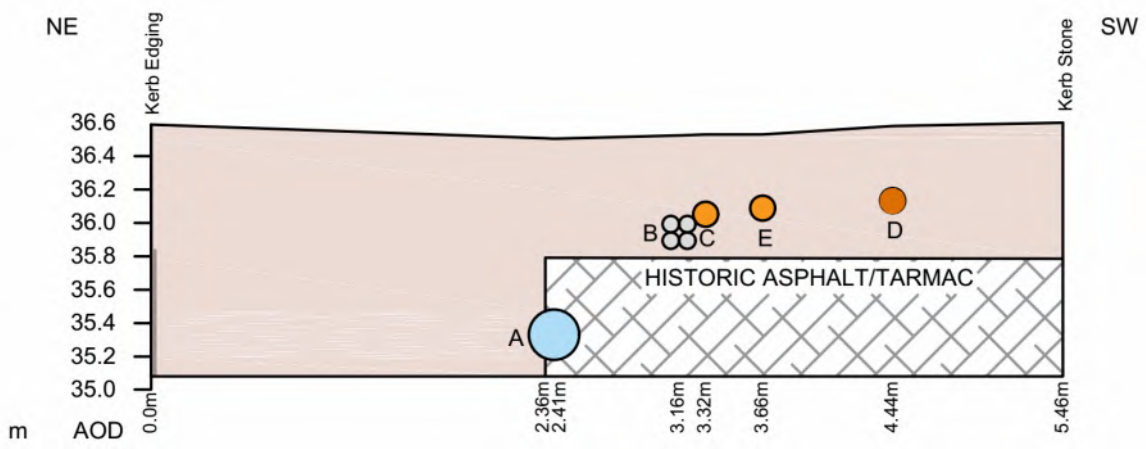


Figure 5.9.3. TT08 southeast end of trench. Utilities annotated.

5.10 Utility Trench TT09



Key

A. 12" Belgian Cast Gas Pipe

B. 4x 96.5mm Grey plastic ducts - Telecommunications

C. 150mm Orange ribbed plastic duct - Traffic Signals

D. 150mm Clay duct - Telecommunications

E. 150mm Orange ribbed plastic duct containing single LV Electric Cable

Service Reference	A	B	C	D	E
mbgl	-1.03	-0.49	-0.41	-0.38	-0.37
mAOD	35.48	36.04	36.12	36.17	36.20

Table 5.10.1. Utility Trench TT09		Original Surface:	Paving Slabs	Reinstated Surface:	Paving Slabs	Orientation:	West northwest (0.0m) to east southeast (5.46m)
Ref	Nature of Utility	Material	External diameter	Utility Type	Ownership of Utility	Live / Redundant	Comments
A	Pipe	Belgian Cast	12"	Gas	Cadent Gas	Live	Marked on Cadent Gas utility plan. Live Cadent Gas asset. Pipe was traced using CAT & signal generator to a hand excavation between TT09 & TT10 where Cadent Gas engineers were performing repairs on the pipe
B	4 Ducts	Grey Plastic	96.5 mm x4	Telecoms	Cityfibre	Live	Shown on Cityfibre utility plan. 'Torch Telecommunications' printed on duct. Traced using CAT & Signal generator to Torch marked manhole on Long Millgate. Email correspondence with Steve Smith (steve.smith@cityfibre.com) of Cityfibre confirms assets marked 'Torch' are now Cityfibre assets
C	Duct	Ribbed Orange Plastic	150 mm	Traffic Signals	Local Authority	Live	Marked on GPR detection plan. Runs through TT06, TT08, TT09 and TT10 – connecting traffic lights at junction of Corporation Street and Cheetham Hill Road to buried traffic sensor in Corporation Street to the south of TT06
D	Duct	Clay	150 mm	Telecoms	BT	Live	Marked on BT Utility plan.
E	Duct	Ribbed Orange Plastic	150mm	Electric	Local Authority	Live	Marked on GPR detection plan but not marked on Northwest Electricity utility plan. Traced using CAT & signal generator to nearby lamppost. Correspondence with Chris Harrison (chris.harrison@enwl.co.uk) of Electric Northwest indicates that orange ducts are usually property of the Local Authority and / or street furniture supplies
Historic Asphalt / Tarmac		Historic kerb and asphalt surface could not be broken out due to clearance around and may have caused damage to utilities - especially the Belgian cast gas pipe. Historic infrastructure scanned with CAT & Signal generator - no live signals detected					



Figure 5.10.1. TT09 looking east southeast to west northwest.

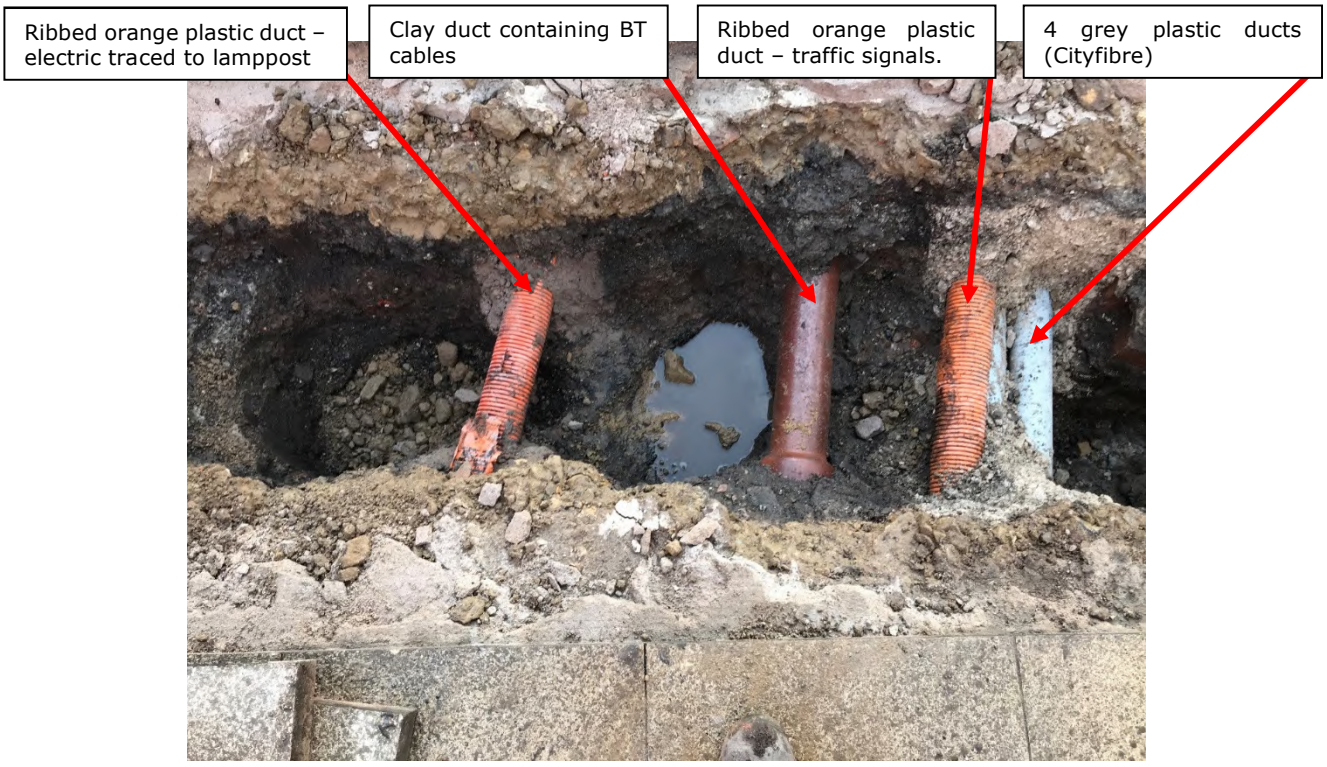
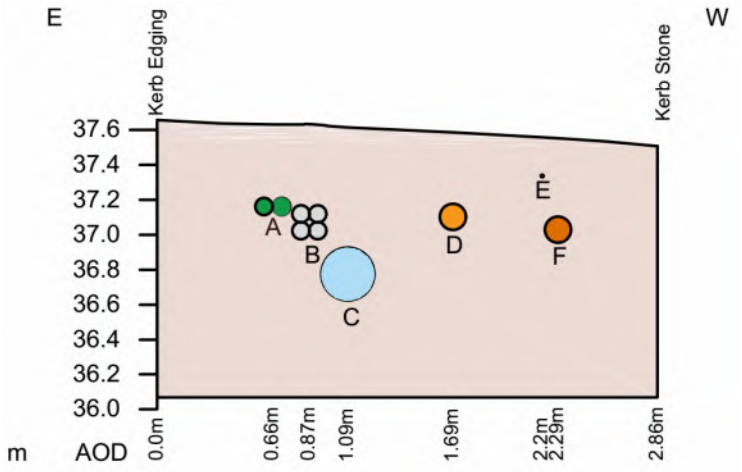


Figure 5.10.2. East southeast end of TT09. Utilities annotated.



Figure 5.10.3. West northwest end of TT09. 12” Belgian cast live gas pipe annotated.

5.11 Utility Trench TT10



Key

A. 2x 100mm Green ribbed plastic ducts - Telecommunications
B. 4x 96.5mm Grey plastic ducts - Telecommunications
C. 12" Belgian Cast Gas Pipe
D. 150mm Orange ribbed plastic duct - Traffic Signals
E. Single LV Electric Cable
F. 150mm Clay duct - Telecommunications

Service Reference	**A**	**B**	**C**	**D**	**E**	**F**
mbgl	-0.42	-0.47	-0.69	-0.41	-0.22	-0.45
mAOD	37.21	37.17	36.92	37.18	37.34	37.10

Table 5.8.1. Utility Trench TT10		**Original Surface:**	Paving Slabs	**Reinstated Surface:**	Asphalt	**Orientation:**	West (0.0m) to east (2.86m)
Ref#	**Nature of Utility**	**Material**	**External diameter**	**Utility Type**	**Ownership of Utility**	**Live / Redundant**	**Comments**
A	2 ducts	Ribbed Green Plastic	100 mm	Telecoms	Vodafone	Live	Vodafone asset - rented by Gamma. Marked on both Vodafone and Gamma utility drawings. Mark Worden of Gamma (mark.worden@gamma.co.uk) confirms that Vodafone ducts are usually green and that Gamma are renting the duct from Vodafone
B	4 Ducts	Grey Plastic	96.5 mm x4	Telecoms	Cityfibre	Live	Shown on Cityfibre utility plan. 'Torch Telecommunications' printed on duct. Traced using CAT & Signal generator to Torch marked manhole on Long Millgate. Email correspondence with Steve Smith (steve.smith@cityfibre.com) of Cityfibre confirms assets marked 'Torch' are now Cityfibre assets
C	Pipe	Belgian Cast	12"	Gas	Cadent Gas	Live	Marked on Cadent Gas utility plan. Live Cadent Gas asset. Pipe was traced using CAT & signal generator to a hand excavation between TT09 & TT10 where Cadent Gas engineers were performing repairs on the pipe
D	Duct	Ribbed Orange Plastic	150 mm	Traffic Signals	Local Authority	Live	Marked on GPR detection plan. Runs through TT06, TT08, TT09 and TT10 – connecting traffic lights at junction of Corporation Street and Cheetham Hill Road to buried traffic sensor in Corporation Street to the south of TT06
E	Cable	Plastic / Polymer	15 mm	Electric	Local Authority	Live	Marked on GPR detection plan but not marked on Northwest Electricity utility plan. Traced using CAT & signal generator to nearby lamppost. Correspondence with Chris Harrison (chris.harrison@enwl.co.uk) of Electric Northwest indicates that orange ducts are usually property of the Local Authority and / or street furniture supplies
F	Duct	Clay	150 mm	Telecoms	BT	Live	Marked on BT Utility plan



Figure 5.11.1. TT10 looking south to north.



Figure 5.11.2. TT10 western section. 2# green plastic ducts are Vodafone assets, currently being rented by Gamma. 4# grey plastic ducts printed with 'Torch' are Cityfibre assets. Ribbed orange plastic ducts are traffic signals – turning out of the pavement towards traffic lights at the junction between Corporation Street and Cheetham Hill Road.



Figure 5.11.2. TT10 eastern section. Un-ducted live LV electric cable – traced to adjacent lamppost. Clay duct contains BT cables.

5.12 Further Survey Information

5.12.1 A number of additional manhole covers were lifted for data collection purposes within the site boundary in order to further inform the design of the proposed development. These manholes are discussed below. All manhole locations are shown on Drawing D1730_05 in Appendix 1.

Manholes MH01 & MH02

5.12.2 MH01 and MH02 are located directly adjacent to the northwest boundary of site and are surface water drainage manholes.

5.12.3 Both manholes are brick structures.

5.12.4 MH01 measures 0.5 metres wide by 0.6 metres in length at surface and is 2.7 metres deep.

5.12.5 On the northwest side of MH01 (aligned parallel with the site boundary) there are two clay inlet pipes both of which are 200mm in diameter. The inverts of these pipes are 1.8mbgl and 0.7mbgl respectively.

5.12.6 On the southwest side of MH01 there is a 300mm clay inlet pipe with pipe invert measured at 1.97mbgl (pipe orientated from offsite towards the railway and tram tracks).

5.12.7 At the base of MH01 there is a vertical pipe which drains surface water from MH01 into MH02, which is located approximately 1 metre to the south of MH01.

5.12.8 MH02 measures 0.5m wide by 0.6m at surface and is 6.3m deep from surface to drain invert.

5.12.9 There are no visible inlets in the walls of the manhole, however, the drain at the base is visible. In MH02 the drain turns 90° directly towards the River Irk culvert (to the southeast).

5.12.10 Pictures of MH01 and MH02 are displayed below.



Figure 5.12.1. MH01 (foreground) and MH02 looking from north to south towards New Victoria Station.



Figure 5.12.2. Down hole image of MH01 orientated southeast (left) to northwest (right).



Figure 5.12.3. Down hole image of MH02 orientated southeast (left) to northwest (right).

Manhole MH03

5.12.11 Manhole MH03 is located to the northwest of site, 10.5 metres to the south of MH05.

5.12.12 MH03 measures 0.55m by 0.55m at surface and is 2.67 metres deep.

5.12.13 MH03 is a surface water pumping chamber, containing float switches and a pump. MH03 is constructed from concrete manhole rings.

5.12.14 The pumps are affixed to runners on the south southeast of the chamber.

5.12.15 There are two sets of float switch within the manhole: a set on the east-southeast side of the manhole and a set on the west-southwest side.

5.12.16 The high switch on the east-southeast of the chamber is hung at 1.82mbgl.

5.12.17 On the west-southwest side of the manhole, the high switch is hung at 1.94mbgl.

5.12.18 The low switches on both sides of the chamber are hanging at 2.0mbgl.

5.12.19 There were no obvious inlet pipes present within the chamber at the time of the survey however the pump outlets discharge to the south ot the manhole.

5.12.20 On inspection of the pumping chamber on Friday 12th January 2018, the water level was recorded at 2.23mbgl. During the site investigation of November / December 2017 water levels were observed to be much higher (circa 0.57mbgl).

5.12.21 Photographs of MH03 are displayed below.



Figure 5.12.4. Location of MH03, looking from east to west towards New Victoria Station and tram tracks.



Figure 5.12.5. Down hole image of MH03 orientated south southwest (left) to north northeast (right). Float switches and pump visible.

Manhole MH04

5.12.22 MH04 is located to the northeast of site and is a surface water drainage manhole. MH04 is a brick structure.

5.12.23 MH04 is 0.65m by 0.65m measured at surface and is 7.06 metres deep.

5.12.24 It was not possible to determine orientation of flow from surface level, however, running water can be heard when the manhole cover is lifted, suggesting that this drain is connected nearby to the River Irk Culvert.

5.12.25 There are three clay inlet pipes visible from surface discharging into the manhole.

5.12.26 The first inlet pipe is approximately 225mm in diameter and enters the manhole at 0.72mbgl in the southeast side of the manhole. A second pipe (approximately 225mm in diameter) is visible entering the manhole from the eastern corner of the manhole at 1.2mbgl. A third inlet pipe is only partially visible from surface and pipe invert could not be accurately measured. The pipe enters the manhole at the southern corner of the manhole at 2.1mbgl (top of pipe).

5.12.27 Photographs of MH04 are shown below.



Figure 5.12.6. Location of manhole MH04, looking from south to north.



Figure 5.12.7. Downhole image of MH04, orientated from southwest (left) to northeast (right).

Manhole MH05

5.12.28 MH05 is located to the west of site and is a surface water.

5.12.29 MH05 measures 0.5 metres wide by 0.9 metres long at surface.

5.12.30 The manhole is constructed on concrete manhole squares to 1.96mbgl where there is a broken material around the entirety of the manhole. This broken material suggests that the manhole has been installed after the surface water drain.

5.12.31 Below the break layer, the structure is cylindrical concrete. The base of MH05 is 4.04mbgl.

5.12.32 It was not possible to determine the direction of water flow as water in the manhole appeared to be static, however, the GPR detection plan indicates that flow here is to the northeast towards MH02.

5.12.33 Photographs of the manhole are displayed below.



Figure 5.12.8. Location of MH04, looking from southwest to northeast.



Figure 5.12.9. Downhole image of MH04 orientated northwest (left) to southeast (right).

6.0 Summary

6.1 General

6.1.1 Vertase F.L.I. Limited (VertaseFLI) were appointed by Muse Developments Ltd (the client) to undertake a Type A utility verification survey and to identify the top of the River Irk culvert at the proposed New Victoria development site located at Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Millgate Street, Manchester, M3 1NX (the site).

6.1.2 Site works were undertaken between Friday 10th November 2017 and were concluded on Friday 15th December 2017.

6.1.3 A total of eight Utility Trenches (TT03 – TT10 – see drawing D1730_05 in Appendix 1) were excavated using vacuum extraction methods to uncover underground utilities.

6.1.4 The Type A utilities survey was conducted in accordance with 'PAS 128:2014 – Specification for Underground Utility Detection, Verification and Location'.

6.1.5 A number of methods were employed to assist in identifying the nature and type uncovered utilities; whether utilities were live or redundant and; to identify which service providers are responsible for utilities.

6.1.6 The nature and ownership of the majority of utilities were appropriately resolved during the survey. Where utilities could not be identified they were recorded in the survey as 'unknown'.

6.1.7 A further two trial trenches (TT01 and TT02) were excavated using a JCB 3CX to identify the top of the River Irk Culvert.

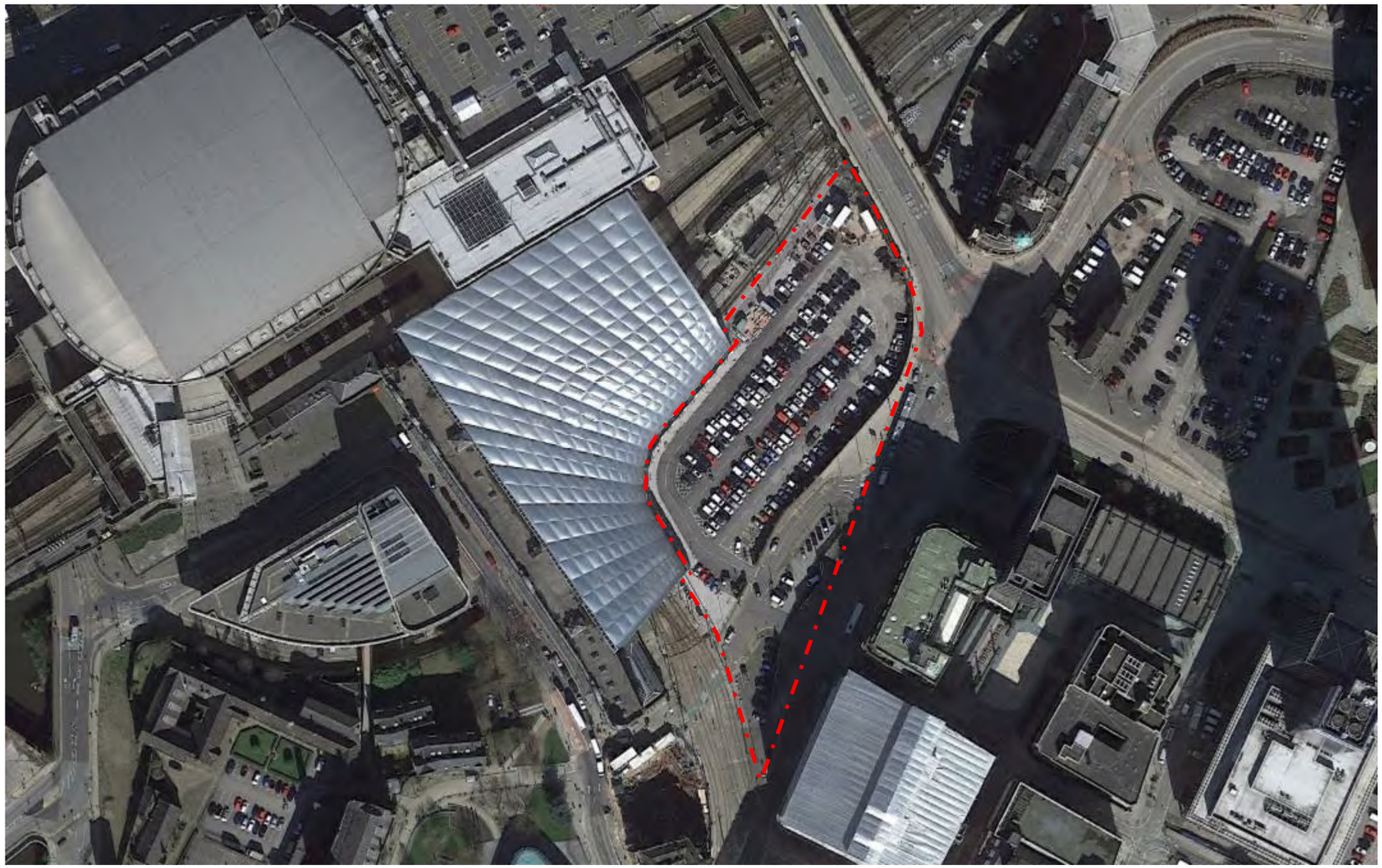
6.1.8 The River Irk culvert was successfully identified in both TT01 and TT02. Additionally, the culvert was potentially identified in two trial pits (TP04 and TP07) which were part of a wider geo-environmental site investigation.

6.1.9 All trial trenches were reinstated, with the surface being reinstated with paving slabs (pavements only) or asphalt.

Appendix 1

Drawings

***Not to scale**



A3

Legend

Site Boundary

Rev.	Description	Revised By	Date
	FIRST ISSUE		24/01/18

Vertase FLI

Contaminated Land, Brownfield & Environmental Contracting Specialists

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www.vertasefli.co.uk

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□ Sheffield Office: Tel: 01246 813289 Fax: 01246 812963

Site Address:
Long Millgate Car Park (APCOA), Manchester Victoria Station, Long Millgate, Manchester, M3 1NX

Rev: **0**

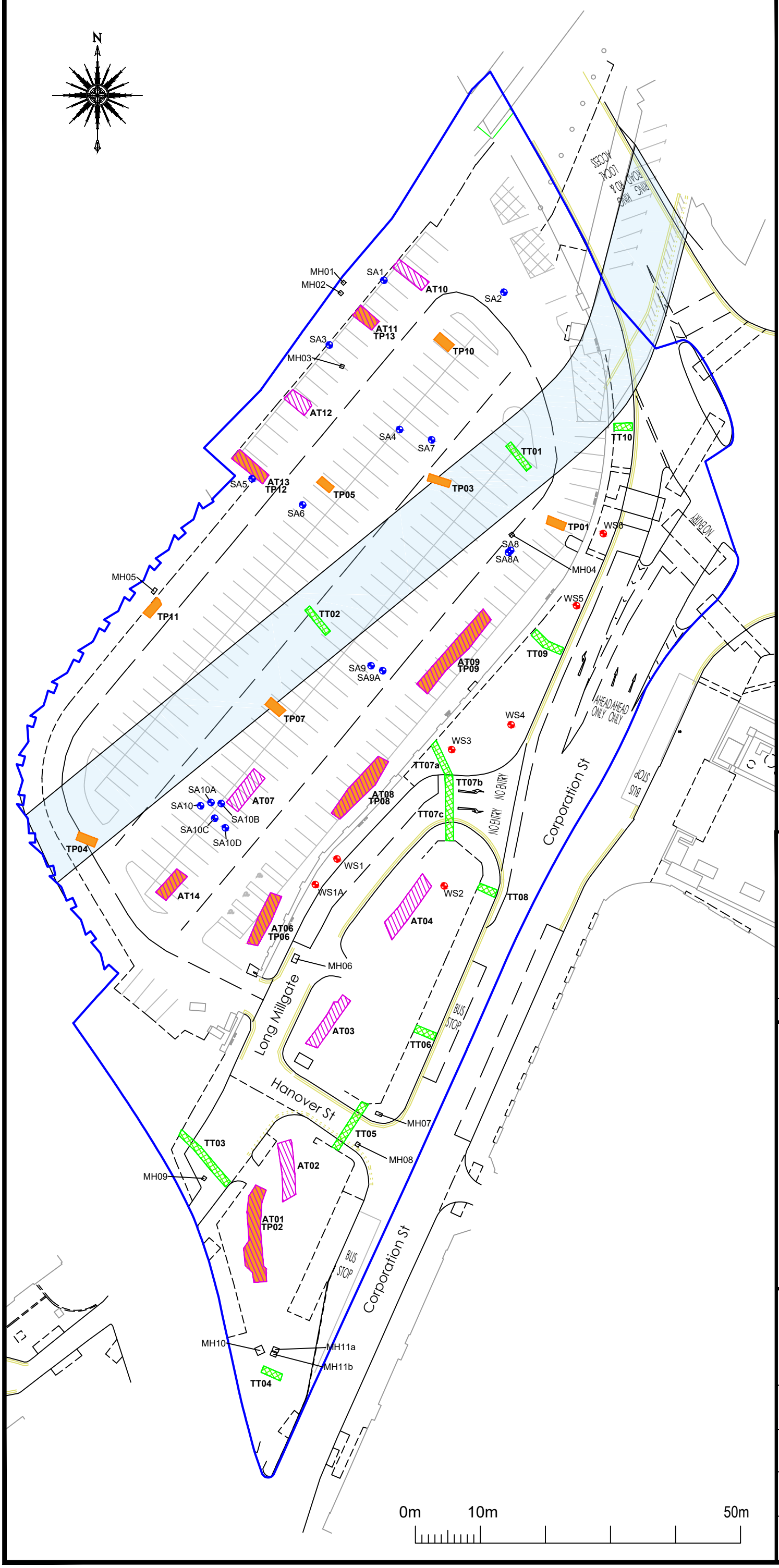
Title: **Site location map with site boundary**

Client: **Muse Developments Ltd**

Drawn:	Checked:	Approved:
IS	**CL**	**CL**

Dwg:	Contract:	Scale:
SK1730_05	**1730MUS**	**NTS**

A3



Legend

- Utility Survey Trench
- VertaseFLI Trial Pit
- Archaeology Investigation Trench (GMAAS)
- SA — Boreholes
- WS — Windowless Sample Holes
- Culvert

Rev.	Description	Revised By	Date
	FIRST ISSUE		26-01-2018

Vertase FLI

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- Manchester Office: Tel: 0161 4372708 Fax: 0161 4376300

Rev:

Site Address:

New Victoria
Manchester

Title: Site Investigation Location Plan

Client: Muse Developments Ltd

Drawn: SCG	Checked: IS	Approved: CL
Dwg: D1730_05	Contract: 1730MUS	Scale: NTS

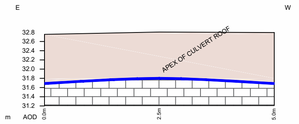
A1

N

TT01
TT02
TT03
TT05
TT06
TT07a
TT07b
TT07c
TT08
TT09
TT10

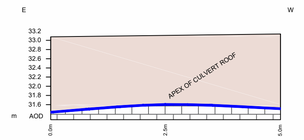
NO ENTRY
BUS STOP
AHEAD ONLY
NO ENTRY
BUS STOP

Trial Trench 1



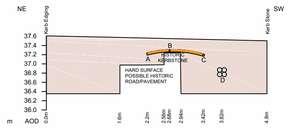
X-Axis (m)	0	2.5	5
m bgl	-1.07	-0.97	-1.11
m AOD	31.72	31.83	31.71

Trial Trench 2



X-Axis (m)	0	2.5	5
m bgl	-1.64	-1.46	-1.16
m AOD	31.45	31.67	31.53

Trial Trench 7a



Service	A	B	C	D
m bgl	-0.32	-0.24	-0.32	-0.61
m AOD	35.24	35.31	35.21	34.92

Key

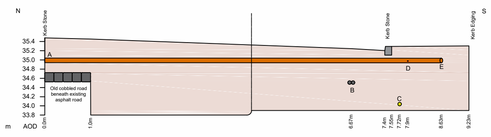
A. 50mm Orange ribbed plastic duct containing single LV Electric Cable - exits trench in southwest face

B. 50mm Orange ribbed plastic duct containing single LV Electric Cable - rises over historic kerb stone left in-situ below ground

C. 50mm Orange ribbed plastic duct containing single LV Electric Cable - enters trench in northeast face

D. 4x 96.5mm Grey Plastic Ducts - Telecommunications

Trial Trench 7b



Trial Trench 7c

Service	A	B	C	D	E
m bgl	-0.44	-0.70	-1.18	-0.32	-0.27
m AOD	35.04	34.55	34.12	34.98	35.03

Key

A. 100mm Clay duct containing single LV Electric Cable - enters trench at Point A and runs length of trench joining LV Cable and exiting trench at Point E

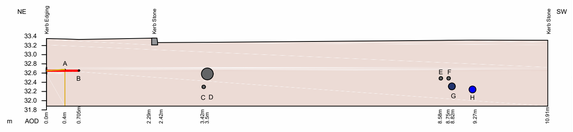
B. 2x 3" Cast Iron Pipe - Unidentified

C. 3" Cast Iron Pipe - Redundant Gas

D. Unducted LV Electric Cable

E. 100mm Clay duct containing single LV Electric Cable

Trial Trench 3



Service	A	B	C	D	E	F	G	H
m bgl	-0.66	-0.66	-0.93	-0.56	-0.79	-0.79	-0.93	-1.00
m AOD	32.68	32.67	32.34	32.71	32.52	32.52	32.38	32.32

Key

A. Bare Copper Earth Cable to buried Earth Point- entering trench face on west side from 150mm plastic duct

B. LV Electric Cable- entering trench face on west side from 150mm plastic duct and exiting trench face on north side of Trial Trench 3 (Marked B)

C. 3" Cast Iron Pipe - Unidentified

D. 10" Cast Iron Pipe - Unidentified

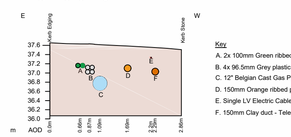
E. 3" Cast Iron Pipe - Unidentified

F. 3" Cast Iron Pipe - Unidentified

G. 6" Cast Iron Pipe - Redundant Water

H. 6" Cast Iron Pipe - Live Water

Trial Trench 10



Service	A	B	C	D	E	F
m bgl	-0.42	-0.47	-0.69	-0.41	-0.22	-0.45
m AOD	37.21	37.17	36.92	37.18	37.34	37.10

Key

A. 2x 100mm Green ribbed plastic ducts - Telecommunications

B. 4x 96.5mm Grey plastic ducts - Telecommunications

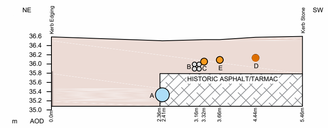
C. 12" Belgian Cast Gas Pipe

D. 150mm Orange ribbed plastic duct - Traffic Signals

E. Single LV Electric Cable

F. 150mm Clay duct - Telecommunications

Trial Trench 9



Service	A	B	C	D	E
m bgl	-1.03	-0.49	-0.41	-0.38	-0.37
m AOD	35.48	36.04	36.12	36.17	36.20

Key

A. 12" Belgian Cast Gas Pipe

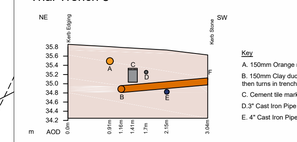
B. 4x 96.5mm Grey plastic ducts - Telecommunications

C. 150mm Orange ribbed plastic duct - Traffic Signals

D. 150mm Clay duct - Telecommunications

E. 150mm Orange ribbed plastic duct containing single LV Electric Cable

Trial Trench 8



Service	A	B	C	D	E	F
m bgl	-0.24	-0.83	-0.44	-0.47	-0.86	-0.50
m AOD	35.57	34.96	35.33	35.29	34.87	35.13

Key

A. 150mm Orange ribbed plastic duct - Traffic Signals

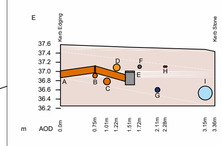
B. 150mm Clay duct containing taped armoured LV Electric Cable - Enters trench at Point B then turns in trench and exits in face of trench at Point F adjacent to Corporation Street

C. Cement tile marked 'Electricity' over junction box

D.3" Cast Iron Pipe - Unidentified

E. 4" Cast Iron Pipe - Redundant Water

Trial Trench 6



Service	A	B	C	D	E	F	G	H	I
m bgl	-0.57	-0.62	-0.69	-0.38	-0.52	-0.38	-0.86	-0.38	-0.80
m AOD	34.82	34.76	34.66	34.96	34.81	34.94	34.45	34.93	34.48

Key

A.150mm Clay Duct containing LV Electric Cable - Spur from Junction Box marked 'E'

B. 100mm Clay Duct containing 2 cables - Telecommunications

C. 150mm Clay Duct containing Taped Armoured LV Electric Cable

D. 150mm Orange ribbed plastic duct - Traffic Signals

E. Cement Tile marked 'Electricity' over junction box

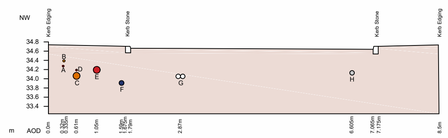
F. 3" Cast Iron Pipe - Unidentified

G. 4" Cast Iron Pipe - Redundant Water

H. 2x 1.5" plastic ducts containing LV Electric Cable

I. 12" Belgian Cast Gas Pipe

Trial Trench 5



Service	A	B	C	D	E	F	G	H
m bgl	-0.44	-0.32	-0.52	-0.59	-0.45	-0.75	-0.56	-0.47
m AOD	34.29	34.41	34.21	34.14	34.27	33.96	34.10	34.18

Key

A. Unducted LV Electric Cable

B. 50mm Orange Plastic Duct

C. 150mm Clay Duct - Telecommunications

D. Taped Armoured LV Electric Cable

E. 150mm Red Plastic Duct containing LV Electric Cable

F. 4" Cast Iron Water Pipe

G. 2x 96.5mm White Plastic Ducts - Telecommunications

H. 100mm Grey Plastic Duct - Telecommunications

Rev.	Description	Revised By	Date
	FIRST ISSUE		26-01-2018

Vertase FLI

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- Hertford Office: Tel: 01992 535757 Fax: 01992 535858
- Manchester Office: Tel: 0161 4372708 Fax: 0161 4376300

Site Address:

New Victoria
Manchester

Rev:

Title: Utility Trench Cross-Sections

Client: Muse Developments Ltd

Drawn: SCG	Checked: IS	Approved: CL
Dwg:D1730_04	Contract: 1730MUS	Scale: NTS

Appendix 2

GPR Detection Plan & Utility Plans

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T. (01492) 729835 F. (01492) 725566 W. www.sepltd.com E. info@sepltd.com

N

PLAN GRID NORTH

File Name: S11982-U.dwg

LEGEND

AV	AIR VALVE	BT	CABLE DUCT
BT	BT INSPECTION COVER	CATV	CABLE TV
C	CONIFEROUS	CCTV	CCTV
CCV	CCTV CAMERA POST	COM	COMMUNICATION CABLE
COM	COMMUNICATIONS COVER	CP	CONCRETE POST
CP	CONCRETE POST	D	DRAINAGE CHANNEL
D	DRAINAGE CHANNEL	ELEC	ELECTRIC
DC	DRAIN COVER	FL	FUEL LINE
DR	DRAIN	GAS	GAS
E	ELECTRIC INSPECTION COVER	GPR	GPR CONTACTS
ELB	ELECTRIC BOX		
ER	EARTH ROD		
FP	FINISHED FLOOR LEVEL		
FPL	FINISHED FLOOR LEVEL		
FH	FIRE HYDRANT		
G	GAS		
GLI	GROUND LIGHT		
GSV	GAS TAP		
I	INSPECTION COVER		
IC	INSPECTION COVER		
KO	KERB OUTLET		
M	MANHOLE		
MH	MANHOLE		
MKR	MARKER		
P	PLASTIC PIPE		
PN	PYLON		
PP	PETROL PUMP		
PSP	PARKING SPACE		
RWP	RAINWATER PIPE		
SOF	SOFFIT LEVEL		
T	TELEPHONE		
TCB	TELEPHONE CALL BOX		
TL	TRAFFIC LIGHT		
TLB	TRAFFIC LIGHT BOX		
TP	TELEGRAPH POLE		
W	WATER		
WO	WATER OUTLET		
WT	WATER TAP		
WSV	WATER STOP VALVE		
EOT	END OF TRACE		
OSA	OUT OF SURVEY AREA		
UTL	UNABLE TO LIFT		
UTP	UNABLE TO PLACE		
UTT	UNABLE TO TRACE		
SL	SIGNAL LOSS		
TP	TEST PIT		
NFV	NO FURTHER GPR CONTACTS		
NVP	NO VISIBLE PIPE		
NVP	NO VISIBLE PIPE		
EOT	EOT SYMBOL		

FROM STATUTORY AUTHORITY PLANS

BT	CABLE DUCT	BT
CATV	CATV	CATV
ELEC	ELECTRIC	ELEC
WATER	WATER	WTR
SEWER	SEWER	SEW
FIBRE	FIBRE	FIB
TRAFFIC	TRAFFIC	TRAF
UNKNOWN	UNKNOWN	UNK

NOTES:
All levels relate to O.S (Newlyn) Datum, Established using network RTK.
Survey plotted on a plane local grid, orientated to National Grid.

Services shown as "From Statutory Authority Plans" line styles are taken from Statutory Records plans supplied by the relevant regional authorities. Services were not located and are shown for indicative purposes only.

SURVEY STATIONS

Name	Easting	Northing	Height
SEP1	384158.091	398048.945	38.017
SEP2	384179.123	398013.353	37.963
SEP4	384130.295	398063.518	38.118
SEP3	384178.123	398013.353	37.963
SEP5	384102.537	398001.034	34.865
SEP6	384151.537	398001.034	34.865
SEP7	384060.187	398045.317	33.408
SEP8	384006.458	398088.726	33.930

DISCLAIMER:

At SEP we use skilled and experienced staff, modern up to date techniques and top of the range electromagnetic and radar technology to locate and trace subsurface utilities. However the performance of the equipment employed in non-invasive surveys can be adversely affected by factors outside the control of SEP. Therefore SEP cannot guarantee that all utilities present on site have been located. It is the responsibility of the Client to consult regional authority records and undertake trial digs where appropriate.

Where similar services run in close proximity it may be impossible to separately trace individual services as the trace signal can experience interference. In such cases, services will be shown as a single, annotated line. The displayed depth will refer to the shallowest detected utility.

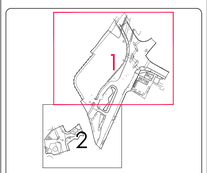
Successful tracing of non-conductive materials may be limited. Drainage gullies are also tested where possible to prove connectivity but it is not always possible to introduce the sonde due to narrow pipe sizes and/or accumulated silt.

Depth information of underground services/features are generally accurate to within +/- 10% (i.e. a pipe at 2m deep may be accurate to +/-200mm) but this cannot be guaranteed. Depths shown usually refer to the top of the service. Gravity sewer and drain depths are usually to invert (base of drainage channel) unless otherwise stated.

Some above ground features may have been obscured at time of survey. It may also be possible to operate the Ground Penetrating Radar in areas including, but not limited to, dense vegetation, rubble, debris and/or rough/uneven ground.

Existing record information that was made available to SEP by the Client or by the statutory utility provider should be regarded only as an indication and cannot be guaranteed.

Excavation in the vicinity of services shown should be carried out with due diligence (Ref. HSG47).



SHEET LAYOUT

0 2m 4m 8m 12m 16m

SCALE BAR

REV	DATE	DESCRIPTION

SEP (SITE ENGINEERING PERSONNEL) ltd
SURVEY & ENGINEERING PROJECTS

Client
Arup
6th Floor
3 Piccadilly Place
Manchester
M1 3BN

Project Title
Utility Survey of Land at:
Manchester Victoria Station
Corporation Street
Manchester
M3
Sheet 1 of 2

Surveyed	Drawn	Checked
S.Fenna	B.Brady	S.Fenna

Scale	Date	Drawing Ref.	No.	Size	Rev
1:200	Jan 16	S11982-U	01	A0	--

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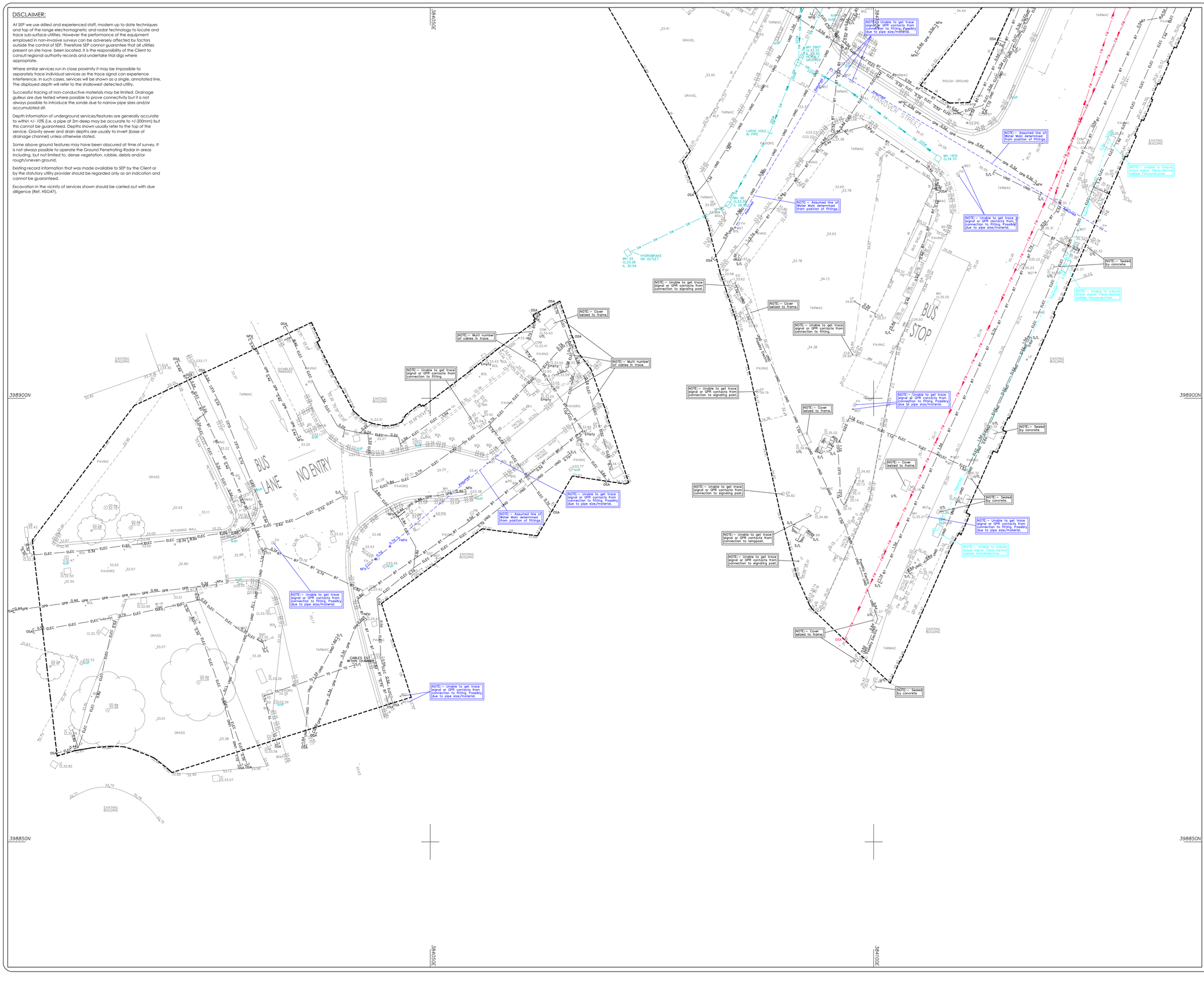
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T. (01693) 729833 F. (01693) 725566 W. www.sepltd.com E. info@sepltd.com

N

PLAN GRID NORTH

File Name: S11982-U.dwg

LEGEND

AV	AIR VALVE	
BT	BT INSPECTION COVER	BT
CB	CONTROL BOX	CABLE DUCT
CCTV	CCTV CAMERA POST	CABLE TV
COM	COMMUNICATIONS COVER	CCTV
CTV	CABLE TV COVER	COMMUNICATION CABLE
DC	DRAINAGE CHANNEL	EARTH ROD STRIP
DP	DOWN PIPE	ELECTRIC
DR	DRAIN	FUEL LINE
EIC	ELEC INSPECTION COVER	GPR
EMB	EMBANKMENT	MAINS GAS
ER	EARTH ROD	MAINS WATER
EP	ELECTRICITY POLE	SEWER CW
FFL	FINISHED FLOOR LEVEL	SEWER FW
FH	FIRE HYDRANT	SEWER SW
G	GULLY	TRAFFIC SIGNAL CABLE
GLT	GROUND LIGHT	UNIDENTIFIED TRACE
GST	GAS TAP	UNIDENTIFIED CABLE
GSV	GAS VALVE	UNIDENTIFIED PIPE
IC	INSPECTION COVER	VEHICLE DETECTION CABLE
IL	INVERT LEVEL	SURVEY BOUNDARY
KO	KERB OUTLET	
LP	LAMP POST	
MH	MANHOLE	
MKR	MARKER	
OP	OUTFALL PIPE	
PP	POWER POLE	
PPP	PETROL PUMP	
RE	RODDING EYE	
RWP	RAINWATER PIPE	
SOF	SOFFIT LEVEL	
SV	STOP VALVE	
TCB	TELEPHONE CALL BOX	
TL	TRAFFIC LIGHT	
TLB	TRAFFIC LIGHT BOX	
TP	TELEGRAPH POLE	
WM	WATER METER	
WO	WATER OUTLET	
WST	WATER STOP TAP	
WSV	WATER STOP VALVE	
EOT	END OF TRACE	
OSA	OUTSIDE SURVEY AREA	
UTL	UNABLE TO LIFT	
UTS	UNABLE TO SONDE	
UTT	UNABLE TO TRACE	
S/L	SIGNAL LOSS	
BLK	BLOCKED	
NFH	NO FURTHER GPR CONTACTS	
BD	BACKDROP PIPE	
NVP	NO VISIBLE PIPE	
[_]	EOT SYMBOL	

FROM STATUTORY AUTHORITY PLANS

BT	BT
	STAT
CABLE DUCT	BT
	STAT
CATV	CATV
	STAT
CCTV	CCTV
	STAT
ELECTRIC	ELEC
	STAT
MAINS WATER	WTR
	STAT
SEWER CW	CW
	STAT
SEWER FW	FW
	STAT
SEWER SW	SW
	STAT

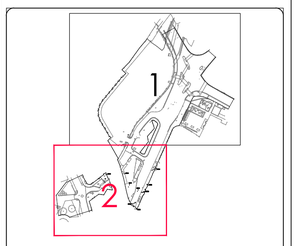
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SEP7	384090.187	398945.317	33.408
SEP8	384050.458	398886.730	33.530



SHEET LAYOUT

0 2m 4m 8m 12m 16m

SCALE BAR

REV	DATE	DESCRIPTION

SEP (SITE ENGINEERING PERSONNEL) ltd

SURVEY & ENGINEERING PROJECTS

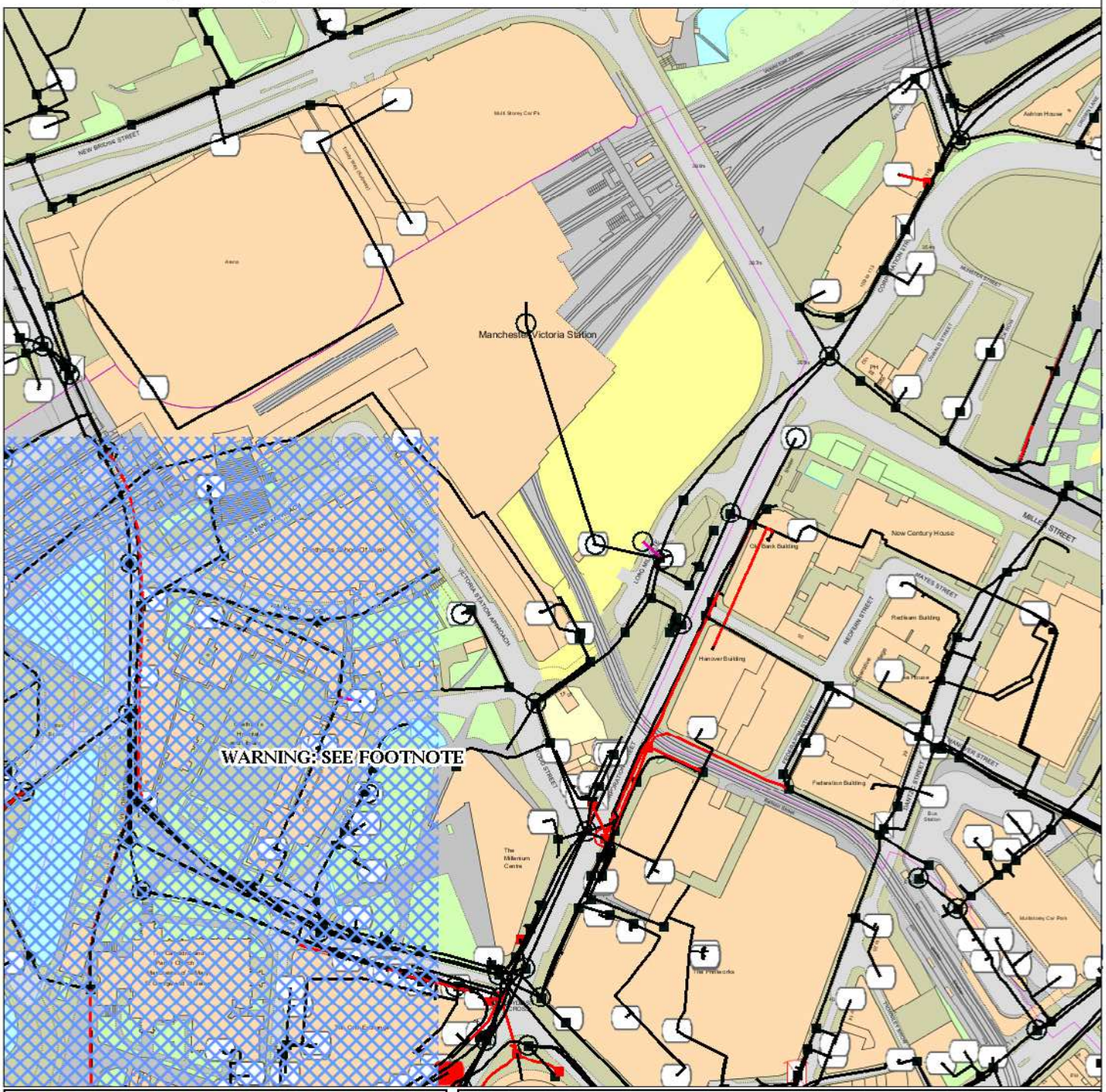
Client
Arup
6th Floor
3 Piccadilly Place
Manchester
M1 3BN

Project Title
Utility Survey of Land at:
Manchester Victoria Station
Corporation Street
Manchester
M3
Sheet 2 of 2

Surveyed	Drawn	Checked
S.Fenna	B.Brady	S.Fenna

Scale	Date	Drawing Ref.	No.	Size	Rev
1:200	Jan 16	S11982-U	02	A1	--

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

DIAL BEFORE YOU DIG

FOR PROFESSIONAL ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS

ADVANCE NOTICE REQUIRED
(Office hours: Monday-Friday 08.00 to 17.00)

Tel: 0800 9173993
E-mail: dbyd@openreach.co.uk
Website: www.dialbeforeyoudig.com

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KEY TO BT SYMBOLS

UNDERGROUND PLANT	POLE
A/C, D/W or W OVERHEAD PLANT	CABINET
JOINT BOX	BURIED JOINT
456 OR 456 DISTRIBUTION POINT	J JOINTING POST
MANHOLE OR 72	PROPOSED U/G
DP BOUNDARY	A/C, D/W or W PROPOSED O/H
OTHER BT BOUNDARY OR	PROPOSED BOX

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.

openreach
a BT Group business

BT Ref : ODA04262N
Map Reference : (centre) SJ8405098950
Easting/Northing : (centre) 384050,39895
Issued : 03/08/2015 16:26:30

FOOTNOTE: WARNING IT IS ESSENTIAL THAT YOU CONTACT NATIONAL NETWORK HANDLING CENTRE BY EMAIL nnhc@openreach.co.uk BEFORE PROCEEDING WITH ANY WORK IN THE HATCHED AREA

NEW BRIDGE STREET
JRC12
Weir
Victoria East Junction
MILLOW STREET
ASPIN LANE
Multi Storey Car Pk
Multi Storey Car Pk
Boro Const & Ward Bdy
Trinity Way (Subway)
Footbridge
SL
Ward Bdy
115
CORPORATION STREET
109 to 113
JUF4
Arena
Victoria Station
Victoria Station
Victoria Station
Victoria Station
Boro Const & Ward Bdy
SL
Footbridge
SL
El Sub Sta
HUNT'S BANK
VICTORIA STATION APPROACH
OSWALD STREET
MILLER STREET
152
PH
88
88a
86
84
82
WALKER'S CROFT
El Sub Sta
VICTORIA STATION APPROACH
LONG MILLGATE
JRC12
New Century House
Old Bank Building
MAYES STREET
REDFERN STREET
Redfearn Building
The Cooperative College
Holyoake House
50
78
76
66
56
W
Car Park
Monument
Chetham's Hospital and Library
Chethams School of Music
LONG MILLGATE
P
LB
40
Hanover Building
FEDERATION STREET
Federation Building
29
JRC12
Salford Bridge
VICTORIA STREET
TOWNSEND STREET
COOPER STREET
Statue
Balloon Street
DANTZIC STREET
The Millenium Centre
Bank
TCBs
Bus Station
ESS
LB
Fennel Street
The Cathedral and Parish Church of Manchester of St Mary, St George and St Denys
Cross
SD
CATHEDRAL STREET
The Triangle
Dantzic Place
20
18
Posts
THORNILEY BROW
16
14
12
10
8
6
7
9
WELL STREET
WELL STREET
GARDEN STREET
Hanging Bridge
Cathedral Yard
CANNON COURT
Mitre Hotel
PH
PH
PH
Cathedral Gates
1 to 3
46
42
14
12
10
8
2
9
7
5
Exchange Square
Exchange Square Stop
Fn
WITHY GROVE
33
35
37
39
1
15
25
27
29
4
3
7
Metrolink

0 100 metres

Duct laid at nominal 350 mm. cover in footway 600 mm. cover in carriageway.

Subject to variation due to site conditions.

LEGEND

EXISTING DUCT ROUTE
EXISTING CHAMBER
PROPOSED DUCT ROUTE
PROPOSED CHAMBER

The position of KCOM plant is shown as accurately as possible, but the position must be regarded as approximate only, and should be verified on site before excavation.These plans are valid for three months from the date of issue.
If in doubt contact 0845 120 1579
FIBRE OPTIC CABLES EXIST

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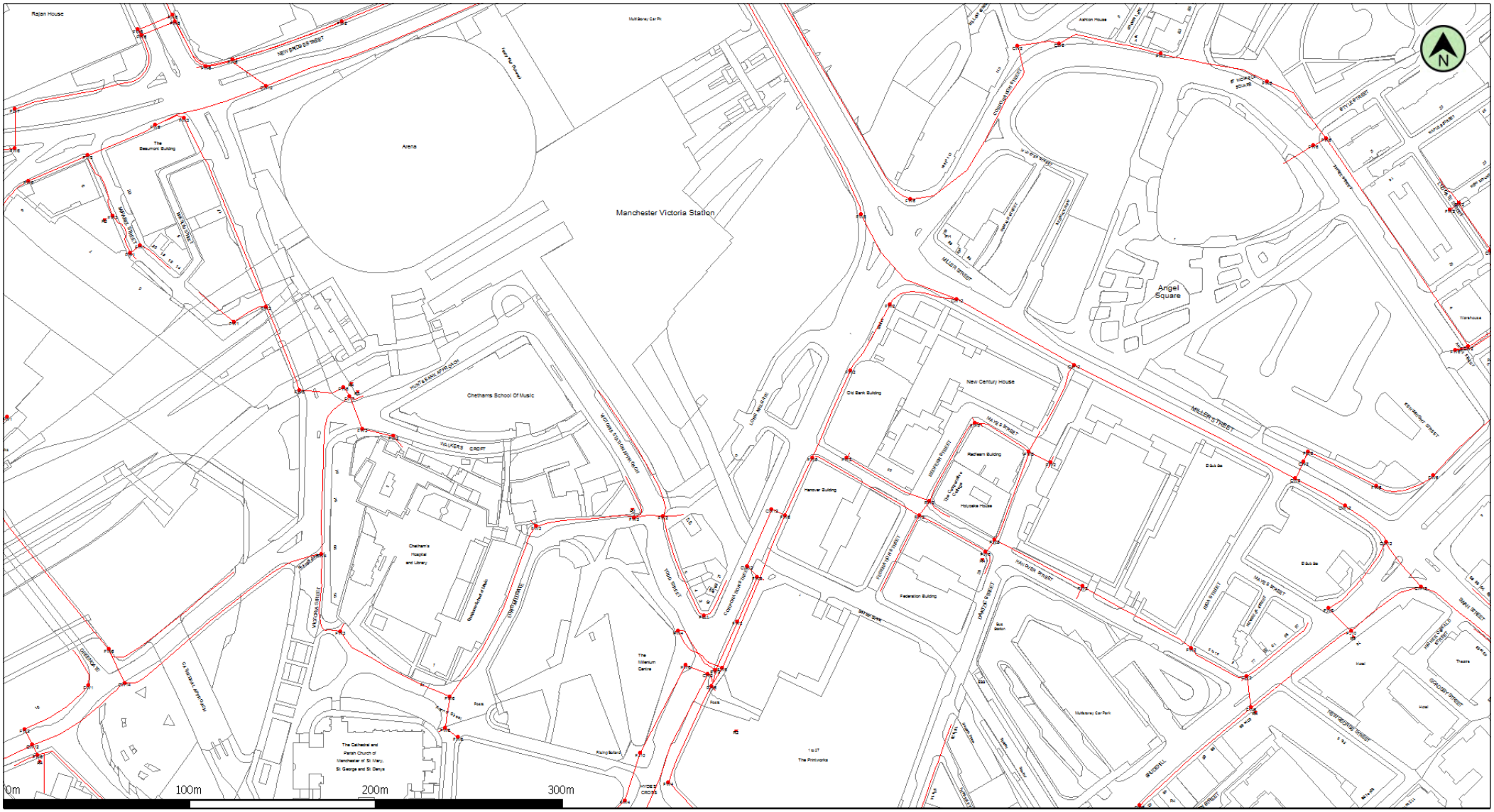
Added data copyright Affiniti

16448 Manchester

1:1000 **05/08/2015**

KCOM
Melbourne House,
Brandy Carr Road,
Wrenthorpe,
Wakefield
WF2 OUG

Tel: 0845 120 1579
Fax: 01924 882845



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Date: 26/08/15

Scale: 1:2885

Map Centre: 384087,398943

Data updated: 28/06/15

Telecoms Plan A4

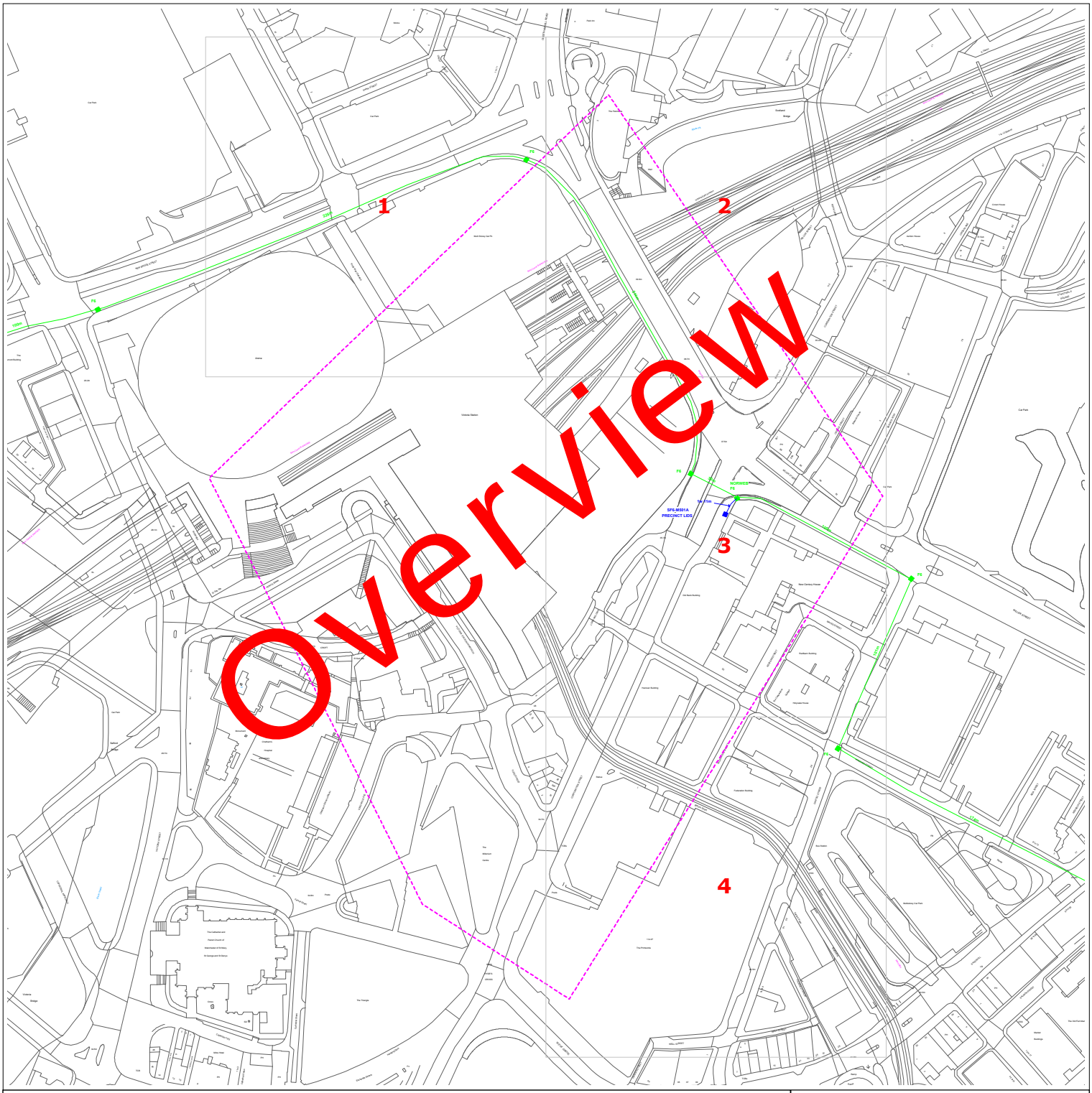
Important Information - please read
</br> The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2015 Ordnance Survey 100019209.

Duct, Trench

Chamber

Cabinet

miridula.rai@virginmedia.co.uk



Date Requested: 03/08/2015
Requested by: Toby Broomfield
Job Reference: 7183392

Company: Groundwise Searches
Scheme/Reference: 16448DM

2W — GAMMA FIBRE DUCT & No.
FW6 — GAMMA FIBRE CHAMBER & TYPE
GAMMA FIBRE OPTIC IN OLO DUCT
FW6 — GAMMA FIBRE OPTIC IN OLO CHAMBER

GAMMA POP SITE
GAMMA REGEN SITE
FW6 — GAMMA FIBRE OPTIC IN SHARED CHAMBER
GAMMA FIBRE OPTIC IN SHARED DUCT

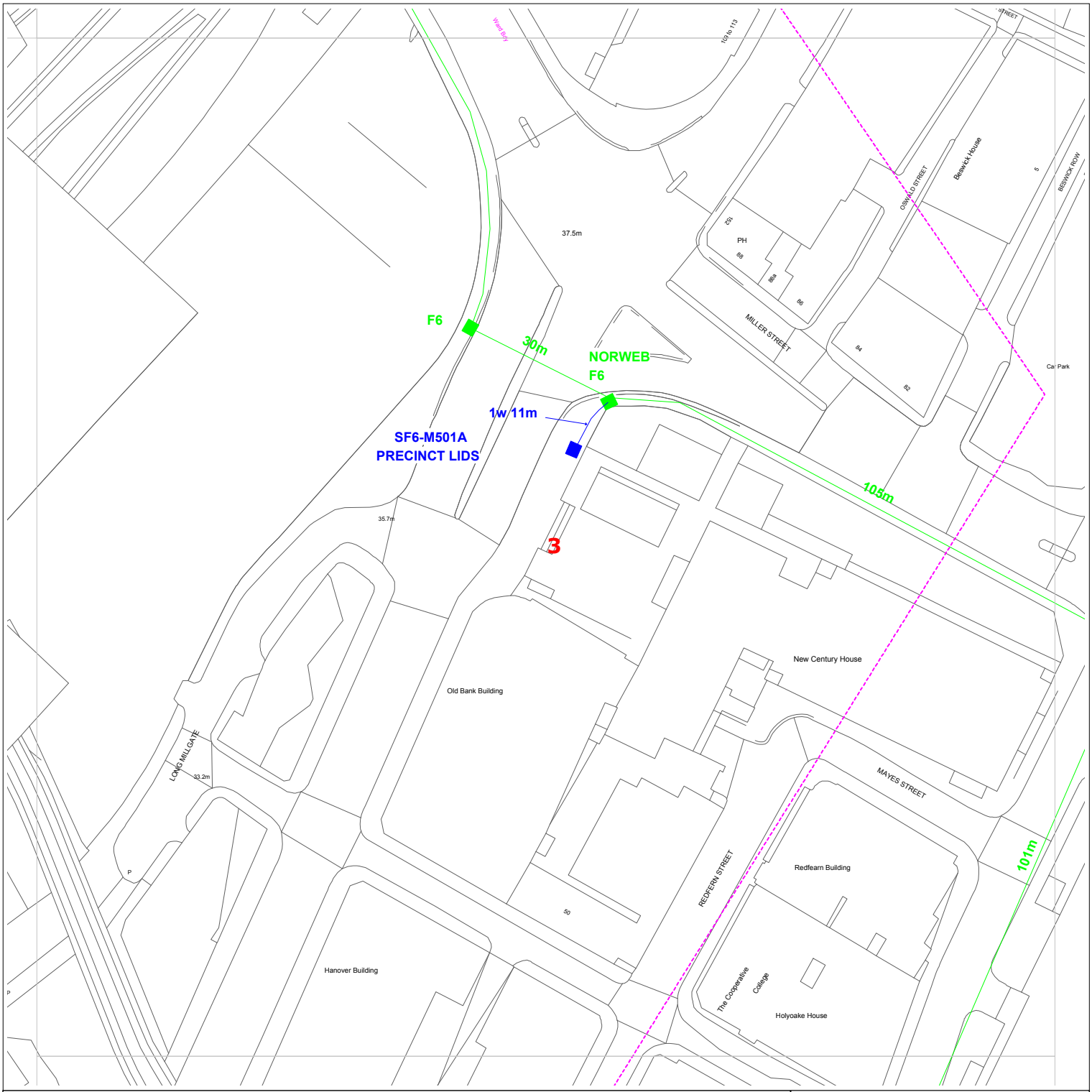
The Information shown on this map is given as a general guide only. The map is issued without obligation or warranty.
The accuracy cannot be guaranteed. The Exact position of the ducts should be verified prior to mechanical excavation.
The Nominal Depth of Duct Cover is:- Carriageway-600m Footway & Verge-350mm. The Fibre Optic cables will not be traceable by use of a "CAT"

NOTES :- Chamber Lids may be labelled as 'Atlantic'

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Gamma, Streetworks Team
Unit C, Focal Point, 2nd Avenue
Trafford Park
Manchester. M17 1FG
Phone: 0161 870 3384
Email: plantenquiries@gamma.co.uk

Dig Sites:
Area Line
Approx scale on A4 paper: 1:1000 (excluding Overview map)



Date Requested: 03/08/2015
Requested by: Toby Broomfield
Job Reference: 7183392

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Gamma

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Unit C, Focal Point, 2nd Avenue
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Phone: 0161 870 3384
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Dig Sites:
Area Line
Approx scale on A4 paper: 1:1000 (excluding Overview map)



Requested by: Joe Shawyer

Company: GROUNDWISE SEARCHES LTD

Date Requested: 10/08/2017

Job Reference: 10993944

Your Scheme/Reference: 20322JS

Dig Sites:

Area Line

Operating Voltage	Colour Code	Line Colour
132kV	Black	
33kV	Green	
22kV-25kV	Yellow	
11kV	Red	
6kV-6.6kV	Blue	
1kV-6kV	Violet	
LV	Orange	
Unknown Voltage	Brown	

electricity north west

Data Management
Electricity North West
Linley House
Dickinson Street
Manchester, M1 4LF
Phone: 0800 195 4141
Email: planrequest@enwl.co.uk

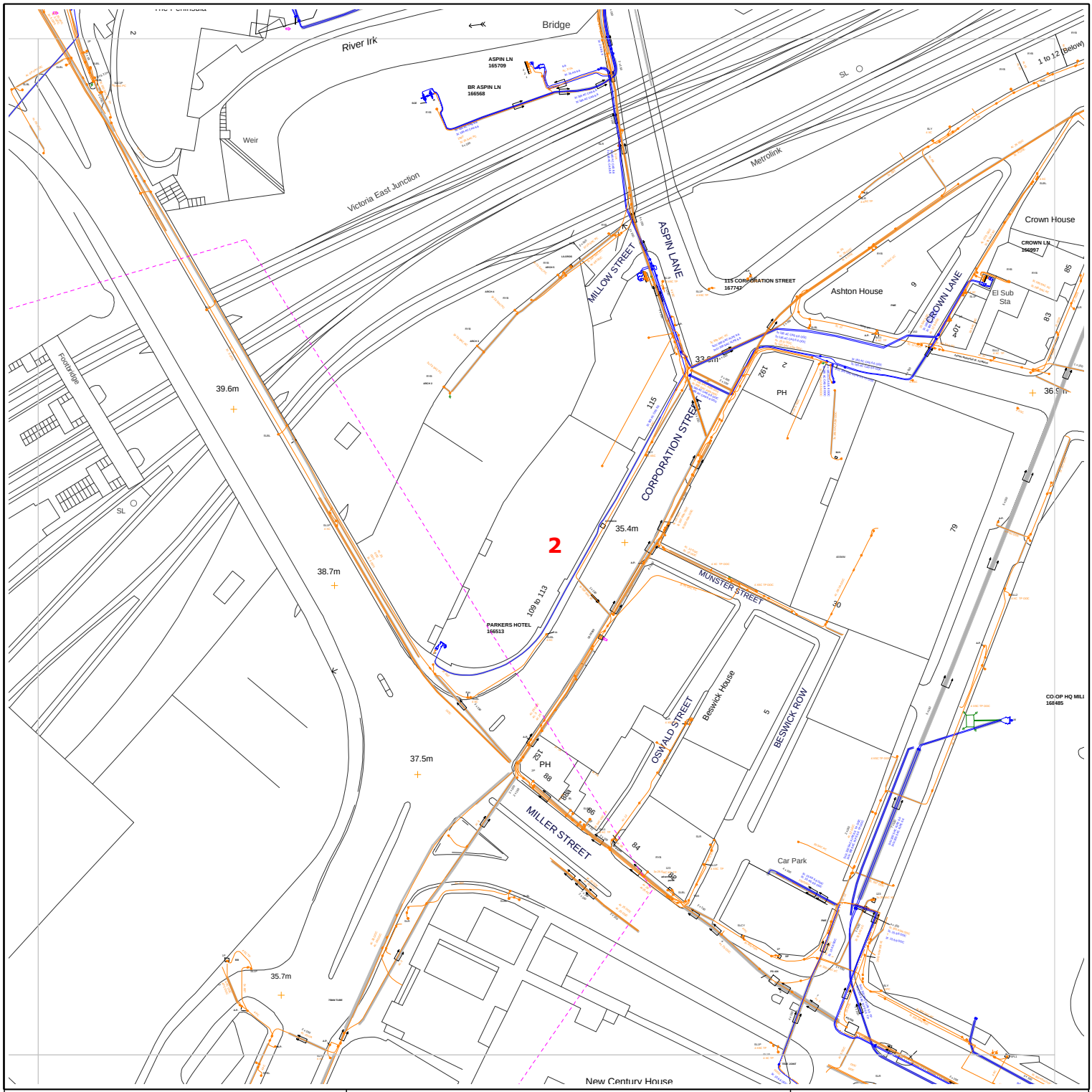
Scales on A4 paper:
1:1250 Area dig site
1:250 Line dig site

Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited.

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Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoidance of Danger from Overhead Power Lines".

Electricity North West Limited 304 Bridgewater Place, Birchwood Park, Warrington WA3 6XG. Registered in England and Wales. Registered No 02366949



Requested by: Joe Shawyer

Company: GROUNDWISE SEARCHES LTD

Date Requested: 10/08/2017

Job Reference: 10993944

Your Scheme/Reference: 20322JS

Dig Sites:

Area Line

Operating Voltage	Colour Code	Line Colour
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1kV-6kV	Violet	
LV	Orange	
Unknown Voltage	Brown	

electricity north west

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Electricity North West
Linley House
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Manchester, M1 4LF
Phone: 0800 195 4141
Email: planrequest@enwl.co.uk

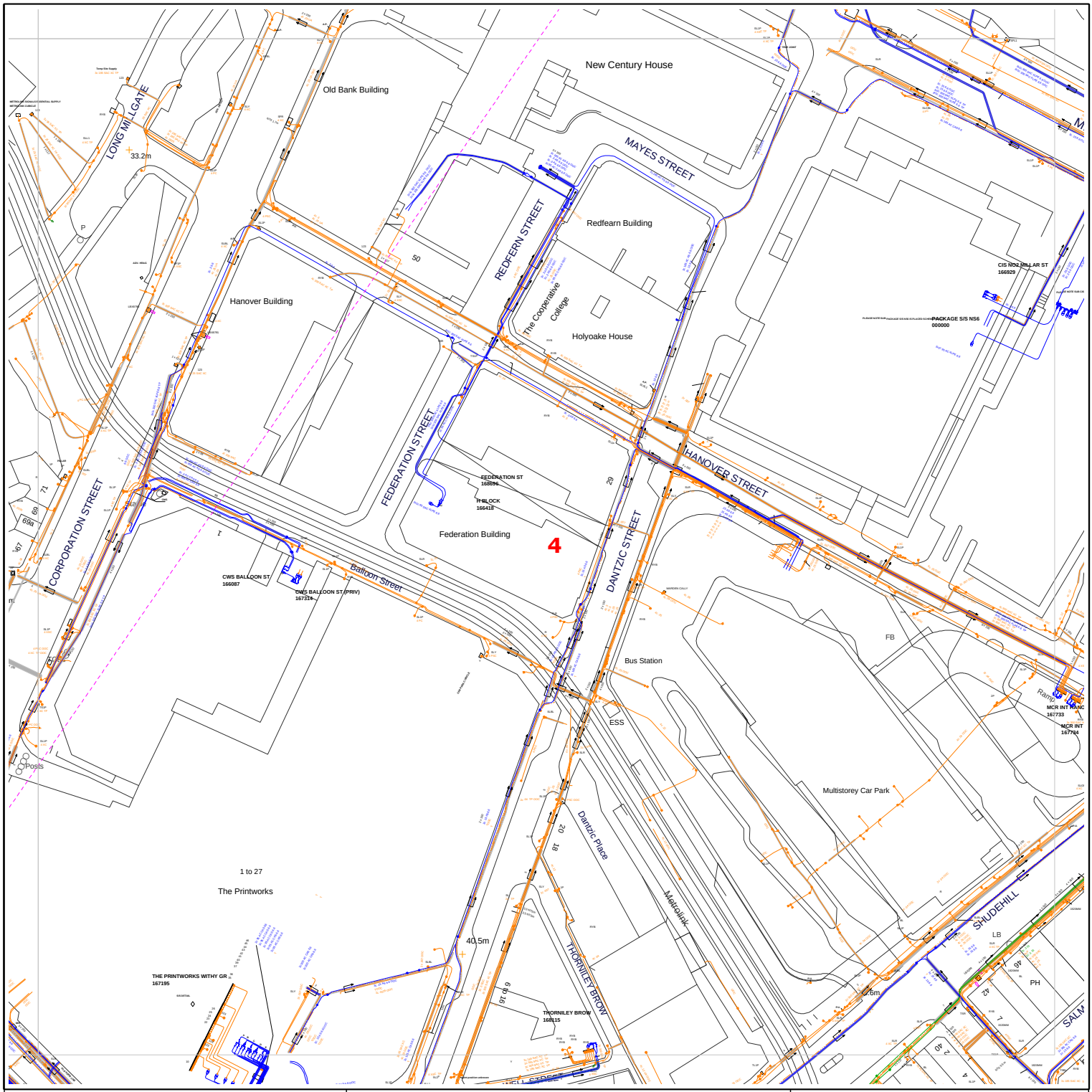
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Date Requested: 10/08/2017

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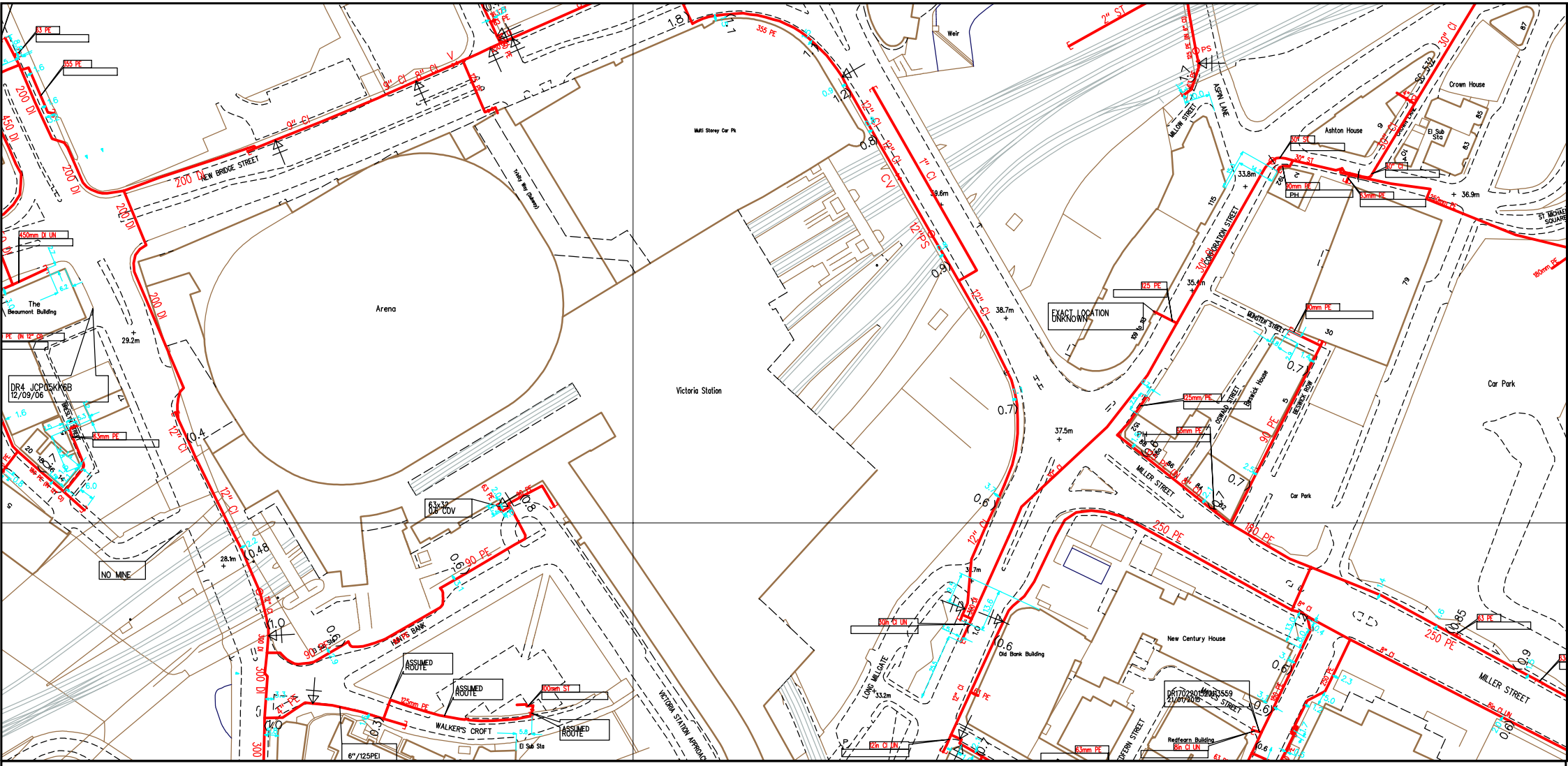
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1:1250 Area dig site
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Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited.

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Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoidance of Danger from Overhead Power Lines".

Electricity North West Limited 304 Bridgewater Place, Birchwood Park, Warrington WA3 6XG. Registered in England and Wales. Registered No 02366949



SCALE: Not to scale	LP MAINS
USER ID: TCoyte-Broomfield	MP MAINS
DATE: 05/08/2015	IP MAINS
EXTRACT DATE: 26/03/2015	LHP MAINS
MAP REF: SJ8499	NHP MAINS
CENTRE: 384058, 399054	

Some examples of Plant Items:

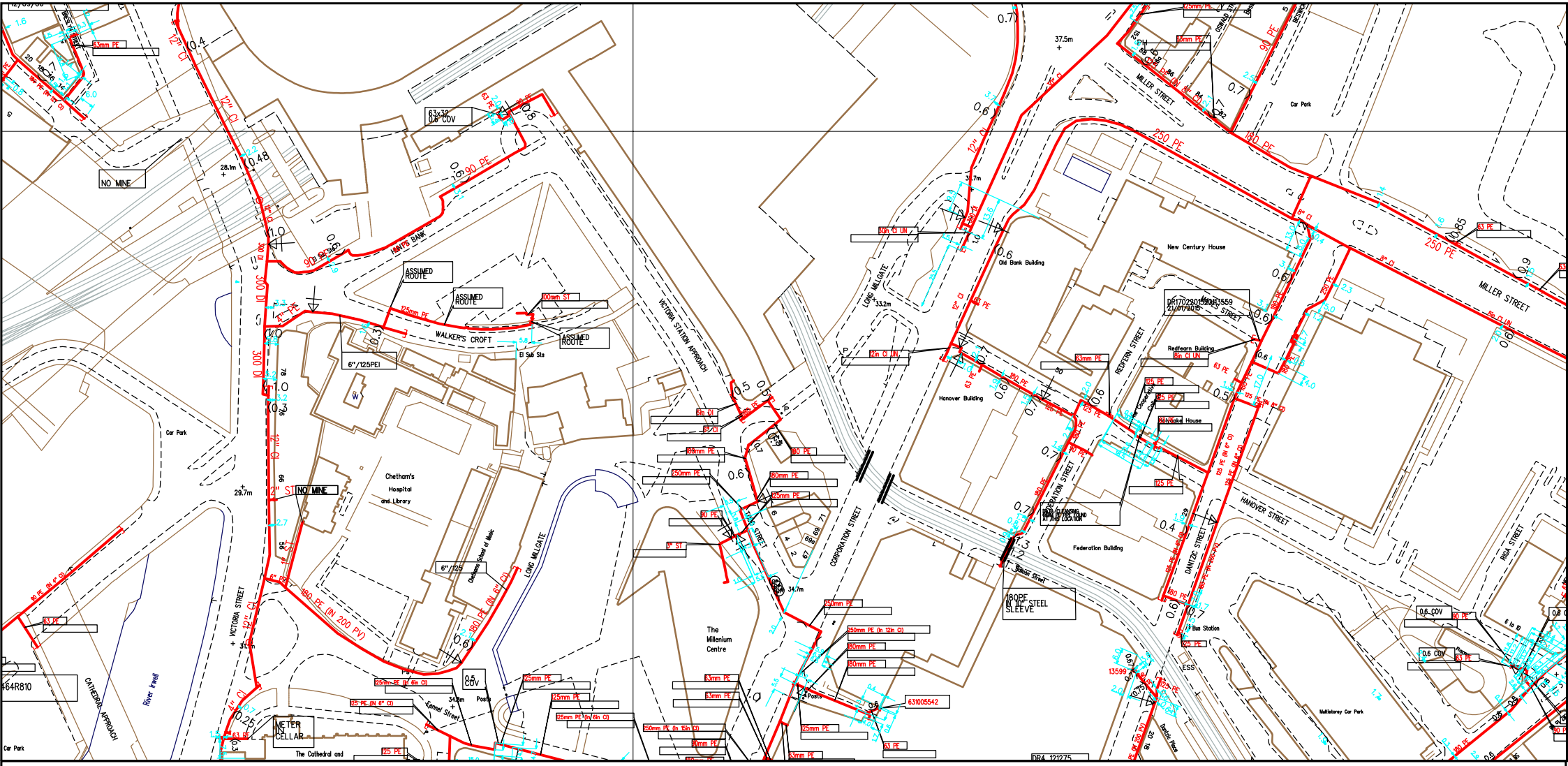
Valve | Depth of Cover | Syphon | Diameter Change | Material Change

This plan shows those pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm) A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.

MAPS Viewer Version 5.6.7.0

Local Machine

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SCALE: Not to scale	LP MAINS
USER ID: TCoyte-Broomfield	MP MAINS
DATE: 05/08/2015	IP MAINS
EXTRACT DATE: 26/03/2015	LHP MAINS
MAP REF: SJ8498	NHP MAINS
CENTRE: 384058, 398904	

Some examples of Plant Items:

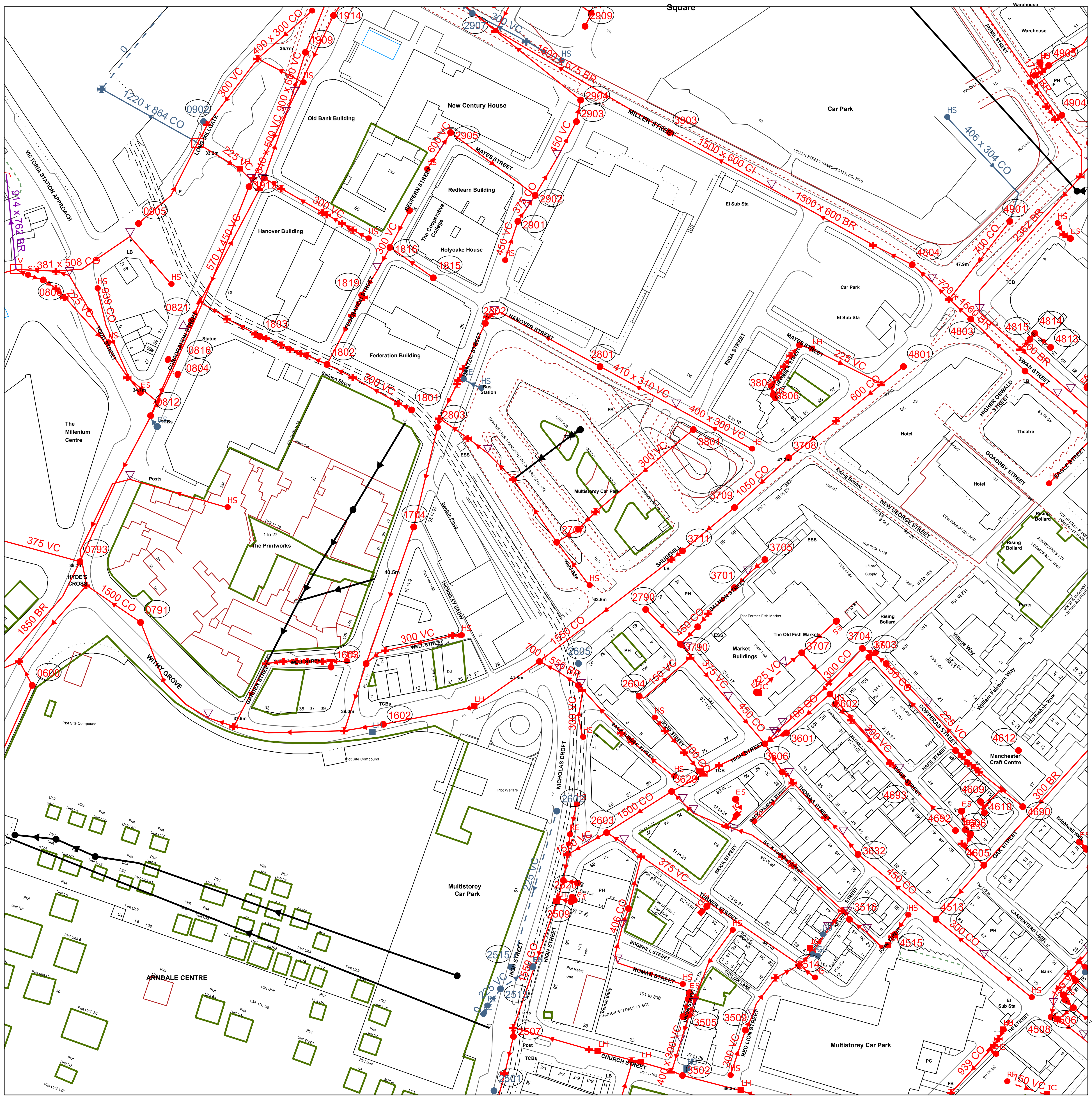
Valve | Depth of Cover | Syphon | Diameter Change | Material Change

This plan shows those pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm) A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.

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Local Machine

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Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
0600	36.38	CO							
0791	36.03	CO	29.01	1500		CI	CO	30.23	
0793		CO	0	1850		CI	BR	171.35	
0804	35.56	CO							
0806	32.55	CO	25.83	225		CI	VC	7.21	
0812		CO							
0816	35.29	CO							
0821	35.29	CO							
0902	33.33	SW	31.2	225		CI	VC	2.24	
0905		CO	0	300		CI	VC	46.8	
1602	39.85	CO	31.52	1550		CI	CO	18.25	
1603		CO							
1604	39.91	CO	31.98	1550		CI	CO	32.57	
1704	41.04	CO	33.36	1550		CI	CO	66.73	53
1801	40.53	CO	34.48	300		CI	VC	6.71	
1802		CO	0	300		CI	VC	9.85	
1803	36.62	CO	31.79	300		CI	VC	2.24	
1815	39.87	CO	34.67	300		CI	VC	24.41	188
1816	38.55	CO							
1819	38.66	CO							
1901	38.67	CO	34.79	300		CI	VC	19.24	77
1908	35.26	CO							
1909	36.26	CO							
1914	36.68	CO							
1915	35.21	CO							
2501	45.26	SW							
2505	45.19	CO	37.61	1550		CI	CO	71.79	
2507	45.32	CO	35.35	1550		CI	CO	17.46	
2508		CO							
2509		CO							
2513	45	SW							
2515	45.06	SW							
2516	41.42	CO	0	375		CI	VC	24.74	
2520		CO							
2602	44.69	SW	42.33	225		CI	VC	75	174
2603	45.19	CO							
2604	45.55	CO	42.84	150		CI	VC	31.3	
2605	43.24	SW							
2606	42.51	CO							
2611	43.76	CO							
2706	43.85	CO							
2707		CO							
2790	44.4	CO	41.58	450		CI	CO	22.63	453
2801	44.89	CO							
2802	41.54	CO	35.64	1550		CI	CO	23.26	
2803	41.26	CO							
2901	41.27	CO							
2902	41.12	CO							
2903	39.8	CO							
2904	39.72	CO							
2905	38.94	CO							
2907	37.43	SW							
2909	39.36	CO	32.69	300		CI	VC	42.51	87
3502	45.9	CO	39.14	1550		CI	CO	44.68	
3505	45.99	CO							
3509	46.1	CO							
3514	45.83	CO	41.67	450	550	UN	VC	12.21	
3516	46.24	CO							
3524		CO							
3601		CO	0	100		CI	PE	5.39	
3602		CO							
3605	46.3	CO							
3606	46.29	CO							
3629		CO							
3632	46.33	CO							
3701	45.89	CO							
3702	45.31	CO							
3703		CO	0	100		CI	CO	24.76	
3704	47.04	CO							
3705		CO	0	450		CI	CO	10.63	
3707		CO							
3708	47.31	CO							
3709	46.51	CO							
3711	45.52	CO							
3790	45.43	CO							
3801	46.53	CO	43.23	300		CI	VC	58.9	
3804		CO							
3806	47.8	CO	45.43	225		CI	VC	5	
3807	47.28	CO							
3903	41.62	CO							
4506		CO							
4508	46.78	CO							
4510		CO							
4512		CO							
4513	46.38	CO							
4515	46.25	CO	42.13	100		CI	CO	1.41	
4601		CO							
4605	47.03	CO	42.85	300		CI	BR	33.3	68
4606		CO							
4609		CO							
4610		CO							
4612	47.69	CO							
4616	47.11	CO	42.13	225		CI	VC	28.32	57
4618	46.98	CO							
4690	47.35	CO	44.45	450		CI	CO	25.61	
4691	46.96	CO							
4692	46.84	CO	44.29	450		CI	CO	31.11	66
4693	46.58	CO							
4801	48.24	CO	42.71	600		CI	CO	39.82	
4802	49.38	CO							
4803	48.69	CO	37.73	720	1560	EG	BR	13.45	
4804	47.24	CO							
4813		CO	0	939		CI	CO	9.82	
4814		CO							
4815		CO							
4901	49.59	CO							
4904	49.62	CO	0	939		CI	CO	3.61	
4905	49.07	CO	0	500	780	UN	BR	28.3	
0603		CO	0	1500		CI	CO	55.89	
0701		CO							
0801		CO	0	508	380	UN	CO	29.07	5
0802		CO							
0807		CO	0	939		CI	CO	52.59	17
0810		CO	0	300		CI	CO	6.32	
0811		CO	0	300		CI	CO	35.85	
0813		CO							
0818		CO	0	600	500	UN	BR	6.17	
1617		CO	0	939		CI	CO	11	
1703		CO	0	1500		CI	CO	46.84	
1805		CO	34.58	225		CI	VC	13.04	
1836		CO	0	300		CI	VC	8.06	
1902		CO	0	400	300	UN	CO	33.3	
1903		CO	0	762	450	UN	CO	23.71	
1905		CO	28.72	900	600	UN	VC	30.36	51
1906		CO	0	1850		CI	BR	42.49	
1907		CO	0	1700		CI	BR	2.24	
1910		CO	0	650	470	UN	VC	2.24	
1920		CO	0	600		CI	CO	10.82	
2502		CO							
2519		CO							
2608		CO	0	1550		CI	VC	10.3	
2609		CO	37.37	700	550	UN	BR	10.3	11
2612		CO	0	380	510	EG	VC	9.43	
2613		CO	30.09	540	350	EG	PVC	1.41	
2620		CO	0	300		CI	VC	22.37	
2621		CO	0	300	225	UN	VC	14.32	
2708		CO	0	300		CI	VC	25	
2710		CO	0	300		CI	VC	4	
2713		CO							
2805		CO	0	400	300	UN	VC	3.16	
2813		SW	0	400	300	UN	BR	8.94	
2818		CO	0	450		CI	VC	18.97	
2906		CO	34.41	375		CI	CO	7.21	103
2908		CO	34.11	450		CI	VC	19.24	92
2910		CO	0	600		CI	VC	9.43	
2913		SW	0	300		CI	VC	18.36	
3504		CO	0	300		CI	VC	22.14	
3506		CO	0	406	304	UN	VC	31.62	
3507		CO	0	400	300	UN	VC	13.6	
3508		CO	0	600	450	UN	BR	21.32	

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
3510		CO	0	450	550	UN	BR	11.4	
3511		CO	0	450	600	UN	BR	2.83	
3512		CO	0	400	300	EG	VC	4.47	
3513		CO	0	660	440	EG	BR	10	
3519		CO	0	375		CI	VC	9.22	
3521		CO	0	400	300	UN	VC	35.69	
3526		SW							
3527		SW							
3528		SW							
3603		CO	0	300		CI	BR	11.31	
3608		CO	41.61	375		CI	VC	5.66	7
3609		CO	0	100		CI	CO	26.91	
3610		CO	0	700	550	UN	BR	7.07	
3611		CO	0	450		CI	CO	3.61	
3612		CO	0	450		CI	CO	26.25	
3614		CO	0	450		CI	PE	5.83	
3619		CO							
3620		CO	0	700	550	UN	BR	24.86	
3621		CO							
3628		CO	0	300		CI	VC	10.63	
3631		CO	0	100		CI	VC	7.81	
3631		CO							
3691		CO							
3706		CO	0	375		CI	VC	29.85	
3717		CO	0	450		CI	CO	8.49	
3720		CO	0	400	300	UN	VC	39.82	
3802		CO	0	410	310	EG	VC	39.82	
3803		CO							
3901		CO	0	1500	600	EG	CI	53.71	
4501		CO	0	1500		CI	CO	16.28	
4502		CO	0	300		CI	CO	28.43	
4505		CO	0	400	500	UN	BR	5.1	
4520		CO	0	300		CI	VC	28.43	
4521		SW							
4523		CO	0	500	800	RE	BR	12.21	
4525		CO							
4602		CO	41.63	300		CI	VC	27.59	55
4603		CO	0	450		CI	CO	6.4	
4701		CO	0	500	800	UN	BR	3.61	
4702		CO	0	1550		CI	CO	29	
4703		CO	42.21	300		CI	CO	6.71	
4806		CO							
4807		CO	0	1500	600	OV	BR	12.04	
4811		CO	0	100		CI	CO	245.9	
4812		CO							
4910		CO	0	500		CI	VC	4.47	
4914		CO	0	939		CI	CO	13.6	
4916		SW	0	406	304	UN	CO	61.71	
4990		CO	0	750	450	HO	BR	5.83	
5502		CO							
0690		CO							
0790		CO							
0803		CO							
0809		CO							
0814		CO							
0815		CO	0	225		CI	VC	17.71	
0817		CO							
0890		CO							
0903		CO							
0906		SW							
1601		SW							
1605		CO							
1611		CO							
1612		CO	0	1550		CI	CO	32.65	
1613		CO	0	1550		CI	CO	8.06	
1614		CO	0	1550		CI	CO	6	
1615		CO	0	1550		CI	CO	5	
1616		CO	0	1550		CI	CO	7	
1690		CO							
1709		CO	0	300		CI	VC	10.97	
1824		CO	0	300		CI	VC	14.92	
1825		CO							
1826		CO	0	300		CI	VC	3.16	
1827		CO	0	300		CI	VC	7.62	
1828		CO	0	300		CI	VC	4.47	
1829		CO	0	300		CI	VC	5.39	
1830		CO							
1831		CO	0	300		CI	VC	13.42	
1832		CO							
1833		CO							
1834		CO	0	300		CI	VC	35.38	
1837		CO							
1904		CO							
1916		CO							
1917		CO							
1918		CO	0	300		CI	VC	21.95	
1919		CO							
1921		CO							
1922		CO							
1990		CO							
2503		CO							
2504		CO							
2506		CO							
2514		SW							
2517		CO	0	1550		CI	CO	110.46	
2518		CO							
2521		CO							
2590		CO							
2591		CO							
2607		CO							
2610		CO							
2615		CO							
2617		CO	0	700	550	UN	BR	28.32	
2618		CO							
2690		CO							
2709		CO	0	300		CI	VC	31.78	
2711		CO	0	300		CI	VC	16.97	
2714		CO	0	300		CI	VC	11.31	
2812		CO							
2814		CO							
2815		CO	0	1550		CI	CO	7.62	
2816		CO							
2820		CO							
2890		CO							
2911		CO							
2914		SW							
2990		CO							
3501		CO							
3503		SW							
3518		CO							
3520		CO	0	400	300	UN	VC	4.12	
3590		CO							
3591		CO							
3592		CO							
3613		CO							
3615		CO	0	450	600	UN	BR	6.4	
3616		CO							
3618		CO							
3622		CO	0	1500		CI	CO	25.06	
3623		CO							
3624		CO							
3625		CO	0	300		CI	BR	3.61	
3626		CO							
3627		CO	0	300		CI	VC	26.91	
3630		CO	0	100		CI	VC	13.45	
3635		CO							
3714		CO	0	1550		CI	CO	77.01	
3718		CO	0	450		CI	CO	7.81	
3719		CO							
3808		CO							
3815		CO	0	225		CI	VC	6.4	
3816		CO	0	600		CI	CO	27.8	
3817		CO	0	225		CI	VC	5.83	
3818		CO	0	225		CI	VC	5.83	
4503		CO							
4507		CO							
4511		CO							
4514		CO							
4516		CO	0	500	800	RE	BR	16.4	
4517		CO	0	939		CI	CO	29.73	

WASTE WATER SYMBOLOGY

Foul / Surface / Combined / Overflow

- Manhole
- Manhole, Side Entry
- MainSewer, Public
- MainSewer, Private
- MainSewer, S104
- Rising Main, Public
- Rising Main, Private
- Rising Main, S104
- Highway Drain, Private

Foul / Surface / Combined

- WW Site Termination
- Air Valve
- Cascade
- Non Return Valve
- Extent of Survey
- Flow Meter
- Gulley
- Hatch Box
- Head of System
- Hydrobrake / Vortex
- Inlet
- Inspection Chamber
- Bifurcation
- Catchpit
- Contaminated Surface Water
- WW Pumping Station
- Sludge Pumping Station
- Sewer Overflow
- T Junction/Saddle
- LampHole
- OilInterceptor
- PenStock
- Pump
- RoddingEye
- Soakaway
- Summit
- Valve
- Valve Chamber
- Washout Chamber
- DropShaft
- WW Treatment Works
- Septic Tank
- Vent Column
- Network Storage Tank
- Orifice Plate
- Vortex Chamber
- Penstock Chamber
- Blind Manhole

Foul / Surface / Combined / Overflow

- Screen Chamber
- Discharge Point
- Outfall

- Sludge Main, Public
- Sludge Main, Private
- Sludge Main, S104

ABANDONED PIPE

- MainSewer
- Rising Main
- Highway Drain
- Sludge Main

- Control Kiosk
- Unspecified

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available.
The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded.
United Utilities will not accept any liability for any damage caused by the actual positions being different from those shown.

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OS Sheet No: sj8498nw

Scale: 1: 1250 Date: 30/07/2015

342 Nodes

Sheet 1 of 2

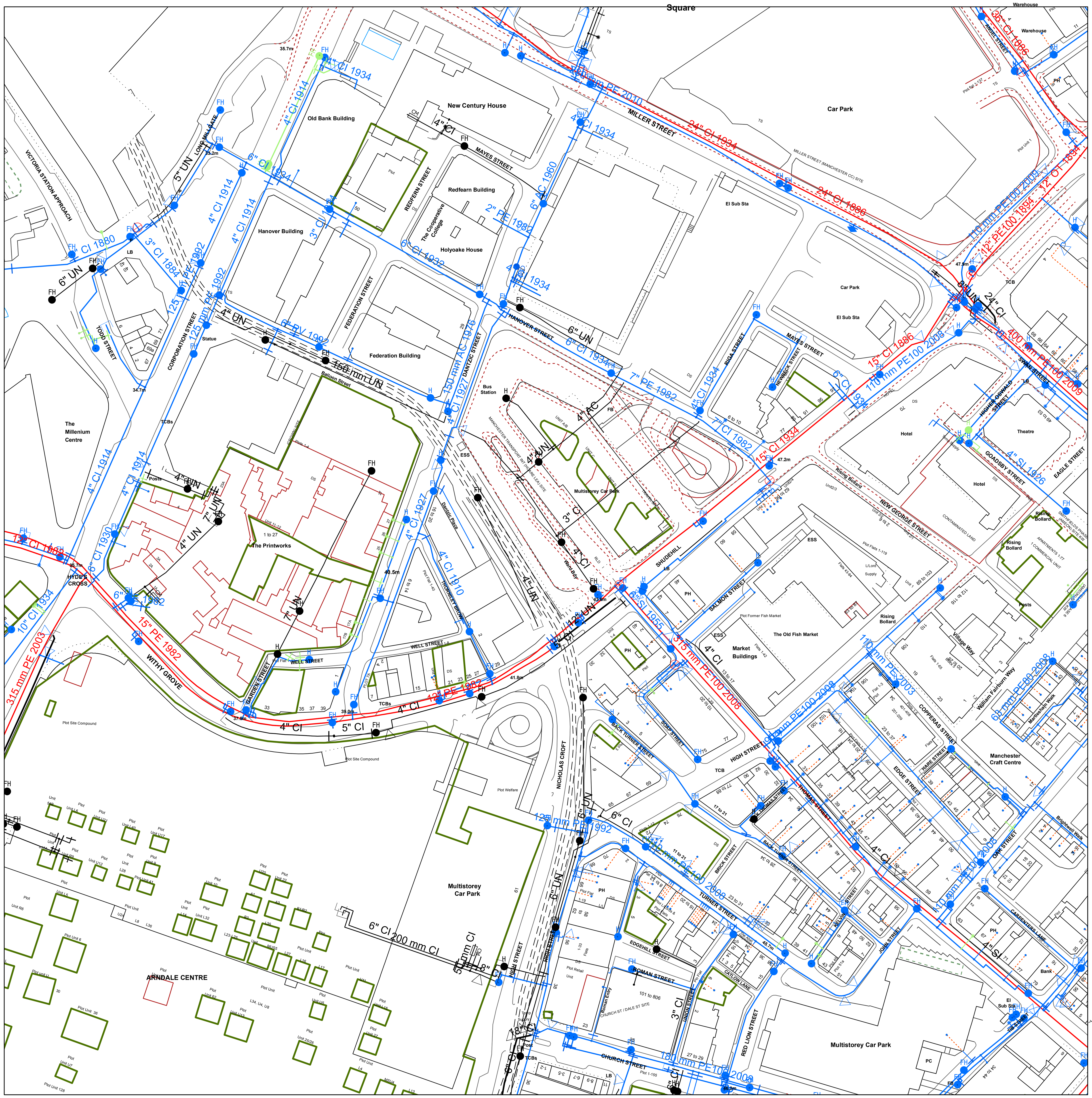
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helping life flow smoothly

SEWER RECORDS

OS Sheet No: sj8498nw

Printed By: Property Searches

Scale: 1: 1250 Date: 30/07/2015



Legend

PIPE WORK

Live | Proposed

- Trunk Main - PressurisedMain
- Raw Water Aqueduct - PressurisedMain
- Raw Water Aqueduct - GravityMain
- LDTM Raw Water Distribution - PressurisedMain
- LDTM Raw Water Distribution - GravityMain
- LDTM Treated Water Distribution - PressurisedMain
- LDTM Treated Water Distribution - GravityMain
- Private Pipe - LateralLine
- Distribution Main - PressurisedMain
- Comms Pipe - LateralLine
- Concessionary Service - LateralLine

ABANDONED PIPE

- Trunk Main
- Raw Water Aqueduct
- LDTM Raw Water Distribution
- LDTM Treated Water Distribution
- Private Pipe
- Distribution Main
- Comms Pipe
- Concessionary Service

NODES/ FURNITURE

Live | Proposed

- End Cap
- CC Valve
- AC Valve
- Air Valve
- Sluice Valve
- Non Return Valve
- Pressure Management Valve
- Change of Char
- Anode
- Chlorination Point
- De Chlorination Point
- Bore Hole
- Inlet Point
- Bulk Supply Point
- Fire Hydrant
- Hydrant
- Private Fire Hydrant
- Pump
- Site Termination
- Service Start
- Service End
- Process Meter
- Stop Tap
- Monitor Location
- Strainer Point
- Access Point
- Hatch Box
- IP Point
- Route Marker
- Sampling Station
- Logger Box

Property Types

Live | Proposed

- Condition Report
- Pipe Bridges
- Tunnels (non carrier)
- Pumping Station
- Water Treatment Works
- Private Treatment Works
- Valve House
- Water Tower
- Service Reservoir
- Supply Reservoir
- Abstraction Point
- Domestic meter
- Commercial meter
- Telemetry Outstation

Material Types

AC	ASBESTOS CEMENT	OT	OTHERS
CI	CAST IRON	PB	LEAD
CU	COPPER	PV	uPVC
CO	CONCRETE	SI	SPUN IRON
DI	DUCTILE IRON	ST	STEEL
GI	GALVANISED IRON	UN	UNKNOWN
GR	GREY IRON	PE	POLYETHYLENE

Lining Types

CL	CEMENT LINING	ERL	EPOXY RESIN
TB	TAR OR BITUMEN		

Insertion Types

DD	DIE DRAWN	MO	MOLING
DR	DIRECTIONAL DRILLING	PI	PIPELINE
		SL	SLIP LINED

The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan private service pipes may be shown by a broken blue line. United Utilities will not accept any liability for any damage caused by the actual positions being different from those shown.

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OS Sheet No: sj8498nw

Scale: 1: 1250 Date: 30/07/2015

United Utilities

helping life flow smoothly

WATER MAIN RECORDS

Printed By: Property Searches

OS Sheet No: sj8498nw

Scale: 1: 1250 Date: 30/07/2015

Appendix 3

Geological Logs

Vertase FLI

Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TT01
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384132.03 - 399032.81 Level: 32.80	Date 11/12/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 0.97	5 / 1	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.50	ES					ASPHALT (FILL)
	0.00 - 0.50	ES		0.07	32.74		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
	0.00 - 0.50	ES		0.17	32.63		Dark grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (MADE GROUND)
				0.30	32.50		Dark brownish grey slightly silty fine to coarse SAND and fine to coarse subangular to angular GRAVEL size brick and concrete with occasional wood, glass and ceramic tile. (MADE GROUND)
	0.50 - 1.10	ES					Greyish brown slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to angular size brick and concrete. Cobbles are elongate, angular to very angular brick and concrete. Mild hydrocarbon diesel odour (MADE GROUND)
	0.50 - 1.10	ES					4" Belgian Cast Pipe running across trial pit (east - west) - redundant gas pipe - excavated
	0.50 - 1.10	ES		0.62	32.18		End of pit at 0.97 m
				0.97	31.83		

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to top of river culvert

Stability: Stable - No Collapse

AGS

Vertase FLI

Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TT02
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384101.06 - 399007.73 Level: 33.10	Date 12/12/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 1.46	5 × 1	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 0.50	ES		0.07	33.03		ASPHALT (FILL)
				0.16	32.94		Light brownish white sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
	0.50 - 1.00	ES		0.49	32.61		Light greyish brown silty fine to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with frequent wood, glass, plastic pipe, ceramic tiles and occasional wall cobbles, and kerb stone (MADE GROUND) Geogrid layer at 0.49mbgl
				0.78	32.32		Dark grey silty, fine to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with probable coal and clinker and rare metal (MADE GROUND)
	1.00 - 1.50	ES		1.06	32.04		Light greyish brown slightly sandy gravelly CLAY with rare clay pipe and glass. Sand is fine to medium. Gravel is coarse, subangular to angular brick and concrete (MADE GROUND)
				1.46	31.64		Dark brownish red medium to coarse SAND and fine to coarse subrounded to angular GRAVEL size brick and concrete (MADE GROUND) End of pit at 1.46 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to top of river culvert

Stability: Stable - No Collapse

AGS

Vertase FLI

Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TP03
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384119.97 - 399029.04 Level: 32.84
Date	16/11/2017		
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 1.40	3.6 × 1.05
Scale	1:25		
Client:	Muse Developments Ltd		Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	32.77		ASPHALT (FILL)
				0.26	32.58		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
				0.55	32.29		Dark brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size concrete (MADE GROUND)
				0.78	32.06		Dark brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete with low cobble content. Cobbles are elongate, angular to very angular brick and concrete (MADE GROUND)
	1.00 - 1.40	ES		1.26	31.58		Dark greyish brown sandy, gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to angular brick and concrete. Cobbles are elongate, subrounded to angular brick and concrete (MADE GROUND)
				1.40	31.44		63mm blue alkathene pipe running north to south through east side of trial pit
							Dark greyish brown slightly silty fine to coarse SAND and fine to medium subangular to angular GRAVEL size brick and concrete (MADE GROUND)
							End of pit at 1.40 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to hard base - possible top of river culvert

Stability: Stable - No Collapse

AGS

Vertase FLI
Number One Middlebridge Business Park,
Bristol Road,
Portishead,
Bristol, BS20 6PN

Trial Pit Log

Trialpit No **TP04**
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384065.57 - 398973.93 Level: 33.21	Date 16/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.20	3.13 × 1.31	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.07	33.14		ASPHALT (FILL)
				0.10	33.11		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse. (FILL)
							Light brownish red medium to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick and concrete with low cobble content and occasional polythene, wood metal and ree-bar. Cobbles are elongate, subangular to angular brick (MADE GROUND) Geogrid layers at 0.26mbgl, 0.58mbgl, 0.78mbgl and 1.08mbgl
	1.00 - 2.00	ES					
				1.12	32.09		Light brownish red medium to coarse SAND and fine to coarse subrounded to subangular GRAVEL size flint and sandstone with low cobble content. Cobbles are elongate round to subangular flint and sandstone fragments (MADE GROUND)
				1.77	31.44		Dark grey probable ASH and CLINKER (MADE GROUND)
				1.89	31.32		Dark grey medium to coarse SAND and fine to coarse subangular to very angular GRAVEL size brick concrete and flint with low cobble content and rare wood and polythene. Cobbles are elongate, subrounded to angular brick concrete and sandstone. Moderate hydrocarbon tar odour (MADE GROUND)
	2.00 - 2.20	ES					
	2.10	ES					
				2.20	31.01		End of pit at 2.20 m

Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to hard base - possible top of river culvert

Stability: Stable - no collapse

AGS

Vertase FLI

Number One Middlebridge Business Park,
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Bristol, BS20 6PN

Trial Pit Log

Trialpit No
TP07
Sheet 1 of 1

Project Name:	New Victoria Station Site Investigation	Project No. 1730MUS	Co-ords: 384094.72 - 398994.20 Level: 33.22	Date 21/11/2017
Location:	Long Mill Gate Car Park (APCOA), Manchester Victoria Station, Long Mill Gate Street, Manchester, M3 1NX	Dimensions (m): Depth 2.25	3.01 × 1.28	Scale 1:25
Client:	Muse Developments Ltd			Logged IS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.00 - 1.00	ES		0.06	33.16		ASPHALT (FILL)
				0.25	32.97		Light grey sandy fine to medium subangular to angular GRAVEL. Sand is medium to coarse (FILL)
				0.36	32.86		Light brownish white sandy fine to medium subangular to angular GRAVEL and rare ree-bar. Sand is medium to coarse (MADE GROUND)
							Brown silty fine to coarse SAND and fine to medium subangular to very angular GRAVEL size brick and concrete with probable ash and clinker and occasional ceramic pipe and glass (MADE GROUND) Geogrid layer at 0.51mbgl
	1.00 - 2.00	ES					Brick wall structure on northwest and southeast ends of trial pit between 0.76mbgl to base of trial pit
				1.13	32.09		Dark brown clayey fine to coarse SAND and fine to medium subangular to angular GRAVEL size sandstone brick and concrete with probable ash and clinker and occasional wood and glass. Moderate odour of hydrocarbon tar at base of trial pit (MADE GROUND)
				2.25	30.97		End of pit at 2.25 m

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Remarks: No services detected on CAT & Signal Generator; Plant used: JCB 3CX; Trial pit reinstated with arisings and compacted with CP025 Whacker Plate to 0.15mbgl; Reinstated with type 1 stone to surface and compacted with CP025 Whacker Plate; Surface reinstated with hot lay concrete asphalt and drive on roller; TP terminated due to hard base - possible top of river culvert

Stability: Stable - No Collapse

AGS

Appendix 4

Utility Correspondence emails

Ian Stephenson

From: Ian Stephenson
Sent: 23 November 2017 09:47
To: Steve Smith
Cc: Claire Lilley; Peter Hill
Subject: RE: Service Identification -New Victoria

Many thanks Steve,

Ian

From: Steve Smith [mailto:steve.smith@cityfibre.com]
Sent: 23 November 2017 09:41
To: Ian Stephenson <istephenson@vertasefli.co.uk>
Cc: Claire Lilley <clilley@vertasefli.co.uk>; Peter Hill <Peter.hill@cityfibre.com>
Subject: RE: Service Identification -New Victoria

Hi Ian
Yes that is our asset

Regards

From: Ian Stephenson [mailto:istephenson@vertasefli.co.uk]
Sent: 23 November 2017 09:38
To: Steve Smith <steve.smith@cityfibre.com>
Cc: Claire Lilley <clilley@vertasefli.co.uk>
Subject: RE: Service Identification -New Victoria

Good Morning Steve,

We have managed to clear off some more cover from the 4x ducts at New Victoria (see email chain below). One of the ducts is marked with 'Torch Telecommunications'. I have done a bit of research and found that Torch passed ownership of this asset to KCOM and since then City Fibre have acquired KCOMs assets in Manchester. We have also traced the duct from a 'Torch' marked manhole nearby to the ducts (see photos and service plan attached). If you could confirm that this is your asset it would be greatly appreciated.

Thanks in advance,

Ian

Ian Stephenson MSc BSc (Hons) MCIWEM
Lead Environmental Engineer

Email istephenson@vertasefli.co.uk
Mobile +44 (0) 7899 910 339



VertaseFLI Ltd
19 Napier Court
Barlborough Links
Barlborough
Sheffield, S43 4PZ

Phone +44 (0) 1246 813 289
Fax +44 (0) 1246 812 963
Web www.vertasefli.co.uk

Your Sustainable Solutions Partner

From: Claire Lilley [mailto:clilley@vertasefli.co.uk]
Sent: 20 November 2017 12:38
To: Steve Smith <steve.smith@cityfibre.com>
Cc: Ian Stephenson <istephenson@vertasefli.co.uk>
Subject: RE: Service Identification -New Victoria

Hi Steve,

Thanks for your email. There are 4 ducts clustered together. Please see an extract from our investigation plan locating the trench and services below, the trench is marked in green, (also attached is your plan marked with the location of the trench. I should note that we have also been in touch with BT who believe that the ducts may belong to them. We will be extending this trench across Long Millgate next week which may clarify matters.

Do you know the number of ducts that would make up your asset in this area? and would there be any distinct markings on the duct identifying the asset as City Fibre (formerly Kcom)



Kind Regards
Claire

From: Steve Smith [mailto:steve.smith@cityfibre.com]
Sent: 17 November 2017 16:12
To: Claire Lilley <clilley@vertasefli.co.uk>
Cc: Ian Stephenson <istephenson@vertasefli.co.uk>
Subject: RE: Service Identification -New Victoria

Hi
Yes this looks like our duct – can you confirm if there are 3 or 4 ducts ?
Also – cam you identify on the attached drawing the exact location of your excavation.

Regards

From: Claire Lilley [mailto:clilley@vertasefli.co.uk]
Sent: 17 November 2017 15:33
To: Steve Smith <steve.smith@cityfibre.com>
Cc: Ian Stephenson <istephenson@vertasefli.co.uk>
Subject: Service Identification -New Victoria

Hi Steve,

Service Identification –Corporation Street, Manchester
Your contact details have been passed to me by a college at ARUP. I am currently carrying out some service investigations to enable design of a proposed development near to Victoria Station, Manchester. I am hoping you can help confirm some of City Fibre's assets that we anticipate finding during the investigation works.

To date we have uncovered a series of grey ducts in the ground on the corner of Corporation Street and the northern end of Long Millgate. Please see the attached photo. We would be grateful if you could confirm that these four ducts contain your assets. We currently have the trench open should you need to attend site to carry out a test to confirm ownership of the asset.





REF NDW0179

Kind Regards

Claire Lilley
Project Manager

Email clilley@vertasefli.co.uk
Mobile +44 (0) 7718 979 520



Find out how to download it by clicking photo above or here: LINK

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Number One
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Bristol, BS20 6PN

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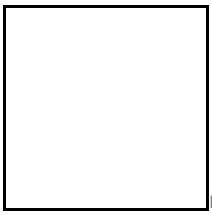
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Steve Smith
Network Planner
07957 597 778

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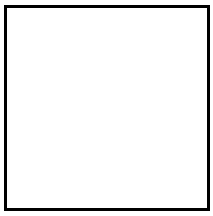
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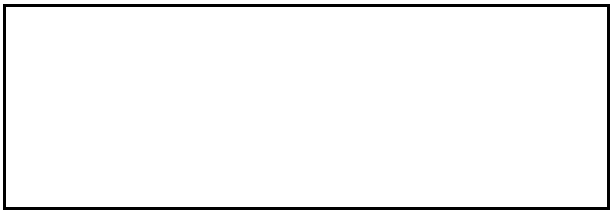
Steve Smith

Network Planner

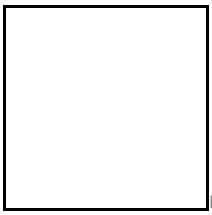
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Steve Smith

Network Planner

07957 597 778

CityFibre

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Ian Stephenson

From: Mark Worden <Mark.Worden@gamma.co.uk>
Sent: 20 November 2017 17:08
To: Claire Lilley
Cc: Ian Stephenson; Alan Evans
Subject: RE: Gamma Assets in Corporation Street, nr Victoria Station, Manchester

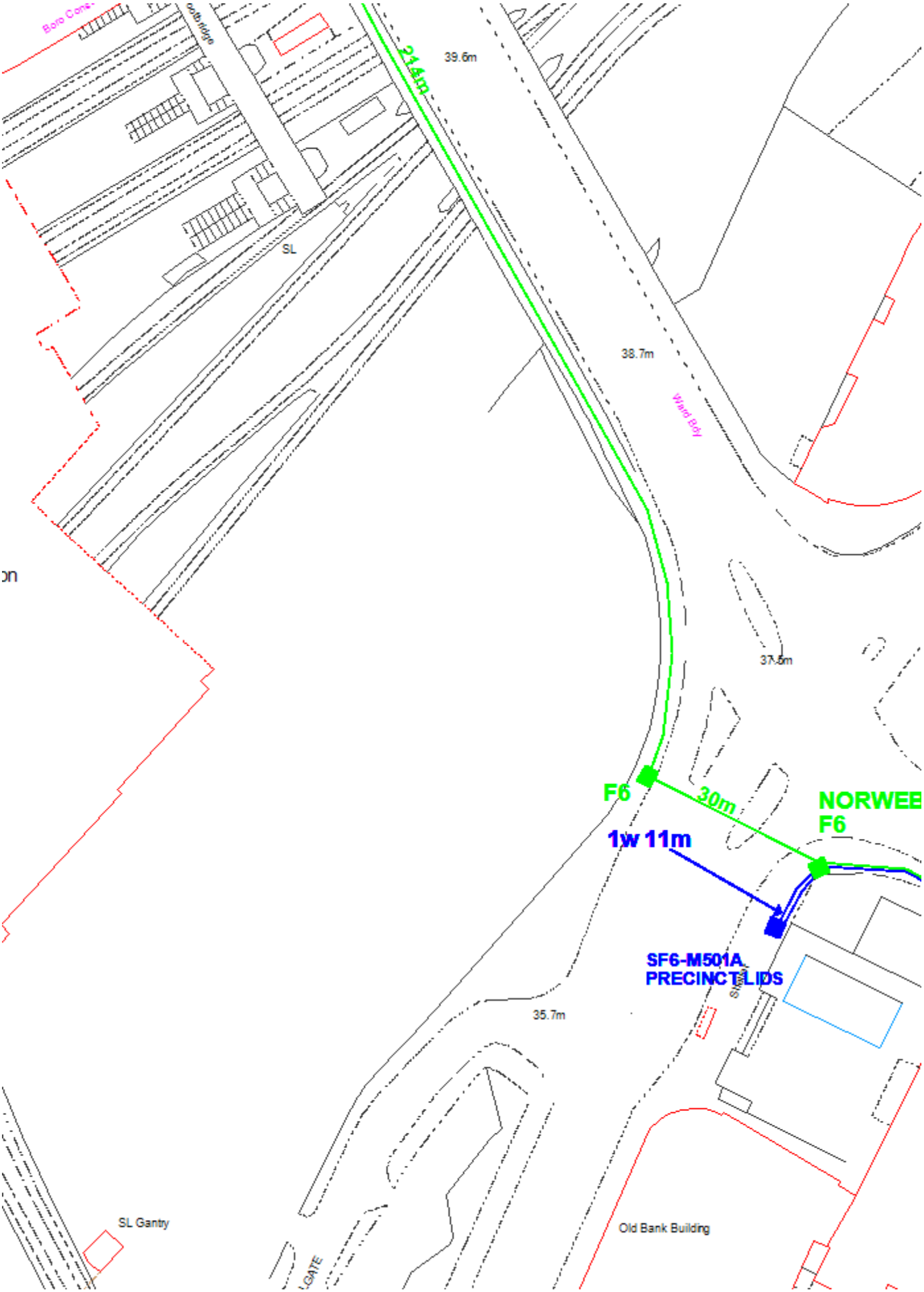
Hi Claire,

No problem. Below is a screen snip of the updated GIS for Gamma Duct & Fibre.
Looking at it the Gamma Duct & chambers (Blue) will not be affected. However Gamma lease a subduct from Vodafone that contains a Gamma fibre cable in Vodafone Ducts & chambers (Green) & this section as you say will be identified in trial trench TP10.
Gamma have had no instruction from VF to say our fibre is at risk & it is at the VF engineers discretion weather he wishes to attend site.

Hope this helps

Kind Regards

Mark


214m
39.6m
SL
38.7m
Wind Bdy
37.5m
F6
30m
NORWEE
F6
1w 11m
SF6-M501A
PRECINCT LIDS
35.7m
SL Gantry
Old Bank Building

Mark Worden
Fibre Infrastructure Manager

0333 240 3451 | 07436 101 475 | mark.worden@gamma.co.uk | https://hes32-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=www.gamma.co.uk&52ad-4404-877c-6ad4036a9f62&auth=3dce0d595f91edaffc8be8f0aa2504055915ca810a51035632690a531bedb1c8757

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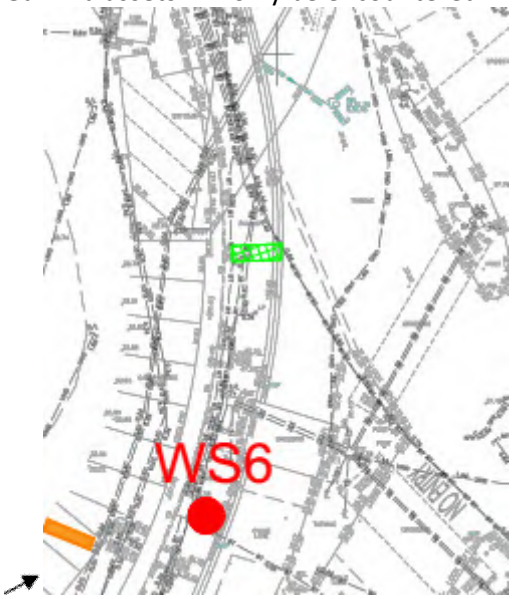
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From: Claire Lilley [mailto:clilley@vertasefli.co.uk]
Sent: 20 November 2017 16:48
To: Mark Worden <Mark.Worden@gamma.co.uk>
Cc: Ian Stephenson <istephenson@vertasefli.co.uk>
Subject: Gamma Assets in Corporation Street, nr Victoria Station, Manchester

Hi Mark

Thanks for calling me back earlier, as discussed we will potentially encounter Gamma asset during service investigation works on the 25th November (Saturday) please would you confirm whether or not any services on the western side of the road where our trial trench TP10 is proposed are part of the Gamma network.

I have attached a wider plan of the site showing more Site investigation locations however it is anticipated that Gamma assets will only be encountered in TP10



Please don't hesitate to contact me or my colleague Ian Stephenson (07899910339)for more information or to discuss

Many thanks

Claire Lilley
Project Manager

Email clilley@vertasefli.co.uk
Mobile +44 (0) 7718 979 520



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Ian Stephenson

To: Harrison, Chris; Claire Lilley
Cc: Ray Wright
Subject: RE: Corporation St / Long Millgate Manchester

From: Harrison, Chris [mailto:Chris.Harrison@enwl.co.uk]
Sent: 19 December 2017 13:50
To: Ian Stephenson <istephenson@vertasefli.co.uk>; Claire Lilley <clilley@vertasefli.co.uk>
Cc: Ray Wright <rwright@vertasefli.co.uk>
Subject: RE: Corporation St / Long Millgate Manchester

Ian

Sorry for the delay in answering I have been on site for several days.

- If connected directly to an ENW supply it will be our responsibility.
- If connected to a "feeder Pillar" or looped between columns then these would belong to the local authority.

Regards

Chris Harrison
Senior Response Engineer
Operations South
Electricity northwest
Frederick Road Depot
Salford
M5 6QH

Mobile 07808 138834
Mobex 69353
Office 23863

From: Ian Stephenson [mailto:istephenson@vertasefli.co.uk]
Sent: 12 December 2017 09:38
To: Harrison, Chris; Claire Lilley
Cc: Ray Wright
Subject: RE: Corporation St / Long Millgate Manchester

Chris,

Thanks for the below.

One more question – in relation to general street lighting – would cables proven to connect to the general street light network be the responsibility of ENW or would it depend on whether (as indicated on the email further below) that they would only be ENW if proven to connect to a Live ENW supply – with those that cannot be proven to connect to an ENW supply being local authority responsibility?

Thanks in advance,

Ian

From: Harrison, Chris [mailto:Chris.Harrison@enwl.co.uk]
Sent: 11 December 2017 10:26
To: Ian Stephenson <istephenson@vertasefli.co.uk>; Claire Lilley <clilley@vertasefli.co.uk>

Cc: Ray Wright <rwright@vertasefli.co.uk>
Subject: RE: Corporation St / Long Millgate Manchester

HI Ian

We would normally ask to have where possible a minimum of 1mtr of clear cable and 300mm clearance around the cable, for these small cables this would suffice if we were to be working on larger section cables the exposed length could go up to 1.5mtrs of cable exposed. Hope this helps.

Regards

Chris Harrison
Senior Response Engineer
Operations South
Electricity northwest
Frederick Road Depot
Salford
M5 6QH

Mobile 07808 138834
Mobex 69353
Office 23863

From: Ian Stephenson [mailto:istephenson@vertasefli.co.uk]
Sent: 11 December 2017 10:12
To: Harrison, Chris; Claire Lilley
Cc: Ray Wright
Subject: RE: Corporation St / Long Millgate Manchester

Good morning Chris,

Thank you for the email below. How large would a trench have to be for you to perform the live/dead test on the unidentified cable?

Thanks in advance,

Ian

Ian Stephenson MSc BSc (Hons) MCIWEM
Lead Environmental Engineer

Email istephenson@vertasefli.co.uk
Mobile +44 (0) 7899 910 339



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Barlborough Links
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Sheffield, S43 4PZ

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From: Harrison, Chris [mailto:Chris.Harrison@enwl.co.uk]
Sent: 04 December 2017 11:16
To: Claire Lilley <clilley@vertasefli.co.uk>
Cc: Ian Stephenson <istephenson@vertasefli.co.uk>; Ray Wright <rwright@vertasefli.co.uk>
Subject: RE: Corporation St / Long Millgate Manchester

Good morning Claire

Testing and proving dead of cables has 2 routes to take

- Route one is via our energy solutions and this is where you would make contact with ENW to have the live cables diverted should they be in the way of your works.
- Route two is where the excavation is open and the cables are known to be in the way of ongoing works in progress, currently other than the open excavation which is not of sufficient size to work in at present there are no ongoing works, also as the cables visible in the 6 inch pipe are below the live cables it would make sense to only spend money on having them proven dead during diversion works should you require them moving therefore route one would seem the most cost effective and sensible way forward for you.

  In terms of responsibility it would always be the clients responsibility to confirm ownership of other utility cables and that no other party has claimed ownership prior to any works by ENW. Responsibility would also stay the client should they prove to be live and under a third party owner, ENW would only be acting as a contractor on your behalf under your instruction.

  Street furniture supplies shown and found to be connected to an ENW live main or service would be ENW responsibility, all other street furniture services and usually all those in orange pipes are the responsibility of the local authority or their contractor.

Regards

Chris Harrison
Senior Response Engineer
Operations South
Electricity northwest
Frederick Road Depot
Salford
M5 6QH

Mobile 07808 138834
Mobex 69353
Office 23863

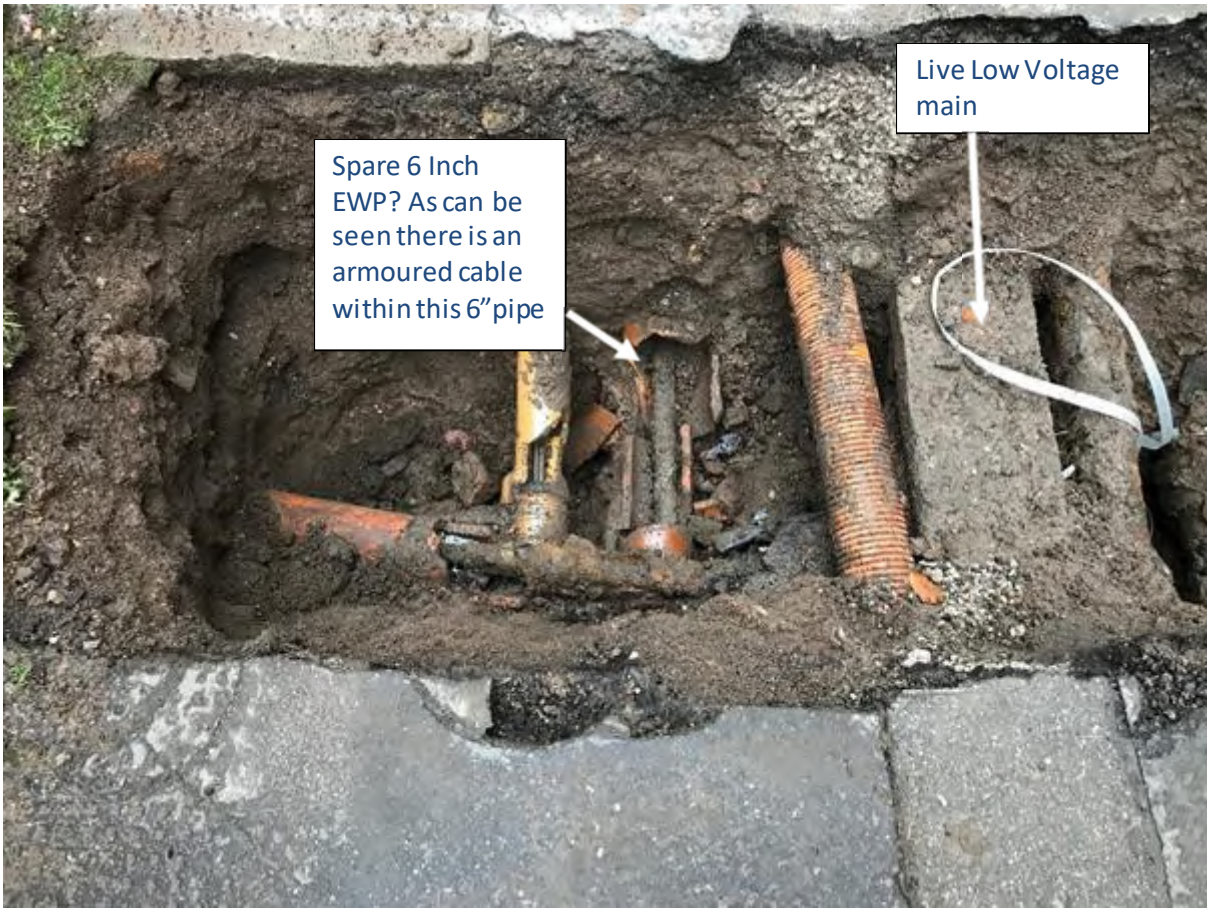
From: Claire Lilley [mailto:clilley@vertasefli.co.uk]
Sent: 29 November 2017 12:14
To: Harrison, Chris
Cc: Ian Stephenson; Ray Wright
Subject: RE: Corporation St / Long Millgate Manchester

Hi Chris,

Thank you for your visit and email.

As discussed we understand that ENW have inherited Electrical cables within the ground which are not shown or recorded on any service drawings, this includes abandoned services.

We have found 3 electric cables within the trench in question. Please would you confirm that the cables that are shown on the service drawing and detailed within your email are as indicated in the photographs below.





Further to your notes:

- There may be assets in the ground previously owned by ENW or it’s predecessors {Manchester City Council Pre 1947}, that are not on record anymore after being de-commissioned particularly in

Manchester City Centre. As discussed on the phone please would you confirm the procedure to test the cable within the 6" EWP and the red and orange ducted cables shown above to confirm if they are live or dead and any associated costs pertaining to these works. We are happy to arrange payment to expedite theses works should it be necessary. Please would you provide a quote or put me in-touch with someone who can provide a quote.

- In this area there is an extensive private Low Voltage system owned by CWS. Please confirm,as discussed on the phone, that it would be the clients responsibility to confirm with CIS that the cables in question are not part of the private network prior to any confirmation works undertaken by ENW as to the status of unknown cables within this area.
- In this area also we have found during past works we have exposed cables owned by HM Government. As above
- There appears to be orange pipes exposed which are usually either street furniture supplies or traffic control owned by parties other than ENW. Please confirm whether or not electrical supplies to street furniture fall under ENW responsibility.

Many thanks for you help in this matter.

Kind Regards

Claire Lilley
Project Manager

Email clilley@vertasefli.co.uk
Mobile +44 (0) 7718 979 520



Find out how to download it by clicking photo above or here: LINK

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Claire

From: Harrison, Chris [mailto:Chris.Harrison@enwl.co.uk]
Sent: 28 November 2017 11:17
To: Claire Lilley <clilley@vertasefli.co.uk>
Subject: Corporation St / Long Millgate Manchester

Good morning Claire

I visited this site last week and looked at the excavations, the one we discussed at the bus stop has according to our records a Live Low Voltage main running along this footpath and a spare 6 Inch EWP. There are services shown off this main some of which are feeding street furniture and some shown cut off and bottle ended. All ENW assets should be treated as live unless proven dead.

Please note the following may apply,

- There may be assets in the ground previously owned by ENW or it's predecessors {Manchester City Council Pre 1947}, that are not on record anymore after being de-commissioned particularly in Manchester City Centre.
- In this area there is an extensive private Low Voltage system owned by CWS.
- In this area also we have found during past works we have exposed cables owned by HM Government.
- There appears to be orange pipes exposed which are usually either street furniture supplies or traffic control owned by parties other than ENW.

Regards

Chris Harrison
Senior Response Engineer
Operations South
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Mobex 69353
Office 23863

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==========

Ian Stephenson

From: Fanshawe, Kenneth <Kenneth.Fanshawe@uuplc.co.uk>
Sent: 13 December 2017 01:11
To: Ian Stephenson
Cc: Claire Lilley; Ray Wright
Subject: RE: Long Millgate

Follow Up Flag: Follow up
Flag Status: Flagged

HI Ian

Just to confirm this is correct.

Thanks

Kenny Fanshawe
N.C.I. Central Manchester
Mobile – 07717767081
Mobex – 80654
Email – Kenneth.Fanshawe@UUPLC.CO.UK

From: Ian Stephenson [mailto:istephenson@vertasefli.co.uk]
Sent: 11 December 2017 17:00
To: Fanshawe, Kenneth <Kenneth.Fanshawe@uuplc.co.uk>
Cc: Claire Lilley <clilley@vertasefli.co.uk>; Ray Wright <rwright@vertasefli.co.uk>
Subject: RE: Long Millgate

Hi Kenneth,

Following the visit of yourself and your college Joe Horner, could you please confirm the following about your conclusions as discussed:

- Two 6" Water Pipes (see photos attached) – Verified as United Utilities Assets in VertaseFLI Trial Trench 3 (shown on the service plan below). One pipe is redundant – the other is live.
- Three 3" Cast Iron Pipes (see photos attached) – Confirmed as not being United Utilities assets present in VertaseFLI Trial Trench 3.
- One old 4" water pipe – confirmed as a redundant United Utility Asset by Joe Horner and present in VertaseFLI Trial Trench 6 (shown in service drawing below). Although not shown on United Utilities service plans this was identified as a water pipe as it runs directly to, and has been traced with CAT & Signal Generator to an infilled sluice valve (shown in the pictures attached).
- One 3" pipe – unidentified and not a United Utilities asset present in VertaseFLI Trial Trench 6.

Thanks in advance,

Ian



Ian Stephenson MSc BSc (Hons) MCIWEM
Lead Environmental Engineer

Email istephenson@vertasefli.co.uk
Mobile +44 (0) 7899 910 339

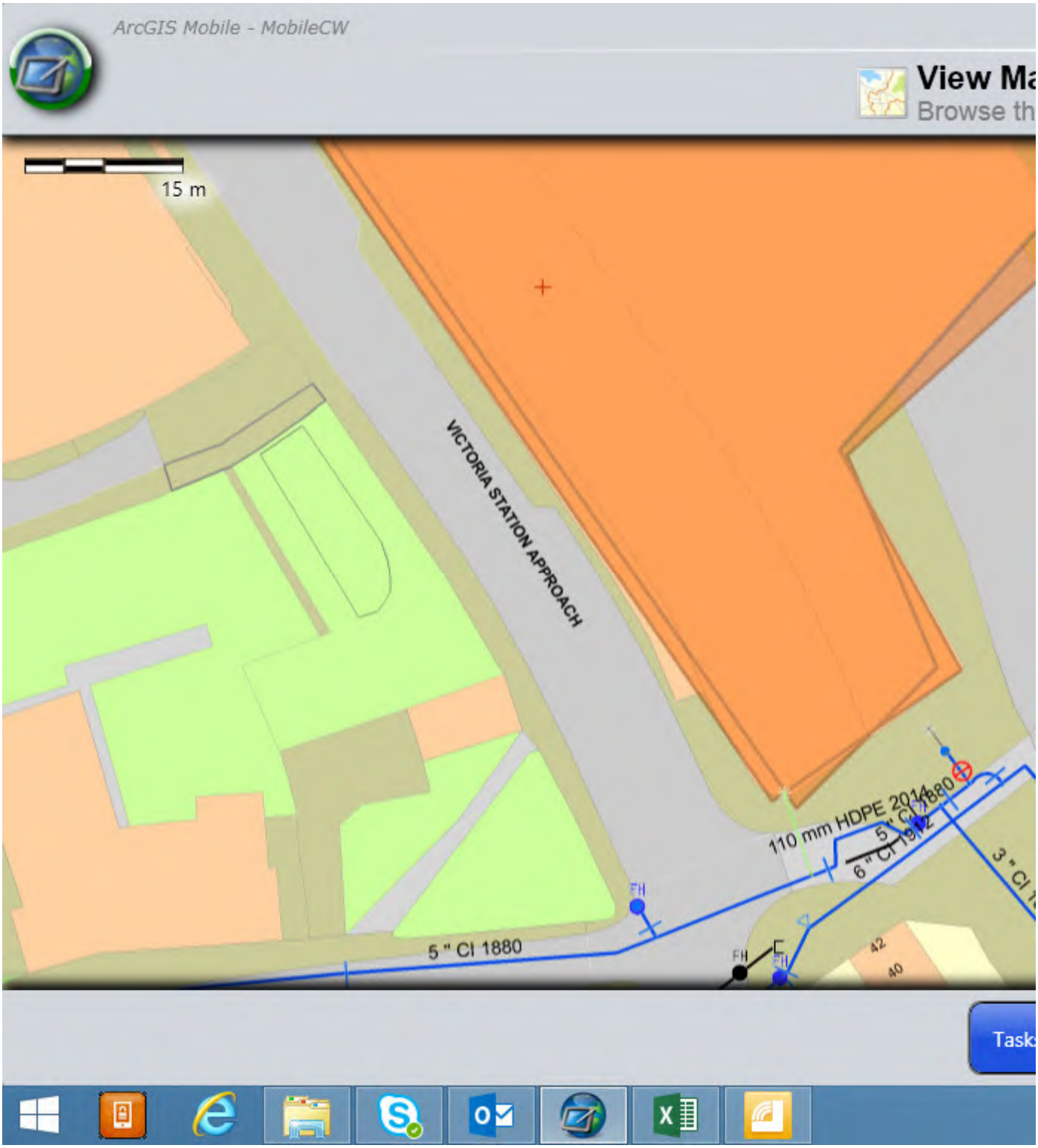


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From: Fanshawe, Kenneth [mailto:Kenneth.Fanshawe@uuplc.co.uk]
Sent: 30 November 2017 13:46
To: Ian Stephenson <istephenson@vertasefli.co.uk>
Subject: Long Millgate



Kenny Fanshawe
N.C.I. Central Manchester
Mobile – 07717767081
Mobex – 80654
Email – Kenneth.Fanshawe@UUPLC.CO.UK

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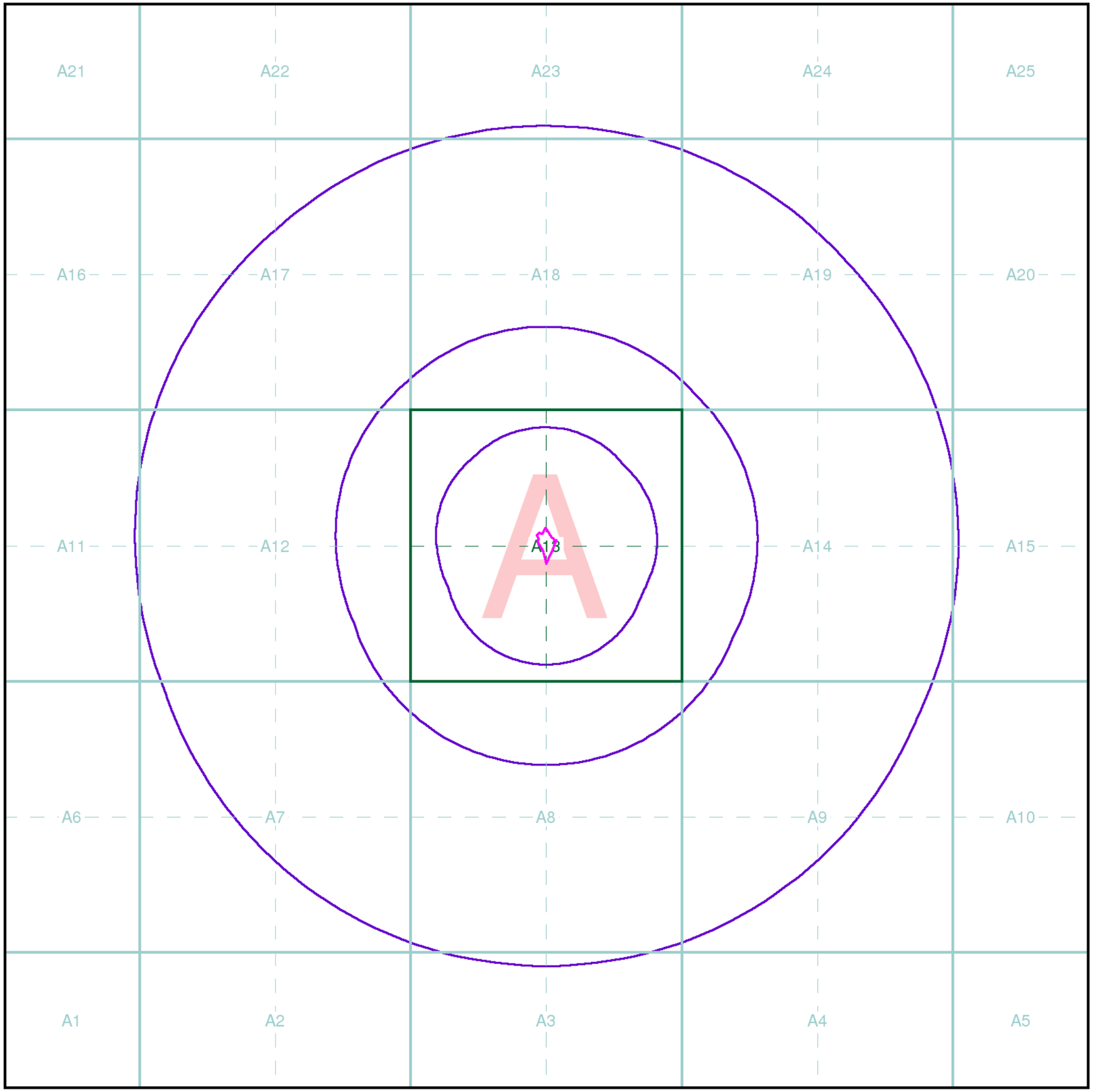
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APPENDIX D

Envirocheck Report



Vertase FLI

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr M Kelly, Vertase FLI Ltd, Number One, Middle Bridge Business Park, Bristol Road, Portishead, Bristol, BS20 6PN

Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Site Area (Ha):	0.21
Search Buffer (m):	1000

Site Details

New Victoria Manchester, MANCHESTER, M4 4AH

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Tel: 0844 844 9952
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Envirocheck® Report:

Datasheet

Order Details:

Order Number:
293403470_1_1

Customer Reference:
1946AJP

National Grid Reference:
384090, 398940

Slice:
A

Site Area (Ha):
0.21

Search Buffer (m):
1000

Site Details:

New Victoria Manchester
MANCHESTER
M4 4AH

Client Details:

Mr M Kelly
Vertase FLI Ltd
Number One
Middle Bridge Business Park
Bristol Road, Portishead
Bristol
BS20 6PN

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Industrial Land Use	74
Sensitive Land Use	172
Data Currency	173
Data Suppliers	180
Useful Contacts	181

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

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 4		19	20	66
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 30			4	15
Local Authority Pollution Prevention and Control Enforcements	pg 33				1
Nearest Surface Water Feature	pg 33		Yes		
Pollution Incidents to Controlled Waters	pg 33		2	2	16
Prosecutions Relating to Authorised Processes	pg 37				1
Registered Radioactive Substances	pg 37			1	2
River Quality	pg 37		1	1	2
River Quality Biology Sampling Points					
Substantiated Pollution Incident Register	pg 38				6
River Quality Chemistry Sampling Points	pg 38				1
Water Abstractions	pg 39			20	8 (*30)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 54	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 54	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 54	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 54		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 54		Yes	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 55		7	10	18

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 60				3
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 60			1	7
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 62			1	7
Potentially Infilled Land (Water)	pg 63			3	23
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 64				4
Registered Waste Treatment or Disposal Sites					
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					

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 66	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 66	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 69				2
BGS Urban Soil Chemistry	pg 69		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 72	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 73	Yes	n/a	n/a	n/a
Mining Instability	pg 73	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 73	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 73	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 73	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 73	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 73		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 74		14	169	621
Fuel Station Entries	pg 141			3	3
Points of Interest - Commercial Services	pg 142			20	104
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 152		4	38	148
Points of Interest - Public Infrastructure	pg 168		8	5	20
Points of Interest - Recreational and Environmental	pg 171				4
Gas Pipelines					
Underground Electrical Cables					

Summary

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 172	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 (S)	0	1	384092 398900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (W)	0	1	384092 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	0	1	384092 398950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	19	1	384092 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	19	1	384050 398950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	21	1	384100 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	41	1	384050 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	59	1	384150 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (N)	69	1	384092 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (W)	69	1	384000 398950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	70	1	384100 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	70	1	384000 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	79	1	384000 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	80	1	384050 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	91	1	384150 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	112	1	384000 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	119	1	384092 399100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	119	1	384100 399100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	125	1	383950 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	126	1	384050 399100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	133	1	384150 399100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	148	1	383950 399050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	162	1	384200 399100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	169	1	383900 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (W)	178	1	383900 398900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	179	1	384150 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	202	1	384200 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	213	1	383900 398800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	219	1	384092 399200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (W)	219	1	383850 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	219	1	383850 398950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	220	1	383950 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	259	1	383850 398800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	269	1	383800 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	269	1	384100 399250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (W)	269	1	383800 398950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	270	1	384300 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	271	1	383800 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	275	1	383800 398900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	281	1	383850 398750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	283	1	383800 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (W)	288	1	383800 398850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	306	1	384350 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	319	1	383750 398938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	319	1	384100 399300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	325	1	384150 399300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	329	1	383900 399250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	331	1	383750 399050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	336	1	383750 398850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	340	1	384350 399200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	345	1	384400 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	350	1	383800 398700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	354	1	383750 398800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	361	1	383850 399250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	369	1	383700 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	369	1	384100 399350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	374	1	384150 399350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	385	1	384200 399350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	387	1	384450 399150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	392	1	383750 398700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	394	1	383800 399250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	417	1	383700 398750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	419	1	383650 398938
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	421	1	383650 399000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	423	1	384150 399400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	446	1	383650 398800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	448	1	384250 399400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	456	1	384500 399200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	461	1	383700 398650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	465	1	383650 398750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	469	1	384300 399400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	485	1	384500 399250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	495	1	384250 399450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	499	1	384550 399200
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hanover Street Cso Hanover Street/Long Mill Gate, ., Manchester, Greater Manchester, M3 1nx Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0158 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	A13NW (NW)	20	2	384050 398970
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hanover Street Cso Hanover Street/Long Mill Gate, ., Manchester, Greater Manchester, M3 1nx Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0158 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	A13NW (NW)	20	2	384050 398970

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hanover Street Cso Hanover Street/Long Mill Gate, ., Manchester, Greater Manchester, M3 1nx Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0158 Permit Version: 4 Effective Date: 27th February 2020 Issued Date: 27th February 2020 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	A13NW (NW)	25	2	384044 398963
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hanover Street Cso Hanover Street/Long Mill Gate, ., Manchester, Greater Manchester, M3 1nx Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0158 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 26th February 2020 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	A13NW (NW)	25	2	384044 398963
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Corporation Street Cso Corporation Street, Near Junction With Miller Street, Manchester, Greater Manchester, M60 0ab Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0159 Permit Version: 4 Effective Date: 11th April 2018 Issued Date: 11th April 2018 Revocation Date: 15th November 2021 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Culverted Sec Of River Irk **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NE (N)	57	2	384120 399030
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Corporation Street Cso Corporation Street, Near Junction With Miller Street, Manchester, Greater Manchester, M60 0ab Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0159 Permit Version: 3 Effective Date: 22nd March 2016 Issued Date: 22nd March 2016 Revocation Date: 10th April 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	A13NE (N)	57	2	384120 399030

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: Corporation Street Cso Corporation Street, Near Junction With Miller Street, Manchester, Greater Manchester, M60 0ab Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0159 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	A13NE (N)	57	2	384120 399030
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Corporation Street Cso Corporation Street, Near Junction With Miller Street, Manchester, Greater Manchester, M60 0ab Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0159 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	A13NE (N)	57	2	384120 399030
2	**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	A13NE (N)	93	2	384140 399060
2	**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	A13NE (N)	93	2	384140 399060

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: 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	A13NE (N)	93	2	384140 399060
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Long Millgate Cso Long Millgate, Near Manchester Cathdral Gardens, Manchester City Centre, Manchester, M3 1sb Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993741 Permit Version: 2 Effective Date: 23rd October 2019 Issued Date: 23rd October 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	A13SW (W)	75	2	384000 398923
3	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Long Millgate Cso Long Millgate, Near Manchester Cathdral Gardens, Manchester City Centre, Manchester, M3 1sb Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993741 Permit Version: 1 Effective Date: 1st June 2005 Issued Date: 1st June 2005 Revocation Date: 22nd October 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: 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	A13SW (W)	81	2	384000 398910
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Long Millgate Cso Long Millgate, Near Manchester Cathdral Gardens, Manchester City Centre, Manchester, M3 1sb Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 01MAN0160 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 31st May 2005 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	A13SW (W)	81	2	384000 398910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hunts Bank Combined Sewer Overflow Hunts Bank Approach, ., Manchester, Greater Manchester, M3 1un Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0176 Permit Version: 4 Effective Date: 30th October 2019 Issued Date: 30th October 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	A13NW (W)	131	2	383938 398974
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hunts Bank Combined Sewer Overflow Hunts Bank Approach, ., Manchester, Greater Manchester, M3 1un Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0176 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 29th October 2019 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	A13NW (W)	131	2	383938 398974
5	**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	A13NE (N)	186	2	384120 399165
5	**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	A13NE (N)	191	2	384120 399170

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**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	A13NE (N)	209	2	384116 399188
6	**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	A13NE (N)	258	2	384201 399214
6	**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	A13NE (N)	258	2	384201 399214
6	**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	A13NE (NE)	267	2	384210 399220

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: 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	A13NE (NE)	267	2	384210 399220
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Subway - Victoria Avenue, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0175 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 Irk **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	286	2	383850 398740
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Arches, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0357 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	A13SW (SW)	307	2	383820 398750
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Bridge Street Cso (282wl) Manchester, ., ., Greater Manchester, M3 1st Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0155 Permit Version: 3 Effective Date: 20th October 2020 Issued Date: 20th October 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	377	2	383775 398688

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: Victoria Bridge Street Cso (282wl) Manchester, ., ., Greater Manchester, M3 1st Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0155 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 19th October 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	380	2	383770 398690
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Bridge Street Cso (282wl) Manchester, ., ., Greater Manchester, M3 1st Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0155 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 Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	380	2	383770 398690
9	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Beaumont Building Cso 28049 Jnt New Bridge St Great Ducie St, ., Man0051, Manchester, M3 1pq Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 01MAN0051 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 30th March 2008 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	A12NE (W)	399	2	383680 399050
9	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Beaumont Building Cso 28049 Jnt New Bridge St Great Ducie St, ., Man0051, Manchester, M3 1pq Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993837 Permit Version: 2 Effective Date: 11th April 2018 Issued Date: 11th April 2018 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	408	2	383670 399050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Beaumont Building Cso 28049 Jnt New Bridge St Great Ducie St, ., Man0051, Manchester, M3 1pq Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993837 Permit Version: 1 Effective Date: 31st March 2008 Issued Date: 20th April 2006 Revocation Date: 10th April 2018 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: The River Irwell **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	A12NE (W)	411	2	383670 399060
10	**Discharge Consents** Operator: Mr P Lane Property Type: FOOD+BEVERAGE SERVICES/CAFE/RESTAURANT/PUB Location: Food & Wine Bar Swo Railway Arches, Chapel Street, Salford, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991311 Permit Version: 1 Effective Date: 1st November 1994 Issued Date: Not Supplied Revocation Date: 1st November 1994 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SE (W)	400	2	383700 398800
11	**Discharge Consents** Operator: British Telecommunications Public Limited Company Property Type: OFFICES ADMIN + SUPPORT Location: Bt Dial House Exchange Building, 21 Chapel Street, ., Salford, M3 7ba Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Eprtb3638al Permit Version: 1 Effective Date: 29th May 2013 Issued Date: 29th May 2013 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	459	2	383690 398670
12	**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	A19SW (NE)	494	2	384440 399330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**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	A19SW (NE)	494	2	384440 399330
12	**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	A19SW (NE)	494	2	384440 399330
12	**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	A19SW (NE)	494	2	384440 399330
12	**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	A19SW (NE)	501	2	384441 399338

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**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	A19SW (NE)	516	2	384460 399340
12	**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	A19SW (NE)	516	2	384460 399340
12	**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	A19SW (NE)	516	2	384460 399340
13	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Blackfriars Street Cso 283j1 1541 Blackfriars Street, ., ., Manchester, M1 1ph Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0156 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	498	2	383686 398603

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: Blackfriars Street Cso 283j1 1541 Blackfriars Street, ., ., Manchester, M1 1ph Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0156 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	498	2	383686 398603
13	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Blackfriars Street Cso 283j1 1541 Blackfriars Street, ., ., Manchester, M1 1ph Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0156 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	511	2	383680 398590
13	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Blackfriars Street Cso 283j1 1541 Blackfriars Street, ., ., Manchester, M1 1ph Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0156 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 Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	511	2	383680 398590
14	**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	A19SW (NE)	537	2	384470 399360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**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	A19SW (NE)	537	2	384470 399360
14	**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	A19SW (NE)	537	2	384470 399360
14	**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	A19SW (NE)	537	2	384470 399360
14	**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	A19SW (NE)	576	2	384490 399395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**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	A19SW (NE)	579	2	384490 399400
14	**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	A19SW (NE)	581	2	384492 399401
15	**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	A18SE (N)	545	2	384220 399510
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Julia Sreett Cso 43 Julia Street, Manchester, ., Greater Manchester, M3 1fb Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Eprqb3590de Permit Version: 1 Effective Date: 7th February 2020 Issued Date: 7th February 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	558	2	383584 399239

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Julia Sreett Cso 43 Julia Street, Manchester, ., Greater Manchester, M3 1fb Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0005 Permit Version: 3 Effective Date: 7th February 2020 Issued Date: 7th February 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	571	2	383570 399240
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Julia Sreett Cso 43 Julia Street, Manchester, ., Greater Manchester, M3 1fb Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0005 Permit Version: 2 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 6th February 2020 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	A12NE (NW)	571	2	383570 399240
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Julia Sreett Cso 43 Julia Street, Manchester, ., Greater Manchester, M3 1fb Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0005 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: Not Supplied Revocation Date: 31st December 1994 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	571	2	383570 399240
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Booth Street Cso, Salford, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982902 Permit Version: 3 Effective Date: 14th November 1995 Issued Date: Not Supplied Revocation Date: 3rd December 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	574	2	383610 398580

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: Booth Street Cso, Salford, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982902 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 10th May 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	574	2	383610 398580
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Booth Street Cso, Salford, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982902 Permit Version: 2 Effective Date: 11th May 1995 Issued Date: Not Supplied Revocation Date: 13th November 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	574	2	383610 398580
18	**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	A17SE (NW)	574	2	383620 399320
19	**Discharge Consents** Operator: Acroy Ltd Property Type: Undefined Or Other Location: Chapel Wharf, Dearmans Place, Salford, Manchester, M3 5lh Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993796 Permit Version: 1 Effective Date: 22nd June 2005 Issued Date: 22nd June 2005 Revocation Date: 10th June 2008 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Via Ditch To River Irwell **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	A7NE (SW)	674	2	383530 398520

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: 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: 016993784 Permit Version: 2 Effective Date: 9th January 2020 Issued Date: 9th January 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Irwell Via Sws **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	684	2	383472 399297
20	**Discharge Consents** Operator: United Utilities Water Plc (?) 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: 016993784 Permit Version: 1 Effective Date: 21st March 2006 Issued Date: 21st March 2006 Revocation Date: 8th January 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Irwell **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	A17SE (NW)	688	2	383470 399300
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Bury New Rd/Teneriffe St, Salford, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 01SAL0025 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 21st March 2006 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	690	2	383470 399305
20	**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 Supplied Reference: 016982984 Permit Version: 2 Effective Date: 23rd October 2019 Issued Date: 23rd October 2019 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	695	2	383470 399314

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: Fairy Lane Cso 281t3 Fairy Lane Canon Sleigh Close, ., Manchester, Greater Manchester, M8 8dd Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0066 Permit Version: 5 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	695	2	383470 399314
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Rd Lockett St Cso Aba Fashions Ltd, 2 Sagar Street, ., Manchester, M8 8eu Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016982899 Permit Version: 5 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 Irwell Via Srf Wtr Sewer **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	695	2	383470 399314
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Fairy Lane Cso 281t3 Fairy Lane Canon Sleigh Close, ., Manchester, Greater Manchester, M8 8dd Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0066 Permit Version: 4 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 10th April 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	695	2	383471 399316
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Sherborne Street Cso Sherborne St Juct Grt Ducie St, ., ., Manchester, M3 1ej Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993836 Permit Version: 2 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 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: Fairy Lane Cso 281t3 Fairy Lane Canon Sleigh Close, ., Manchester, Greater Manchester, M8 8dd Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0066 Permit Version: 3 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 399320
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Fairy Lane Cso 281t3 Fairy Lane Canon Sleigh Close, ., Manchester, Greater Manchester, M8 8dd Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0066 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 Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 399320
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Rd Lockett St Cso Aba Fashions Ltd, 2 Sagar Street, ., Manchester, M8 8eu Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016982899 Permit Version: 4 Effective Date: 21st March 2006 Issued Date: 21st March 2006 Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 399320
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Rd Lockett St Cso Aba Fashions Ltd, 2 Sagar Street, ., Manchester, M8 8eu Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016982899 Permit Version: 3 Effective Date: 14th November 1995 Issued Date: 14th November 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	A17SE (NW)	706	2	383460 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: Sherborne Street Cso Sherborne St Juct Grt Ducie St, ., ., Manchester, M3 1ej Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 01MAN0052 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 19th April 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 10m	A17SE (NW)	706	2	383460 399320
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Fairy Lane Cso 281t3 Fairy Lane Canon Sleigh Close, ., Manchester, Greater Manchester, M8 8dd Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0066 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 Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 399320
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Rd Lockett St Cso Aba Fashions Ltd, 2 Sagar Street, ., Manchester, M8 8eu Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982899 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 10th May 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 399320
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bury New Rd Lockett St Cso Aba Fashions Ltd, 2 Sagar Street, ., Manchester, M8 8eu Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982899 Permit Version: 2 Effective Date: 11th May 1995 Issued Date: Not Supplied Revocation Date: 13th November 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	706	2	383460 399320

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Sherborne Street Cso Sherborne St Juct Grt Ducie St, ., ., Manchester, M3 1ej Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993836 Permit Version: 1 Effective Date: 20th April 2006 Issued Date: 20th April 2006 Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Irwell **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	A17SE (NW)	707	2	383460 399322
21	**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	A19SW (NE)	757	2	384600 399540
21	**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	A19SW (NE)	757	2	384600 399540
21	**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	A19SW (NE)	758	2	384598 399543

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: 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	A19SW (NE)	758	2	384598 399543
22	**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	A17SE (NW)	763	2	383630 399590
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cottenham Lane Cso 372rz Cottenham Lane, ., Salford, Greater Manchester, M3 7lj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01sal0081 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 Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	788	2	383380 399345
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cottenham Lane Cso 372rz Cottenham Lane, ., Salford, Greater Manchester, M3 7lj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01sal0081 Permit Version: 3 Effective Date: 24th August 2017 Issued Date: 30th August 2017 Revocation Date: 1st August 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	788	2	383380 399345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cottenham Lane Cso 372rz Cottenham Lane, ., Salford, Greater Manchester, M3 7lj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01sal0081 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 24th August 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	794	2	383370 399340
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cottenham Lane Cso 372rz Cottenham Lane, ., Salford, Greater Manchester, M3 7lj Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01SAL0081 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 Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	794	2	383370 399340
24	**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	A19SW (NE)	804	2	384710 399495
24	**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	A19SW (NE)	808	2	384710 399500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**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	A19SW (NE)	806	2	384650 399560
25	**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	A19SW (NE)	818	2	384654 399573
25	**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	A19SW (NE)	820	2	384650 399580
26	**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	A17SE (NW)	825	2	383490 399550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**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	A19SW (NE)	848	2	384710 399560
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge Street Cso 4 Bridge Street, ., ., Manchester, M3 3er Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982898 Permit Version: 4 Effective Date: 1st April 2018 Issued Date: 19th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	915	2	383340 398371
28	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge St West Cso (281f9) Manchester, ., ., Greater Manchester, M60 9dj Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993550 Permit Version: 2 Effective Date: 26th November 2020 Issued Date: 26th November 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	918	2	383337 398370
28	**Discharge Consents** Operator: Bovis Lend Lease Limited Property Type: Trade (Unknown/Other) Location: Manchester Civil Justice Centre, Gartside Street, Manchester, M3 3el Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993601 Permit Version: 1 Effective Date: 1st January 2007 Issued Date: 5th October 2004 Revocation Date: 25th April 2006 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **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	A7NW (SW)	919	2	383350 398350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge Street Cso 4 Bridge Street, ., ., Manchester, M3 3er Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982898 Permit Version: 3 Effective Date: 14th November 1995 Issued Date: Not Supplied Revocation Date: 31st March 2018 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)	929	2	383330 398360
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge Street Cso 4 Bridge Street, ., ., Manchester, M3 3er Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982898 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 10th May 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	929	2	383330 398360
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge Street Cso 4 Bridge Street, ., ., Manchester, M3 3er Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982898 Permit Version: 2 Effective Date: 11th May 1995 Issued Date: Not Supplied Revocation Date: 13th November 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	929	2	383330 398360
28	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge St West Cso (281f9) Manchester, ., ., Greater Manchester, M60 9dj Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993550 Permit Version: 1 Effective Date: 12th April 2006 Issued Date: 12th April 2006 Revocation Date: 25th November 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Irwell **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	A7NW (SW)	938	2	383320 398360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bridge St West Cso (281f9) Manchester, ., ., Greater Manchester, M60 9dj Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 01MAN0174 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 11th April 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)	938	2	383320 398360
28	**Discharge Consents** Operator: The Lord Chancellor Property Type: Undefined Or Other Location: Manchester Civil Justice Centre, Gartside Street, Manchester, M3 3el Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993601 Permit Version: 2 Effective Date: 1st January 2007 Issued Date: 26th April 2006 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	952	2	383310 398350
29	**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	A17NE (NW)	925	2	383450 399650
30	**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	A18SE (N)	401	3	384114 399381
30	**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	A18SW (N)	432	3	384083 399413

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**Local Authority Pollution Prevention and Controls** Name: Johnsons Cleaners Uk Ltd - Manchester Location: 24 High Street, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/13/07 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	441	3	384254 398481
32	**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	A18SE (NE)	495	3	384410 399359
32	**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	A18SE (NE)	524	3	384417 399390
32	**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	A18SE (NE)	524	3	384417 399390
33	**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	A14NW (NE)	511	3	384562 399203
34	**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	A18SW (NW)	535	3	383820 399443
35	**Local Authority Pollution Prevention and Controls** Name: Greengate Polymer Coatings Ltd Location: Greengate Works, SALFORD, M3 7WS Authority: Salford City Council, Environmental Health Department Permit Reference: 28/36 Dated: 16th February 1995 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing **Status:** **Authorised** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	545	4	383527 399025

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	**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	A19SW (NE)	588	3	384440 399453
37	**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	A19SW (NE)	639	3	384490 399479
38	**Local Authority Pollution Prevention and Controls** Name: Ryland Honda Location: Blackfriars Road, SALFORD, Lancashire, M3 7AP Authority: Salford City Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	669	4	383408 398859
39	**Local Authority Pollution Prevention and Controls** Name: Express Printers Manchester Ltd Location: Henry Street, Ancoats, MANCHESTER, Lancashire, M60 4HB Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/56/93 Dated: 1st March 1995 Process Type: Local Authority Air Pollution Control Description: PG6/21 Hide and skin processes **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A14SW (E)	671	3	384738 398694
40	**Local Authority Pollution Prevention and Controls** Name: Johnson Cleaners Uk Ltd - Manchester Location: 59 Cross Street, Albert Square, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/12/07 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A8SW (S)	735	3	383845 398199
41	**Local Authority Pollution Prevention and Controls** Name: Renault Manchester Location: 72 Blackfriars Road, SALFORD, Lancashire, M3 7FT Authority: Salford City Council, Environmental Health Department Permit Reference: 29/50 Dated: 15th December 1994 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	778	4	383293 399019
41	**Local Authority Pollution Prevention and Controls** Name: Renault (Manchester) Ltd Location: Trinity Way, Blackfriars Road, SALFORD, Greater Manchester, M3 7FT Authority: Salford City Council, Environmental Health Department Permit Reference: 8363/040408 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	797	4	383272 398993

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**Local Authority Pollution Prevention and Controls** Name: Granada Dry Cleaners Location: 71-73 Bridge Street, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/20/07 Dated: 26th February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	797	3	383558 398300
43	**Local Authority Pollution Prevention and Controls** Name: Chemipat Ltd Location: Sherbourne Street West, SALFORD, Lancashire, M3 7LF Authority: Salford City Council, Environmental Health Department Permit Reference: 9276/030210 Dated: 16th February 1995 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	866	4	383353 399449
44	**Local Authority Pollution Prevention and Controls** Name: Granite Surface Coatings Ltd Location: Elton Street, Cambridge Industrial Area, Lower Broughton, SALFORD, Lancashire, M7 1TJ Authority: Salford City Council, Environmental Health Department Permit Reference: 28/22 Dated: 17th March 1995 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing **Status: Site Closed** Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	993	4	383207 399456
45	**Local Authority Pollution Prevention and Control Enforcements** Location: Sherborne Street West, Salford, M3 7lf Type: Air Pollution Control Enforcement Notice Reference: V1259 Date Issued: 15th July 2009 Enforcement Date: Not Supplied Details: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	866	4	383353 399449
	Nearest Surface Water Feature	A13NE (NE)	57	-	384165 398984
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 30th October 1995 Incident Reference: 95612666 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	A13NW (NW)	79	2	384000 399000
47	**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: 16th March 1992 Incident Reference: 92610433 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	A13SW (SW)	213	2	383900 398800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**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	A18SW (N)	331	2	384000 399300
49	**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	A18SE (NE)	445	2	384400 399300
50	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: River Irwell Incident Date: 10th May 1993 Incident Reference: 93610965 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	528	2	383600 398700
51	**Pollution Incidents to Controlled Waters** Property Type: No Premises Identified Location: St Marys Parsonage, Off Blackfriars Street, Manchester City Centre, MANCHESTER, Greater Manchester Authority: Environment Agency, North West Region Pollutant: Contaminated Material : Fire Fighting Run Off Note: Not Supplied Incident Date: 2nd May 1999 Incident Reference: 28749 Catchment Area: Irwell Receiving Water: River Stretch (Freshwater) Cause of Incident: Fire Incident Severity: Category 3 - Minor Incident Positional Accuracy: Manually positioned to the road within the address or location	A12SE (SW)	541	2	383629 398613
51	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Colour Note: Not Supplied Incident Date: 12th May 1995 Incident Reference: 95611111 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	A12SE (SW)	572	2	383600 398600
52	**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	A19SW (NE)	586	2	384500 399400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 11th March 1996 Incident Reference: 96610444 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	A12SE (W)	623	2	383500 398700
54	**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 - Unknown Note: River Irwell Incident Date: 26th May 1992 Incident Reference: 92610872 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	629	2	383600 398500
55	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Unknown Sewage Note: River Irwell Incident Date: 14th May 1993 Incident Reference: 93611003 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	710	2	383500 398500
56	**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	A17SE (NW)	714	2	383600 399500
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: River Irwell Incident Date: 4th July 1995 Incident Reference: 95611639 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	A17SW (NW)	799	2	383400 399400
58	**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	A19SW (NE)	869	2	384700 399600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**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	A19NW (NE)	943	2	384700 399700
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected; None Pollution Found Incident Date: 16th December 1996 Incident Reference: 96612549 Catchment Area: Rochdale Canal 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)	950	2	385001 398601
61	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Oil To Drains Incident Date: 10th July 1996 Incident Reference: 96631536 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	981	2	384500 398000
62	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Chemicals - Paints / Dyes Note: Ashton Canal; Flouroscein Incident Date: 31st October 1996 Incident Reference: 96632291 Catchment Area: Ashton Canal Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SE (SE)	990	2	384800 398200
63	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Ashton Canal; Foam Incident Date: 9th April 1996 Incident Reference: 96630678 Catchment Area: Ashton Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	990	2	385001 398501
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected Incident Date: 16th December 1996 Incident Reference: 96632549 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	992	2	385001 398496

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	**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	A19NW (NE)	795	2	384510 399656
65	**Registered Radioactive Substances** Name: Brooke Edgley Specialist Technical Services Ltd Location: Unit 4, Angel Industrial Estate, Angel Street, MANCHESTER, M4 4BQ Authority: Environment Agency, North West Region Permit Reference: Bi9880 Dated: 7th August 2000 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA in respect of a registration under S7 when Technetium 99M is used being =< 10 gigabecquerels **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	348	2	384457 399030
66	**Registered Radioactive Substances** Name: National Vulcan Eng Ins Group Ltd Location: St Marys Parsonage, MANCHESTER, M60 9AP Authority: Scottish Environment Protection Agency, Head Office Permit Reference: IPB/3/3/023 Dated: 24th April 1980 Process Type: Registration under S10 RSA for the keeping and use of mobile Radioactive sources (was RSA60 S3) Description: Registration under S7 or S10 RSA for the keeping and use of radioactive material or apparatus for 1 or more tracer test sources dated pre April 1991 **Status: Not Given** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	728	5	383532 398427
67	**Registered Radioactive Substances** Name: Umist Location: PO Box 88, MANCHESTER, Lancashire, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AC8886 Dated: 31st March 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A14NE (E)	905	2	385022 398985
	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	A13NW (N)	132	2	384070 399111
	River Quality Name: Irwell (Msc) GQA Grade: River Quality E Reach: Salford University To Salford Docks Estimated Distance (km): 8.2 Flow Rate: Flow less than 40 cumecs Flow Type: River Year: 2000	A13SW (SW)	307	2	383795 398815
	River Quality Name: Rochdale Canal GQA Grade: River Quality B Reach: Empress Processing To Ashton Canal Estimated Distance (km): .3 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A9NE (SE)	931	2	384915 398458

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Rochdale Canal GQA Grade: River Quality B Reach: Qsl At Summit To Empress Processing Estimated Distance (km): 27.6 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A9NE (SE)	931	2	384915 398458
68	**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	A19SW (NE)	501	2	384445 399335
69	**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	A18SE (NE)	576	2	384412 399459

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**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	A19NW (NE)	773	2	384490 399643
71	**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	A18NW (N)	825	2	383953 399795
72	**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	A19NW (NE)	835	2	384519 399698
73	**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	A19NW (NE)	847	2	384581 399671
73	**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	A19NW (NE)	871	2	384599 399688
74	**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	A13NW (NW)	338	2	383820 399190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**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	A13NW (NW)	338	2	383820 399190
74	**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	A13NW (NW)	338	2	383820 399190
74	**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	A13NW (NW)	338	2	383820 399190
74	**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	A13NW (NW)	338	2	383820 399190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**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	A13NW (NW)	338	2	383820 399190
74	**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	A13NW (NW)	352	2	383830 399220
74	**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	A13NW (NW)	352	2	383830 399220
74	**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	A13NW (NW)	352	2	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**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	A13NW (NW)	352	2	383830 399220
74	**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	A13NW (NW)	352	2	383830 399220
74	**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	A13NW (NW)	352	2	383830 399220
75	**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	A13NW (NW)	361	2	383850 399250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	**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	A13NW (NW)	361	2	383850 399250
75	**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	A13NW (NW)	361	2	383850 399250
75	**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	A13NW (NW)	361	2	383850 399250
75	**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	A13NW (NW)	361	2	383850 399250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	**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	A13NW (NW)	361	2	383850 399250
76	**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	A12SE (SW)	437	2	383700 398700
76	**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	A12SE (SW)	437	2	383700 398700
77	**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	A18NE (N)	719	2	384100 399700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	**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	A18NE (N)	719	2	384100 399700
78	**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	A18NW (N)	841	2	383900 399800
78	**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	A18NW (N)	841	2	383900 399800
79	**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	A12SW (W)	884	2	383200 398800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	**Water Abstractions** Operator: British Telecommunications Plc Licence Number: 2569007069 Permit Version: 100 Location: Borehole At George St, Manchester 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): 860 Yearly Rate (m3): 1100 Details: Premises At Rutherford Hse, York St 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	A8SE (S)	892	2	384100 398000
81	**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	A7NW (SW)	955	2	383335 398310
81	**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	A7NW (SW)	955	2	383335 398310
	Water Abstractions Operator: North Western Electricity Board Licence Number: 2569006023 Permit Version: Not Supplied Location: Rochdale Canal, Dickinson Street, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 82 Yearly Rate (m3): 25230 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	A3NE (S)	1192	2	384100 397700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: West Contracting Licence Number: Nw0690006001 Permit Version: 1 Location: Boreholes At Origin Developments, 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: Not Supplied Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 19th January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1193	2	384378 397733
	Water Abstractions Operator: West Contracting Licence Number: Nw/069/0006/001 Permit Version: 1 Location: Boreholes At Origin Developments, 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: Not Supplied Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 19th January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1193	2	384378 397733
	Water Abstractions Operator: Manchester Quays Development (Mgy) Ltd Licence Number: Nw/069/0004/019 Permit Version: 1 Location: St Johns Manchester Authority: Environment Agency, North West Region Abstraction: Industrial, Commercial and Public Services: Transfer Between Sources (Post Water Act 2003) Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: St Johns, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 13th September 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SW (SW)	1275	2	383094 398099
	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	A24SE (NE)	1442	2	385000 400100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A24SE (NE)	1442	2	385000 400100
	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	A24SE (NE)	1444	2	385001 400101
	Water Abstractions Operator: Dunlop Rubber Co Limited Licence Number: 2569007027 Permit Version: Not Supplied Location: Borehole, Cambridge Street, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1811 Yearly Rate (m3): 154564 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	(S)	1694	2	384000 397200
	Water Abstractions Operator: Moseley Rubber Co Ltd Licence Number: 2569006001 Permit Version: 100 Location: Borehole At Premises, Broadie St, Ardwick, Manchester Authority: Environment Agency, North West Region Abstraction: Rubber: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 909 Yearly Rate (m3): 331858 Details: Premises At Broadie St., Ardwick Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th February 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1773	2	385240 397540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: British Waterways Board Licence Number: 2569006030 Permit Version: Not Supplied Location: Manchester, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Not Supplied Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Ashton Canal 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	(E)	1788	2	385900 398800
	Water Abstractions Operator: British Waterways Licence Number: 2569006990 Permit Version: 100 Location: Ashton Canal, Manchester [Distillers, Ancoats] 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: Surface Daily Rate (m3): 0 Yearly Rate (m3): 750090 Details: (Lancashire Tar Distillers Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1969 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1789	2	385900 398795
	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 2 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th April 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	2	384180 397091
	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 2 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th April 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	2	384180 397091

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 1 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	2	384180 397091
	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 1 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1803	2	384180 397091
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw11 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	1824	2	383204 397298
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw10 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	1840	2	383211 397276

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw9 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	1855	2	383223 397253
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw6 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	1861	2	383171 397275
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw8 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1879	2	383224 397225
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw5 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1889	2	383193 397230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw7 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1917	2	383184 397203
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw4 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1923	2	383159 397210
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw3 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1926	2	383140 397217
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw1 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	1927	2	383085 397249

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw2 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1929	2	383113 397230
	Water Abstractions Operator: Cemex Uk Materials Ltd Licence Number: 2569007085 Permit Version: 4 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: 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: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1980	2	382190 398330
	Water Abstractions Operator: Cemex Uk Materials Ltd Licence Number: 2569007085 Permit Version: 3 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: 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: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1980	2	382190 398330
	Water Abstractions Operator: Cemex Uk Materials Ltd Licence Number: 2569007085 Permit Version: 2 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: 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: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 22nd March 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1980	2	382190 398330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ready Mixed Concrete (North West) Limited Licence Number: 2569007085 Permit Version: 1 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: 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: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1980	2	382190 398330
	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: Low	A13SE (SE)	0	6	384110 398927
	Groundwater Vulnerability Map Combined Classification: Principle Bedrock Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, No 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: Low	A13NW (W)	0	6	384092 398938
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NW (W)	0	6	384092 398938
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SE (SE)	0	6	384110 398927
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	88	2	383984 398938
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	191	2	384116 399170
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	191	2	384116 399170
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	218	2	383854 398922

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	242	2	383846 398860
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	243	2	383826 398959
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
82	**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	A13NW (NW)	7	7	384061 398962
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13SW (SW)	97	7	384002 398858
84	**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	A13NE (N)	195	7	384122 399174
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A13NW (W)	223	7	383846 398944
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13SW (SW)	238	7	383981 398682
87	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 159.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irwell Catchment Name: Mersey Primacy: 1	A13SW (W)	240	7	383833 398915
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irwell Catchment Name: Mersey Primacy: 1	A13SW (W)	240	7	383831 398929

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13SW (SW)	256	7	383963 398671
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13SW (SW)	259	7	383959 398670
91	**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	A13NE (N)	267	7	384208 399221
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13SW (SW)	277	7	383938 398661
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13SW (SW)	284	7	383929 398659
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 464.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irwell Catchment Name: Mersey Primacy: 1	A13NW (W)	308	7	383761 398972
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irwell Catchment Name: Mersey Primacy: 1	A13SW (SW)	309	7	383808 398773
96	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 856.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irwell Catchment Name: Mersey Primacy: 1	A13SW (SW)	327	7	383797 398752
97	**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	A18SE (N)	336	7	384153 399311

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
98	**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	A13NE (NE)	342	7	384301 399251
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3132.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irwell Catchment Name: Mersey Primacy: 1	A17SE (NW)	692	7	383463 399296
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A17SE (NW)	692	7	383463 399296
101	**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	A17SE (NW)	695	7	383471 399315
102	**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	A17SE (NW)	807	7	383468 399500
103	**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	A17SE (NW)	807	7	383468 399500
104	**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	A19SW (NE)	866	7	384739 399555
105	**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	A19SW (NE)	871	7	384745 399556
106	**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	A17NE (NW)	925	7	383601 399766

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A9NE (SE)	944	7	384886 398382
108	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 219.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9NE (SE)	953	7	384892 398374
109	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 309.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9NE (SE)	953	7	384892 398374
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 80.9 Watercourse Level: Underground Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	974	7	384666 398105
111	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 35.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	975	7	384669 398106
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.8 Watercourse Level: Underground Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	983	7	384701 398120
113	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 53.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	987	7	384609 398051
114	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 101.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	988	7	384716 398126
115	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 23.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	995	7	384568 398018

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 310.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A9SW (SE)	997	7	384546 398004

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	**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	A17SE (NW)	682	2	383482 399309
118	**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	A19NW (NE)	908	2	384632 399710
119	**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	A18NE (N)	954	2	384179 399931
120	**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	A18SE (NE)	469	2	384300 399400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	**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	A18SE (NE)	521	2	384400 399400
122	**Licensed Waste Management Facilities (Locations)** Licence Number: 50328 Location: 35 - 39 Oldham Road, Manchester, M4 5FG Operator Name: Brendan J Kershaw & Winston Brown Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: End of Life Vehicles **Licence Status: Surrendered** Issued: 10th August 2004 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 6th July 2010 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (E)	662	2	384771 398842
123	**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: Expired** Issued: 20th February 2007 Last Modified: 12th November 2010 Expires: 15th September 2020 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	696	2	384650 399400
123	**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	A19SW (NE)	696	2	384650 399400
124	**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	A19SW (NE)	759	2	384690 399449

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
125	**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	A19NW (NE)	826	2	384545 399671
126	**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	A17SW (NW)	890	2	383354 399493
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	8	384092 398938
	Local Authority Landfill Coverage Name: Salford Metropolitan District Council - Has no landfill data to supply		245	4	383830 398905
127	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A18SW (NW)	390	-	383896 399319
128	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A18SW (NW)	666	-	383760 399560
129	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A17SE (NW)	768	-	383632 399598
130	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A19NW (NE)	840	-	384455 399737
131	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A18NW (N)	844	-	384003 399820
132	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A18NW (N)	928	-	384043 399908
133	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A18NW (N)	948	-	383865 399902
134	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A18NE (N)	955	-	384194 399931

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
135	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13NW (NW)	309	-	383952 399257
136	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13NW (NW)	311	-	383901 399228
137	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A14NW (NE)	476	-	384558 399132
138	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (N)	507	-	384006 399481
139	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (N)	540	-	383974 399509
140	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (N)	588	-	384064 399569
141	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A19SW (NE)	603	-	384488 399434
142	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (N)	610	-	384090 399592
143	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (NW)	615	-	383757 399498
144	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SW (N)	623	-	384091 399604
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SW (NE)	640	-	384440 399517
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12NE (NW)	656	-	383468 399225
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A17SE (NW)	678	-	383485 399306
148	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A19SW (NE)	687	-	384466 399555
149	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18NW (N)	750	-	383883 399702
150	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18NE (N)	770	-	384102 399751
151	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18NW (N)	798	-	383881 399751
152	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A9NW (SE)	839	-	384755 398377
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19NW (NE)	846	-	384648 399617
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18NW (N)	885	-	383945 399854
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A9NE (SE)	893	-	384851 398421

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17SW (NW)	895	-	383365 399514
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A9SW (SE)	915	-	384718 398223
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9SW (SE)	946	-	384499 398038
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14SE (E)	948	-	385039 398724
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A9NE (SE)	966	-	384915 398387
161	**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)	A19SW (NE)	609	2	384485 399445
162	**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	A14NW (NE)	633	2	384700 399200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
163	**Registered Waste Transfer Sites** Licence Holder: E & N Gregson & Co Licence Reference: 00191 Site Location: Ravald Street, Salford, Greater Manchester Operator Location: Ravald School, Salford, Greater Manchester Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 27th November 1981 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: Latex, Latex/Rubber Sol'Ns/Susp'Ns Oxygen Containing Organic Compounds Paint Waste $ Soaps & Detergents Waste From Ink Manufacture And Use Water (Contaminated)	A12NW (W)	841	2	383228 398984
164	**Registered Waste Transfer Sites** Licence Holder: Greater Manchester Police Licence Reference: 01049 Site Location: Collyhurst Vehicle Compound, Rochdale Road, Manchester, Greater Manchester Operator Location: Chester House, Boyer Street, STRETFORD, Greater Manchester, M16 0RE 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 August 1994 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: Elect.Fittings/Fixtures/Appliances Empty Used Containers Gmwda Group 5 - As Part Of Vehicles Scrap Mach'Y/Equip. - Ferrous/Non-Ferr Prohibited Waste: Explosive Waste Items Contam.With Pcb'S Liquid/Sludge Waste N.O.S. Press'D Containers Or Waste Therein Special Wastes N.O.S. Waste N.O.S Whether/Not Pack./Pre-Trt Waste Violently React With Water	A19SE (NE)	856	2	384900 399300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13NW (W)	0	1	384092 398938
	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)	0	1	384110 398927
	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	A13NW (W)	0	1	384092 398938
	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	A13NW (N)	19	1	384092 399000
	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	A13NW (NW)	37	1	384057 399000
	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	A13NE (NE)	61	1	384153 399000
	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	A13NW (W)	139	1	383936 399000

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: 200 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A12NE (W)	419	1	383652 399000
	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	A19SW (NE)	529	1	384500 399317
	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	A19SW (NE)	599	1	384500 399418
	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	A12NE (W)	605	1	383500 399169
	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	A12NE (NW)	630	1	383519 399270
	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	A12NE (NW)	646	1	383500 399267

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: 15 - 30 mg/kg	A17SE (NW)	688	1	383500 399349
	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	A19SW (NE)	776	1	384647 399522
	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	A19SW (NE)	777	1	384657 399512
	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	A17SE (NW)	786	1	383495 399500
	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	A19SE (NE)	920	1	384772 399599
	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	A19SE (NE)	943	1	384815 399586

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: 40 - 60 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19NE (NE)	971	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: 30 - 45 mg/kg	A19NE (NE)	985	1	384804 399659
165	**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	A18SW (N)	543	1	383894 399487
166	**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	A17NE (NW)	849	1	383700 399735
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383870, 398810 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 10.50 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 43.80 mg/kg Lead Measured Concentration: 67.70 mg/kg Nickel Measured Concentration: 13.20 mg/kg	A13SW (SW)	237	1	383870 398810

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: 384360, 398920 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 15.00 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 50.90 mg/kg Lead Measured Concentration: 198.50 mg/kg Nickel Measured Concentration: 17.70 mg/kg	A13SE (E)	244	1	384360 398920
	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	A13NE (NE)	371	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	A17SE (NW)	500	1	383700 399300
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383620, 398440 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 24.80 mg/kg Cadmium Measured Concentration: 2.20 mg/kg Chromium Measured Concentration: 74.20 mg/kg Lead Measured Concentration: 376.60 mg/kg Nickel Measured Concentration: 25.90 mg/kg	A7NE (SW)	654	1	383620 398440
	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	A17SE (NW)	710	1	383640 399530

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: 384380, 398240 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 2.50 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 28.60 mg/kg Lead Measured Concentration: 20.10 mg/kg Nickel Measured Concentration: 5.40 mg/kg	A8SE (S)	712	1	384380 398240
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384910, 398840 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 13.10 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 67.10 mg/kg Lead Measured Concentration: 69.30 mg/kg Nickel Measured Concentration: 19.70 mg/kg	A14SE (E)	800	1	384910 398840
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384870, 399280 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 23.80 mg/kg Cadmium Measured Concentration: 1.60 mg/kg Chromium Measured Concentration: 78.20 mg/kg Lead Measured Concentration: 303.90 mg/kg Nickel Measured Concentration: 25.60 mg/kg	A19SE (NE)	821	1	384870 399280
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383270, 399230 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 18.10 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 86.30 mg/kg Lead Measured Concentration: 298.10 mg/kg Nickel Measured Concentration: 21.50 mg/kg	A12NW (W)	843	1	383270 399230
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383240, 398740 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 25.70 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 91.40 mg/kg Lead Measured Concentration: 212.00 mg/kg Nickel Measured Concentration: 32.90 mg/kg	A12SW (W)	857	1	383240 398740

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: 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	A18NE (N)	872	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	A19NE (NE)	975	1	384780 399670
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384750, 398170 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 15.60 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 83.30 mg/kg Lead Measured Concentration: 178.60 mg/kg Nickel Measured Concentration: 23.50 mg/kg	A9SW (SE)	977	1	384750 398170
	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	A13NW (W)	0	1	384092 398938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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.	A13NW (W)	0	9	384092 398938
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NW (W)	0	-	384092 398938
	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	A13NW (W)	0	1	384092 398938
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	197	1	383872 398959
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	384092 398938
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	384084 398942
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	190	1	384102 399171
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	243	1	383835 399028
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	384092 398938
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	384092 398938
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	199	1	384097 399180
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	384084 398942
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	384092 398938
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	1	384092 398938
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	44	1	384150 398908
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	54	1	384047 399016
	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	A13NW (W)	0	1	384092 398938
	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	A13NW (W)	0	1	384092 398938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
167	**Contemporary Trade Directory Entries** Name: Orient Express Northern Bell Location: Victoria Station, 1, Todd Street, Manchester, M3 1PB Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	36	-	384033 398963
168	**Contemporary Trade Directory Entries** Name: The Co-Operative Location: Miller Street, Manchester, Lancashire, M60 0AL Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (E)	79	-	384194 398971
169	**Contemporary Trade Directory Entries** Name: Nuffield Health Assessment Location: Unit 1, The Printworks, 27, Withy Grove, Manchester, M4 2BS Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	150	-	384122 398745
170	**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	A13NE (NE)	199	-	384202 399146
171	**Contemporary Trade Directory Entries** Name: Roomzzz Manchester City Corn Exchange Location: Exchange Square,Hanging Ditch, Manchester, Greater Manchester, M4 3TR Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	202	-	383972 398729
171	**Contemporary Trade Directory Entries** Name: Epos Now Location: The Corn Exchange, 37, Hanging Ditch, Manchester, M4 3TR Classification: Cash Registers & Check-Out Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	208	-	383957 398734
171	**Contemporary Trade Directory Entries** Name: Nexira Location: 176 Monton Road,Monton M30 9ga, Manchester, Greater Manchester, M4 3TR Classification: Food Colouring, Flavouring & Additive Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	208	-	383957 398734
172	**Contemporary Trade Directory Entries** Name: T Stensby & Co Ltd Location: 1, Shudehill, Manchester, M4 2AF Classification: Gunsmiths **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	211	-	384149 398689
172	**Contemporary Trade Directory Entries** Name: Withy Grove Stores Ltd Location: 35-39, Withy Grove, Manchester, M4 2BJ Classification: Safes & Vaults - Suppliers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (S)	213	-	384144 398685
172	**Contemporary Trade Directory Entries** Name: Withy Grove Stores Ltd Location: 35-39, Withy Grove, Manchester, M4 2BJ Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	213	-	384140 398685
172	**Contemporary Trade Directory Entries** Name: Withy Grove Stores Location: 35, Withy Grove, Manchester, M4 2BJ Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	213	-	384140 398685

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
172	**Contemporary Trade Directory Entries** Name: Nouveau Location: 9, Shudehill, Manchester, Lancashire, M4 2AF Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	218	-	384173 398690
172	**Contemporary Trade Directory Entries** Name: D & J Jewellery Location: 9, Shudehill, Manchester, M4 2AF Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	219	-	384170 398687
172	**Contemporary Trade Directory Entries** Name: Nouveau Jewellers Location: 9, Shudehill, Manchester, M4 2AF Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (S)	219	-	384170 398687
173	**Contemporary Trade Directory Entries** Name: Needs Electrical Location: Unit 3, Mirabel Street, Manchester, M3 1PJ Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	259	-	383810 398978
173	**Contemporary Trade Directory Entries** Name: Linen Laundry Location: Unit 4, Mirabel Street, Manchester, M3 1PJ Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (W)	266	-	383804 398992
173	**Contemporary Trade Directory Entries** Name: Gls Ceramics Location: 2a, Mirabel Street, Manchester, Lancashire, M3 1PJ Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NW (W)	301	-	383769 398987
173	**Contemporary Trade Directory Entries** Name: City Laundry Location: Unit 4,Mirabel St, Manchester, Lancashire, M3 1PJ Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (W)	308	-	383766 399018
174	**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	A13NE (NE)	262	-	384314 399124
175	**Contemporary Trade Directory Entries** Name: Apple Location: Unit 23, Upper Mall, 98, Corporation Street, Manchester, M4 3AJ Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	276	-	384096 398616
176	**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	A13NW (N)	278	-	384023 399251
176	**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	A13NW (N)	303	-	383995 399269
176	**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	A13NW (N)	311	-	383984 399273

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
176	**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	A13NW (N)	311	-	383984 399273
177	**Contemporary Trade Directory Entries** Name: 1st Call Locksmiths Services Location: 3, Soap Street, Manchester, M4 1EW Classification: Lock Suppliers and Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	284	-	384297 398695
177	**Contemporary Trade Directory Entries** Name: H J Barton Location: 60 Shudehill, Manchester, Greater Manchester, M4 4AA Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	285	-	384339 398749
177	**Contemporary Trade Directory Entries** Name: Royle & Davies Location: 60, Shudehill, Manchester, M4 4AA Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	285	-	384339 398749
177	**Contemporary Trade Directory Entries** Name: G Stevenson Location: 60, Shudehill, Manchester, Lancashire, M4 4AA Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	285	-	384339 398749
177	**Contemporary Trade Directory Entries** Name: Business Equipment & Scales Service Ltd Location: 9, Thomas Street, Manchester, M4 1EU Classification: Cash Registers & Check-Out Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	297	-	384326 398708
178	**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	A13NW (NW)	292	-	383943 399233
178	**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	A13NW (NW)	292	-	383943 399233
179	**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	A13NE (NE)	295	-	384294 399194
180	**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	A13NE (N)	301	-	384218 399253
181	**Contemporary Trade Directory Entries** Name: B J Products Shavers & Spares Location: 5, Nicholas Croft, Manchester, M4 1EY Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	303	-	384282 398656
182	**Contemporary Trade Directory Entries** Name: Tshirts2print.Com Location: 49, High Street, Manchester, M4 3AH Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	312	-	384220 398608

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	**Contemporary Trade Directory Entries** Name: Bramhall Refrigeration Services Location: 23, Market Hall, Arndale Centre, Manchester, M4 3AW Classification: Refrigerators & Freezers - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	312	-	384220 398608
182	**Contemporary Trade Directory Entries** Name: J J Nets Location: 49, High Street, Manchester, M4 3AH Classification: Homefurnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	312	-	384220 398608
183	**Contemporary Trade Directory Entries** Name: High Street Meat Market Llp Location: Arndale House, Arndale Centre, Market Street, Manchester, M4 3AQ Classification: Meat Product Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	338	-	384058 398555
183	**Contemporary Trade Directory Entries** Name: Currys P C World Location: 93 Halle Mall,Arndales Centre, Manchester, Greater Manchester, M4 3AQ Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	338	-	384058 398555
183	**Contemporary Trade Directory Entries** Name: Premier Foods Location: Arndale House, Arndale Centre, Market Street, Manchester, M4 3AQ Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	338	-	384058 398555
183	**Contemporary Trade Directory Entries** Name: Swatch Manchester Location: Unit L4 Arndale Centre, Manchester, Greater Manchester, M4 3AQ Classification: Clocks & Watches - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A8NW (S)	338	-	384058 398555
183	**Contemporary Trade Directory Entries** Name: Imzi Communications Location: Arndale Centre, Manchester, Greater Manchester, M4 3AQ Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	338	-	384058 398555
183	**Contemporary Trade Directory Entries** Name: Comet Location: 19a Arndale Centre, Manchester, Lancashire, M4 2HU Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: Currys Location: 165-166, Arndale Centre, Manchester, M4 3AB Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: Willie'S Location: 85, Arndale Centre, Manchester, Lancashire, M4 2HU Classification: Wallpapers & Wall Coverings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: The Fast Picture Show Location: 142-143, Market Hall, Arndale Centre, Manchester, M4 2EB Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: Home Design Store Location: 136, Arndale Centre, Manchester, Lancashire, M4 2EA Classification: Gunsmiths **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	339	-	384059 398554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
183	**Contemporary Trade Directory Entries** Name: Bodycare (Health & Beauty) Location: 111-112, Arndale Centre, Manchester, M4 2EA Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: The Sony Centre Location: 162, Arndale Centre, Manchester, Lancashire, M4 3AB Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: Image Gallery Location: Arndale House, Arndale Centre, Manchester, Lancashire, M4 3AQ Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	339	-	384059 398554
183	**Contemporary Trade Directory Entries** Name: Currys Pc World Location: 93 Halle Mall, Arndale Shopping Centre, Manchester, M4 2HU Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	342	-	384075 398550
183	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: Unit L2 Manchester Arndale, Manchester, Greater Manchester, M4 1AZ Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	361	-	384089 398531
184	**Contemporary Trade Directory Entries** Name: Duty Free Location: R26-R27, Unit, Marsden Way South, Manchester, Lancashire, M4 3AT Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	342	-	383986 398567
185	**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	A18SW (N)	344	-	383975 399305
185	**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	A18SW (N)	344	-	383975 399305
185	**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	A18SW (N)	344	-	383975 399305
185	**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	A18SW (N)	344	-	383975 399305
185	**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	A18SW (N)	370	-	384007 399341
185	**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	A18SW (N)	370	-	384007 399341

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	**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	A18SW (N)	375	-	383961 399333
185	**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	A18SW (N)	375	-	383961 399333
186	**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	A18SE (NE)	347	-	384255 399286
186	**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	A18SE (N)	386	-	384254 399330
186	**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	A18SE (NE)	390	-	384267 399329
186	**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	A18SE (NE)	397	-	384274 399332
186	**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	A18SE (NE)	397	-	384274 399332
186	**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	A18SE (NE)	397	-	384274 399332
186	**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	A18SE (NE)	412	-	384266 399354
186	**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	A18SE (NE)	421	-	384281 399356
186	**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	A18SE (NE)	421	-	384281 399356
186	**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	A18SE (NE)	421	-	384281 399356

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
186	**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	A18SE (NE)	421	-	384281 399356
187	**Contemporary Trade Directory Entries** Name: Gyroscope Ltd Location: 30-32, Thomas Street, Manchester, Lancashire, M4 1ER Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	359	-	384349 398642
187	**Contemporary Trade Directory Entries** Name: Mehta & Mehta Ltd Location: 38, Thomas Street, Manchester, M4 1ER Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	383	-	384363 398621
187	**Contemporary Trade Directory Entries** Name: Brucella Tait Location: First Floor, 40, Thomas Street, Manchester, M4 1ER Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	388	-	384366 398617
187	**Contemporary Trade Directory Entries** Name: David Ellis Jewellery Location: First Floor, 40, Thomas Street, Manchester, M4 1ER Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	388	-	384366 398617
187	**Contemporary Trade Directory Entries** Name: Why Publications Location: 40, Thomas Street, Manchester, Lancashire, M4 1ER Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	388	-	384366 398617
187	**Contemporary Trade Directory Entries** Name: Marc The Printers Location: 28-30, Edge Street, Manchester, M4 1HN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	392	-	384399 398647
187	**Contemporary Trade Directory Entries** Name: Manchester Gold Buyers Location: Thomas St, Manchester, Lancashire, M4 1NA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	394	-	384390 398634
188	**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	A18SW (NW)	364	-	383907 399296
188	**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	A18SW (NW)	364	-	383907 399296
188	**Contemporary Trade Directory Entries** Name: Ramay Location: 27, Park Street, Manchester, M3 1EU Classification: Hardware **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	367	-	383912 399302
189	**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	A13NE (NE)	368	-	384364 399227

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
190	**Contemporary Trade Directory Entries** Name: Gavidero Clothing Co Location: 68, Swan Street, Manchester, M4 5JU Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	375	-	384481 398854
190	**Contemporary Trade Directory Entries** Name: Dallas Knitwear Manchester Ltd Location: 2, Rochdale Road, Manchester, M4 4JR Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	378	-	384487 398869
190	**Contemporary Trade Directory Entries** Name: A1 Knitwear Ltd Location: 2, Rochdale Road, Manchester, M4 4JR Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	378	-	384487 398869
190	**Contemporary Trade Directory Entries** Name: Readyplus Ltd Location: 2, Rochdale Road, Manchester, M4 4JR Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	378	-	384487 398869
190	**Contemporary Trade Directory Entries** Name: Readyplus Location: 2, Rochdale Road, Manchester, Lancashire, M4 4JR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	378	-	384487 398869
190	**Contemporary Trade Directory Entries** Name: Barkat Knitwear Manufacturing Co Ltd Location: 2, Rochdale Road, Manchester, M4 4JR Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	378	-	384487 398869
190	**Contemporary Trade Directory Entries** Name: Xenos Clothing Location: 60-64, Swan Street, Manchester, M4 5JU Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	384	-	384488 398848
190	**Contemporary Trade Directory Entries** Name: N Q Fireplace Studio Location: 60-64, Swan Street, Manchester, Lancashire, M4 5JU Classification: Fireplaces & Mantelpieces **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	384	-	384488 398848
191	**Contemporary Trade Directory Entries** Name: Master Design Ltd Location: 11, Dyche Street, Manchester, M4 4BQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	375	-	384490 398997
192	**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	A14NW (E)	376	-	384470 399084
192	**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	A14NW (E)	376	-	384470 399084
192	**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	A14NW (E)	377	-	384471 399084

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
192	**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	A14NW (E)	377	-	384471 399084
192	**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	A14NW (E)	377	-	384471 399084
192	**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	A14NW (E)	377	-	384471 399084
192	**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	A14NW (E)	377	-	384471 399084
192	**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	A14NW (E)	377	-	384471 399084
192	**Contemporary Trade Directory Entries** Name: Custom Built Computers Location: 51-52 New Mount St, Manchester, Lancashire, M4 4DE Classification: Computer Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NW (E)	389	-	384488 399070
193	**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	A13NE (NE)	376	-	384405 399194
193	**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	A13NE (NE)	393	-	384382 399244
193	**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	A13NE (NE)	409	-	384414 399233
194	**Contemporary Trade Directory Entries** Name: Pitstop Ltd Location: 15a Garton Street, Salford, Greater Manchester, M3 7WN Classification: Car Body Repairs **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	391	-	383680 398923
194	**Contemporary Trade Directory Entries** Name: Upton Auto Body Repairs Location: 15a Gorton St, Salford, Lancashire, M3 7WN Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	393	-	383678 398922
194	**Contemporary Trade Directory Entries** Name: Comus Waste Location: 15a Gorton St, Salford, Lancashire, M3 7WN Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	395	-	383676 398920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
195	**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	A18SE (N)	396	-	384128 399375
195	**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	A18SE (N)	396	-	384128 399375
196	**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	A18SE (N)	401	-	384114 399382
196	**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	A18SE (N)	401	-	384114 399381
196	**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	A18SW (N)	431	-	384081 399412
196	**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	A18SW (N)	438	-	384044 399417
197	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: 9a, Arndale Centre, Manchester, M4 3AB Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	410	-	383985 398496
197	**Contemporary Trade Directory Entries** Name: Fragrance Shop Location: 9a, Arndale Centre, Manchester, M4 3AB Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	410	-	383985 398496
197	**Contemporary Trade Directory Entries** Name: Klick Photopoint Location: 27, Market Street, Manchester, Lancashire, M1 1WR Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	410	-	383985 398496
197	**Contemporary Trade Directory Entries** Name: Klick Location: 27 Market St, Manchester, Lancashire, M1 1WR Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	410	-	383984 398496
198	**Contemporary Trade Directory Entries** Name: Uk Panel Location: 55, Cable Street, Manchester, Lancashire, M4 5DF Classification: PVC-U Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	413	-	384518 398847
198	**Contemporary Trade Directory Entries** Name: Instep Location: 55, Cable Street, Manchester, Lancashire, M4 5DF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	413	-	384518 398847

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
198	**Contemporary Trade Directory Entries** Name: Fashion Mania Location: 13, Mason Street, Manchester, M4 5FT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	439	-	384549 398867
198	**Contemporary Trade Directory Entries** Name: Mash Fashions Location: 13, Mason Street, Manchester, M4 5FT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	439	-	384549 398867
198	**Contemporary Trade Directory Entries** Name: New Faz Fashions Location: 13, Mason Street, Manchester, M4 5FT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	439	-	384549 398867
198	**Contemporary Trade Directory Entries** Name: Milano Knitting Co Location: 13, Mason Street, Manchester, M4 5FT Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	439	-	384549 398867
198	**Contemporary Trade Directory Entries** Name: Daisy Fashions Ltd Location: 13, Mason Street, Manchester, M4 5FT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	439	-	384549 398867
198	**Contemporary Trade Directory Entries** Name: Mcewen Location: 13, Mason Street, Manchester, M4 5FT Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	439	-	384549 398867
199	**Contemporary Trade Directory Entries** Name: Taylor & Galvin Location: 46-48, Copperas Street, Manchester, M4 1HS Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	417	-	384434 398652
199	**Contemporary Trade Directory Entries** Name: Seed Ceramics Location: Studio 14, Manchester Craft Centre, 17, Oak Street, Manchester, Lancashire, M4 5JD Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	428	-	384454 398663
199	**Contemporary Trade Directory Entries** Name: Manchester Craft & Design Centre Location: Manchester Craft Centre, 17, Oak Street, Manchester, M4 5JD Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	428	-	384454 398663
199	**Contemporary Trade Directory Entries** Name: The Print Room Location: 46, Edge Street, Manchester, M4 1HN Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	433	-	384422 398611
199	**Contemporary Trade Directory Entries** Name: James Darby Location: The Deaprtment Store, 1-7, Oak Street, Manchester, Lancashire, M4 5JD Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	449	-	384437 398605

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	**Contemporary Trade Directory Entries** Name: Max Spielmann Location: Uk12,Marsden Way South, Manchester, Lancashire, M4 3AT Classification: Photographic Processors **Status:** **Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8NW (S)	418	-	383931 398506
201	**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	A18SW (N)	428	-	383929 399377
201	**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	A18SW (N)	431	-	383912 399374
201	**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	A18SW (N)	449	-	383921 399398
202	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: Unit Y1, Upper Mall, Arndale Centre, Manchester, M4 2EA Classification: Perfume Suppliers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	435	-	384160 398462
202	**Contemporary Trade Directory Entries** Name: Kiddycare International Location: Unit R30, Marsden Way South, Manchester, M4 3AT Classification: Children & Babywear - Manufacturers & Wholesalers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	435	-	384160 398462
203	**Contemporary Trade Directory Entries** Name: Brookley Ltd Location: 43-45 Turner St, Manchester, M4 1DN Classification: Clothing & Fabrics - Manufacturers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	436	-	384380 398564
203	**Contemporary Trade Directory Entries** Name: Fashion Row Manchester Ltd Location: 43-45 Turner St, Manchester, M4 1DN Classification: Clothing & Fabrics - Manufacturers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	436	-	384380 398564
203	**Contemporary Trade Directory Entries** Name: M Y Manchester Cleaners Location: 55 Turner Street, Manchester, Greater Manchester, M4 1DN Classification: Cleaning Services - Domestic **Status:** **Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8NE (SE)	445	-	384389 398560
203	**Contemporary Trade Directory Entries** Name: New Deal Skates Location: 51 Turner St, Manchester, M4 1DN Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	445	-	384389 398560
203	**Contemporary Trade Directory Entries** Name: True Brand International Location: 51, Turner Street, Manchester, Lancashire, M4 1DN Classification: Clothing & Fabrics - Manufacturers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	445	-	384389 398560
204	**Contemporary Trade Directory Entries** Name: Rayners Autocraft Location: 15c Chapel St, Salford, Lancashire, M3 7AA Classification: Garage Services **Status:** **Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (SW)	436	-	383679 398752

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
204	**Contemporary Trade Directory Entries** Name: Lee'S Motors Location: New Kings Head Yard,Chapel St, Salford, Lancashire, M3 7AA Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	468	-	383644 398758
205	**Contemporary Trade Directory Entries** Name: Karo Handbags Location: 19, Sharp Street, Manchester, M4 4BZ Classification: Leather Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	439	-	384539 399077
205	**Contemporary Trade Directory Entries** Name: Krupa Bros & Son Location: 19, Sharp Street, Manchester, M4 4BZ Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	439	-	384539 399077
205	**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	A14NW (E)	452	-	384543 399103
205	**Contemporary Trade Directory Entries** Name: W Wasik Location: 33-35, Simpson Street, Manchester, M4 4BG Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	480	-	384571 399108
206	**Contemporary Trade Directory Entries** Name: Johnsons The Cleaners Location: 24, High Street, Manchester, M4 1QB Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	441	-	384256 398483
207	**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	A18SE (NE)	442	-	384279 399381
208	**Contemporary Trade Directory Entries** Name: The Antique Fireplace Location: Royal Exchange Shopping Centre, Manchester, Lancashire, M2 7DB Classification: Fireplaces & Mantelpieces **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (SW)	445	-	383866 398508
208	**Contemporary Trade Directory Entries** Name: Penhaligons Location: Royal Exchange, Manchester, M2 7TT Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	458	-	383872 398491
209	**Contemporary Trade Directory Entries** Name: Lucky Knitwear Ltd Location: 53, Marshall Street, Manchester, M4 5FU Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	453	-	384570 398913
209	**Contemporary Trade Directory Entries** Name: Eden Fashions Ltd Location: 53, Marshall Street, Manchester, M4 5FU Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	453	-	384570 398913
209	**Contemporary Trade Directory Entries** Name: Euro Clothing Location: Mason St, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	488	-	384603 398894

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
210	**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	A18SW (NW)	453	-	383840 399359
211	**Contemporary Trade Directory Entries** Name: Salford Diesel Services Location: Unit 2, Norton Street, Salford, M3 7NW Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	455	-	383622 398873
211	**Contemporary Trade Directory Entries** Name: New Pit Stop Garage Location: 1, Norton Street, Salford, Lancashire, M3 7NW Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	455	-	383622 398873
211	**Contemporary Trade Directory Entries** Name: Royal Sun Alliance Insurance N D T Testing Facility Location: Unit 7-8, Norton Street, Salford, M3 7NW Classification: X-Ray Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	455	-	383622 398873
211	**Contemporary Trade Directory Entries** Name: Bruntwood Wrought Iron Location: Unit 5 Norton St, Salford, Lancashire, M3 7NW Classification: Gate Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	465	-	383612 398872
211	**Contemporary Trade Directory Entries** Name: All Vaux Location: Unit 4,Norton St, Salford, Lancashire, M3 7NW Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	474	-	383604 398870
212	**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	A18SE (N)	457	-	384136 399436
213	**Contemporary Trade Directory Entries** Name: David Bentley Ltd Location: Greengate, SALFORD, M3 7NS Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	473	-	383596 398984
213	**Contemporary Trade Directory Entries** Name: Modern Rollers Ltd Location: Greengate, Salford, Lancashire, M3 7NS Classification: Machinery - Industrial & Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	473	-	383596 398984
213	**Contemporary Trade Directory Entries** Name: M Leyden Ltd Location: 5 Gravel La, Salford, Lancashire, M3 7WQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	490	-	383579 398975
214	**Contemporary Trade Directory Entries** Name: Smithfield Service Station Location: 12, Rochdale Road, Manchester, M4 4JR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	475	-	384592 398975
215	**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	A18SE (NE)	475	-	384338 399386

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
215	**Contemporary Trade Directory Entries** Name: B S C Manchester Location: 5 Roger Street, Manchester, Greater Manchester, M4 4EN Classification: Car Paint & Lacquer Manufacturers & Suppliers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	497	-	384347 399406
215	**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	A18SE (NE)	498	-	384348 399407
215	**Contemporary Trade Directory Entries** Name: Transporter Location: 5, Roger Street, Manchester, M4 4EN Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	498	-	384348 399407
215	**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	A18SE (NE)	498	-	384348 399407
216	**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	A18SW (N)	478	-	383976 399445
216	**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	A18SW (N)	485	-	384021 399462
216	**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	A18SW (N)	501	-	384046 399480
216	**Contemporary Trade Directory Entries** Name: Germsfree Ltd Location: LORD HOUSE, 51, LORD STREET, MANCHESTER, M3 1HE Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	504	-	384043 399483
216	**Contemporary Trade Directory Entries** Name: National Waste Removal Location: LORD HOUSE, 51, LORD STREET, MANCHESTER, M3 1HE Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	504	-	384043 399483
217	**Contemporary Trade Directory Entries** Name: Ramboll Location: Kings Court, 2-4, Exchange Street, Manchester, M2 7HA Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	480	-	383813 398501
218	**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	A14NW (NE)	482	-	384485 399263
218	**Contemporary Trade Directory Entries** Name: Irwell Garage Location: Irk Street, Manchester, M4 4JT Classification: Gearboxes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	483	-	384486 399264

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
219	**Contemporary Trade Directory Entries** Name: J J Blackledge (Manchester) Ltd Location: 16, Sharp Street, Manchester, M4 4BZ Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	486	-	384589 399073
220	**Contemporary Trade Directory Entries** Name: E & A Auto Services Location: 15 Cable St, Manchester, Lancashire, M4 5EG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	488	-	384584 398806
220	**Contemporary Trade Directory Entries** Name: County Panels Location: 55, Cable Street, Manchester, M4 5DF Classification: Window Frame Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	500	-	384604 398834
220	**Contemporary Trade Directory Entries** Name: A V S Knitwear Ltd Location: 55, Cable Street, Manchester, Lancashire, M4 5DF Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	500	-	384604 398834
220	**Contemporary Trade Directory Entries** Name: U K Panel Location: 55, Cable Street, Manchester, Lancashire, M4 5DF Classification: PVC-U Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	500	-	384604 398834
220	**Contemporary Trade Directory Entries** Name: The Total Repair Care Co Ltd Location: Swan Building,20 Swan Street, Manchester, Greater Manchester, M4 5JW Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	528	-	384616 398773
220	**Contemporary Trade Directory Entries** Name: Sanitising Solutions Location: First Floor, Swan Buildings, 20, Swan Street, Manchester, M4 5JW Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	528	-	384616 398773
220	**Contemporary Trade Directory Entries** Name: Associated Security Location: Security House, 25, Addington Street, Manchester, M4 5EU Classification: Safes & Vaults - Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	532	-	384630 398808
220	**Contemporary Trade Directory Entries** Name: M & S Jaffe Ltd Location: 8, Cable Street, Manchester, M4 5EG Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	567	-	384658 398777
221	**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	A18SE (N)	489	-	384214 399454
221	**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	A18SE (N)	525	-	384237 399485
221	**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	A18SE (N)	546	-	384243 399505

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
221	**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	A18SE (N)	552	-	384272 399502
222	**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	A18SW (NW)	495	-	383865 399422
222	**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	A18SW (NW)	496	-	383864 399422
222	**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	A18SW (NW)	509	-	383849 399430
223	**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	A18SE (N)	509	-	384111 399489
223	**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	A18SE (N)	534	-	384117 399514
224	**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	A17SE (NW)	510	-	383750 399362
224	**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	A17SE (NW)	512	-	383749 399363
224	**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	A17SE (NW)	512	-	383749 399363
224	**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	A17SE (NW)	548	-	383739 399401
225	**Contemporary Trade Directory Entries** Name: Wasp Studios Location: 30a, Mason Street, Manchester, M4 5EY Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	513	-	384628 398899
225	**Contemporary Trade Directory Entries** Name: Euro Clothing Location: 30a, Mason Street, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	513	-	384629 398898

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
225	**Contemporary Trade Directory Entries** Name: Tamora Fashions Location: 30 Mason St, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	513	-	384628 398898
225	**Contemporary Trade Directory Entries** Name: Diana Design Location: A, 30, Mason Street, Manchester, Lancashire, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	513	-	384629 398898
225	**Contemporary Trade Directory Entries** Name: Al-Katib Technology Location: 30a, Mason Street, Manchester, Lancashire, M4 5EY Classification: Electronic Equipment - Manufacturers & Assemblers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	514	-	384629 398898
225	**Contemporary Trade Directory Entries** Name: Kayani Location: 28, Mason Street, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	514	-	384625 398864
225	**Contemporary Trade Directory Entries** Name: Alterlist Ltd Location: 32, Mason Street, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	520	-	384637 398909
225	**Contemporary Trade Directory Entries** Name: Usman Fashions M C R Ltd Location: 32, Mason Street, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	520	-	384636 398909
225	**Contemporary Trade Directory Entries** Name: New Fashion Location: 32, Mason Street, Manchester, M4 5EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	520	-	384637 398909
225	**Contemporary Trade Directory Entries** Name: Fax Tip Ltd Location: 32, Mason Street, Manchester, M4 5EY Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	520	-	384637 398909
226	**Contemporary Trade Directory Entries** Name: Beehive Telecom Location: 79, Thomas Street, Manchester, M4 1LQ Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	514	-	384480 398554
227	**Contemporary Trade Directory Entries** Name: Molton Brown Location: 7, St. Anns Square, Manchester, M2 7EF Classification: Homefurnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	515	-	383842 398442
228	**Contemporary Trade Directory Entries** Name: Unique Design Ltd Location: 19-23, Swan Street, Manchester, M4 5JJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	515	-	384578 398718
228	**Contemporary Trade Directory Entries** Name: New Beach Retail Ltd Location: 75, Tib Street, Manchester, M4 1LS Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	544	-	384598 398692

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
228	**Contemporary Trade Directory Entries** Name: Quality Engineering Design Ltd Location: 77, Tib Street, Manchester, M4 1LS Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	544	-	384598 398692
228	**Contemporary Trade Directory Entries** Name: Quality Engineering Design Location: 77, Tib Street, Manchester, M4 1LS Classification: Mechanical Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	544	-	384598 398692
228	**Contemporary Trade Directory Entries** Name: Luton Engineering Services S W Ltd Location: 6, Swan Street, Manchester, M4 5JN Classification: Engineering Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	551	-	384624 398733
228	**Contemporary Trade Directory Entries** Name: Luton Engineering Services Location: 6 Swan St, Manchester, Lancashire, M4 5JN Classification: Engineering Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	551	-	384624 398732
229	**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	A19SW (NE)	520	-	384525 399274
229	**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	A19SW (NE)	535	-	384522 399301
230	**Contemporary Trade Directory Entries** Name: Belleek Pottery Ltd Location: Market St, Manchester, Lancashire, M60 1TA Classification: Pottery Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NE (S)	521	-	384244 398393
230	**Contemporary Trade Directory Entries** Name: Price Location: Market St, Manchester, Lancashire, M60 1TA Classification: Cutlery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NE (S)	526	-	384250 398390
231	**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	A17SE (NW)	525	-	383670 399303
231	**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	A17SE (NW)	525	-	383670 399303
232	**Contemporary Trade Directory Entries** Name: George Ellis & Sons Ltd Location: 54-60, Chapel Street, Salford, M3 7AA Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	525	-	383591 398736
232	**Contemporary Trade Directory Entries** Name: Atlas Office Equipment Ltd Location: 52, Chapel Street, Salford, Lancashire, M3 7AA Classification: Seating Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	525	-	383591 398736

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
232	**Contemporary Trade Directory Entries** Name: George Ellis & Sons Ltd Location: 54-60, Chapel Street, Salford, M3 7AA Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	525	-	383591 398736
233	**Contemporary Trade Directory Entries** Name: Rollerblinds Ltd Location: 46, Barton Arcade, Manchester, M3 2BH Classification: Blinds, Awnings & Canopies **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	525	-	383768 398478
234	**Contemporary Trade Directory Entries** Name: Berwick Electronics Location: 53, Tib Street, Manchester, M4 1LS Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	527	-	384559 398648
234	**Contemporary Trade Directory Entries** Name: Print-Wear Ltd Location: 108 Tib Street, Manchester, Lancashire, M4 1LR Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	552	-	384590 398654
234	**Contemporary Trade Directory Entries** Name: Applique Apparel Ltd Location: 110-112, Tib Street, Manchester, M4 1LR Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	554	-	384595 398661
234	**Contemporary Trade Directory Entries** Name: The White Peg Co Location: 110-112, Tib Street, Manchester, M4 1LR Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	554	-	384595 398661
234	**Contemporary Trade Directory Entries** Name: Pdc Manchester Location: 129, Oldham Street, Manchester, M4 1LN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	566	-	384605 398652
234	**Contemporary Trade Directory Entries** Name: Pdc (Manchester) Location: 129, Oldham Street, Manchester, M4 1LN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	566	-	384605 398652
235	**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	A18SW (N)	529	-	383888 399469
235	**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	A18SW (NW)	539	-	383842 399460
235	**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	A18SW (NW)	539	-	383854 399466
236	**Contemporary Trade Directory Entries** Name: Eleven Sports Media Ltd Location: Eleventh Floor, Lowry House, 17, Marble Street, Manchester, M2 3AW Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	534	-	384110 398358

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	**Contemporary Trade Directory Entries** Name: Orbit Card Services Location: Lowry House,17 Marble Street, Manchester, Greater Manchester, M2 3AW Classification: Cash Registers & Check-Out Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	534	-	384110 398358
236	**Contemporary Trade Directory Entries** Name: Pulse Laser Hairaesthetics Location: 18-20, Fountain Street, Manchester, M2 2AA Classification: Electrolysis **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	547	-	384140 398346
237	**Contemporary Trade Directory Entries** Name: Dunlop G R G Holdings Ltd Location: Greengate Works, Greengate, Salford, M3 7WS Classification: Marine Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	534	-	383538 399013
238	**Contemporary Trade Directory Entries** Name: Fern Audio Ltd Location: 70-72, Tib Street, Manchester, M4 1LG Classification: Sound Equipment Systems Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	534	-	384522 398575
238	**Contemporary Trade Directory Entries** Name: Stephs Manufacturing Location: 66 Tib St, Manchester, M4 1LG Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	535	-	384515 398564
238	**Contemporary Trade Directory Entries** Name: The Studio Copy Shop Location: 89-95, Oldham Street, Manchester, M4 1LW Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	547	-	384532 398567
238	**Contemporary Trade Directory Entries** Name: T-Shirt Xpress Location: 89-95, Oldham Street, Manchester, M4 1LW Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	547	-	384532 398567
238	**Contemporary Trade Directory Entries** Name: Prime Direct Distribution Ltd Location: 99 Oldham St, Manchester, Lancashire, M4 1LW Classification: Record, Tape & CD Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	547	-	384544 398584
239	**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	A18SW (NW)	535	-	383821 399444
239	**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	A18SW (NW)	535	-	383821 399444
239	**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	A18SW (NW)	546	-	383795 399440
239	**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	A18SW (NW)	563	-	383791 399458

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
239	**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	A18SW (NW)	564	-	383791 399458
240	**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	A18SE (NE)	536	-	384388 399427
240	**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	A18SE (NE)	536	-	384388 399427
241	**Contemporary Trade Directory Entries** Name: Octapharma Location: The Zenith Building, 26, Spring Gardens, Manchester, Lancashire, M2 1AB Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	539	-	384054 398354
241	**Contemporary Trade Directory Entries** Name: Anywaste Uk Location: St. James Court, 30, Brown Street, Manchester, M2 1DH Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	548	-	384013 398350
241	**Contemporary Trade Directory Entries** Name: Wastelift Location: St. James Court, 30, Brown Street, Manchester, M2 1DH Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	548	-	384013 398350
241	**Contemporary Trade Directory Entries** Name: M60 Rescue & Recovery Location: 406 St James Ct,Brown St, Manchester, Lancashire, M2 2JG Classification: Commercial Vehicle Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (S)	555	-	384026 398341
241	**Contemporary Trade Directory Entries** Name: Calvin Assett Management Ltd Location: 19 Spring Gdns, Manchester, Lancashire, M2 1FB Classification: Meter Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	557	-	384088 398334
241	**Contemporary Trade Directory Entries** Name: Universal Utilities Location: Third Floor, Tootal House, 19-21, Spring Gardens, Manchester, M2 1FB Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	561	-	384093 398331
242	**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	A14NW (NE)	543	-	384610 399181
242	**Contemporary Trade Directory Entries** Name: T & G Motors Ltd Location: 38 Gould Street, Manchester, Greater Manchester, M4 4BY Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NW (NE)	546	-	384610 399187
243	**Contemporary Trade Directory Entries** Name: Sandys (Uk) Ltd Location: 6, St. Anns Square, Manchester, M2 7HN Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	544	-	383772 398452

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
243	**Contemporary Trade Directory Entries** Name: Currys Digital Location: 22, St. Anns Square, Manchester, M2 7JB Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	586	-	383764 398406
243	**Contemporary Trade Directory Entries** Name: Harrison Cleaning Specialists Location: ST ANNES STREET, Manchester, Lancashire, M60 6AQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (SW)	609	-	383774 398373
244	**Contemporary Trade Directory Entries** Name: Colloides Naturels (Uk) Ltd Location: Regency Court, 62-66, Deansgate, Manchester, Lancashire, M3 2EN Classification: Food Colouring, Flavouring & Additive Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	546	-	383716 398497
244	**Contemporary Trade Directory Entries** Name: A K A Bespoke Jewellers Location: 61-63, Barton Arcade, Manchester, M3 2BJ Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	549	-	383747 398465
245	**Contemporary Trade Directory Entries** Name: Glass Bottle Bottle Glass Location: Afflecks Arcade, 35-39, Oldham Street, Manchester, M1 1JG Classification: Glass Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	554	-	384423 398448
245	**Contemporary Trade Directory Entries** Name: The Bead Shop Location: Aflex Palace, 52, Church Street, Manchester, M4 1PW Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	554	-	384423 398448
245	**Contemporary Trade Directory Entries** Name: Kustom Korner Location: Aflex Palace, 52, Church Street, Manchester, M4 1PW Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	554	-	384423 398448
245	**Contemporary Trade Directory Entries** Name: Oblong Location: Aflex Palace, 52, Church Street, Manchester, Lancashire, M4 1PW Classification: Abattoirs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	554	-	384423 398448
245	**Contemporary Trade Directory Entries** Name: Sentsations Location: Afflecks Arcade, 35-39, Oldham Street, Manchester, Lancashire, M1 1JG Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	554	-	384423 398448
245	**Contemporary Trade Directory Entries** Name: D & G Packaging Ltd Location: Afflecks Arcade 35-39, Oldham Street, Manchester, M1 1JG Classification: Paper & Cardboard Products & Packaging - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	568	-	384429 398435
246	**Contemporary Trade Directory Entries** Name: Northern Fires Location: 3-9, Gould Street, Manchester, Lancashire, M4 4BY Classification: Fireplaces & Mantelpieces **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	554	-	384654 399091
247	**Contemporary Trade Directory Entries** Name: Glyns Collections Location: 26, Blackfriars Street, Salford, M3 5BQ Classification: Furriers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	564	-	383602 398613

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
247	**Contemporary Trade Directory Entries** Name: Bullen Healthcare Group Location: 26, Blackfriars Street, Salford, M3 5BQ Classification: Disability Equipment - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	564	-	383602 398613
248	**Contemporary Trade Directory Entries** Name: Diamond Trading Co Location: 7-9, Swan Street, Manchester, M4 5JJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	565	-	384619 398687
249	**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	A19SW (NE)	567	-	384446 399422
249	**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	A19SW (NE)	576	-	384469 399415
249	**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	A19SW (NE)	576	-	384469 399415
250	**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	A18SE (N)	569	-	384274 399520
250	**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	A18SE (N)	581	-	384278 399530
250	**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	A18SE (N)	584	-	384250 399543
250	**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	A18SE (N)	611	-	384260 399568
250	**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	A18SE (N)	614	-	384291 399561
250	**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	A18SE (N)	614	-	384291 399561
250	**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	A18SE (N)	637	-	384270 399592

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
250	**Contemporary Trade Directory Entries** Name: Barney & Taylor Ltd Location: 12 Stocks Street, Manchester, Greater Manchester, M8 8QG Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	637	-	384270 399592
250	**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	A18SE (N)	637	-	384270 399592
250	**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	A18SE (N)	639	-	384306 399583
251	**Contemporary Trade Directory Entries** Name: Spi Materials Ltd Location: Conavon Court, 12, Blackfriars Street, Salford, Lancashire, M3 5PP Classification: Tungsten Tool Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	575	-	383567 398657
251	**Contemporary Trade Directory Entries** Name: Glyns Collections Location: Conavon Court, 12, Blackfriars Street, Salford, M3 5BQ Classification: Furriers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	576	-	383567 398657
251	**Contemporary Trade Directory Entries** Name: I A S Trading Location: Conavon Court, 12, Blackfriars Street, Salford, Lancashire, M3 5BQ Classification: Computer Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	576	-	383567 398657
251	**Contemporary Trade Directory Entries** Name: Capsule Location: Hilton House 71-73, Chapel Street, Salford, M3 5BZ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	600	-	383530 398682
251	**Contemporary Trade Directory Entries** Name: Manchester Executive Cleaners Ltd Location: Hilton House, 71-73, Chapel Street, Salford, M3 5BZ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	600	-	383530 398682
251	**Contemporary Trade Directory Entries** Name: Koot Ltd Location: Hilton House,71-73 Chapel St, Salford, Lancashire, M3 5BZ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	600	-	383530 398682
251	**Contemporary Trade Directory Entries** Name: Smart Alex Location: 16, Barlow's Croft, Salford, M3 5DY Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	636	-	383505 398649
252	**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	A18SW (N)	579	-	384009 399554
252	**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	A18SW (N)	579	-	384010 399554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	**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	A18SW (N)	585	-	384031 399563
252	**Contemporary Trade Directory Entries** Name: Aama Bros Ltd Location: Unit 15 Chatley Street, Manchester, Greater Manchester, M3 1HX Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	591	-	384037 399570
253	**Contemporary Trade Directory Entries** Name: Taylor Edwards & Co Location: Royal Buildings, 2, Mosley Street, Manchester, Lancashire, M2 3AN Classification: Gas Companies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	580	-	384259 398336
254	**Contemporary Trade Directory Entries** Name: The Audiences Agency Location: 46-50, Oldham Street, Manchester, M4 1LE Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	586	-	384547 398522
254	**Contemporary Trade Directory Entries** Name: Pro Cleaners Ancoats Location: 19, Hilton Street, Manchester, M1 1JJ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	596	-	384541 398499
254	**Contemporary Trade Directory Entries** Name: Launderette Location: 19, Hilton Street, Manchester, M1 1JJ Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	596	-	384541 398499
254	**Contemporary Trade Directory Entries** Name: Flyers Group Location: 12, Hilton Street, Manchester, M1 1JF Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	598	-	384528 398483
254	**Contemporary Trade Directory Entries** Name: Sumayah Deria Ltd Location: 12 Hilton Street, Manchester, Greater Manchester, M1 1JF Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	598	-	384529 398483
254	**Contemporary Trade Directory Entries** Name: Bermona Ltd Location: 12, Hilton Street, Manchester, M1 1JF Classification: Hats & Caps - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	598	-	384528 398483
254	**Contemporary Trade Directory Entries** Name: Matrix Transport Location: Hilton Street, Manchester, Greater Manchester, M1 1JF Classification: Road Haulage Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	598	-	384529 398483
254	**Contemporary Trade Directory Entries** Name: Dynamik Designs Location: 1, Stevenson Square, Manchester, Lancashire, M1 1DN Classification: Car Accessories Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	616	-	384565 398497
255	**Contemporary Trade Directory Entries** Name: C & S Location: 2-4, Goulden Street, Manchester, M4 5EW Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	590	-	384704 398885

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
256	**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	A18SE (NE)	590	-	384354 399508
257	**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	A18SE (N)	591	-	384133 399570
257	**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	A18SE (N)	600	-	384136 399579
258	**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	A19SW (NE)	591	-	384536 399368
258	**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	A19SW (NE)	591	-	384541 399364
258	**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	A19SW (NE)	593	-	384556 399351
258	**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	A19SW (NE)	594	-	384560 399348
258	**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	A19SW (NE)	616	-	384556 399384
259	**Contemporary Trade Directory Entries** Name: Saira Of Manchester Ltd Location: 4 Addington st, Manchester, Greater Manchester, M4 5FQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	597	-	384694 398794
259	**Contemporary Trade Directory Entries** Name: Kwik-Fit Location: 35-39, Oldham Road, Manchester, M4 5FG Classification: Exhaust & Shock Absorber Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	634	-	384737 398814
259	**Contemporary Trade Directory Entries** Name: Trade N Save Location: 27-31 Oldham Rd, Manchester, Lancashire, M4 5FG Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	634	-	384737 398814
259	**Contemporary Trade Directory Entries** Name: Fiats 4 U Location: 35-39, Oldham Road, Manchester, Lancashire, M4 5FG Classification: Car Component Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	634	-	384737 398814

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
259	**Contemporary Trade Directory Entries** Name: Platting Pallets Location: Oldham Rd, Manchester, M4 5FG Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	656	-	384754 398792
260	**Contemporary Trade Directory Entries** Name: Trident Ltd Location: 95, Greengate, Salford, M3 7NG Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	598	-	383476 399042
261	**Contemporary Trade Directory Entries** Name: Proten Services Location: 35 Fountain Street, Manchester, Greater Manchester, M2 2AN Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	603	-	384159 398292
261	**Contemporary Trade Directory Entries** Name: Richard Conrad & Co Ltd Location: 36-38, Fountain Street, Manchester, M2 2BE Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	609	-	384114 398283
262	**Contemporary Trade Directory Entries** Name: Harrisons Cleaning Specialists Location: National House, 36, St. Ann Street, Manchester, M60 8HF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	605	-	383838 398343
262	**Contemporary Trade Directory Entries** Name: Jonathan Kaye Location: Third Floor, James Binney House, 52, Cross Street, Manchester, M2 7AR Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	628	-	383826 398323
262	**Contemporary Trade Directory Entries** Name: Now Time Location: James Binney House, 52, Cross Street, Manchester, M2 7AR Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	628	-	383826 398323
262	**Contemporary Trade Directory Entries** Name: Pure Beauty Location: 49, King Street, Manchester, Lancashire, M2 7AY Classification: Toiletries **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	637	-	383832 398310
262	**Contemporary Trade Directory Entries** Name: Lacamanda Ltd Location: EAGLE BUILDINGS, 64, CROSS STREET, MANCHESTER, M2 4JQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	668	-	383833 398276
262	**Contemporary Trade Directory Entries** Name: Thomas Pink Location: 58, King Street, Manchester, M2 4LY Classification: Shirt Makers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	671	-	383803 398286
263	**Contemporary Trade Directory Entries** Name: Discovery Forensics Location: PALL MALL COURT 61-67, KING STREET, MANCHESTER, M2 4PD Classification: Laboratories **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	615	-	383979 398287
263	**Contemporary Trade Directory Entries** Name: J M B Professional Location: Pall Mall Court,61-67 King Street, Manchester, Greater Manchester, M2 4PD Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	615	-	383979 398287

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
264	**Contemporary Trade Directory Entries** Name: A 1 Tyres N W Ltd Location: 87, Rochdale Road, Manchester, M4 4HY Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	616	-	384711 399117
264	**Contemporary Trade Directory Entries** Name: A1 Tyres Location: 87, Rochdale Road, Manchester, M4 4HY Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	616	-	384711 399117
264	**Contemporary Trade Directory Entries** Name: Nationwide Vehicle Deliveries Ltd Location: 87a, Rochdale Road, Manchester, M4 4HY Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	616	-	384711 399117
264	**Contemporary Trade Directory Entries** Name: Perfect Auto Repairs Location: 87, Rochdale Road, Manchester, M4 4HY Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	616	-	384711 399116
264	**Contemporary Trade Directory Entries** Name: Euro-Impex Trading Location: A, 87, Rochdale Road, Manchester, M4 4HY Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	616	-	384711 399117
264	**Contemporary Trade Directory Entries** Name: Treat Yourselves Location: 87, Rochdale Road, Manchester, M4 4HY Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	616	-	384711 399117
265	**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	A18SW (NW)	619	-	383797 399526
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	A18SE (N)	619	-	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: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	619	-	384191 399592
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	A18SE (N)	643	-	384237 399607
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	A18NE (N)	667	-	384214 399636
267	**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	A19SW (NE)	621	-	384608 399332

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
268	**Contemporary Trade Directory Entries** Name: The Color Co Location: 41, Spring Gardens, Manchester, M2 2BG Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	629	-	384065 398263
268	**Contemporary Trade Directory Entries** Name: The Color Co Location: 41, Spring Gardens, Manchester, M2 2BG Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	629	-	384065 398263
269	**Contemporary Trade Directory Entries** Name: The Offices Location: 53 King Street, Manchester, Greater Manchester, M2 4LQ Classification: Office Equipment Servicing & Maintenance **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	632	-	383885 398295
269	**Contemporary Trade Directory Entries** Name: Direct Service Solutions Location: 53 King Street, Manchester, Greater Manchester, M2 4LQ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	632	-	383885 398295
270	**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	A18SW (N)	633	-	383868 399574
270	**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	A18SW (N)	634	-	383869 399575
271	**Contemporary Trade Directory Entries** Name: Cromech Engineering Co Ltd Location: Springfield Lane, Salford, M3 7JS Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	637	-	383471 399180
271	**Contemporary Trade Directory Entries** Name: Citroen World Location: Unit 5 & 6 Springfield Business Centre,Springfield La, Salford, Lancashire, M3 7JS Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	637	-	383470 399180
272	**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	A18NW (N)	637	-	384054 399617
272	**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	A18NW (N)	660	-	384048 399640
272	**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	A18NW (N)	678	-	384078 399659

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
273	**Contemporary Trade Directory Entries** Name: A Everall Location: 3, Blackfriars Road, Salford, M3 7AG Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	638	-	383462 398760
273	**Contemporary Trade Directory Entries** Name: Valentine Bags Ltd Location: 7-9, Blackfriars Road, Salford, M3 7AG Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	651	-	383442 398779
273	**Contemporary Trade Directory Entries** Name: M P L G Ltd Location: Solmar House, 2, Cross Street, Salford, M3 7AX Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	684	-	383414 398757
274	**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	A18SE (NE)	645	-	384383 399556
275	**Contemporary Trade Directory Entries** Name: K O Sports Location: Apartment 104, Chatsworth House, 19, Lever Street, Manchester, M1 1BY Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	648	-	384491 398382
275	**Contemporary Trade Directory Entries** Name: Scrap Car Now Today Cash Manchester Town Location: Chatsworth House, 19, Lever Street, Manchester, M1 1AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	648	-	384492 398382
275	**Contemporary Trade Directory Entries** Name: Medusa 19 Ltd Location: 2nd Floor, Manchester, Greater Manchester, M1 1EZ Classification: Chemicals - Distributors & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	667	-	384524 398383
275	**Contemporary Trade Directory Entries** Name: Eric Brownbill Fashion Agencies Location: 20, Dale Street, Manchester, Lancashire, M1 1EZ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	685	-	384527 398362
275	**Contemporary Trade Directory Entries** Name: Watts Bros (Manchester) Ltd Location: 20, Dale Street, Manchester, Lancashire, M1 1EZ Classification: Hats & Caps - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	685	-	384527 398362
275	**Contemporary Trade Directory Entries** Name: La Vie Facile Location: 20, Dale Street, Manchester, Lancashire, M1 1EZ Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	685	-	384527 398362
276	**Contemporary Trade Directory Entries** Name: Mafana Ltd Location: 65-71, Lever Street, MANCHESTER, M1 1FL Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	650	-	384650 398558
276	**Contemporary Trade Directory Entries** Name: Manchester Printing Co Ltd Location: 75, Lever Street, Manchester, M1 1FL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	658	-	384667 398572

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
277	**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	A18NE (N)	655	-	384153 399633
277	**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	A18NE (N)	665	-	384166 399642
277	**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	A18NE (N)	678	-	384149 399657
278	**Contemporary Trade Directory Entries** Name: Wsc Cleaning Location: 82 King St, Manchester, Lancashire, M2 4WQ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	658	-	383923 398256
278	**Contemporary Trade Directory Entries** Name: Firemart Location: 82, King Street, Manchester, M2 4WQ Classification: Firefighting Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	658	-	383923 398256
278	**Contemporary Trade Directory Entries** Name: Mxm Location: 82, King Street, Manchester, Lancashire, M2 4WQ Classification: Medical Equipment Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	658	-	383923 398256
278	**Contemporary Trade Directory Entries** Name: New Brush Cleaning Services Location: Manchester, Greater Manchester, M2 4nh Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	679	-	383877 398248
278	**Contemporary Trade Directory Entries** Name: Alex Atkinson-Fletcher Ltd Location: 76 King Street, Manchester, Greater Manchester, M2 4NH Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	679	-	383877 398248
278	**Contemporary Trade Directory Entries** Name: Wardell Armstrong Llp Location: 76 King Street, Manchester, Greater Manchester, M2 4NH Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	679	-	383877 398248
278	**Contemporary Trade Directory Entries** Name: Incanthera Ltd Location: 76 King Street, Manchester, Greater Manchester, M2 4NH Classification: Laboratories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	679	-	383877 398248
278	**Contemporary Trade Directory Entries** Name: Yourprintingsolutionltd.Co.Uk Location: 76, KING STREET, MANCHESTER, M2 4NH Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	679	-	383877 398248
279	**Contemporary Trade Directory Entries** Name: Silk Beauty Hair Removal Location: 10, Bradley Street, Manchester, M1 1EH Classification: Electrolysis **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	658	-	384673 398583

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
279	**Contemporary Trade Directory Entries** Name: A 2 Z Knitwear Ltd Location: 56, Lever Street, Manchester, M1 1FJ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	700	-	384720 398582
280	**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	A18SE (N)	662	-	384343 399593
280	**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	A18SE (N)	662	-	384343 399592
281	**Contemporary Trade Directory Entries** Name: Arnold Clark Location: Blackfriars Road, Salford, M3 7AP Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	665	-	383411 398865
282	**Contemporary Trade Directory Entries** Name: Brenca Metals Ltd Location: Ship Canal House, 98, King Street, Manchester, M2 4WU Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	667	-	383976 398234
282	**Contemporary Trade Directory Entries** Name: Haughton Engineering Services Location: Ship Canal House, 98, King Street, Manchester, Lancashire, M2 4WU Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	667	-	383976 398234
282	**Contemporary Trade Directory Entries** Name: Nationwide Fuels Llp Location: Ship Canal House,98 King Street, Manchester, Greater Manchester, M2 4WU Classification: Lubricant Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	668	-	383976 398234
283	**Contemporary Trade Directory Entries** Name: Clean Corner Location: 20 York Street, Manchester, Lancashire, M2 3BB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	668	-	384123 398224
283	**Contemporary Trade Directory Entries** Name: We Print Group Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	684	-	384112 398208
283	**Contemporary Trade Directory Entries** Name: Msl Interiors Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	684	-	384112 398208
283	**Contemporary Trade Directory Entries** Name: Fast Carpet Cleaners Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	684	-	384112 398208
283	**Contemporary Trade Directory Entries** Name: Indie Cases Location: Barnett House, Manchester, Lancashire, M2 2AN Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	684	-	384112 398208

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
283	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Manchester Kws Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	684	-	384112 398208
283	**Contemporary Trade Directory Entries** Name: Urban Icon Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Garden & Patio Furniture Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	684	-	384112 398208
283	**Contemporary Trade Directory Entries** Name: The Quantum Print Location: Barnett House,53 Fountain Street, Manchester, Greater Manchester, M2 2AN Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	686	-	384110 398206
283	**Contemporary Trade Directory Entries** Name: Atlantic Property Services Location: Barnett House,53 Fountain Street, Manchester, Greater Manchester, M2 2AN Classification: Cladding Suppliers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	686	-	384110 398206
284	**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	A19SW (NE)	670	-	384612 399403
285	**Contemporary Trade Directory Entries** Name: Serious Clean Location: 5 Luna Street, Manchester, Greater Manchester, M4 5LX Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	674	-	384736 398683
286	**Contemporary Trade Directory Entries** Name: Brayziers Technical Tubes Ltd Location: Ferguson House, 11, Blackfriars Road, Salford, Lancashire, M3 7AG Classification: Engineers - General **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	676	-	383411 398805
286	**Contemporary Trade Directory Entries** Name: Samuel Bruce Location: 21, Blackfriars Road, Salford, M3 7AQ Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	688	-	383396 398814
287	**Contemporary Trade Directory Entries** Name: Ax-S Global Location: 22, Lever Street, Manchester, M1 1EA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	681	-	384556 398392
287	**Contemporary Trade Directory Entries** Name: Godske Group Location: 22, Lever Street, Manchester, M1 1EA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	681	-	384556 398392
287	**Contemporary Trade Directory Entries** Name: Ax S Global Location: 22, Lever Street, Manchester, M1 1EA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	681	-	384556 398392
287	**Contemporary Trade Directory Entries** Name: Print Pug Location: Suite 3b 22 Lever Street, Manchester, Greater Manchester, M1 1EA Classification: Printers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	682	-	384556 398392

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
287	**Contemporary Trade Directory Entries** Name: Elert 2 Media Location: 24, Lever Street, Manchester, Lancashire, M1 1DZ Classification: Printers Textile **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	695	-	384580 398397
287	**Contemporary Trade Directory Entries** Name: Alert 2 Media Location: 24, Lever Street, Manchester, Lancashire, M1 1DZ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	696	-	384580 398396
287	**Contemporary Trade Directory Entries** Name: J & B Textiles Location: 14, Little Lever Street, Manchester, M1 1HR Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	718	-	384607 398392
287	**Contemporary Trade Directory Entries** Name: Guy Foam Location: 10, Little Lever Street, Manchester, M1 1HR Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	719	-	384599 398382
287	**Contemporary Trade Directory Entries** Name: Stairlifts Manchester Location: Studio 18,18 Hilton Street, Manchester, Greater Manchester, M1 1FR Classification: Stairlifts - Manufacturers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	719	-	384620 398404
287	**Contemporary Trade Directory Entries** Name: Ben Sherman Location: 47, Newton Street, Manchester, Lancashire, M1 1FT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	737	-	384618 398376
287	**Contemporary Trade Directory Entries** Name: Bodyguard Clothing Ltd Location: 33, Dale Street, Manchester, Lancashire, M1 2HE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	766	-	384638 398354
287	**Contemporary Trade Directory Entries** Name: Zig Zag Clothing Ltd Location: 33, Dale Street, Manchester, Lancashire, M1 2HE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	766	-	384638 398354
288	**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	A18NW (N)	682	-	383975 399653
289	**Contemporary Trade Directory Entries** Name: Tanzo Passenger Services Ltd Location: 34-36, King Street, Manchester, M2 6AZ Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	692	-	383747 398292
290	**Contemporary Trade Directory Entries** Name: Pro2col Location: 101-115, Chapel Street, Salford, M3 5DN Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	693	-	383445 398645
290	**Contemporary Trade Directory Entries** Name: Silk Thomas Made To Measure Shirts Location: Caxton Hall, 88-92, Chapel Street, Salford, Lancashire, M3 5DW Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	699	-	383423 398686

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
290	**Contemporary Trade Directory Entries** Name: The Graphics Location: Caxton Hall, 88-92, Chapel Street, Salford, Lancashire, M3 5DW Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	699	-	383423 398686
291	**Contemporary Trade Directory Entries** Name: Moving Fashion Ltd Location: 11, Stevenson Square, Manchester, M1 1DB Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	696	-	384632 398453
291	**Contemporary Trade Directory Entries** Name: Rawagencies Ltd Location: 22, Little Lever Street, Manchester, M1 1HR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	713	-	384638 398434
291	**Contemporary Trade Directory Entries** Name: Daisy Fashions Location: 25, Hilton Street, Manchester, M1 1EL Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	725	-	384646 398424
292	**Contemporary Trade Directory Entries** Name: Drywall Location: 163-165 Great Ducie Street, Manchester, Greater Manchester, M3 1FF Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	697	-	383587 399466
292	**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	A17SE (NW)	703	-	383594 399480
292	**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	A17SE (NW)	713	-	383573 399474
292	**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	A17SE (NW)	742	-	383567 399509
293	**Contemporary Trade Directory Entries** Name: Weeshred Ltd Location: 13th Floor City Tower,Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT Classification: Shredding Equipment & Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	700	-	384236 398207
294	**Contemporary Trade Directory Entries** Name: 1st Central Locksmiths Location: 51-55, Oldham Road, Manchester, M4 5FS Classification: Safes & Vaults - Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	704	-	384816 398859
295	**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	A18NE (N)	705	-	384324 399646

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
295	**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	A18NE (N)	705	-	384324 399646
295	**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	A18NE (N)	705	-	384324 399646
296	**Contemporary Trade Directory Entries** Name: A C Body Services Location: 49, Queen Street, Salford, M3 7DQ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	705	-	383365 398921
296	**Contemporary Trade Directory Entries** Name: P & A Autobodies Location: 49-51 Queen St, Salford, Lancashire, M3 7DQ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	705	-	383365 398920
296	**Contemporary Trade Directory Entries** Name: Queen Street Motors Location: 49, Queen Street, SALFORD, M3 7DQ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	705	-	383365 398921
297	**Contemporary Trade Directory Entries** Name: Tetra Pak Business Services Ltd Location: The Chancery,58 Spring Gdns, Manchester, M2 1EW Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	706	-	384010 398190
297	**Contemporary Trade Directory Entries** Name: Whitecliffs Group Location: 61-63, Brown Street, Manchester, Lancashire, M2 2JG Classification: Electrolysis **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	726	-	383995 398172
298	**Contemporary Trade Directory Entries** Name: Direct Janitorial Supplies Location: 52-54, Oldham Road, Manchester, M4 5EE Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	707	-	384807 398792
298	**Contemporary Trade Directory Entries** Name: Advanced Commercial Kitchens Ltd Location: 60, Oldham Road, Manchester, M4 5EE Classification: Catering Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	724	-	384827 398804
298	**Contemporary Trade Directory Entries** Name: Compass Development Uk Ltd Location: 64, Oldham Road, Manchester, M4 5EE Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	732	-	384837 398812
299	**Contemporary Trade Directory Entries** Name: Decor8 Northern Ltd Location: Unit 1, Trading Estate, Sudell Street, Manchester, M4 4JQ Classification: Painting & Decorating Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NE (E)	711	-	384803 399140
299	**Contemporary Trade Directory Entries** Name: Smart Wheels Location: Unit 2, Trading Estate, Sudell Street, Manchester, M4 4JQ Classification: Alloys **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	741	-	384826 399169

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
299	**Contemporary Trade Directory Entries** Name: Manchester Mobility Location: Unit 4, Trading Estate, Sudell Street, Manchester, M4 4JQ Classification: Disability Equipment - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	752	-	384842 399156
300	**Contemporary Trade Directory Entries** Name: Manchester Salford Repairs Location: Apartment 20, Springfield Court, 2, Dean Road, Salford, M3 7EH Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	712	-	383391 399180
301	**Contemporary Trade Directory Entries** Name: C B I Location: Cardinal House, 20, St. Marys Parsonage, Manchester, M3 2LY Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	712	-	383531 398454
301	**Contemporary Trade Directory Entries** Name: The Bedding Company Location: Cardinal House, 20, St. Marys Parsonage, Manchester, M3 2LG Classification: Bed & Mattress Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	712	-	383531 398454
302	**Contemporary Trade Directory Entries** Name: Lexcorp Group Location: 31 Blackfriars Rd, Salford, Lancashire, M3 7AQ Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SW (W)	718	-	383364 398826
303	**Contemporary Trade Directory Entries** Name: Manchester Office Cleaners Location: Piccadilly House, 49, Piccadilly, Manchester, M1 2AP Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	718	-	384494 398297
303	**Contemporary Trade Directory Entries** Name: Oxyrane Uk Location: Piccadilly House, 49, Piccadilly, Manchester, M1 2AP Classification: Laboratories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	719	-	384494 398296
303	**Contemporary Trade Directory Entries** Name: O C M Print Location: Piccadilly House, 49, Piccadilly, Manchester, M1 2AP Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	719	-	384494 398296
303	**Contemporary Trade Directory Entries** Name: Sudstech Location: Piccadilly House,49 Piccadilly, Manchester, Greater Manchester, M1 2AP Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	719	-	384494 398296
303	**Contemporary Trade Directory Entries** Name: Kane Contracts Ltd Location: Third Floor,Clayton House,59 Piccadilly, Manchester, M1 2AQ Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	741	-	384528 398292
303	**Contemporary Trade Directory Entries** Name: Carr Manufacturing Co (Radcliffe) Ltd Location: First Floor, Clayton House, 59, Piccadilly, Manchester, M1 2AS Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	742	-	384529 398292
303	**Contemporary Trade Directory Entries** Name: Damp Aid Location: Clayton House, 59, Piccadilly, Manchester, M1 2AQ Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	742	-	384529 398292

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
303	**Contemporary Trade Directory Entries** Name: Cherry Smart Services Ltd Location: Clayton House, 59, Piccadilly, Manchester, M1 2AQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	742	-	384529 398292
303	**Contemporary Trade Directory Entries** Name: John Addley Ltd Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	747	-	384518 398278
303	**Contemporary Trade Directory Entries** Name: Scotfax Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Photocopiers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	747	-	384518 398278
303	**Contemporary Trade Directory Entries** Name: Scotfax Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Photocopiers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	747	-	384518 398278
303	**Contemporary Trade Directory Entries** Name: Forward Bird Control Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	747	-	384518 398278
303	**Contemporary Trade Directory Entries** Name: Oceanblue Logistics Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	747	-	384518 398278
303	**Contemporary Trade Directory Entries** Name: Multitude Estates Ltd Location: Clayton House, 59, Piccadilly, Manchester, M1 2AQ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	747	-	384518 398278
303	**Contemporary Trade Directory Entries** Name: Oil Colour Chemists Association Location: First Floor, 59, Piccadilly, Manchester, M1 2AQ Classification: Adhesives, Glues & Sealants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	750	-	384522 398277
303	**Contemporary Trade Directory Entries** Name: Force C Location: 5 Newton St, Manchester, M1 1HW Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	751	-	384542 398290
303	**Contemporary Trade Directory Entries** Name: P N H Location: St. Margarets Chambers, 5, Newton Street, Manchester, Lancashire, M1 1HL Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	752	-	384543 398291
303	**Contemporary Trade Directory Entries** Name: Max Spielmann Location: 63, Piccadilly, Manchester, Lancashire, M1 2AG Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	762	-	384534 398271
304	**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	A19SW (NE)	720	-	384457 399601

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
304	**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	A19NW (NE)	749	-	384491 399614
304	**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	A19NW (NE)	749	-	384491 399614
304	**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	A19NW (NE)	750	-	384468 399629
304	**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	A19NW (NE)	796	-	384519 399652
305	**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	A19SW (NE)	722	-	384750 399299
305	**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	A19SW (NE)	733	-	384739 399341
305	**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	A19SW (NE)	733	-	384739 399341
306	**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	A18NE (N)	723	-	384120 399703
307	**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	A18NE (N)	724	-	384108 399705
307	**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	A18NE (N)	748	-	384111 399729
307	**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	A18NW (N)	751	-	384043 399731
307	**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	A18NW (N)	758	-	384077 399739

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
307	**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	A18NW (N)	758	-	384077 399739
307	**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	A18NW (N)	758	-	384077 399739
307	**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	A18NW (N)	758	-	384077 399739
307	**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	A18NW (N)	758	-	384077 399739
307	**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	A18NW (N)	773	-	384034 399752
308	**Contemporary Trade Directory Entries** Name: A D T Location: 1, New York Street, Manchester, M1 4HD Classification: Firefighting Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	727	-	384182 398170
308	**Contemporary Trade Directory Entries** Name: Aesthetic Services Soda Blasting Location: Devonshire House, 36, George Street, Manchester, M1 4HA Classification: Blast Cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	776	-	384185 398122
309	**Contemporary Trade Directory Entries** Name: B M Tec Location: 87-88 Cross Street, Salford, Greater Manchester, M3 7AX Classification: Garage Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	727	-	383381 398719
310	**Contemporary Trade Directory Entries** Name: B & J Supplies Location: 20-22, Mary Street, Manchester, M3 1DZ Classification: Soft Drinks - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	727	-	383483 399393
311	**Contemporary Trade Directory Entries** Name: Klick Location: 103 Deansgate, Manchester, Lancashire, M3 2BQ Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	727	-	383672 398298
311	**Contemporary Trade Directory Entries** Name: The Flight Centre Location: 103 Deansgate, Manchester, Lancashire, M3 2BQ Classification: Airports **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	727	-	383672 398298
311	**Contemporary Trade Directory Entries** Name: Scavolini Store Location: 19 John Dalton St, Manchester, Lancashire, M2 6FW Classification: Kitchen Furniture Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	747	-	383713 398248

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
311	**Contemporary Trade Directory Entries** Name: Advanced Photo Location: 25, John Dalton Street, Manchester, M2 6FW Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	747	-	383719 398245
311	**Contemporary Trade Directory Entries** Name: Apollo Blinds Location: 9, John Dalton Street, Manchester, M2 6FW Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	754	-	383683 398258
311	**Contemporary Trade Directory Entries** Name: Colloides Naturels Ltd Location: 121 Deansgate, Manchester, M3 2BW Classification: Food Colouring, Flavouring & Additive Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	796	-	383650 398230
312	**Contemporary Trade Directory Entries** Name: Ops International Ltd Location: Brook House, 64-72, Spring Gardens, Manchester, M2 2BQ Classification: Oil Companies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	728	-	384072 398164
313	**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	A18NE (N)	732	-	384382 399653
313	**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	A18NE (N)	732	-	384382 399653
314	**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	A18NE (N)	738	-	384236 399705
314	**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	A18NE (N)	764	-	384238 399731
315	**Contemporary Trade Directory Entries** Name: Max Spielmann Location: 59a, Cross Street, Manchester, Lancashire, M2 4JW Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	740	-	383845 398194
315	**Contemporary Trade Directory Entries** Name: Cannon Electrical Contractors (Manchester) Ltd Location: 8, Clarence Street, Manchester, M2 4DW Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	743	-	383872 398182
315	**Contemporary Trade Directory Entries** Name: Inpeto Ltd Location: Northern Assurance Building, 9-21, Princess Street, Manchester, Lancashire, M2 4DN Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	743	-	383872 398182

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
315	**Contemporary Trade Directory Entries** Name: Johnsons The Cleaners Location: 61, Cross Street, Manchester, M2 4JW Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	747	-	383842 398188
316	**Contemporary Trade Directory Entries** Name: Anexsys Location: 77 Newton Street, Manchester, Greater Manchester, M1 1EX Classification: Copying & Duplicating Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	741	-	384700 398469
317	**Contemporary Trade Directory Entries** Name: Nxgen Europe Ltd Location: City Tower,Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT Classification: Cash Registers & Check-Out Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	742	-	384277 398173
318	**Contemporary Trade Directory Entries** Name: Best Knitwear Ltd Location: 24-28, George Leigh Street, Manchester, M4 5DQ Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	743	-	384809 398678
318	**Contemporary Trade Directory Entries** Name: Al-Murid Pleating Co Location: 24-28, George Leigh Street, Manchester, M4 5DQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	743	-	384809 398678
318	**Contemporary Trade Directory Entries** Name: Sam Knitwear Ltd Location: 24-28, George Leigh Street, Manchester, M4 5DQ Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	743	-	384809 398678
318	**Contemporary Trade Directory Entries** Name: Blossom Motor Co Location: 27, Gun Street, Manchester, M4 5DN Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (SE)	757	-	384804 398630
318	**Contemporary Trade Directory Entries** Name: V A Clean Location: 46, Henry Street, Manchester, M4 5DD Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (SE)	763	-	384813 398637
319	**Contemporary Trade Directory Entries** Name: M G S Location: Blackfriars Rd, Salford, Lancashire, M3 7AQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	753	-	383320 398883
320	**Contemporary Trade Directory Entries** Name: Transport For Greater Manchester Location: 2, Picadilly Place, Manchester, Lancashire, M1 3BG Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (SE)	755	-	384406 398205
321	**Contemporary Trade Directory Entries** Name: Steelcase Solutions Location: 12, Booth Street, Manchester, M2 4AW Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	755	-	383975 398145
322	**Contemporary Trade Directory Entries** Name: Nisbets Location: 12 Booth Street, Manchester, Greater Manchester, M2 4AW Classification: Catering Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	761	-	383971 398140

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
322	**Contemporary Trade Directory Entries** Name: Frank Rostron Location: 39, Princess Street, Manchester, M2 4FN Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	780	-	383924 398130
322	**Contemporary Trade Directory Entries** Name: Cheshire Shirtmakers Ltd Location: 39, Princess Street, Manchester, Lancashire, M2 4FN Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	780	-	383924 398130
323	**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	A18NW (N)	761	-	384016 399738
323	**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	A18NW (N)	764	-	384006 399740
323	**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	A18NW (N)	769	-	383978 399742
324	**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	A19SE (NE)	766	-	384805 399289
324	**Contemporary Trade Directory Entries** Name: Radium Garage Location: 125, Rochdale Road, Manchester, M4 4HZ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (NE)	777	-	384832 399255
325	**Contemporary Trade Directory Entries** Name: Fast Cash 4 Scrap Cars Manchester Aeg Location: 52, Newton Street, Manchester, M1 1ED Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	767	-	384689 398410
326	**Contemporary Trade Directory Entries** Name: Davidson Powell Design Location: 40, John Dalton Street, Manchester, M2 6LE Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (SW)	768	-	383781 398190
327	**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: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	769	-	383485 399462
327	**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	A17SE (NW)	770	-	383483 399461
328	**Contemporary Trade Directory Entries** Name: City Recovery & Storage Location: 50, Newton Street, Manchester, Lancashire, M1 2EA Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	770	-	384658 398370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
329	**Contemporary Trade Directory Entries** Name: Paul Moy Associates Location: Unit 5, Brewery Yard, Deva Centre, Trinity Way, Salford, M3 7BB Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	770	-	383322 398768
330	**Contemporary Trade Directory Entries** Name: Arrow Electronics Uk Location: 5 New York Street, Manchester, Greater Manchester, M1 4JB Classification: Electronic Component Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	771	-	384245 398136
330	**Contemporary Trade Directory Entries** Name: Rentokil Specialist Hygiene Location: Faulkner House, Faulkner Street, Manchester, M1 4DY Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	792	-	384264 398118
330	**Contemporary Trade Directory Entries** Name: Scrap Cars Vans Caravans Buyer Location: Faulkner House, Faulkner Street, Manchester, M1 4DY Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	792	-	384264 398118
331	**Contemporary Trade Directory Entries** Name: Toye Kenning & Spencer Ltd Location: Reedham House, 31, King Street West, Manchester, M3 2PJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	772	-	383518 398375
331	**Contemporary Trade Directory Entries** Name: Samson Hosiery Ltd Location: Reedham House,31 King Street West, Manchester, Greater Manchester, M3 2PJ Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	773	-	383517 398375
331	**Contemporary Trade Directory Entries** Name: Entwistle Group L T D Location: Reedham House, 31, King Street West, Manchester, M3 2PN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	773	-	383517 398375
331	**Contemporary Trade Directory Entries** Name: K B Cleaning Location: 31-33 King Street West, Manchester, M3 2PN Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	773	-	383518 398374
331	**Contemporary Trade Directory Entries** Name: Blue Print Reprographics Location: 27-29, King Street West, Manchester, M3 2PN Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	788	-	383511 398361
331	**Contemporary Trade Directory Entries** Name: Simply Nails Location: 38, King Street West, Manchester, Lancashire, M3 2WZ Classification: Shop Fittings Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	789	-	383538 398330
332	**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	A18NW (N)	772	-	383863 399719

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
333	**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	A19SW (NE)	772	-	384676 399484
333	**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	A19SW (NE)	784	-	384696 399480
334	**Contemporary Trade Directory Entries** Name: Miroil Uk Ltd Location: 13, Blossom Street, Manchester, M4 5AF Classification: Catering Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (SE)	775	-	384820 398622
334	**Contemporary Trade Directory Entries** Name: Corralls Location: 54-58, Great Ancoats Street, Manchester, M4 5AB Classification: Coal & Smokeless Fuel Merchants & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	796	-	384822 398574
334	**Contemporary Trade Directory Entries** Name: Spray Tech Location: Ground Floor, 16, Blossom Street, Manchester, M4 5AW Classification: Printers Textile **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	822	-	384859 398594
334	**Contemporary Trade Directory Entries** Name: Bhana Clothing Location: Ground Floor, 16, Blossom Street, Manchester, Lancashire, M4 5AW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	822	-	384859 398594
334	**Contemporary Trade Directory Entries** Name: Daisy Fashions Location: 16, Blossom Street, Manchester, Lancashire, M4 5AW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	822	-	384859 398594
335	**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	A18NE (N)	777	-	384182 399753
335	**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	A18NE (N)	780	-	384134 399759
335	**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	A18NE (N)	780	-	384134 399759
335	**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	A18NE (N)	780	-	384134 399759
335	**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	A18NE (N)	780	-	384134 399759

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
335	**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	A18NE (N)	804	-	384098 399785
336	**Contemporary Trade Directory Entries** Name: C F E S Location: Woolwich House, 61, Mosley Street, Manchester, M2 3HZ Classification: Ventilators & Ventilation Systems **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	777	-	384117 398115
336	**Contemporary Trade Directory Entries** Name: Prime Power Solution Location: Woolwich House, 61, Mosley Street, Manchester, M2 3HZ Classification: Electricity Generating & Distributing Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	777	-	384117 398115
336	**Contemporary Trade Directory Entries** Name: North West Lightning Protection Ltd Location: WOOLWICH HOUSE, 61, MOSLEY STREET, MANCHESTER, M2 3HZ Classification: Engineering Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	777	-	384117 398115
336	**Contemporary Trade Directory Entries** Name: Manchester House Cleaning Services Location: WOOLWICH HOUSE, 61, MOSLEY STREET, MANCHESTER, M2 3HZ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	777	-	384117 398115
336	**Contemporary Trade Directory Entries** Name: Hazexperts Location: International House,61 Mosley Street, Manchester, Greater Manchester, M2 3HZ Classification: Chemical Recycling & Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	779	-	384126 398113
336	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	797	-	384107 398094
336	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	802	-	384105 398090
336	**Contemporary Trade Directory Entries** Name: Oakland Fabrics Ltd Location: 44, George Street, Manchester, M1 4HF Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	809	-	384149 398085
336	**Contemporary Trade Directory Entries** Name: Sofas4u Location: George House, 48, George Street, Manchester, Lancashire, M1 4HF Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	821	-	384140 398073
337	**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	A17SE (NW)	779	-	383515 399510

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
337	**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	A17SE (NW)	803	-	383517 399545
338	**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	A19NW (NE)	784	-	384470 399667
338	**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	A19NW (NE)	795	-	384481 399673
338	**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	A19NW (NE)	805	-	384492 399679
338	**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	A19NW (NE)	805	-	384492 399679
338	**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	A19NW (NE)	805	-	384493 399678
338	**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	A19NW (NE)	805	-	384492 399679
338	**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	A19NW (NE)	827	-	384518 399689
339	**Contemporary Trade Directory Entries** Name: British Engineering Services Location: 5, New York Street, Manchester, M1 4JB Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	785	-	384233 398120
339	**Contemporary Trade Directory Entries** Name: Norman Disney & Young Location: St. James House, 7, Charlotte Street, Manchester, Lancashire, M1 4DZ Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	824	-	384227 398079
340	**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	A17NE (NW)	785	-	383637 399622
340	**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	A17NE (NW)	804	-	383607 399624

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
341	**Contemporary Trade Directory Entries** Name: Renault Manchester Location: TRINITY WAY, SALFORD, M3 7FT Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	789	-	383280 398981
341	**Contemporary Trade Directory Entries** Name: Dacia Manchester Location: Trinity Way, Salford, Greater Manchester, M3 7FT Classification: Car Dealers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	789	-	383280 398981
342	**Contemporary Trade Directory Entries** Name: Keppie Design Location: 1, Portland Street, Manchester, M1 3BE Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	792	-	384519 398224
343	**Contemporary Trade Directory Entries** Name: Instadrinks Ltd Location: Ridgefield House, 14, John Dalton Street, Manchester, Lancashire, M2 6JR Classification: Vending Machine Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	793	-	383705 398200
343	**Contemporary Trade Directory Entries** Name: Commercial Facilities Location: Ridgefield House, 14, John Dalton Street, Manchester, Lancashire, M2 6JR Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	793	-	383705 398200
344	**Contemporary Trade Directory Entries** Name: Amc Graphics Location: Lynx House, 17, Cotton Street, Manchester, M4 6AA Classification: Lithographic Plate Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	794	-	384858 398662
344	**Contemporary Trade Directory Entries** Name: Appleyard Press Location: Lynx House, 17, Cotton Street, Manchester, M4 6AA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	794	-	384858 398662
345	**Contemporary Trade Directory Entries** Name: Helping Hands Location: 11, Georgette Drive, Salford, M3 7AF Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	796	-	383304 399182
346	**Contemporary Trade Directory Entries** Name: Granada Dry Cleaners Location: 71-73, Bridge Street, MANCHESTER, M3 2RH Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	796	-	383560 398299
346	**Contemporary Trade Directory Entries** Name: National Cleaning & Painting Location: 52, Bridge Street, Manchester, M3 3BW Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	827	-	383539 398277
346	**Contemporary Trade Directory Entries** Name: National Cleaning Location: 52, Bridge Street, Manchester, M3 3BW Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	827	-	383539 398277
346	**Contemporary Trade Directory Entries** Name: National Cleaning Location: 52, Bridge Street, MANCHESTER, M3 3BW Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	827	-	383539 398277

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
346	**Contemporary Trade Directory Entries** Name: Bright & Clean Manchester Location: 26, Wood Street, Manchester, M3 3EF Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	853	-	383535 398245
346	**Contemporary Trade Directory Entries** Name: Bright & Clean Manchester Location: 26, Wood Street, Manchester, M3 3EF Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	856	-	383529 398247
347	**Contemporary Trade Directory Entries** Name: A Garstang & Co Ltd Location: 16, Newton Street, Manchester, M1 2AE Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	801	-	384614 398284
347	**Contemporary Trade Directory Entries** Name: Mpg Ltd Location: Dale House, 35, Dale Street, Manchester, Lancashire, M1 2HF Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	801	-	384644 398311
347	**Contemporary Trade Directory Entries** Name: Slack & Andrews Location: Dale House, 35, Dale Street, Manchester, Lancashire, M1 2HF Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	801	-	384644 398311
347	**Contemporary Trade Directory Entries** Name: Maximum Bright Services Location: Dale House, 35, Dale Street, Manchester, Lancashire, M1 2HF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	801	-	384644 398311
347	**Contemporary Trade Directory Entries** Name: Maximum Bright Services Location: Dale House,35 Dale St, Manchester, Lancashire, M1 2HF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	801	-	384643 398310
347	**Contemporary Trade Directory Entries** Name: Honeyhull Ltd Location: 56, Dale Street, Manchester, M1 2HN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	822	-	384616 398259
347	**Contemporary Trade Directory Entries** Name: Uk Fashion Wear Ltd Location: 56, Dale Street, Manchester, M1 2HN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	822	-	384616 398259
347	**Contemporary Trade Directory Entries** Name: Fashionpulse Location: 56, Dale Street, Manchester, Lancashire, M1 2HN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	822	-	384616 398259
347	**Contemporary Trade Directory Entries** Name: Iana Ltd Location: 47, Dale Street, Manchester, M1 2HF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	833	-	384655 398278
348	**Contemporary Trade Directory Entries** Name: Local Map Co Location: Tariff St, Manchester, Lancashire, M1 2FF Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	804	-	384663 398325

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
348	**Contemporary Trade Directory Entries** Name: Minuteman Press Location: 27a Hilton st, Manchester, Greater Manchester, M1 1EL Classification: Printers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	810	-	384694 398350
348	**Contemporary Trade Directory Entries** Name: Priority Chauffeur Services Location: Hilton House, 26-28, Hilton Street, Manchester, M1 2EH Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	811	-	384682 398336
348	**Contemporary Trade Directory Entries** Name: B Y Form Location: 3, Tariff Street, Manchester, M1 2FF Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	839	-	384724 398340
348	**Contemporary Trade Directory Entries** Name: Chowhan & Co Location: 14, Tariff Street, Manchester, M1 2FF Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	848	-	384701 398301
348	**Contemporary Trade Directory Entries** Name: T D S Fashions Location: Second Floor, 14, Tariff Street, Manchester, M1 2FF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	848	-	384701 398301
348	**Contemporary Trade Directory Entries** Name: Complete Processing Location: 14, Tariff Street, Manchester, Lancashire, M1 2FF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	848	-	384701 398301
348	**Contemporary Trade Directory Entries** Name: Style House Manchester Ltd Location: Ground Floor, Fourways House, 16, Tariff Street, Manchester, Lancashire, M1 2FN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	860	-	384729 398314
348	**Contemporary Trade Directory Entries** Name: Simone'S Bespoke Housekeeping Service Location: 32, Hilton Street, Manchester, M1 2EH Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	867	-	384708 398282
348	**Contemporary Trade Directory Entries** Name: Lanford Ltd Location: 30-32, Hilton Street, Manchester, M1 2EH Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	867	-	384708 398282
348	**Contemporary Trade Directory Entries** Name: Gio Goi Location: Fourways House,Hilton St, Manchester, Lancashire, M1 2EJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	882	-	384741 398294
349	**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	A18NW (N)	805	-	383812 399736

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
349	**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	A18NW (N)	852	-	383786 399776
349	**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	A18NW (N)	852	-	383786 399776
349	**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	A18NW (N)	893	-	383785 399821
350	**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	A17SW (NW)	806	-	383406 399421
350	**Contemporary Trade Directory Entries** Name: Moontex Bedding Location: Casablanca Mill, 19, Sherborne Street West, Salford, M3 7LF Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	835	-	383372 399422
351	**Contemporary Trade Directory Entries** Name: Frank Pine Location: 1, Crown Street, Salford, M3 7DH Classification: Knitting Yarn Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	807	-	383268 398865
351	**Contemporary Trade Directory Entries** Name: Renault Service Centre Location: 56, Bury Street, Salford, M3 7DA Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	845	-	383232 398846
352	**Contemporary Trade Directory Entries** Name: Bec Digital Ltd Location: 47, Houldsworth Street, Manchester, M1 2ES Classification: Photocopiers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	807	-	384803 398510
352	**Contemporary Trade Directory Entries** Name: R Jaffay Location: 63, Houldsworth Street, Manchester, M1 2ES Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	847	-	384832 398480
352	**Contemporary Trade Directory Entries** Name: A Jeffay Location: 63, Houldsworth Street, Manchester, M1 2ES Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	847	-	384832 398480
352	**Contemporary Trade Directory Entries** Name: Jeffay Location: 63, Houldsworth Street, Manchester, Lancashire, M1 2ES Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	847	-	384832 398480
353	**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	A18NE (N)	811	-	384180 399787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
353	**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	A18NE (N)	831	-	384216 399803
353	**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	A18NE (N)	844	-	384209 399817
353	**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	A18NE (N)	844	-	384209 399817
354	**Contemporary Trade Directory Entries** Name: Paragon Research Location: Irwell House, East Philip Street, Salford, Lancashire, M3 7LE Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (NW)	811	-	383316 399263
355	**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	A18NE (N)	815	-	384354 399753
355	**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	A18NE (N)	816	-	384354 399753
355	**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	A18NE (N)	830	-	384368 399763
355	**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	A18NE (N)	847	-	384373 399779
355	**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	A18NE (N)	862	-	384368 399797
356	**Contemporary Trade Directory Entries** Name: Mbnk Ltd Location: 123, Deansgate, Manchester, M3 2BY Classification: Cookers - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	818	-	383642 398209
356	**Contemporary Trade Directory Entries** Name: Pharma Karma Location: 123, Deansgate, Manchester, M3 2BY Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	818	-	383642 398209
356	**Contemporary Trade Directory Entries** Name: M & M Office Cleaning Services Ltd Location: Grampian House, 144, Deansgate, Manchester, M3 3EE Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	820	-	383603 398234

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
356	**Contemporary Trade Directory Entries** Name: Recycle Nw Location: Fourth Floor,Brazennose House, Manchester, Greater Manchester, M2 5AS Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	832	-	383616 398210
357	**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	A19NW (NE)	824	-	384535 399675
357	**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	A19NW (NE)	829	-	384533 399681
357	**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	A19NW (NE)	829	-	384533 399681
357	**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	A19NW (NE)	839	-	384545 399686
357	**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	A19NW (NE)	848	-	384558 399688
357	**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	A19NW (NE)	848	-	384558 399688
357	**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	A19NW (NE)	859	-	384572 399692
358	**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	A17SE (NW)	825	-	383441 399496
358	**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	A17SE (NW)	825	-	383441 399496
358	**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	A17SE (NW)	825	-	383440 399496
358	**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	A17SE (NW)	829	-	383425 399484

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
358	**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	A17SE (NW)	829	-	383425 399484
359	**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	A18NW (N)	826	-	384047 399806
360	**Contemporary Trade Directory Entries** Name: A N A Tyres & Exhausts Location: Casablanca Mill,Sherborne St West, Salford, Lancashire, M3 7LF Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	829	-	383372 399412
360	**Contemporary Trade Directory Entries** Name: Cooper & Stollbrand Location: Cottenham House, 1, Cottenham Lane, Salford, M3 7LJ Classification: Clothing Accessory Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	849	-	383332 399384
360	**Contemporary Trade Directory Entries** Name: Sterling Fashion Location: Sherborne Street West, Salford, M3 7LF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A17SW (NW)	849	-	383332 399384
360	**Contemporary Trade Directory Entries** Name: Private White V C Location: Cottenham House, 1, Cottenham Lane, Salford, M3 7LJ Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	851	-	383346 399412
361	**Contemporary Trade Directory Entries** Name: Seven Brothers Bars Ltd Location: Apartment 802, Ice Plant, 39, Blossom Street, Manchester, M4 6AP Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	832	-	384907 398687
362	**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	A18NW (N)	832	-	384025 399810
362	**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	A18NW (N)	865	-	384008 399842
362	**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	A18NW (N)	884	-	383989 399859
363	**Contemporary Trade Directory Entries** Name: Manchester City Council Location: Town Hall, Albert Square, Manchester, Lancashire, M2 5DB Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	833	-	383867 398089
364	**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	A19NW (NE)	836	-	384487 399717

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
364	**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	A19NW (NE)	878	-	384529 399741
364	**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	A19NW (NE)	878	-	384529 399741
364	**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	A19NW (NE)	883	-	384560 399729
365	**Contemporary Trade Directory Entries** Name: Keep Snug Location: 52-58, Stanley Street, Manchester, M8 8SH Classification: Hats & Caps - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	837	-	384405 399757
365	**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	A18NE (N)	855	-	384412 399773
365	**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	A18NE (N)	877	-	384427 399790
365	**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	A18NE (N)	917	-	384423 399835
366	**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	A17SE (NW)	837	-	383526 399599
366	**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	A17NE (NW)	846	-	383536 399620
366	**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	A17NE (NW)	852	-	383552 399641
367	**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	A18NE (N)	845	-	384282 399804
367	**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	A18NE (N)	845	-	384282 399804

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
367	**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	A18NE (N)	853	-	384285 399811
368	**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	A18NE (N)	847	-	384156 399825
368	**Contemporary Trade Directory Entries** Name: Kelsi Shoes Location: 38d Derby Street, Manchester, Greater Manchester, M8 8HN Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	847	-	384156 399825
369	**Contemporary Trade Directory Entries** Name: K B K Meal Prep Location: 67, GREAT ANCOATS STREET, MANCHESTER, M4 5AB Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	848	-	384863 398537
370	**Contemporary Trade Directory Entries** Name: Pure Electric - Manchester Location: 4-10 London Road, Piccadilly, Manchester, Greater Manchester, M1 3AN Classification: Electric Motor Sales & Service **Status: Active** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	849	-	384547 398175
371	**Contemporary Trade Directory Entries** Name: Jogo Associates Ltd Location: 49-51, Dale Street, Manchester, M1 2HF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	857	-	384671 398259
372	**Contemporary Trade Directory Entries** Name: Express Motors Location: 47-49, Loom Street, Manchester, M4 6AW Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	864	-	384959 398753
373	**Contemporary Trade Directory Entries** Name: Ged Crewe Ltd Location: 114, Oldham Road, Manchester, M4 6AG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	865	-	384980 398886
373	**Contemporary Trade Directory Entries** Name: T Brown & Son Location: Primrose Street, Manchester, Greater Manchester, M4 6AG Classification: Garage Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A14SE (E)	868	-	384984 398893
374	**Contemporary Trade Directory Entries** Name: A & B Polishers Location: 65, Blackfriars Road, Salford, M3 7DB Classification: French Polishing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	867	-	383202 398969
375	**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	A19NW (NE)	868	-	384472 399760
375	**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	A19NW (NE)	879	-	384479 399769

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
375	**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	A19NW (NE)	879	-	384479 399769
376	**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	A18NE (N)	869	-	384202 399842
376	**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	A18NE (N)	895	-	384217 399867
376	**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	A18NE (N)	895	-	384217 399867
376	**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	A18NE (N)	895	-	384217 399867
376	**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	A18NE (N)	910	-	384194 399885
377	**Contemporary Trade Directory Entries** Name: Bikybiky Ltd Location: Centurion House,129 Deansgate, Manchester, Greater Manchester, M3 3WR Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	872	-	383636 398148
377	**Contemporary Trade Directory Entries** Name: Premier Media Solutions Location: Centurion House,129 Deansgate, Manchester, Greater Manchester, M3 3WR Classification: Computer Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	872	-	383636 398148
377	**Contemporary Trade Directory Entries** Name: R G B Facades Location: St Johns House,2-10 Queen Street, Manchester, Greater Manchester, M2 5JB Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	908	-	383621 398116
378	**Contemporary Trade Directory Entries** Name: N S Fashion Location: 64-66, Dale Street, Manchester, Lancashire, M1 2HR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	875	-	384645 398213
378	**Contemporary Trade Directory Entries** Name: M C C S Location: 6 Paton St, Manchester, Lancashire, M1 2BA Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	881	-	384618 398185
379	**Contemporary Trade Directory Entries** Name: Marco Trading Co Ltd Location: Marco House, Tariff Street, Manchester, M1 2FF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	875	-	384806 398387

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
380	**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	A18NW (N)	877	-	383898 399837
380	**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	A18NW (N)	878	-	383898 399837
380	**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	A18NW (N)	887	-	383872 399841
380	**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	A18NW (N)	887	-	383872 399841
381	**Contemporary Trade Directory Entries** Name: Reed Supplies Location: Flat 15, Newbank Tower, Bridgewater Street, Salford, M3 7JZ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	878	-	383236 399239
382	**Contemporary Trade Directory Entries** Name: A Kenny Asphalt Ltd Location: Unit 4, The Cottages, Deva Centre, Trinity Way, Salford, Lancashire, M3 7BE Classification: Asphalt & Coated Macadam Laying Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	880	-	383242 398655
382	**Contemporary Trade Directory Entries** Name: E B Office Interiors Ltd Location: Unit 4/A, The Cottages, Deva Centre, Trinity Way, Salford, M3 7BE Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	880	-	383242 398655
383	**Contemporary Trade Directory Entries** Name: Hong Kong Printing Co Ltd Location: 41, Faulkner Street, Manchester, M1 4EE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	881	-	384224 398021
384	**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	A18NW (N)	882	-	383952 399852
385	**Contemporary Trade Directory Entries** Name: Dev Des I T Location: Jactin House,24 Hood Street, Manchester, Greater Manchester, M4 6WX Classification: Computer Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	892	-	384958 398650
385	**Contemporary Trade Directory Entries** Name: M A Quality Foods Location: Jactin House,24 Hood Street, Manchester, Greater Manchester, M4 6WX Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	892	-	384958 398650
386	**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	A17NE (NW)	893	-	383502 399652

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
386	**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	A17NE (NW)	903	-	383502 399666
386	**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	A17NE (NW)	907	-	383477 399649
386	**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	A17NE (NW)	945	-	383435 399663
386	**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	A17NE (NW)	949	-	383442 399674
387	**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	A18NW (N)	896	-	384060 399877
387	**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	A18NE (N)	905	-	384096 399886
387	**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	A18NE (N)	906	-	384096 399887
387	**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	A18NE (N)	906	-	384096 399887
387	**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	A18NE (N)	906	-	384096 399887
388	**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	A17SE (NW)	899	-	383420 399584
389	**Contemporary Trade Directory Entries** Name: Sa Group Services Location: Stan, Lancashire, M1 3BL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	900	-	384530 398105
389	**Contemporary Trade Directory Entries** Name: Dordaf & Partners Location: Flat 8, Roby Court, 14, Roby Street, Manchester, M1 3AG Classification: Bathroom Fixtures - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	927	-	384557 398090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
390	**Contemporary Trade Directory Entries** Name: Print Chain Location: Barlow House, Minshull Street, Manchester, Greater Manchester, M1 3DZ Classification: Printers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	903	-	384380 398036
391	**Contemporary Trade Directory Entries** Name: Manchester City Clean Location: Apartment 710, Fresh, 138, Chapel Street, Salford, M3 6DE Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	904	-	383235 398607
391	**Contemporary Trade Directory Entries** Name: Bridgewater Ales Location: 142, Chapel Street, Salford, M3 6AF Classification: Brewers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	942	-	383192 398610
392	**Contemporary Trade Directory Entries** Name: Cleaners (Manchester) Location: Apartment 725, 40, Hilton Street, Manchester, M1 2BL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	905	-	384718 398238
393	**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	A19SE (NE)	909	-	384841 399501
394	**Contemporary Trade Directory Entries** Name: 151 Products Ltd Location: 39, Bengal Street, Manchester, M4 6AF Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	911	-	385015 398790
394	**Contemporary Trade Directory Entries** Name: F M C G Location: 39, Bengal Street, Manchester, M4 6AF Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	915	-	385019 398793
395	**Contemporary Trade Directory Entries** Name: Manchester Chemicals & Pigments Ltd Location: Lloyds House, 18-22, Lloyd Street, Manchester, Lancashire, M2 5WA Classification: Chemicals - Distributors & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	917	-	383718 398054
395	**Contemporary Trade Directory Entries** Name: Boda Skins Location: Lloyds House, 18-22, Lloyd Street, Manchester, M2 5WA Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	918	-	383718 398054
396	**Contemporary Trade Directory Entries** Name: Lewis Bookmakers Location: 48a, Faulkner Street, Manchester, M1 4FH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	918	-	384143 397975
396	**Contemporary Trade Directory Entries** Name: Scrap That Car Location: 91, PRINCESS STREET, MANCHESTER, M1 4HT Classification: Salvage Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	950	-	384129 397942
397	**Contemporary Trade Directory Entries** Name: Va Clean Manchester Ltd Location: 78, Pickford Street, Manchester, M4 5BT Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	918	-	384915 398483

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
397	**Contemporary Trade Directory Entries** Name: Printing.Com Location: 119, Great Ancoats Street, Manchester, M4 5AG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	932	-	384923 398470
398	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Manchester Kws Location: Croxley House, Manchester, Lancashire, M2 5ND Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SE (SW)	922	-	383667 398074
398	**Contemporary Trade Directory Entries** Name: The Leaflet Company Location: Manchester, M2 5ND Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	922	-	383667 398074
399	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Manchester Kws Location: Lawrence Buildings, Manchester, Lancashire, M2 5WQ Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	928	-	383774 398020
399	**Contemporary Trade Directory Entries** Name: Mount Distribution Ltd Location: 2 Mount Street, Manchester, Greater Manchester, M2 5WQ Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	928	-	383773 398020
400	**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	A18NE (N)	931	-	384384 399865
401	**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	A17NE (NW)	932	-	383484 399688
401	**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	A17NE (NW)	939	-	383479 399694
401	**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	A17NE (NW)	945	-	383457 399682
401	**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	A17NE (NW)	978	-	383458 399727
401	**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	A17NE (NW)	979	-	383449 399721
401	**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	A17NE (NW)	984	-	383431 399711

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
401	**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	A17NE (NW)	984	-	383431 399711
401	**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	A17NE (NW)	992	-	383419 399711
402	**Contemporary Trade Directory Entries** Name: A & S Fashions Location: Brownsfield Mill, Binns Place, Manchester, M4 5BP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	934	-	384889 398403
403	**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	A18NW (N)	936	-	383909 399899
404	**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	A18NW (N)	938	-	384036 399917
404	**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	A18NW (N)	942	-	384027 399921
404	**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	A18NW (N)	957	-	384021 399936
405	**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	A18NE (N)	945	-	384110 399926
405	**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	A23SE (N)	991	-	384129 399971
405	**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	A23SE (N)	991	-	384129 399971
406	**Contemporary Trade Directory Entries** Name: Scrap A Car Manchester Location: Portland Tower,Portland Street, Manchester, Greater Manchester, M1 3LF Classification: Salvage Dealers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	946	-	384285 397965
406	**Contemporary Trade Directory Entries** Name: Leaflet Distribution Manchester Location: Portland Tower,Portland Street, Manchester, Lancashire, M1 3HU Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	947	-	384280 397963

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
406	**Contemporary Trade Directory Entries** Name: Scrap A Car For Cash Manchester Location: Portland Tower, Portland Street, Manchester, M1 3LD Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	947	-	384280 397963
406	**Contemporary Trade Directory Entries** Name: See-Av Location: Manchester One, 53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Cinema Equipment **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	947	-	384280 397963
406	**Contemporary Trade Directory Entries** Name: Best Stairlift Company Reviews Location: Suite 473,53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Stairlifts - Manufacturers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	947	-	384280 397963
406	**Contemporary Trade Directory Entries** Name: Debs Europe Liason Office Location: Portland Tower, Portland Street, Manchester, M1 3LD Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	947	-	384280 397963
406	**Contemporary Trade Directory Entries** Name: Beverley Clifton Morris Location: Portland Tower, Portland Street, Manchester, Lancashire, M1 3LF Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	947	-	384280 397963
406	**Contemporary Trade Directory Entries** Name: Scrap Cars For Cash Manchester Location: Portland St, Manchester, Lancashire, M1 3LF Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	947	-	384280 397963
407	**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	A18NE (N)	948	-	384250 399915
407	**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	A23SE (N)	997	-	384254 399965
408	**Contemporary Trade Directory Entries** Name: City Auto Service (Manchester) Location: 15, New Bailey Street, Salford, M3 5FS Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	949	-	383221 398516
409	**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	A18NE (N)	949	-	384156 399928
410	**Contemporary Trade Directory Entries** Name: D T M Location: 45, Bengal Street, Manchester, M4 6AF Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	950	-	385042 398729

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
410	**Contemporary Trade Directory Entries** Name: Anglopack Ltd Location: 46, Radium Street, Manchester, M4 6AY Classification: Packaging Materials Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	957	-	385056 398759
411	**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	A18NE (N)	950	-	384317 399904
412	**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	A19NW (NE)	953	-	384559 399811
412	**Contemporary Trade Directory Entries** Name: Autocraft Location: Collingham Street, Manchester, M8 8RQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	967	-	384605 399800
412	**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	A19NW (NE)	967	-	384605 399800
412	**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	A19NW (NE)	974	-	384640 399785
413	**Contemporary Trade Directory Entries** Name: A W Bag Manufacturers Location: 84, Silk Street, Manchester, M4 6BJ Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	953	-	385068 398870
413	**Contemporary Trade Directory Entries** Name: Cleaning Services (Manchester) Location: 82, Silk Street, Manchester, M4 6BJ Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	953	-	385068 398870
413	**Contemporary Trade Directory Entries** Name: World Of Cleaning Ltd Location: 82, Silk Street, Manchester, M4 6BJ Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	953	-	385068 398870
413	**Contemporary Trade Directory Entries** Name: World Of Cleaning Ltd Location: 82, Silk Street, Manchester, M4 6BJ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	953	-	385068 398870
413	**Contemporary Trade Directory Entries** Name: Print 4 Less Location: 111, George Leigh Street, Manchester, M4 6BE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	960	-	385074 398862
414	**Contemporary Trade Directory Entries** Name: Damp Pro Location: Rodwell Tower, 111, Piccadilly, Manchester, M1 2HY Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	955	-	384647 398114

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
414	**Contemporary Trade Directory Entries** Name: Scrap Yard In Anchester Htt Location: Rodwell Tower, 111, Piccadilly, Manchester, M1 2HY Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	955	-	384647 398114
414	**Contemporary Trade Directory Entries** Name: Balfour Beatty Rail Signalling Ltd Location: 111 Piccadilly, Manchester, M1 2HY Classification: Railways **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	955	-	384647 398114
414	**Contemporary Trade Directory Entries** Name: Piccadily Dry Cleaners Location: Unit B,Rodwell Tower,111 Piccadilly, Manchester, Lancashire, M1 2HY Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	955	-	384647 398114
414	**Contemporary Trade Directory Entries** Name: Manchester Carpet Cleaning Location: 111, Piccadilly, Manchester, M1 2HX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	956	-	384648 398114
414	**Contemporary Trade Directory Entries** Name: Cash For Scrap Cars Location: 111, Piccadilly, Manchester, M1 2HX Classification: Scrap Yards **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	956	-	384648 398114
414	**Contemporary Trade Directory Entries** Name: 118 Cleaning Location: Piccadilly, Manchester, Lancashire, M1 2HX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	956	-	384648 398114
414	**Contemporary Trade Directory Entries** Name: Ucarpia.Com Location: 111, Piccadilly, Manchester, M1 2HX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	956	-	384648 398114
415	**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	A17NE (NW)	957	-	383535 399760
415	**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	A17NE (NW)	960	-	383501 399739
415	**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	A17NE (NW)	987	-	383493 399767
416	**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	A17NE (NW)	958	-	383562 399780
416	**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	A17NE (NW)	958	-	383562 399780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
416	**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	A17NE (NW)	970	-	383562 399795
416	**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	A17NE (NW)	971	-	383545 399785
417	**Contemporary Trade Directory Entries** Name: Merlin Repair Specialists Ltd Location: 3, Hardman Street, Manchester, M3 3HF Classification: Bath Resurfacing **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	958	-	383466 398167
417	**Contemporary Trade Directory Entries** Name: Epos Manchester Location: Unit 1-3 Hardman Street, Manchester, Greater Manchester, M1 1AG Classification: Computer Manufacturers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	969	-	383454 398162
417	**Contemporary Trade Directory Entries** Name: Burofloor Location: 3, Hardman Street, Manchester, M3 3AW Classification: Carpets & Rugs - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	974	-	383454 398156
417	**Contemporary Trade Directory Entries** Name: Laserox Location: 3, Hardman Street, Manchester, M3 3HF Classification: Medical Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	974	-	383454 398156
418	**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	A18NE (N)	966	-	384385 399901
418	**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	A18NE (N)	991	-	384383 399927
419	**Contemporary Trade Directory Entries** Name: Novapress Ltd Location: Bromley Street, Manchester, M4 4JS Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	968	-	384966 399417
420	**Contemporary Trade Directory Entries** Name: Tariff Street Motors Location: 43 Tariff St, Manchester, M1 2FF Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	976	-	384902 398348
421	**Contemporary Trade Directory Entries** Name: Love Energy Savings Location: Sixth Floor, City Wharf, 30, New Bailey Street, Salford, M3 5ER Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	981	-	383233 398418

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
422	**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	A23SW (N)	982	-	383960 399954
422	**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	A23SW (N)	983	-	384004 399960
422	**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	A23SW (N)	984	-	383980 399959
422	**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	A23SW (N)	995	-	383958 399967
422	**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	A23SW (N)	996	-	383958 399968
422	**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	A23SW (N)	996	-	383958 399968
423	**Contemporary Trade Directory Entries** Name: Refuel Global Brands Location: Unit 12, Royal Mills, 17, Redhill Street, Manchester, M4 5BA Classification: Hats & Caps - Manufacturers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A9NE (E)	988	-	385027 398562
424	**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	A17NW (NW)	992	-	383331 399625
425	**Contemporary Trade Directory Entries** Name: Down Under Location: 47, Peter Street, Manchester, Lancashire, M2 3NG Classification: Abattoirs **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (S)	997	-	383742 397958
426	**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	A17NE (NW)	1000	-	383663 399886
427	**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	A18SE (N)	398	-	384127 399377

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
428	**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	A18SW (N)	431	-	384081 399412
429	**Fuel Station Entries** Name: Smithfield Service Station Location: 12, Rochdale Road Bendix Street, Collyhurst , Manchester, Greater Manchester, M24 6DP Brand: Unbranded Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A14NW (E)	475	-	384592 398975
430	**Fuel Station Entries** Name: Rochdale Road Service Station Location: 95-109, Rochdale Road , , Manchester, Greater Manchester, M4 4HZ Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Located by supplier to within 100m	A14NW (E)	646	-	384740 399125
431	**Fuel Station Entries** Name: Blossom Motor Company Location: 27, Gun Street , Ancoats , Manchester, Greater Manchester, M4 5DN Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A14SW (SE)	674	-	384700 398600
432	**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	A18NE (N)	777	-	384182 399753
433	**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	A13NE (NE)	295	10	384294 399194
433	**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	A13NE (NE)	302	10	384301 399198
434	**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	A13NW (N)	311	10	383984 399273
434	**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	A13NW (N)	311	10	383984 399273
434	**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	A18SW (NW)	364	10	383907 399296
435	**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	A14NW (E)	377	10	384471 399084

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
436	**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	A18SE (N)	398	10	384127 399377
436	**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	A18SE (N)	398	10	384127 399377
436	**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	A18SW (N)	431	10	384081 399412
437	**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	A18SW (N)	449	10	383921 399398
438	**Points of Interest - Commercial Services** Name: New Pit Stop Garage Location: 1 Norton Street, Salford, M3 7NW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	455	10	383622 398873
438	**Points of Interest - Commercial Services** Name: New Pit Stop Garage Location: 1 Norton Street, Salford, M3 7NW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	455	10	383622 398873
438	**Points of Interest - Commercial Services** Name: New Pit Stop Garage Ltd Location: 1 Norton Street, Salford, M3 7NW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	456	10	383622 398872
439	**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	A14NW (NE)	482	10	384485 399263
439	**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	A14NW (NE)	483	10	384486 399264
439	**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	A19SW (NE)	512	10	384516 399274
439	**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	A19SW (NE)	526	10	384516 399295
439	**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	A19SW (NE)	534	10	384521 399301

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
440	**Points of Interest - Commercial Services** Name: A & E Autos Services Location: 15 Cable Street, Manchester, M4 5EG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	484	10	384580 398806
440	**Points of Interest - Commercial Services** Name: E & A Auto Services Location: 15 Cable Street, Manchester, M4 5EG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	484	10	384580 398806
440	**Points of Interest - Commercial Services** Name: Two Distribution Location: 28 Mason Street, Manchester, M4 5EY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (E)	514	10	384625 398864
441	**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	A19SW (NE)	486	10	384438 399320
441	**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	A19SW (NE)	486	10	384438 399320
442	**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	A18SE (NE)	497	10	384347 399407
443	**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	A18SE (N)	511	10	384097 399492
444	**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	A18SW (NW)	523	10	383817 399427
444	**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	A18SW (NW)	535	10	383821 399444
445	**Points of Interest - Commercial Services** Name: Marco Services Ltd Location: 15-17 Swan Street, Manchester, M4 5JJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (SE)	526	10	384587 398711
445	**Points of Interest - Commercial Services** Name: New Beach Retail Ltd Location: 75 Tib Street, Manchester, M4 1LS Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (SE)	544	10	384600 398697
446	**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	A17SE (NW)	535	10	383744 399389

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
447	**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	A18SE (N)	546	10	384243 399505
447	**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	A18SE (N)	614	10	384291 399561
447	**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	A18SE (N)	614	10	384291 399561
447	**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	A18SE (N)	614	10	384291 399561
448	**Points of Interest - Commercial Services** Name: Leyden Bros (Blackfriars) Ltd Location: Blackfriars Corner, Chapel Street, Salford, M3 7AA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	564	10	383542 398752
448	**Points of Interest - Commercial Services** Name: Leyden Bros Blackfriars Ltd Location: Blackfriars Corner, Chapel Street, Salford, M3 7AA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	564	10	383542 398752
448	**Points of Interest - Commercial Services** Name: A L Everall & Co Location: 3 Blackfriars Road, Salford, M3 7AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	631	10	383465 398773
448	**Points of Interest - Commercial Services** Name: M G S Location: 3 Blackfriars Road, Salford, M3 7AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	631	10	383465 398773
448	**Points of Interest - Commercial Services** Name: A Everall Location: 3 Blackfriars Road, Salford, M3 7AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	638	10	383462 398760
449	**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	A19SW (NE)	576	10	384469 399415
449	**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	A19SW (NE)	576	10	384469 399415
449	**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	A19SW (NE)	638	10	384483 399483

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
449	**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	A19SW (NE)	642	10	384490 399483
449	**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	A19SW (NE)	652	10	384508 399482
450	**Points of Interest - Commercial Services** Name: The Audience Agency Location: 46-50 Oldham Street, Manchester, M4 1LE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	587	10	384569 398551
450	**Points of Interest - Commercial Services** Name: Matrix Transport Location: Hilton Street, Manchester, M1 1JF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	598	10	384529 398483
451	**Points of Interest - Commercial Services** Name: D C Motor Engineers Location: 1-3 York Street, Manchester, M1 7DE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (S)	594	10	384082 398298
452	**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	A18SW (N)	608	10	383868 399547
453	**Points of Interest - Commercial Services** Name: Perfect Auto Repairs Location: 87 Rochdale Road, Manchester, M4 4HY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (E)	616	10	384711 399116
453	**Points of Interest - Commercial Services** Name: The Great American Car Wash Location: 1 Back St. Georges Road, Manchester, M4 4JD Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NW (E)	675	10	384756 399172
453	**Points of Interest - Commercial Services** Name: Northern Auto Ltd Location: 117-119 Rochdale Road, Manchester, M4 4HZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (E)	714	10	384787 399199
453	**Points of Interest - Commercial Services** Name: Smart Remaps Location: Unit 2 Trading Estate, Sudell Street, Manchester, M4 4JQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (E)	740	10	384824 399171
454	**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	A18SE (N)	619	10	384191 399592
455	**Points of Interest - Commercial Services** Name: The Accident Group Location: 55 King Street, Manchester, M2 4LQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (S)	626	10	383933 398286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
455	**Points of Interest - Commercial Services** Name: Brenca Metals Ltd Location: Ship Canal House 98, King Street, Manchester, M2 4WU Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SW (S)	667	10	383976 398234
456	**Points of Interest - Commercial Services** Name: F1 Mobile Valeting Location: 92-96 Deansgate, Manchester, M3 2QG Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7NE (SW)	627	10	383682 398417
456	**Points of Interest - Commercial Services** Name: Stobart Group Location: 1 King Street, Manchester, M2 6AW Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	679	10	383695 398341
457	**Points of Interest - Commercial Services** Name: M Segal Motor Trimmings Ltd Location: Trimcar House 29, Blackfriars Road, Salford, M3 7AQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	700	10	383383 398817
458	**Points of Interest - Commercial Services** Name: C B I Location: Cardinal House 20, St. Marys Parsonage, Manchester, M3 2LY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	712	10	383531 398454
458	**Points of Interest - Commercial Services** Name: John Good Shipping Location: Cardinal House 20, St. Marys Parsonage, Manchester, M3 2LY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	712	10	383531 398453
458	**Points of Interest - Commercial Services** Name: I C E Transport Co Ltd Location: Cardinal House, St Marys Parsonage, Manchester, Greater Manchester, M3 2LY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	712	10	383531 398454
458	**Points of Interest - Commercial Services** Name: I C C Within National Car Parks Location: King Street West, Manchester, M3 2WY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7NE (SW)	716	10	383582 398390
458	**Points of Interest - Commercial Services** Name: Carspa Location: Car Park, King St West, Manchester, Lancashire, M3 2PN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7NE (SW)	716	10	383582 398390
458	**Points of Interest - Commercial Services** Name: Carspa Car Valet Services Location: Reedham House 31, King Street West, Manchester, M3 2PN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7NE (SW)	772	10	383518 398375
458	**Points of Interest - Commercial Services** Name: Storage Distribution Ltd Location: Reedham House 31, King Street West, Manchester, M3 2PJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	772	10	383518 398375
459	**Points of Interest - Commercial Services** Name: B M Tec Location: 87-88 Cross Street, Salford, M3 7AX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	727	10	383381 398719

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
460	**Points of Interest - Commercial Services** Name: Compass Development UK Ltd Location: 64 Oldham Road, Manchester, M4 5EE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	731	10	384836 398812
461	**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	A18NE (N)	732	10	384382 399652
462	**Points of Interest - Commercial Services** Name: Forward Bird Control Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A9NW (SE)	747	10	384518 398278
462	**Points of Interest - Commercial Services** Name: Oceanblue Logistics Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	747	10	384518 398278
462	**Points of Interest - Commercial Services** Name: Forward Bird Control - National Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A9NW (SE)	747	10	384518 398278
462	**Points of Interest - Commercial Services** Name: freightnet.com Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	747	10	384518 398278
463	**Points of Interest - Commercial Services** Name: Blossom Motor Co Location: 27 Gun Street, Manchester, M4 5DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (SE)	757	10	384804 398630
463	**Points of Interest - Commercial Services** Name: Blossom Motor Co Location: 27 Gun Street, Manchester, M4 5DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (SE)	757	10	384804 398630
464	**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	A18NW (N)	764	10	384006 399740
465	**Points of Interest - Commercial Services** Name: Great American Car Wash Location: 1 Back St. Georges Road, Manchester, M4 4JD Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NE (E)	771	10	384836 399233
465	**Points of Interest - Commercial Services** Name: Car Wash Location: 125-133 Rochdale Road, Manchester, M4 4HZ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NE (NE)	777	10	384832 399255
466	**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	A18NE (N)	777	10	384182 399753

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
466	**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	A18NE (N)	777	10	384182 399753
466	**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	A18NE (N)	777	10	384182 399753
467	**Points of Interest - Commercial Services** Name: Total Towing Location: Woolwich House 61, Mosley Street, Manchester, M2 3HZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	778	10	384117 398114
467	**Points of Interest - Commercial Services** Name: Hazexperts Location: International House, 61 Mosley Street, Manchester, M2 3HZ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SE (S)	779	10	384126 398113
467	**Points of Interest - Commercial Services** Name: M 1 1st Call Locksmiths Location: Cobac House 14-16, Charlotte Street, Manchester, M1 4FL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	837	10	384186 398060
468	**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	A17SE (NW)	803	10	383517 399545
469	**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	A19NW (NE)	805	10	384492 399679
469	**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	A19NW (NE)	816	10	384505 399684
469	**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	A19NW (NE)	817	10	384506 399684
469	**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	A19NW (NE)	823	10	384534 399674
469	**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	A19NW (NE)	823	10	384534 399674
469	**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	A19NW (NE)	829	10	384520 399690

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469	**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	A19NW (NE)	829	10	384520 399690
469	**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	A19NW (NE)	829	10	384533 399681
469	**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	A19NW (NE)	848	10	384558 399688
470	**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	A17SE (NW)	825	10	383441 399496
470	**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	A17SE (NW)	825	10	383441 399496
471	**Points of Interest - Commercial Services** Name: Renault Service Centre Location: 56 Bury Street, Salford, M3 7DA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	845	10	383232 398846
471	**Points of Interest - Commercial Services** Name: Renault Service Centre Location: 56 Bury Street, Salford, M3 7DA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	845	10	383232 398846
472	**Points of Interest - Commercial Services** Name: Marco Location: 68-68a, Port Street, Manchester, M1 2EG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (SE)	847	10	384787 398408
473	**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	A18NW (N)	877	10	383898 399837
473	**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	A18NW (N)	930	10	383909 399893
474	**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	A19NW (NE)	878	10	384479 399768
475	**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	A18NW (N)	881	10	384032 399861

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476	**Points of Interest - Commercial Services** Name: T Brown & Son Location: Primrose Street, Off Bengal Street, Manchester, M4 6AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	886	10	384999 398853
476	**Points of Interest - Commercial Services** Name: Badger Car Repairs Location: Primrose, Street, Manchester, M4 6AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	887	10	384999 398851
476	**Points of Interest - Commercial Services** Name: 151 Products Ltd Location: 39 Bengal Street, Manchester, M4 6AF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	911	10	385015 398790
477	**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	A18NE (N)	895	10	384217 399867
477	**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	A18NE (N)	895	10	384217 399867
478	**Points of Interest - Commercial Services** Name: R G B Facades Location: St Johns House, 2-10 Queen Street, Manchester, M2 5JB Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SE (SW)	908	10	383621 398116
478	**Points of Interest - Commercial Services** Name: The Leaflet Co Location: Croxley House 14, Lloyd Street, Manchester, M2 5ND Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SE (SW)	921	10	383667 398074
478	**Points of Interest - Commercial Services** Name: The Leaflet Company Location: Croxley House 14, Lloyd Street, Manchester, M2 5ND Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SE (SW)	922	10	383667 398074
479	**Points of Interest - Commercial Services** Name: Mount Distribution Ltd Location: 2 Mount Street, Manchester, M2 5WQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SW (S)	928	10	383773 398020
480	**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	A17SW (NW)	934	10	383320 399520
480	**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	A17SW (NW)	999	10	383285 399581
481	**Points of Interest - Commercial Services** Name: Scrap a Car Manchester Location: 53 Portland Street, Manchester, M1 3LD Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SE (S)	947	10	384279 397963

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481	**Points of Interest - Commercial Services** Name: Leaflet Distribution Manchester Location: Portland Tower, Portland Street, Manchester, M1 3HU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (S)	947	10	384280 397963
482	**Points of Interest - Commercial Services** Name: B M Tec Ltd Location: 15 New Bailey Street, Salford, M3 5FS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	949	10	383221 398516
483	**Points of Interest - Commercial Services** Name: Scrap That Car Location: 91 Princess Street, Manchester, M1 4HT Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SE (S)	950	10	384129 397942
484	**Points of Interest - Commercial Services** Name: 247 Locksmiths Location: 82 Silk Street, Manchester, M4 6BJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	953	10	385067 398869
485	**Points of Interest - Commercial Services** Name: Cash for Scrap Cars Location: 111 Piccadilly, Manchester, M1 2HX Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A9SW (SE)	956	10	384648 398114
486	**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	A19NW (NE)	967	10	384605 399800
486	**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	A19NW (NE)	992	10	384636 399809
487	**Points of Interest - Commercial Services** Name: 2 Squared Agency Location: Unit 4 Royal Mills 17, Redhill Street, Manchester, M4 5BA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NE (SE)	971	10	384993 398530
488	**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	A18NE (N)	988	10	384388 399923
488	**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	A18NE (N)	991	10	384383 399927
489	**Points of Interest - Manufacturing and Production** Name: The Printworks Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (S)	143	10	384126 398753
490	**Points of Interest - Manufacturing and Production** Name: Mls Business Centres Location: The Triangle, Hanging Ditch, Manchester, Lancashire, M4 3TR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A13SW (SW)	208	10	383956 398734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
490	**Points of Interest - Manufacturing and Production** Name: Mls Business Centres Location: The Triangle, Hanging Ditch, Manchester, Lancashire, M4 3TR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A13SW (SW)	208	10	383956 398734
491	**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	A13NE (NE)	220	10	384283 399096
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	A13NW (N)	308	10	383982 399269
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	A13NW (N)	308	10	383978 399268
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	A18SW (N)	327	10	383953 399278
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	A18SW (NW)	352	10	383915 399286
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	A18SW (NW)	352	10	383912 399285
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	A18SW (NW)	406	10	383921 399350
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	A18SW (N)	407	10	383922 399352
493	**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	A13NW (NW)	325	10	383834 399186
493	**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	A13NW (NW)	338	10	383872 399239
494	**Points of Interest - Manufacturing and Production** Name: Market Poultry Location: Arndale House, Arndale Centre, Manchester, M4 3AQ Category: Farming Class Code: Poultry Farming, Equipment and Supplies Positional Accuracy: Positioned to address or location	A8NW (S)	339	10	384059 398554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
494	**Points of Interest - Manufacturing and Production** Name: Market Poultry Location: Arndale House, Arndale Centre, Manchester, M4 3AQ Category: Farming Class Code: Poultry Farming, Equipment and Supplies Positional Accuracy: Positioned to address or location	A8NW (S)	339	10	384059 398554
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	A14NW (E)	353	10	384464 399022
495	**Points of Interest - Manufacturing and Production** Name: River Park Estate Ltd Location: 25 Rochdale Road, Manchester, M4 4HT Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A14NW (E)	400	10	384517 398985
496	**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	A12NE (W)	377	10	383692 398984
496	**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)	383	10	383688 398919
496	**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	A12SE (W)	383	10	383688 398919
496	**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	A12NE (W)	395	10	383674 398971
496	**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	A12NE (W)	420	10	383649 398985
497	**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	A18SW (N)	410	10	384032 399387
497	**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	A18SW (N)	412	10	384029 399389
498	**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	A12NE (NW)	434	10	383664 399119
499	**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	A14NW (E)	442	10	384527 399118

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
499	**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	A14NW (E)	454	10	384549 399094
499	**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	A14NW (E)	472	10	384562 399112
499	**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	A14NW (NE)	474	10	384556 399133
499	**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	A14NW (E)	479	10	384582 399069
500	**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	A18SW (NW)	451	10	383841 399357
500	**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	A18SW (NW)	452	10	383838 399356
500	**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	A18SW (NW)	476	10	383825 399376
500	**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	A18SW (NW)	478	10	383820 399375
501	**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	A18SE (N)	454	10	384151 399431
501	**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	A18SE (N)	459	10	384152 399436
502	**Points of Interest - Manufacturing and Production** Name: Tank Location: M3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A18SW (NW)	458	10	383773 399311
502	**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	A18SW (NW)	458	10	383773 399311

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
502	**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	A17SE (NW)	500	10	383733 399332
502	**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	A17SE (NW)	501	10	383753 399352
502	**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	A17SE (NW)	504	10	383753 399355
503	**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	A18SE (N)	485	10	384256 399437
504	**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	A12NE (W)	488	10	383588 399044
504	**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	A12NE (W)	491	10	383585 399043
505	**Points of Interest - Manufacturing and Production** Name: Acresfield Location: 8-10 Exchange Street, Manchester, M2 7HA Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8NW (SW)	502	10	383797 398486
506	**Points of Interest - Manufacturing and Production** Name: Enterprise Centre Location: 14-16 Rochdale Road, Manchester, M4 4JR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A14NW (E)	520	10	384635 399008
507	**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	A18SE (NE)	521	10	384409 399393
507	**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	A18SE (NE)	523	10	384412 399393
507	**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	A19SW (NE)	569	10	384470 399405
507	**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	A19SW (NE)	570	10	384470 399406

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
508	**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	A12NE (W)	530	10	383541 399008
508	**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	A12NE (W)	542	10	383527 398958
508	**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	A12NE (W)	578	10	383491 398943
509	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Centres Ltd Location: Lowry House 17, Marble Street, Manchester, M2 3AW Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8NE (S)	534	10	384110 398358
510	**Points of Interest - Manufacturing and Production** Name: Stone Superstore Location: 79 Tib Street, Manchester, M4 1LS Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A14SW (SE)	547	10	384608 398707
511	**Points of Interest - Manufacturing and Production** Name: 1 Marsden Street Business Centre Location: 1 Marsden Street, Manchester, M2 1HW Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8NW (S)	549	10	383974 398356
512	**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	A12SE (W)	552	10	383528 398848
512	**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)	572	10	383511 398835
512	**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)	580	10	383504 398826
513	**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	A18SW (NW)	554	10	383833 399472
513	**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	A18SW (NW)	554	10	383835 399473
513	**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	A18SW (NW)	571	10	383787 399465

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
513	**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	A18SW (NW)	581	10	383785 399475
513	**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	A18SW (NW)	583	10	383819 399497
513	**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	A18SW (NW)	590	10	383815 399503
514	**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	A18SW (N)	565	10	383925 399521
515	**Points of Interest - Manufacturing and Production** Name: Stone Mine Location: 22 Blackfriars Street, Salford, M3 5BQ Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A12SE (SW)	567	10	383593 398623
515	**Points of Interest - Manufacturing and Production** Name: Spectrum Investment Maangement Location: The Edge, Clowes Street, Salford, M3 5NA Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A7NE (SW)	608	10	383575 398572
516	**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	A18SE (N)	589	10	384286 399537
516	**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	A18SE (N)	591	10	384290 399537
517	**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	A18SW (N)	602	10	384076 399583
517	**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	A18SW (N)	603	10	384080 399584
518	**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	A19SW (NE)	622	10	384560 399389
519	**Points of Interest - Manufacturing and Production** Name: The Offices Location: 53 King Street, Manchester, M2 4LQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8NW (S)	632	10	383885 398295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
519	**Points of Interest - Manufacturing and Production** Name: Regus Location: 82 King Street, Manchester, M2 4WQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SW (S)	658	10	383923 398256
519	**Points of Interest - Manufacturing and Production** Name: Orega Management Ltd Location: 76 King Street, Manchester, M2 4NH Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SW (S)	678	10	383878 398248
520	**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	A12NE (W)	636	10	383472 399183
520	**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	A12NW (W)	715	10	383388 399179
521	**Points of Interest - Manufacturing and Production** Name: The Studio Location: The Hive 51, Lever Street, Manchester, M1 1FN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NW (SE)	643	10	384615 398517
522	**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	A17SE (NW)	652	10	383528 399326
522	**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	A17SE (NW)	654	10	383522 399321
522	**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	A17SE (NW)	662	10	383571 399398
522	**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	A17SE (NW)	677	10	383510 399344
522	**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	A17SE (NW)	679	10	383507 399343
522	**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	A17SE (NW)	692	10	383490 399341
523	**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	A12NW (W)	659	10	383411 398998

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
523	**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	A12NW (W)	660	10	383410 399007
523	**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	A12NW (W)	663	10	383407 398997
523	**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	A12NW (W)	683	10	383386 398961
523	**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	A12NW (W)	685	10	383384 398962
524	**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	A12SE (SW)	679	10	383463 398638
525	**Points of Interest - Manufacturing and Production** Name: Regus Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	684	10	384112 398208
525	**Points of Interest - Manufacturing and Production** Name: Abbey Business Centre Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	684	10	384112 398208
525	**Points of Interest - Manufacturing and Production** Name: Abbey Business Centre Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	684	10	384112 398208
525	**Points of Interest - Manufacturing and Production** Name: Abbey Business Centre Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	684	10	384112 398208
526	**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	A14SW (E)	688	10	384761 398705
527	**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	A12SW (W)	699	10	383384 398823
527	**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	A12SW (W)	702	10	383381 398821

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
527	**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	A12SW (W)	722	10	383373 398764
528	**Points of Interest - Manufacturing and Production** Name: City Tower Location: City Tower, Piccadilly Plaza, Manchester, M1 4BT Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	700	10	384236 398207
529	**Points of Interest - Manufacturing and Production** Name: Piccadilly House Location: Piccadilly House 49, Piccadilly, Manchester, M1 2AP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NW (SE)	718	10	384494 398297
529	**Points of Interest - Manufacturing and Production** Name: Piccadilly House Location: Piccadilly House 49, Piccadilly, Manchester, M1 2AP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NW (SE)	718	10	384494 398297
529	**Points of Interest - Manufacturing and Production** Name: Think Power Ltd Location: Piccadilly House 49, Piccadilly, Manchester, M1 2AP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NW (SE)	719	10	384494 398296
530	**Points of Interest - Manufacturing and Production** Name: Sudell Street Industrial Estate Location: M4 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	729	10	384820 399148
530	**Points of Interest - Manufacturing and Production** Name: Sudell Street Industrial Estate Location: M4 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	732	10	384822 399150
531	**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	A19SW (NE)	731	10	384734 399344
531	**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	A19SW (NE)	734	10	384737 399345
531	**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	A19SE (NE)	761	10	384792 399303
532	**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	A17SE (NW)	740	10	383544 399483
532	**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	A17SE (NW)	761	10	383513 399481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
532	**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	A17SE (NW)	766	10	383533 399509
532	**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	A17SE (NW)	775	10	383514 399503
533	**Points of Interest - Manufacturing and Production** Name: Business Centre Location: M3 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	741	10	383375 399223
533	**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	A12NW (W)	818	10	383307 399261
533	**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	A12NW (W)	823	10	383302 399260
534	**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	A18NE (N)	743	10	384109 399724
534	**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	A18NE (N)	748	10	384111 399729
534	**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	A18NW (N)	792	10	384087 399773
534	**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	A18NW (N)	792	10	384077 399773
535	**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	A18NW (N)	747	10	383950 399715
535	**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	A18NW (N)	753	10	383952 399721
535	**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	A18NW (N)	759	10	383915 399720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
535	**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	A18NW (N)	761	10	383910 399720
536	**Points of Interest - Manufacturing and Production** Name: Forsyth Bros Location: 126 Deansgate, Manchester, M3 2GR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A7NE (SW)	750	10	383623 398306
536	**Points of Interest - Manufacturing and Production** Name: Mwb Business Exchange Location: John Dalton House 121, Deansgate, Manchester, M3 2BX Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A7SE (SW)	796	10	383650 398230
536	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Ltd Location: Centurion House 129, Deansgate, Manchester, M3 3WR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A7SE (SW)	872	10	383636 398148
537	**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	A18NW (N)	770	10	383996 399745
538	**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	A14SE (E)	781	10	384841 398655
538	**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)	785	10	384844 398653
538	**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	A14SE (SE)	808	10	384849 398607
538	**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	A14SE (SE)	810	10	384850 398603
539	**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	A19NW (NE)	796	10	384537 399640
539	**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	A19NW (NE)	796	10	384537 399640
540	**Points of Interest - Manufacturing and Production** Name: Bruntwood Ltd Location: 2-10 Albert Square, Manchester, M2 6LW Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SW (S)	798	10	383794 398151

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
541	**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	A12SW (W)	801	10	383274 398862
541	**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	A12SW (W)	805	10	383270 398861
542	**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	A18NW (N)	805	10	383831 399743
542	**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	A18NW (N)	805	10	383828 399742
542	**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	A18NW (N)	852	10	383869 399804
542	**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	A18NW (N)	852	10	383865 399803
542	**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	A18NW (N)	880	10	383799 399812
542	**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	A18NW (N)	881	10	383795 399811
542	**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	A18NW (N)	900	10	383872 399854
542	**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	A18NW (N)	900	10	383869 399853
542	**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	A18NW (N)	928	10	383814 399867
542	**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	A18NW (N)	928	10	383811 399866

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
543	**Points of Interest - Manufacturing and Production** Name: Deva City Office Park Location: Brewery Yard Deva City Office Park, Trinity Way, Salford, M3 7BB Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12SW (W)	812	10	383284 398751
544	**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	A18NE (N)	834	10	384410 399751
544	**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	A18NE (N)	835	10	384403 399755
544	**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	A18NE (N)	876	10	384417 399794
544	**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	A19NW (NE)	879	10	384479 399769
544	**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	A18NE (N)	879	10	384421 399795
545	**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	A19SE (NE)	852	10	384792 399472
545	**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	A19SE (NE)	908	10	384843 399497
546	**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)	864	10	384823 398432
547	**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	A14SE (E)	878	10	384990 398849
547	**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)	882	10	384994 398850
547	**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	A14SE (E)	891	10	385004 398857

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
548	**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	A18NE (N)	898	10	384095 399879
549	**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	A17NE (NW)	899	10	383528 399682
549	**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	A17NE (NW)	948	10	383456 399686
549	**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	A17NE (NW)	953	10	383455 399692
550	**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	A18NW (N)	902	10	383985 399877
550	**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	A18NW (N)	902	10	383981 399876
550	**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	A18NW (N)	956	10	383920 399922
551	**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	A14SE (E)	904	10	384985 398696
551	**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)	907	10	384989 398697
552	**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)	911	10	384578 399750
552	**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	A19NW (NE)	913	10	384579 399752
552	**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	A19NW (NE)	915	10	384579 399755

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
552	**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	A19NW (NE)	964	10	384604 399796
553	**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	A14SE (E)	922	10	385006 398703
553	**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)	965	10	385065 398767
553	**Points of Interest - Manufacturing and Production** Name: Factories Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A14SE (E)	995	10	385104 398816
553	**Points of Interest - Manufacturing and Production** Name: Factories Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SW (E)	998	10	385108 398822
554	**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	A12SW (W)	941	10	383195 398606
554	**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	A12SW (W)	943	10	383192 398608
555	**Points of Interest - Manufacturing and Production** Name: Bruntwood Location: 53 Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	945	10	384280 397965
555	**Points of Interest - Manufacturing and Production** Name: Bruntwood Location: Portland Tower, Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	947	10	384280 397963
555	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Centres Location: Portland Tower, Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SE (S)	947	10	384280 397963
556	**Points of Interest - Manufacturing and Production** Name: Mail Boxes Etc Location: 111 Piccadilly, Manchester, M1 2HX Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9SW (SE)	956	10	384648 398114
556	**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	A9SW (SE)	957	10	384671 398130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
557	**Points of Interest - Manufacturing and Production** Name: Century House Commissionaire Location: Century Ho, 11 St Peters Sq, Manchester, M2 3DN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SW (S)	958	10	383980 397940
557	**Points of Interest - Manufacturing and Production** Name: Century House Commissionaire Location: Century House, 11 St Peters Square, Manchester, Greater Manchester, M2 3DN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A8SW (S)	958	10	383980 397940
558	**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	A12NW (W)	960	10	383111 399031
558	**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	A12NW (W)	963	10	383108 399032
559	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M7 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	961	10	383211 399395
559	**Points of Interest - Manufacturing and Production** Name: Tank Location: M7 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	970	10	383238 399463
560	**Points of Interest - Manufacturing and Production** Name: Factories Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	994	10	385054 398617
561	**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	A18NW (N)	998	10	383830 399945
562	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M99 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13NW (NW)	54	10	384022 398988
562	**Points of Interest - Public Infrastructure** Name: Manchester Victoria Rail Station Location: Victoria Station Approach, M99 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NW (NW)	80	10	383993 398987
562	**Points of Interest - Public Infrastructure** Name: Manchester Victoria Station Location: Victoria Station Approach, M99 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NW (NW)	80	10	383993 398987
563	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M4 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	147	10	384222 398824

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
563	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M4 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	190	10	384252 398789
564	**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	A13NE (N)	207	10	384120 399186
564	**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	A13NE (N)	209	10	384123 399187
564	**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	A13NE (N)	211	10	384164 399179
565	**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	A18SE (N)	396	10	384128 399375
565	**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	A18SE (N)	396	10	384128 399375
565	**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	A18SE (N)	396	10	384128 399375
565	**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	A18SE (N)	398	10	384127 399377
566	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Filling Station Location: 58-66 Market Street, Manchester, M1 1PW Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8NW (S)	452	10	384046 398442
566	**Points of Interest - Public Infrastructure** Name: Anywaste UK Location: St. James Court 30, Brown Street, Manchester, M2 1DH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8NW (S)	548	10	384013 398350
566	**Points of Interest - Public Infrastructure** Name: Wastelift Location: St. James Court 30, Brown Street, Manchester, M2 1DH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8NW (S)	550	10	384013 398347
567	**Points of Interest - Public Infrastructure** Name: National Waste Removal Location: Lord House 51, Lord Street, Manchester, M3 1HE Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18SW (N)	505	10	384042 399484

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
568	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	634	10	384616 398535
569	**Points of Interest - Public Infrastructure** Name: Manchester Central Fire Station Location: Fire Station, Thompson Street, Manchester, M4 5FP Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A14NE (E)	677	10	384795 398954
569	**Points of Interest - Public Infrastructure** Name: Fire Station S16 Greater Manchester Fire Civil Defence Authority Location: Fire Station, Thompson Street, Manchester, M4 5FP Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A14NE (E)	683	10	384801 398958
570	**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	A18NW (N)	689	10	384030 399667
571	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	700	10	384304 398224
572	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A8SE (S)	715	10	384319 398214
572	**Points of Interest - Public Infrastructure** Name: Gmpte Location: 2 Picadilly Place, Manchester, M1 3BG Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A8SE (SE)	755	10	384406 398205
573	**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	A19SW (NE)	755	10	384657 399479
573	**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	A19SW (NE)	768	10	384694 399458
574	**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	A19SE (NE)	815	10	384847 399316
575	**Points of Interest - Public Infrastructure** Name: Manchester City Council Location: Town Hall, Albert Square, Manchester, M2 5DB Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8SW (S)	833	10	383867 398089
576	**Points of Interest - Public Infrastructure** Name: M C R Recycling Ltd Location: 111 Piccadilly, Manchester, M1 2HX Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A9SW (SE)	956	10	384648 398114

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
577	**Points of Interest - Public Infrastructure** Name: Bootle Street Police Station Location: Bootle Street, Manchester, M2 5GU Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A7SE (S)	967	10	383726 397997
578	**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	A9NE (SE)	979	10	384971 398461
579	**Points of Interest - Public Infrastructure** Name: National Express Ltd Location: Central Coach Station, Chorlton Street, Manchester, M1 3JF Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A8SE (S)	981	10	384347 397945
579	**Points of Interest - Public Infrastructure** Name: National Express Coach Station Location: Central Coach Station, Chorlton Street, Manchester, M1 3JF Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A8SE (S)	981	10	384347 397945
579	**Points of Interest - Public Infrastructure** Name: Coach Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	993	10	384331 397928
580	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NE (NW)	590	10	383529 399201
581	**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	A19SE (NE)	926	10	384775 399604
581	**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	A19SE (NE)	933	10	384783 399605
582	**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	A17SW (W)	990	10	383133 399284

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
583	**Nitrate Vulnerable Zones** Name: River Irk (Moston Brook To River Irwell) Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NW (W)	0	6	384092 398938
584	**Nitrate Vulnerable Zones** Name: Irwell / Man. Ship Canal (Kearsley To Irlam Locks) Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NW (W)	177	6	383900 399016

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Environment Agency - Head Office	June 2020	Annually
Trafford Metropolitan Borough Council - Renewal and Environmental Protection	November 2013	Annual Rolling Update
Manchester City Council - Environmental Health Department	October 2017	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	October 2017	Annual Rolling Update
Salford City Council - Environmental Health Department	October 2017	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
Bury Metropolitan Borough Council - Environmental Health Department	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - North West Region	January 2022	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	
Integrated Pollution Controls		
Environment Agency - North West Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - North West Region	January 2022	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
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
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	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
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
Nearest Surface Water Feature		
Ordnance Survey	February 2022	
Pollution Incidents to Controlled Waters		
Environment Agency - North West Region	January 2000	
Prosecutions Relating to Authorised Processes		
Environment Agency - North West Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	
Registered Radioactive Substances		
Scottish Environment Protection Agency - Head Office	January 1998	
Environment Agency - North West Region	June 2016	As notified
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable

Agency & Hydrological	Version	Update Cycle
River Quality Biology Sampling Points Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	January 2022	Quarterly
Water Abstractions Environment Agency - North West Region	January 2022	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	
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	May 2021	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	February 2022	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	February 2022	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	February 2022	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	February 2022	Quarterly
Flood Defences Environment Agency - Head Office	February 2022	Quarterly
OS Water Network Lines Ordnance Survey	January 2022	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified

Data Currency

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	January 2022	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North West Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North West Region - South Area	January 2022	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North West Region - South Area	January 2022	Quarterly
Local Authority Landfill Coverage		
Bury Metropolitan Borough Council	February 2003	Not Applicable
Manchester City Council - Planning Department	February 2003	Not Applicable
Oldham Metropolitan Borough Council	February 2003	Not Applicable
Rochdale Metropolitan Borough Council - Environmental Health Department	February 2003	Not Applicable
Salford City Council - Environmental Health Department	February 2003	Not Applicable
Tameside Metropolitan Borough Council	February 2003	Not Applicable
Trafford Metropolitan Borough Council - Environmental Health Department	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Bury Metropolitan Borough Council	October 2018	
Manchester City Council - Planning Department	October 2018	
Oldham Metropolitan Borough Council	October 2018	
Rochdale Metropolitan Borough Council - Environmental Health Department	October 2018	
Salford City Council - Environmental Health Department	October 2018	
Tameside Metropolitan Borough Council	October 2018	
Trafford Metropolitan Borough Council - Environmental Health Department	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - North West Region - South Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North West Region - South Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - North West Region - South Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
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	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	December 2015	As notified
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	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	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
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 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	March 2022	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	March 2022	Quarterly
Points of Interest - Education and Health PointX	March 2022	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2022	Quarterly
Points of Interest - Public Infrastructure PointX	March 2022	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2022	Quarterly
Underground Electrical Cables National Grid	May 2021	Bi-Annually

Data Currency

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Bury Metropolitan Borough Council	October 2020	Quarterly
Manchester City Council	October 2020	Quarterly
Oldham Metropolitan Borough Council	October 2020	Quarterly
Rochdale Metropolitan Borough Council	October 2020	Quarterly
Salford City Council	October 2020	Quarterly
Tameside Metropolitan Borough Council	October 2020	Quarterly
Trafford Metropolitan Borough Council	October 2020	Quarterly
Areas of Unadopted Green Belt		
Bury Metropolitan Borough Council	October 2020	Quarterly
Manchester City Council	October 2020	Quarterly
Oldham Metropolitan Borough Council	October 2020	Quarterly
Rochdale Metropolitan Borough Council	October 2020	Quarterly
Salford City Council	October 2020	Quarterly
Tameside Metropolitan Borough Council	October 2020	Quarterly
Trafford Metropolitan Borough Council	October 2020	Quarterly
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	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
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

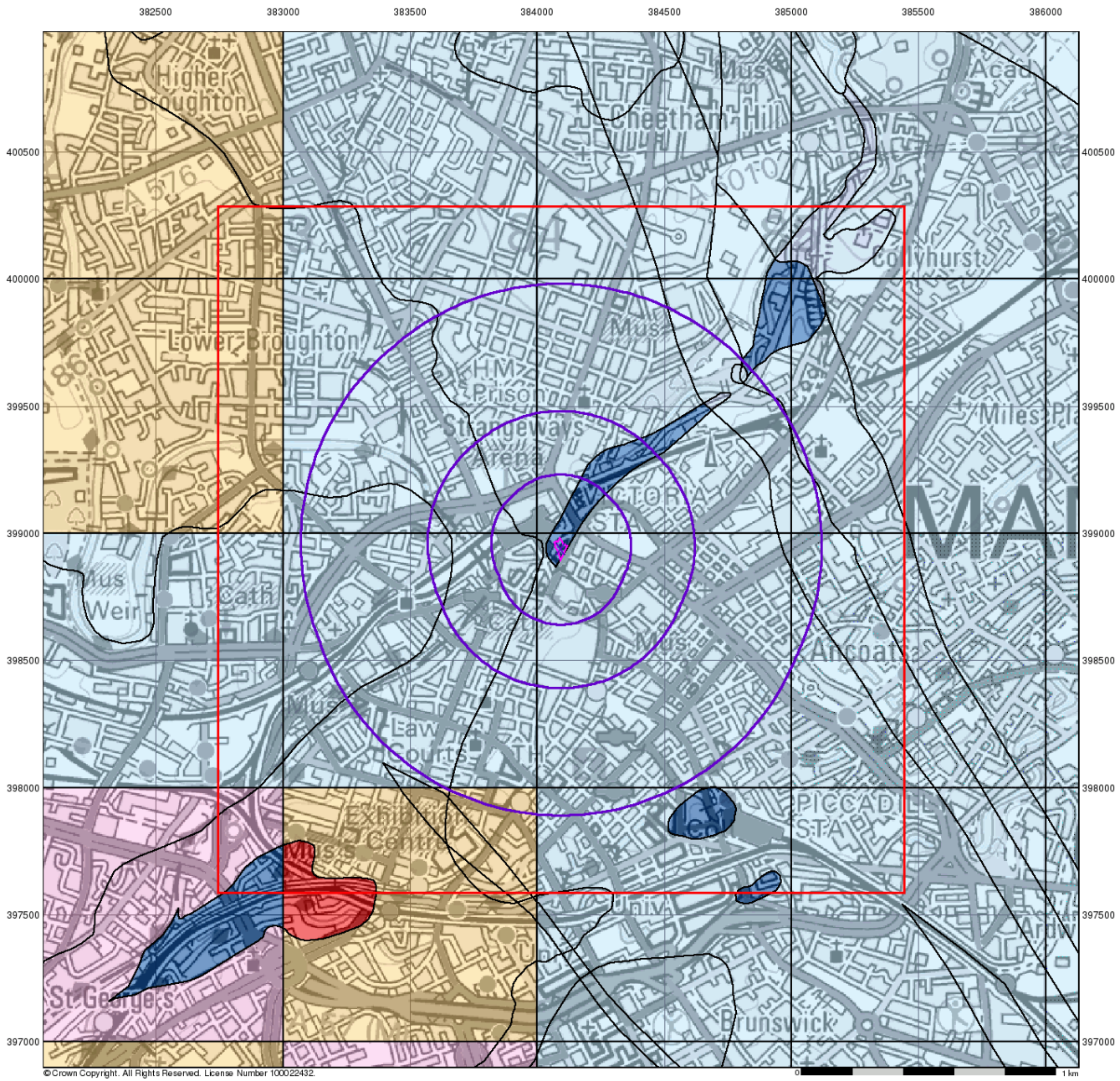
A selection of organisations who provide data within this report

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	

Useful Contacts

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	**Scottish Environment Protection Agency - Head Office** Erskine Court, The Castle Business Park, Stirling, Stirlingshire, FK9 4TR	Telephone: 01786 457700 Fax: 01786 446885
6	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
7	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
8	**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
9	**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
10	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.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.



Vertase FLI

Groundwater Vulnerability

General

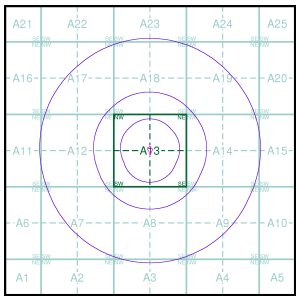
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

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



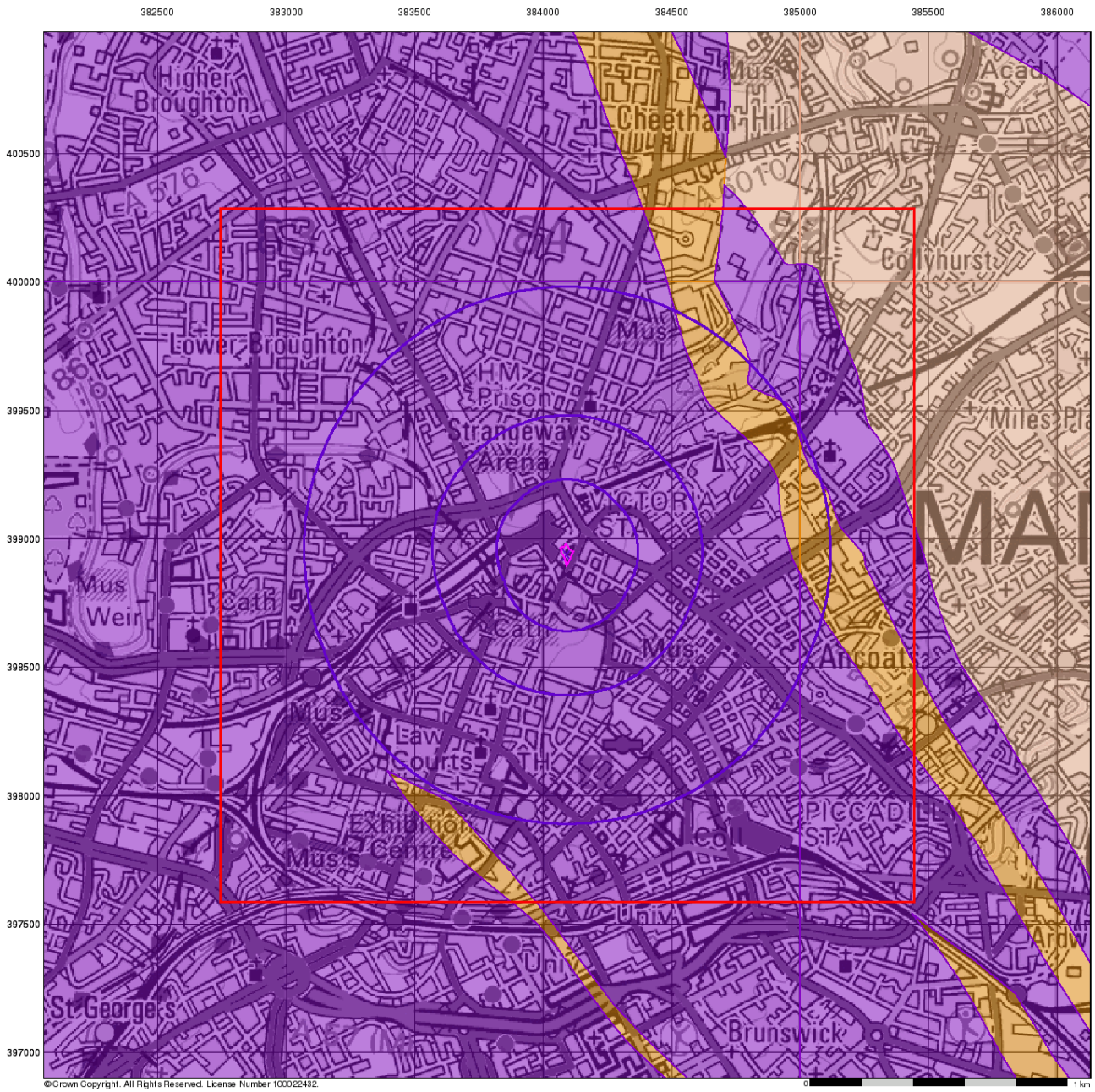
Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

Site Details

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Bedrock Aquifer Designation

General

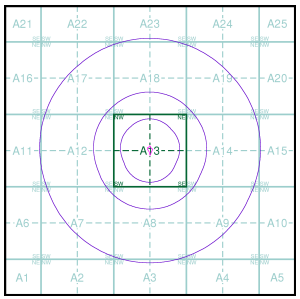
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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

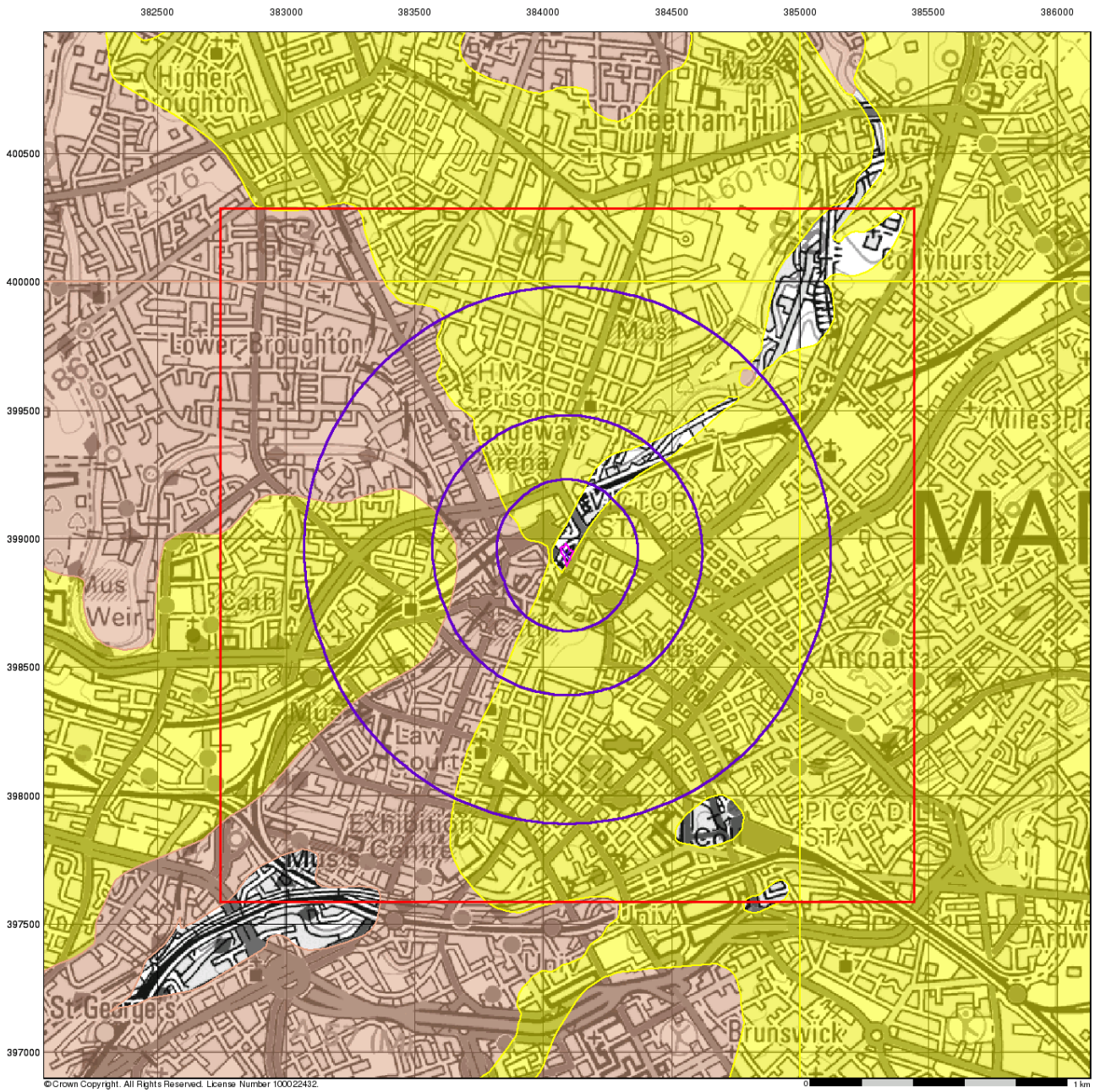
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Superficial Aquifer Designation

General

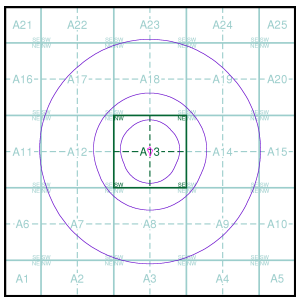
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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

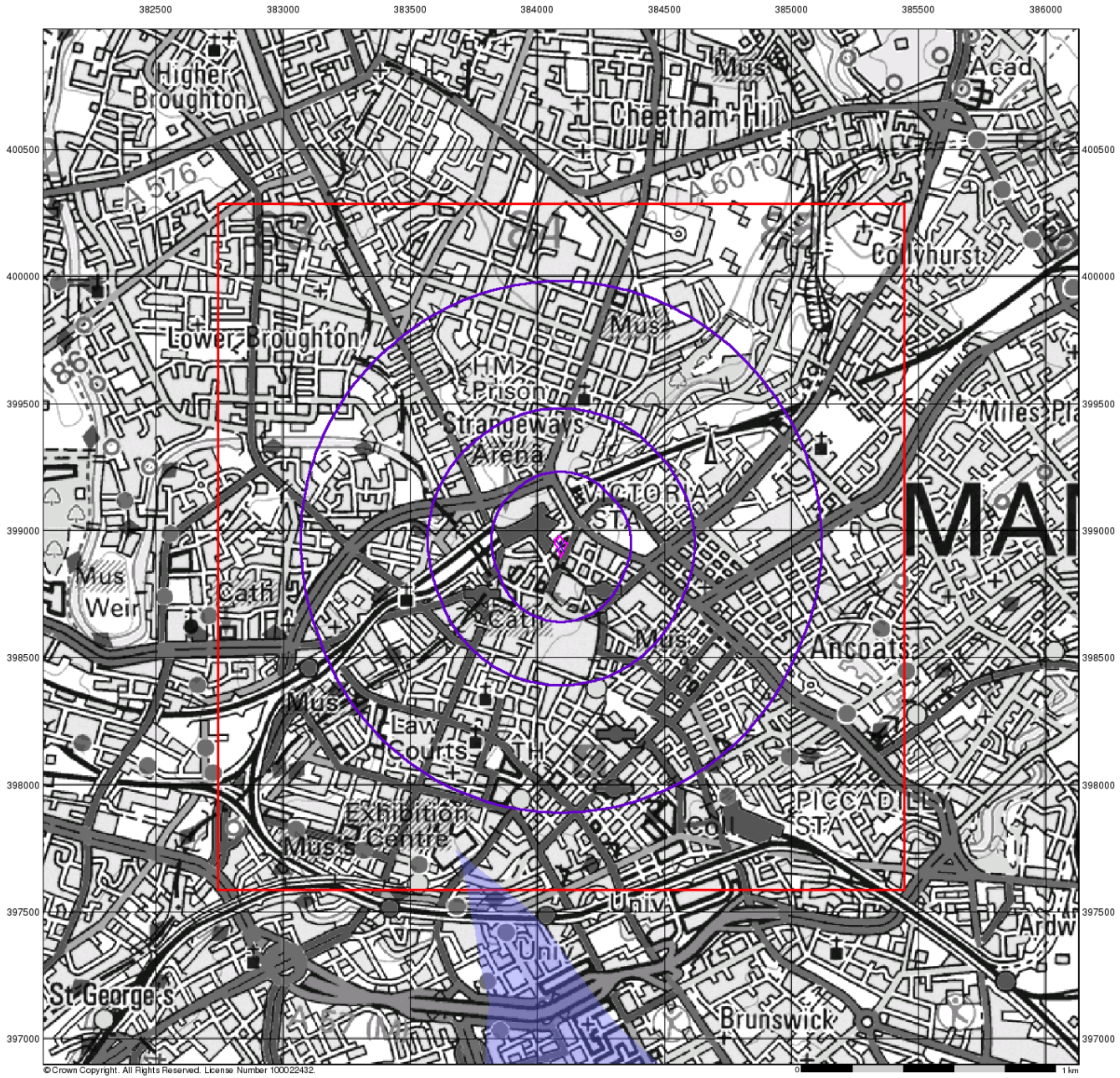
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Source Protection Zones

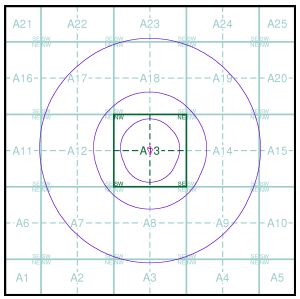
General

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

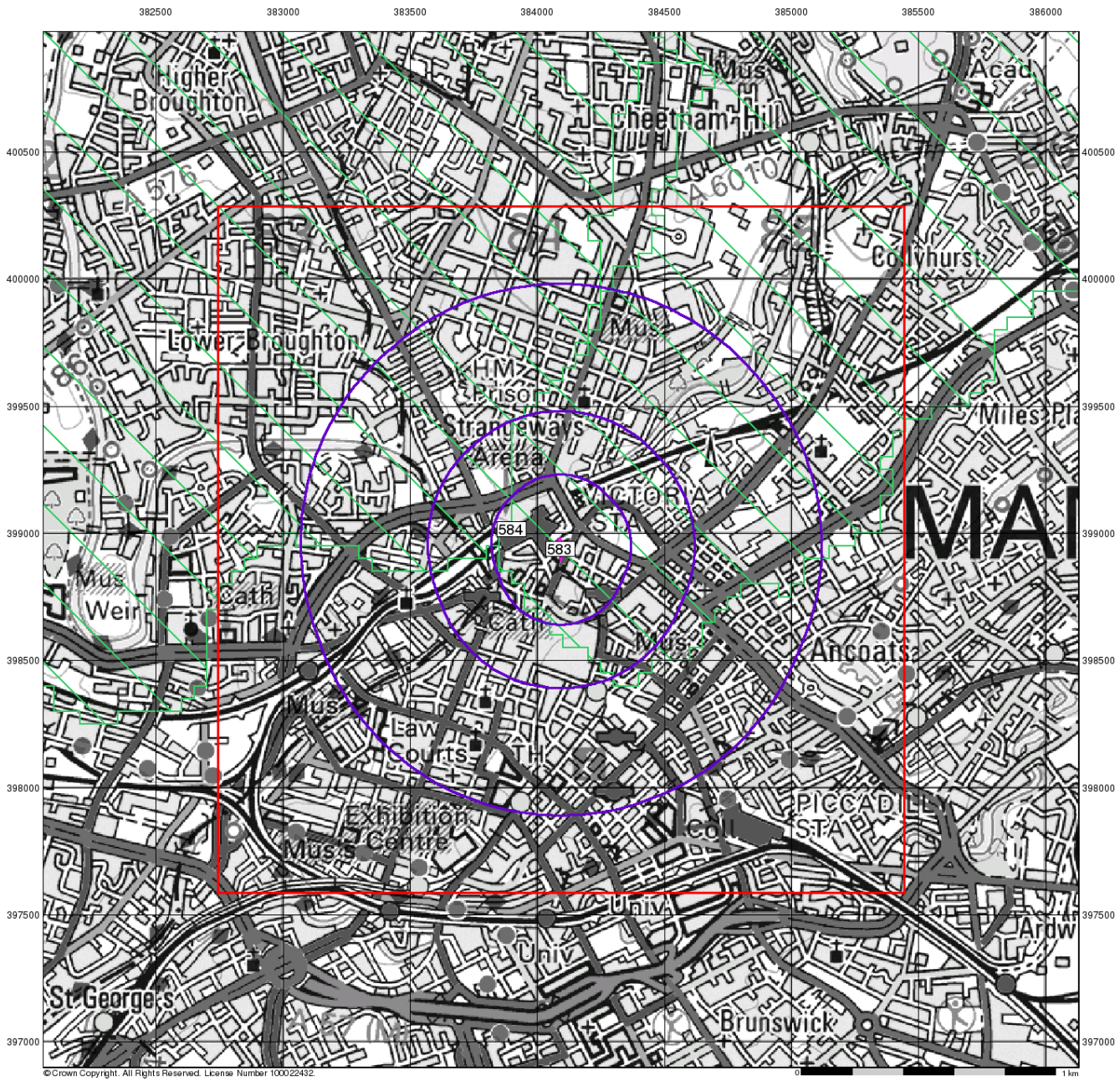


Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Sensitive Land Uses

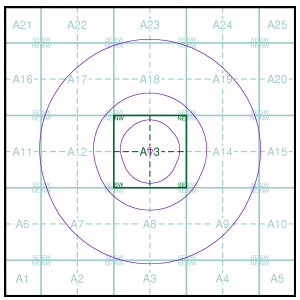
General

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



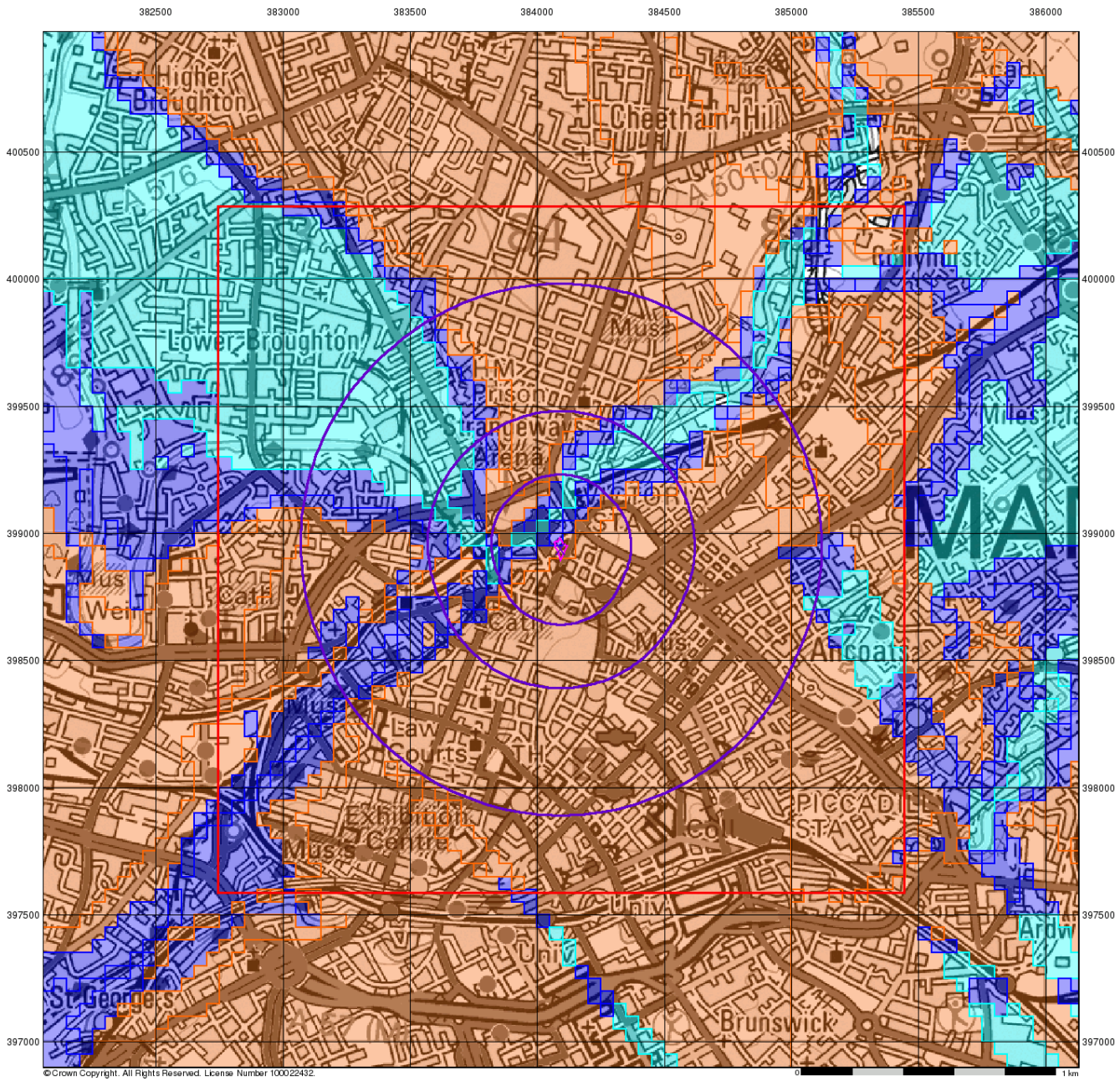
Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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BGS Flood GFS Data

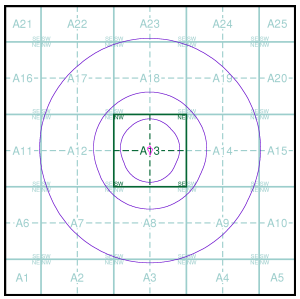
General

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



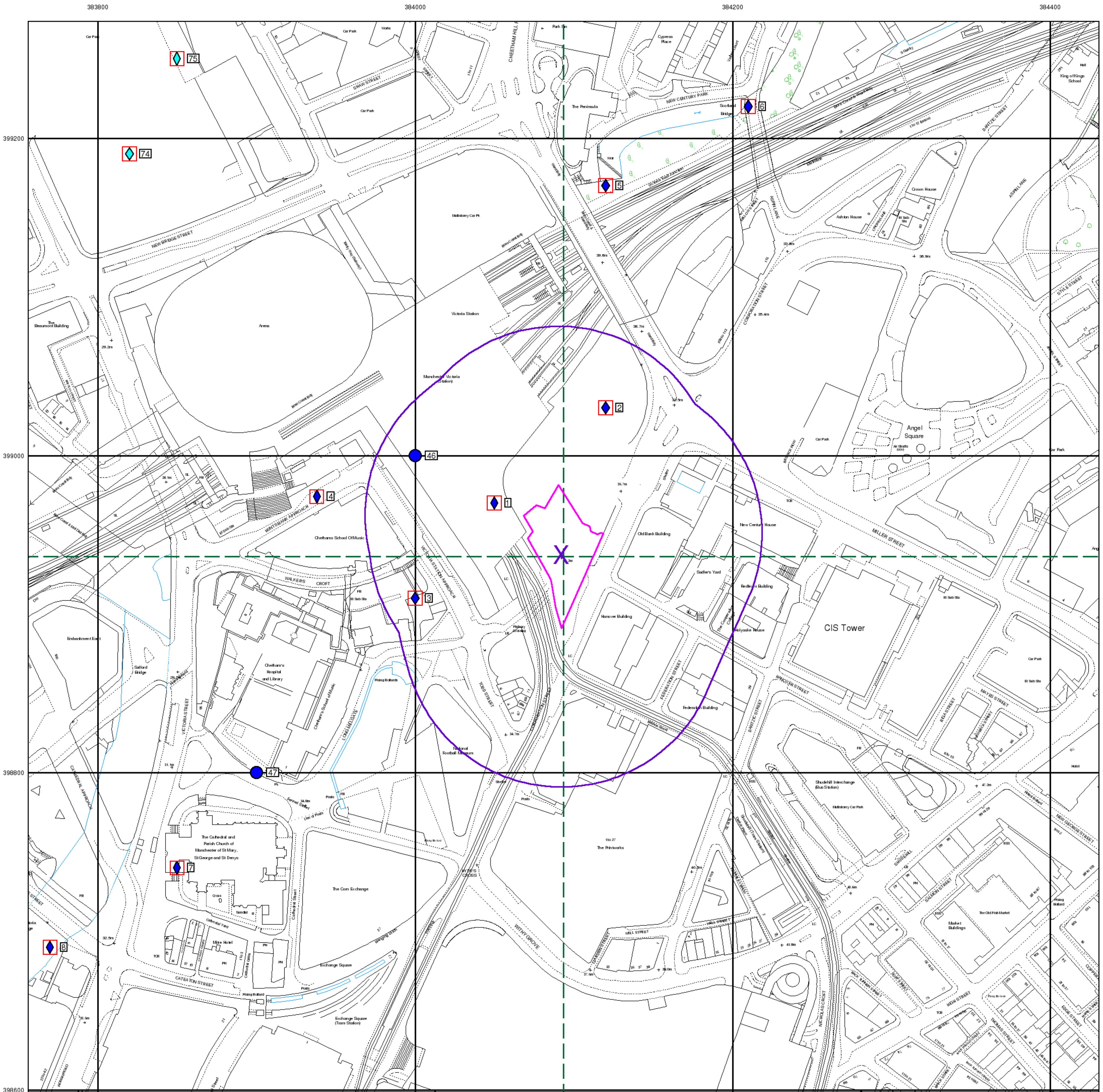
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Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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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

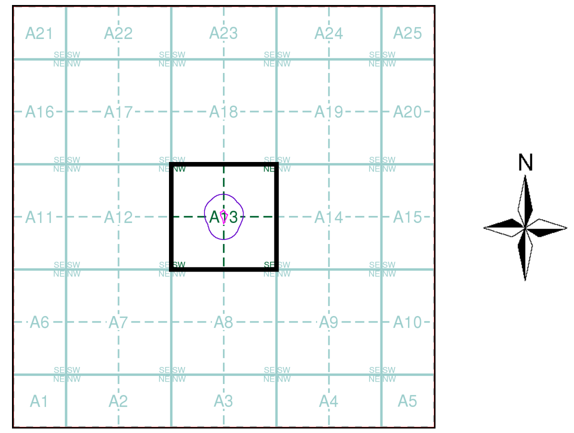
Geological

- 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

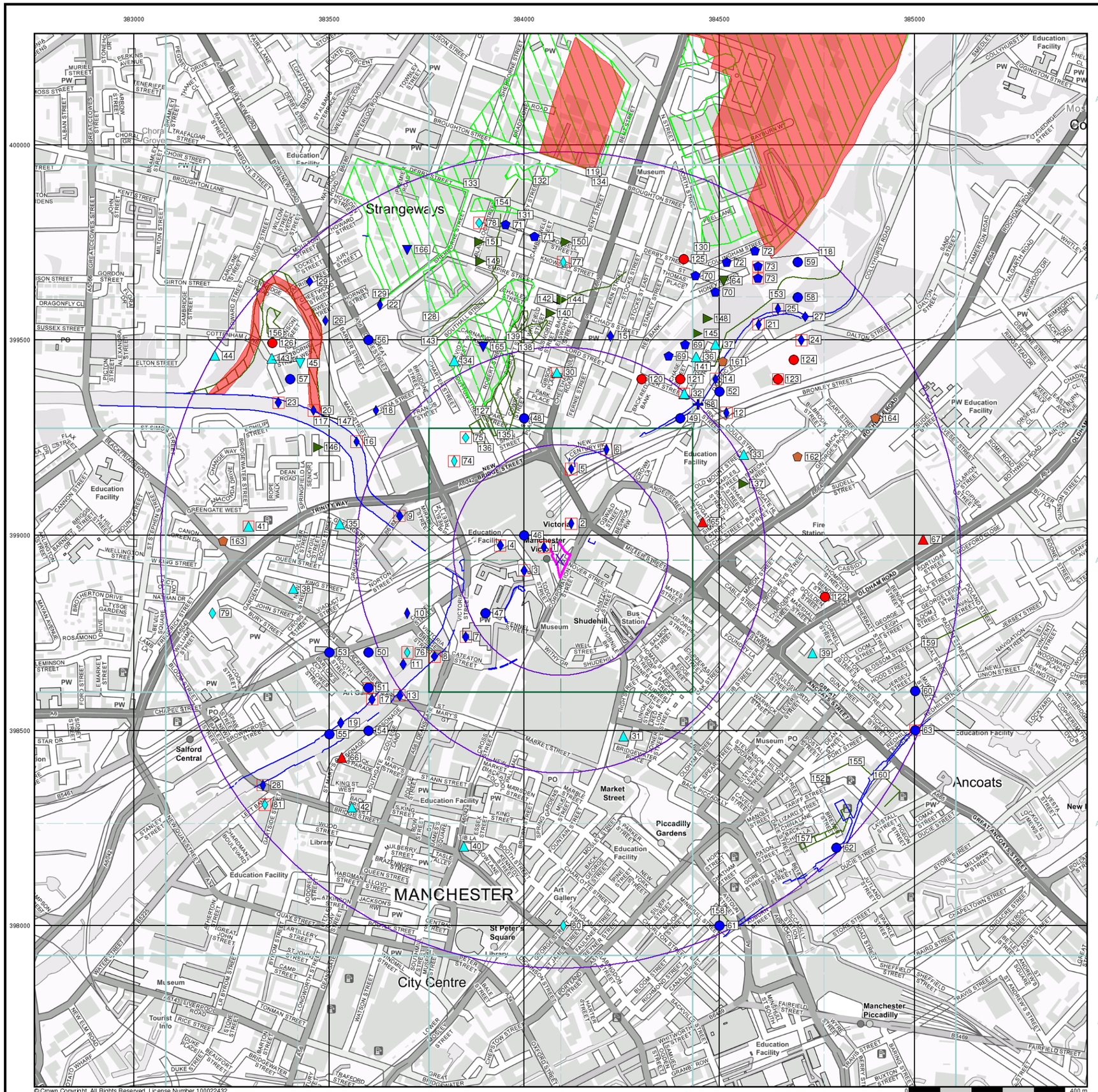
Order Number: 293403470_1_1
Customer Ref: 1946AJP
National Grid Reference: 384090, 398940
Slice: A
Site Area (Ha): 0.21
Plot Buffer (m): 100

Site Details

New Victoria Manchester, MANCHESTER, M4 4AH

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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

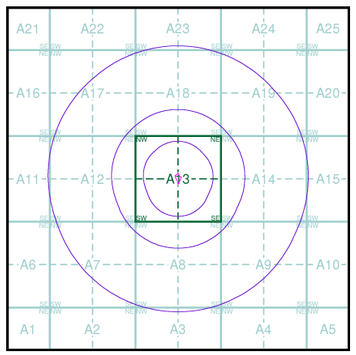
Geological

- 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
- 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 - Slice A



Order Details

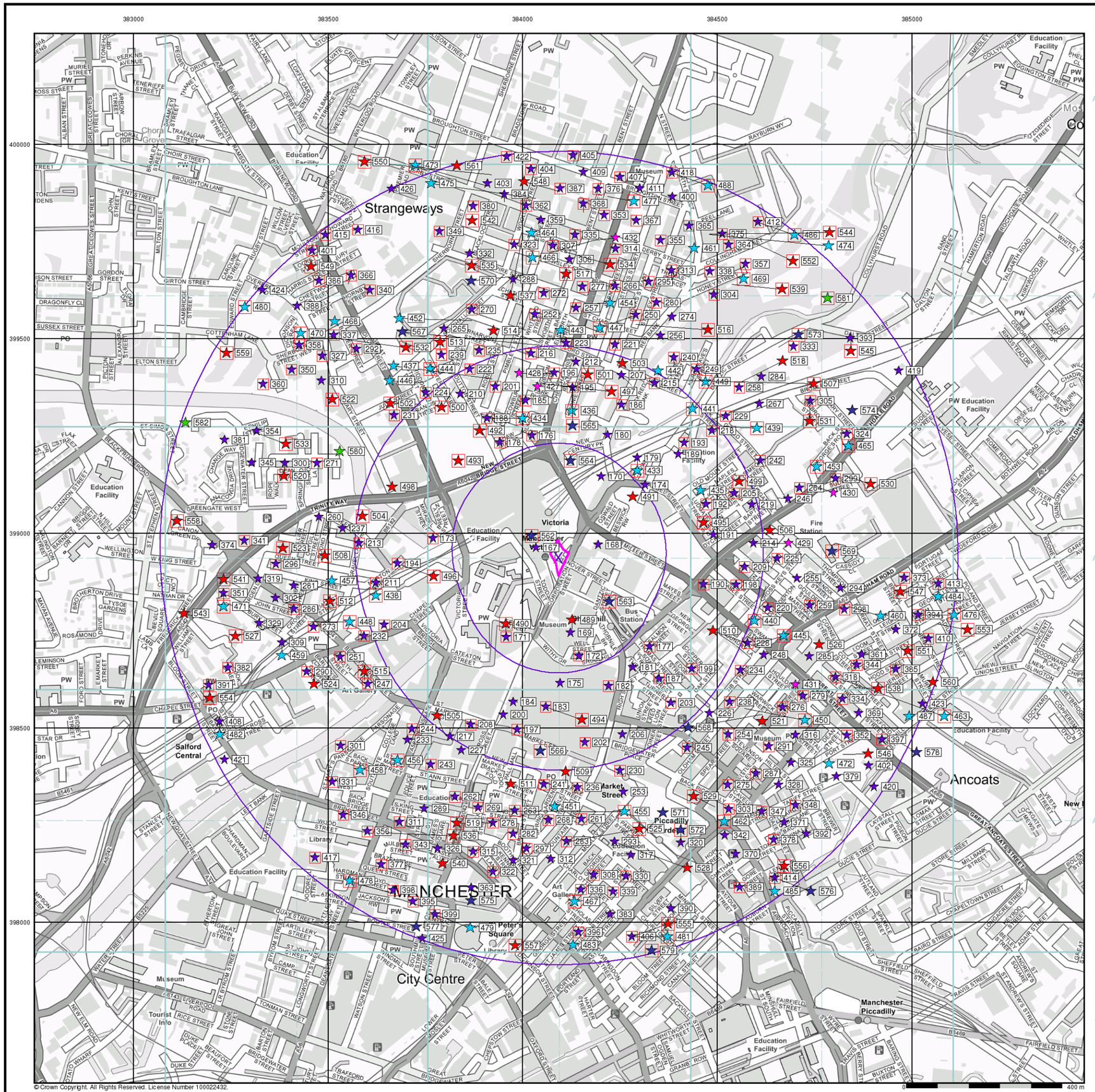
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Industrial Land Use Map

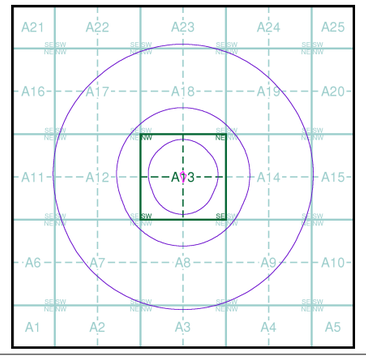
General

- 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

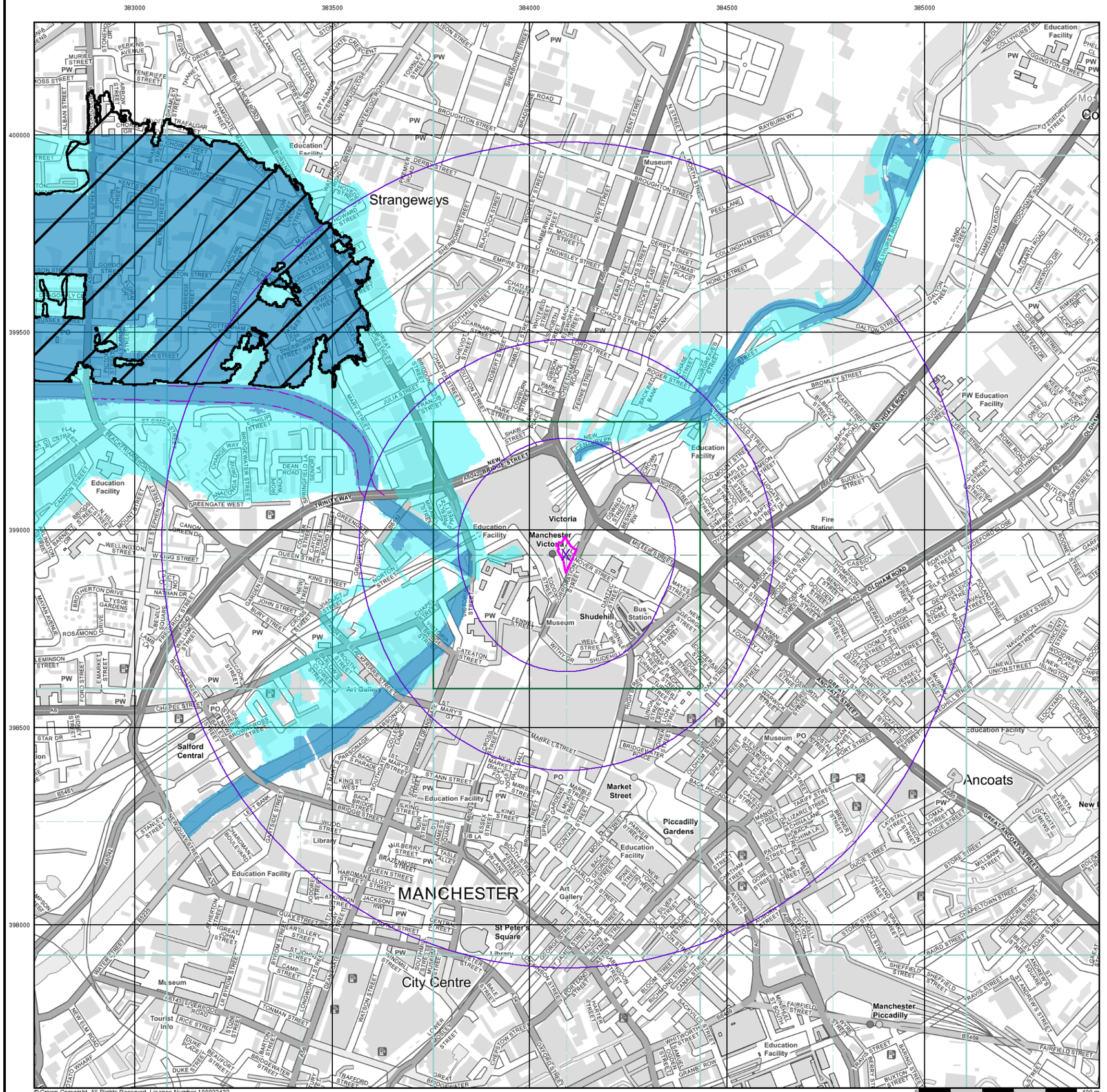
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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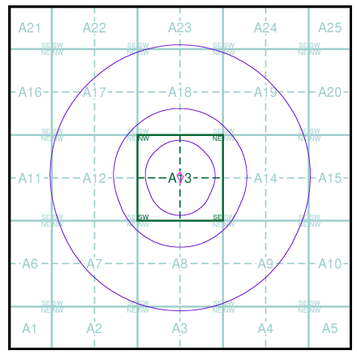
General

- Specified Site
- Specified Buffer(s)
- 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



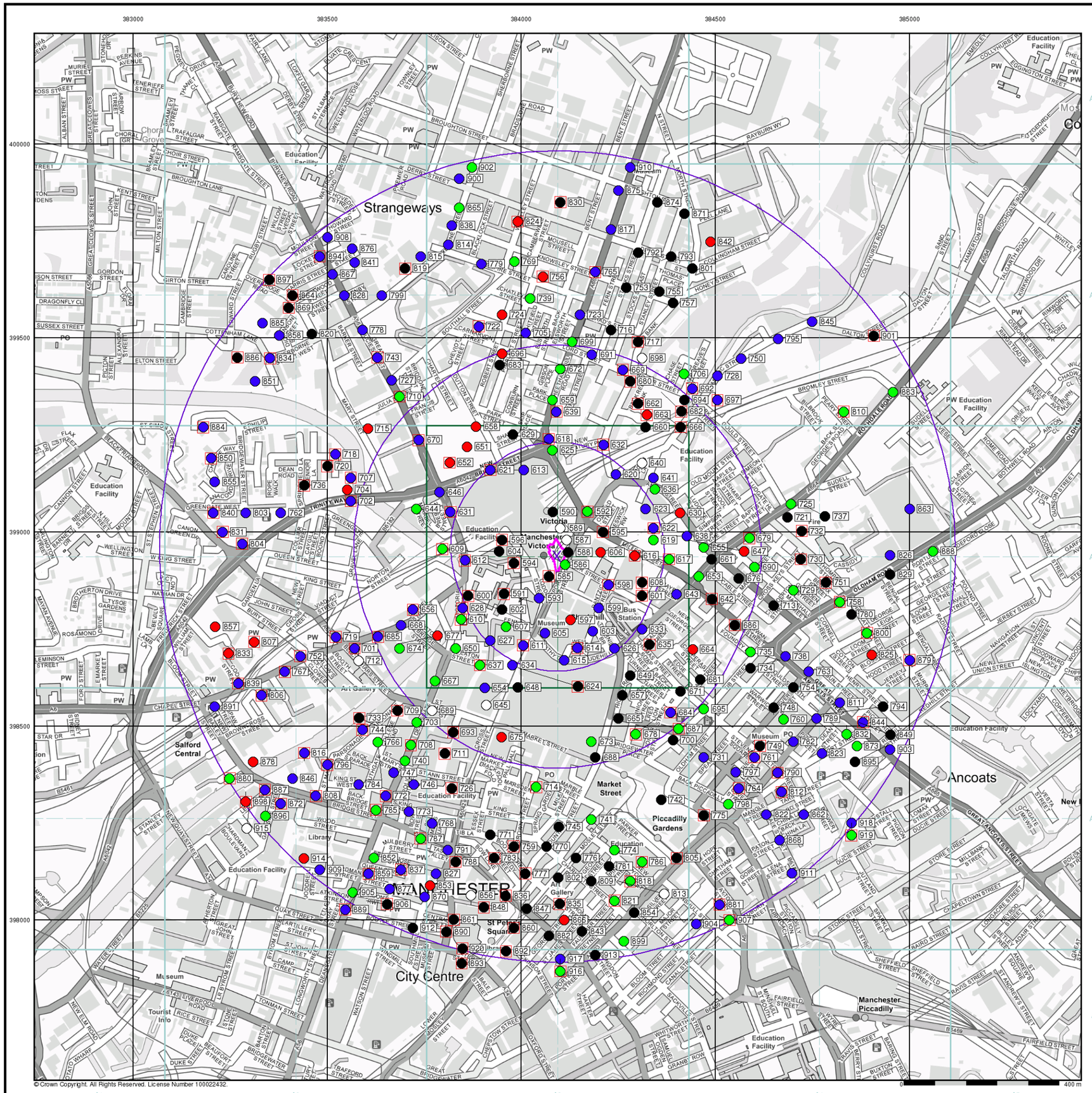
Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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General

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

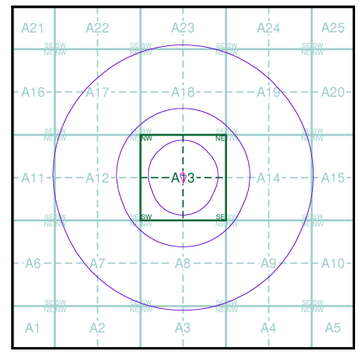
Agency and Hydrological (Boreholes)

- 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

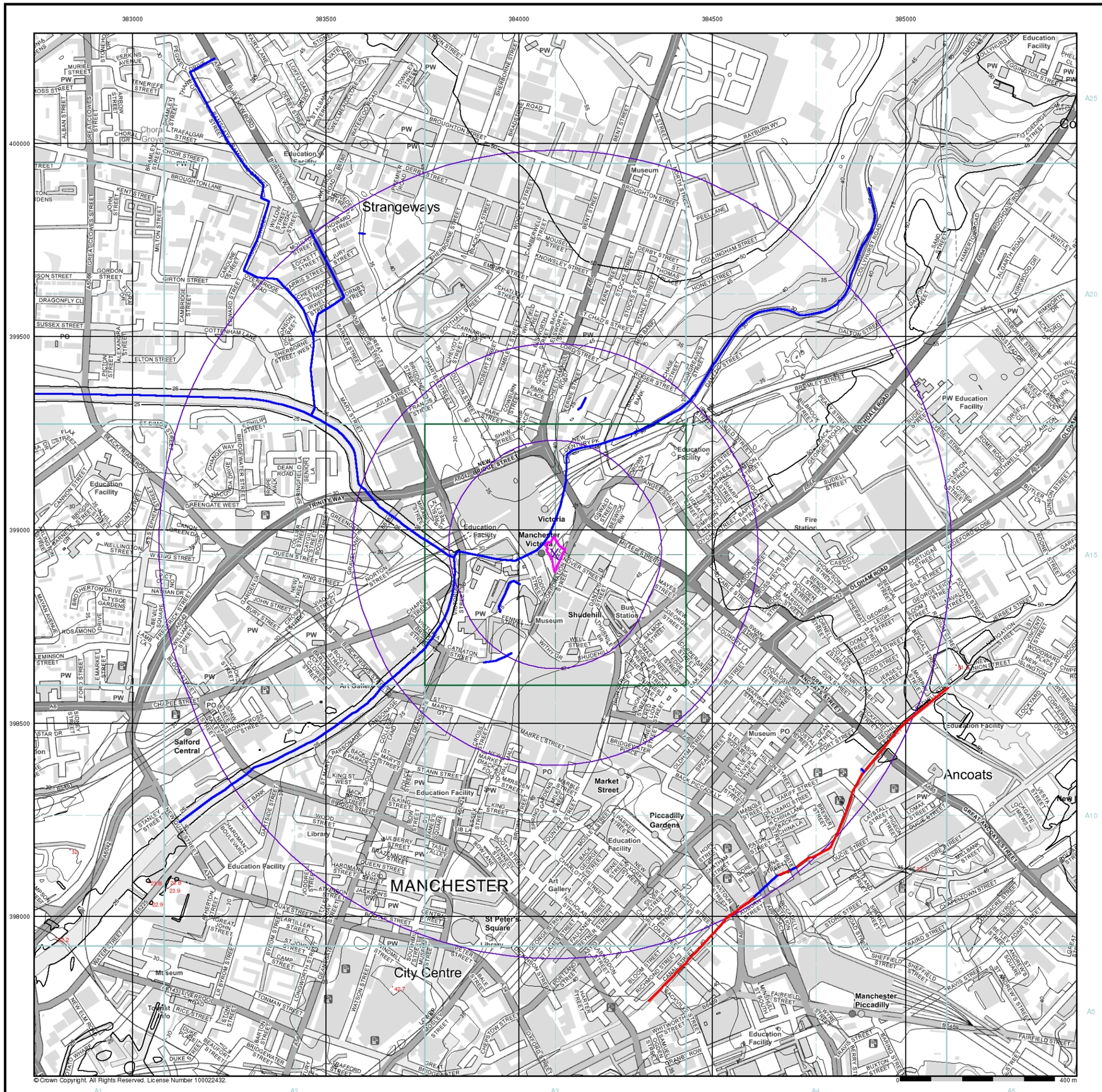
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Vertase FLI

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)

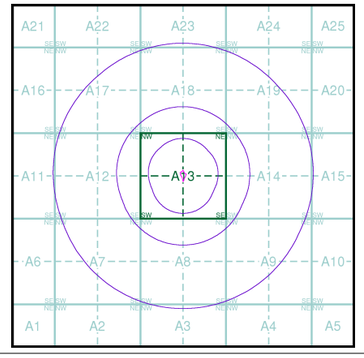
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Vertase FLI

General

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

Risk of Flooding from Surface Water

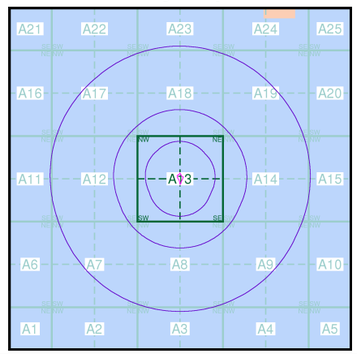
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

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



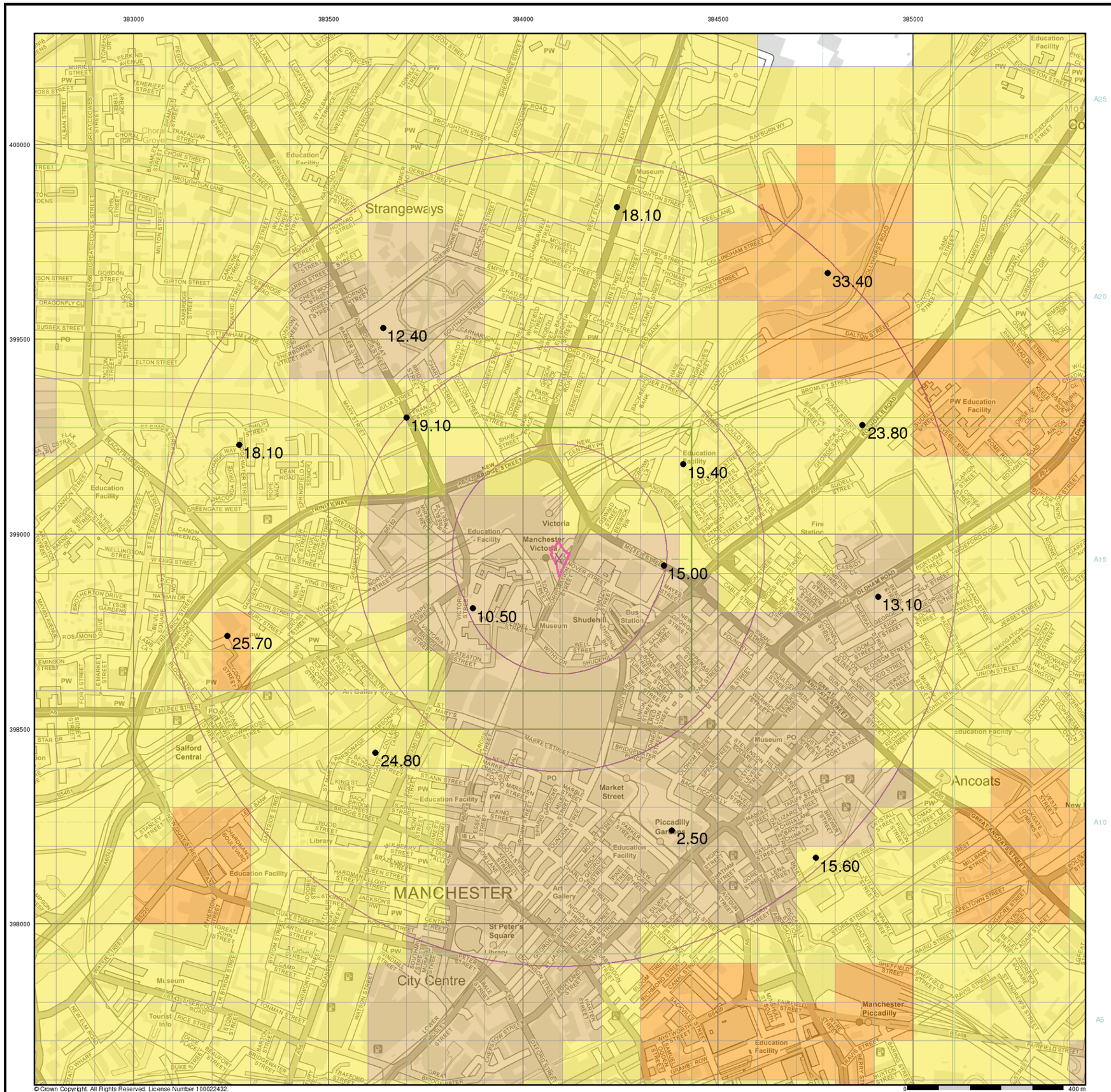
Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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General

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

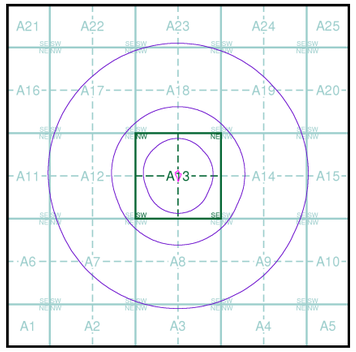
Urban Soil Chemistry Arsenic

● 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

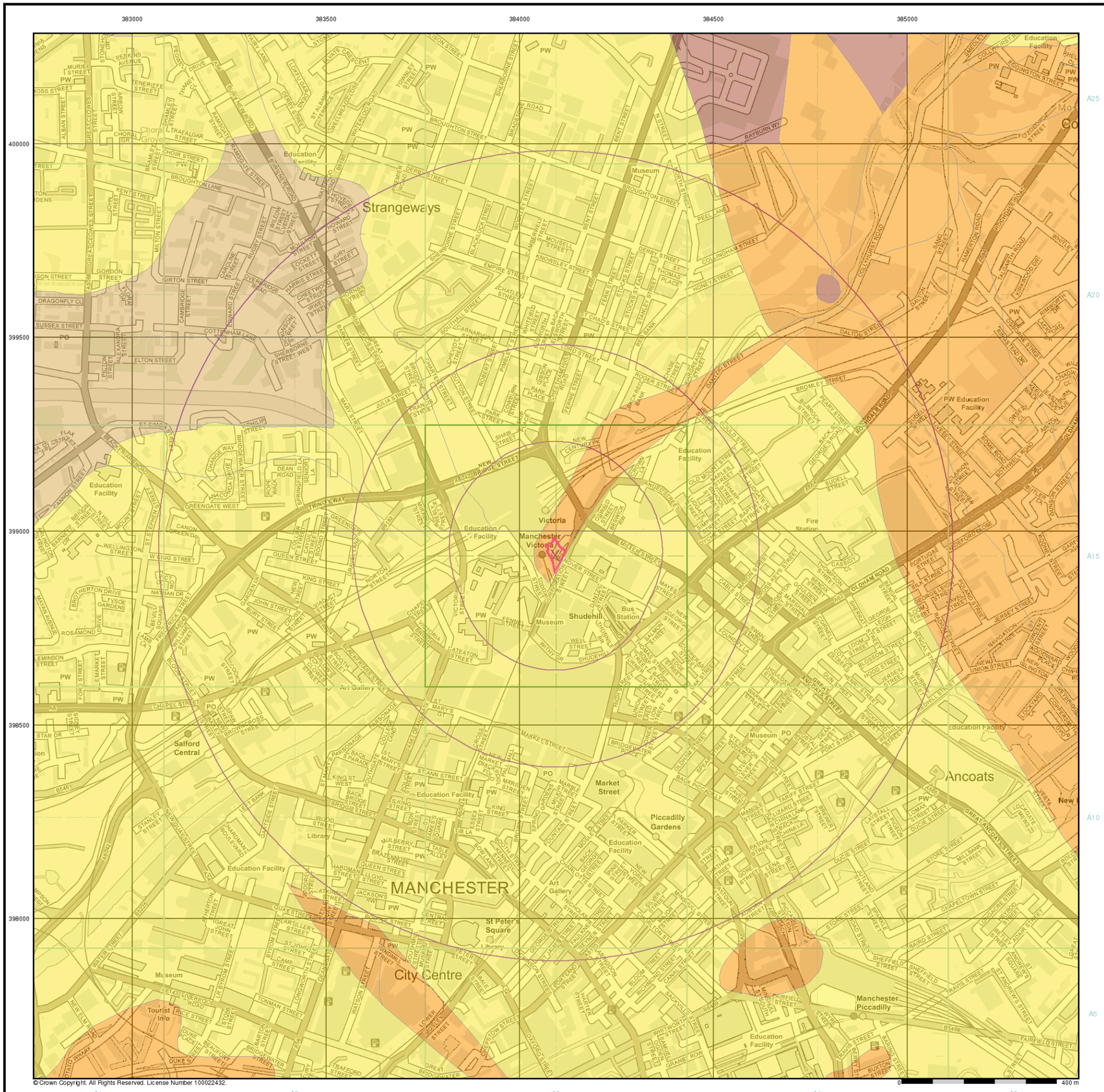
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Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search buffer (m):	1000

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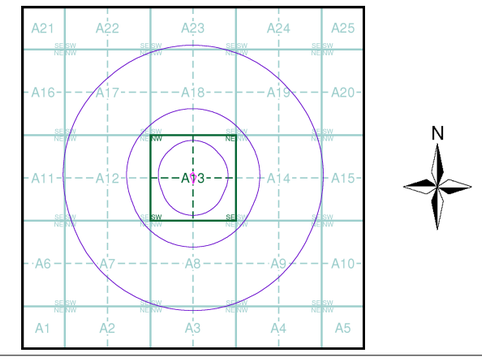
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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



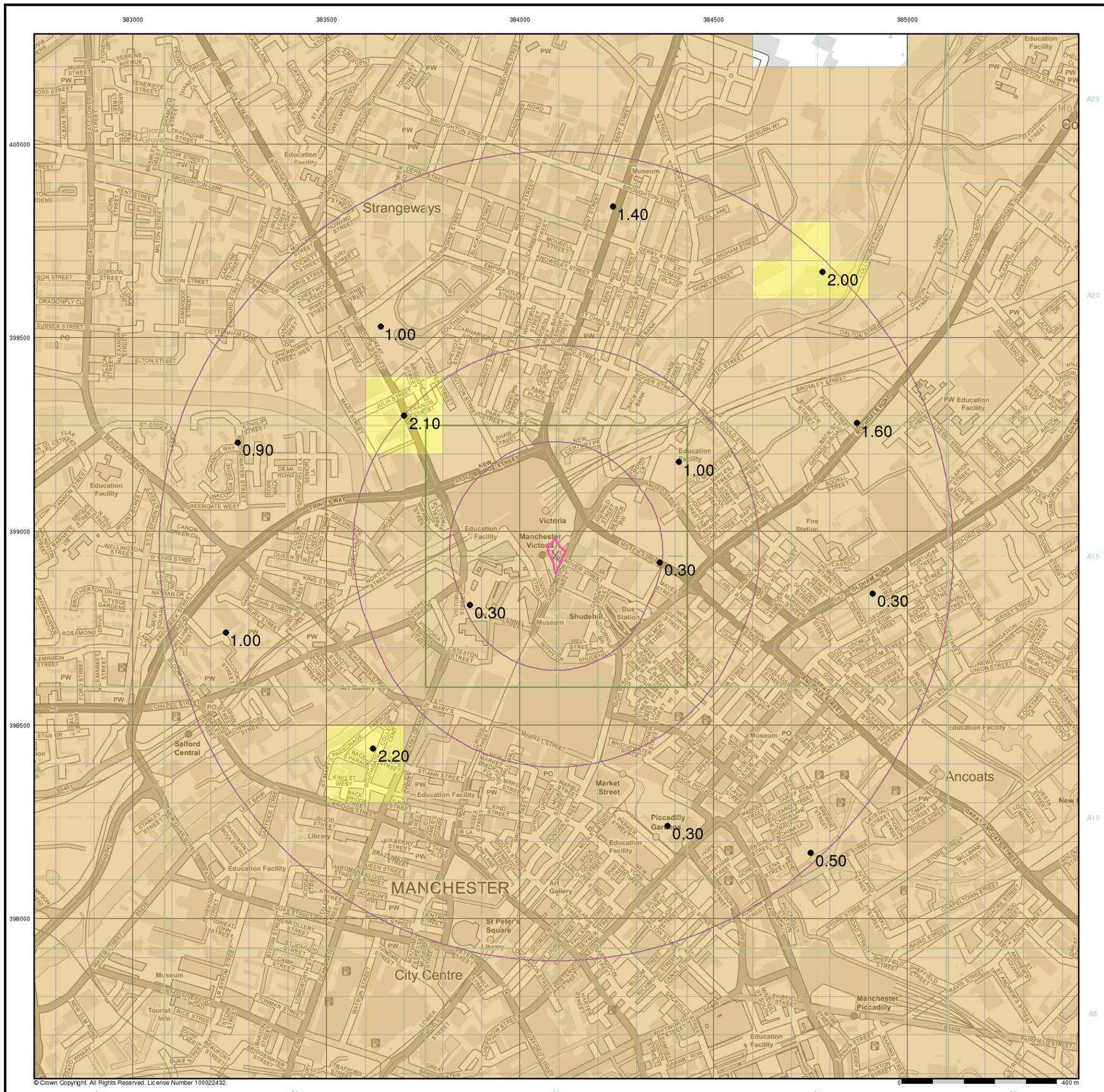
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Specified Site | Specified Buffer(s) | Bearing Reference Point

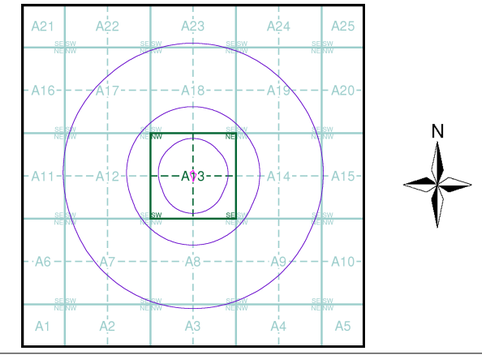
Urban Soil Chemistry Cadmium

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

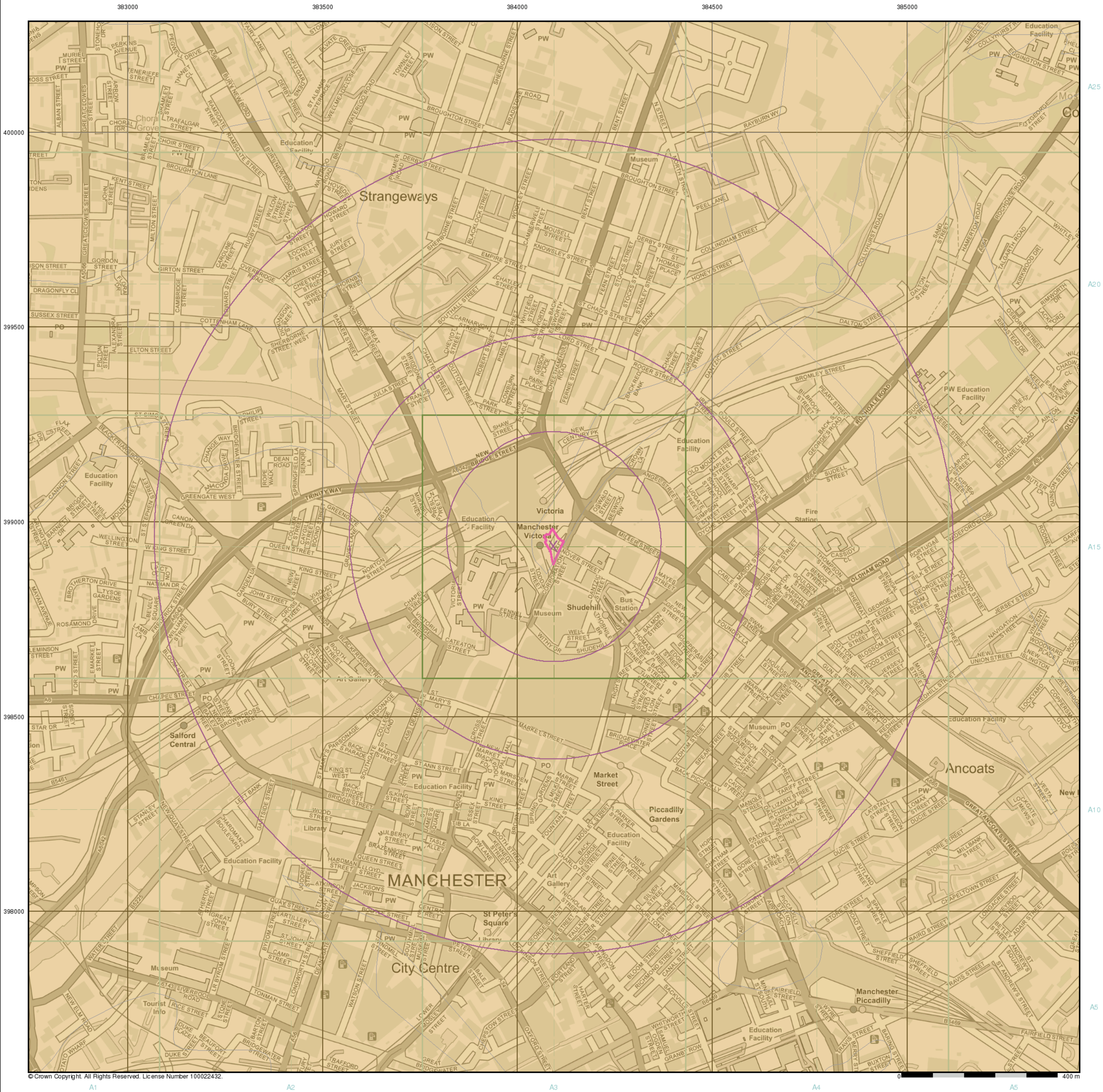
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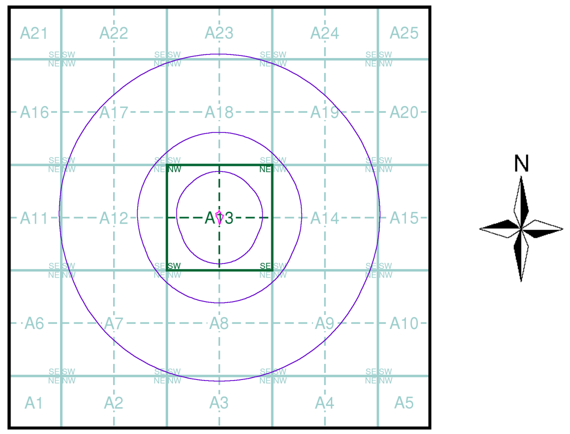
Specified Site   Specified Buffer(s)   X Bearing Reference Point

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

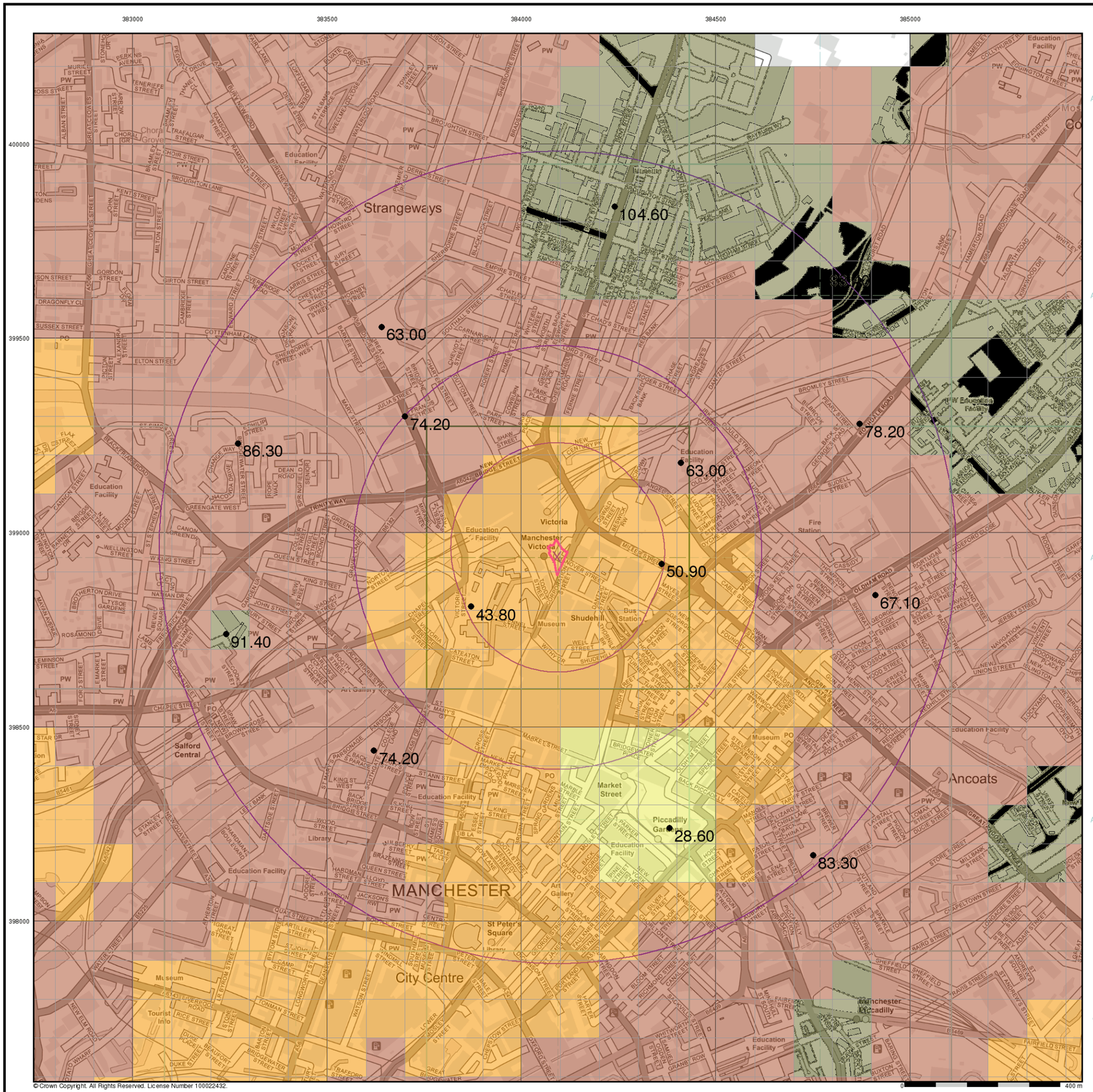


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General

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

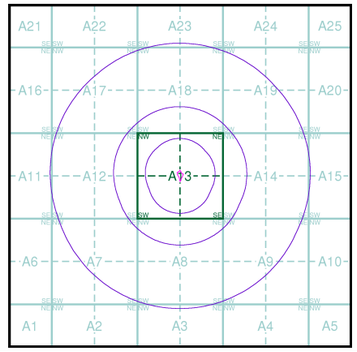
Urban Soil Chemistry Chromium

● 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

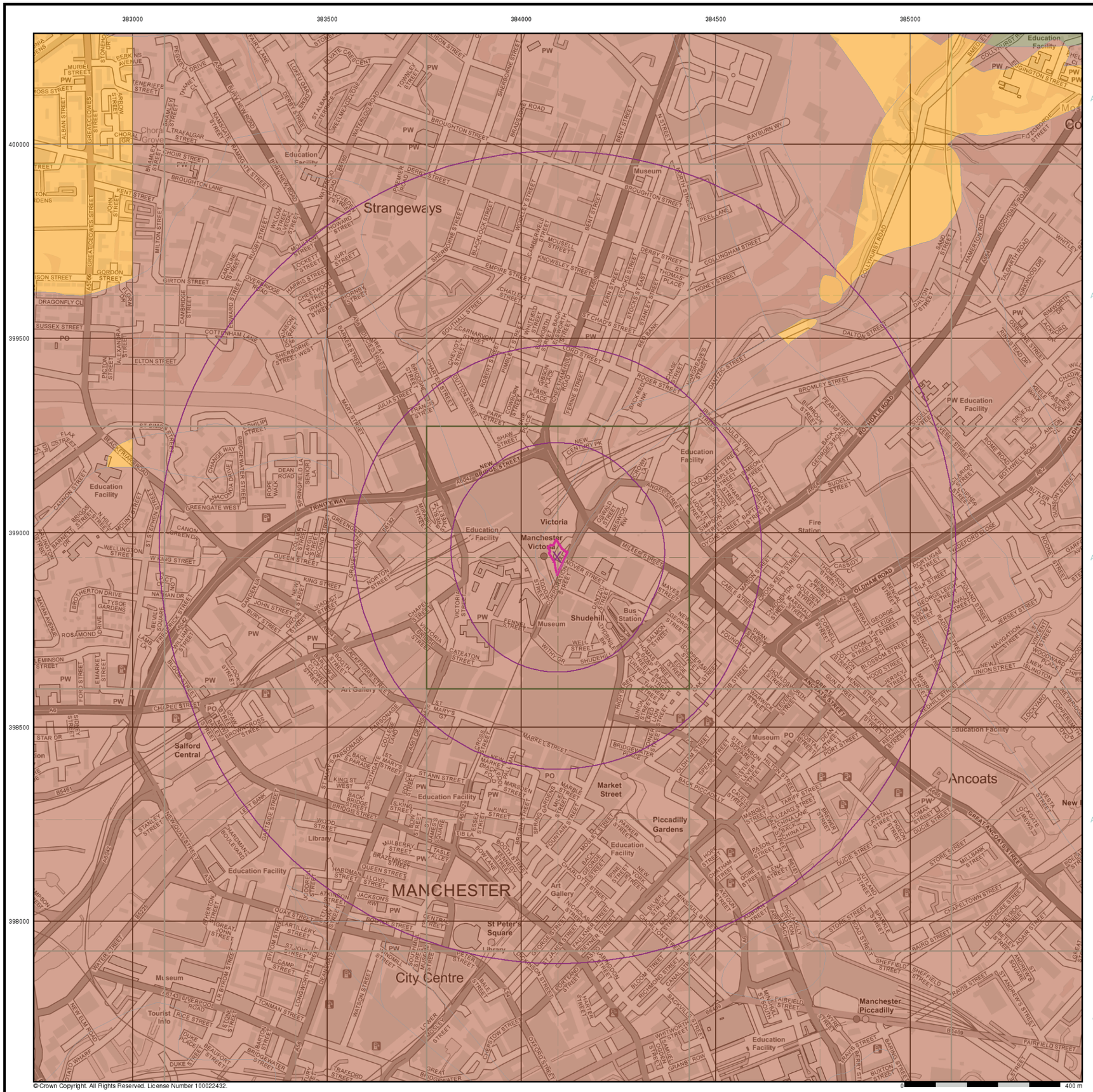
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Customer Ref:	1946AJP
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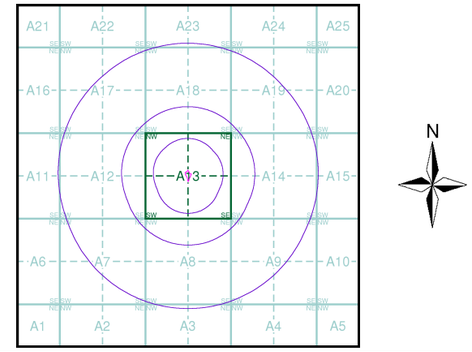
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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

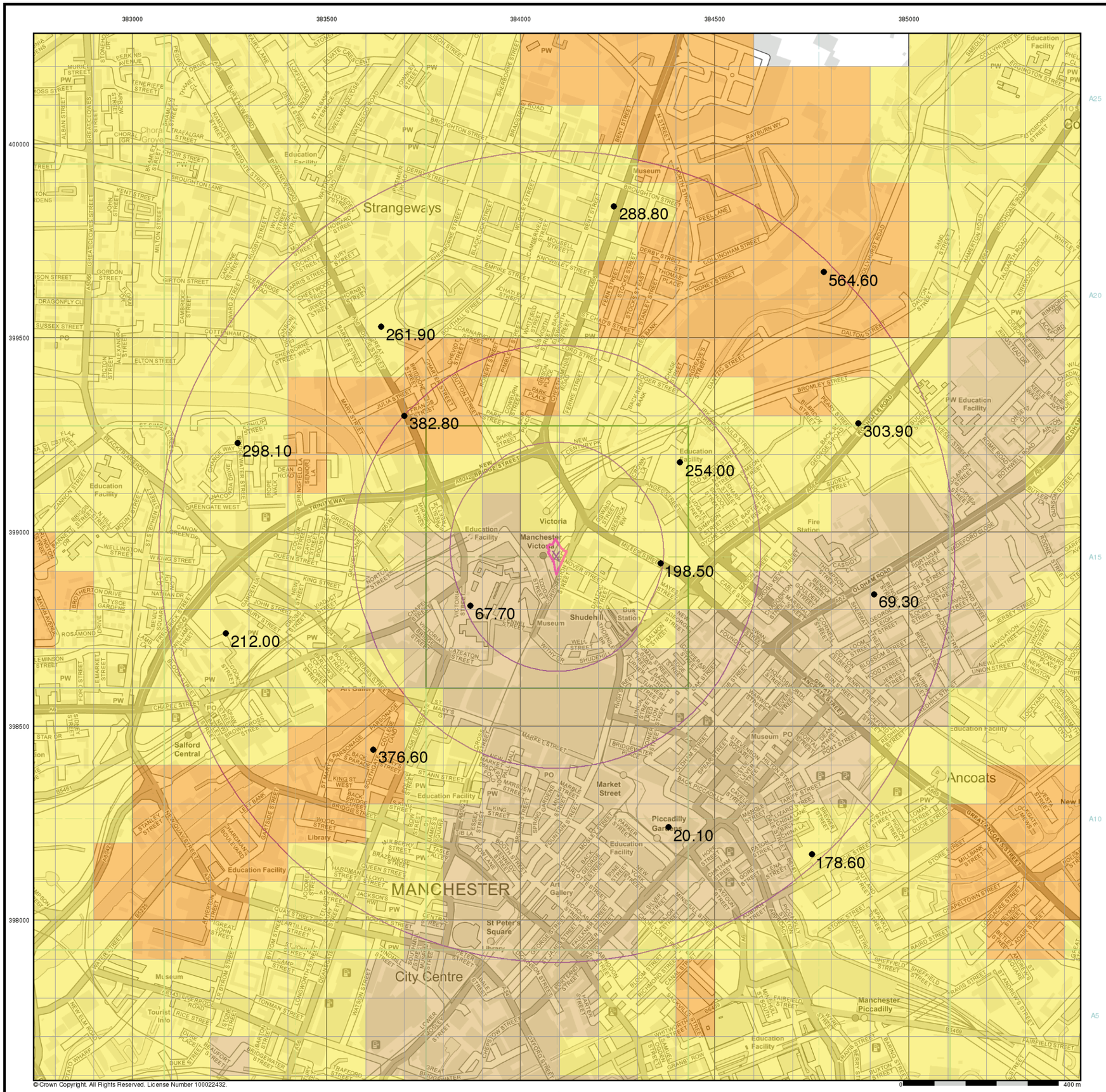
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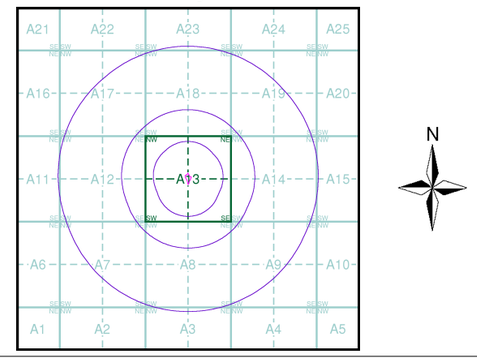
Urban Soil Chemistry Lead

● 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

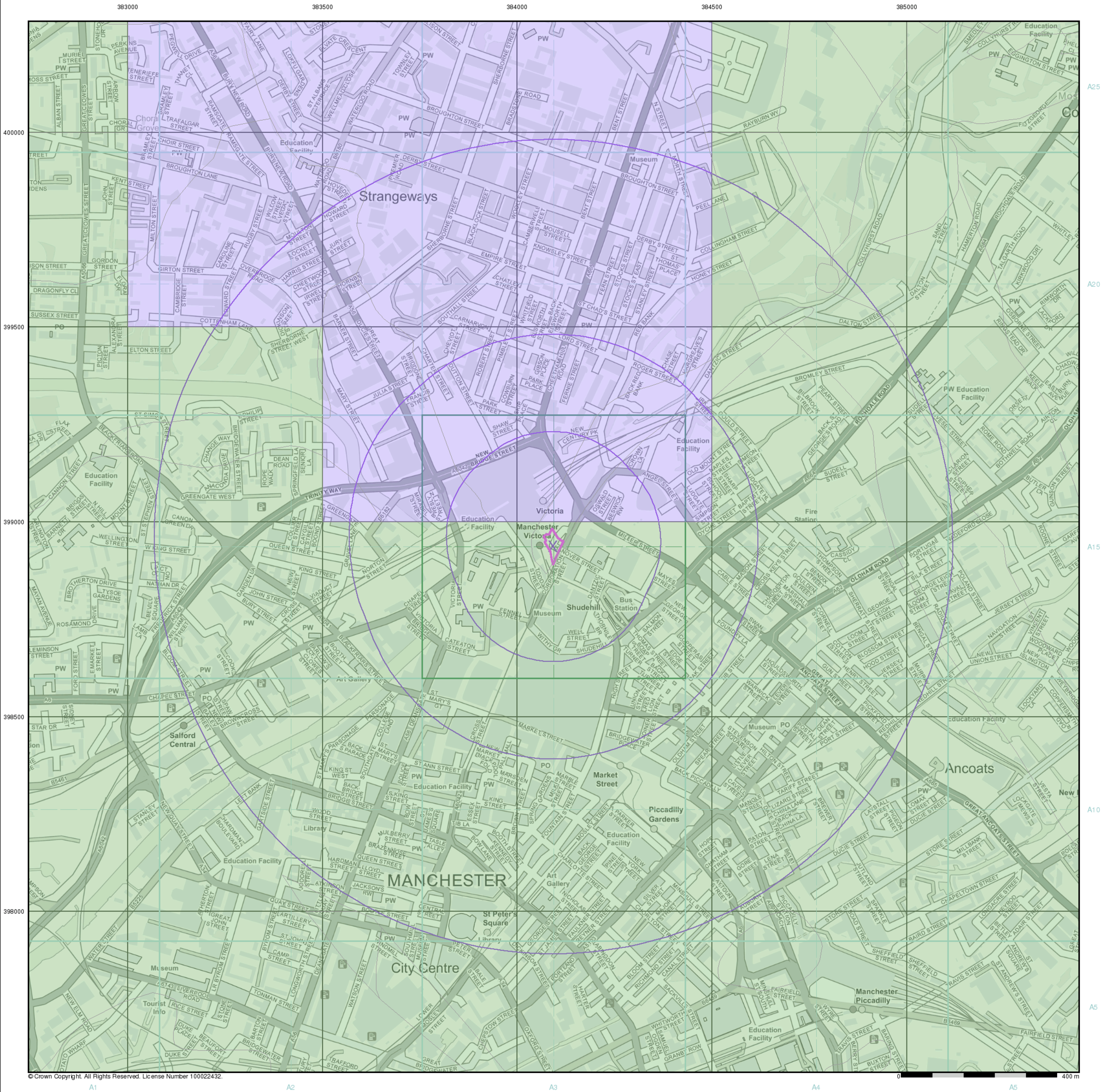
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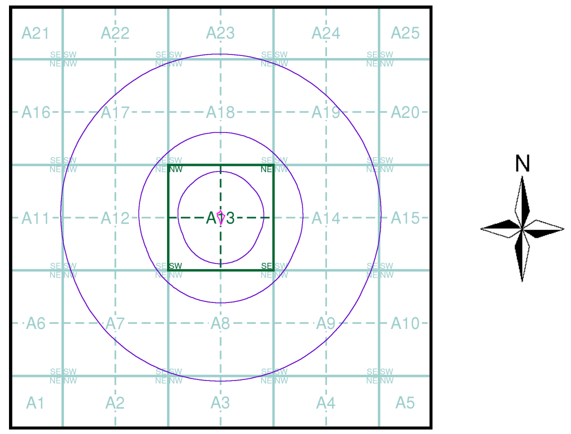
Specified Site   Specified Buffer(s)   X Bearing Reference Point

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

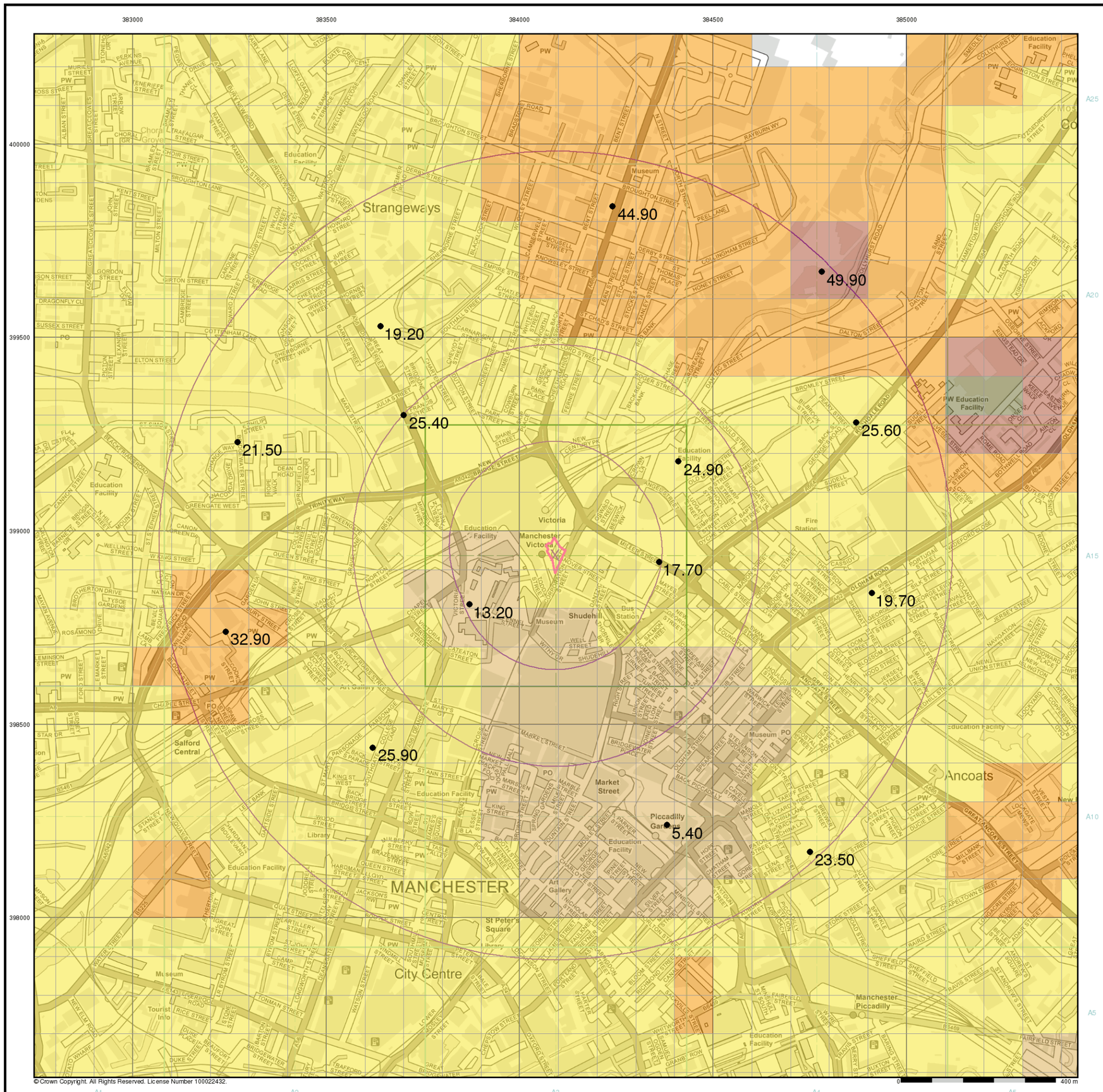


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Specified Site | Specified Buffer(s) | Bearing Reference Point

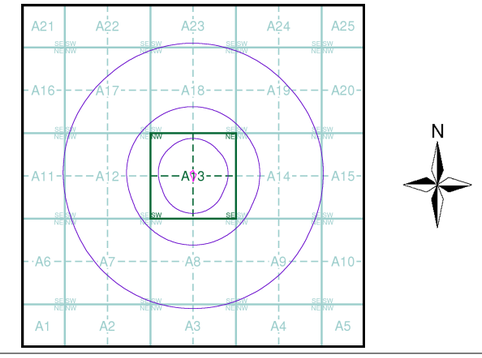
Urban Soil Chemistry Nickel

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

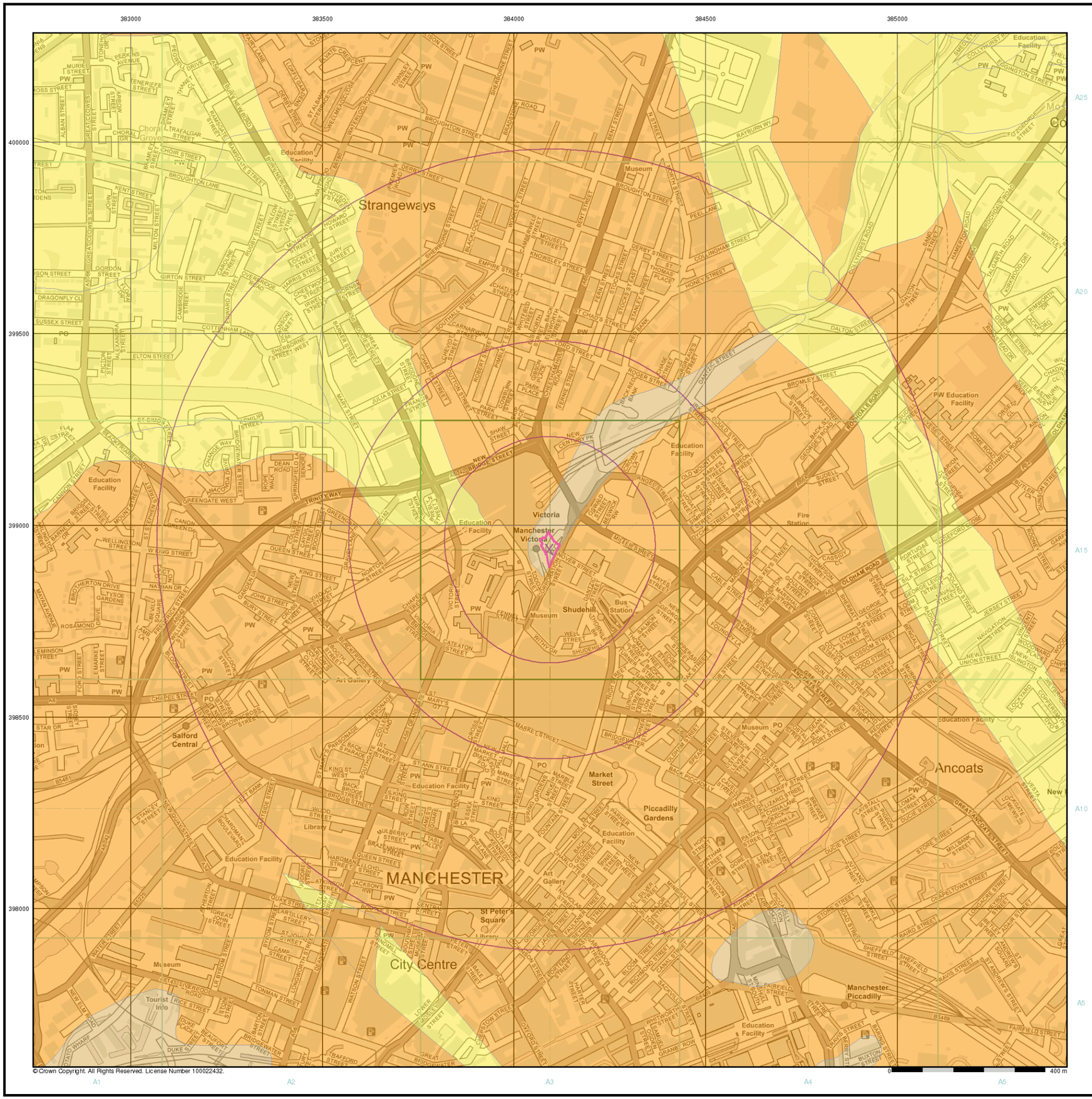
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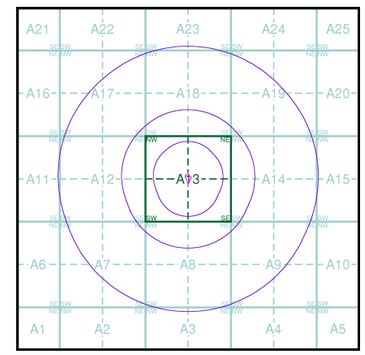
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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:	293403470_1_1
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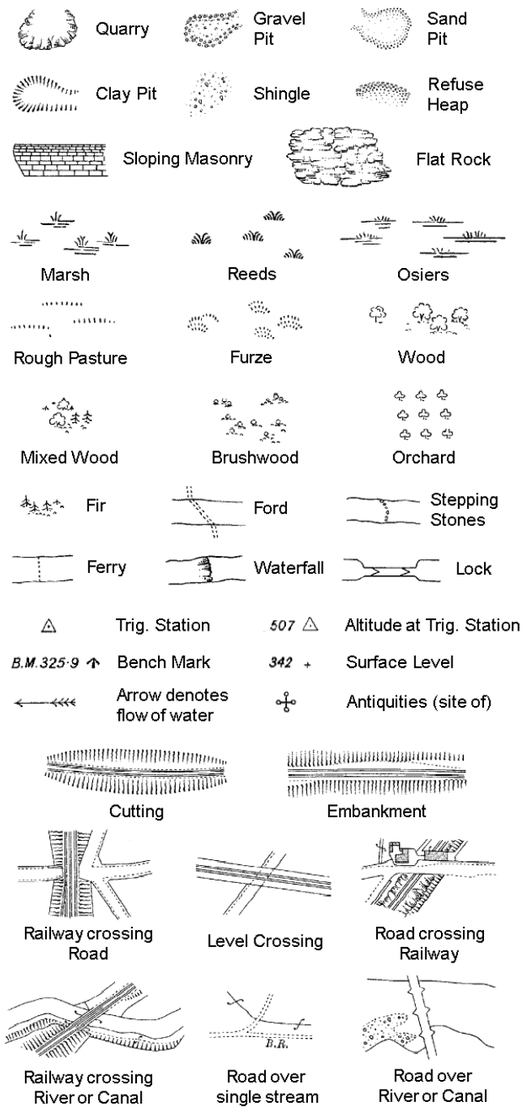
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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

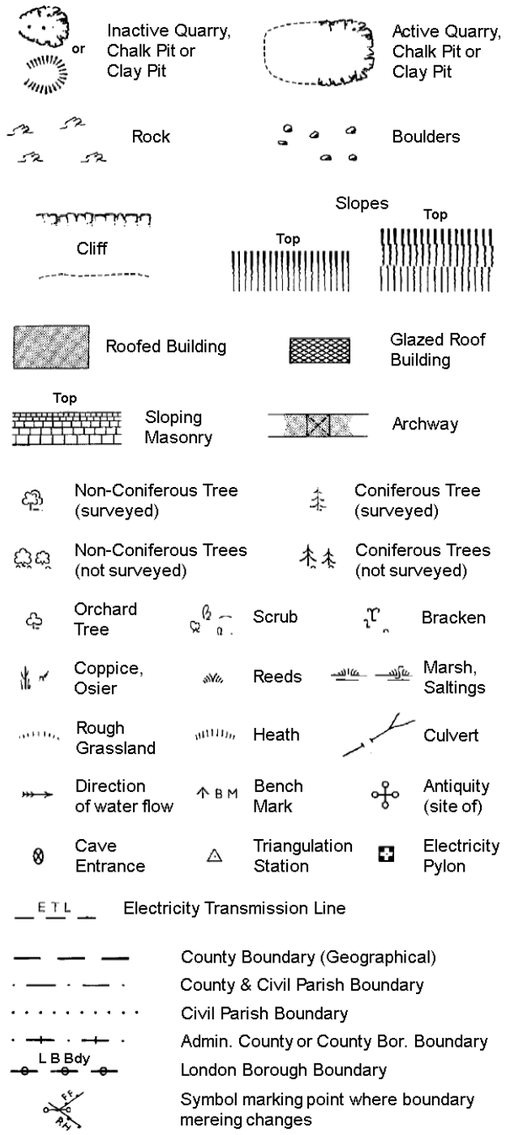
Administrative County & Civil Parish Boundary

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

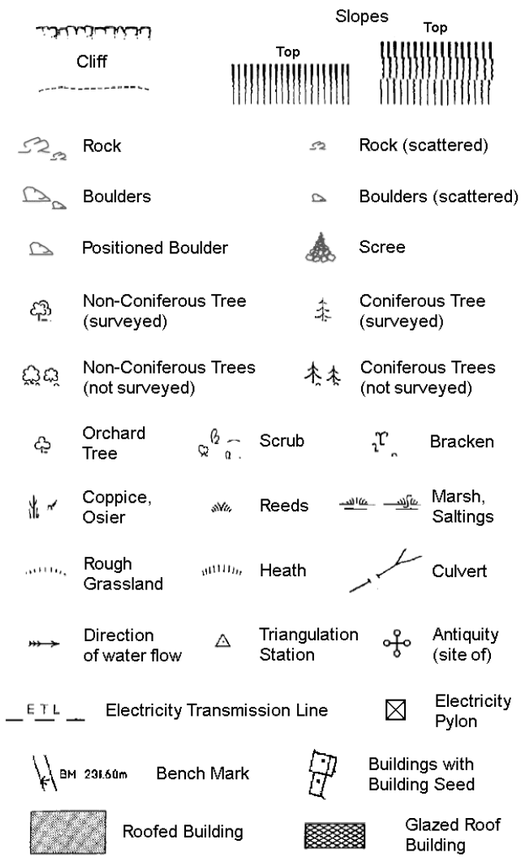
Admin. County or County Bor. Boundary

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)

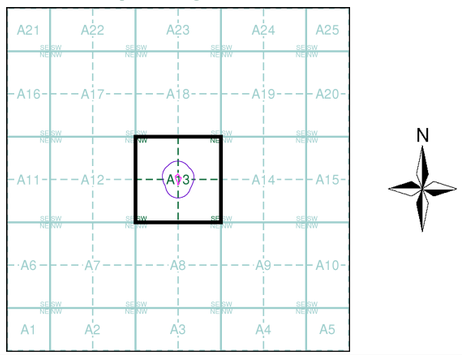
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity 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	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1933	4
Ordnance Survey Plan	1:1,250	1949 - 1951	5
Ordnance Survey Plan	1:2,500	1951 - 1952	6
Ordnance Survey Plan	1:1,250	1952 - 1955	7
Ordnance Survey Plan	1:2,500	1953 - 1958	8
Ordnance Survey Plan	1:2,500	1959 - 1965	9
Ordnance Survey Plan	1:1,250	1963 - 1970	10
Ordnance Survey Plan	1:2,500	1966 - 1971	11
Ordnance Survey Plan	1:1,250	1975 - 1990	12
Additional SIMs	1:1,250	1979 - 1987	13
Additional SIMs	1:1,250	1985 - 1987	14
Ordnance Survey Plan	1:1,250	1986	15
Large-Scale National Grid Data	1:1,250	1992	16
Large-Scale National Grid Data	1:1,250	1994 - 1995	17
Large-Scale National Grid Data	1:1,250	1996	18
Historical Aerial Photography	1:2,500	2000	19

Historical Map - Segment A13



Order Details

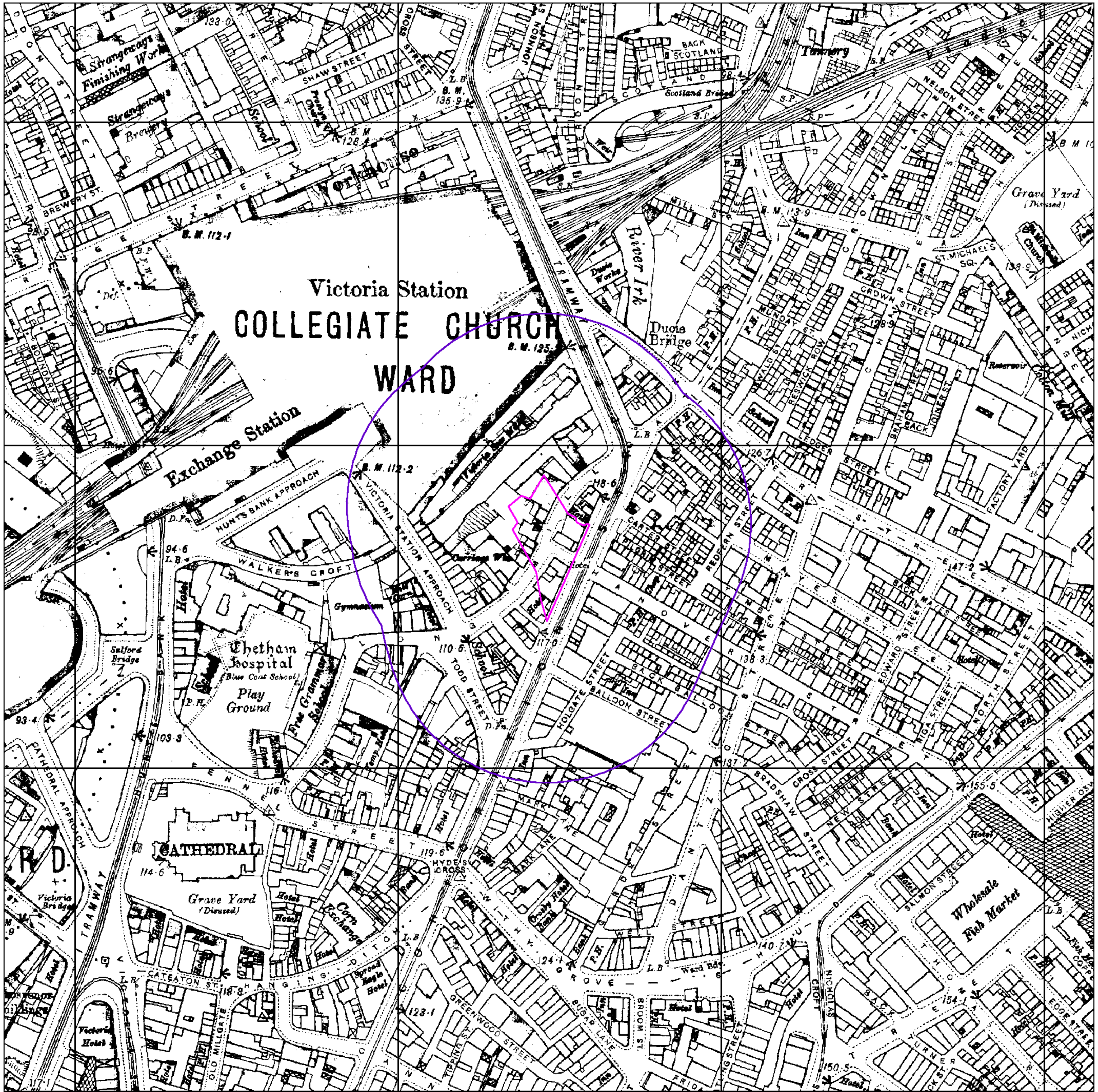
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National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

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0 100 m

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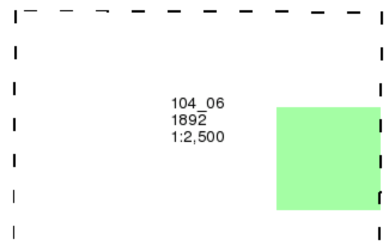
Lancashire And Furness

Published 1892

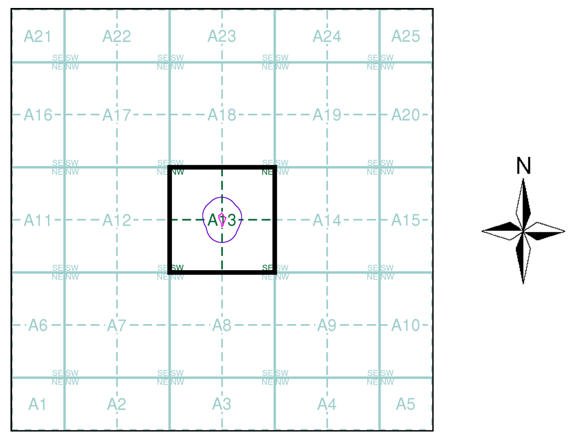
Source map scale - 1:2,500

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



Order Details

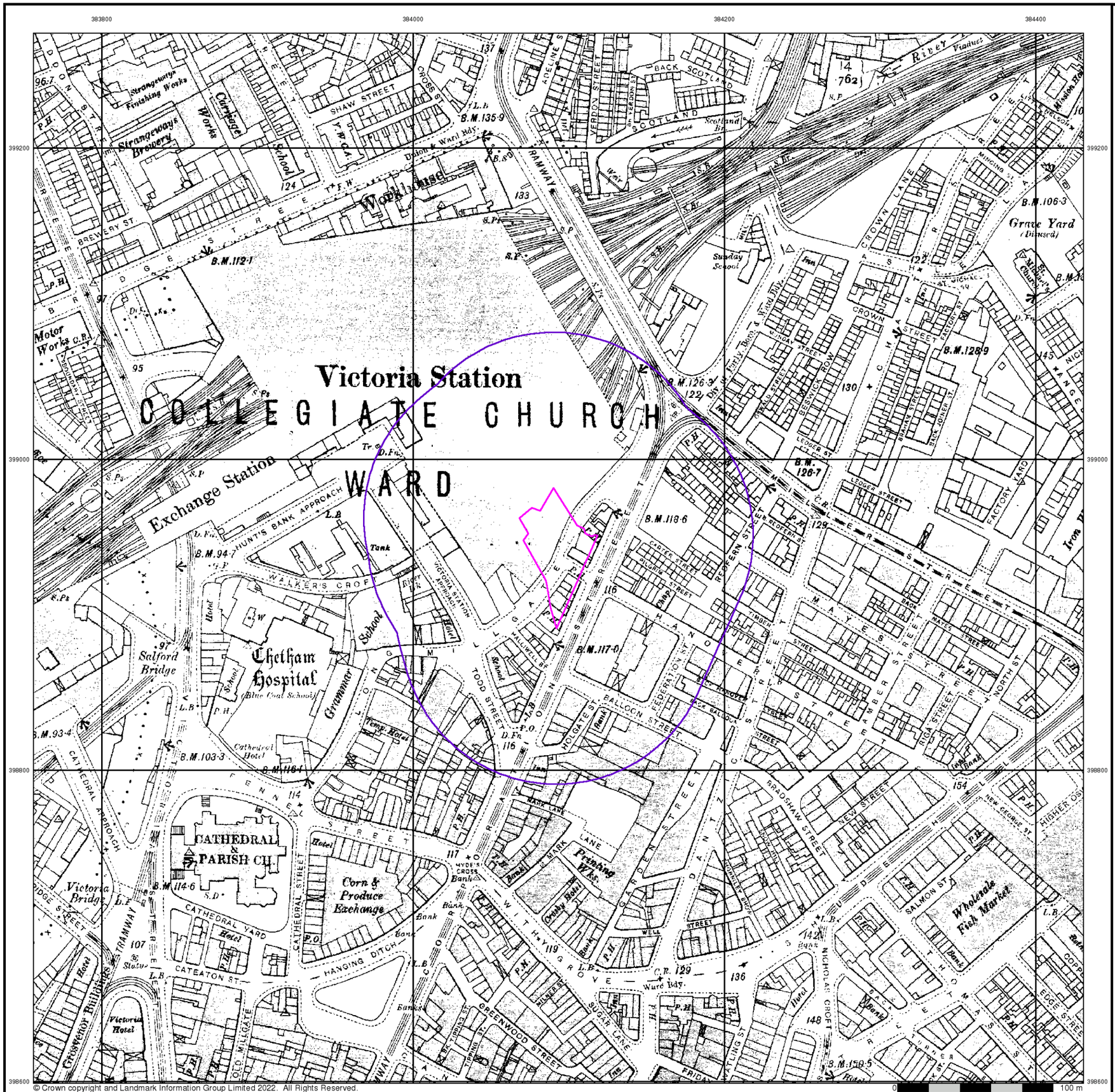
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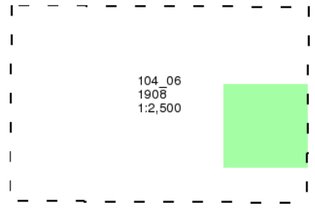
Lancashire And Furness

Published 1908

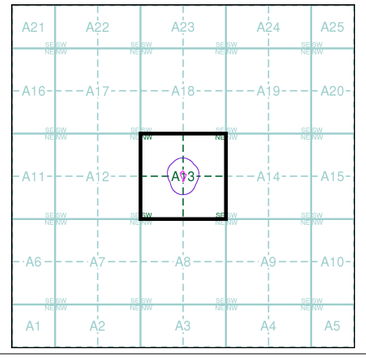
Source map scale - 1:2,500

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



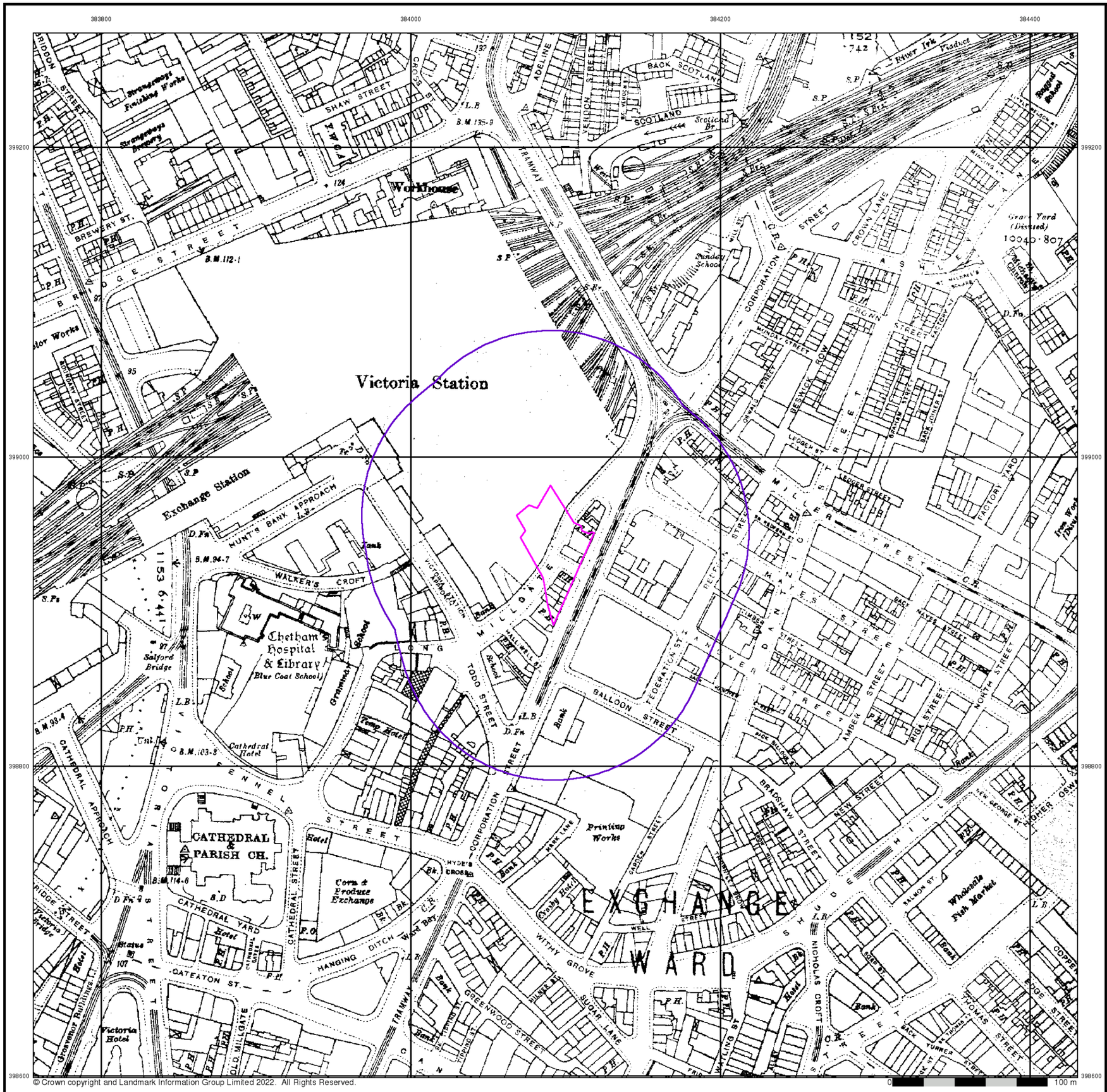
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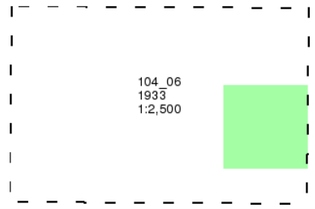
Lancashire And Furness

Published 1933

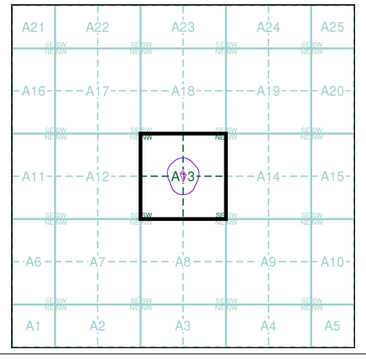
Source map scale - 1:2,500

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



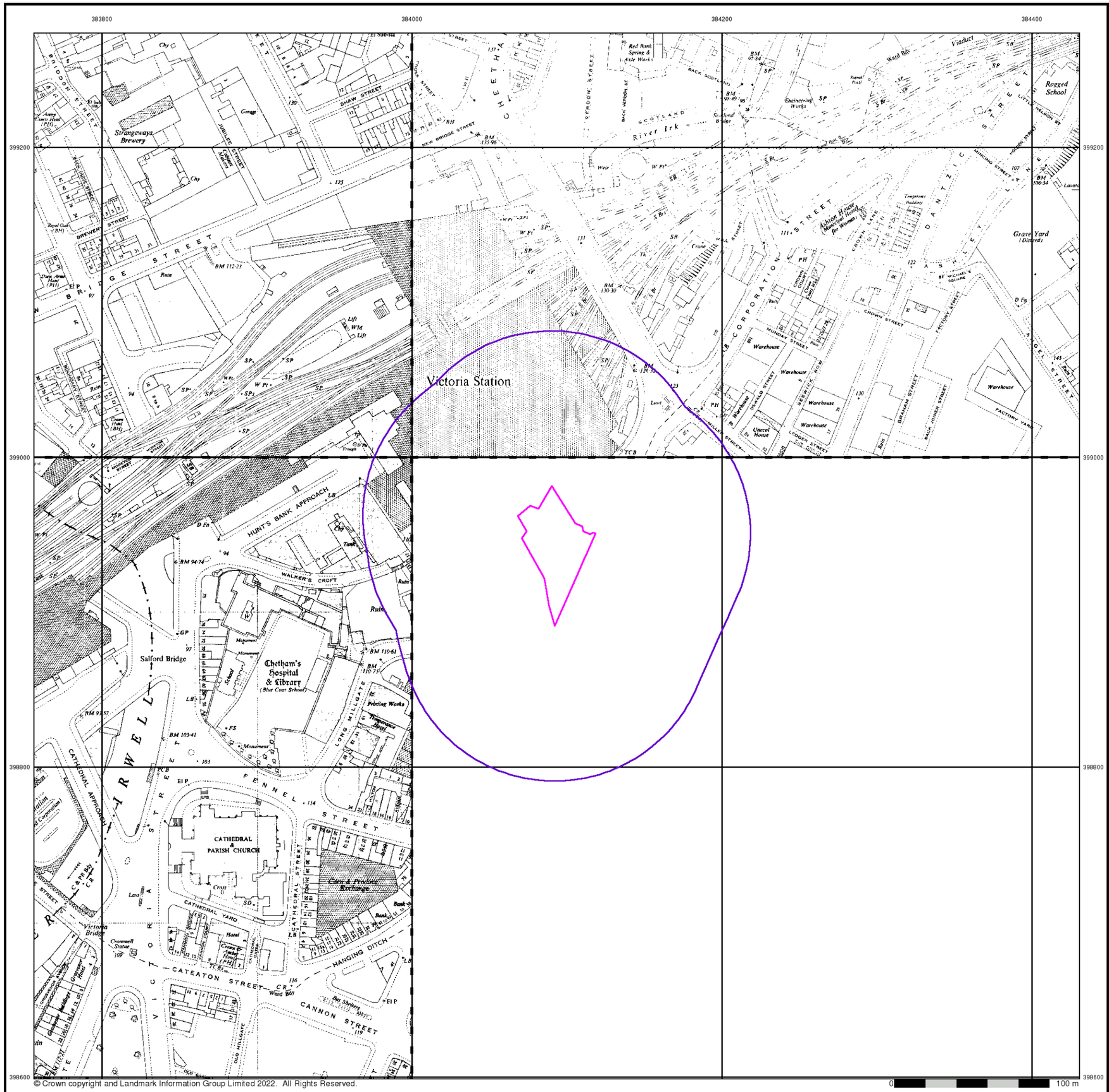
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Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

Site Details

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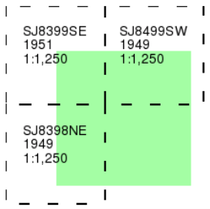
Ordnance Survey Plan

Published 1949 - 1951

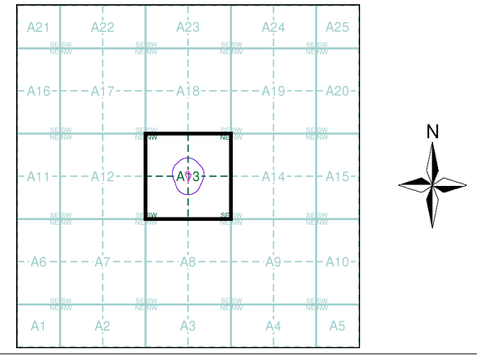
Source map scale - 1:1,250

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



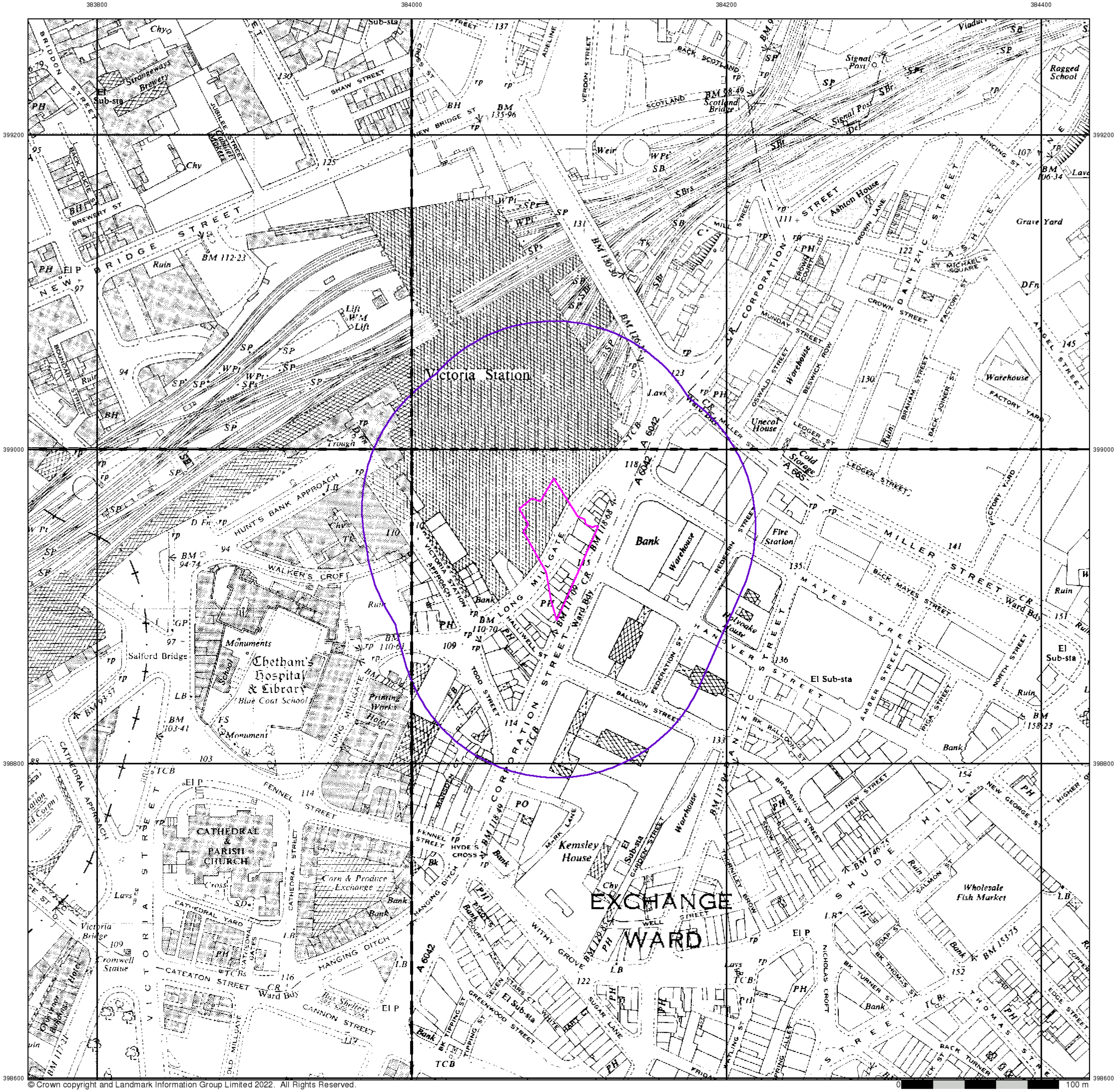
Order Details

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Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

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Ordnance Survey Plan

Published 1951 - 1952

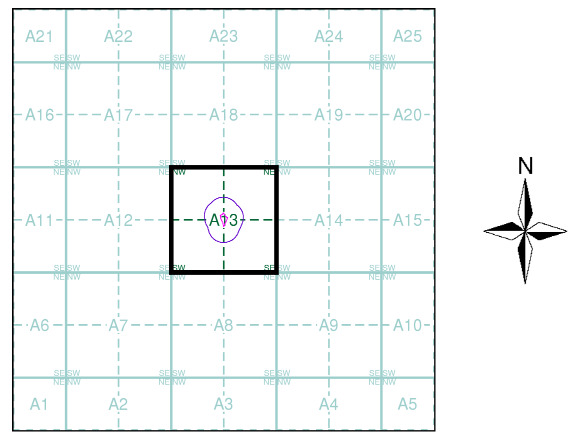
Source map scale - 1:2,500

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)

SJ8399 1952 1:2,500	SJ8499 1951 1:2,500
SJ8398 1951 1:2,500	SJ8498 1951 1:2,500

Historical Map - Segment A13



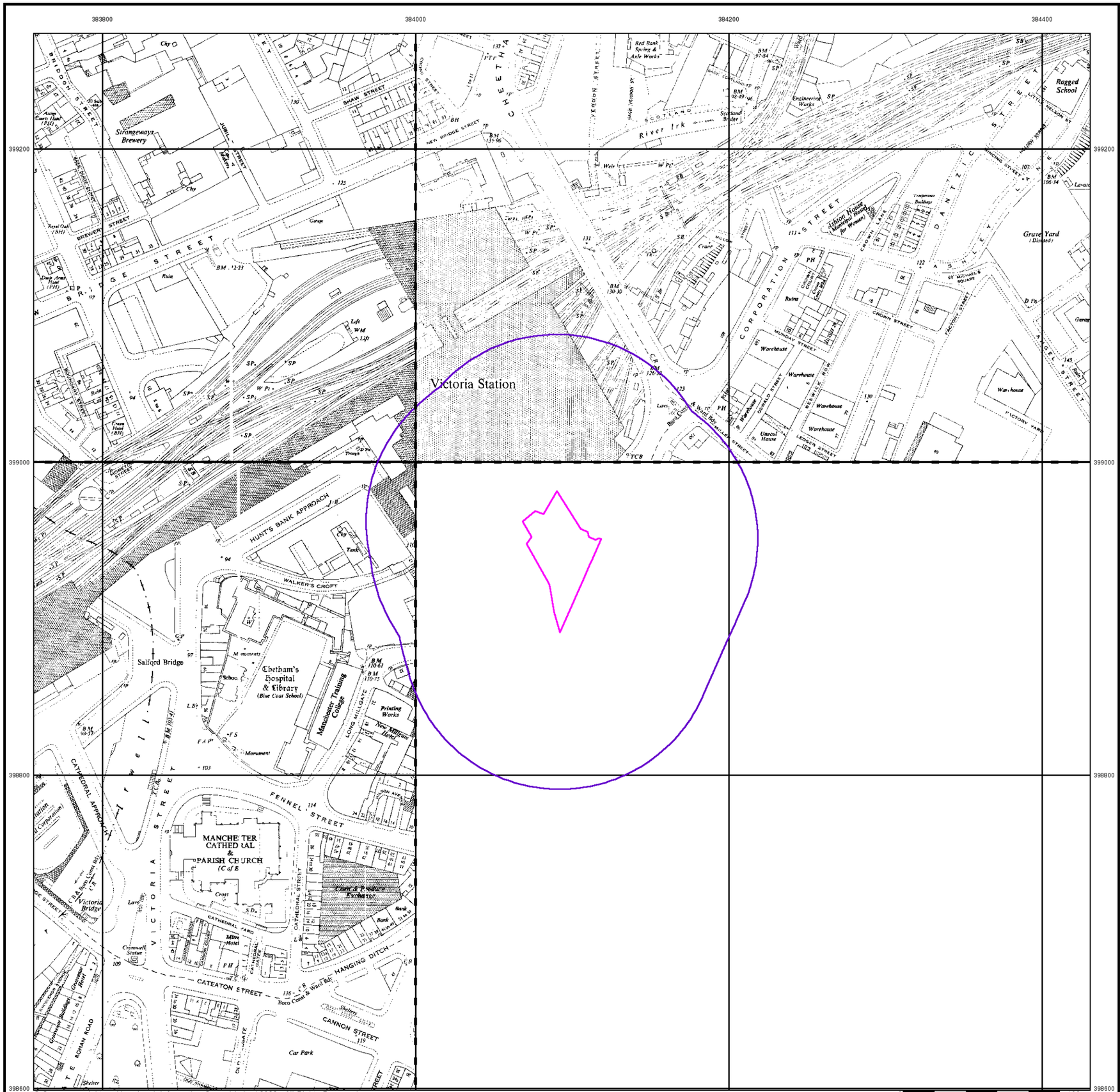
Order Details

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Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 100

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0 100 m

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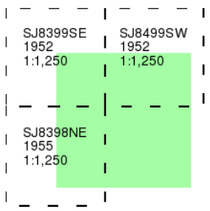
Ordnance Survey Plan

Published 1952 - 1955

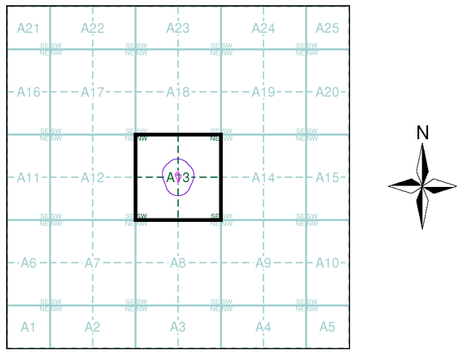
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



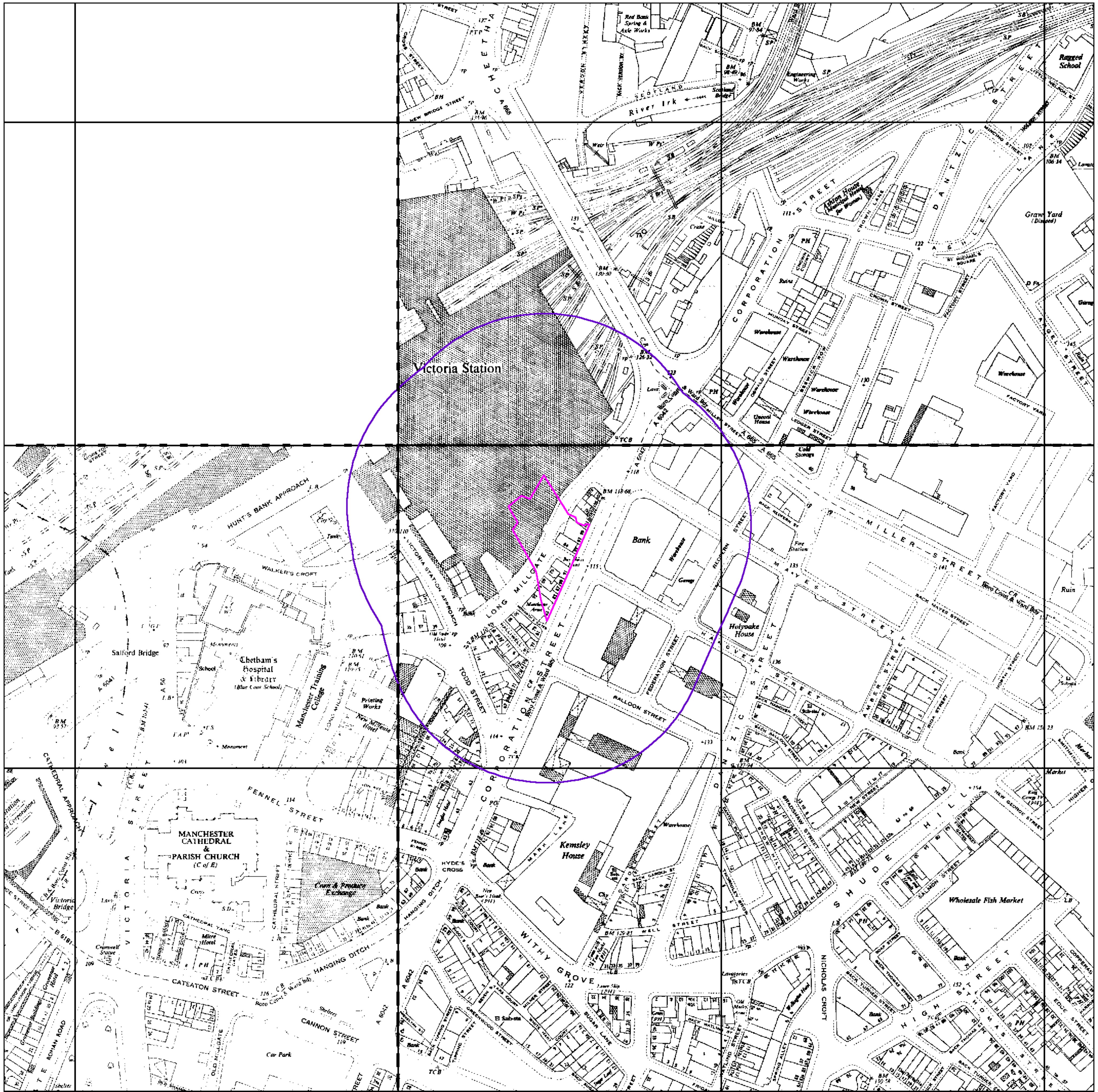
Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

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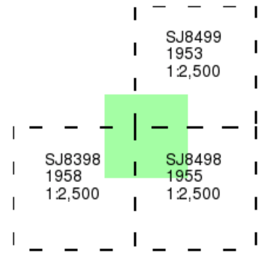
Ordnance Survey Plan

Published 1953 - 1958

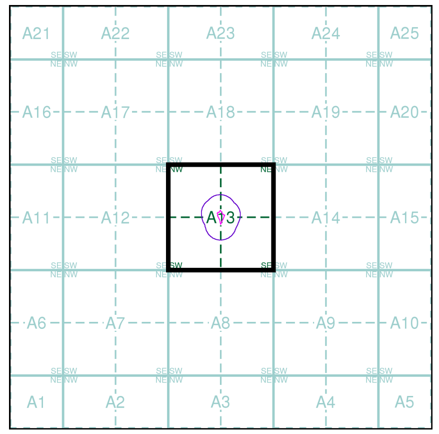
Source map scale - 1:2,500

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 Details

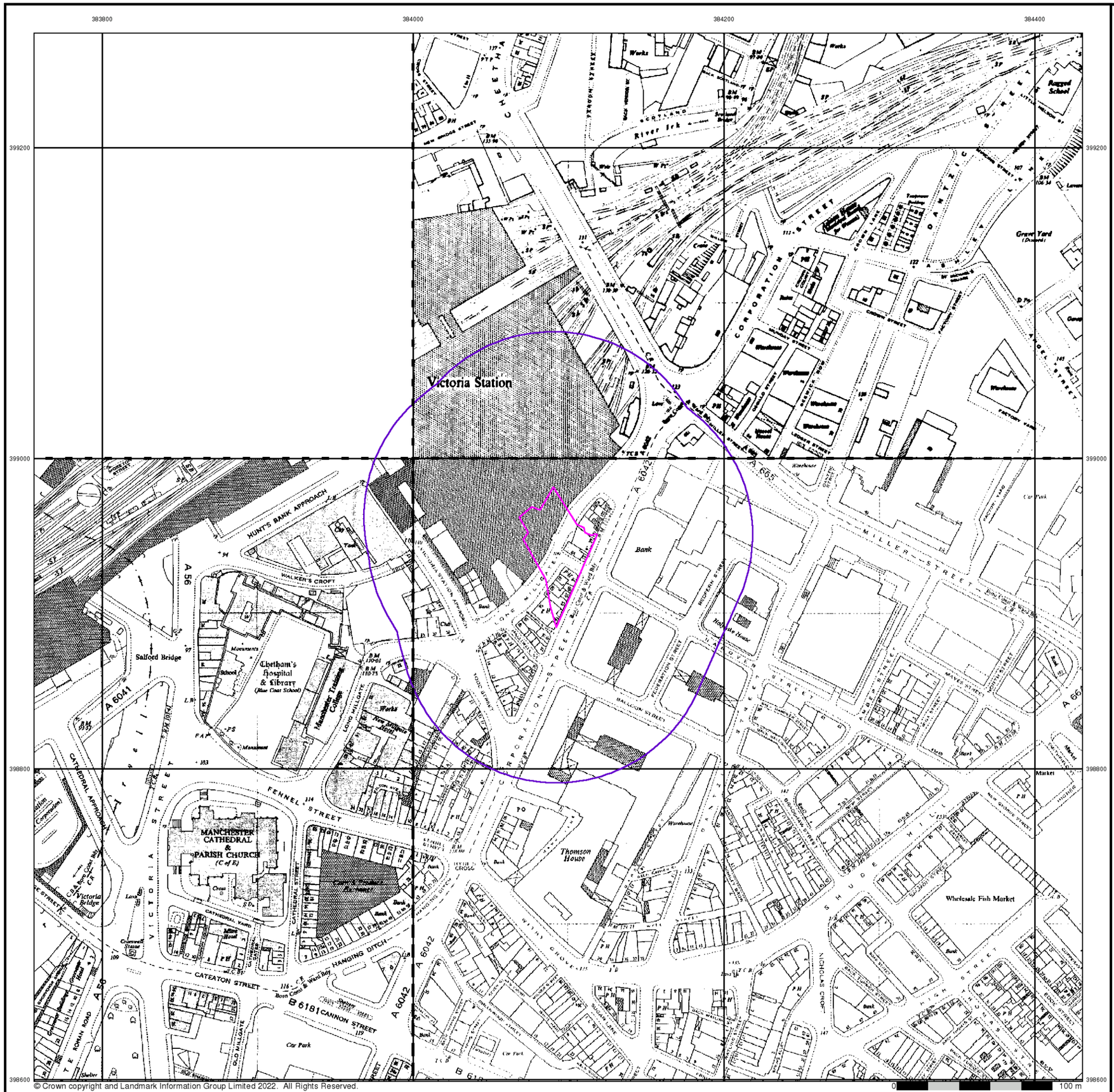
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Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 100

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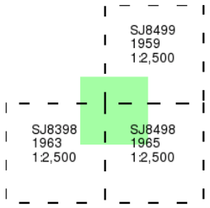
Ordnance Survey Plan

Published 1959 - 1965

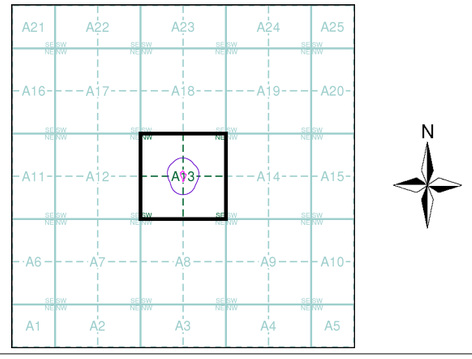
Source map scale - 1:2,500

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



Order Details

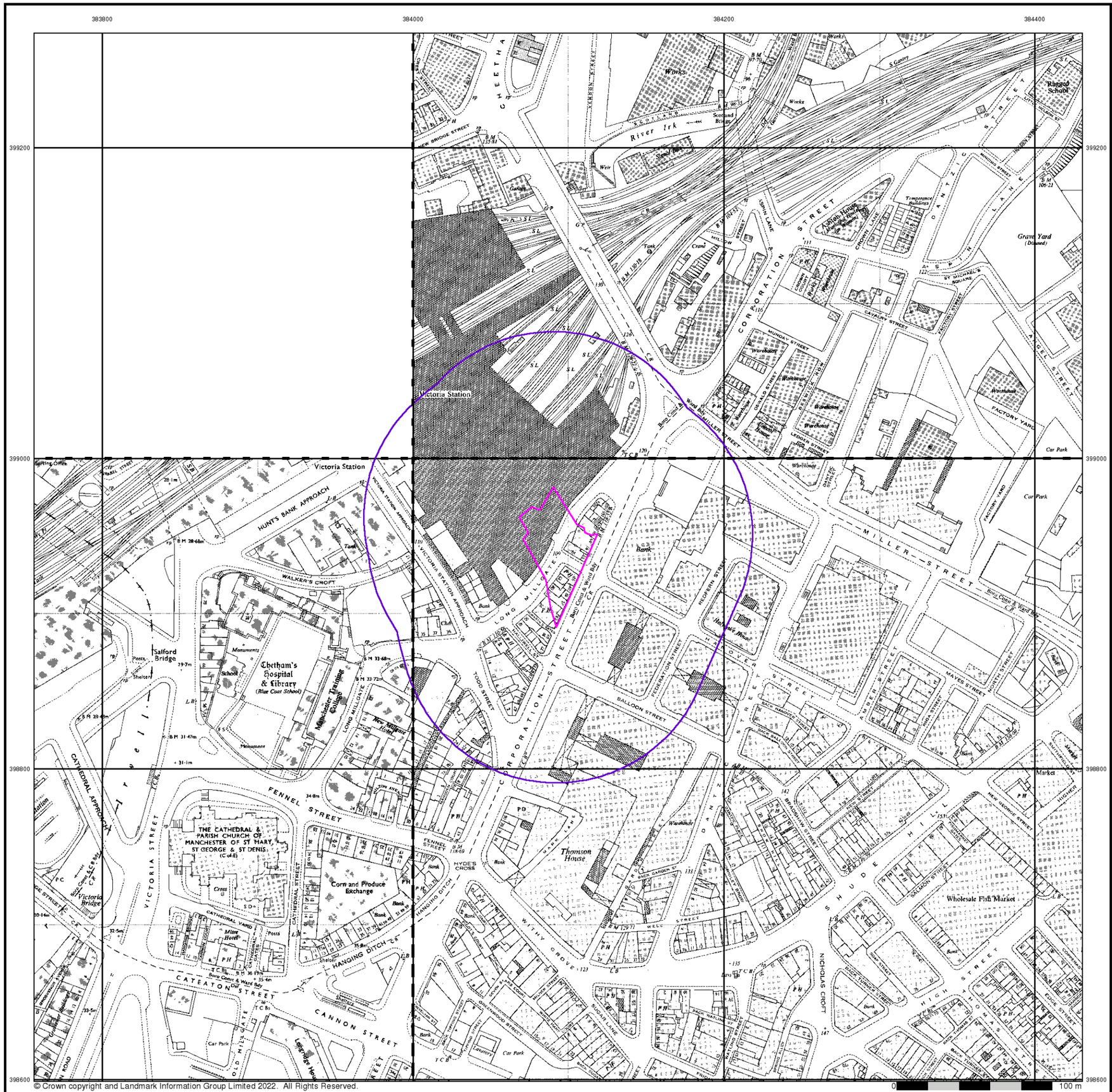
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

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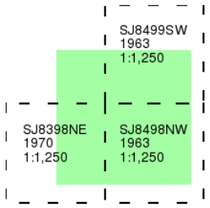
Ordnance Survey Plan

Published 1963 - 1970

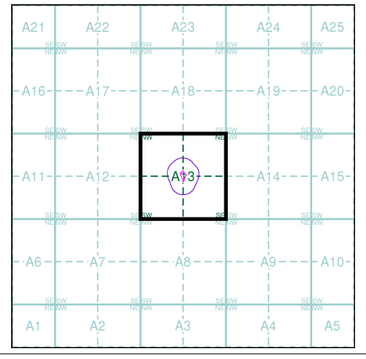
Source map scale - 1:1,250

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



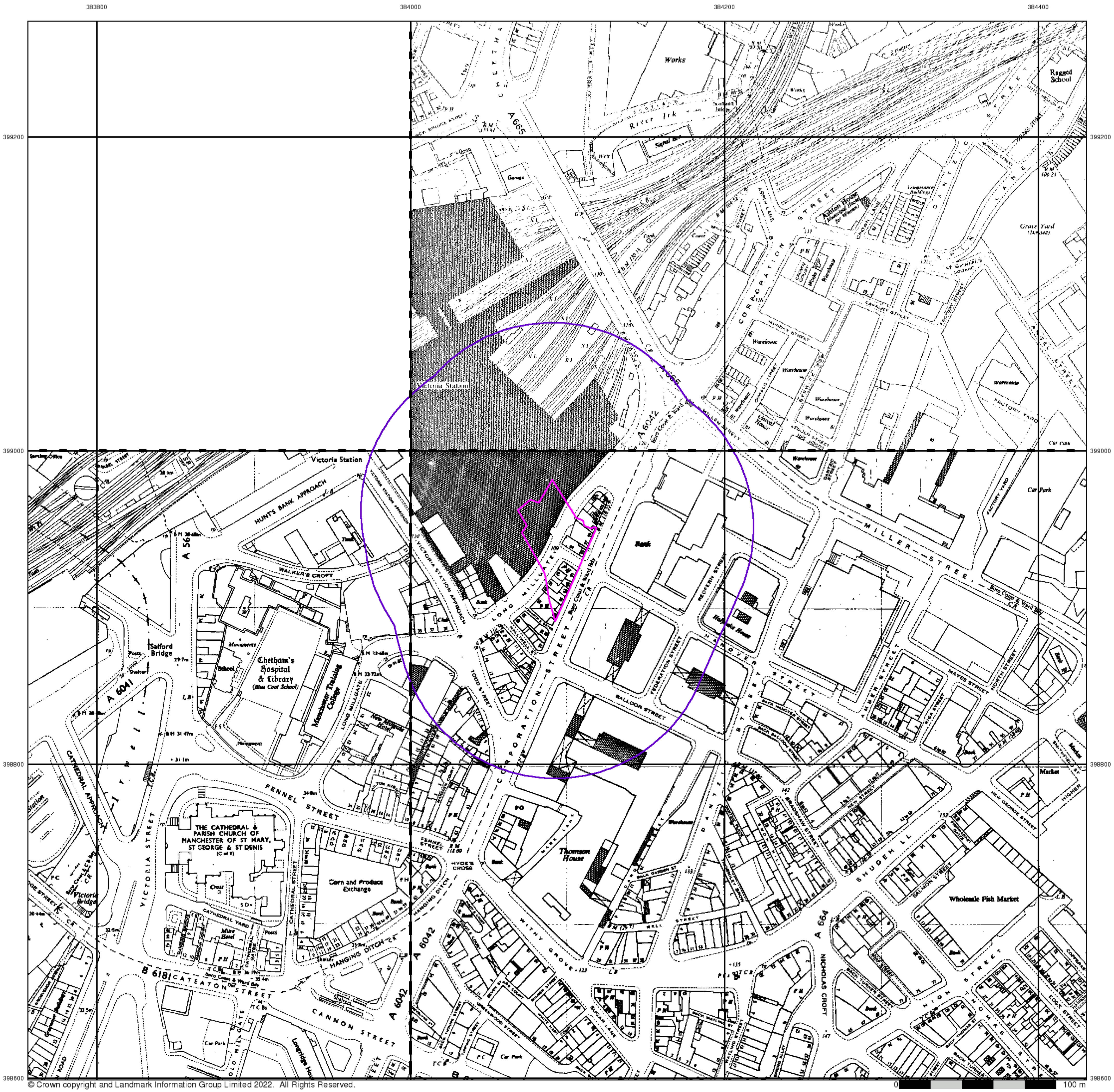
Order Details

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Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

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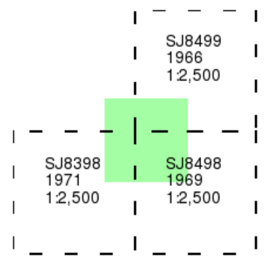
Ordnance Survey Plan

Published 1966 - 1971

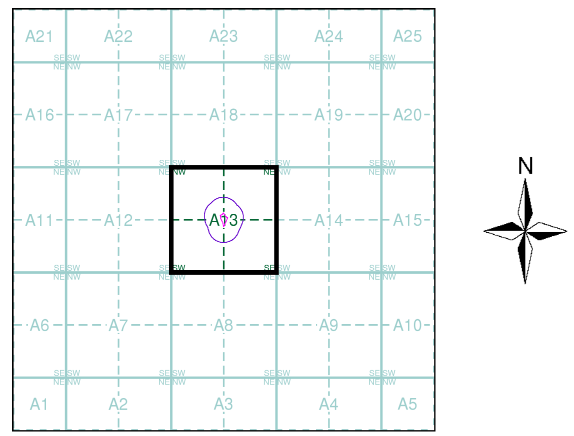
Source map scale - 1:2,500

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



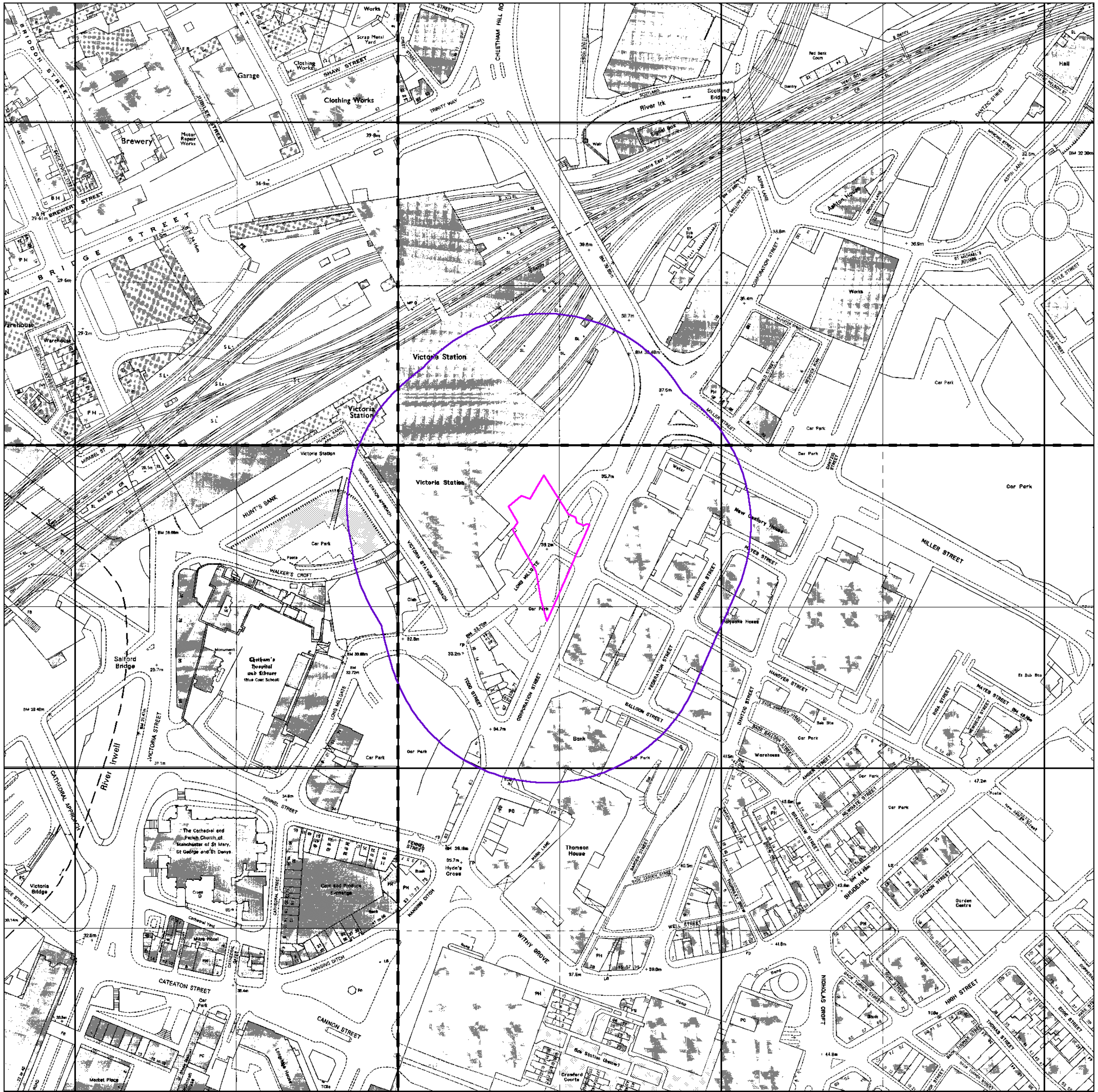
Order Details

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National Grid Reference: 384090, 398940
Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1975 - 1990

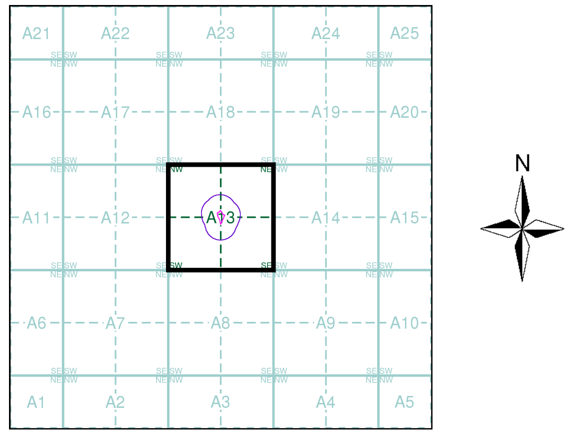
Source map scale - 1:1,250

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)

SJ8399SE 1975 1:1,250	SJ8499SW 1990 1:1,250
SJ8398NE 1989 1:1,250	SJ8498NW 1986 1:1,250

Historical Map - Segment A13



Order Details

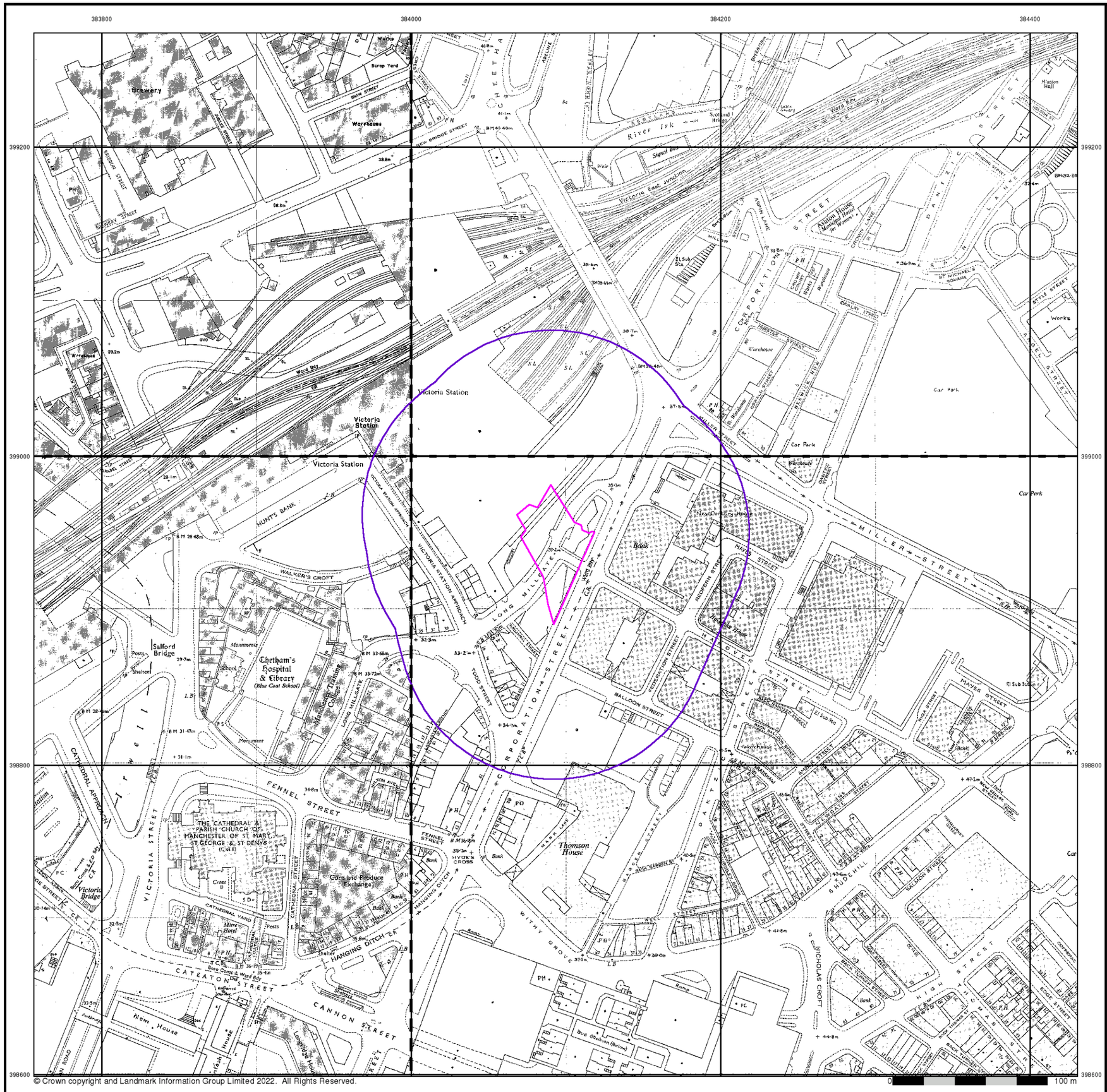
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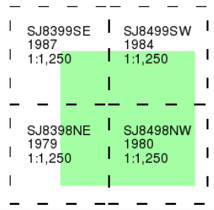
Additional SIMs

Published 1979 - 1987

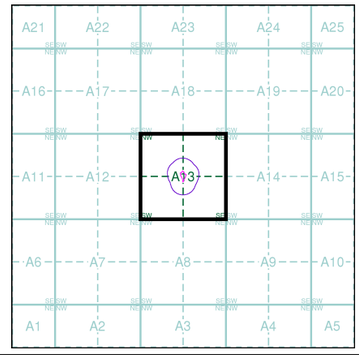
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

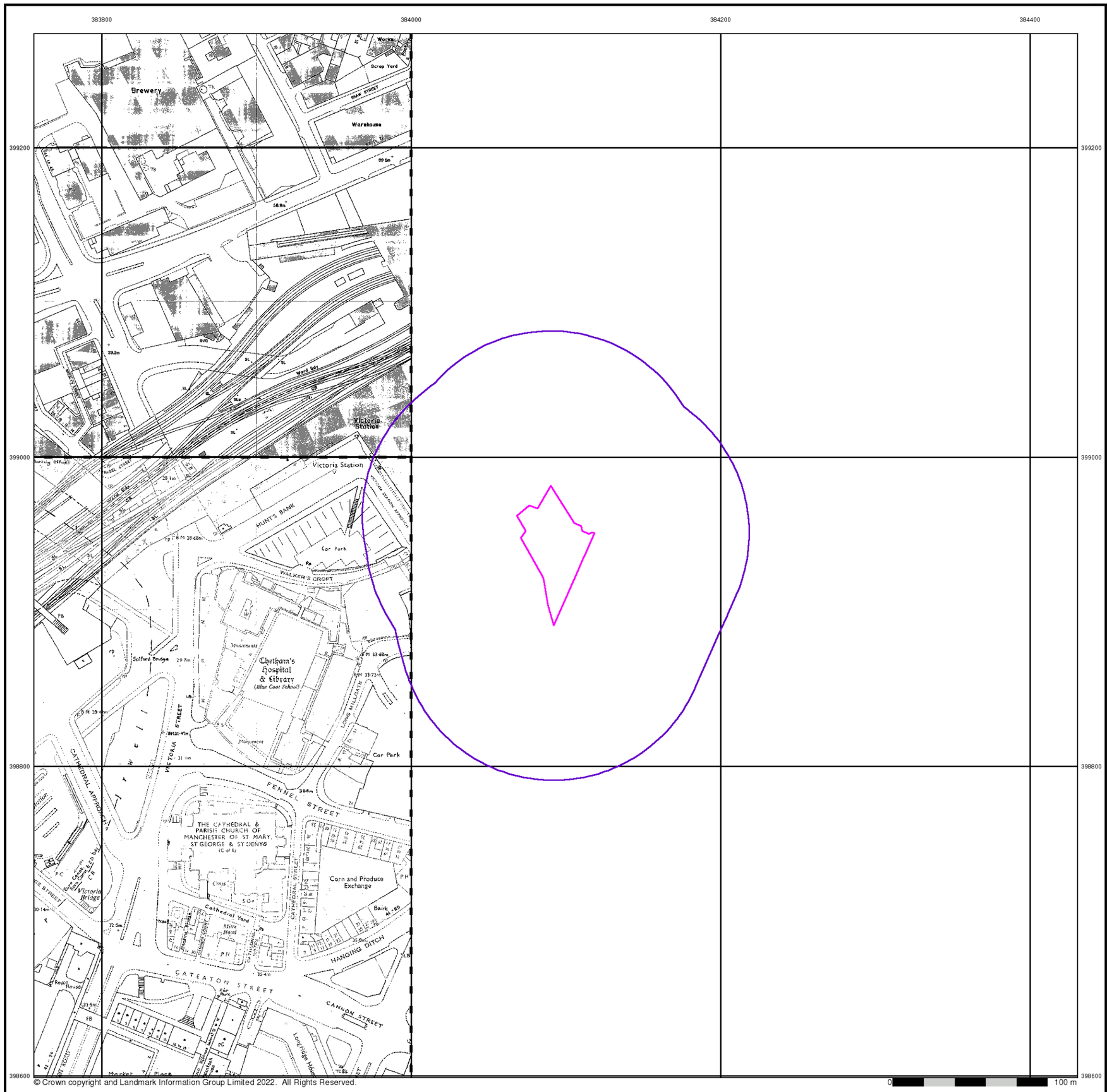
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

Site Details

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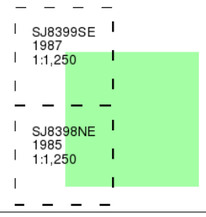
Additional SIMs

Published 1985 - 1987

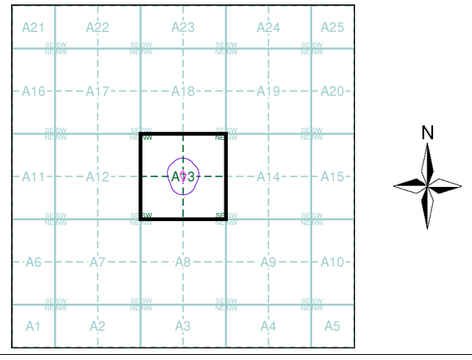
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



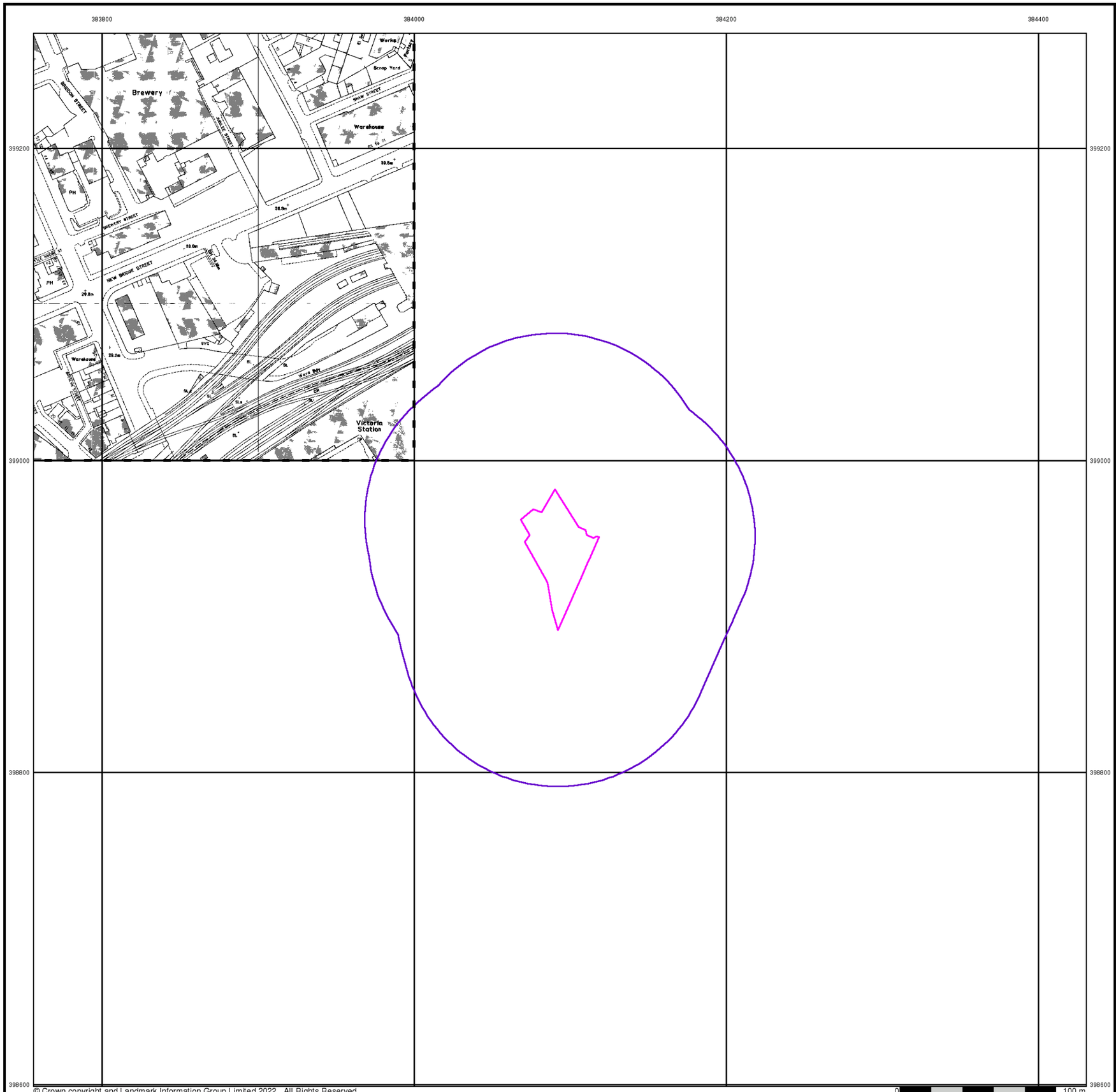
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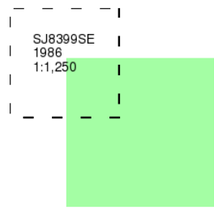
Ordnance Survey Plan

Published 1986

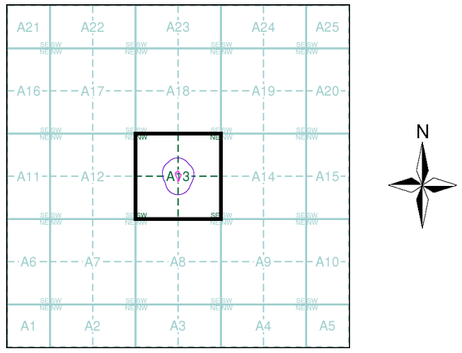
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



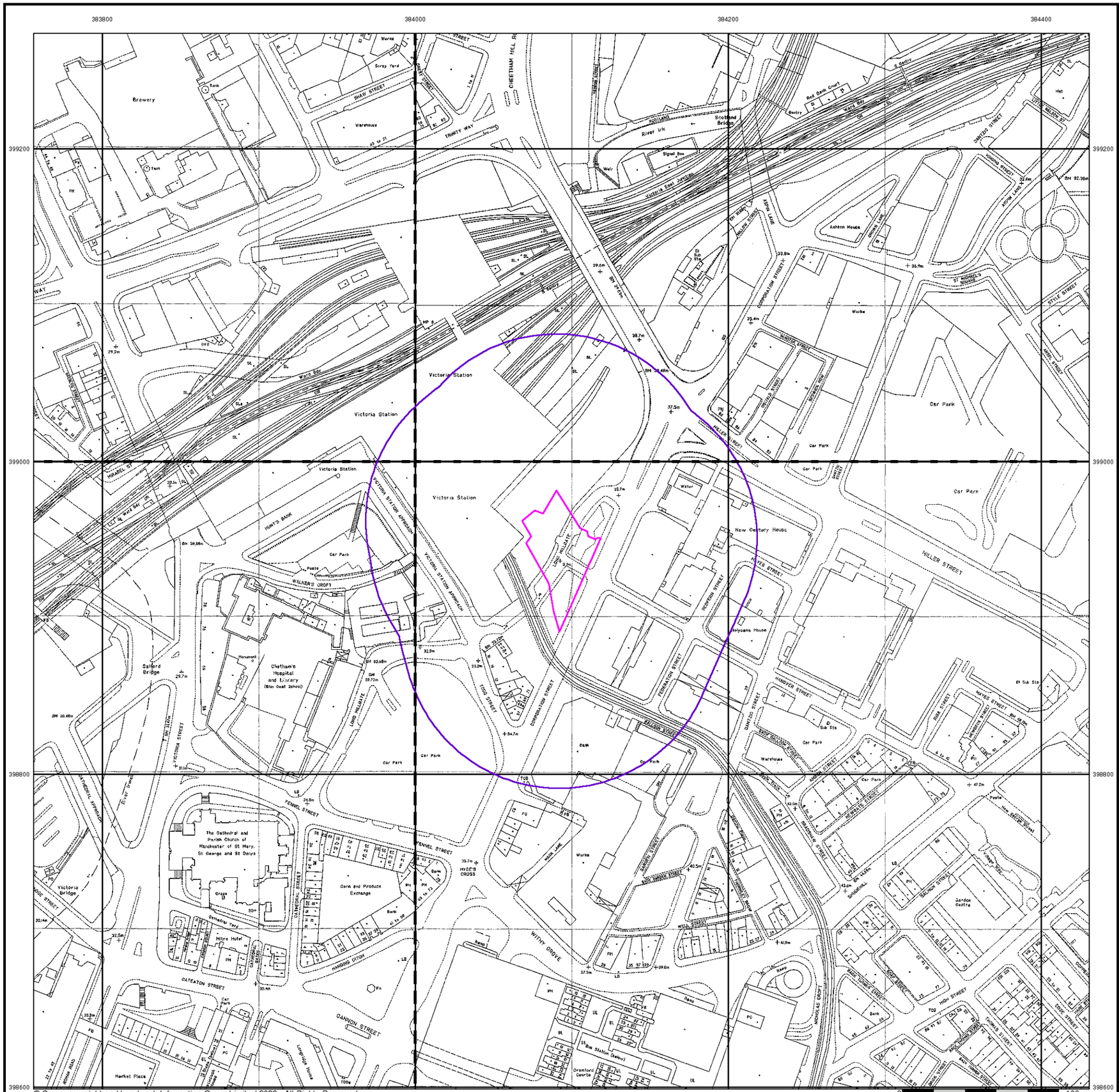
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National Grid Reference:	384090, 398940
Slice:	A
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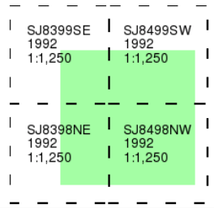
Large-Scale National Grid Data

Published 1992

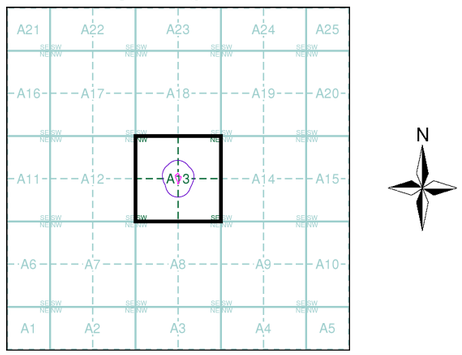
Source map scale - 1:1,250

'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)



Historical Map - Segment A13



Order Details

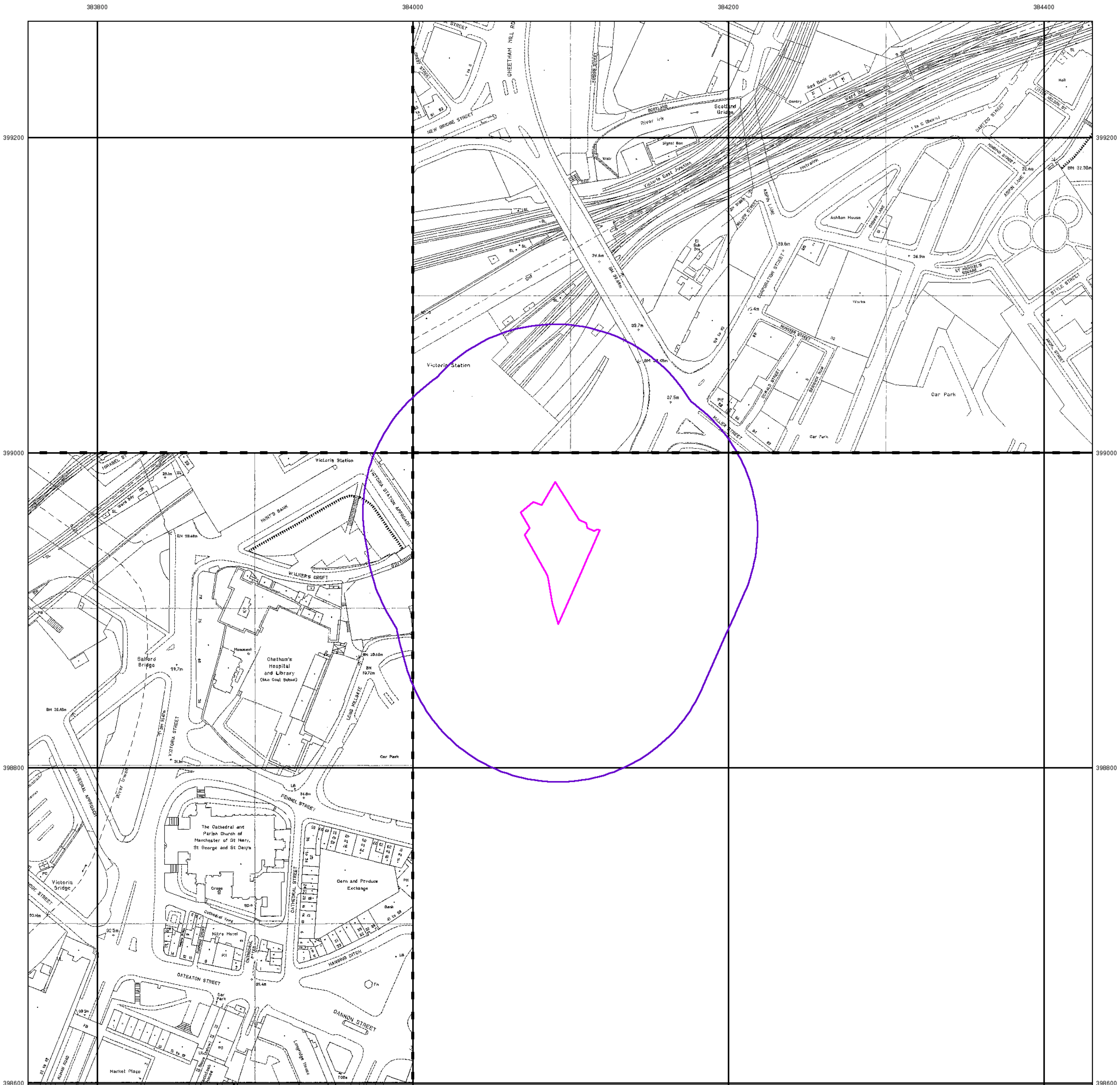
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	100

Site Details

New Victoria Manchester, MANCHESTER, M4 4AH

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Vertase FLI

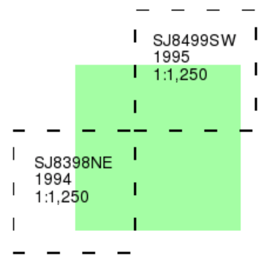
Large-Scale National Grid Data

Published 1994 - 1995

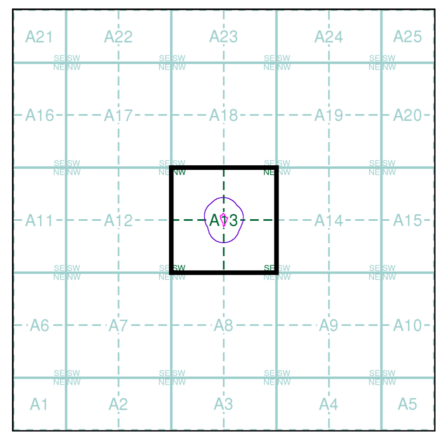
Source map scale - 1:1,250

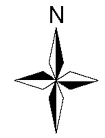
'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic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





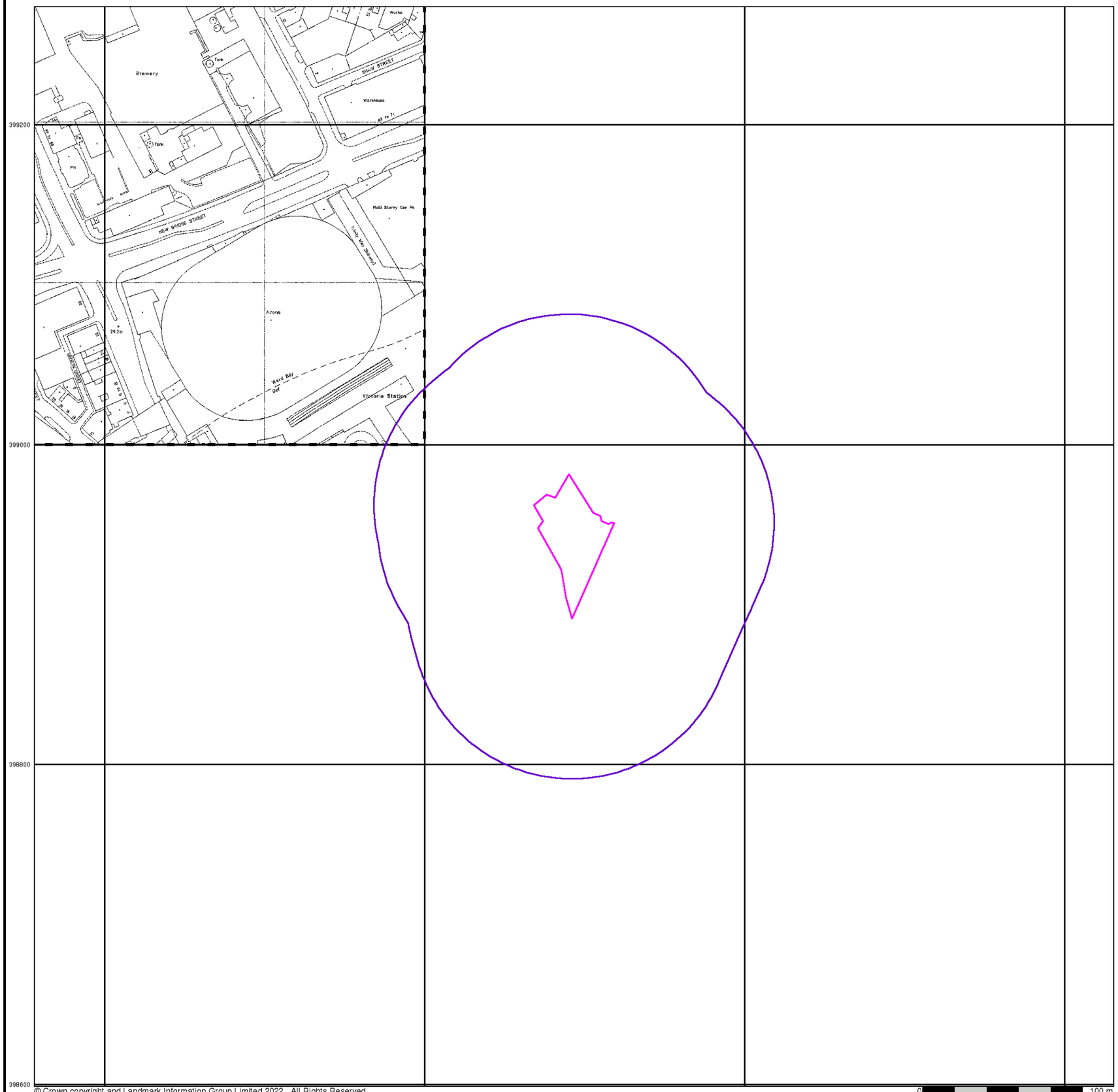
Order Details

Order Number: 293403470_1_1
Customer Ref: 1946AJP
National Grid Reference: 384090, 398940
Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 100

Site Details

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0 100 m

Vertase FLI

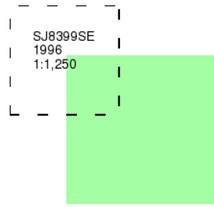
Large-Scale National Grid Data

Published 1996

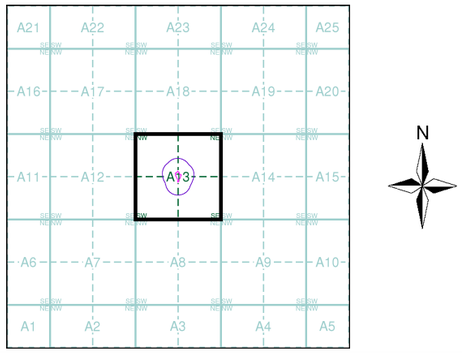
Source map scale - 1:1,250

'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

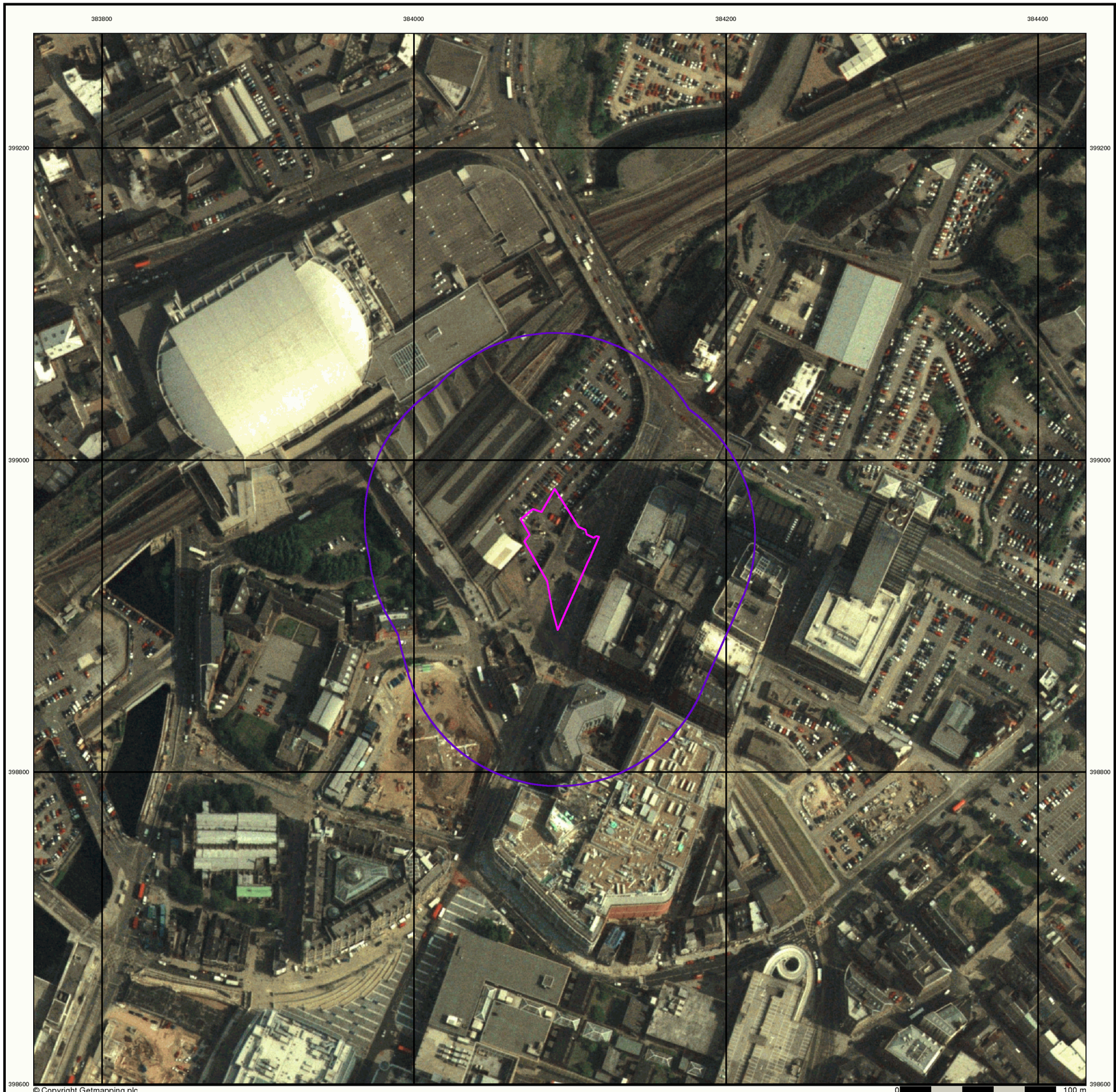
Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
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Site Area (Ha):	0.21
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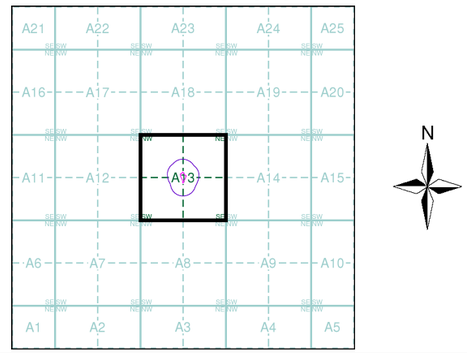
Vertase FLI

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

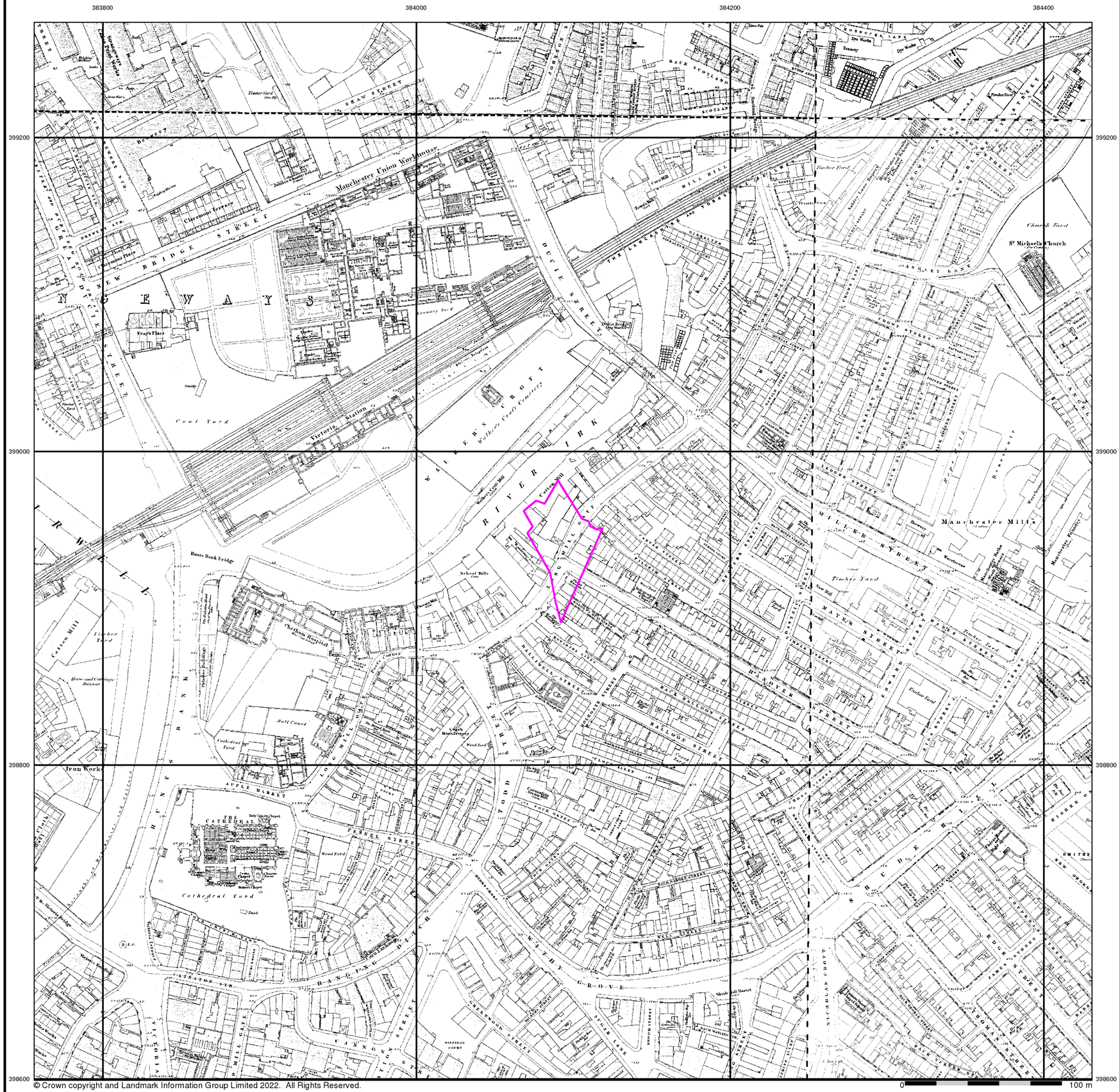
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Vertase FLI

Lancashire And Furness

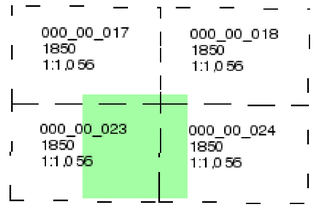
Published 1850

Source map scale - 1:1,056

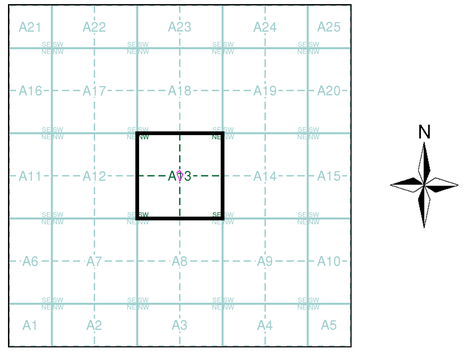
The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4000, plus county towns of lesser population, in those counties mapped at the six-inch scale in 1841-55. The scale was the largest scale at which London was mapped by the Ordnance Survey and a 'skeleton' survey of the capital, showing little more than streets, street names, frontages and altitudes, was undertaken between 1848 and 1850. The majority of the 1:1056 surveys were later replaced by 1:500 surveys; although almost all the remainder were revised at this scale, sometimes more than once before 1895. The type of detail shown on the 1:1056 scale is broadly similar to that on 1:500; the apparent omission of minor details such as sewer access points and street lights may be as much a reflection of the generally earlier date of these plans, as of the specification of the map.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)



Historical Town Plan - Segment A13



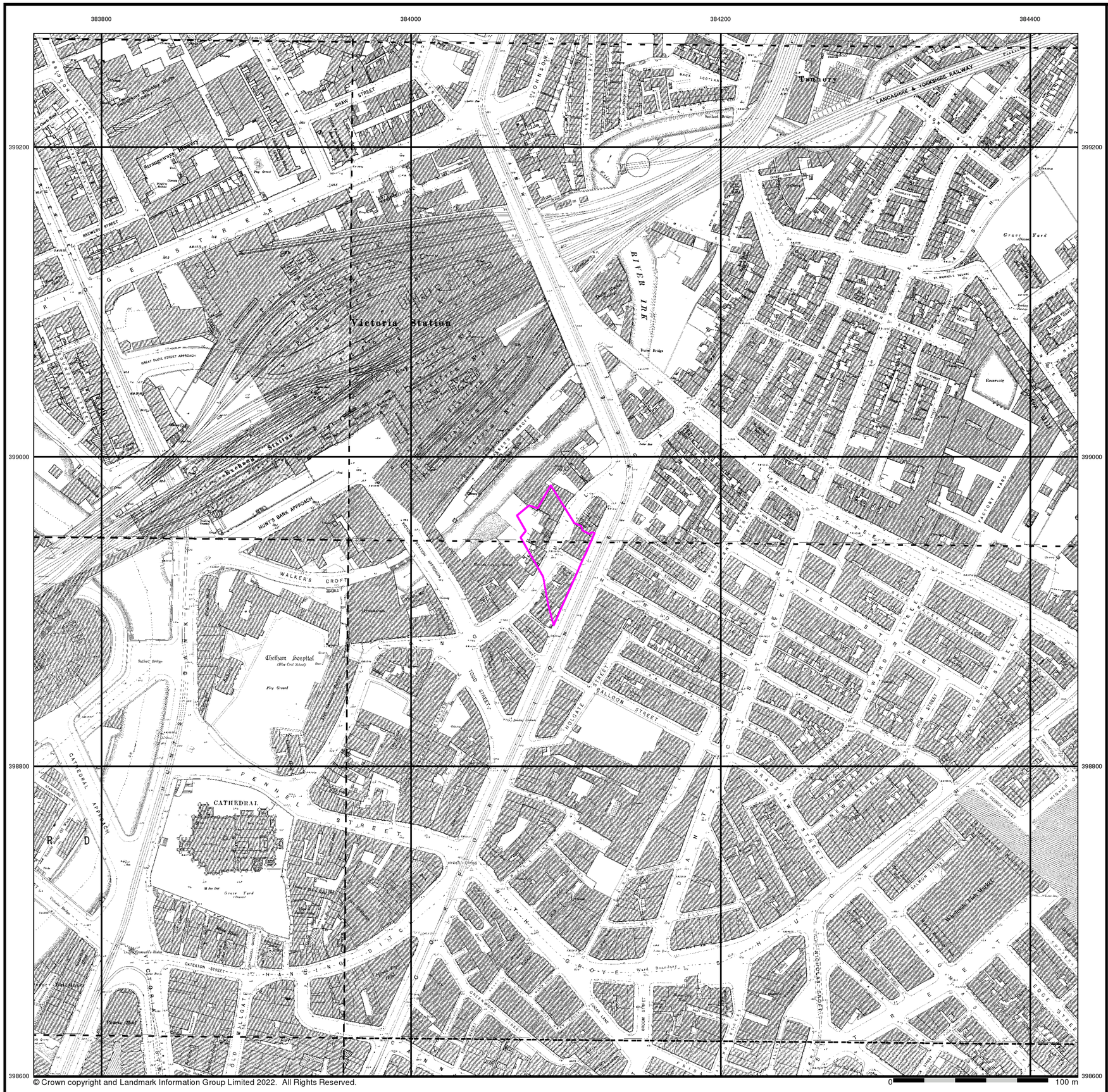
Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
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Site Area (Ha):	0.21
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Lancashire And Furness

Published 1891

Source map scale - 1:500

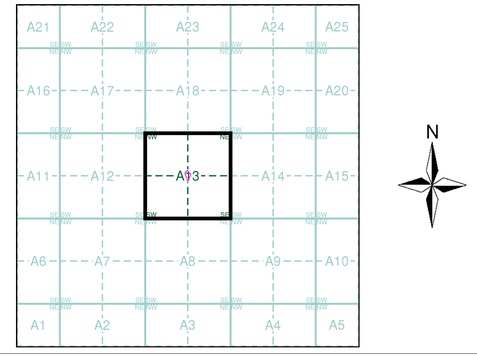
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

1891 1891
1:500 1:500
1891
1:500
1891 1891
1:500 1:500
1891 1891
1:500 1:500

Historical Town Plan - Segment A13



Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
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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

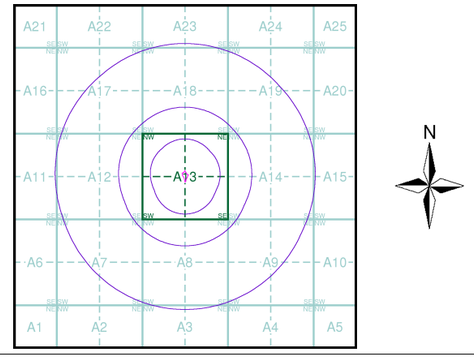
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community 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

Vertase FLI

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 - 1896	5
Lancashire And Furness	1:10,560	1909	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

Order Number: 293403470_1_1
Customer Ref: 1946AJP
National Grid Reference: 384090, 398940
Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 1000

Site 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
- Direction and velocity of current
- 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

SJ89_Manchester

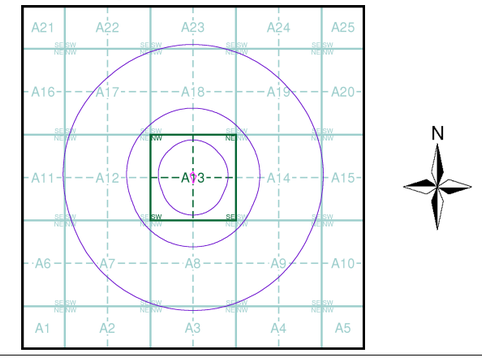
No.	Description
62	Factory (Gas)
63	Factory (Gas)
93	Factory (Metal Works)
157	Police Station/Headquarters
168	Post Office
169	Post Office
194	Railway Station (Freight)
211	Council/Government Buildings/Courts
216	Prison
248	Power Station (Electric)

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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 - 1896	5
Lancashire And Furness	1:10,560	1909	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

Russian Map - Slice A



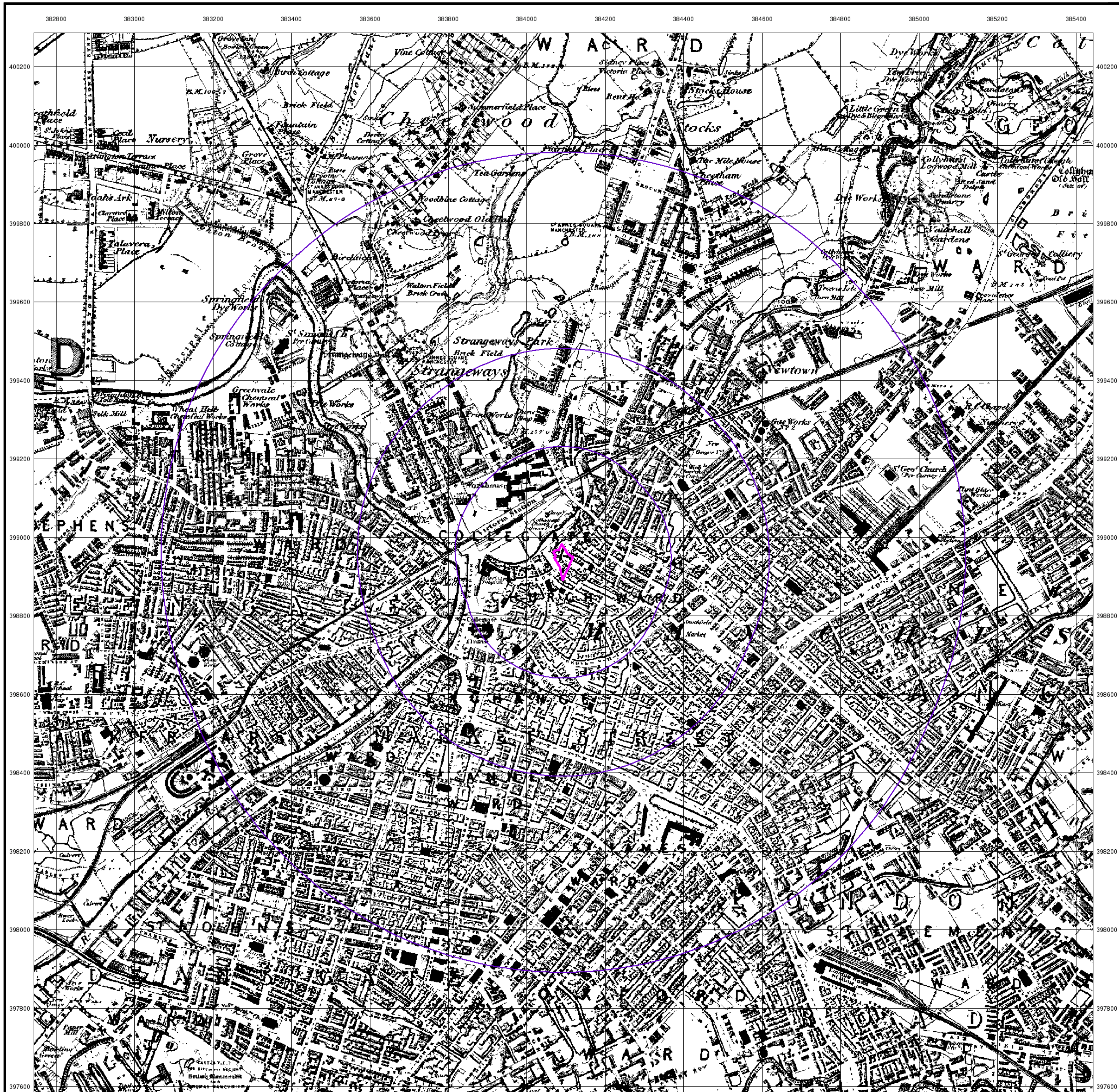
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Lancashire And Furness

Published 1848

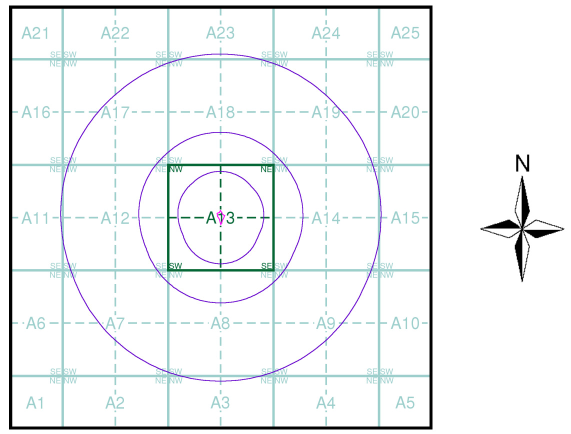
Source map scale - 1:10,560

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)

10400
1848
1:10,560

Historical Map - Slice A



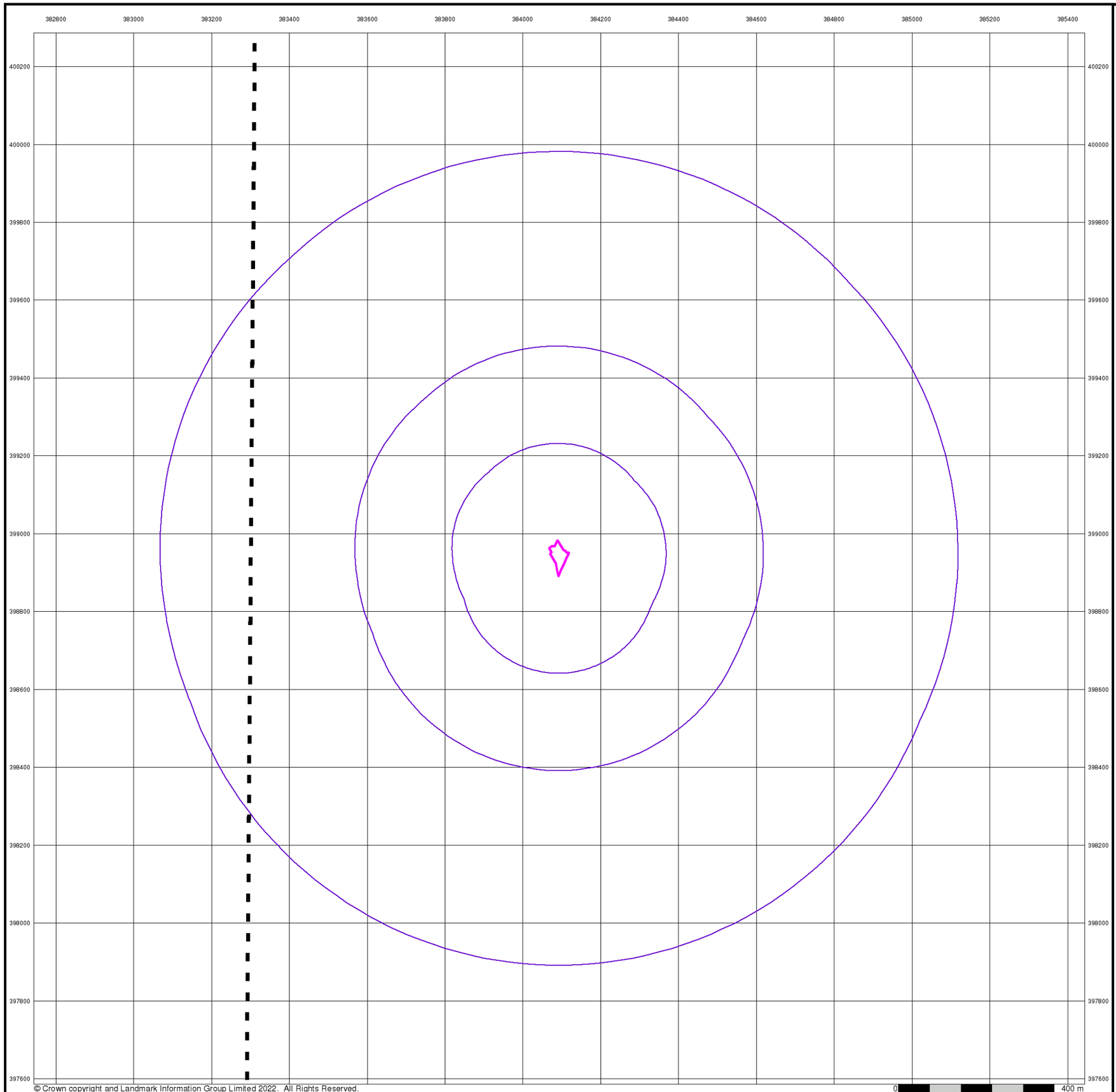
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Vertase FLI

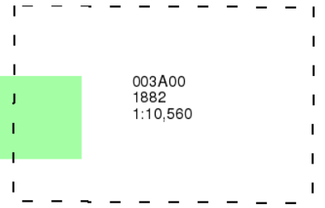
Cheshire

Published 1882

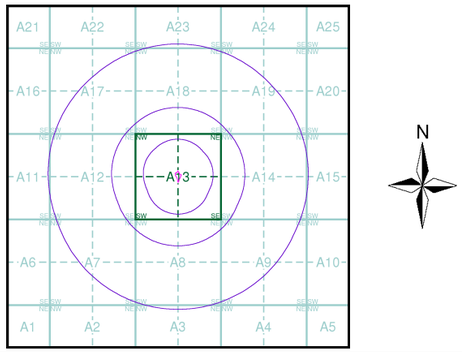
Source map scale - 1:10,560

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

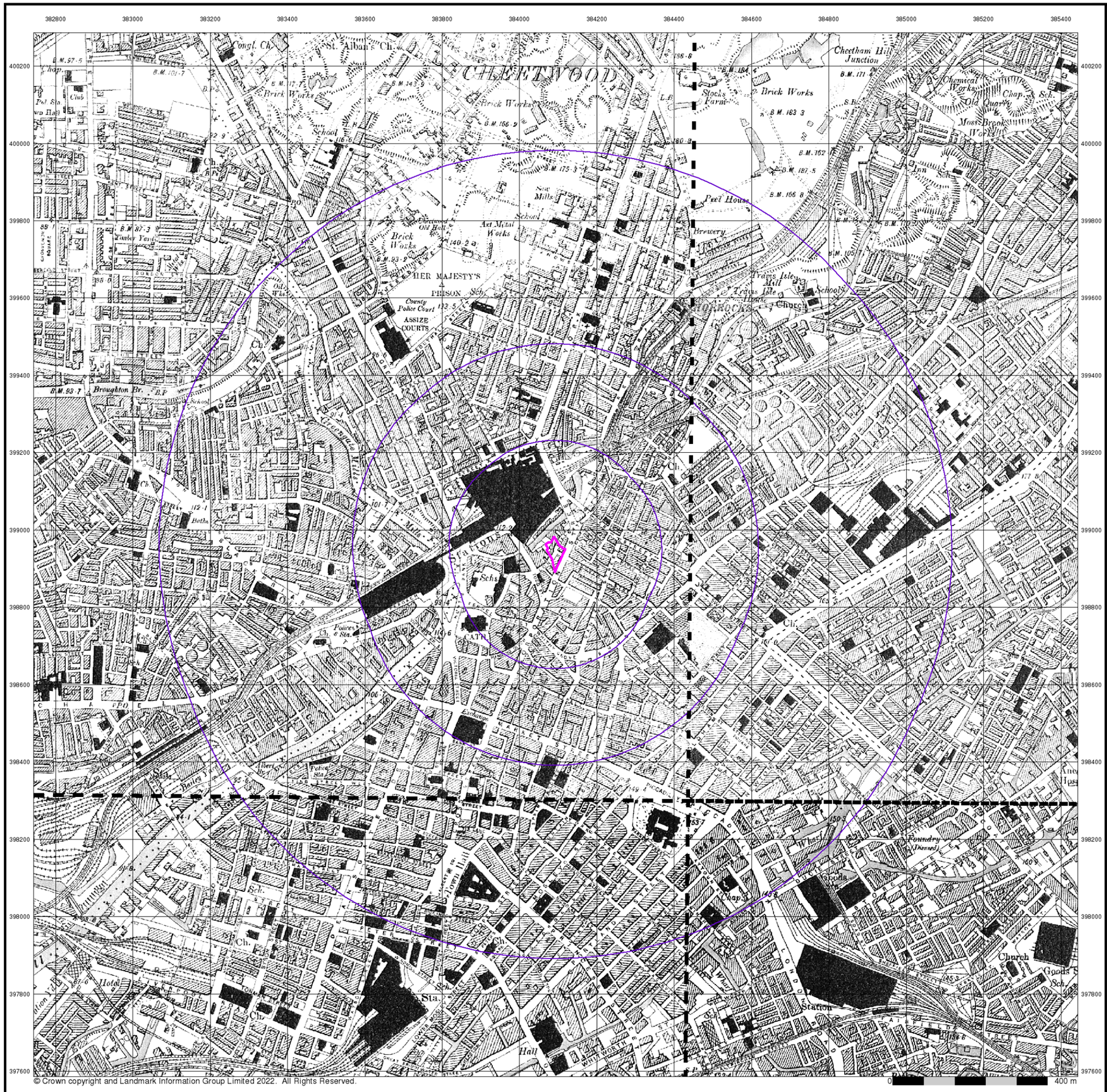
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Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

Site Details

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Lancashire And Furness

Published 1894 - 1896

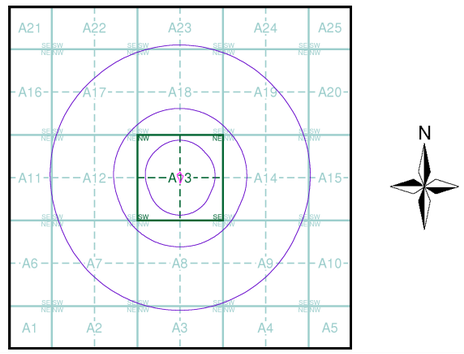
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Map Name(s) and Date(s)

104NW 1894 1:10,560	104NE 1894 1:10,560
104SW 1896 1:10,560	104SE 1894 1:10,560

Historical Map - Slice A



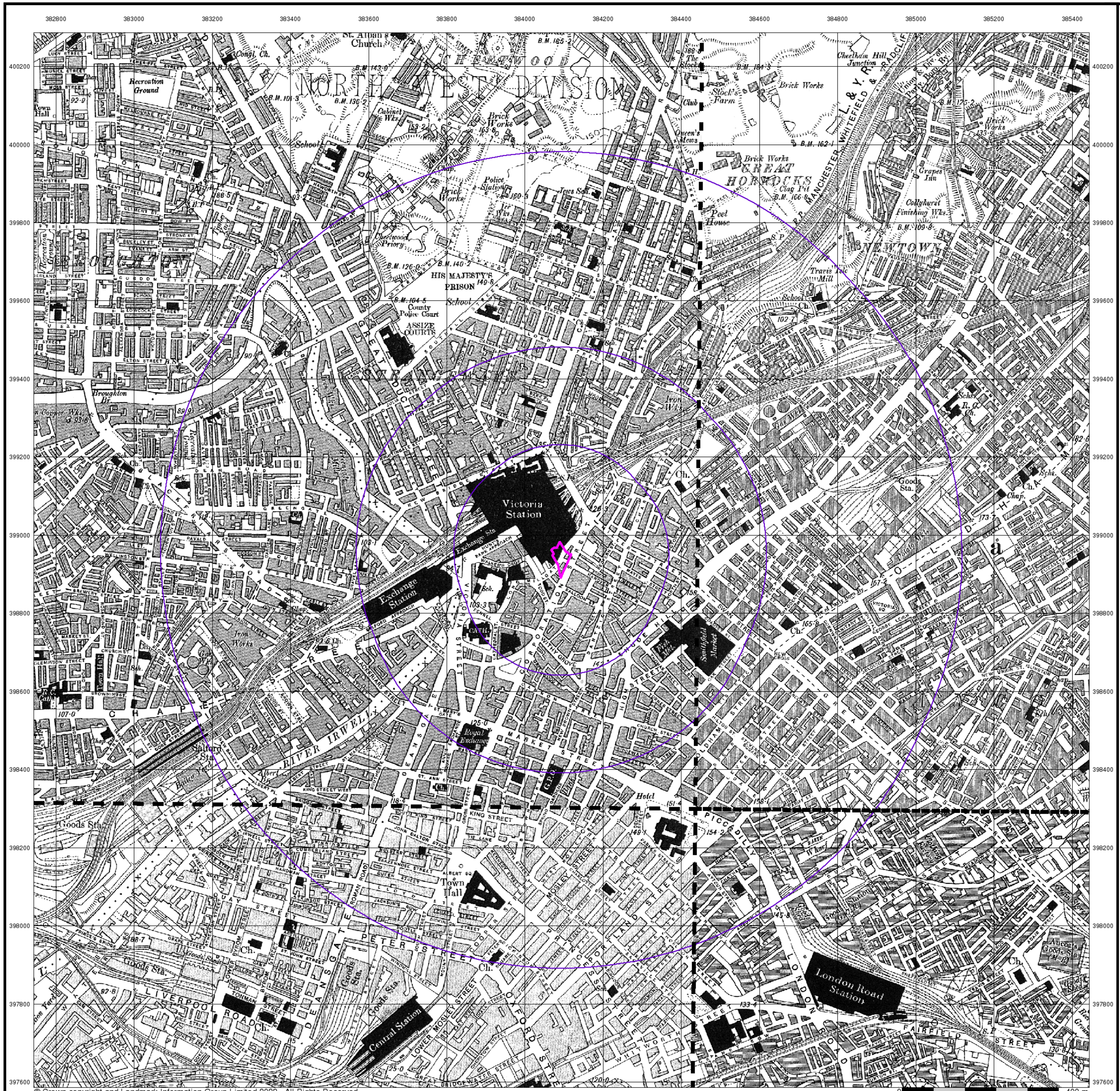
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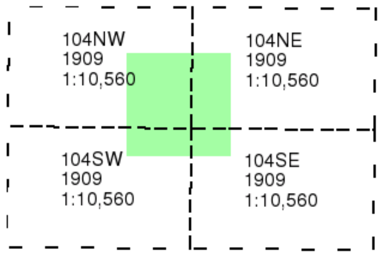
Lancashire And Furness

Published 1909

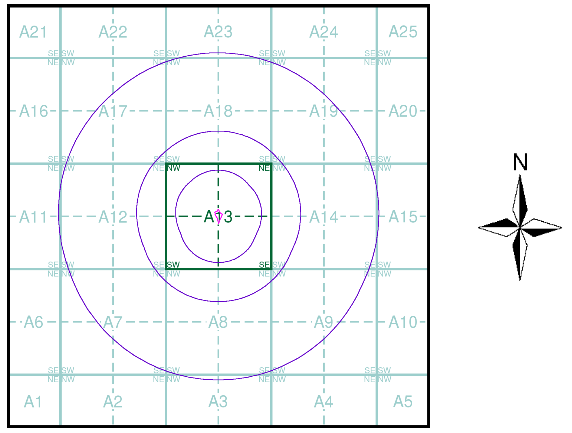
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

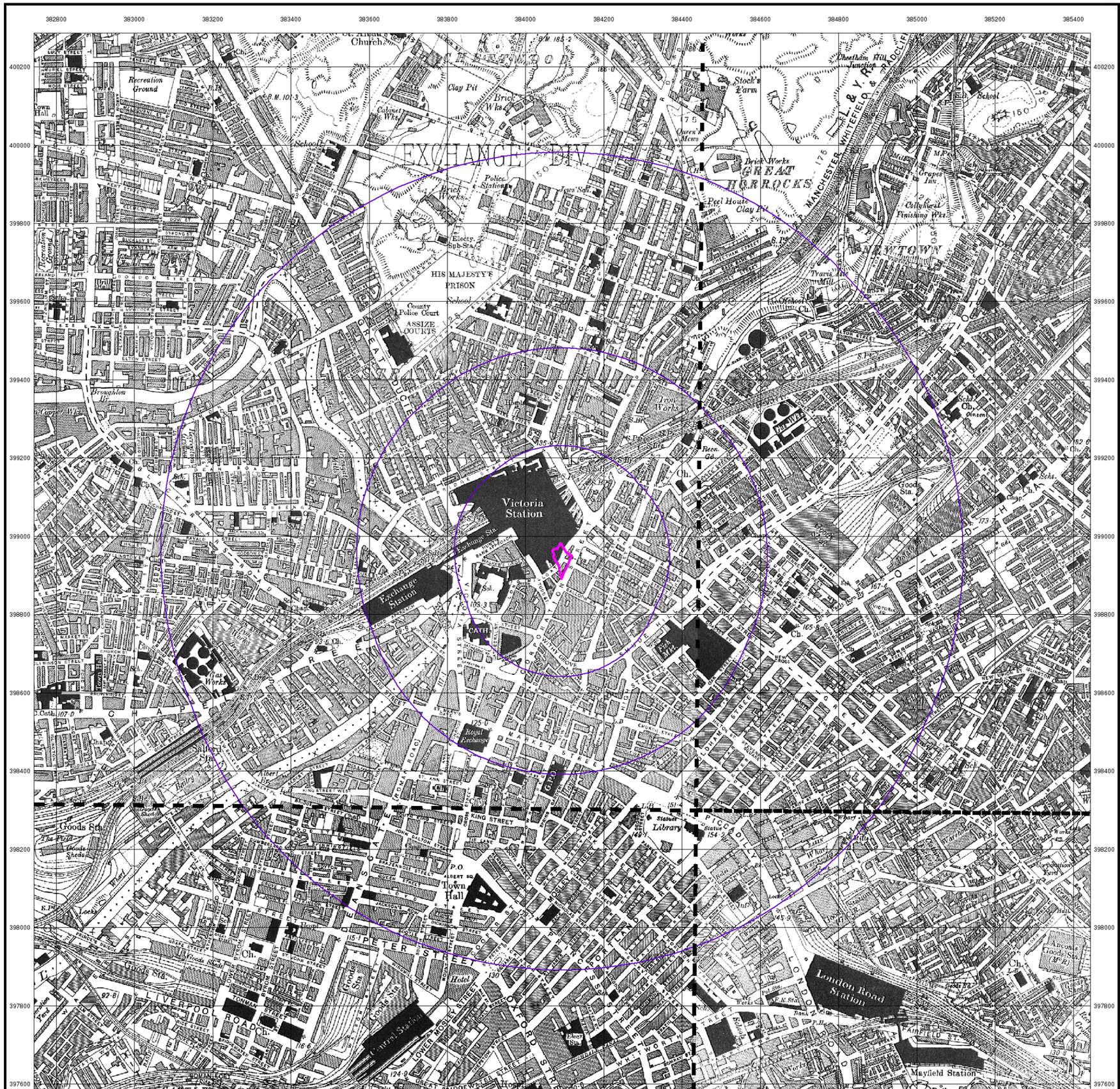
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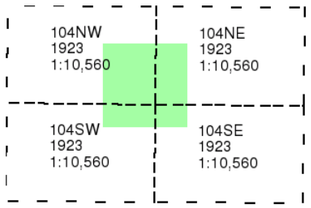
Lancashire And Furness

Published 1923

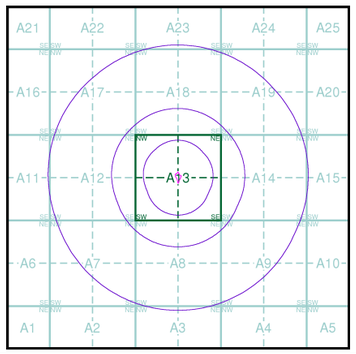
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



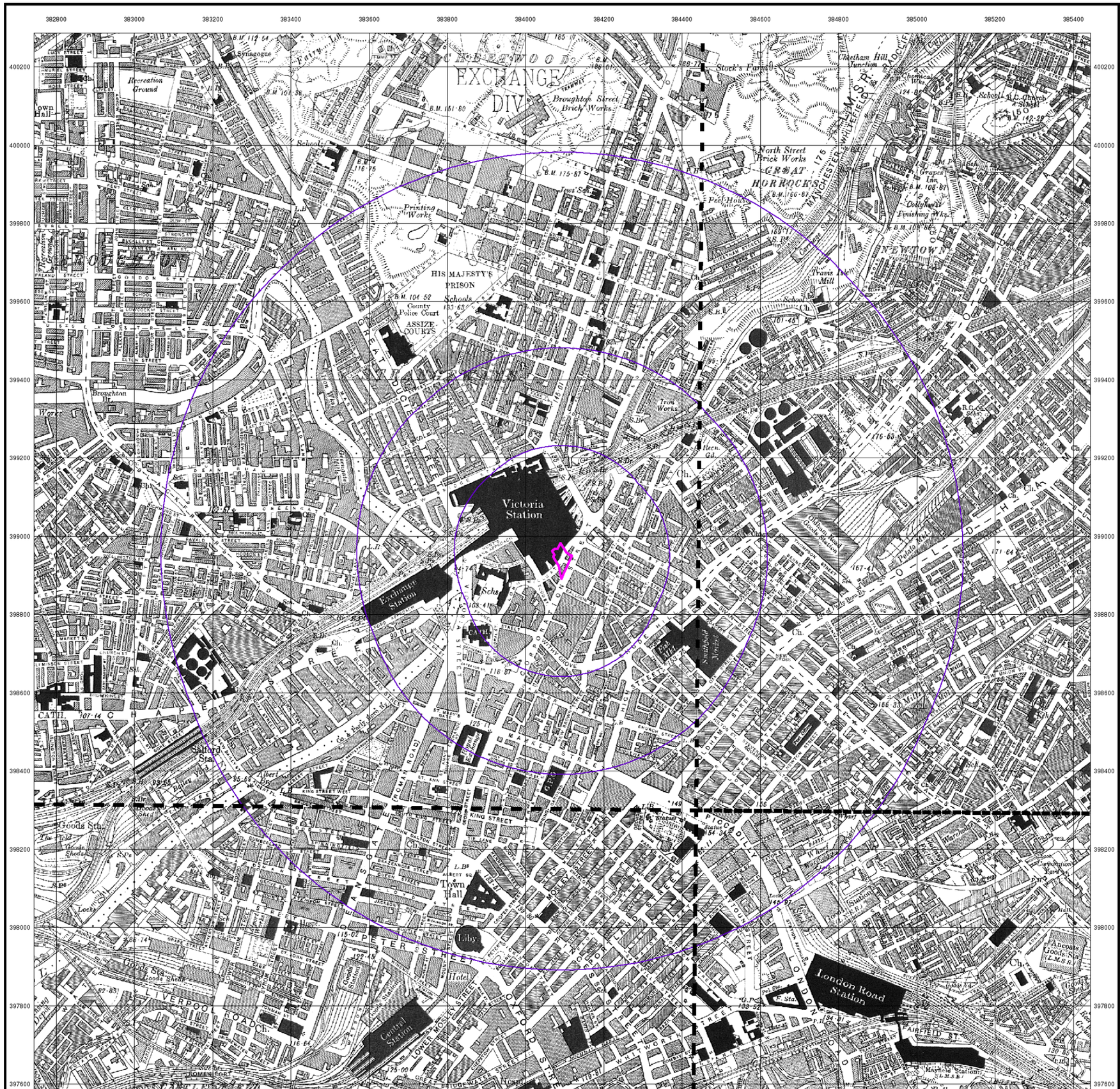
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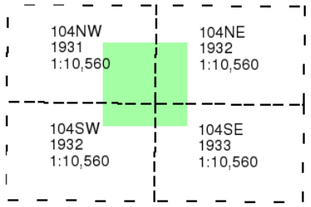
Lancashire And Furness

Published 1931 - 1933

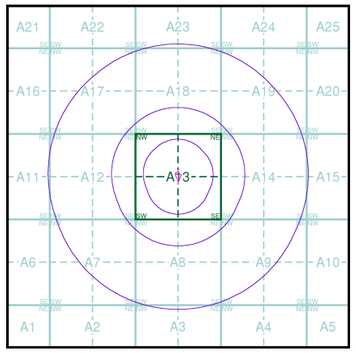
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



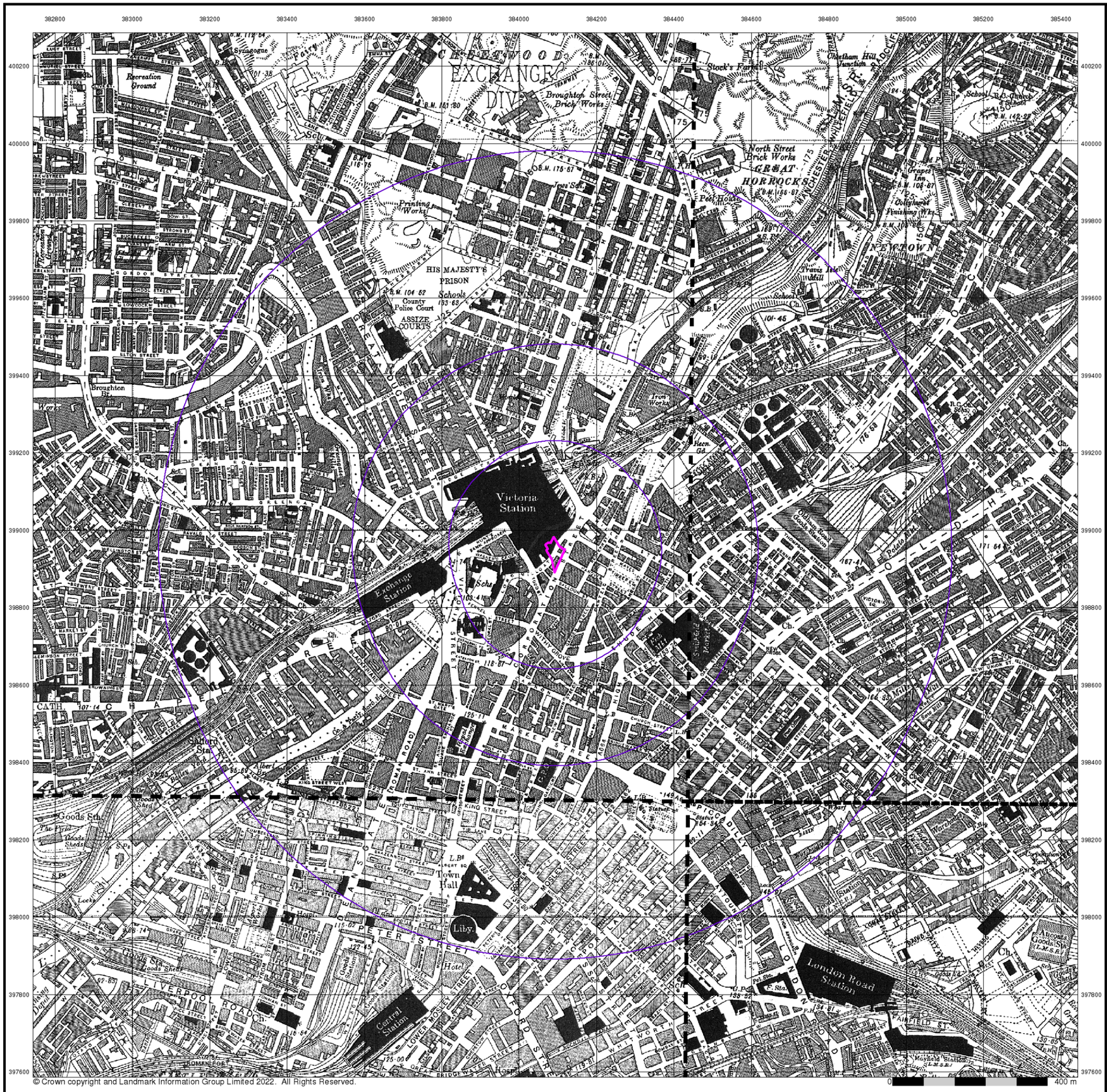
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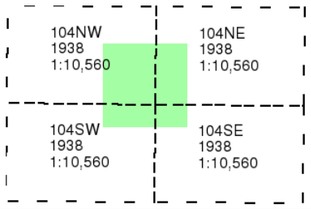
Lancashire And Furness

Published 1938

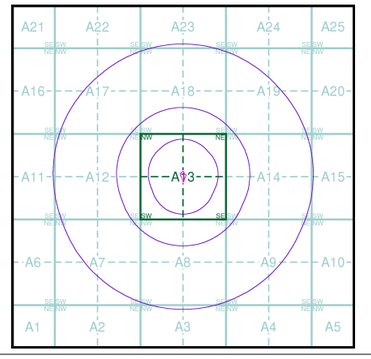
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



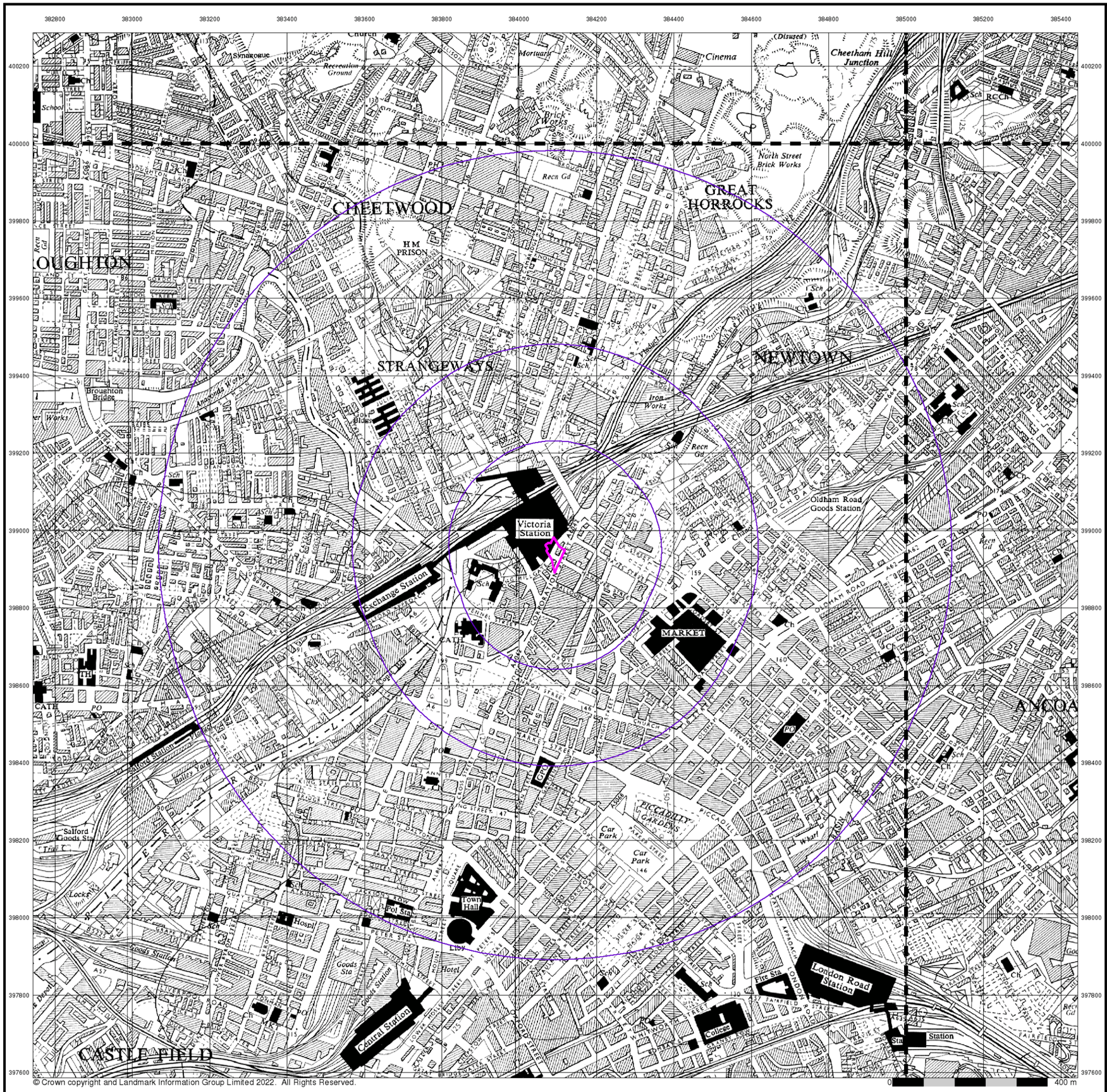
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Ordnance Survey Plan

Published 1956

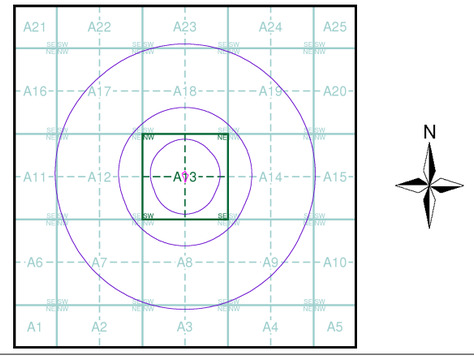
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Map Name(s) and Date(s)

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

Historical Map - Slice A



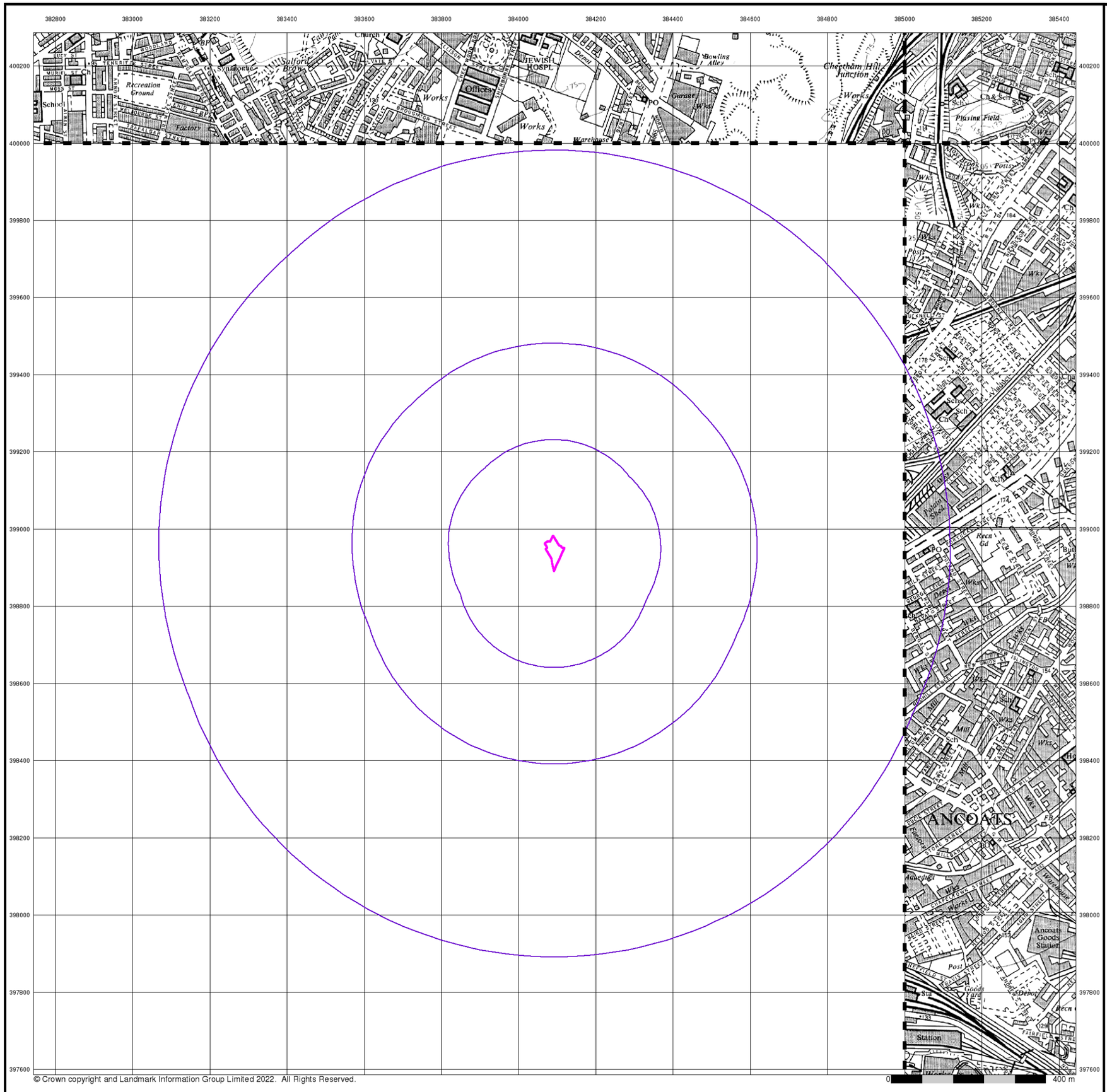
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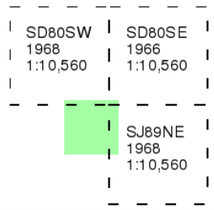
Ordnance Survey Plan

Published 1966 - 1968

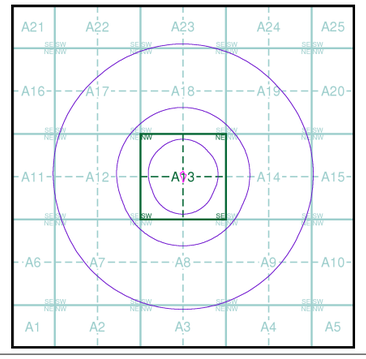
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

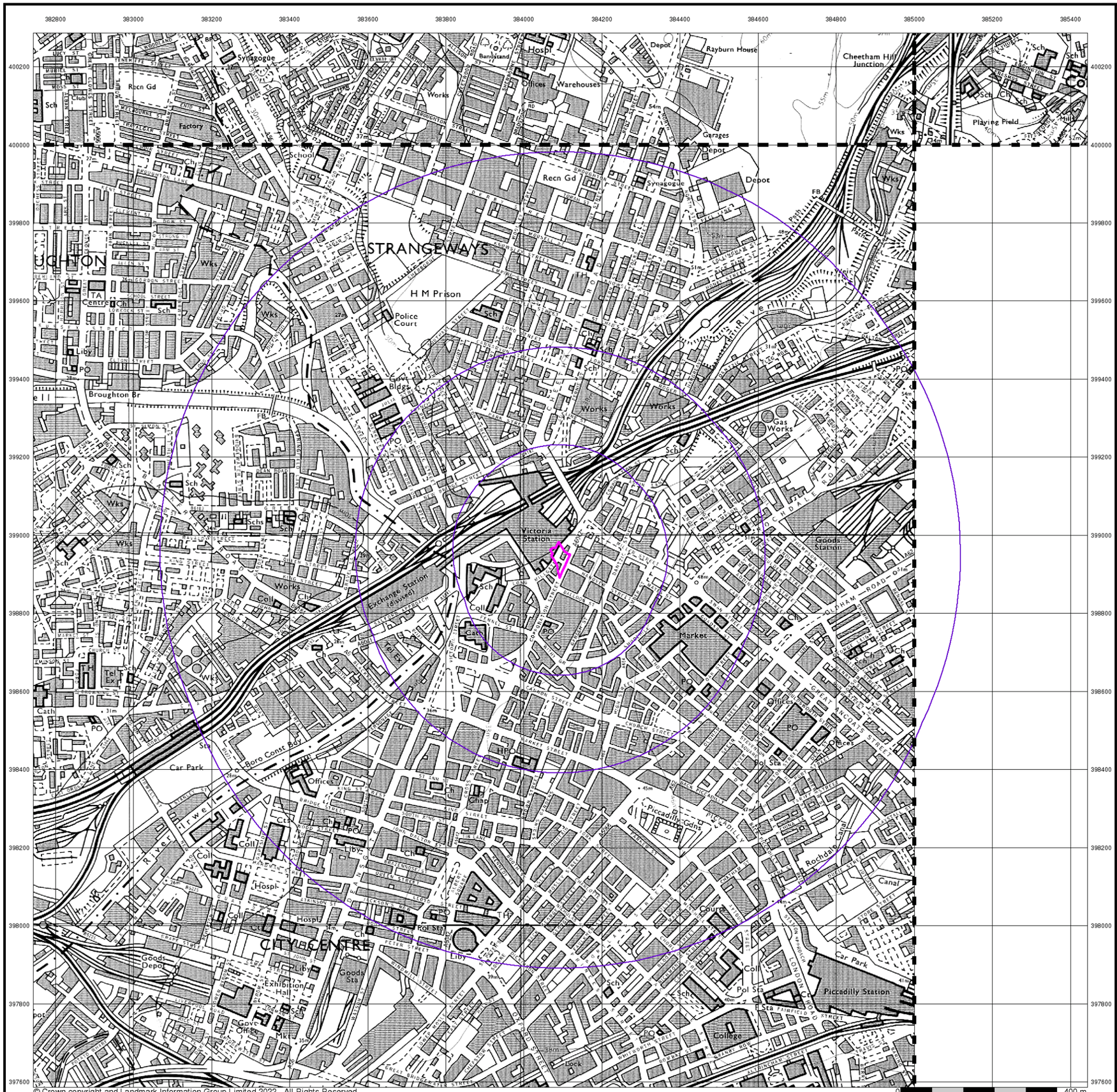
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Ordnance Survey Plan

Published 1972 - 1979

Source map scale - 1:10,000

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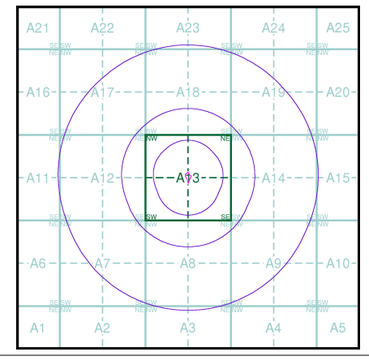
Map Name(s) and Date(s)

SD80SW 1979 1:10,000

SD80SE 1978 1:10,000

SJ89NW 1972 1:10,000

Historical Map - Slice A



Order Details

Order Number:	293403470_1_1
Customer Ref:	1946AJP
National Grid Reference:	384090, 398940
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Manchester

Published 1975

Source map scale - 1:25,000

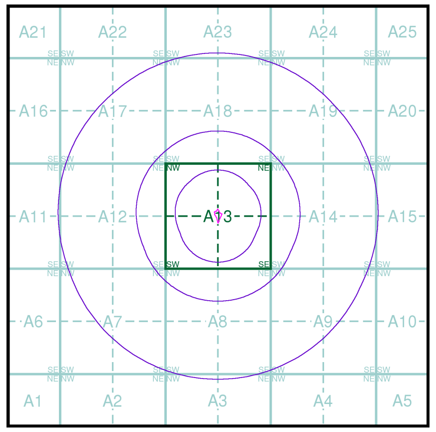
These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed 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



N

Order Details

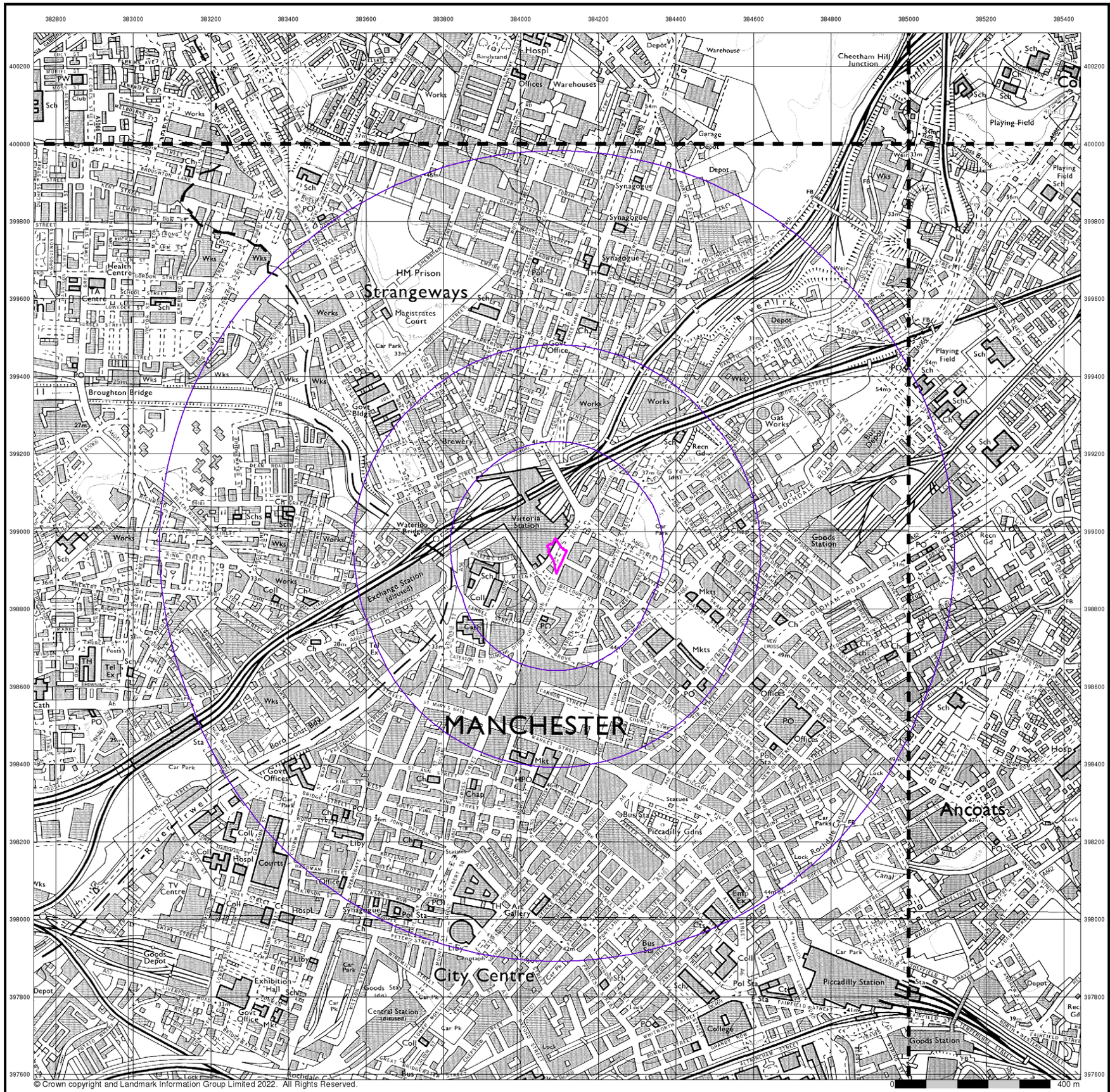
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Ordnance Survey Plan

Published 1980 - 1986

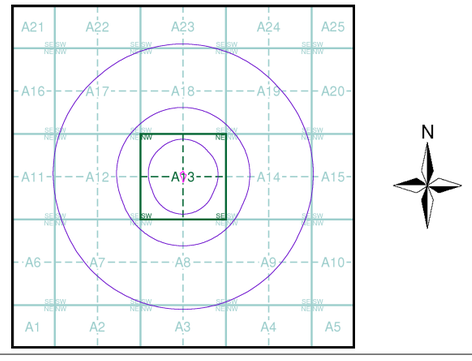
Source map scale - 1:10,000

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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



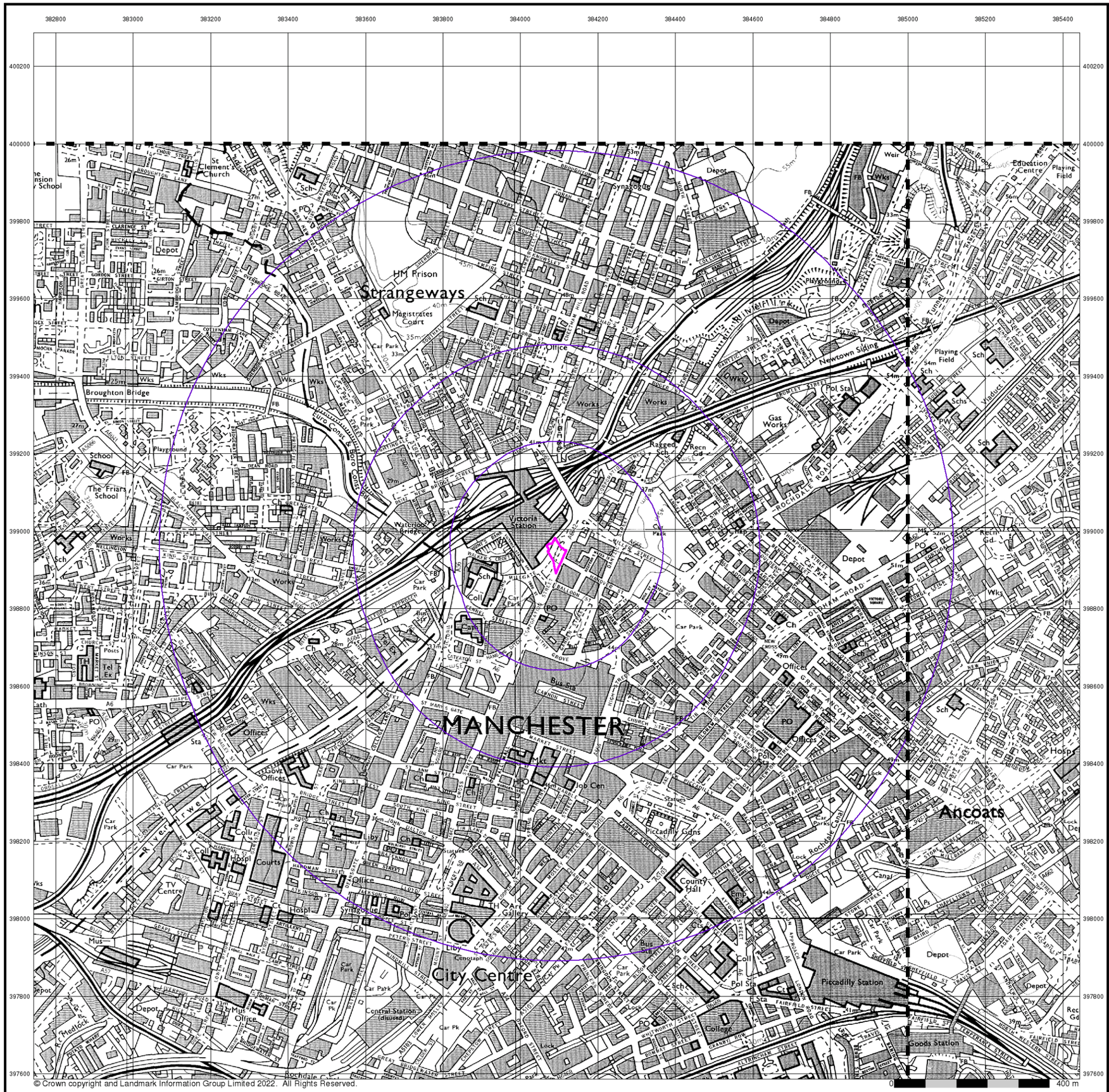
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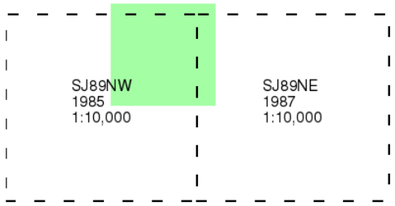
Ordnance Survey Plan

Published 1985 - 1987

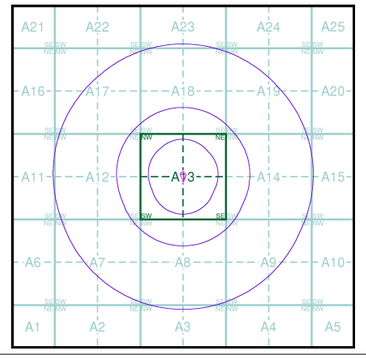
Source map scale - 1:10,000

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



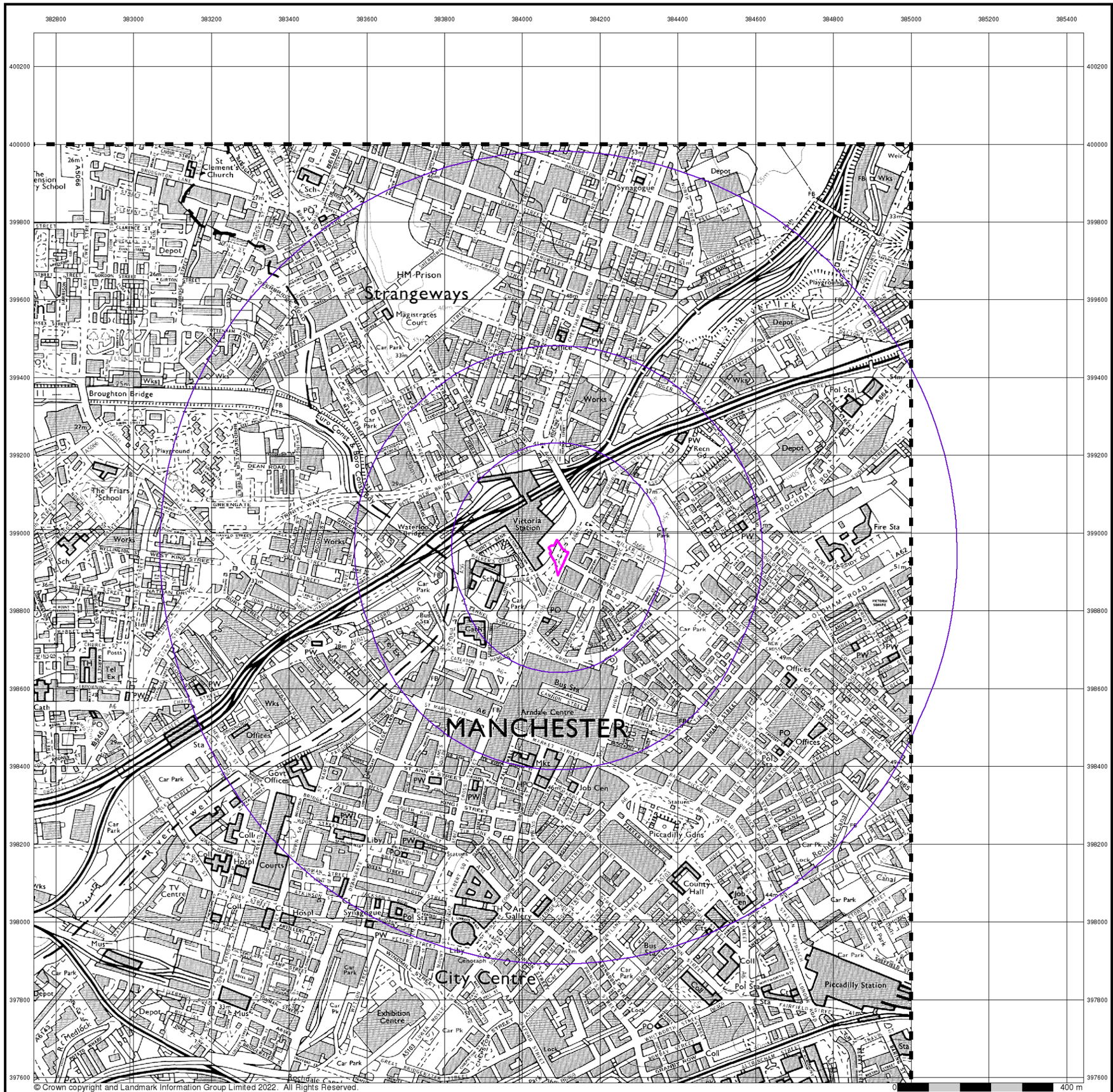
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Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

Site Details

New Victoria Manchester, MANCHESTER, M4 4AH

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Tel: 0844 844 9952
Fax: 0844 844 9951
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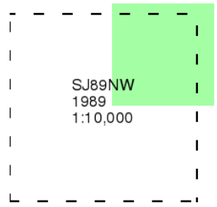
Ordnance Survey Plan

Published 1989

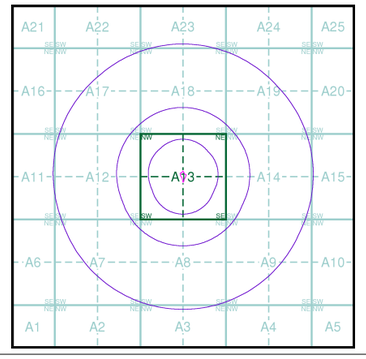
Source map scale - 1:10,000

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



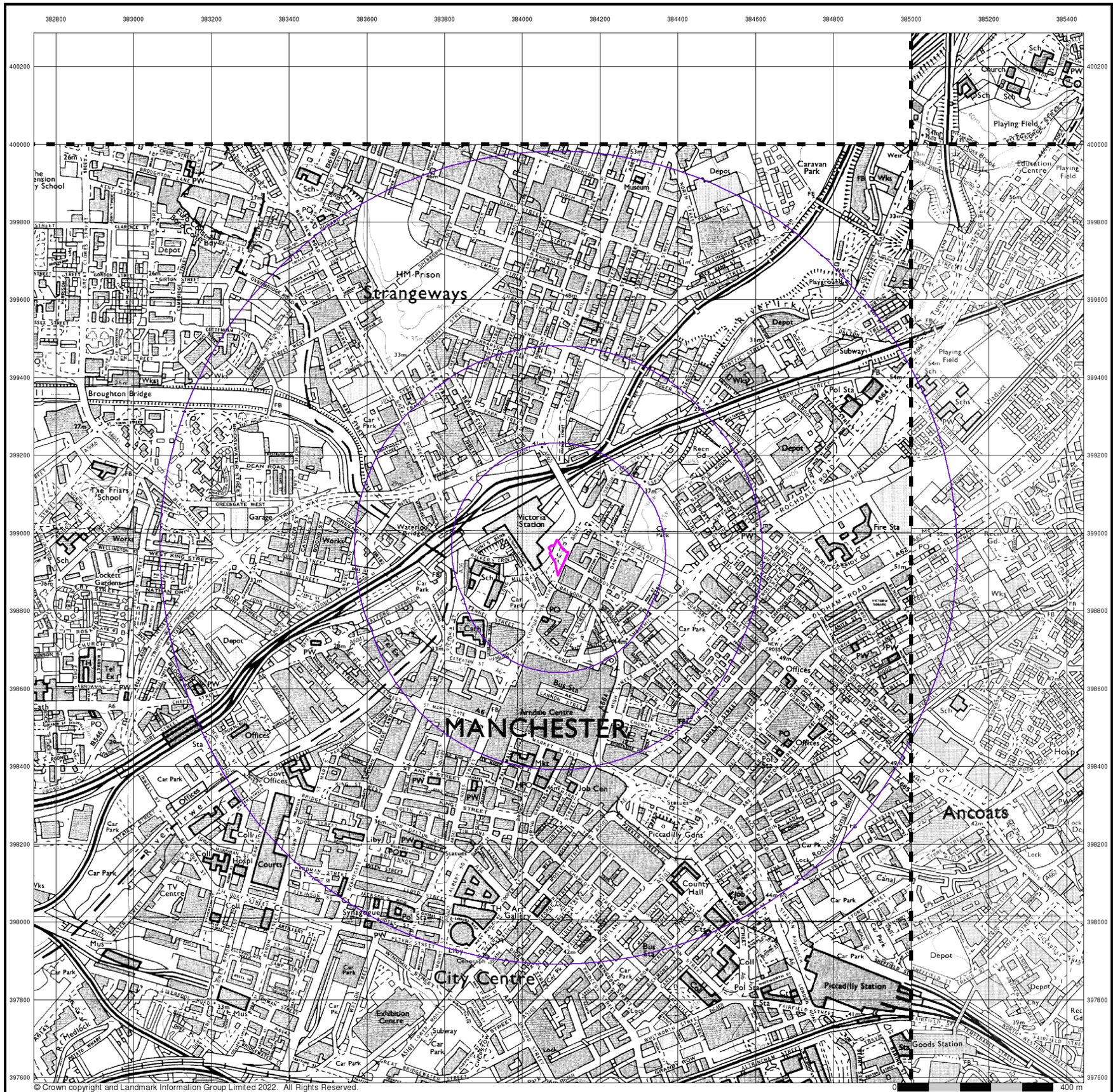
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Customer Ref:	1946AJP
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Ordnance Survey Plan

Published 1990 - 1994

Source map scale - 1:10,000

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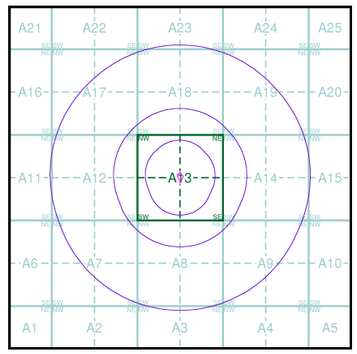
Map Name(s) and Date(s)

SD80SE
1990
1:10,000

SJ89NW
1994
1:10,000

SJ89NE
1993
1:10,000

Historical Map - Slice A



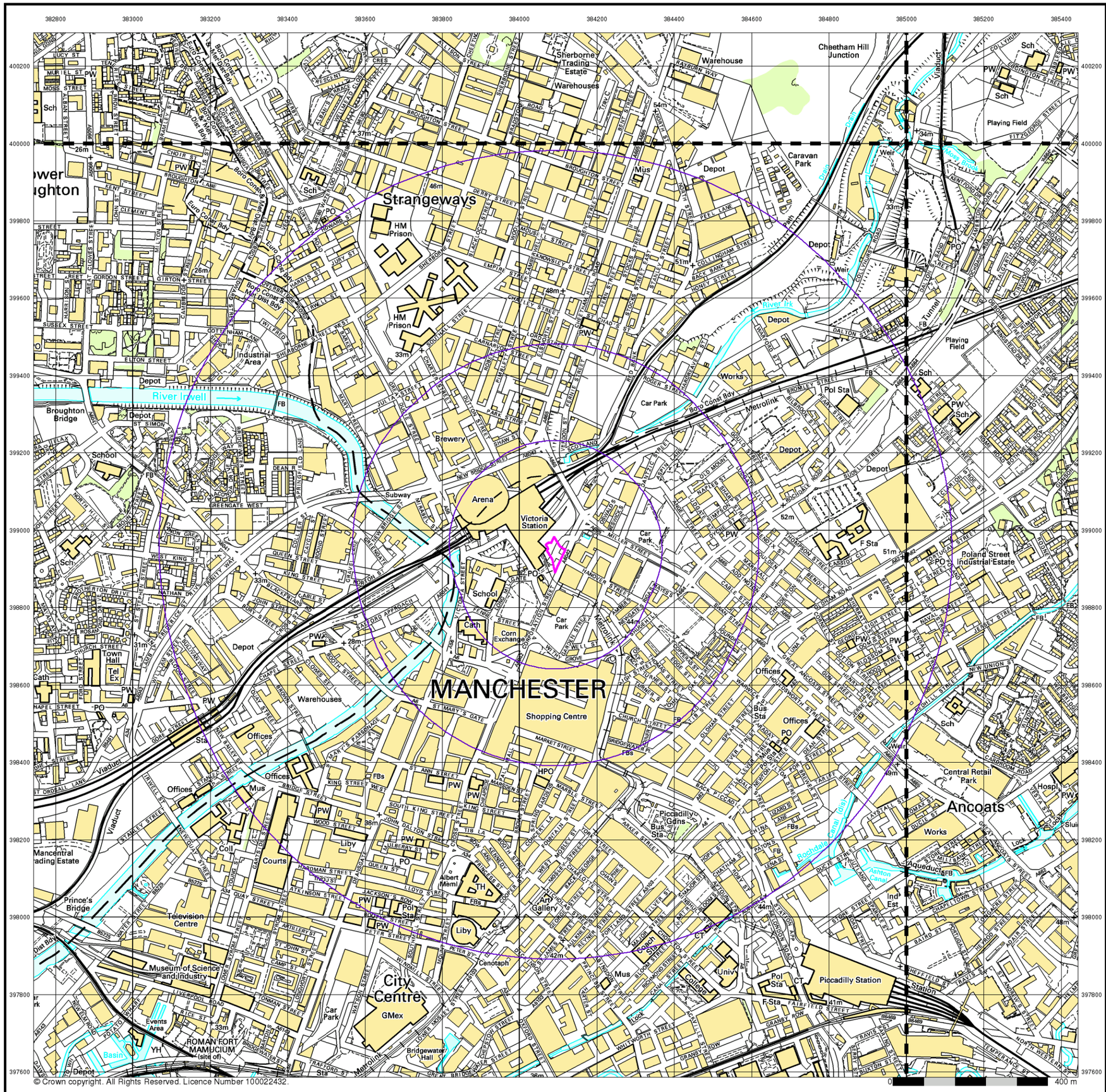
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Site Area (Ha):	0.21
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Site Details

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10k Raster Mapping

Published 1999

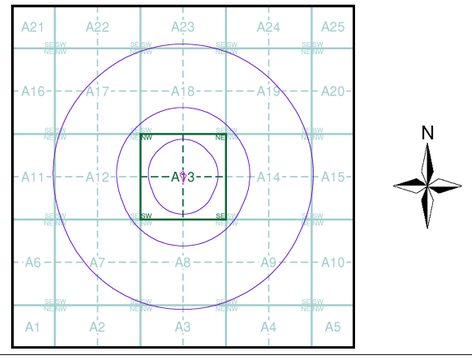
Source map scale - 1:10,000

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



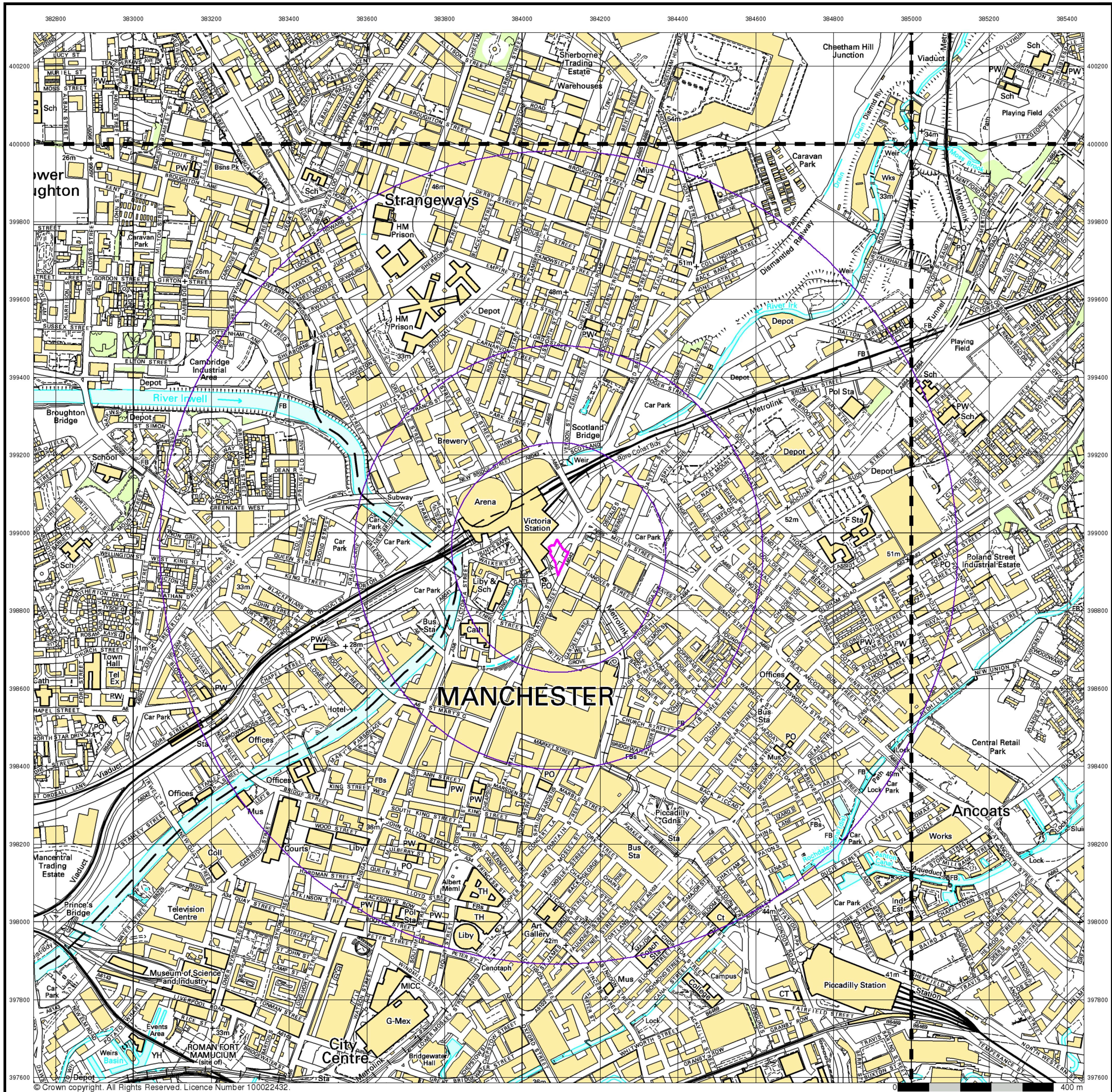
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10k Raster Mapping

Published 2006

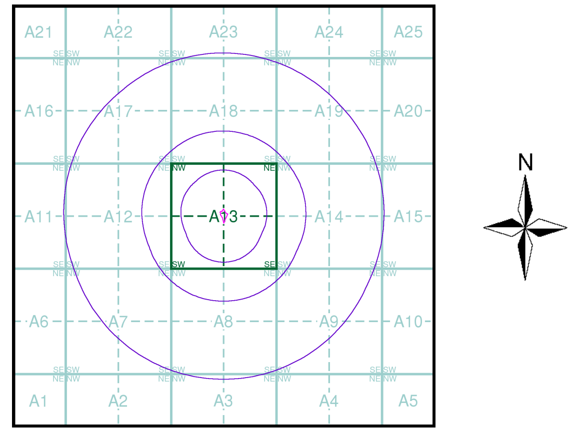
Source map scale - 1:10,000

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)

SD80SW 2006 1:10,000	SD80SE 2006 1:10,000
SJ89NW 2006 1:10,000	SJ89NE 2006 1:10,000

Historical Map - Slice A



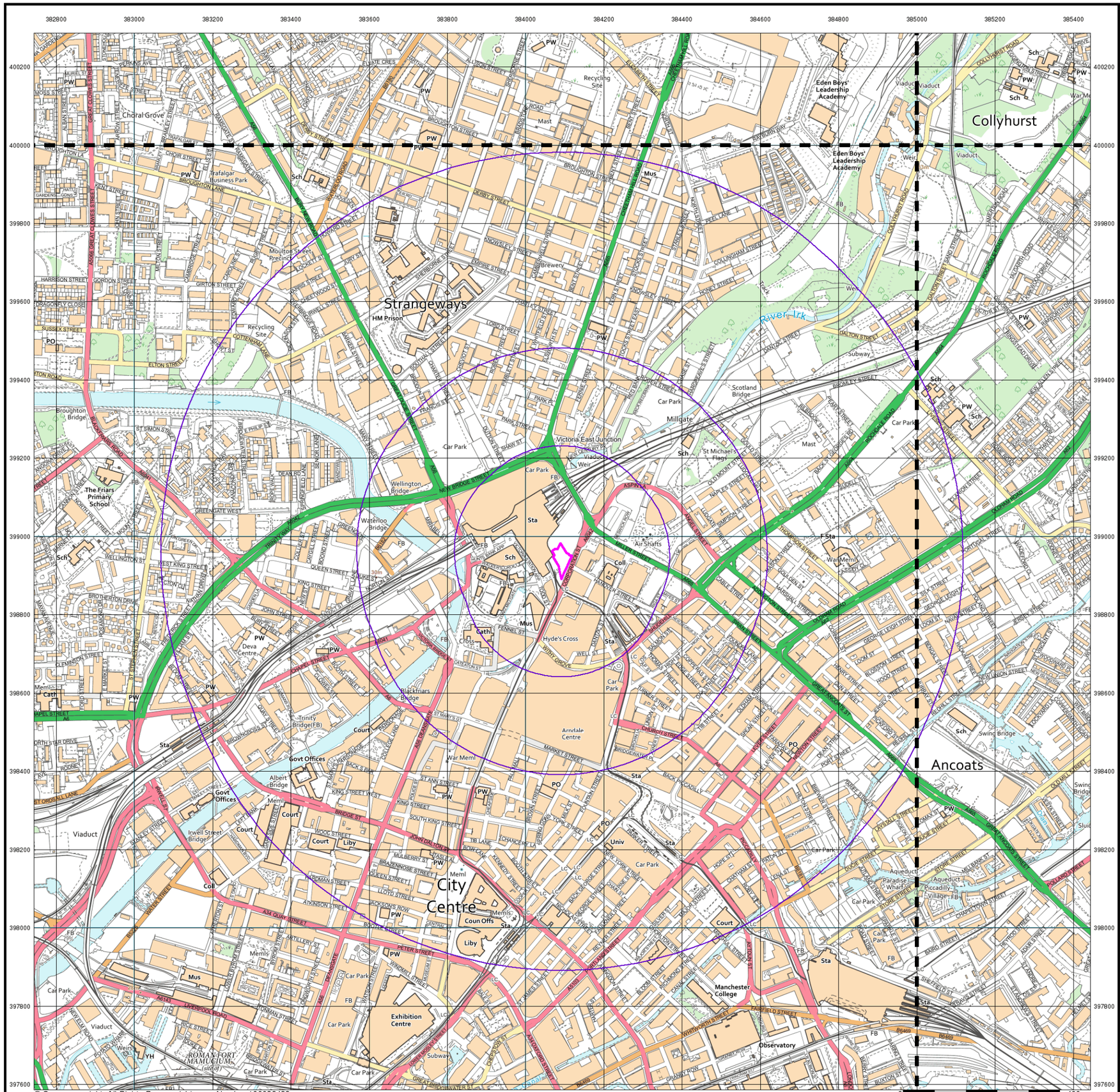
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Customer Ref: 1946AJP
National Grid Reference: 384090, 398940
Slice: A
Site Area (Ha): 0.21
Search Buffer (m): 1000

Site Details

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VectorMap Local

Published 2021

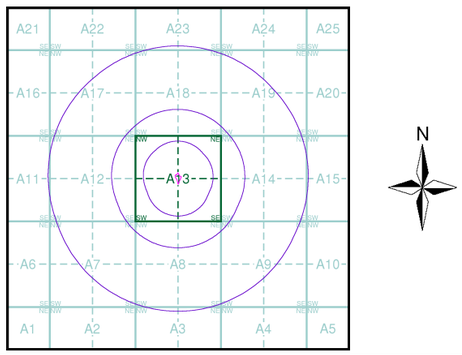
Source map scale - 1:10,000

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:	293403470_1_1
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EXPLANATION OF SIGNS

USED ON

INSURANCE PLANS OF TOWNS & CITIES

56 CROUCH HILL LONDON N.4.

ABBREVIATIONS

ASB. ASBESTOS
CORR. CORRUGATED IRON
D.I.D. DOUBLE IRON DOORS
DRA. DRAPERY
D. DWELLING
ELECT. ELECTRICIAN
(E.M.) ELECTRIC MOTORS
(ENG.) STEAM ENGINE
FURNE. FURNITURE
GAR. GARAGE
(G.E.) GAS ENGINE
H.W. HARDWARE
I.COLS. IRON COLUMNS OR STEEL STANCHIONS
JWLY. JEWELLERY
M.CL. METAL CLAD
M.W. MANCHESTER WAREHOUSE
m.l. MATCH (OR WOOD) LINED
OIL OIL & COLOR
(O.E.) OIL ENGINE
P.H. PUBLIC HOUSE
S. SHOP
S.I.D. SINGLE IRON DOORS
S.I.S. SINGLE IRON SHUTTERS
TAI. TAILORS
TENS. TENEMENTS
W.G. WIRED GLASS
W.N. WIRE NETTING OVER GLASS.

COLORS

BRICK, STONE OR CONCRETE
WOOD
AREAS CLEARED DUE TO ENEMY ACTION
SKYLIGHTS ON 1 & 2 STORY BUILDINGS
SKYLIGHTS ON HIGHER BUILDINGS
METAL BUILDINGS.
TIMBER PILED OR STACKED

WALLS

PARTY WALL 2 STORIES OR OVER, A PROBABLE FIRE CUT OFF
ENTIRE WALL, BUT DOUBTFUL AS FIRE CUT OFF
DEFECTIVE WALL — IMPERFECT
WALL ABOVE, IRON COLS: UNDER
WALL SOME FLOORS ONLY (OR WOOD OR PLASTER PARTITION)
ABOVE ROOF 6" TO 1'-6"
—Dº— 1'-6" TO 2'-6"
MATCH OR WOOD LINED
WOOD CLAD WITH CORRUGATED IRON

OPENINGS

PASSAGE UNDER
ON ALL FLOORS
SOME FLOORS ONLY } UNPROTECTED
ALL FLOORS (PROTECTED)
ALL FLOORS (SOME PROTECTED) } SINGLE IRON DOORS
SOME FLOORS ONLY (PROTECTED)
ALL FLOORS (SOME PROTECTED)
ALL FLOORS (PROTECTED) } DOUBLE IRON DOORS
SOME FLOORS ONLY (PROTECTED)
WOOD LOADING DOOR
IRON LOADING DOOR

WINDOWS

ON ALL OR MOST FLOORS
MORE THAN USUAL
OVERLOOKING } UNPROTECTED
NEARLY ALL GLASS
OPENINGS THRO' & WINDOWS OVER
ON SOME FLOORS ONLY
PROTECTED BY WIRED GLASS
PROTECTED BY SINGLE IRON SHUTTERS
PROTECTED BY DOUBLE IRON SHUTTERS.
WINDOWS IN FRONT & REAR OF BUILDINGS UNDERSTOOD UNLESS OTHERWISE SHOWN

FLOORS

1. 2. 3. 3½ &c. ON BUILDINGS ARE NUMBER OF STORIES ABOVE GROUND (3½=3 FLOORS & ATTIC)
2 & 2B MEANS 2 STORIES & 2 BASEMENTS BAST & SUB-BASEMENT.

SKYLIGHTS

^ LESS THAN 50 SQUARE FEET (SAY 10'x5', OR 7'x7')
≙ OPENINGS THROUGH 2 FLOORS UNDER (EACH STROKE DENOTES AN OPENING.)
WITH WELL HOLE THROUGH 3 FLOORS.
LANT. LANTERN LIGHT, SIDES ONLY GLASS. } OVER 50 SQ: FT. TO SCALE
OR VENT. OR RAISED VENTILATOR

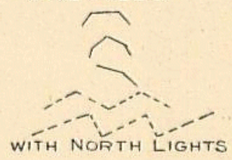
HOISTS & LIFTS

H OPEN
HF OPEN (WOOD FLAPS TO FLOORS.)
H ENCLOSED WOOD OR PLASTER
W H OPEN TO STREET
H ENCLOSED BRICK OR FIRE RESISTING WIRED GLASS DOORS
IRON DOORS SHOWN AS EXPLAINED UNDER "OPENINGS"

ROOFS

ASB ASBESTOS
C CONCRETE
CORR: CORRUGATED IRON
⌝ METAL
P PATENT (FELT &c)
O SLATE
T TILE

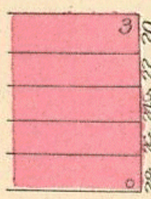
PROFILES



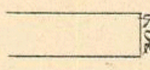
SUNDRIES

STEAM BOILERS
—"— BOILER SET IN BRICK
FACTORY CHIMNEYS
(ENG.) STEAM ENGINE
OVERHANGING WOOD CORNICE
FIRE ALARM BOX
—— Dº —— ON KEY PLAN
HYDRANT
HYDRAULIC HYDRANT
PRIVATE HYDRANT OR STAND PIPE
DOUBLE HYDRANT
SALT WATER HYDRANT
SPRINKLER OR AUTO ALARM BELL

REFERENCE NUMBERS

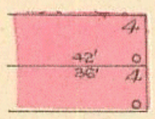


NUMBERS PARALLEL WITH STREET ARE EXISTING STREET Nºs
WHERE TWO SETS OF STREET Nºs IN SAME BLOCK COINCIDE, ADDITIONAL ARBITRARY Nºs ARE GIVEN TO ONE SET (500 & UPWARDS.)

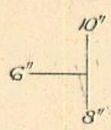


WHERE BUILDINGS TO WHICH THEY APPLIED ARE DEMOLISHED, STREET & ARBITRARY Nºs ARE SHOWN & CROSSED THROUGH ON REVISION

—48'— (37') ARE STREET WIDTHS.
ARE HEIGHTS OF GROUND ABOVE ORDNANCE DATUM



HEIGHT IN FEET OF ADJOINING BUILDINGS WHERE STORIES DIFFER IN HEIGHT



SIZES OF WATER MAINS SUPPLYING HYDRANTS

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0 50m

226
MANCHESTER 11.
JANUARY, 1933.
REISSUE

VICTORIA STATION
L. M. & S. (LANCASHIRE & YORKSHIRE)
PLATFORMS Nos 9 & 10
PLATFORMS Nos 7 & 8
PLATFORMS Nos 5 & 6
PLATFORMS Nos 3 & 4
PLATFORMS Nos 1 & 2
RIVER IRK (under)
PLATFORM
CONCRETE
ENT. TO SUBWAY
LEFT LUGGAGE OFF.
BOOKS
340
341
342
343
344
345
346
347
349
REST. 1ST CL.
BOOKING OFF. 1ST
BOOKING HALL 1ST CL.
REST. 1ST
WAITING ROOMS
IRON & GLASS ROOF
STONE PIERS
OFFICES
ENG. & DYNAMO HOUSE
ELECT. GOODS WHSE.
FLAGGED FLOOR
KITCHEN BAST.
RUN GANG
APPROACH
Vacant
OLD SWAN HOTEL
CLOTH & GREY WHSE
TEA & COFFEE WHSE.
STONE STAIRS
SLATE CL. TOWER
OFFS. & LAVS. 1ST
LLOYDS BANK LTD
LAVS.
OFFS.
WALL 8'
WD. & GLASS OVER
WD. 7' BETWEEN BK. PIERS, OPEN OVER
OPEN
ELECT. SUNDRIES WHSE.
OFFS. & VAR.
HANOVER ST.
P.H.
HOTEL
SCALES & VAR.
BOOKS
MANCHESTER ARMS HOTEL
HOWARTH'S GATES
WINES & SPIRITS STORE BAST.
VAR WINES & SPIRITS OVER
WITHOFTS BUNGS
HALLIWELL ST.
FURNE. 1662
REST. BAST.
OFFS. & VAR.
VAR WHSES.
OFFS. S.1ST
BUILDINGS
CITY
MILLGATE
LONG
TODD ST.
CORPORATION
No. 227.
BALLOON ST.
CAR PARK
W.D. HOARDING 12'
FARADAY HO.
W.D. & GLASS
CO-OP NEWSPAPER SOCY LTD
PRINTING BAST.
COMPS. 4TH
MILLGATE CHAMBERS HOTEL
OFFS. & VAR
CABLES PROVO
PROVO Vac
EMPTIES
PROV. WHSE.
PROV. WHSES.
VICTORIA BUILDINGS
FRUIT WHSE.
RUBBER
PRODUCE & VAR
Vacant
COURT
STORE
CANNED
CANFEC
HARROP & CO. LTD.
SEE SHEET No. 227.

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0 50m

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WMGR	Infilled Ground	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
	RTD1	River Terrace Deposits, 1	Sand and Gravel	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
	GML	Great Mine Limestone	Limestone	Not Supplied - Westphalian
	HTS	Holt Town Sandstone Bed	Sandstone	Not Supplied - Westphalian
	PUCM	Pennine Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	WDR	Worsley Delf Rock	Sandstone	Not Supplied - Westphalian
	NHSS	Newton Heath 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		

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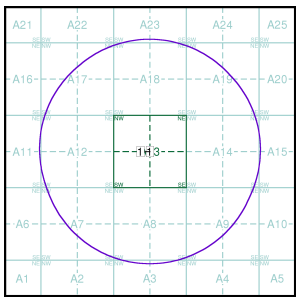
Geology 1:50,000 Maps

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

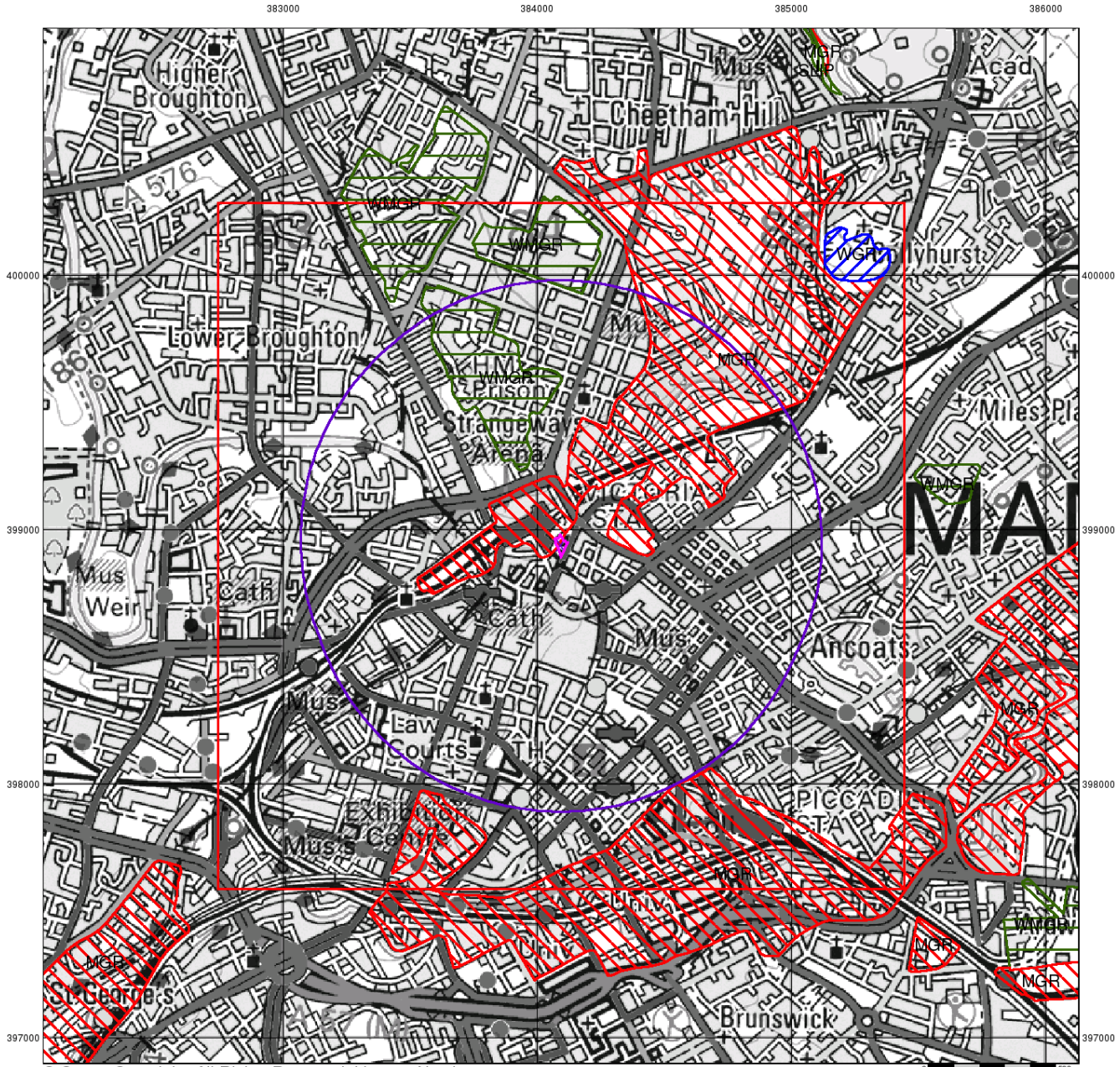


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Site Area (Ha): 0.21
Search Buffer (m): 1000

Site Details:

New Victoria Manchester, MANCHESTER, M4 4AH



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Vertase FLI

Artificial Ground and Landslip

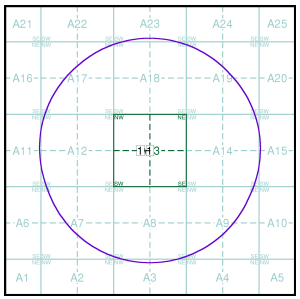
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



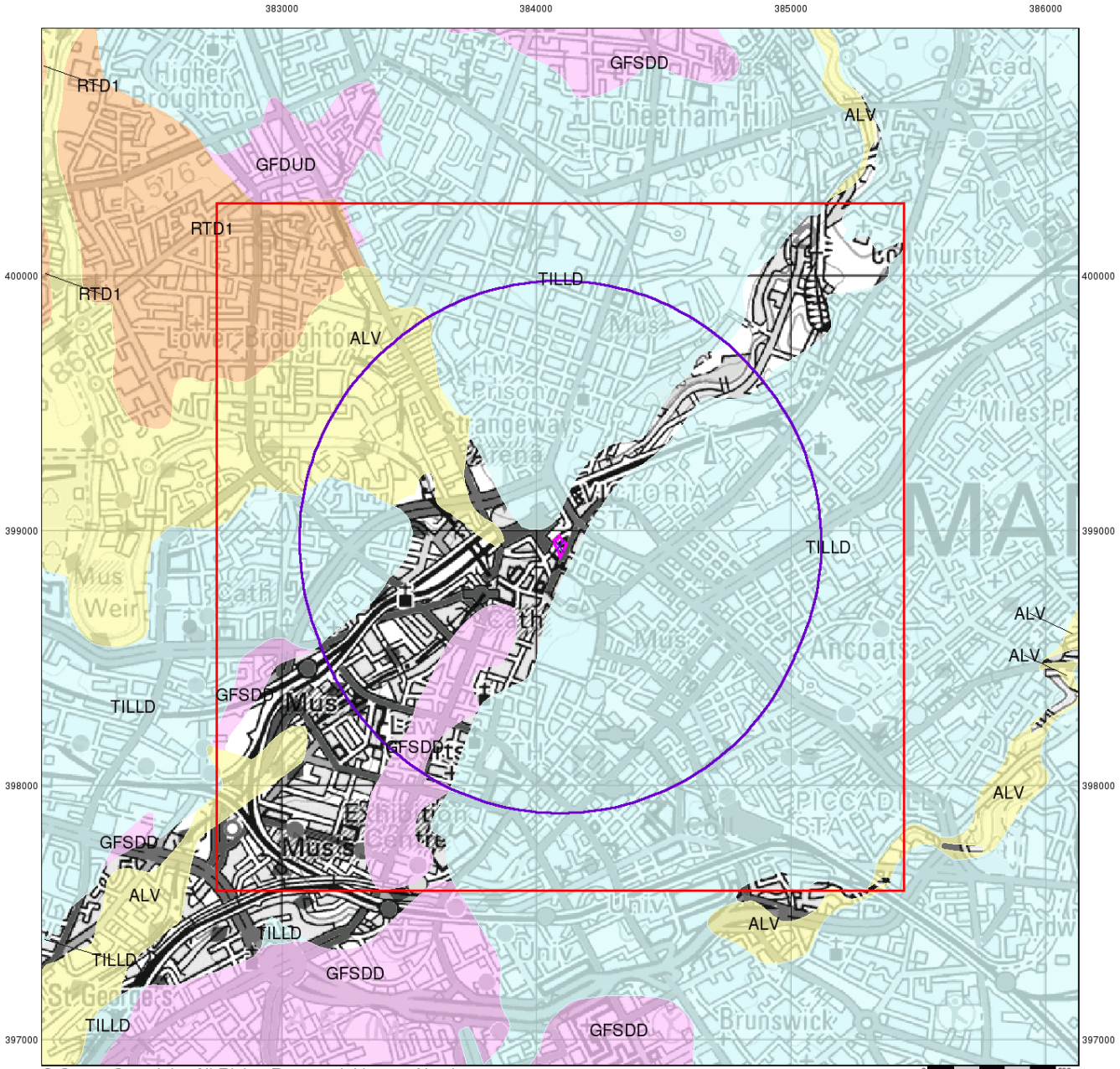
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Customer Reference:	1946AJP
National Grid Reference:	384090, 398940
Slice:	A
Site Area (Ha):	0.21
Search Buffer (m):	1000

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Landmark INFORMATION GROUP
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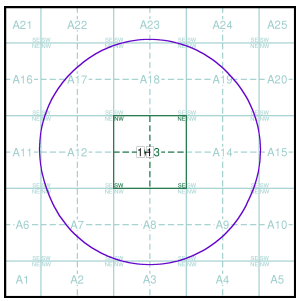
Superficial Geology

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



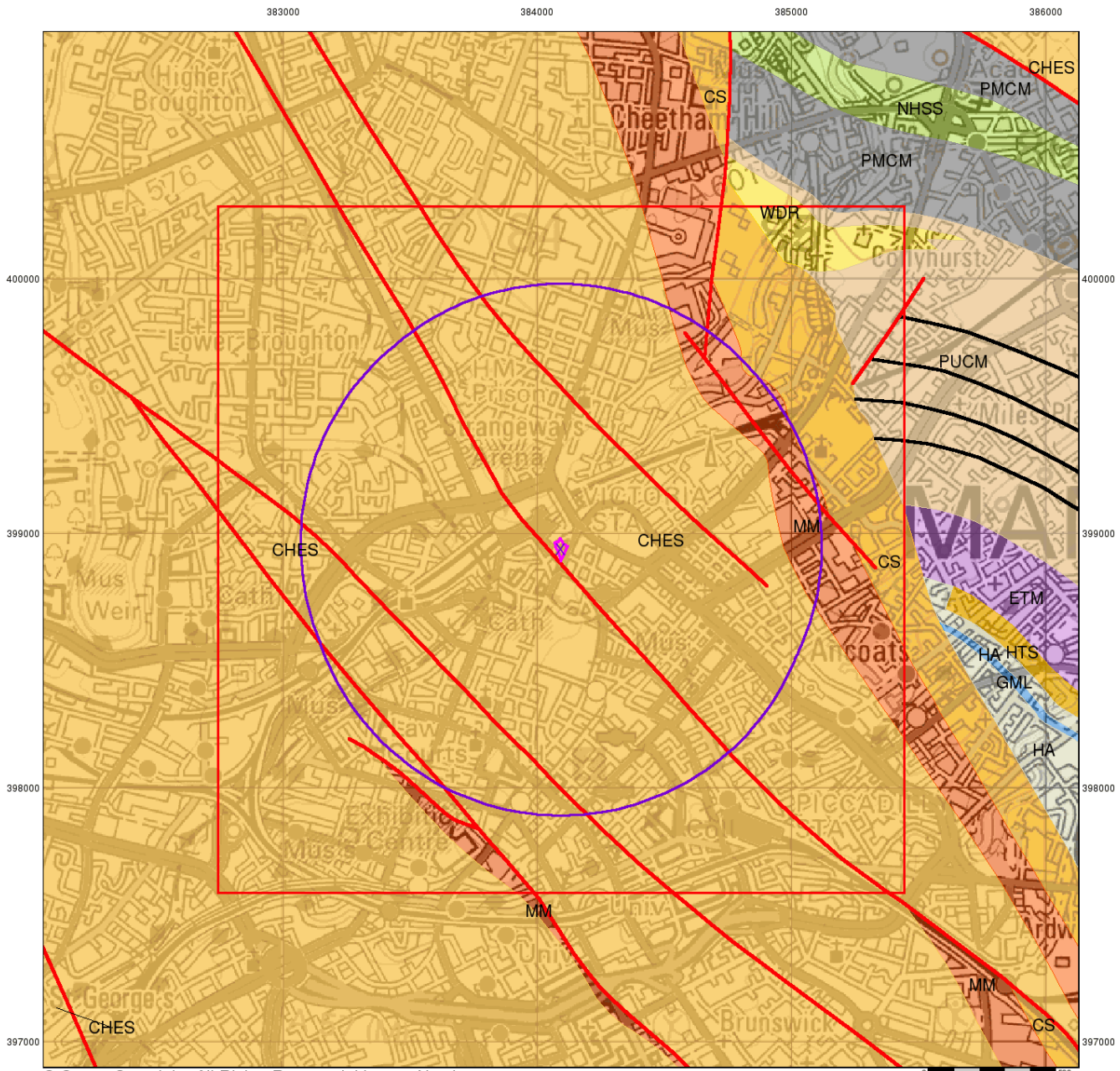
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Bedrock and Faults

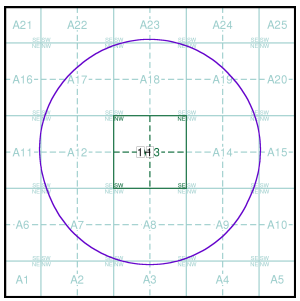
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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



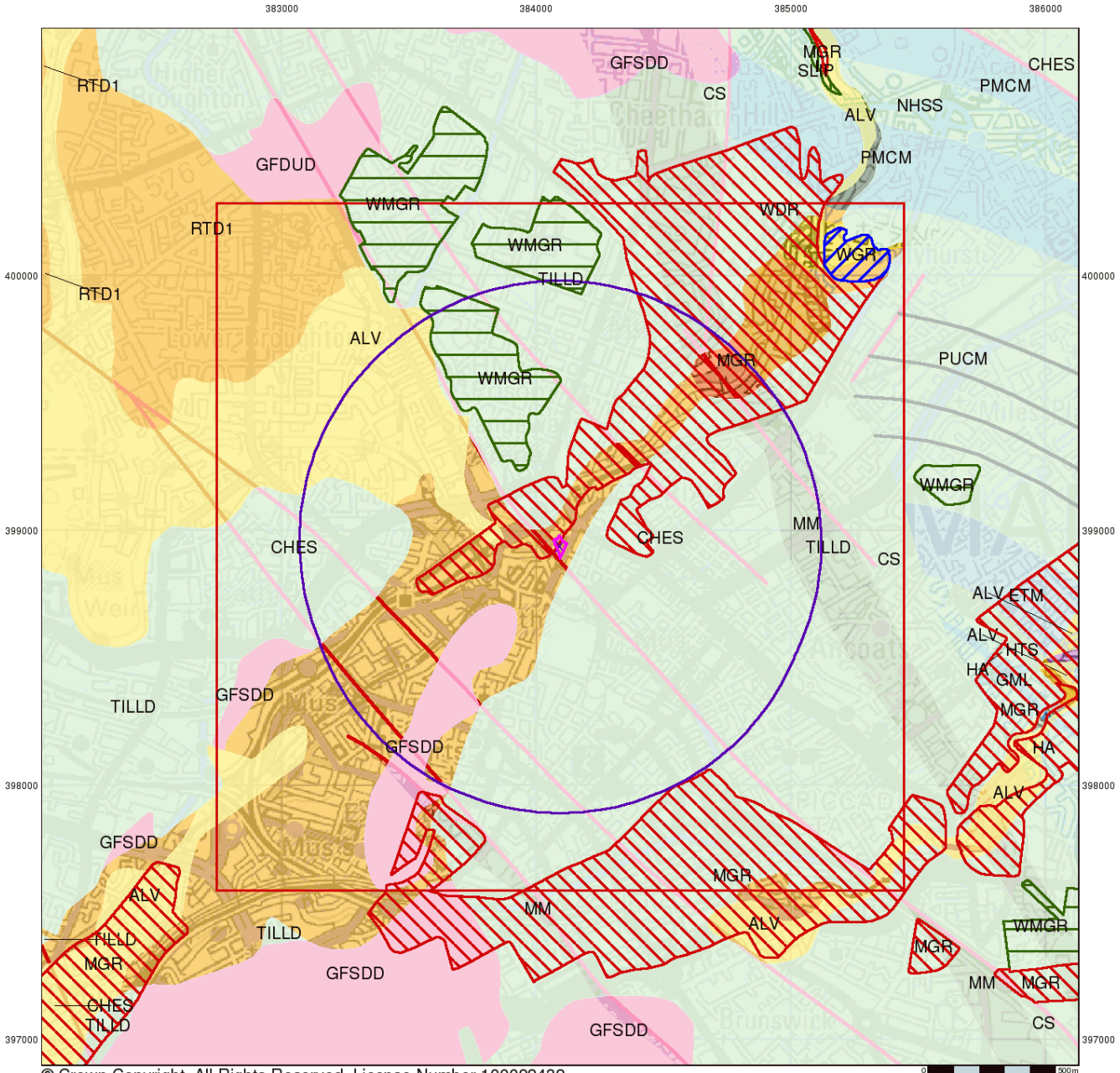
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Combined Surface Geology

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.

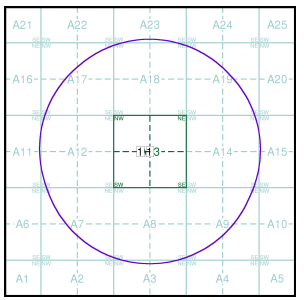
Additional Information

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

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Combined Geology Map - Slice A



Order Details:

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APPENDIX E

Coal Authority Report

The Coal Authority

CON29M
coal mining report

NEW VICTORIA MANCHESTER, MANCHESTER, LANCASHIRE, M4 4AH

Known or potential coal mining risks

Future underground coal mining Page 3

Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit www.groundstability.com

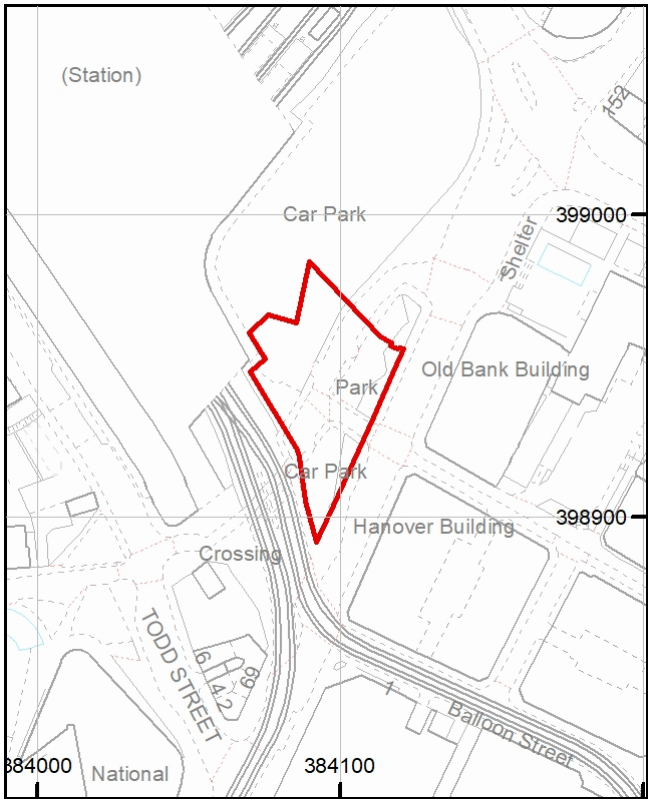
Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**

Map data

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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.

Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.
www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call 0800 288 4242. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary

Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

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