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NUVU DEVELOPMENTS LTD

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

COMBINED PHASE I PHASE II GROUND INVESTIGATION REPORT

MAY 2021

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COMBINED PHASE I AND PHASE II GROUND INVESTIGATION REPORT

MAY 2021

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EXECUTIVE SUMMARY

A summary of information contained within this report is provided within the table below.

Executive Summary	
Site location	The site is located at land between Ten Acres Lane and Mitchell Street, Newton Heath, Manchester at National Grid Reference 387599, 400309.
Current Use and History	Since the late 1890's the site has historically operated as a brickworks with two large clay extraction pits. From the late 1940's onwards the clay extraction pits were infilled, and the site recorded as a both a Historical and Registered Landfill. From the 1990's onwards, the site has remained largely derelict and it is now densely vegetated.
Groundwater Vulnerability	The site is underlain by a superficial Secondary Undifferentiated Aquifer and a bedrock Principal Aquifer. A superficial Secondary A Aquifer encroaches into the westernmost section of the site and a bedrock Secondary B Aquifer is recorded within the westernmost section of the site. The site does not lie within a groundwater source protection zone.
Surface Watercourses	The nearest graded surface watercourse is the Rochdale Canal which forms the northern boundary of the site.
Mining	The site was a former brickworks with associated clay extraction pits and lies within a Coal Authority Coal Mining Reporting Area. While historical deep (1000m) coal mine workings are recorded within influencing distance of the site, ground movement should now have ceased. There are also no mine entries recorded on-site or within 20m of the site.
Unexploded Ordnance	A UXO Detailed Risk Assessment indicates an overall low UXO hazard for the site. However, a reassessment will be required for any mass earthworks that are to be undertaken at the site.
Ground Conditions	Highly variable and comprise significant thicknesses of Made Ground to depths of between 0.3m and 13.85m bgl, underlain by Glacial Till to depths of between 15m and 40m bgl, which is in turn underlain by solid geology comprising weathered Mudstone and Sandstone of the Collyhurst Sandstone and Manchester Marls Formations.
Groundwater	Shallow perched water strikes within Made Ground encountered at depths of between 0.1m and 8.2m bgl with groundwater elevations indicating a flow to the south west. Shallow perched groundwater strikes within the underlying natural superficial deposits encountered between 1.1m and 13.5m bgl with groundwater elevations indicating a flow to east. While groundwater strikes within bedrock could not be determined monitored groundwater elevations indicate a flow to the west south west.
Contamination – Human Health	A range of widespread to isolated exceedances of the screening values were recorded for a range of determinands that included metals, PAH's, TPH's, total cyanide, PCB's, SVOC / VOC and BTEX. Asbestos identified in ten samples at concentrations up to 5.11%. For most receptors, hardstanding and clean cover systems in soft landscaping areas will break source-pathway receptor linkages. Increased risk to construction workers mitigated through the use of PPE etc. Risk from vapours requires further assessment.

Executive Summary	
Contamination – Controlled Waters	Exceedances in groundwater screening values have been recorded for metals, cyanide, sulphate, TPH, PAH, phenol and benzene with the most widespread and elevated exceedances within perched groundwaters within the Made Ground. The Principal Aquifer is overlain by substantial thicknesses (between 24.0m and 40m thick) of predominantly low permeability Glacial Till and in the absence of pathways it is unlikely that continuity exists with the contaminated perched waters noted above. Exceedances in surface water screening values have been recorded for lead, chromium, TPH and PAH but these are not believed to be attributed to the site.
Ground Gas	Ground gas risk assessments indicates Characteristic Situation 2 and that ground gas protection measures will be required. Protection measures are likely to comprise a gas resistant membrane and passive subfloor dispersal layer.
Waste Materials	Care will need to be taken during earthworks that are undertaken at the site to avoid unnecessarily excavating materials that could be classified as waste. The reuse of any site won materials as part of the redevelopment of the site should be undertaken in accordance with the Definition of Waste Code of Practice (DoWCoP) or similar and an accompanying Materials Management Plan (MMP) to enable for the reuse of excavated material without it being classified as waste. Early engagement with the regulatory authorities is recommended to ensure compliance.
Building Material Assessment	A worst-case Design Sulphate Class (DS) of "DS-2" and an Aggressive Chemical Environment for Concrete (ACEC) of "AC-3Z" has been determined for the Made Ground. For the suspected colliery spoil "DS-3" and "AC-5" is indicated. For the natural strata "DS-1" and "AC-1d" is indicated.
Geotechnical Considerations	Several geotechnical abnormal items have been identified that include highly variable ground conditions, total settlements that could be ongoing, trafficability, bulking, excavatability, obstructions, buried highwalls, aggressive ground, faulting, unstable excavations, shrink / swell, shallow groundwater, collapse compression, combustion, slag expansion etc. Further details can be found in Sections 17 – 19.
Geotechnical Recommendations	Where natural ground is present at shallow depth or where Made Ground can be fully excavated and engineered without restriction; shallow reinforced foundations may be suitable. Where deeper Made Ground is present or where ground improvement is unlikely to be successful; deep trench reinforced foundations, raft foundations or piles are recommended. Suspended floor slabs to mitigate against settlement / differential settlement. Modification / stabilisation and / or ground improvement may be required for Made Ground to achieve good compaction. Possible solutions and mitigating measures for those and other geotechnical considerations are discussed in Sections 17 – 19.
Further Works	Numerous further works are required with the most notable being the requirement for a Detailed Quantitative Risk Assessment, Options Appraisal, Detailed Remediation Strategy and those further works that would be required to facilitate the above. These and further geotechnical works are discussed further in Section 18.

1 INTRODUCTION

1.1 Instructions

1.1.1 This report has been prepared in accordance with instructions issued by Nuvu Developments Ltd, c/o Your Housing Group, 602 Aston Avenue, Birchwood, Warrington, WA3 6AN, via email correspondence dated 25th August 2020 and 10th September 2020. The work follows a proposal (JC/SH12254/LET-004) dated 7th August 2020 put forward by Wardell Armstrong LLP (WA).

1.2 Site Location & Description

1.2.1 The site comprises a roughly rectangular area of derelict and densely vegetated land between Ten Acres Lane and Mitchell Street, Newton Heath, located approximately 4km to the northeast of Manchester city centre at National Grid Reference 387599, 400309. The site location is presented on Drawing LD10162-001 (1:30,000 scale). A more detailed site plan is shown on Drawing LD10162-002 (1:5000 scale).

1.2.2 The site is bound by the Rochdale Canal to the north, Mitchell Street and residential properties to the east, residential properties and a school to the south and Ten Acres Lane and a sports centre to the west.

1.3 Proposed Site Use

1.3.1 It is intended that the site will eventually be redeveloped for residential land use and will also incorporate a new school and playing fields. An initial application has been submitted seeking consent to remediate the site alongside carrying out cut and fill earthworks, to make the site ready for development. A second application seeking consent for the residential scheme will follow in due course.

1.4 Scope and Objectives

1.4.1 The purpose of this combined report is to provide a desk based qualitative assessment of the potential geo-environmental risks and liabilities associated with the site and to present the findings of an intrusive investigation that was carried out across the site for combined geotechnical and geoenvironmental purposes.

1.4.2 The information obtained has been used to determine the ground and groundwater conditions at the site and to provide an overall assessment of geotechnical and geoenvironmental risks in relation to a proposed future development of the site.

1.4.3 This report has been prepared in accordance with British Standards BS 5930:2015+A1:2020 'Code of Practice for Site Investigations' and BS

10175:2011+A2:2017 'Investigation of potentially contaminated sites. Code of practice', as well as Environment Agency guidance 'Land Contamination Risk Management (LCRM)' published on 08th October 2020.

1.5 Data Sources

1.5.1 The following primary sources of information have been reviewed:

- Envirocheck Report for the site area prepared by Landmark and dated 17th November 2020, included as Appendix B.
- Historical Ordnance Survey Maps, included as Appendix B.
- British Geological Survey (BGS) published geological mapping Sheet 85 Manchester (1:50,000 Scale) and the BGS interactive mapping database.
- BGS Geological Memoir 'Geology of the Manchester district: a brief explanation of the geological map Sheet 85'.
- Coal Authority online mapping products and databases.
- Site walkover notes and photographs.
- Other Mining Archives including the Mining Instability Study of GB prepared by Ove Arup.
- Inhouse WA archives.
- Zetica Unexploded Ordnance Risk Map and Reports, included as Appendix C.
- Previous reports undertaken at the site are summarised in Section 2.1 below.

2 PRELIMINARY DESK STUDY INFORMATION

2.1 Previous Reports

WS Atkins Consultants Ltd: "Former Jackson Brickworks, Manchester – Desk Study Report and Preliminary Environmental Liability Assessment" – December 2001

2.1.1 This report included references to several other previous investigative reports produced for the site prior to 2001. However, it is understood that these earlier reports are no longer available for review.

2.1.2 Ground conditions included significant thicknesses of Made Ground (up to 14.8m in the central part of the site; although only 8.0m was proved in the Atkins investigation) comprising ash, clinker, brick, concrete rubble, timber, rags, glass, metal, plastic and limited amounts of bonded asbestos sheeting. 'Domestic type putrescible' waste was also recorded in some trial pits. 18m of 'Boulder Clay' was encountered beneath the Made Ground but it is not known if this was the recorded thickness or the depth that this material was proved to. Bedrock was not encountered.

2.1.3 Trial pits in the western part of the site recorded perched water at depths of between 2.0 and 3.0m below ground level (bgl).

2.1.4 Chemical analysis of the soil recorded elevated concentrations of contaminants including zinc, copper, phenol, and sulphate. Analysis of perched water indicated levels of elevated BOD, COD, ammonia, metals and sulphate.

2.1.5 Monitoring of ground gases recorded elevated concentrations of methane and carbon dioxide, although gas exit velocities appeared to be low (<0.1 m/s).

Celtic Technologies Ltd: "Desk Study, Ten Acres Lane, Newton Heath, Greater Manchester" (report ref: R1077/06/2958) – July 2006

2.1.6 The main contaminants of concern from the desk study were identified as arsenic, boron, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc, cyanide, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), phenols, asbestos and ground gases (methane and carbon dioxide) that had been attributed to the infilling operations of the clay pits excavated during the sites operation as a brickworks between 1894 and 1966. Evidence indicated that waste disposal within the clay pits was known to cover approximately 85% of the site area and was carried out between 1949 and 1990.

2.1.7 Risks to human health included trespassers encountering potentially contaminated materials at the site surface (low risk), potential for off-site migration of ground gases

(high risk) and from a variety of pathways should the site be redeveloped (medium to high risk).

2.1.8 Risks to Controlled Waters included discharge of perched waters to Rochdale Canal (medium risk) and migration of perched waters to true groundwater within the underlying Principal Aquifer (high risk).

2.1.9 Further site investigation works were recommended as the risks posed by the site were considered to be high.

Celtic Technologies Ltd: "Interpretative Report, Former Jacksons Brickworks, Ten Acres Lane, Newton Heath, Greater Manchester" (report ref: R1077/08/3328) – February 2008.

2.1.10 Celtic were commissioned by KPMG to undertake an assessment of the site to describe ground conditions and indicate requirements associated with redevelopment of the site for a residential end use. A desk-based assessment of the site was undertaken, followed by an intrusive ground investigation. The ground investigation included cable percussion, windowless sampling and rotary drilling methods, as well as trial pitting and a geophysical survey.

2.1.11 Ground conditions included significant thicknesses of variable Made Ground (ash fill, clinker waste, landfill waste and brick waste) between 0.5m to >10m bgl, underlain by Glacial Till comprising firm to stiff, locally soft to firm, slightly sandy, gravelly Clay and to a lesser extent yellow and grey, gravelly, coarse Sand to depths of between 16.5m and >22m bgl, which were in turn underlain by solid geology comprising weathered mudstone and sandstone to depths of between 25m and 27m bgl.

2.1.12 Groundwater was encountered at shallow depths within the made ground and glacial deposits were thought to be laterally confined perched waters. Deeper groundwater was encountered within the bedrock. However, due to the nature of rotary drilling, exact water strikes at depth in the bedrock could not easily be determined. However, groundwater levels between 0.7m bgl to 5.5m bgl were recorded within monitoring wells that were screened within bedrock; suggesting that the bedrock aquifer is confined by the overlying drift deposits.

2.1.13 Celtic noted that certain areas of the site were prone to small-scale flooding events during periods of heavy rainfall. A high-water table, south west of the site was noted to be consistent with local marshy ground conditions and growth of indigenous plant species of waterlogged soils

2.1.14 Visual and olfactory evidence of contamination was visible in several areas of the site. Celtic note a significant 'plume' in the southwest of the site, with black staining on soils and hydrocarbon sheen on water. Three other contaminant plumes were identified across the site, with hydrocarbon odours / sheens in the soil and water.

2.1.15 Chemical analysis of samples at the site indicate the site is impacted by contamination. Laboratory results indicated the presence of organic contamination, including TPH and PAHs, as well as non-organic contaminants such as metals and sulphates amongst others. Contamination was generally found in shallow Made Ground within hotspot areas, however some hotspots extended deeper into the Made Ground. Minimal contamination impacts were found within the deeper natural ground. Asbestos was not identified in any of the thirty samples screened.

2.1.16 Analysis of groundwater indicated elevated levels of TPH in several shallow wells and exceedences of the Drinking Water Standards (at the time) for boron, selenium, ammonium, sulphate and phenol within the deeper groundwaters. Low concentrations of contaminants in perched waters demonstrated low leaching potential of solid phase contaminants in Made Ground. Notably, levels of contaminants observed within Made Ground were not reflected within shallow or deep natural deposits suggesting that contaminants were relatively immobile within Made Ground and that the overlying clay deposits do not provide an active pollutant pathway linkage to deeper natural deposits.

2.1.17 Monitoring of ground gases at several locations recorded concentrations of carbon dioxide between <0.1% and 14.3% (typically between <0.1% and 9.8%), methane concentrations up to 30.5% (typically <0.1%) and gas flow rates of up to 2.3 l/hr.

Wardell Armstrong LLP: "Factual Site Investigation Report, Land Between Ten Acres Lane and Mitchell Street, Newton Heath, Manchester" (report ref: SH12254 RPT-001) – July 2019

2.1.18 WA were commissioned by Vertase FLI Ltd (Vertase) to undertake a ground investigation at the site to assess the geotechnical nature of the ground, determine the depth / nature of the Made Ground, and confirm the findings of previous site investigation works.

2.1.19 The site investigation comprised thirty-five trial pits, three window sample boreholes, and six cable percussive boreholes. Limited environmental / chemical laboratory testing was undertaken, as instructed by Vertase.

2.1.20 Made Ground was encountered in all exploratory hole locations, to a maximum depth of 10.8m bgl. The Made Ground was described as typically granular with varying portions of constituents including house bricks, timber, slag / clinker, and plastic. Notable strata of Made Ground were separated as suspected commercial / light industrial waste, suspected construction / demolition waste, suspected colliery spoil, and suspected combustion waste.

2.1.21 Natural superficial deposits were encountered beneath the Made Ground in most of the exploratory holes and was encountered between depths of 0.30m to 11.50m bgl mostly as a sandy gravelly CLAY, with occasional inclusions of sand and silty clay.

2.1.22 Groundwater was encountered during the ground investigation at depths of between 0.1m bgl and 7.0m bgl.

2.1.23 Visual and olfactory evidence of contamination at the site included black staining of soil, as well as odours of hydrocarbon and sulphur from the soil and water.

3 SITE HISTORY AND CURRENT LAND USE

3.1 Site History

3.1.1 Ordnance Survey plans dating back to 1848 have been examined and are summarised in Table 3.1.

Table 3.1: Summary of Previous Land Use

Date	Site Land Use	Adjacent Land Use
1848	Open fields	Ten Acres Lane borders the western boundary of the site. Rochdale Canal immediately north of site, with Newton Heath north west of site comprising residential dwellings. Cotton Mill south of the site.
1893	Brick works constructed in western part of site. A reservoir is located on the northern site boundary, likely associated with the bleach works/mills on adjacent side of Rochdale Canal. The remainder of site is undeveloped.	Expansion of Newton Heath, as well as development of numerous industrial units including Cotton Mills, Bleach Works, Dye Works, and Glass Works to the north of the site. Lancashire & Yorkshire Railway constructed to the north of Newton Heath. Tannery situated directly east of the site. Open fields to the east, south and west of site.
1909-1910	Additional brick works in the eastern area of site, with excavations nearby. Additional buildings at brick works in west of the site, with excavation visible nearby.	Further expansion of Newton Heath. Park Engineering Works to the southwest of site.
1923	Expansion of excavations associated with both brick works, extending past modern day site boundary. No indication of depth. Construction of additional buildings associated with brick works in the east.	Recreation ground bordering the southwestern boundary of the site. Expansion of Park Engineering Works to the southwest.
1932-1933	The Brick works are no longer present in the west of site. A sports ground is now indicated with former pits backfilled. Additional sports ground in south of site. Expansion of excavations associated with eastern brick works, with ponds indicated.	Residential properties and school now adjacent to southern boundary, partly constructed over off-site extent of clay pit.
1938	No significant changes.	No significant changes.
1949-1951	Eastern pits now labelled as Refuse Heap, with ponds also indicated.	

Table 3.1: Summary of Previous Land Use		
Date	**Site Land Use**	**Adjacent Land Use**
	Tramway associated with eastern brick works.	
1956	The sports ground in south of site no longer present.	Further expansion of Engineering Works to the south west, and expansion of residential areas south and east.
1966-1968	No significant changes.	No significant changes.
1978	The Brick works and pit now disused. Reservoir in the north of site no longer present.	Numerous residential and industrial buildings immediately north of site now demolished.
1981-1982	No significant changes.	Residential housing developed immediately north of the site.
1990-1993	Pit no longer present – labelled as disused workings.	No significant changes.
1999	No significant changes.	Works to the southwest of site demolished, only one building remaining.
2006	Makkah Close, and associated residential dwellings, constructed adjacent to sites southwestern boundary.	No significant changes.
2020	No significant changes.	No significant changes.

3.2 Site Use

3.2.1 A site walkover was carried out on 2nd November 2020 by a WA Engineer.

3.2.2 A summary of the pertinent findings of the site walkover is given below:

- The site can be accessed from two points: Ten Acres Lane provides access to the southwest of the site, and Mitchell Street at the northeast.
- Approximately 65% of the site is dense mixed woodland, with small clearings of grassed / meadow areas. The woodland forms the majority of the eastern section of the site.
- An area of concrete hardstanding is situated adjacent to the eastern boundary.
- The southern and western sections of site are comprised of grassed meadow with trees.

- The Rochdale Canal forms the northern boundary of the site. A footpath is adjacent to the Canal and was well used by members of the public at the time of the walkover. There is no physical boundary present at the northern boundary. Residential properties are situated on the adjacent side of the canal.
- The eastern boundary of the site is adjacent to Mitchell Street, with residential properties beyond. A soil bund forms the boundary; however, members of the public were seen accessing the site over the bund.
- The southern boundary is adjacent to the back gardens of residential properties of Briscoe Lane, as well as Briscoe Lane Academy School. Physical boundaries include fencing from the gardens and school, however a hole in the fencing adjacent to the school provides access to the site.
- Various damaged vehicles are located across the site, mostly in the centre. Various other stockpiled materials, including tyres and household waste, were noted in the areas adjacent to housing, notably at Mitchell Street and the southern boundary of the site.

3.3 Asbestos

3.3.1 During the site walkover asbestos was not seen on the site. Furthermore, no asbestos or asbestos fibres were identified during previous phases of site investigation.

3.3.2 Given the presence of a buildings constructed circa 1893, and the use of the former clay pits as a landfill from the mid-20th Century onwards, it is considered possible that asbestos containing materials (ACMs) may be present on site.

3.4 Ecology

3.4.1 Although a site visit has been carried out, this was not specifically for ecological purposes and has not been undertaken by a qualified ecologist. Areas of potential ecological value may be present, and it is recommended further information on ecological features should be obtained prior to the onset of site works (or as part of the application for planning consent).

3.4.2 A Nitrite Vulnerable Zone is recorded as being on-site and an Area of Adopted Green Belt and a Local Nature Reserve are recorded approximately 583m and 603m to the south east of the site respectively. There are no other sensitive land uses indicated from the Envirocheck Report within 2km of the site.

3.4.3 It should be noted that the Rochdale Canal is designated as a Special Area for Conservation (SAC) some 1.2km upstream and to the north east of the site.

3.5 Invasive Plants

3.5.1 Extensive areas of Japanese Knotweed were evident across all parts of the site. It should be noted that the survey was not specifically for ecological purposes and was not undertaken by a trained ecologist.

3.6 Archaeology

3.6.1 The desk study and site walkover are not for archaeological purposes. Preliminary examination of historical maps of the site indicates that the site has been occupied by a brick works and clay pit from as early as 1893. Industrial remains relating to the brickworks (e.g. kilns and processing aeras) may be considered to be of archaeological interest. No scheduled Monuments or Listed Buildings are recorded on site.

3.7 Environmental Management

3.7.1 On the basis of the desk study assessment and the site walkover survey, the overall condition of the site appears to be poor as there is evidence of extensive fly-tipping on the site.

4 GEOLOGICAL AND HYDROGEOLOGICAL INFORMATION

4.1 Geology

4.1.1 The assessment of the geology of the site is based on the published geological mapping (Sheet 85, Manchester, Bedrock and Superficial Edition, 1:50,000 scale), and previous site investigation reports. Available online data from the BGS GeoIndex was also reviewed. A summary of the geological information is presented in Table 4.1. This has been supplemented by information contained within the Envirocheck Report.

Table 4.1: Summary of Geological Data

Strata	Description
Made Ground	Records indicate extensive Made Ground deposits across the site to depths of up to 14.8m bgl. From previous investigations the Made Ground was generally found to be highly variable over small lateral distances and comprised a mixture of predominantly granular and to a lesser extent cohesive soils; all of which included various anthropogenic constituents of varying proportions and quantities (e.g. brick, concrete, timber, ash, clinker, fabrics, glass, metal, slag, plastics, ceramics and tile).
Superficial Deposits	Glacial Till is recorded to be present beneath the site. Previous site investigations encountered a firm to stiff, fissured, dark brown and grey mottled, slightly sandy to sandy, gravelly Clay and to a lesser extent yellow and grey, gravelly, coarse Sand to depths of between 16.5m and >22.0m bgl.
Solid Geology	Chester Formation (sandstones with subordinate mudstone beds) and Manchester Marls Formation (calcareous mudstone and siltstone with thin beds of limestone) in the westernmost section of site. Collyhurst Series Sandstone (a soft red sandstone) underlies the remainder of the site.
Geological Structures	A fault trending northeast to southwest dissects the westernmost section of the site that downthrows to the south west by an unknown distance.
Geohazards	**Description**
Natural cavities	Not recorded
Landslides	Very Low
Collapsible deposits	Very Low
Compressible deposits	Moderate for most of the site. Very low in the western section of site.
Ground dissolution	Not recorded
Running sands	Very Low
Shrinkage/swelling clay	Very Low

4.1.2 Further information regarding ground and groundwater conditions from previous site investigations at the site are included in Section 2.

4.2 Hydrogeology

4.2.1 Hydrogeology information indicates that most of the site is underlain by natural superficial deposits, which are classified as a Secondary Undifferentiated Aquifer and bedrock, which is classified as a Principal Aquifer. However, a superficial Secondary A Aquifer encroaches into the westernmost section of the site and a bedrock Secondary B Aquifer is recorded within the westernmost section of the site.

4.2.2 There are nineteen groundwater water abstraction licenses within 2km of the site. The nearest is located 643m northwest of site and is used for cooling and manufacturing purposes.

4.2.3 There are no potable groundwater abstractions within 2km of the site and the site does not lie within a Source Protection Zone.

4.3 Soil Vulnerability Classification

4.3.1 The site's groundwater vulnerability is recorded as Low. These are areas that provide the greatest protection to groundwater from pollution, likely characterised by low leaching soils and / or the presence of low permeability superficial deposits.

4.4 Hydrology

Watercourses

4.4.1 The nearest surface water feature is the Rochdale Canal adjacent to the northern boundary of the site. The Canal flows from northeast to southwest and is classed as River Quality B (Good).

4.4.2 The River Medlock lies approximately 700m to the south and downgradient of the site. The River Medlock is classed as River Quality E (Poor).

4.4.3 Moston Brook lies approximately 590m to the north north west of the site on the other side of the Rochdale Canal. Moston Brook is classed as River Quality F (Bad).

4.4.4 There are fifteen surface water abstraction licenses within 2km of the site. The nearest is located 1086m southwest of the site at the River Medlock, although the extraction type is not supplied. Most are for non-sensitive industrial purposes.

Flooding

4.4.5 The site is located within a Flood Zone 1 and has a low probability of flooding. For existing use, the site is located within a Very Low Risk flood area. The chance of flooding each year is less 0.1%. As the site is greater than one hectare in size a site-specific flood risk assessment will be required in accordance with Chapter 10 of the National Planning Policy Framework.

4.4.6 The flood risk from surface water for the majority of site is considered to be very low, however there are small areas within the north eastern and western sections of the site classed as low to high risk. Celtic noted in their assessment of the site that the south western section of the site could be prone to small-scale flooding events during periods of heavy rainfall, as a high-water table and marshy ground conditions were noted in this area.

4.4.7 The BGS Groundwater Flooding Susceptibility Map shows that most of the site is located in an area where there is limited potential for groundwater flooding to occur. However, the westernmost parts of the site are recorded as having the potential for groundwater flooding to occur to property situated below ground level.

5 MINING AND QUARRYING

5.1 Coal Mining

5.1.1 Published information from the Coal Authority (CA) indicates that the site is located within a coal mining reporting area but is not located within a Development High Risk Area. No mining shafts or adits were identified on, or within 20m of, the site.

5.1.2 A historical CA mining report obtained by WS Atkins states that the site is within the zone of influence from workings in one coal seam at a depth of 1,040m, which was last worked in 1954. Ground movement from the workings should have ceased.

5.1.3 Furthermore, BGS Geological mapping and boreholes from within the same geological setting of the site indicate that the Coal Measures strata underlie the site at depths greater than 200m bgl.

5.1.4 Consequently, the site is considered highly unlikely to be subjected to any ground instability resulting from coal mining activities.

5.1.5 There are no records of mine gas emissions that would require attention. Furthermore, while the fault that is recorded to be present beneath the site could provide a pathway for any mine gas, a significant thickness of low-permeability Glacial Till has been recorded at the site.

5.2 Other Mining

5.2.1 The site is not recorded to lie within a BGS Non-Coal Mining Area. However, there are two BGS Recorded Mineral Sites recorded on site, both of which were opencast brick works which have now ceased operation. Mitchell Street Brickworks was situated in the east of the site and worked the Glacial Till. The Newton Brick works in the west of the site worked the Manchester Marls Formation.

5.2.2 A further six BGS Recorded Mineral Sites are recorded within 2.0km of the site, all of which pertain to clay extraction and have now ceased operation.

6 ENVIRONMENTAL SETTING AND CONSULTATIONS

6.1 Contaminated Land Register Entries and Notices

6.1.1 The site, or an area within 500m of the site has not been identified as potentially contaminated by the Local Authority under the Part IIA of the Environmental Protection Act 1990.

6.2 Landfill and Waste Management

6.2.1 A single historical landfill is located on site and was active from May 1973 to December 1984. Deposited wastes types included inert, commercial and household Waste.

6.2.2 A single registered landfill site is located on-site and was active from July 1978 but has now ceased. Between 75,000 and 250,000 tonnes of construction and demolition waste, including industrial non-hazardous waste, slag and boiler flue cleanings, and foundry sand were deposited per year. Liquid and sludge wastes were prohibited.

6.2.3 There is a single BGS Recorded Landfill located 539m northwest of site at Clayton Vale, Manchester. The type of waste deposited is not supplied.

6.2.4 There are a further nine historical landfill sites, two registered landfill sites and a single BGS recorded landfill within 1.0km of the site. The nearest of which is located 527m to the south east of the site at Clayton Vale. The first reported input date is 31st December 1901 and the last recorded input date is 31st December 1980. Deposited waste is reported to include Inert and Industrial Waste.

6.2.5 There are also features on historical maps and areas of potentially infilled land, which may indicate the presence of unrecorded landfilling activities at and within influencing distance of the site. Examples include an area of infilled land immediately adjacent to the south eastern section of the site.

6.2.6 There are no Integrated Pollution and Control Waste Sites, Licensed Waste Management Facilities, Registered Waste Transfer Sites or Registered Waste Treatment or Disposal Sites that are likely to impact upon the site.

6.3 Environmental Issues

6.3.1 The environmental issues for the site and adjacent land have been reviewed from the Envirocheck Report, and those of potential significance to the site are highlighted below:

- There is a single Pollution Incidents to Controlled Waters recorded 28m to the north east of the site that and pertaining to the Rochdale Canal that was classified

as a Category 3 (minor incidents). However, the source or type of pollutants were unknown.

- There are three Local Authority Pollution Prevention Controls (Part B) of relevance within 250m of the site. The nearest is located 94m to the south west of the site and pertains to iron, steel and non-ferrous metal foundry processes. A petrol filling station is located 131m to the east and further iron, steel and non-ferrous metal foundry processes located 220m to the south west.
- A single Licensed Waste Management Facility is located 233m to the north east of the site. The types of waste processed include household, commercial and industrial waste.
- A single Registered Waste Transfer Site located 237m to the north east of the site that processes between 25,000 and 75,000 tonnes of various waste types (includes commercial, industrial, decomposable waste, scrap rubber, scrap machinery and asbestos mixed wastes).

6.3.2 The environmental issues identified above are not likely to have impacted the site in the past or significantly impact future development.

6.4 **Radon**

6.4.1 The Envirocheck report indicates that the site is in a Lower (less than 1% of homes estimated to be at or above the Action Level) to Intermediate (1 to 3% of homes estimated to be at or above the Action Level) probability radon area and that no radon protective measures are necessary in the construction of new dwellings or extensions.

6.5 **Unexploded Ordnance**

6.5.1 A Zetica UXO risk map was reviewed for the site and this indicates that the site is located within an area which is classed as Moderate risk. However, several bomb strikes were recorded within the surrounding area and the former Parks Engineering Works (located approximately 0.1km to the south west of the site and a strategic target) is indicated to have been manufacturing military aircraft and parts and also possibly producing munitions during both wars.

6.5.2 Consequently, a UXO Risk Assessment was carried out for the site in 2020 by Zetica. An overall low UXO hazard was indicated that no additional measures were considered necessary to reduce the UXO risk on the site to As Low As is Reasonably Practicable (ALARP).

6.5.3 However, the above assessment was based on the proposed site investigation works and future bulk excavations of parts of the site. A reassessment will be required for the bulk earthworks that would need to be undertaken as part of the development of the site.

7 PRELIMINARY CONCEPTUAL SITE MODEL

7.1 Background

7.1.1 Following a review of the information presented in this report a preliminary conceptual site model has been prepared to show the characteristics of the site and show the relationships between possible contaminants, pathways, and receptors. The preliminary Conceptual Site Model (CSM) is based upon an assumed residential end use. This should be refined as more detail becomes available on the ground conditions present.

7.2 Potential Sources of Contamination On-Site:

- Made Ground - associated with the sites former use as a historic and registered landfill. Significant thickness of Made Ground was encountered across the site during previous phases of ground investigation with elevated and widespread concentrations of metals, inorganics, TPH, PAH, SVOC and VOC above screening values indicated. Elevated concentrations of ground gases were also noted that are indicative of 'Amber 2' in the 'Traffic Light' system.
- Perched groundwaters within the landfill were encountered across the site during previous phases of ground investigation with visual and olfactory evidence of contamination. Analysis of groundwater indicated elevated levels of TPH in several shallow wells and exceedences of the Drinking Water Standards (at the time) for boron, selenium, ammonium, sulphate and phenol within the deeper groundwaters.
- Historic brickworks that were present on-site. Possible contaminants include Metals, Metalloids and their compounds; Acids/bases; Asbestos; Solvents; Polychlorinated biphenyls (PCBs); and Hydrocarbon (fuels).
- Fly-tipped materials. Possible contaminants include asbestos, metals and metalloids, fuel oils etc.
- The former reservoir (possibly infilled and within the central northern section of the site) and could constitute a ground gas source if infilled with Made Ground.

7.3 Potential Sources of Contamination Off-Site:

- Surrounding historical industrial uses within the immediately surrounding area that includes the Park Engineering Works, Avro Works, Brickworks and associated clay pits, Ten Acres Mill, Bleach Works, Livingston Mills (cotton), Galvanising

Works, Glass Works, Dye Works, Tannery, Laundry, Timber Yard; most of which are located to the north of the site on the opposite bank of the Rochdale Canal. Moderate to high contaminative potential indicated.

- Surrounding current industrial land uses and fuel stations within the immediately surrounding area. For most current sources the contaminative potential is reduced due to modern working practices and extensive areas of hardstanding materials.
- Surrounding historical landfills and areas of potentially infilled ground (e.g. ponds and excavations).
- Cemetery.

7.4 **Potential Pathways:**

- Human health – inhalation of soil dust and vapours / ground gas, dermal contact and ingestion of soils, dust, and waters. Possible consumption of homegrown vegetables and ingestion of soil attached to vegetables following development of the site.
- Controlled waters – vertical and lateral migration of leached / dissolved contaminants in groundwater through the ground via permeable strata, discontinuities, or man-made features (e.g. foundations and service trenches) and surface water run-off / overland flow over low permeability strata at the surface.
- Ground gas – migration, ingress, and accumulation with both vertical and lateral migration via permeable strata and man-made features (e.g. foundations and services) and lateral migration via groundwater.
- Buildings/infrastructure – direct contact of contaminated soils / groundwater with building materials and ground gas ingress / accumulation.
- Flora and Fauna – ingestion and root uptake.

7.5 **Potential Receptors:**

- Human health – current site users, future site users / occupiers, construction workers, and the general public / adjacent site users (includes residential properties and the school to the south).
- Controlled waters – groundwater within superficial Secondary A and Secondary Undifferentiated Aquifers, groundwaters within bedrock Principal Aquifer and Secondary B Aquifer and surface waters (Rochdale Canal and River Medlock).

Groundwater within the deeper Principle Aquifer is considered to be the most sensitive groundwater receptor.

- Buildings / infrastructure (existing and proposed).

8 PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

8.1 Introduction

8.1.1 In line with EA guidance Land Contamination: Risk Management June 2019 (LCRM) the information gathered throughout this report can be used to carry out a Preliminary Risk Assessment. The Risk Assessment is provided for each identified source, pathway, receptor linkage in Table 8.5.

8.1.2 The CIRIA document Contaminated Land Risk Assessment – a guide to good practice C552, 2001 defines the Consequence of Risk, Probability of Risk Being Realised and Risk Classification Definition. These definitions are provided in Tables 8.1, 8.2 and 8.3, and the Risk Classification Matrix (Table 8.4) is used to provide a qualitative Risk Assessment for each identified source, pathway, receptor linkage.

Table 8.1: Consequence of Risk Being Realised (based on CIRIA C552 2001)

Classification	Category	Definition	Examples (Not necessarily specific to this site)
Severe short-term (acute) risks only	Humans	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part 2A.	High concentrations of cyanide on the surface of an informal recreation area.
	Controlled Waters	Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource.	Major spillage of contaminants from site into controlled water.
	Property	Catastrophic damage to buildings/property.	Explosion causing building collapse (can also equate to a short-term human health risk if buildings are occupied.
	Ecological System	A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	
Medium chronic (long term) risks; "significant harm"	Humans	Chronic damage to Human Health ("significant harm" as defined in Defra 2006).	Concentrations of a contaminant from site exceed the generic, or site-specific assessment criteria
	Controlled Waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for	Leaching of contaminants from a site into a major or minor aquifer.

Table 8.1: Consequence of Risk Being Realised (based on CIRIA C552 2001)			
Classification	**Category**	**Definition**	**Examples (Not necessarily specific to this site)**
		considering significance of pollution).	
	Ecological System	A significant change in a particular ecosystem	Death of a species within a designated nature reserve.
Mild chronic (long term) risks; less sensitive receptors	Controlled Waters	Pollution of non-sensitive water resources.	Pollution of non-classified groundwater.
	Property	Significant damage to buildings, structures and services ("significant harm" as defined in Circular on Contaminated Land, Defra, 2006). Damage to sensitive buildings/structures/services.	Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability).
	Ecological System	Significant damage to crops. Damage to the environment.	
Minor chronic (long term) risks; mild	Financial / project	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve.	
	Humans	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc).	The presence of contaminants at such concentrations that protective equipment is required during site works.
	Property	Easily repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discolouration of concrete.

Table 8.2: Probability of Risk Being Realised (C552 CIRIA, 2001)	
Classification	**Definition**
High Likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.

Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

Table 8.3: Risk Classification Definitions (C552 CIRIA, 2001)	
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Moderate / Low	
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table 8.4: Risk Classification Matrix (C552 CIRIA, 2001)					
		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/Low	Low	Very Low
	Unlikely	Moderate/Low	Low	Very Low	Very Low

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
Contamination in soil/shallow perched groundwater noted in the CSM originating from the following on-site sources: 1. Made Ground associated with sites former historic uses. 2. Sites former use as brickworks with clay extraction pits. 3. Sites former uses as historic and registered landfill.	Human Health (inhalation, dermal contact and ingestion).	Future site users	Medium	Likely	Moderate (Low with mitigation)	The most sensitive receptor in this scenario would be a child. Hardstanding in the form of roads and pavements will be present across most of the site, reducing the potential for most pathways to be present. However, pathways could still be present in gardens and areas of soft landscaping. Remediation and mitigating measures will be required to protect future site users, and this would likely include clean cover systems within private gardens / areas of soft landscaping. Following remediation, the consequence of any risk being realised would be reduced.
		Current site users	Medium	Low	Low to Moderate	
		Construction workers	Medium	Likely	Moderate (Low with mitigation)	Risk to construction workers can be managed through the use of appropriate and safe working procedures and the use of appropriate PPE.
		Adjacent site users	Medium	Likely	Moderate (Low with mitigation)	The most sensitive receptor in this instance would be a child. During development of the site contaminated soils and shallow perched groundwaters will likely be exposed and the risk of migration to off-site receptors (e.g.

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
4. Former reservoir (possibly infilled) 5. Perched groundwaters within the made ground / landfill. 6. Fly tipped materials & bund along sites eastern boundary						windblown soils or surface water run-off) would be increased. However, it is unlikely that contaminants from on-site would migrate off-site in large quantities or at the concentrations recorded on-site, so the consequence is reduced. Risks could be reduced by undertaking development works in accordance with a CEMP.
	Controlled waters (migration of groundwater through the ground and surface water run-off/overland flow).	Bedrock Principal Aquifer	Medium/Severe	Unlikely	Low	Increased risk to the Principal Aquifer due to it sensitivity. However, there are no sensitive groundwater abstractions within 1km of the site and the site does not lie within an SPZ. A substantial thickness of low-permeability cohesive Glacial Till deposits is indicated from BGS data and previous site investigation data (between 6m and 21m thick) overlies the underlying Principal Aquifer.
		Bedrock Secondary B Aquifer	Mild	Unlikely	Very Low	The bedrock Secondary B Aquifer is not considered to be overly sensitive and is likely acting as a barrier to groundwater flow for the Principal Aquifer. As outlined above, it is also covered by a substantial thickness of predominantly low permeability Glacial Till.
		Superficial Secondary	Mild	Low	Low	The superficial Secondary Undifferentiated aquifer is not considered to be overly sensitive and typically comprises low permeability Glacial Till. However, limited pathways

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
		Undifferentiated Aquifer				do exist in places from the landfill to what appear to be discontinuous sand and gravel lenses within the till where these directly underlie the landfill.
		Superficial Secondary A Aquifer	Medium	Unlikely	Low	The superficial Secondary A Aquifer encroaches into the north western section of the site and is likely be of limited extent. Pathways are considered unlikely for the reasons outlined above for the Secondary Undifferentiated Aquifer.
		Rochdale Canal	Medium	Low	Low to Moderate (Low with mitigation)	The Rochdale Canal is moderately sensitive (River Quality B) but is assumed to be clay lined and natural glacial clays are indicated along the northern boundary of the site negating most lateral migration pathways for groundwater from the site. No outfalls or discharges are recorded from the site to the canal. Increased risks to the canal are envisaged during development of the site, but this could be mitigated through the use of a CEMP.
		River Medlock	Mild	Unlikely	Very Low	The River Medlock is not overly sensitive (River Quality E), and pathways are limited due to the distance to the receptors, the presence of predominantly low permeability Glacial Till between the site and the river and in some instance's barriers to surface water runoff/overland flow.

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
	Buildings / Infrastructure (Direct contact)	Future and existing buildings and water pipes	Mild	Likely	Low to Moderate (Low with mitigation)	Elevated and widespread concentrations of aggressive contaminants (e.g. sulphates and PAH) are indicated and would have the ability to degrade concrete or water pipes. Mitigating measures could include concrete design to withstand chemical attack and barrier pipe/ductile pipes for water supply pipes.
	Flora and Fauna	Existing vegetation and potential fauna on site and future vegetation	Minor	Likely	Low	The site is heavily vegetated with numerous mature trees and other flora and fauna being present that have developed within contaminated soils. Future vegetation may be planted at the site and may come into contact with contaminated soils.
On-site ground gas sources and vapour sources including Made Ground / landfill, former infilled reservoir and groundwaters.	Buildings (gas / vapour migration, ingress and accumulation). Human Health (inhalation)	Future site users	Severe	Likely	High (Low with mitigation)	Significant thicknesses of Made Ground have been identified within the historical landfill with abundant degradable constituents. A moderate ground gas generation potential is envisaged based on the age of the landfill and the recorded waste types. Elevated ground gas concentrations have been recorded from previous investigations at the site that are indicative of 'Amber 2' in the 'Traffic Light' derived system. Vapour risk was discounted but this was based on a series of assumptions. Further investigation is required. Based on the above,
		Future on-site buildings	Severe	Likely	High (Low with mitigation)	

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
						ground gas protection for new buildings would likely be required and this would reduce the risk.
		Current site users	Mild	Unlikely	Very low	Current site users are infrequent (e.g. dog walkers) and activities are undertaken in open atmosphere so the risk to current site users is very low.
		Adjacent site users	Severe	Unlikely	Low to Moderate (Low with mitigation)	Based on previous and more recent site investigations pathways to off-site receptors are considered unlikely due to the natural clay deposits that are indicated along the sites boundaries. Possible pathways are indicated within the south easternmost corner of the site where historic excavations appear to have extended off-site. However, these are indicated to be relatively isolated from the main excavations that occurred on-site. Further investigation is required. Mitigation measures could include gas venting trenches along site boundaries to reduce the risk.
		Adjacent buildings	Severe	Unlikely	Low to Moderate (Low with mitigation)	
Off-site historic and current sources as outlined in the CSM.	Inhalation, dermal contact and ingestion	Future site users	Medium	Low	Low to Moderate (Low with mitigation)	It is unlikely that soil bound contaminants from off-site (unless fully exposed) have made their way to site in large quantities. However, contamination from historic surrounding land uses may have been deposited within the landfill. Most of the surrounding area is also

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
		Current site users	Medium	Low	Low to Moderate (Low with mitigation)	developed so any significant sources of contamination are likely to have been removed or covered thereby breaking the pollutant pathway linkage.
		Construction workers	Medium	Low	Low to Moderate (Low with mitigation)	
	Migration of groundwater through the ground and surface water run-off/overland flow to those receptors beneath the site	Bedrock Principal Aquifer	Medium/Severe	Unlikely	Low	In most cases migration of contaminants to the site via surface water / overland flow is unlikely due to the distance of the sources from the site, the presence of physical barriers and that interception by local drainage in developed areas is likely to occur. Migration of groundwater through the ground is unlikely due to the predominantly low permeability of the surrounding Glacial Till. High permeability is envisaged for Principle Aquifer, but a significant cover of Glacial Till is present. The fault and Manchester Marls could also be acting as a barrier to lateral groundwater flow for deep groundwaters within bedrock. While outfalls to the canal
		Bedrock Secondary B Aquifer	Mild	Unlikely	Very Low	
		Superficial Secondary A Aquifer	Medium	Unlikely	Low	
		Superficial Secondary	Mild	Unlikely	Very Low	

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
		Undifferentiated Aquifer				may be present from off-site sources, continuity between those groundwaters at the site and the Rochdale Canal is not indicated.
		Rochdale Canal	Medium	Unlikely	Low	
	Direct contact	Existing and future buildings and water pipes	Mild	Unlikely	Very Low	See previous sections regarding the contaminative potential for off-site sources and the potential pathways for soils and groundwater that may be aggressive to buildings and water pipes.
Other off-site ground gas and vapour sources including: 1. Potential areas of infilled land 2. Historic landfills 3. Cemetery	Gas migration, ingress, and accumulation	Future site users	Medium	Low	Low to Moderate (Low with mitigation)	These sources are anticipated to have a low to moderate ground gas generation potential, so the consequence is reduced. However, pathways to the site are unlikely due to the predominantly low permeability of the surrounding Glacial Till. Ground gas generation / migration from the infilled ground adjacent to the sites south eastern boundary is possible. Further investigation is required. Ground gas protection is likely required for those on-site sources so this will further reduce the risk from off-site sources.
		Current site users	Medium	Low	Low to Moderate (Low with mitigation)	
		Existing and future buildings	Medium	Low	Low to Moderate (Low with mitigation)	
Notes						

Table 8.5: Preliminary Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
*[1] Considers both the potentially severity of the hazard and the sensitivity of the receptor. Where applicable, the most sensitive receptor / hazard has been used for the overall assessment. *[2] Considers both the presence of the hazard and the integrity of the pathway. Where applicable, the most likely hazard / pathways have been used for the overall assessment.						

9 GROUND INVESTIGATION DETAILS

9.1 Introduction

9.1.1 The ground investigation was undertaken by WA between 5th October and 6th November 2020. The investigation was designed to take account of previous third party and WA investigation information. Investigation points were positioned to provide a wide coverage of the site and to target specific features identified from a gap analysis exercise undertaken in June 2020. Ground investigation locations are shown on Drawing LD10162-003.

9.1.2 Results of the investigation have been used to review and revise the conceptual site model, establish whether linkages identified are plausible and establish the level of risk associated with the site.

9.1.3 The investigation, including sampling techniques, was carried out generally in accordance with BS5930:2015, Code of Practice for Ground Investigations and BS10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.

9.2 Pre-Ground Investigation Works

9.2.1 Pre-Ground investigation works were undertaken at the site between 14th September and the 02nd October 2020 and the scope of these works were generally as follows:

- Production of Risk Assessments and Method Statements (RAMS) and Construction Design and Management (CDM) documentation to ensure compliance with CDM Regulations 2015. This included obtaining an Unexploded Ordnance (UXO) Risk Assessment from a third party.
- The production of ecological Method Statement to ensure avoidance of impacts to ecological receptors during the works. Ecological supervision was provided throughout the pre-site works to ensure compliance with the above and to ensure that all work areas were free of ecological constraints.
- Formation of a secure compound area and gated access within the westernmost section of the site, just off Ten Acres Lane. This included vegetation clearance, clearance of stockpiles and the erection of security fencing around the cleared area.
- Surveying of all exploratory hole positions by GPS system with utility clearance also being undertaken by appropriately qualified third-party surveyors.

- Vegetation clearance of all exploratory hole positions and access routes where this could be undertaken.
- Supervision by an experienced Japanese Knotweed specialist to ensure that all exploratory hole positions, access routes and areas of vegetation clearance were free from Japanese Knotweed.
- Surveying of all exploratory hole positions by GPS with utility clearance that was undertaken by appropriately qualified third-party surveyors.

9.3 Ground Investigation Works

9.3.1 The Ground investigation was undertaken at the site between the 05th October 2020 and the 06th November 2020 and the scope of these works were generally as follows:

- 50 No. Trial pits / trenches excavated to depths of between 1.2m and 5.4m bgl to further establish the thickness, extent and characteristics of the underlying Made Ground and natural superficial deposits beneath the site, to delineate contamination 'hotspot' areas, delineate areas of "waste" materials and to identify any significant obstructions.
- 19 No. Cable percussion boreholes were drilled to depths of between 8.00m and 20.4m bgl to verify the depth of the Made Ground across the central areas of the site and to allow for the installation of ground gas and groundwater monitoring wells. Secondly, to establish the thickness, extent and characteristics of the underlying natural superficial deposits and whether any continuity exists between the various groundwaters at the site.
- 7 No. Rotary open hole and cored boreholes drilled to depths of between 19.5m and 45m bgl to establish the depth to bedrock and allow for the installation of groundwater monitoring wells within the underlying Principal Aquifer. Four of the rotary boreholes were follow-on holes from cable percussion boreholes, when telescopic drilling was deemed necessary.
- 14 No. Windowless sample boreholes were drilled to depths of between 4.45m and 5.45m bgl to allow for the installation of ground gas and groundwater monitoring wells around the periphery of the site. These wells were dual purpose in that they allow for an assessment of ground gas to off-site receptors and allow for an assessment of the shallow perched groundwater table within the south western section of the site.

- 5 No. Soakaway tests to obtain permeability parameters for the various materials at the site and to assess the potential for collapse compression.
- Installation of 25 No. groundwater and ground gas monitoring wells within boreholes and window sample holes (50mm diameter standpipe installations).
- In-situ testing that included regular hand shear vane and Standard Penetration Testing (SPT) with sampling and subsequent geotechnical laboratory testing of the underlying natural superficial deposit and Made Ground. SPT calibration certificates are included within Appendix D.
- Samples were screened on site for the presence of ionisable volatile organic compounds using a photo-ionisation detector (PID) with a 10.6 eV lamp. These tests were generally undertaken at regular intervals and / or where visual / olfactory observations were noted.
- Environmental sampling and testing of soils from exploratory hole positions to assess the extent of the contamination across those areas that have previously not been investigated and to delineate / validate the 'hotspot' areas that have been identified during previous investigation, so that the risks to human health and controlled waters can be quantified.
- Full time supervision by suitably qualified and experienced Wardell Armstrong geoenvironmental / geological engineers.

9.3.2 The investigation was carried out in accordance with Construction Design and Management (CDM) Regulations 2015 and a site-specific Health & Safety plan. WA were appointed as Principal Designer and Principal Contractor for the works and provided a full-time engineer supervising the works.

9.3.3 Immediately prior to commencement of intrusive works the exploratory hole locations were scanned using a calibrated Cable Avoidance Tool (CAT) and service inspection pits were hand excavated to 1.20m bgl.

9.3.4 Clean' drilling techniques were utilised where boreholes were to penetrate the landfill / Made Ground materials and progress into the underlying natural superficial strata. This involved larger diameter casing being used within the landfill / Made Ground strata and bentonite seal (at least 1.0m thick) being installed at the bottom of the borehole once natural strata had been encountered. Once the seals had cured, drilling progressed into the natural superficial deposits using smaller dimeter casing.

9.3.5 During the ground investigation works many of the original positions had to be altered or were terminated due to areas being inaccessible (mostly due to dense vegetation, ecological constraints or the presence of Japanese Knotweed) and to take account of changes to the ground model as the works progressed. Positions that had to be relocated were surveyed by handheld GPS.

9.4 Post Ground Investigation Works

9.4.1 Post fieldwork activities included the following:

- 9 No. Post fieldwork ground gas and groundwater monitoring visits were between the 30th November 2020 and 25th March 2021. Gas monitoring was undertaken using a calibrated GFM 436 gas analyser and groundwater level monitoring was undertaken using a Solinst interface meter. The calibration certificate for the gas monitoring equipment can be found in Appendix G.
- Well development was undertaken between the 09th Nov – 11th Nov 2020 using a Waterra Groundwater Sampling Pump. However, some of the deeper boreholes (CP112/RH103, CP114/RH108, CP101/RH109 and CP102/RH110) were severely silted up and it was not possible to remove this material. A second attempt to develop these wells was undertaken on 01st December 2020 using a Waterra Groundwater Sampling Pump, high flow HDPE tubing and a Waterra surge block.
- 3 No. rounds of groundwater sampling have been undertaken. The first round of groundwater sampling being undertaken between the 02nd Dec – 04th Dec 2020, the second round being undertaken on the 10th Dec 2020 and the third round being undertaken on the 07th Jan 2021. In all instances, monitoring wells were purged before sampling using a Waterra Pump with parameters being measured with an Aquaread Probe.
- During one of the ground gas and groundwater monitoring rounds undertaken on the 21st January 2021 and following a period of heavy rainfall, groundwater was noted to be seeping out of the ground close to the sites southern boundary. A sample of this groundwater was obtained on the 25th January 2021 and was sent for laboratory testing.

9.5 Laboratory Testing

Environmental / Chemical Laboratory Testing

9.5.1 Samples were submitted for laboratory analyses to establish the type, level and distribution of the possible contaminants that may be present on the site. Samples

were obtained at regular depths, changes in strata, where visual and / or olfactory evidence of contamination was encountered and at other discrete horizons recognised as having a high potential to retain contaminants. All chemical analysis were undertaken by ALS Environmental in their UKAS and MCERTs accredited laboratory.

9.5.2 The schedule of samples analysed is presented below in Table 9.1:

Table 9.1: Summary of Soil Chemical Analysis Schedule

Substances	No. Soil Samples
General inorganics	56
Cyanide	69
Asbestos ID	56
Total Phenols	79
Speciated PAHs and Total PAHs	75
Metals/Metalloids	56
Total Petroleum Hydrocarbons (TPH)	71
Soil Organic Matter (SOM)	56
Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	68
Methyl Tertiary Butyl Ether (MTBE)	68
Semi Volatile Organic Compounds (SVOC)	15
Volatile Organic Compounds (VOC)	13
Polychlorinated Biphenyls (PCB)	21
Leachate	9

9.5.3 A total of fourteen groundwater samples, three surface water samples and a single groundwater seepage sample were submitted for environmental laboratory analyses to establish the type, level and distribution of the possible harmful contaminants that may be present within groundwater and surface waters.

9.5.4 The schedule of groundwater samples analysed is presented below in Table 9.2:

Table 9.2: Summary of Groundwater / Surface Water Chemical Analysis Schedule

Substances	No. Samples
General Parameters and Inorganics	15
Total Phenols	15
Speciated PAHs and Total PAHs	15
Metals/Metalloids	15
Petroleum Hydrocarbons	15
SVOC	15
VOC	15

9.5.5 All tests were performed in UKAS accredited laboratories. The results of the soil and groundwater chemical analyses are attached at Appendix E.

9.6 Geotechnical Laboratory Testing

9.6.1 Selected soil samples obtained during the investigation were submitted to Professional Soils Laboratory (PSL) for geotechnical testing. All the tests were performed in accordance with BS1377:1990 'Soils for Civil Engineering Purposes'. A summary of geotechnical testing undertaken is presented in Table 9.3 below:

Table 9.3: Summary of Geotechnical Laboratory Testing

Geotechnical Test	No. of Tests
Natural moisture content	19
Particle size distribution (PSD)	13
PSD sedimentation	12
Atterberg limits	17
Compaction (2.5kg rammer)	18
One Dimensional Consolidation Test	7
Unconsolidated Undrained Triaxial Compression	12
BRE full suite	13
Calorific value	3
Determination of the potential expansion of steel slags	3

9.6.2 The results of the geotechnical and geochemical analyses are attached at Appendix F.

9.7 Quality Assurance (QA) and Quality Control (QC)

9.7.1 The soil samples were collected, transferred to the laboratory under chain of custody and analysed to ensure traceability and reliability of analytical results. All testing was undertaken in approved Environment Agency Monitoring Certification Scheme (MCERTS) and UK Accreditation Services (UKAS) accredited laboratories. Based on the laboratory QA data, the analytical results are considered acceptable for interpretative use unless this has otherwise been stated.

9.8 Limitations of Ground Investigation

9.8.1 The locations and numbers of the investigation locations were governed by the physical state of the site, ecological considerations and the presence of Japanese Knotweed. Although reasonable inferences have been made during the interpretation, it is possible that variances in the thickness, distribution and physical / chemical characteristics of the strata present will exist.

10 GROUND AND GROUNDWATER CONDITIONS

10.1 General

10.1.1 The ground and groundwater conditions encountered at the site are discussed in the sections below and are based on information obtained during the most recent ground investigation works undertaken by WA in 2020 and those works undertaken in 2019. Reference is also made to the ground investigation undertaken by Celtic in 2007.

10.1.2 For detailed descriptions please refer to the exploratory logs contained within Appendix D. Cross sections are included within Appendix H and an overall 3D Ground Model is shown in Drawing LD10162-22.

10.2 Topsoil Fill

10.2.1 Topsoil fill occurred across most of the site and typically comprised a firm, brown, slightly sandy, slightly gravelly Clay with frequent rootlets that was on average 0.2m thick. Gravel sized constituents mainly included red brick and to a lesser extent suspected slag / clinker, ceramic and glass. Other anthropogenic constituents were encountered locally, and this included concrete, plastic, timber, slate, fabric and wire.

10.3 Concrete

10.3.1 An in-situ concrete slab was encountered during the WA 2019 site investigation within the eastern section of the site at the location of one of the former brickworks. The slab was present from ground level to a maximum depth of 0.2m bgl and is estimated to occupy an area of approximately 900m^2.

10.4 Made Ground

10.4.1 Made Ground was encountered across the entire site and was proven to a maximum depth of 13.85m bgl within the central south western section of the site, although Made Ground up to 14.8m bgl was proven during previous investigations. An indicative Made Ground Contour Plan is shown in Drawing LD10162-007.

10.4.2 The Made Ground has been segregated into four distinct strata based on field descriptions; suspected colliery spoil, suspected construction and demolition waste, suspected combustion waste and suspected household waste. Made Ground that did not clearly fit into one of these distinct strata was logged either cohesive or granular Made Ground depending on its engineering behaviour and was generally found to be intermixed with the above.

10.4.3 The spatial distribution of the various distinct Made Ground types is shown in Drawing LD10162-009. Typical descriptions of the Made Ground, and depths encountered, are summarised below.

Cohesive and Granular Made Ground

10.4.4 Cohesive Made Ground was encountered across the entire site from between ground level and 5.7m bgl to a depth of between 0.3m and 10.4m bgl. The material was generally intermixed with those other types of Made Ground and was typically recovered as a soft to firm, sometimes stiff, brown, sandy and / or gravelly Clay with high cobble content and medium boulder content locally. The very coarse and gravel sized constituents mainly comprised red brick, sandstone, concrete, glass, timber and to a lesser extent suspected clinker, plastic, mudstone, ceramics and coal. Other anthropogenic constituents such as metal, suspected slag, slate, tile, plastic sheeting, fabric etc. were encountered locally. Hydrocarbon / organic odours were occasionally encountered.

10.4.5 Granular Made Ground was encountered across the site from between ground level and 5.45m bgl to depths of between 0.3m and 12.0m bgl. The material was generally intermixed with those other types of Made Ground and was typically recovered as a reddish brown, sandy, clayey Gravel with occasional cobbles and boulders. The very coarse and gravel sized constituents mainly comprised red brick, concrete, sandstone, glass, timber, plastic and suspected clinker. Other anthropogenic constituents such as suspected slag, slate, ceramics, coal, tile, metal, plastic sheeting / bags, fabric, hardboard etc. were encountered locally. Hydrocarbon odours / staining were encountered locally.

Made Ground – Suspected Combustion Waste

10.4.6 Suspected combustion type wastes were mainly encountered within the north western and to a lesser extent the south western and easternmost sections of the site and mainly correspond with the record extents of the former clay pit excavation within the north western section of the site and to a lesser extent the easternmost sections of the clay pit excavation that occupied the central and eastern sections of the site (see Drawing LD10162-009). The exception being those materials encountered within the south western section of the site, which were encountered outside the record extents of the former clay pit excavations.

10.4.7 The material was recorded from between ground level and 4.0m bgl to depths of between 0.4m bgl and 6.0m bgl (on average 1.36m thick); the exception being those

materials encountered within the south western section of the site, which were encountered to a maximum depth of 1.8m bgl and with an average thickness of 0.5m. It was typically recovered as a black to reddish brown, sandy / ashy Gravel with a high cobble content. In order of decreasing abundance, the gravel and cobble sized fragments were predominantly of suspected slag and clinker and to a lesser extent brick and timber. Occasional glass, slate, concrete, metal, plastic, acetate flakes, ceramics and tile were also noted in places.

10.4.8 Celtic also encountered this material within similar locations to that noted above to depths of between 0.8m and 4.2m bgl. The material was typically logged as a brown to black, sandy / ashy, clayey Gravel of clinker and brick. Cobbles comprised brick and concrete.

10.4.9 Visual and olfactory evidence of contamination such as hydrocarbon odours, hydrocarbon staining to soils, iridescent sheens on groundwater, red dye and tar were occasionally noted, mostly within the north western section of the site.

Made Ground – Suspected Construction and Demolition Waste

10.4.10 Suspected construction and demolition type wastes were mainly encountered within the central and to a lesser extent the north western and easternmost sections of the site. This mainly corresponded with the recorded extents of the clay pit excavation that occupied the central and eastern sections of the site and to a lesser extent the smaller clay pit excavations with the north western section of the site (see Drawing LD10162-009). The exception being those materials recorded within the easternmost section of the site, which were encountered outside the record extents of the former clay pit excavations.

10.4.11 These material were generally recorded from between ground level and 9.0mbgl to depths of between 0.35m and 13.85m bgl (on average 1.72m thick); the exception being those materials recorded within the easternmost section of the site, which were only encountered to a maximum depth of 0.65m bgl. It was typically recovered as cobble to boulder sized constituents of red brick and concrete in a matrix of reddish brown, sandy Gravel of the above. In order of decreasing abundance, the other very coarse to gravel sized constituents mainly included timber, metal, ceramics, glass, plastic, pipe fragments, building stone and slate. Exotic constituents in order of decreasing abundance included mainly included plastic sheeting / bags, bottles and suspected slag / clinker with rare occurrences of polystyrene, car tyres, paint tins, plastic drums, cement bags, fabrics, rope etc.

10.4.12 Celtic also encountered this material at similar locations and to depths of between 4.8m and >10.1m bgl. However, it was more widespread and generally mixed with other wastes types. The material was typically described as brown, clayey, sandy Gravels and Cobbles of brick, concrete, timber, glass, pottery and plastic.

10.4.13 Visual and olfactory evidence of contamination such as hydrocarbon odours, hydrocarbon staining to soils and acrid odours were occasionally noted.

Made Ground – Suspected Colliery Spoil

10.4.14 Suspected colliery spoil type materials occurred locally and were largely restricted to the north eastern section of the site and corresponds with the north eastern section of the clay pit excavation that occupied the central and eastern sections of the site (see Drawing LD10162-009). The distribution of the materials is also generally delineated by a slightly raised plateau that is present within the north eastern section of the site (see Drawing LD10162-005).

10.4.15 The material was generally recorded from between 0.35m bgl and 1.7m bgl to depths of between 0.6m bgl and 6.8m bgl (on average 3.8m thick) and was typically recovered as a dark grey, weathered orangish brown in places, sandy, clayey Gravel with high cobble and boulder content. Gravel and cobble sized fragments were predominantly of mudstone and siltstone and to a lesser extent of coal, sandstone and brick. Ash, slag and clinker gravel were intermittently encountered at some of the positions.

10.4.16 Suspected colliery spoil was encountered by Celtic in 2007 within seven exploratory holes. Strata descriptions are of limited detail, but the material was typically logged as a sandy, occasionally ashy, Gravel of mudstone and was proven to a maximum depth of 7.9m bgl.

Made Ground – Suspected Household Waste

10.4.17 Suspected household type wastes were mainly recorded as isolated occurrences and mixed in with the other waste types within the central section of the site and to a lesser extent elsewhere at the site and mainly correspond with the clay pit excavation that occupied the central and eastern sections of the site. More localised occurrences are indicated within the central south western and central north western sections of the site, which correspond to the deeper areas of Made Ground with the clay pit excavation in this area (see Drawing LD10162-009).

10.4.18 The material was encountered between ground level and 8.0m bgl to depths of between 0.2m and 9.0m bgl (on average 0.9m thick) and was typically recovered as

cobble to boulder sized constituents in a matrix of dark reddish brown, sandy, clayey Gravel. Various anthropogenic constituents were noted and in order of decreasing abundance this included plastics, brick, concrete, glass, timber, metal, plastic bags, plastic sheeting, fabric, ceramics, carpet, suspected slag / clinker, bottles, rags, foam, hardboard, paving slabs, bin bags, cardboard, containers / drums, flooring, polystyrene, rubber, disposable cups, toys etc.

10.4.19 Visual and olfactory evidence of contamination such as hydrocarbon odours, hydrocarbon staining to soils and water and putrid odours from shallow perched waters were noted.

10.4.20 It should be noted that the base of the material was not proven in most of the trial pits due to depths extending beyond the reach of the excavator and / or instability of the trial pit excavations. Furthermore, for those areas where localised occurrences are indicated delineation was often not possible and there are large areas of the site where investigation was not possible for the same reason. Consequently, these materials could be more extensive than originally indicated.

10.5 Glacial Till Deposits

10.5.1 Glacial Till deposits were noted to be widespread across the site and were generally encountered from between ground level and 13.85m bgl to proven depths of between 24.9m and 40.0m bgl. The exception being within the north westernmost section of the site and on the western side of the fault where the Glacial Till was encountered from 6.0m to 15.0m bgl (9.0m thick). Overall, this stratum was noted to be variable and comprised predominantly cohesive and to a lesser extent granular material of varying thicknesses.

10.5.2 The cohesive Glacial Till deposits predominantly comprised firm to stiff (locally soft), brown, slightly gravelly, slightly sandy Clay with varied cobble content and boulder content. Occasional lenses of a firm to stiff, laminated, brown, silty Clay were also encountered at varying depths.

10.5.3 The granular Glacial Till deposits predominantly comprised loose to medium dense, wet, brown, gravelly, clayey Sand and locally as a medium dense, brown, sandy Gravel which was locally water bearing. The granular Glacial Till was generally encountered at shallow depth as lenses between 0.1m and 2.2m thick at shallow depths but were proven to a maximum thickness of 12.0m within deeper boreholes.

10.5.4 Site investigation works undertaken by Celtic identified the Glacial Till as firm to stiff, locally soft, brown, slightly sandy to sandy, gravelly Clay and yellow/grey gravelly

coarse Sand to depths of between 16.5m and greater 22.0m bgl (between 6.0m and 21.0m in thickness).

10.6 Bedrock – Collyhurst Sandstone Formation & Manchester Marls Formation

10.6.1 During the WA 2020 site investigation, bedrock of the Collyhurst Sandstone Formation was encountered in four of the rotary boreholes from between 26.0m and 41.5m bgl and when coring was undertaken was typically recovered as damp, reddish brown, slightly gravelly Sand. The minimal recovery and lack of core has been attributed to weaker / weathered material at rockhead and possibly scrubbing of the poorly cemented sandstone by the drill bit. Partial core was recovered at the location of RH106 and it comprised medium strong to strong, light grey, coarse grained Sandstone and cobble sized fragments of medium strong, greenish grey to reddish brown, fine grained Sandstone.

10.6.2 Bedrock of the Manchester Marls Formation was encountered in a single rotary borehole from 15m bgl to a depth of 21m bgl. The driller noted Mudstone, but this was based on rotary open hole drilling. No coring was undertaken.

10.6.3 The full depth or thickness of bedrock was not proven during these site investigation works. However, the depth to rockhead is generally indicated to increase to the south west as illustrated in Drawing LD10121-008.

10.6.4 During the 2007 Celtic investigation bedrock comprising weathered mudstone and sandstone was encountered at depths of between 16.6m and 21.5m bgl and comprised beds of brown and yellow sandstone and brown mudstone. However, this information was based on rotary open hole information and no coring was undertaken. Coring was regularly undertaken during the WA 2020 site investigation and recovered materials generally comprised stiff “boulder Clay” where Celtic had recorded bedrock. An example of this can be seen when comparing the Celtic borehole R1 in the south westernmost section of the site, which encountered bedrock at 20.0m bgl, but WA borehole RH106 located 30.0m to the north did not encounter bedrock until 40.0m bgl and core samples between 22.0m and 25.5m bgl proved stiff to very stiff, brown, slightly sandy, slightly gravelly Clay with the gravel constituents comprising mixed lithologies typical of Glacial Till.

10.7 Obstructions and Voids

10.7.1 Concrete and brick obstructions (including an above ground concrete slab) were occasional noted within the easternmost and north westernmost sections of the site where the former brick works buildings were located. Further unrecorded

obstructions such as foundations and any below ground infrastructure associated with the former brick works buildings may be present.

10.7.2 Numerous cobble to boulder sized constituents were present within the various Made Ground types. Occasional obstructions in the form of natural cobbles and boulders were also encountered at varying depths within the Glacial Till Deposits.

10.7.3 No voids were encountered during the various stages of site investigation works that were undertaken. However, unrecorded voids may be present possibly associated with poorly graded and compacted landfill materials or hollow anthropogenic materials.

10.8 **Groundwater**

Water Strikes

10.8.1 During the WA 2019 and 2020 investigations numerous shallow perched waters were encountered within Made Ground during the drilling of exploratory holes at depths of between 0.1m and 8.2m bgl (between 85.15m and 74.4m AOD). Shallow perched groundwater strikes within the underlying natural superficial deposits were also encountered between 3.5m and 13.5m bgl (between 80.1m and 64.73m AOD). Water strikes within bedrock are suspected to have been encountered but this could not be accurately determined due to the drilling techniques used.

10.8.2 During the 2007 Celtic site investigations numerous shallow perched waters were encountered within Made Ground during the construction of exploratory holes at depths of between 0.2m and 4.9m bgl. Shallow perched groundwater strikes within the underlying natural superficial deposits were also encountered between 1.1m and 8.2m bgl. Water strikes within bedrock were suspected to have been encountered but this could not be accurately determined due to the drilling techniques used, but groundwater levels were recorded to have risen to between 0.7 m bgl to 5.5 m bgl. However, information from the WA 2020 ground investigation indicates that this was not bedrock that was encountered and is instead groundwater from within natural superficial deposits.

Groundwater Monitoring

10.8.3 Groundwater monitoring undertaken to date from the WA 2020 investigation indicates that perched / shallow groundwater elevations within Made Ground were recorded between ground level and 4.77m bgl (between 75.56m and 85.54m AOD) and that these elevations are indicative of a hydraulic gradient to the south west (see

Drawing LD10162-024). Perched groundwater elevations within Glacial Till were recorded between 0.09m and 11.44m bgl (between 81.06m and 74.34m AOD) and these elevations are indicative of a hydraulic gradient to the east. Groundwaters within bedrock were recorded between 1.78m and 25.35m bgl (between 76.81m and 54.21m AOD) and these elevations are indicative of a hydraulic gradient to the west south west (see Drawing LD10162-025).

10.8.4 Groundwater monitoring undertaken as part of the 2007 Celtic investigation indicates that shallow perched waters within Made Ground and underlying shallow Glacial Till were encountered at depths of between 0.4m and 7.1m bgl (between 84.69 and 71.12m AOD) and that these elevations are also indicative of a hydraulic gradient to the south west. Deeper groundwaters within the underlying bedrock (now proven to be Glacial Till) were recorded at depths of between 0.7m and 5.5m bgl (between 79.86m and 74.28m AOD) and that these elevations are generally indicative of a hydraulic gradient to the south west and to a lesser extent the south east.

10.8.5 During the WA 2020 site investigation water levels during monitoring were measured using a product / water interface probe. No free phase product was detected. Celtic also state that non-aqueous phase liquid (NAPL) was not encountered during the fieldwork and that no visual or olfactory evidence of contamination was noted.

10.8.6 During development of the monitoring installations during the 2020 WA investigation predominantly slow recharge rates were noted with the water being silty. Putrid (rotten egg) odours were also occasionally noted.

10.8.7 The results from the groundwater monitoring that has been undertaken at the site from the WA 2020 site investigation are summarised in Table 10.1 below:

Table 10.1: Groundwater Elevations (m AOD)								
Position	Dates						Response Zone Depths	Strata Screened
	09-11/11 2020	30/11/2020	14/12/2020	06/01/2021	21/01/2021	01/02/2020		
CP103a	80.56	80.71	80.84	81.18	81.5	81.48	8m to 10m	Granular Glacial Till
CP103b	80.62	80.72	80.87	81.19	81.54	81.41	2m to 6m	Made Ground
CP107	80.24	80.12	80.35	80.6	81.03	80.81	5m to 9m	Made Ground
CP108	76.16	76.59	72.88	76.24	76.62	76.42	2m to 5m	Made Ground
CP109	80.18	80.23	80.42	80.61	80.97	80.73	9m to 13m	Made Ground
CP110	77.8	77.82	77.88	77.94	78.03	77.94	1m to 4m	Made Ground
CP112/ RH103	76.76	69.99	76.08	80.52	80.99	80.75	27m to 30m	Glacial Till
CP113	79.38	79.16	Dry	79.49	80.03	79.84	2m to 3m	Glacial Till
RH101	67.3	74.58	75.04	74.86	75.38	75.28	17m to 20m	Mudstone
RH102	79.95	80.01	80.1	80.28	80.78	80.49	12m to 13.5m	Granular Glacial Till
RH106	54.75	54.1	54.31	-	-	-	39m to 42m	Sandstone
CP114/ RH108	76.81	76.71	-	76.92	-	-	26m to 28m	Sandstone
CP101/ RH109a	75.81	-	73.19	74.48	75.29	76.35	18m to 22m	Glacial Till
CP101/ RH109b	76.38	74.42	76.48	-	-	-	40m to 42.5m	Sandstone
CP102/ RH110	62.24	62.7	-	-	-	-	35m to 39m	Sandstone
WS101	83.13	83.57	83.57	83.57	83.57	83.57	1m to 2m	Made Ground
WS102	83.45	83.36	83.72	83.49	83.86	83.65	1m to 2m	Made Ground

Table 10.1: Groundwater Elevations (m AOD)								
Position	Dates						Response Zone Depths	Strata Screened
	09-11/11 2020	30/11/2020	14/12/2020	06/01/2021	21/01/2021	01/02/2020		
WS103	75.85	75.8	75.91	75.96	76.22	76.08	1m to 2m	Made Ground
WS104	79.5	79.57	79.86	79.91	80.23	80.21	1m to 2m	Made Ground
WS105	80.44	80.48	80.56	80.81	81.19	81	1m to 2m	Made Ground
WS106	78.98	78.91	79.3	79.02	79.62	79.33	1m to 2m	Glacial Till
WS107	85.44	85.41	85.69	85.38	85.69	85.53	1m to 2m	Made Ground
WS108	83.53	-	-	85	85.05	85.01	1m to 2m	Made Ground
WS109	Dry	Dry	Dry	Dry	77.06	76.44	1m to 2m	Made Ground
WS111	78.75	78.85	79.2	79.2	79.2	79.2	1m to 2m	Cohesive Glacial Till
WS112	Dry	Dry	Dry	Dry	78.4	78.14	1m to 2m	Made Ground
WS113	82.65	82.66	83.97	84.11	84.09	84.12	1m to 2m	Made Ground
WS119	Dry	Dry	Dry	82.88	83.05	83.05	1m to 2m	Made Ground
WS120	80.77	80.77	80.93	80.76	81.15	80.94	1m to 2m	Made Ground
BH04	-	81.64	81.68	81.67	81.01	81.81	3m to 5m	Made Ground
BH06	-	Dry	Dry	Dry	Dry	Dry	2m to 4m	Made Ground

10.8.8 For further details please refer to the groundwater monitoring results attached within Appendix G.

10.9 Ground Gas

10.9.1 Nine ground gas monitoring rounds were undertaken for the site between 30th November 2020 and 25th March 2021 using a GFM436 gas analyser.

10.9.2 Gas monitoring was undertaken in line with guidance within CIRIA C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings, 2007' and BS8485 during varying atmospheric pressure conditions including falling pressure as a worst-case scenario. The preliminary results of the bulk ground gas monitoring are presented in Appendix G and are summarised below:

- Atmospheric pressure readings, taken during the bulk ground gas monitoring, varied between 966, and 1016mb;
- Measured peak methane concentrations ranged from 0.0% to 5.8% v/v (CP112);
- Measured peak carbon dioxide concentrations ranged from 0.0 % v/v to 20.2% v/v (WS107);
- Measured steady flow rates ranged from -3.7 l/hr (WS111) to 20.9 l/hr (RH108).

10.9.3 Full ground gas monitoring results can be found in Appendix G.

10.10 Observations of contamination

10.10.1 Visual and / or olfactory evidence of contamination noted during the various stages of ground investigation are summarised in Tables 10.2 and 10.3 below. Drawing LD10162-027 provides an indication of the spatial distribution of the various types of visual and / or olfactory evidence of contamination at the site.

TABLE 10.2: Visual and Olfactory Evidence of Soil Contamination

Evidence of Contamination	Locations	Depth Range m bgl	Strata
Hydrocarbon odour and staining	**WA:** TP125, WS102, WS103, WS107, WS111, WS105, TP117, SA01, TP108, TP127, TP139, CP106, SA01, CP112/RH103, CP103, CP108, WS109, TP26, TP06, TP17, CP108, TP139, TP18, TP36, TP140, TP120, TP145, CP106, TP09, TP119, TP147, TP110, TP07, TP09, TP114, TP118, WS104. **Celtic:** TP2, TP4, TP9, TP12, TP14, TP15, TP20, TP21, TP27, TP37, TP38, TP39, TP43, TP44,	0.0-10.0m	Made Ground: Predominantly Cohesive; Predominantly Granular; Suspected Combustion Waste; Suspected Household Waste; Suspected Mixed Construction/Demolition Waste

TABLE 10.2: Visual and Olfactory Evidence of Soil Contamination			
Evidence of Contamination	**Locations**	**Depth Range m bgl**	**Strata**
	TP45, TP46, TP51, TP52, TP64, BH4, WS18		
Iridescent Sheen	**WA:** TP139, WS105, RH101, TP144, TP07, TP110, TP140, TP145, TP112, TP102, **Celtic:** TP9, TP12, TP18A, TP27, TP43, TP44, TP45, TP66, WS18,	0.0-6.0m	Made Ground: Suspected Combustion Waste; Predominantly Granular
White Spirit Odour	**WA:** WS111, TP111, TP144,	0.3-1.8	Made Ground: Suspected Combustion Waste
Acrid Odour	**WA:** WS105, TP53, WS02, TP38, TP114, TP07	0.35-5.0	Made Ground: Predominantly Granular; Predominantly Cohesive; Suspected Mixed Construction/Demolition Waste
Putrid Odour	**WA:** TP137, **Celtic:** TP17	2.0-4.0	Made Ground: Suspected Combustion Waste
Chemical and Solvent Odour	**WA:** CP104, CP109 **Celtic:** TP2	0.0-3.60	Made Ground: Predominantly Granular; Suspected Mixed Construction/Demolition Waste
Sulphurous Odour	**WA:** TP144, TP113 **Celtic:** TP2	0.15-1.8	Made Ground: Suspected Combustion Waste; Suspected Mixed Construction/Demolition Waste
Organic Odour	**WA:** TP01, TP04-A, TP07, TP09, TP25A, TP25B, TP119, TP142, CP107, CP109, WS02, **Celtic:** TP7, TP43,	0.3-4.1	Cohesive Glacial Till; Made Ground: Predominantly Cohesive; Predominantly Granular; Suspected Combustion Waste; Suspected Household Waste; Suspected Mixed Construction/Demolition Waste
Stagnant Odour	**WA:** TP146	4.2-4.3	Made Ground: Suspected Mixed Construction/Demolition Waste
Dye staining (red or yellow)	**WA:** TP26, TP36, TP123 **Celtic:** TP7	1.1-4.0	Made Ground: Suspected Combustion Waste

TABLE 10.3: Visual and Olfactory Evidence of Water Contamination			
Evidence of Contamination	**Locations**	**Depth Range m bgl**	**Strata**
Hydrocarbon odour and dark grey colouration	**WA:** TP110, TP117, TP140, TP145 **Celtic:** TP27, TP44, TP43, BH4, TP20, TP50, TP51	1.0-4.3m	Made Ground: Predominantly Cohesive; Predominantly Granular; Suspected Combustion Waste; Suspected Household Waste; Suspected Mixed Construction/Demolition Waste

TABLE 10.3: Visual and Olfactory Evidence of Water Contamination			
Evidence of Contamination	**Locations**	**Depth Range m bgl**	**Strata**
Iridescent Sheen	**WA:** TP102, TP110, TP112, TP123, TP140, TP144, TP145, **Celtic:** TP27, TP44, TP43, BH4	1.0-3.0m	Made Ground: Suspected Combustion Waste; Predominantly Granular
White Spirit Odour	**WA:** TP101, TP102, TP111, TP112, TP144	1.9-2.7	Made Ground: Suspected Household Waste; Suspected Mixed Construction/Demolition Waste
Chemical and Solvent Odour	**WA:** TP144	1.9	Made Ground: Suspected Household Waste
Sulphurous Odour	**WA:** TP101, TP102, TP111, TP112	1.9-2.4	Made Ground: Suspected Combustion Waste; Suspected Household Waste;

10.10.2 During development of the groundwater monitoring installations the following visual and olfactory evidence of contamination was also noted:

- Sulphurous odours were noted at the locations of RH102, CP103A&B, CP109 and CP112.
- Grey silty water was noted at the location of CP109.
- Brown silty water was noted at the location of CP113.

10.10.3 The notes from the development of the boreholes can be found in Appendix G.

11 GEOTECHNICAL MATERIAL PROPERTIES

11.1 General

11.1.1 The ground conditions encountered at the site are summarised in Section 10. The material properties for the various strata encountered across the site during the 2019 and 2020 WA ground investigations, as well as the Celtic ground investigation in 2007, are outlined in the sections below.

11.1.2 Due to the high degree of variability that was encountered within the various Made Ground strata they have been divided into either cohesive or granular (including suspected construction and demolition waste and suspected household waste were the matrix was predominantly granular) based on their engineering behaviour and a range of material properties have been provided. The exception being those distinctive Made Ground strata that were relatively consistent and / or that occurred within certain sections of the site (e.g. suspected combustion type wastes or colliery spoil) and these have been separated out and the material properties discussed independently.

11.1.3 The geotechnical laboratory results are contained within Appendix F and the in-situ results are presented on the exploratory hole logs contained within Appendix D.

11.2 Cohesive Made Ground

1.4.1 In-situ and geotechnical / geochemical laboratory tests results undertaken on the Cohesive Made Ground from the 2020 WA and 2007 Celtic investigations are summarised in Table 11.1 below:

Table 11.1: Summary of Testing in Cohesive Made Ground

Type of Test	No. of Tests	Results
In-Situ Tests:		
Standard Penetration Tests (SPT)	53	N-Value: 3 – 50+ (mean: 8) N60 Value: 2 – 33 (mean: 9)[1]
Hand Shear Vane Test	24	3 – 140kN/m^2 (75kN/m^2)
Laboratory Tests:		
Moisture Content	20	7.6 – 42% (mean 24.6%)
Particle Size Distribution (PSD)	3	Clay & Silt: 18 - 64% (mean: 39%) Sand: 24 - 56% (mean: 36%) Gravel: 8 - 33% (mean: 16.7%) Cobbles: 0 - 25% (mean: 8.3%)
Liquid Limit	2	45 – 49% (mean: 47%)
Plastic Limit	2	19 – 21% (mean: 20%)
Plasticity Index	2	26 – 28% (mean: 27%)
Weighted Plasticity Index	2	1560 – 1680% (1620%)
Laboratory Hand Vane	3	Peak: 40 – 71kN/m^2 (mean: 59kN/m^2) Residual: 17 - 41kN/m^2 (mean: 28kN/m^2)

Table 11.1: Summary of Testing in Cohesive Made Ground		
Type of Test	**No. of Tests**	**Results**
Optimum Moisture Content	1	28%
Maximum Dry Density	1	1.44Mg/m3
CBR	1	4.5%
pH	38	5.86 – 12.8 (mean: 7.71)
Water Soluble SO4	25	4 – 1500mg/l (mean: 230mg/l)
Total Potential Sulphate	3	0.24 – 0.78 (mean: 0.5%)
Triaxial Tests	1	104kN/m^2
Notes: [1] WA data only. Unable to calculate for Celtic data due to lack of SPT certificates. SPT refusals (50+) have been excluded for the mean calculations and correlations as they are deemed unrepresentative due to very coarse constituents that were frequently encountered within this stratum.		

11.2.1 SPT N60 values indicate no significant relationship between SPT N60 values of the Cohesive Made Ground and depth, as displayed in Figure 11.1.

11.2.2 Relationships between PI and SPT N60 values (cu = α'N60, Salgado 2008; α'= 0.0468 for a PI of 27%) for the cohesive materials indicates undrained shear strength values of between 11 and 184kN/m² (on average 75kN/m²).

11.2.3 Undrained shear strength values from hand shear vane testing indicate the Cohesive Made Ground materials to be of extremely low to high strength (generally medium strength). No significant relationship between undrained shear strength and depth is indicated. However, hand shear vane tests were only undertaken at shallow depth.

11.2.4 The results from the Atterberg Limit tests for the cohesive materials indicate materials of intermediate plasticity, with the plasticity index results indicating materials of medium shrinkage potential. The weighted plasticity index results indicate materials of low volume change potential.

11.2.5 Relationships between PI and angle of friction (Gibson 1953) for the cohesive materials indicates an angle of friction of 29°. No significant relationship between correlated angle of friction and depth is indicated.

11.2.6 Drained stiffness (*E'*) for the Cohesive Made Ground has been derived from SPT N60 values after Stroud 1989, which indicates values of between 2.2 and 35 MN/m^2 with a mean of 14.5 MN/m^2.

11.2.7 Undrained stiffness (E_u) for the Cohesive Made Ground has been derived from SPT N60 values after Butler, 1975, which indicates values of between 2.4 and 39 MN/m^2 with a mean of 16.1MN/m^2.

11.2.8 Coefficient of volume compressibility (mv) for the Cohesive Made Ground has been derived based on relationships with plasticity and SPT N60 values (mv = 1/f2N, Stroud 1975; f2=0.490 for PI of 27%) with values ranging from 0.05 - 0.84m_v (low to high compressibility) with an average of 0.25m_v (medium compressibility).

1.4.2 Generally, the PSD results for the cohesive materials indicated a slightly sandy to sandy, slightly gravelly to gravelly Clay with medium cobble content, which is in line with the field descriptions. Higher sand and gravel contents and were noted in some samples, but again this is in keeping with the field descriptions.

11.2.9 The range of compaction tests and natural moisture content tests for the cohesive materials indicate that these materials are generally dry of their optimum moisture contents, but in some instances were wet of the optimum.

11.3 Granular Made Ground

11.3.1 In-situ and geotechnical / geochemical laboratory tests results undertaken on the Granular Made Ground (includes suspected construction and demolition type wastes and the suspected households wastes were the matrix was predominantly granular) from the 2020 WA and 2007 Celtic site investigation are summarised in Table 11.2 below:

Table 11.2: Summary of Testing on Granular Made Ground

Type of Test	No. of Tests	Results
In-Situ Tests:		
Standard Penetration Tests (SPT)	79	N-Value: 1 – 50+ (mean: 15) N160 Value: 2 – 63 (mean: 18)[1]
Laboratory Tests:		
Moisture Content	43	11 – 40% (mean 20%)
Particle Size Distribution (PSD)	6	Clay & Silt: 6 - 34% (mean: 16.5%) Sand: 24 - 51% (mean: 38.2%) Gravel: 24 - 61% (mean: 42.5%) Cobbles: 0 - 17% (mean: 2.8%)
Liquid Limit	2	-
Plastic Limit	2	Non-Plastic
Plasticity Index	2	-
pH	64	6.19 – 9.86 (mean: 7.94)
Water Soluble SO4	44	6 – 1500mg/l (mean: 263mg/l)
Calorific Value	4	1.4 – 7.1MJ/kg (mean: 3.55MJ/kg)

Notes:
[1] WA data only. Unable to calculate for Celtic data due to lack of SPT certificates.
SPT refusals (50+) have been excluded for the mean calculations and correlations as they are deemed unrepresentative due to very coarse constituents that were frequently encountered within this stratum.

11.3.2 SPT N160 values indicate no significant relationship between SPT N160 values of the granular Made Ground and depth, as displayed in Figure 11.1.

11.3.3 SPT N160 correlations for angle of friction (after Peck et al 1974) for the granular materials recorded values ranging from 27° and 48°, with a mean value of 33°. No significant relationship between correlated angle of friction and depth is indicated.

11.3.4 Drained stiffness (E') has been derived from SPT N160 values after AASHTO 2004, which indicates a value of between 2 and 72 MN/m² with mean value of 23 MN/m². No significant relationship between correlated angle of friction and depth is indicated.

11.3.5 The PSD results for the granular materials indicated a very sandy, clayey Gravel with low cobble content. This differs from the field descriptions where cobble sized constituents predominated, and this fraction has likely been underestimated due to sampling restrictions (i.e. it is generally not practicable to sample cobbles and boulder sized constituents for testing). However, the PSD results are generally in line with the soil matrix descriptions.

11.3.6 The range of compaction tests and natural moisture content tests for the granular materials indicate that these materials are generally dry of their optimum moisture contents, but in some instances were wet of the optimum.

11.4 Suspected Combustion Type Waste Made

11.4.1 In-situ and geotechnical / geochemical laboratory tests results undertaken on the suspected combustion type wastes from the 2020 WA and 2007 Celtic investigations are summarised in Table 11.3 below:

Table 11.3: Summary of Testing on Combustion Type Waste

Type of Test	No. of Tests	Results
In-Situ Tests:		
Standard Penetration Tests (SPT)	14	N-Value: 0 – 32 (mean: 5) N160 Value: 0 – 36 (mean: 10)[1]
Laboratory Tests:		
Moisture Content	34	8.7 – 42% (mean 24%)
Particle Size Distribution (PSD)	2	Clay & Silt: 13 - 24% (mean: 18.5%) Sand: 44 - 49% (mean: 46.5%) Gravel: 32 - 38% (mean: 35%) Cobbles: 0%
Liquid Limit	1	-
Plastic Limit	1	Non-Plastic
Plasticity Index	1	-
Weighted Plasticity Index	1	-
Optimum Moisture Content	1	27%
Maximum Dry Density	1	1.39 Mg/m3
CBR	2	0.73 – 1.7%
pH	33	5.72 – 11.90 (mean: 8.03)
Water Soluble SO4	24	16.2 – 1460mg/l (mean: 245.6mg/l)
Calorific Content	5	0.51 – 6.6 MJ/kg
Emery Expansion Tests	2	Change in Height: 0.22 – 0.81mm (0.51mm)

Table 11.3: Summary of Testing on Combustion Type Waste		
Type of Test	**No. of Tests**	**Results**
Notes: [1] WA data only. Unable to calculate for Celtic data due to lack of SPT certificates. SPT refusals (50+) have been excluded for the mean calculations and correlations as they are deemed unrepresentative due to very coarse constituents that were frequently encountered within this stratum.		

11.4.2 SPT N160 values indicate that the suspected combustion wastes is very loose to medium dense (generally loose). No significant relationship between SPT N160 values and depth is indicated as displayed in Figure 11.1.

11.4.3 SPT N160 correlations for angle of friction (after Peck et al 1974) for the granular materials recorded values ranging from 28° and 39°, with a mean value of 31°. No significant relationship between correlated angle of friction and depth is indicated.

11.4.4 Drained stiffness (E') has been derived from SPT N160 values after AASHTO 2004, which indicates a value of between 2 and 42 MN/m² with mean value of 14 MN/m². No significant relationship between correlated angle of friction and depth is indicated.

11.4.5 The PSD results for these materials indicated a clayey / silty, very gravelly Sand. This differs slightly from the field descriptions which indicated a very sandy Gravel with high cobble content. It is likely that the cobble sized constituents have been underestimated due to sampling restrictions (i.e. it is generally not practicable to sample cobbles and boulder sized constituents for testing). Limited testing was also undertaken from samples described as ashy rubble Fill.

11.4.6 The range of compaction tests and natural moisture content tests for these materials indicate that these materials are generally dry of their optimum moisture contents, but in some instances were wet of the optimum.

11.5 Suspected Colliery Spoil

11.5.1 In-situ and geotechnical / geochemical laboratory tests results undertaken on the suspected combustion type wastes from the 2020 WA and 2007 Celtic investigation are summarised in Table 11.4 below:

Table 11.4: Summary of Testing on Colliery Spoil		
Type of Test	**No. of Tests**	**Results**
In-Situ Tests:		
Standard Penetration Tests (SPT)	20	N-Value: 3 – 57 (mean: 13) N160 Value: 5 – 33 (mean: 20)[1]
Hand Shear Vane Test	1	140kN/m²
Laboratory Tests:		
Moisture Content	3	9.4 – 20 (mean 14.5%)

Table 11.4: Summary of Testing on Colliery Spoil		
Type of Test	**No. of Tests**	**Results**
Optimum Moisture Content	2	14 – 15% (14.5%)
Maximum Dry Density	2	1.48 – 1.84Mg/m3 (mean: 1.66Mg/m3)
pH	5	5.04 – 8.3 (mean: 7.19)
Water Soluble SO4	3	85 – 212mg/l (mean: 135mg/l)
Calorific Content	3	3.2 – 8.6 MJ/kg
Notes: [1] WA data only. Unable to calculate for Celtic data due to lack of SPT certificates. SPT refusals (50+) have been excluded for the mean calculations and correlations as they are deemed unrepresentative due to very coarse constituents that were frequently encountered within this stratum.		

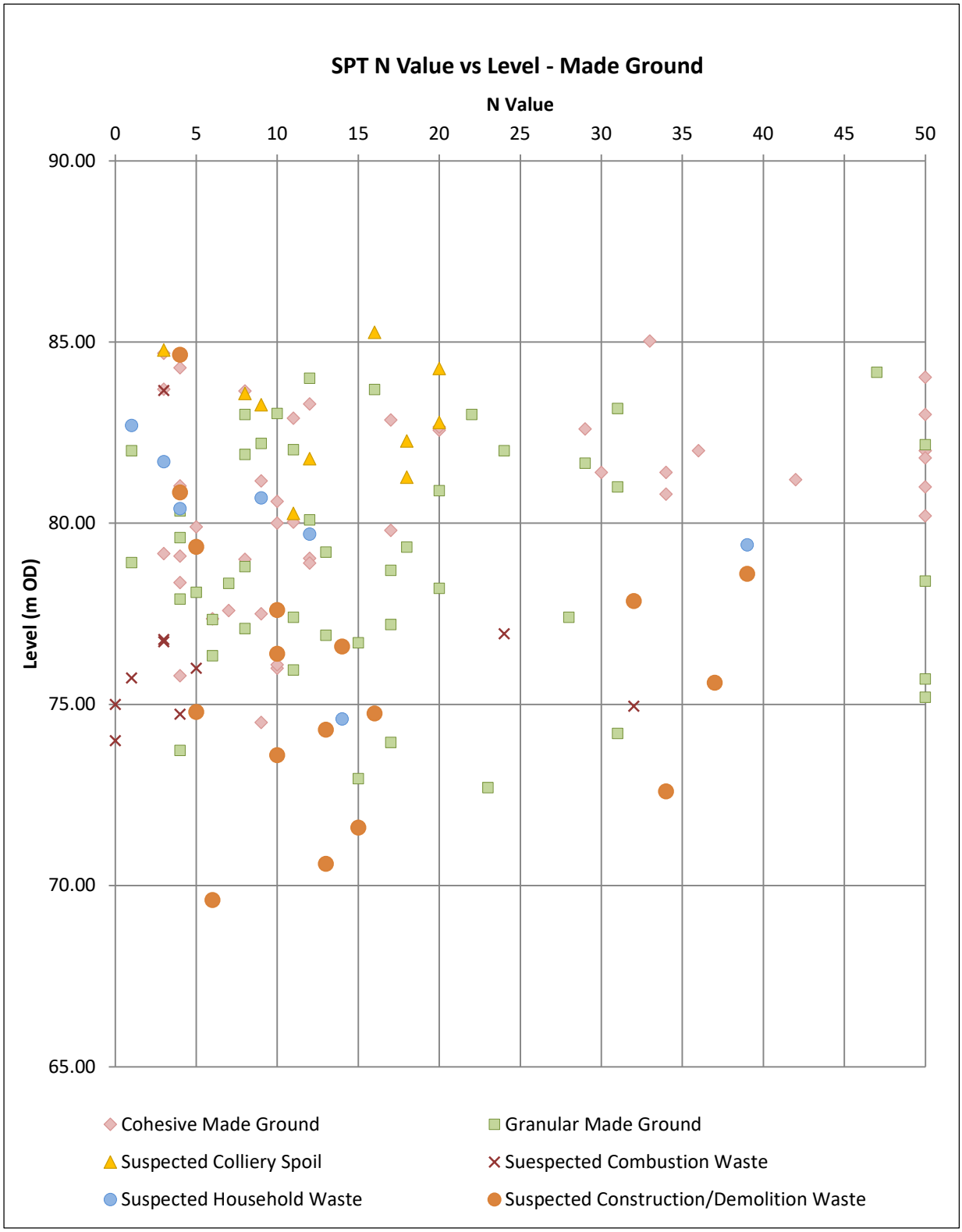
11.5.2 SPT N160 values indicate that the colliery spoil is loose to medium dense (generally medium dense). No significant relationship between SPT N160 values and depth is indicated as displayed in Figure 11.1.

11.5.3 SPT N160 correlations for angle of friction (after Peck et al 1974) for the granular materials recorded values ranging from 28° and 37°, with a mean value of 33°. No significant relationship between correlated angle of friction and depth is indicated.

11.5.4 Drained stiffness (E') has been derived from SPT N160 values after AASHTO 2004, which indicates a value of between 5 and 38 MN/m² with mean value of 23 MN/m². No significant relationship between correlated angle of friction and depth is indicated.

11.5.5 The range of compaction tests and natural moisture content tests for these materials indicate that these materials were generally at their optimum moisture contents, but in some instances were wet of the optimum.

Figure 11.1 – Made Ground; SPT N Value vs Level (mAOD)



11.6 Glacial Deposits

11.6.1 In-situ and geotechnical / geochemical laboratory tests results undertaken on the Glacial Deposits from the 2020 WA and 2007 Celtic investigations are summarised in Table 11.5 below:

Table 11.5: Summary of Testing on Glacial Deposits

Type of Test	No. of Tests	Results
Cohesive Glacial Till		
In-Situ Tests		
Standard Penetration Tests (SPT)	89	N-Value: 1 – 50+ (mean: 17) N60 Value: 0 – 53 (mean: 20)[1]
Hand Shear Vane Tests	73	22 – 120kN/m^2 (mean: 78kN/m^2)
Laboratory Tests:		
Moisture Content	152	7.7 – 42% (mean: 17.77%)
Particle Size Distribution (PSD)	13	Fines: 65 – 85% (mean: 76.5%) Clay: 29 - 38% (mean 34%) Silt: 36 - 48% (mean 42%) Sand: 12 - 29% (mean 19%) Gravel: 2 - 8% (mean 4.5%) Cobbles: 0%
Liquid Limit	19	31 – 41% (36.5%)
Plastic Limit	19	16 – 22% (18.5%)
Plasticity Index	19	14 – 21% (18%)
Weighted Plasticity Index	19	980 – 2079% (1645%)
Optimum Moisture Content	11	13 – 18% (15.72%)
Maximum Dry Density	11	1.72 – 1.89Mg/m3 (1.81Mg/m3)
Laboratory Hand Vane	4	Peak: 133 – 191kN/m^2 (mean: 162kN/m^2 Residual: 23 - 58kN/m^2 (mean: 44kN/m^2)
Undrained Triaxial Tests	15	22 – 226kN/m^2 (mean: 94kN/m^2)
Oedometer / Consolidation	7	Applied Pressure Range: 50 – 3200kPa Mv: 0.0095 – 0.34Mv (mean: 0.088Mv) Cv (t90): 0.43 – 3.8 (mean: 0.96m2/yr)
Organic Matter	12	0.35 – 15.5% (mean: 2.73%)
pH	30	5.63 – 8.59 (mean: 7.8)
Water Soluble SO4	44	11.6 – 188mg/l (mean: 74mg/l)
Granular Glacial Till		
In-Situ Tests		
Standard Penetration Tests (SPT)	33	N-Value: 5 – 50+ (mean: 24) N160 Value: 7 – 47 (mean: 19)[1]
Laboratory Tests:		
Moisture Content	6	9.6 – 23% (mean: 17.4%)
Optimum Moisture Content	1	19%
Maximum Dry Density	1	1.614Mg/m3
Organic Matter	2	0.80 – 0.96% (mean: 0.88%)
pH	9	3.5 – 8.48 (mean: 7.6)
Water Soluble SO4	2	173 – 295mg/l (mean: 234mg/l)

Notes:
[1] WA data only. Unable to calculate for Celtic data due to lack of SPT certificates.
SPT refusals (50+) have been excluded for the mean calculations and correlations as they are deemed unrepresentative due to very coarse constituents that were frequently encountered within this stratum.

11.6.2 SPT N60 values indicate that the N60 values increase with depth within the Cohesive Glacial Till, as shown in Figure 11.2.

11.6.3 Relationships between PI and SPT N60 values (cu = α'N60, Salgado 2008; α'= 0.0602 for a PI of 18%) for the cohesive materials indicates undrained shear strength values of between 5 and 317kN/m² (on average 97kN/m²).

11.6.4 Undrained shear strength values from in-situ hand shear vane, undrained triaxial tests and laboratory vane tests indicate the cohesive Glacial Till materials are of low to very high strength (generally high strength). The data indicates undrained shear strength increases with depth.

11.6.5 The results from the Atterberg Limit tests for the cohesive Glacial Till indicates materials of low to intermediate plasticity (generally intermediate plasticity), with the plasticity index results indicating materials of low to medium shrinkage potential (generally low shrinkage potential). The weighted plasticity index results indicate materials of low volume change potential.

11.6.6 Relationships between PI and angle of friction (Gibson 1953) for the cohesive materials indicates an angle of friction range of between 30° - 32° with an average of 31°.

11.6.7 Drained stiffness (E') for the cohesive Glacial Till has been derived from SPT N60 values after Stroud 1989, which indicates values of between 0.7 and 47.4MN/m² with a mean of 14.5MN/m².

11.6.8 Undrained stiffness (Eu) for the cohesive materials has been derived from SPT N60 values after Butler, 1975, which indicates values of between 0.8 and 52.6MN/m2 with a mean of 16.1MN/m².

11.6.9 Coefficient of volume compressibility (mv) for the cohesive materials has been derived based on relationships with plasticity and SPT N60 values (mv = 1/f2N, Stroud 1975; f2=0.58 for PI of 18%) with values ranging from 0.03 to 2.12Mv, with an average of 0.11Mv. The data indicates that corelated compressibility values are decreasing with increasing depth.

11.6.10 In contrast the coefficient of volume compressibility (mv) from the laboratory consolidation testing recorded values ranging from 0.0095 – 0.34Mv, with an average of 0.088Mv.

11.6.1 The PSD results for these materials indicated a slightly sandy, slightly gravelly Clay which is generally in line with the field descriptions. High silt contents were noted but

this is not uncommon with overconsolidated Glacial Till and the clay fraction dominates the engineering behaviour of these soils.

11.6.2 The range of compaction tests and natural moisture content tests for these materials indicate that these materials are generally slightly wet of their optimum moisture contents. However, only those materials at shallow depth would need to be considered as part of any earthworks exercise at the site.

11.6.3 SPT N160 values indicate that the granular Glacial Till is loose to dense (generally medium dense). No significant relationship between SPT N160 values and depth is indicated.

11.6.1 SPT N160 correlations for angle of friction (after Peck et al 1974) for the granular Glacial Till recorded values ranging from 29° and 42°, with a mean value of 33°. No significant relationship between correlated angle of friction and depth is indicated.

11.6.2 Drained stiffness (E') has been derived from SPT N160 values after AASHTO 2004, which indicates a value of between 4.6 and 31.3 MN/m² with mean value of 13 MN/m². No significant relationship between correlated angle of friction and depth is indicated.

11.6.3 The range of compaction tests and natural moisture content tests for these materials indicate that these materials were generally slightly dry of their optimum moisture contents, but in some instances were wet of the optimum.

Figure 11.3 Cohesive Glacial Till; m_v v's Pressure

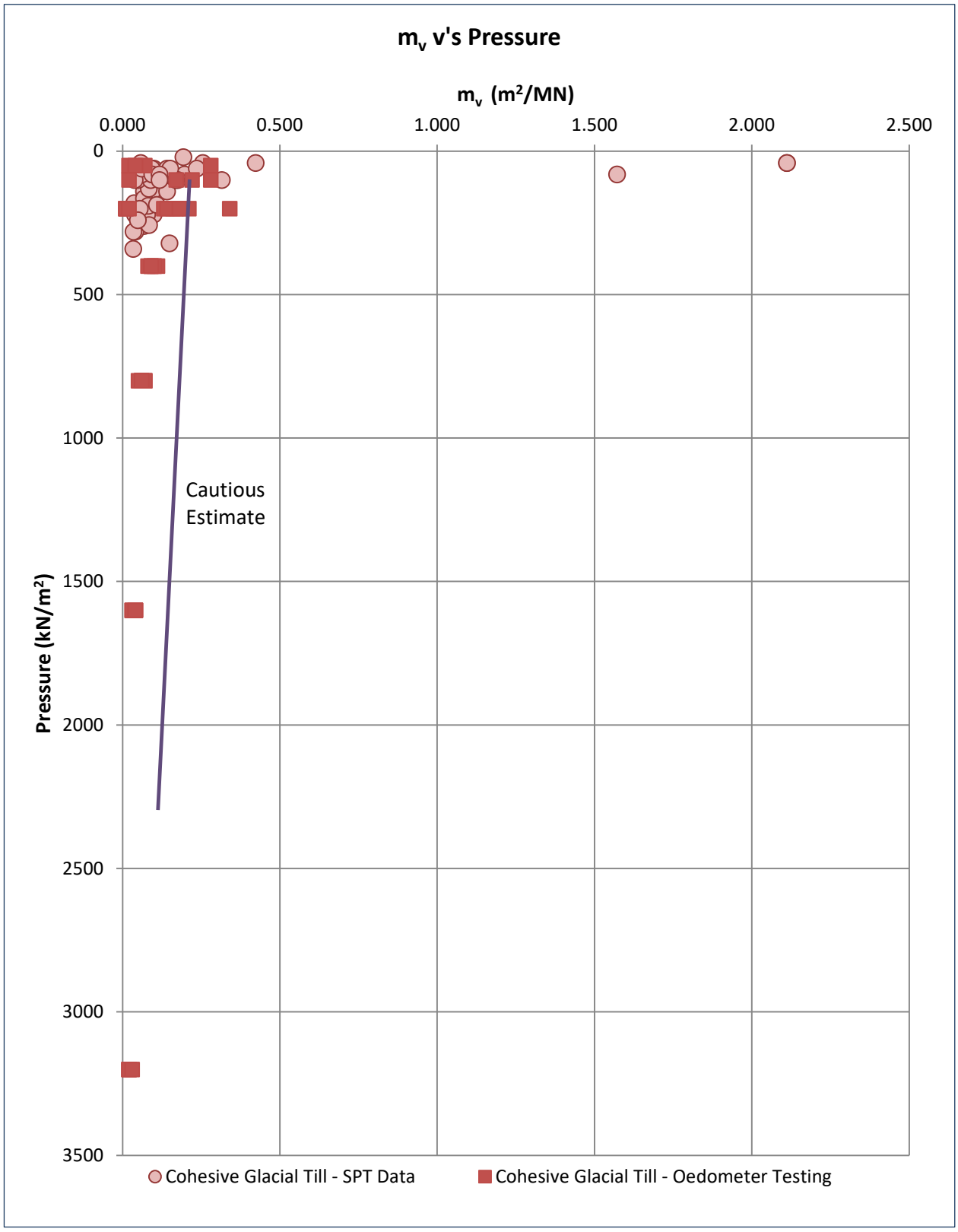
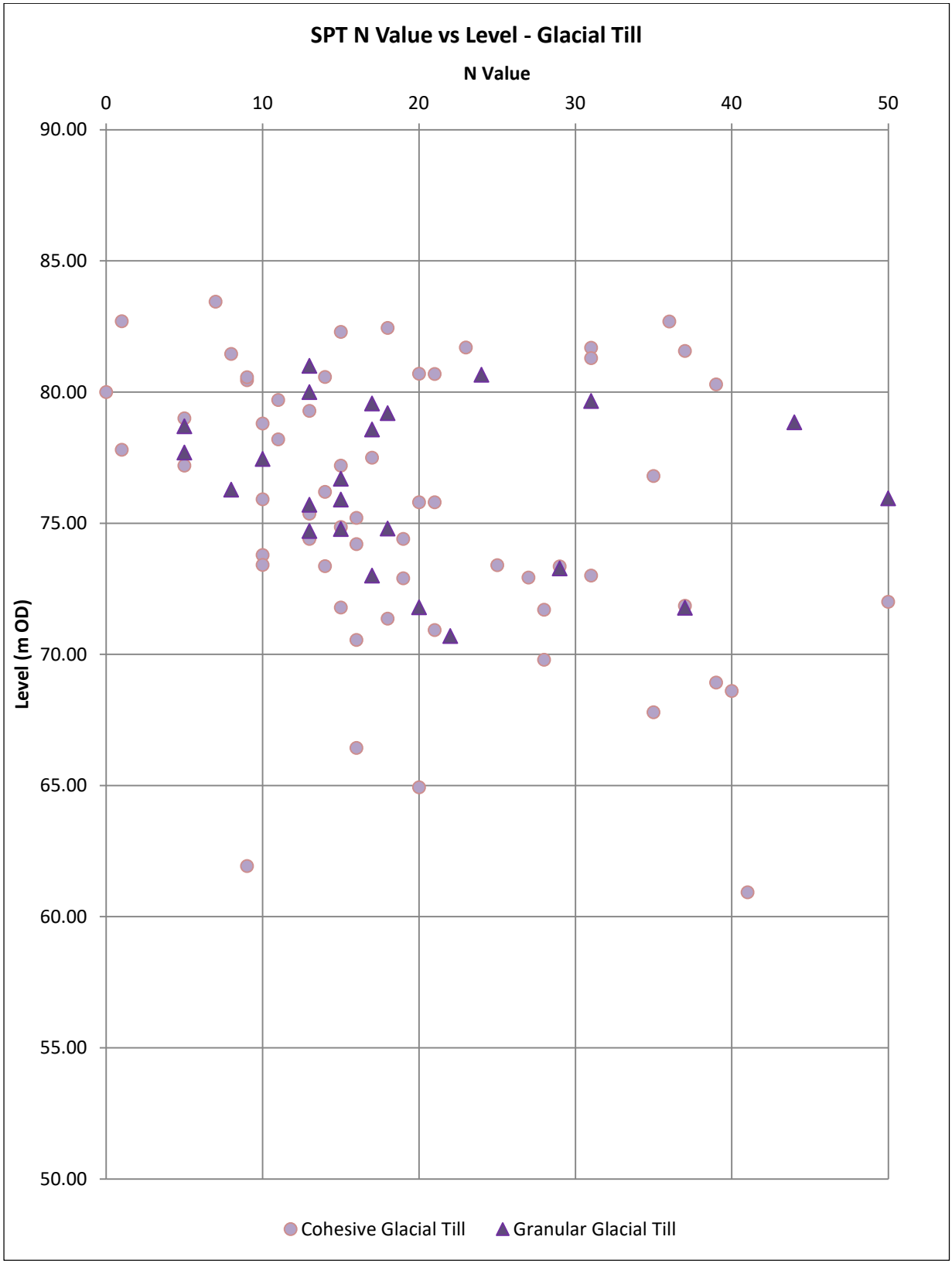


Figure 11.2 – Glacial Till; SPT N vs Level (mAOD)



12 GEOTECHNICAL DESIGN PARAMETERS

12.1.1 Geotechnical design parameters for the principal ground conditions encountered at the site are outlined in the table below. Due to the high degree of variability exhibited by the Made Ground and that the site is a historic landfill, characteristic design values have not been provided for most of the Made Ground types and reference should be made to the range of results noted in Section 11. However, characteristic design values have been provided for the suspected combustion and colliery spoil type wastes as these were fairly homogenous.

12.1.2 These values and any correlations should be used with caution and should not be relied upon in isolation without considering the reporting in full.

Table 12.1: Summary of Geotechnical Design Parameters

Stratum	Material Parameter	Range of Results (Average)	Characteristic Value	Rationale	Correlation with depth
Suspected Combustion Waste	Bulk Unit Weight (kN/m3)	-	14	Literature value, based on descriptions	No significant correlation
	Angle of Friction ϕ' (°)	28 - 39	31	Cautious estimate from empirical relationship with SPT N160 (Peck et al 1974)	
	Drained Stiffness (*E'*) (MN/m2)	2 – 42	14	Cautious estimate from empirical relationship with SPT N160 (AASHTO 2004)	
Suspected Colliery Spoil	Bulk Unit Weight (kN/m3)	-	18	Literature value, based on descriptions	No significant correlation
	Angle of Friction ϕ' (°)	28 - 37	33	Cautious estimate from empirical relationship with SPT N160 (Peck et al 1974)	

Table 12.1: Summary of Geotechnical Design Parameters					
Stratum	**Material Parameter**	**Range of Results (Average)**	**Characteristic Value**	**Rationale**	**Correlation with depth**
	Drained Stiffness (*E'*) (MN/m2)	5 – 38	23	Cautious estimate from empirical relationship with SPT N160 (AASHTO 2004)	
Cohesive Glacial Deposits	Bulk Unit Weight (kN/m3)	-	22	Literature value, based on descriptions	-
	Undrained Shear Strength (kN/m²)	5 - 317	60 – 100	Cautious estimate from empirical relationship with SPT N60 (Salgado 2008) hand shear vane tests, laboratory tests and field descriptions.	Increase with depth
	Angle of Friction ϕ' (°)	30 – 32	30	Cautious estimate from empirical relationship with plasticity index (Gibson 1953)	-
	Drained Stiffness (*E'*) (MN/m2)	0.7 – 47.4	14	Cautious estimate from empirical relationship with SPT N (Stroud 1989)	Increase with depth

Table 12.1: Summary of Geotechnical Design Parameters					
Stratum	**Material Parameter**	**Range of Results (Average)**	**Characteristic Value**	**Rationale**	**Correlation with depth**
	Undrained Stiffness (E_u) (MN/m²)	0.8 - 52.7	15	Cautious estimate from empirical relationship with SPT N (Butler 1975)	
	Coefficient of volume compressibility mv	0.0095 – 2.12	0.10 – 0.15	Cautious estimate from empirical relationship with SPT N60 (Stroud and Butler 1975) and laboratory testing.	Decrease with depth
Granular Glacial Deposits	Bulk Unit Weight (kN/m3)	-	20	Literature value, based on descriptions	No significant correlation
	Angle of Friction ϕ' (°)	29 - 42	30 - 32	Cautious estimate from empirical relationship with SPT N160 (Peck et al 1974)	
	Drained Stiffness (*E'*) (MN/m2)	4.6 - 31.3	10	Cautious estimate from empirical relationship with SPT N160 (AASHTO 2004)	
Collyhurst Sandstone Formation & Manchester Marls Formation	Bulk Unit Weight (kN/m3)	-	22 - 25	Cautious estimate from literature data	-
	Unconfined Compressive Strength (MN/m^2)	-	0.5 - 25		

13 GENERIC QUANTITATIVE RISK ASSESSMENT – HUMAN HEALTH

13.1 Assessment Approach

13.1.1 The most relevant risk assessment model for the assessment of human health is the CLEA model. The model estimates child and adult exposures to soil contaminants via dermal, ingestion and inhalation pathways for those potentially living, working and / or playing on contaminated sites over long time periods and has been used to derive Generic Assessment Criteria (GAC) for those commonly encountered contaminants in UK soils.

13.1.2 For the purposes of this Generic Quantitative Risk Assessment (GQRA) contaminant concentrations recorded from the 2020 WA and 2007 Celtic site investigation have been evaluated against Category 4 Screening Levels (C4SL's) for a residential end use with private gardens as most of the site is being considered for residential development and this also provides an initial conservative assessment for the proposed school. Where a C4SL is not available concentrations have been compared against and the Land Quality Management (LQM) and the Chartered Institute of Environmental Health (CIEH) suitable for use levels (S4UL's) for Human Health Risk Assessment (3rd edition, 2015). Where other GAC values have been used this has been noted where it is relevant.

13.1.3 Where the recorded concentration of a determinand is below the screening criterion for the specified end use, the determinand is not deemed to be a hazard. Exceedance of the criterion indicates that the parameter is a possible hazard and further assessment is required and / or some form of remediation may be required.

13.1.4 Generally, only soils and groundwater within the top 1.0m are considered for site users, as the probability of human exposure via the direct contact pathways are significantly reduced, leaving inhalation of volatile compounds as the dominant pathway with regard to human health risks. However, as earthworks and cut and fill are likely to be undertaken at the site as part of the proposed development consideration has also been given to deeper soils and groundwaters.

13.2 Assessment of Contamination – Soils

13.2.1 A total of 228 No. samples were taken from across the site and tested for potential contaminants appropriate to the sites current and former land uses. This included 82 No. samples in total from the WA 2020 investigation and 146 No. samples from the Celtic 2007 investigation.

13.2.2 The geometric mean soil organic matter (SOM) content for all the Made Ground strata at the site is 16.9%. However, organic materials that are not degradable (e.g. ash and coal) were noted within all the Made Ground strata and these could have resulted in high total organic carbon contents that are not indicative of SOM. Consequently, a conservative approach has been adopted and GAC values have been derived using 1% SOM. The pH of these soils ranged from 5.04 in TP35 at 0.60-1.2m to 12.8 in TP139 at 1.50m.

13.2.3 The mean SOM content for those natural soils at the site is 2.14%. However, GAC values derived using the 1% SOM have been selected in the first instance, so that a conservative assessment can be undertaken. The pH of these soils ranged from 5.63 in TP136 at 0.80m to 8.59 in WS101 between 3.40m and 3.42m.

13.2.4 A summary of the exceedences of the GAC for a residential end use with private gardens from both the 2020 WA dataset and the 2007 Celtic dataset are presented in Table 13.1 below. A summary of the exceedences in relation to each strata type is outlined further in Section 16.

13.2.5 Specific details regarding the location, depth, contaminant concentrations and strata for each exceedance are included within Appendix I and the analytical laboratory results of the soil and groundwater chemical analyses are attached at Appendix E. The spatial distribution for those contaminants with several exceendences is shown in Drawings LD10162-010 to 021.

Table 13.1: Summary of Contaminant Exceedances

Contaminant	Min. Recorded (mg/kg)	Max. Recorded (mg/kg)	GAC (mg/kg)	No. of Exceedances MG	No. of Exceedances NG
Metals					
Chromium IV	0.6	26	21[1]	1	-
Arsenic	<3	1,930	37[1]	34	3
Copper	11.6	9,990	2400	1	-
Lead	4.98	28,700	200[1]	50	3
Nickel	5.68	535	130	7	-
Zinc	15.7	7290	3700	1	-
Inorganics					
Total Cyanide	<1	920	20[2]	10	1
TPH including BTEX					
Aliphatics >C8-C10	<10	703	27	1	-
Aromatics >EC8-EC10	<10	469	34	1	-
Aromatics > EC10-EC12	<1	6,110	74	2	-

Table 13.1: Summary of Contaminant Exceedances					
Contaminant	**Min. Recorded (mg/kg)**	**Max. Recorded (mg/kg)**	**GAC (mg/kg)**	**No. of Exceedances MG**	**No. of Exceedances NG**
Aromatics > EC12-EC16	<1	5,210	140	4	-
Aromatics > EC16-EC21	0.29	8,780	260	10	-
Aromatics > EC21-EC35	3.23	10,200	1,100	7	-
Total TPH (C6-C40)	<10	39,000	-	-	-
Benzene	<0.009	2.74	0.0087	1	-
p/m-Xylene	<0.01	219	56	1	-
o-Xylene	<0.01	114	60	1	-
Polycyclic Aromatic Hydrocarbons (PAH)					
Naphthalene	0.005	13,100	2.3	19	3
Acenaphthylene	<0.012	315	170	1	-
Acenaphthene	<0.008	341	210	1	1
Fluorene	0.015	656	170	2	1
Phenanthrene	0.049	1550	95	5	1
Fluoranthene	<0.017	1290	280	4	-
Pyrene	<0.015	1120	620	1	-
Benz(a)anthracene	<0.014	432	7.2	25	1
Chrysene	<0.010	432	15	15	-
Benzo(b)fluoranthene	<0.015	461	2.6	44	5
Benzo(k)fluoranthene	<0.014	173	77	2	-
Benzo(a)pyrene	<0.012	376	2.2	45	4
Indeno(1,2,3-cd)pyrene	<0.018	255	27	5	-
Dibenzo(a,h)anthracene	<0.008	51.6	0.24	51	4
SVOC and VOC					
Dibenzofuran	<0.1	114	4.8[4]	5	1
Carbazole	<0.1	70	6.7[4]	2	1
2,4-dimethylphenol	<0.1	19	19	1	-
2-Methylnaphthalene	<0.1	180	10[4]	3	1
2,4-Dinitrotoluene	<0.1	13	1.5[3]	1	-
1,2,4-Trimethylbenzene	<0.009	0.653	0.35[3]	2	-
Chloromethane	<0.007	0.013	0.0083[3]	1	-
Trichloroethene	<0.009	0.06	0.016	1	-
Polychlorinated Biphenyls (PCB)					
PCB congener 28	<0.003	<0.15	0.008[5]	2	-
PCB congener 52	<0.003	<0.15	0.008[5]	2	-
PCB congener 101	<0.003	0.17	0.008[5]	4	-
PCB congener 118	<0.003	<0.15	0.008[5]	4	-
PCB congener 138	<0.003	<0.15	0.008[5]	4	-

Table 13.1: Summary of Contaminant Exceedances					
Contaminant	**Min. Recorded (mg/kg)**	**Max. Recorded (mg/kg)**	**GAC (mg/kg)**	**No. of Exceedances MG**	**No. of Exceedances NG**
PCB congener 153	<0.003	<0.15	0.008[5]	3	-
PCB congener 180	<0.003	<0.15	0.008[5]	1	-
Asbestos					
Positive Asbestos ID	-	-	-	10	-
Asbestos Quantification	<0.001%	5.11%	0.001%	4	-

Notes:
Generic Assessment Criteria Used: LQM/CIEH S4ULs for Human Health Risk Assessment (3rd edition, 2015), unless otherwise stated.
[1] Category 4 Screening Levels (March 2014).
[2] Value for thiocyanate
[3] EIC/AGS/CL:AIRE Soil GAC for Human Health Assessment (January 2010).
[4] Wardell Armstrong derived GAC.
[5] Environment Agency Soil Guideline Values for dioxins, furans and dioxin-like PCBs in soil.
Abbreviations:
MG = Made Ground
NG = Natural Ground

13.2.6 Most of the recorded concentrations for those other SVOC's and VOC's were either at concentrations that were below their respective screening criteria and / or were recorded at concentrations below the limits of detection (LOD). While the screening values for some of the contaminants (e.g. pentachlorophenol and 2-chloropheno) were below the LOD, in the absence of any positive concentrations above the screening value, the concentrations (if present) are likely to be low enough to not pose a risk to the proposed development.

Metals and Metalloids

13.2.7 Metal exceedences (notably lead and arsenic) are indicated to be widespread and are predominantly associated with the shallow (<3.0m bgl) suspected combustion type wastes within the north western, south western and south eastern sections of the site; the general cohesive and granular Made Ground that is present across the entire site; and to a lesser extent the suspected construction and demolition type wastes within the central and north eastern parts of the site. Nickel exceedences were relatively localised. Concentrations for all metals were typically recorded at the same or one order of magnitude greater than the screening value.

13.2.8 Chromium VI, copper and zinc exceedences are indicated to be relatively isolated and are restricted to single locations, as are arsenic and lead within natural ground (possibly reworked).

Cyanide

13.2.9 Cyanide (total cyanide) is indicated to be relatively localised and is predominantly associated with the shallow (<3.0m bgl) suspected combustion wastes within the north western section of the site. Concentrations were typically recorded at the same or one order of magnitude greater than the screening value. Cyanide was also recorded at a single location within natural ground (possibly reworked ground).

Total Petroleum Hydrocarbons

13.2.10 TPH contamination (notably aliphatics <EC16-35) is indicated to be relatively localised and is predominantly associated with the shallow (<3.0m bgl) general cohesive and granular Made Ground types within the north western, south western and south eastern sections of the site where visual and olfactory evidence of hydrocarbon contamination was noted. Concentrations were typically recorded at the same or one order of magnitude greater than the screening value. Due to the widespread distribution of the TPH contamination and the sites former use as a historical landfill a single "point source" is considered unlikely.

13.2.11 Most of other TPH fractions (aliphatic >C8-C10 and aromatic <EC8-16) within Made Ground are indicated to be relatively isolated. High concentrations of total TPH contamination were recorded at a single location within shallow (<3.0m bgl) natural ground where visual and olfactory evidence of contamination was noted and where Made Ground directly overlay the natural ground.

Polycyclic Aromatic Hydrocarbons (PAH)

13.2.12 PAH contamination (notably naphthalene, benz(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, chrysene and dibenzo(a,h)anthracene) is indicated to be widespread and is predominantly associated with the shallow (<3.0m bgl) suspected combustion wastes within the western and south eastern sections of the site; the general cohesive and granular Made Ground that is present across the entire site; and to a lesser extent within the shallow (<3.0m bgl) and deeper (>3.0m bgl) suspected construction and demolition wastes within the centre of the site. Concentrations were typically recorded at the same or one order of magnitude greater than the screening value.

13.2.13 Those other PAH compounds within Made Ground and natural ground are indicated to be relatively isolated and were generally encountered at depth (>3.0m bgl).

Benzene, Toluene, Ethylbenzene and Xylene (BTEX)

13.2.14 BTEX contamination is indicated to be isolated and was recorded at a single location within shallow (<3.0m bgl) suspected combustion type wastes within the north westernmost part of the site. Concentrations were recorded at one to two orders of magnitude greater than the screening value.

13.2.15 It should be noted that most of the samples tested for benzene were recorded below their LOD and in these instances this was greater than the screening value. As positive exceedences have been noted a conservative approach is warranted and it is possible that other unrecorded benzene exceedences may be present.

Phenol

13.2.16 Phenol contamination is indicated to be isolated and was recorded at a single location within shallow (<3.0m bgl) cohesive Made Ground within the north westernmost part of the site. Concentrations were recorded at the same order of magnitude as the screening value.

Other Semi Volatile and Volatile Organic Compounds

13.2.17 VOC and SVOC contamination is generally indicated to be isolated and restricted to specific locations (TP8, TP117, WS109 and WS18) within the north western and north eastern parts of the site. The exceedences generally occurred at shallow depth (<3m bgl) and from within a variety of different Made Ground types. Concentrations were typically recorded at one order of magnitude greater than the screening value.

13.2.18 Dibenzofuran is indicated to be slightly more widespread and is loosely concentrated within the western section of the site at depth (>3.0m bgl) also within a variety of different Made Ground types. Isolated VOC and SCOV compounds were also noted at a single location within shallow (<3.0m bgl) natural ground.

13.2.19 Regular PID testing was also undertaken during the 2020 WA investigation and only very low concentrations (between 0.0ppm and 13.8pmm) were recorded from soils and this generally supports the observations noted above. The result can be found in Appendix J.

Polychlorinated Biphenyls (PCB)

13.2.20 Relatively localised PCB contamination is indicated at specific locations (CP104, TP112, TP119 and TP150) within the shallow (<3.0m bgl) and deeper (>3.0m bgl) suspected construction and demolition wastes within the within the central south western

section and central north eastern parts of the site. Concentrations were typically recorded at one order of magnitude greater than the screening value.

13.2.21 It should be noted that most of the samples tested for PCB's were recorded below their LOD and in these instances this was greater than the screening value. As positive exceedences have been noted a conservative approach is warranted and it is possible that other PCB exceedences may be present.

Asbestos

13.2.22 Asbestos fibres and debris were generally encountered within shallow (<3.0m bgl) suspected construction and demolition type wastes within the central part of the site and to a lesser extent the shallow (<3.0m bgl) suspected combustion type wastes within the western sections of the site. The concentrations recorded ranged from <0.001% to 5.11%.

13.3 Human Health – Construction Workers

13.3.1 The CLEA Soil Guideline Values only apply to the protection of health for long term chronic exposure. Construction workers are more likely to be at risk from a high single exposure (i.e. an acute dose, which can result in contaminant poisoning). Procedures for the calculation of for acute lethal doses are outlined in SoBRA 'Development of Acute Generic Assessment Criteria for Assessing Risks to Human Health from Contaminants in Soil' dated April 2019.

13.3.2 None of the samples contained concentrations of arsenic, benzene, cadmium, free cyanide, phenol, trichloroethene and vinyl chloride that were elevated with respects to an acute lethal dose. No acute lethal dose value is given for lead.

13.3.3 As exposure times for construction workers are generally short term, risks from site contamination are generally addressed through the use of appropriate working procedures and the use of PPE in line with the Management of Health and Safety at Work Regulations (1999), CDM Regulations (2015) and the Control of Substances Hazardous to Health Regulations (2002).

13.4 Vapours – Soils

13.4.1 Based on the ground conditions and contamination encountered it is anticipated that soil vapours could pose a risk to those identified receptors and that this would need to be dealt with by the inclusion of passive vapour protection measures in new buildings, which is line with third party assessments. However, further detailed risk assessment will be required in line with current guidance to specify the precise

requirements for vapour protection. The final choice for mitigation will be in conjunction with specialist remediation contractors and will be subject to agreement with relevant regulators.

13.5 Assessment of Contamination – Groundwater (Human Health)

13.5.1 Based on the groundwater conditions encountered it is anticipated that shallow perched groundwaters within the Made Ground could pose a risk to those identified receptors. However, further detailed risk assessment will be required to quantify the risks.

13.6 Vapours – Groundwater (Human Health)

13.6.1 Concentrations of volatile contaminants in groundwater from the 2020 investigation have been screened against residential end use GAC for assessing vapour risks to human health from volatile contaminants in groundwater (SOBRA 2017).

13.6.2 A single exceedence of aliphatics >C10-C12 was recorded at one order of magnitude greater than the GAC and the aqueous solubility within groundwater at the location of CP109.

13.6.3 The remainder of the volatile contaminants were recorded below their respective LOD and / or screening criteria and / or their aqueous solubility. While some screening values were below the limit of detection, in the absence of any positive exceedences, the concentrations are likely to be low enough to not pose an unacceptable risk.

14 GENERIC QUANTITATIVE RISK ASSESSMENT – CONTROLLED WATERS

14.1 Assessment Approach

14.1.1 The groundwater and surface water samples were tested for potential chemicals of concern appropriate to the former land uses. In order to assess the risk to controlled waters the recorded groundwater and soil concentrations have been compared with commonly accepted UK guidelines including the Water Supply (Water Quality) (England) Regulations 2000 (DWS) and the Environmental Quality Standards (EQS).

14.1.2 For those determinands included in the analytical suite which do not have a corresponding UK screening criterion derived from the above sources, reference is made to a hierarchy of international guidance in accordance with Environment Agency guidance.

14.1.3 For groundwaters the UK Drinking Water Standards or best equivalent values (e.g. World Health Organisation) have been used as these would be the most relevant for the protection of the Principal Aquifer (most sensitive receptor) that is present beneath the site. It is unlikely that groundwaters are in continuity with those identified surface water receptors so the use of WQS that would be protective of surface waters is not considered to be applicable at this stage.

14.1.4 Surface water samples have been compared with EQS values that would be protective of the surface water environment. Assessments have also been undertaken using the simplified Metal Bioavailability Assessment Tool (M-BAT) to calculate the amounts of bioavailable Copper, Zinc, Nickel and Lead and associated Predicted No Effect Concentrations (PNECs).

14.1.5 Leachate samples have been compared against both DWS and EQS as there is the potential for run-off to occur along the northern boundary of the site alongside infiltration into the ground.

14.2 Assessment of Contamination – Groundwater

14.3 Three rounds of groundwater and surface water sampling were undertaken at the site with the first round being undertaken between the 2nd and 4th December 2020, the second round being undertaken on the 4th December 2020 and the final round being undertaken on the 7th January 2021 from the most recent WA 2020 shallow and deep monitoring well installations. 14 No. groundwater samples were retrieved in total from CP103 (a & b), CP107, CP108, CP109, CP110, RH101, RH102, RH106 (x2) and RH108 (x2) for laboratory testing.

14.3.1 A summary of the exceedences of the WQS for groundwater from both the 2020 WA dataset and the 2007 Celtic dataset are presented in Table 14.1 below. A summary of the exceedences in relation to each groundwater receptor (e.g. perched groundwater within Made Ground and deeper groundwater within bedrock) is outlined further in Section 16.

14.3.2 Specific details regarding the location, depth, contaminant concentrations and strata for each exceedance are included within Appendix I and the analytical laboratory results of the soil and groundwater chemical analyses are attached at Appendix E. Parameters obtained from groundwater are contained within Appendix G.

Table 14.1: Summary of Exceedences in Groundwater

Contaminant	Min. Recorded (µg/l)	Max. Recorded (µg/l)	WQS (µg/l)	Number of WQS Exceedances
Metals				
Arsenic	0.829	35.6	10	3
Boron	198	54,800	1,000	10
Cadmium	<0.08	11	5	1
Manganese	<1	3,880	50	24
Nickel	0.771	36.5	20	1
Selenium	<1	29	10	2
Iron	<19	11,000	200	13
Inorganics				
Sulphate	10,000	588,000	250,000	7
Cyanide, Total	<50	180	50	2
Cyanide, Complex	<50	180	50	2
Thiocyanate	<50	120	50	1
TPH				
Total Aliphatics & Aromatics >C5-35	<10	4,700	10[1]	9
PAH				
Benzo(b)fluoranthene	0.0107	33.2	0.1	11
Benzo(k)fluoranthene	0.00605	14.9	0.1	9
Benzo(a)pyrene	0.012	23	0.01	14
Benzo(g,h,i)perylene	<0.005	23.2	0.1	10
Indeno(1,2,3-cd)pyrene	<0.005	22.1	0.1	9
SVOC and VOC				
Phenol	<1	3.06	0.5	3
Benzene	<1	<100	0.5	1
Phenol Monohydric	<10	50	0.5	4

Notes:
UK Drinking Water Standards (2016) values unless noted.
[1] Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment'.

14.3.3 Most of the recorded concentrations for those other SVOC's and VOC's were either at concentrations that were below their respective screening criteria and / or were recorded at concentrations below the limits of detection (LOD). While the screening values for some of the contaminants were below the LOD, in the absence of any positive concentrations above the screening value, the concentrations (if present) are likely to be low enough to not pose a risk to the proposed development.

Metals and Metalloids

14.3.4 Metal exceedences (widespread boron, iron and manganese and relatively isolated arsenic, cadmium, nickel and selenium) were predominantly encountered within perched waters within Made Ground and to a lesser extent within perched waters within underlying Glacial Till where continuity with perched groundwaters within Made Ground is indicated. Concentrations were typically recorded at the same or one order of magnitude greater than the WQS.

14.3.5 Notable exceptions included significantly elevated concentrations of boron, iron and manganese within deeper perched groundwaters within Glacial Till and groundwater within bedrock..

14.3.6 ***Total Petroleum Hydrocarbons***

14.3.7 TPH contamination is indicated to be relatively widespread within the perched groundwaters within the Made Ground and to a lesser extent within perched groundwaters within underlying Glacial Till. Concentrations were typically recorded at one order of magnitude greater than the WQS.

14.3.8 Notable exceptions include a single TPH exceedence at two orders of magnitude greater than the screening value recorded within bedrock groundwater at the location of RH108.

Polycyclic Aromatic Hydrocarbons (PAH)

14.3.9 For the purposes of this risk assessment benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene are the only PAH compounds with WQS screening values for the protection of aquifer resources. Consequently, these PAH compounds have been used as surrogates to assess the degree of risk posed by PAH compounds within the groundwater.

14.3.10 PAH contamination is indicated to be relatively widespread but largely restricted to the perched groundwaters within the Made Ground and to a lesser extent within perched groundwaters within the underlying Glacial Till. Concentrations were typically recorded at the same order of magnitude as the WQS.

14.3.11 Notable exceptions include PAH exceedences at two orders of magnitude greater than the screening value at the location of RH108 within groundwater from bedrock. Other exceedances within groundwater from bedrock.

Volatile and Semi Volatile Organic Compound

14.3.12 Phenol and benzene exceedences were relatively isolated within perched groundwaters within the Made Ground and to a lesser extent within perched waters within the underlying Glacial Till. Concentrations were generally at the same to two orders of magnitude greater than the WQS.

14.3.13 It should be noted that in all instances, most of the concentrations for phenol, phenol monohydric and benzene were recorded at the LOD, which was above the screening value. Considering that positive exceedences have been recorded it is possible that some of the recorded concentrations below the LOD could exceed the screening value.

Inorganics

14.3.14 Sulphate exceedences were relatively isolated within perched groundwater within Glacial Till and groundwater within bedrock. Concentrations were typically recorded at the same order of magnitude as the screening values.

14.3.15 Cyanide exceedences were isolated within perched groundwaters within Made Ground with concentrations typically being recorded at one order of magnitude greater than the screening value.

Discussion of Groundwater Results

14.3.16 Those metal, TPH, PAH and sulphate exceedences recorded within groundwaters from bedrock and deeper Glacial Till merit further discussion as the ground conditions at the site indicate that pathways or continuity between perched waters within Made Ground and / or directly underlying granular Glacial Till are unlikely due to the significant thicknesses of low permeability Glacial Till that has been recorded between the various groundwater bodies.

14.3.17 For those manganese, sulphate, PAH, TPH and selenium exceedences that were recorded, the highest values were recorded within groundwater from bedrock and in

most cases this does not correlate with the concentrations recorded at the source (i.e. Made Ground and perched waters within the landfill).

14.3.18 A review of "Baseline Report Series: 8. The Permo-Triassic Sandstones of Manchester and East Cheshire" indicates that high baseline concentrations for manganese, sulphate, selenium and iron (up to 1790 µg/l, 666 mg/l, 4.7 µg/l and 13,100 µg/l respectively) have been regionally recorded for the groundwater within the Principal Aquifer that is present beneath the site. Consequently, those exceedences recorded for manganese, sulphate, selenium and iron are likely to be representative of baseline conditions.

14.3.19 A similar situation to that outlined above is also envisaged for the boron exceedence that was recorded within the deep perched waters from Glacial Till. While comparably high concentrations have been recorded within perched groundwaters within Made Ground and immediately underlying groundwaters within Glacial Till, a plausible pathway to the deeper perched groundwaters is not indicated due to the significant amount of natural cohesive strata present between the landfill and the deeper groundwaters. It is likely that the silting up of the wells or possible cross contamination may have occurred during the first monitoring visit.

14.3.20 To further investigate those TPH and PAH exceedences, a second round of groundwater sampling and testing was undertaken for RH106 and RH108 and in both instances the second round of testing recorded significantly reduced total TPH concentrations that were below the LOD with significantly reduced PAH concentrations being recorded from RH108.

14.3.21 While PAH concentrations were significantly reduced exceedences at the same order of magnitude as the screening values were still recorded. However, during development, purging and sampling for all those groundwater samples obtained from bedrock the screened sections were noted to be fully silted up and in some cases this extended a significant distance up the standpipe. This particulate matter could account for those PAH exceedences that have been recorded.

14.3.22 In the absence of a plausible pathway and in consideration of the above, it is likely that the exceedences noted above within groundwater from bedrock and deeper groundwaters within Glacial Till are not representative and in the case of metals are indicative of baseline conditions within the Principal Aquifer.

14.4 Assessment of Contamination – Leachate

14.4.1 A total of 20 No. soil samples from Made Ground were analysed for leachate to assess the potential risks to controlled waters from impacted soils. This included 10 No. samples from the 2020 WA investigations and 10 No. samples from the 2007 Celtic investigation.

14.4.2 A summary of the exceedences of the WQS from both the 2020 WA dataset and the 2007 Celtic dataset are presented in Table 14.2 below. A summary of the exceedences in relation to each strata type is outlined further in Section 16.

14.4.3 Specific details regarding the location, depth, contaminant concentrations and strata for each exceedance are included within Appendix I and the analytical laboratory results of the soil and groundwater chemical analyses are attached at Appendix E.

Table 14.2: Summary of Leachate Exceedences in Soil

Contaminant	Min. Recorded (µg/l)	Max. Recorded (µg/l)	DWS GAC (µg/l)	EQS GAC (µg/l)	No. <DWS	No. <EQS
Metals						
Chromium IV	<3	53.4	50	3.4	1	4
Arsenic	0.53	73.4	10	50	1	1
Chromium	<1	1,500	50	4.7	2	6
Cadmium	<0.08	0.349	5	0.08	0	2
Copper	0.71	11.2	2000	8.98[2]	0	1
Lead	<0.2	108	10	1.2	2	7
Nickel	<0.4	56	20	4[2]	1	3
Zinc	<3	110	-	29.13[2]	-	1
TPH						
Total Aliphatics & Aromatics >C5-35	<10	65	10[2]	10[1]	2	2
PAH						
Benzo(a)pyrene	<0.002	0.15	0.001	0.00017	8	8
Benzo(b)fluoranthene	<23	0.16	0.1	-	1	-
Benzo(g,h,i)perylene	<0.005	0.39	0.1	-	2	-
Fluoranthene	0.0106	0.26	-	0.0063	-	20
Anthracene	<0.005	0.14	-	0.1	-	3
Indeno(123cd)pyrene	<14	0.19	0.1	-	1	-
Phenols						
Phenols Monohydric	<10	20	0.5	7.7	2	1
Inorganics						
Total Cyanide	<50	70	50	1	1	1

Table 14.2: Summary of Leachate Exceedences in Soil						
Contaminant	**Min. Recorded (µg/l)**	**Max. Recorded (µg/l)**	**DWS GAC (µg/l)**	**EQS GAC (µg/l)**	**No. <DWS**	**No. <EQS**
Sulphate	2,200	1,000,000	250,000	-	3	-
Notes: *1 Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted. *2 Exceedances of the EQSbioavailable noted so a site-specific assessment has been undertaken using the MBAT tool. The most conservative site specific PNEC's calculated has been used.						

14.4.4 Most of the contaminants were recorded below their respective LOD and / or screening criteria. While some screening values were below the limit of detection, in the absence of any positive exceedences, the concentrations are considered to be low enough to not pose an unacceptable risk.

Metals and Metalloids

14.4.5 Exceedences of metals (nickel, chromium IV, cadmium, chromium, copper, zinc, arsenic and lead), which were relatively widespread, were generally recorded at the same order of magnitude as the screening values and were mostly found within the suspected combustion type wastes and to a lesser extent the suspected construction and demolition type wastes. Exceedences were generally isolated to individual locations across the entire site but localised exceedences were noted the north western section of the site.

Total Petroleum Hydrocarbons

14.4.6 Exceedences of TPH were relatively isolated, were recorded at the same order of magnitude as the screening value and were generally found within the suspected construction and demolition type waste and suspected household wastes at individual locations within the central section of the site.

Polycyclic Aromatic Hydrocarbons

14.4.7 Exceedences of PAH were relatively widespread, were generally recorded at the same to one order of magnitude greater than the screening value and were generally found within the suspected combustion type wastes and to a lesser extent the suspected construction and demolition type wastes and the general cohesive and granular Made Ground. Exceedences were generally localised to the north western, south western and south eastern sections of the site but relatively isolated exceedences were noted within the north east and central parts of the site.

Inorganics

14.4.8 Exceedances of cyanide were isolated and were recorded between the same order of magnitude and one magnitude greater than the screening value with the suspected combustion type wastes and restricted to a single location within the north western section of the site.

14.4.9 Exceedances of sulphate were relatively isolated and were generally recorded at the same order of magnitude as the screening value from within the suspected combustion type wastes and to a lesser extent the suspected construction and demolition wastes. Exceedences were generally isolated to individual locations within the north eastern and central south western sections of the site.

Phenols

14.4.10 Exceedances of phenol monohydric were isolated and were recorded at the same order of magnitude as the screening within the cohesive Made Ground at a single location within the north eastern section of the site.

Limitations

14.4.11 It should be noted that for all the PAH compounds assessed, cyanide and phenol monohydric, most of the concentrations were recorded at the LOD, which was above the screening value. Considering that positive exceedences have been recorded it is possible that some of the recorded PAH, phenol monohydric and cyanide concentrations below the LOD could also exceed the screening value.

Discussion of Leachate Results

14.4.12 The recorded DWS exceedances for PAH compounds, sulphate, cyanide and phenol in soil leachate generally correlate with those recorded exceedances in groundwater. The spatial distribution and concentrations recorded are generally similar and indicate that the leachates generated from the Made Ground at the site (particularly those from the suspected combustion type wastes) could be contributing to the concentrations of these contaminants in shallow perched groundwaters at the site.

14.4.13 While the recorded DWS exceedences for metals in soil leachate only loosely correlate with those exceedences recorded within shallow perched groundwater, the concentrations themselves do generally correlate. This indicates that the leachates generated from the Made ground at the site (particularly those from the suspected combustion type wastes) may be contributing to the concentrations of these contaminants in shallow perched groundwaters at the site.

14.4.14 The recorded DWS exceedences of TPH in soil leachate do not correlate with those recorded exceedances in groundwater. Exceedences within soil leachate were relatively isolated and occurred at relatively low concentrations, while those within groundwater were relatively widespread and occurred at much higher concentrations. This disparity could be due to limitations with the laboratory methods used or it could indicate that leachates generated from the Made ground at the site are not significantly contributing to TPH contamination within groundwater.

14.5 Assessment of Contamination – Surface Waters

14.5.1 Two rounds of surface water sampling and testing have been undertaken from the Rochdale Canal that forms the northern boundary of the site. The first round was undertaken by Celtic in 2007 with two samples being obtained (Canal A and Canal B taken upstream and downstream, respectively). The second round was undertaken by WA in 2020 with three samples being obtained (SW01, SW02, SW03 taken midstream, upstream and downstream along the canal, respectively).

14.5.2 A summary of the exceedences of the WQS from both the 2020 WA dataset and the 2007 Celtic dataset are presented in Table 14.3 below.

14.5.3 Specific details regarding the location, depth, contaminant concentrations and strata for each exceedance are included within Appendix I and the analytical laboratory results of the soil and groundwater chemical analyses are attached at Appendix E.

Table 14.3: Summary of Exceedences in Surface Water

Contaminant	Min. Recorded (µg/l)	Max. Recorded (µg/l)	GAC (µg/l)	Number of GAC Exceedances
Metals				
Chromium	<1	6.25	4.7	1
Lead	1.04	4	1.2	3
Copper	6	9	1[2]	2
Nickel	<1	4	4[2]	1
TPH				
Total Aliphatics & Aromatics >C5-35	<10	23	10[1]	1
PAH				
Fluoranthene	0.024	0.485	0.0063	3
Benzo(a)pyrene	0.0107	0.186	0.00017	3

Table 14.3: Summary of Exceedences in Surface Water				
Contaminant	**Min. Recorded (µg/l)**	**Max. Recorded (µg/l)**	**GAC (µg/l)**	**Number of GAC Exceedances**
Notes: Environmental Quality Standards (2015) values unless noted. *1 Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted. *2 Parameters not obtained to allow for MBAT calculation to be undertaken.				

14.5.4 Most of the contaminants were recorded below their respective LOD and / or screening criteria. While some screening values were below the limit of detection, in the absence of any positive exceedences, the concentrations are likely to be low enough to not pose an unacceptable risk.

Metals and Metalloids

14.5.5 Marginal exceedences of chromium were recorded on a single occasion from midway along the canal from the most recent round of surface water testing. Marginal exceedences of lead were recorded from both rounds of testing both upstream and downstream of the site.

14.5.6 Low concentrations of nickel and copper were also detected during the previous round of testing, but parameters were not obtained to allow for an MBAT calculation to be undertaken. Applying the average of parameters obtained from the most recent round of testing increases the screening value, meaning that the low concentrations recorded would no longer constitute exceedances.

Total Petroleum Hydrocarbons

14.5.7 A marginal exceedence of TPH was recorded on a single occasion from midway along the canal from the most recent round of surface water testing.

Polycyclic Aromatic Hydrocarbons

14.5.8 PAH compounds (benzo(a)pyrene and fluoranthene) were recorded within all samples from the most recent round of testing at between one and three orders of magnitude greater than the screening value.

Discussion of Surface Water Results

14.5.9 The contaminants recorded within surface water are generally not reflective of those encountered within shallow perched groundwaters or soil and leachate contaminants. This is likely due to the lack of hydraulic continuity that is indicated between the canal

and shallow perched groundwaters (it is assumed that the canal is clay lined and / or confined by those natural clay deposits that are indicated around the periphery of the site) and that the shallow perched groundwater flow directions are indicated to be in a south westerly direction away from the canal and towards the deeper parts of the clay pit excavations. The possibility of groundwater flooding and overspill into the canal is considered to be highly unlikely due to the topography and the indicated groundwater flow directions.

14.5.10 As the site is slightly elevated from the canal along its northern boundary, some surface water run-off and / or shallow lateral groundwater with leached contaminants could be migrating towards the canal along the site northern boundary. This is loosely supported by the highest concentrations of contaminants in surface water generally being recorded from the midpoint of the canal. However, the potential for significant leaching to occur is low due to the limited amount of time these waters would have to percolate through the soils before entering the canal.

14.5.11 Furthermore, elevated concentrations of some contaminants (notably PAH) were recorded from upstream of the site and this indicates that some of the background concentrations of contaminants within the canal may already be elevated (e.g. fuel leaks from passing canal boats or general detritus that has been tipped into the canal over the years).

14.5.12 Consequently, while some surface water run-off and / or shallow lateral groundwater migration with leached contaminants into the canal could be occurring it is likely to be limited in nature as the baseline concentrations are already indicated to be elevated.

14.1 Assessment of Contamination – Groundwater Seepage

14.1.1 During a ground gas and groundwater monitoring round that was undertaken on the 21st January 2021 and following a sustained period of heavy rainfall, an upwelling of groundwater with associated groundwater flooding at the surface was noted within the central south western section of the site adjacent to the sites southern boundary (see Drawing LD10162-26). The water was observed to be migrating in a southern direction towards the site's southern boundary with most of the water being captured by the off-site drainage that runs parallel to the sites southern boundary.

14.1.2 The upwelling was occurring via three observable fissures / cracks in the ground and had a notable putrid / sulphurous odour. When first observed it had a slight orange tinge to it, but during subsequent visits a light bluish grey sheen / film was noted instead with the submerged sediment coloured similarly. Some light bluish grey

particulate matter was also noted flowing out of the upwelling and some similarly coloured scum / foam was noted in areas where the flow of water was reduced.

14.1.3 The water had a notable putrid / sulphurous odour and when first observed had a slight orange tinge to it, but during subsequent visits a light bluish grey sheen / film was noted instead with the submerged sediment having a similar staining / tinge to it. Some light bluish grey particulate matter was also noted flowing out of the upwelling and some similarly coloured scum / foam was noted in areas where the flow of water was reduced.

14.1.4 To quantify the risks and establish the source of this groundwater upwelling, a single water sample was obtained from the main point of upwelling on the 25th January 2021 and was submitted for laboratory testing. It should be noted that no recent excavations or excavations from previous stages of site investigation were recorded within the area of seepage.

14.1.5 The results were initially compared to the United Utilities (UU) water quality data for the Newton Heath area. Chlorine, Cyanide, Thiocyanate, Chromium IV, mercury, cadmium, copper, lead, selenium, zinc, TPH and most of the PAH, SVOC and VOC compounds were recorded below the limit of detection.

14.1.6 Determinands recorded above the LOD are that could pose a risk to human health and controlled waters are summarised in the Table below:

Table 14.4: Summary of Concentrations Above the LOD from Groundwater Seepage Sample

Contaminant	Recorded Concentration	Max. UU Concentrations
Carbon		
Carbon, Organic	17.4 mg/l	2.3 mg/l
Inorganics		
Conductivity	1.61 mS/cm	0.156 mS/cm
Total Dissolved Solids	1300 mg/l	-
Dissolved Oxygen	3.44 mg/l	-
Redox Potential	173 mV	-
Alkalinity as Total CaCO3	897 mg/l	12
Fluoride	0.679 mg/l	0.05 mg/l
pH	7.25	7.88
Sulphate	236 mg/l	43.4 mg/l
Sulphide	0.613 mg/l	-
Metals		
Arsenic	1.5 µg/l	<0.48 µg/l
Boron	15,700 µg/l	<0.0146 µg/l

Chromium	7.22 µg/l	<0.830 µg/l
Manganese	533 µg/l	3.51 µg/l
Nickel	3.49 µg/l	2.30 µg/l
Calcium	379 µg/l	16,600 µg/l
Iron	1.89 µg/l	16.1 µg/l
PAH		
Naphthalene	0.127 µg/l	-
Acenaphthene	2.38 µg/l	-
Acenaphthylene	2.39 µg/l	-
Fluoranthene	0.268 µg/l	-
Anthracene	0.057 µg/l	-
Phenanthrene	0.0479 µg/l	-
Fluorene	0.167 µg/l	-
Chrysene	0.0146 µg/l	-
Pyrene	0.171 µg/l	-
SVOC & VOC		
1,4-Dichlorobenzene	1.15 & 1.57 µg/l	-
Chlorobenzene	8.7 µg/l	-
1,2-Dichlorobenzene	1.15 µg/l	-
Notes: UU Concentrations obtained from the UU website. UU note PAH concentrations (sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene) as 0 µg/l.		

14.1.7 Analytical laboratory results for the full groundwater chemical analyses are attached at Appendix E.

Discussion of Groundwater Seepage Results

14.1.8 Most of the concentrations recorded from the groundwater seepage were significantly elevated above the UU water quality data, effectively ruling out a burst drinking water supply pipe as the cause of the seepage.

14.1.9 With the exception of the SVOC and VOC that have been recorded, the concentrations corelate with the concentrations of those determinands recorded from the perched groundwaters within the Made Ground that is present at the site. Furthermore, the seepage was recorded to be occurring close to one of the buried highwalls of the former clay pit excavations (see Drawing LD10162-026), from an area where perched groundwater elevations are indicated to be high and in a location where the perched groundwaters are indicated to be flowing towards (see Drawing LD10162-024). Consequently, the lines of evidence suggest that it is likely that the groundwater

seepage is from the perched shallow groundwaters within the Made Ground that are present within this part of the site.

14.1.10 Based on the above, it is likely that the groundwater seepage is from the perched shallow groundwaters within the Made Ground that are present within this part of the site and that at the concentrations recorded these could pose a risk to human health and controlled waters.

15 GROUND GAS RISK ASSESSMENT

15.1 Background

15.1.1 The preliminary conceptual site model has identified the following on-site possible ground gas sources; made ground associated with the former land uses (e.g. historic and registered landfill and brickworks) and a potentially infilled reservoir within the central northern section of the site. Off-site possible ground gas sources include areas of possibly infilled ground (e.g. ponds, excavations and the extension of those on-site excavations off-site), other historic landfills other areas of Made Ground deposits.

15.2 Assessment Criteria

15.2.1 It is currently understood that the form of many of the proposed residential structures are unlikely to conform to the model low rise housing type used for the NHBC Traffic Light System assessment. Consequently, the ground gas risk assessment has been undertaken by calculating Gas Screening Values (GSV) for each location and the site as a whole and comparing the results to the Characteristic Gas Situations (CS) as outlined in BS8485.

15.2.2 Calculations have been undertaken using the max steady flow and peak carbon dioxide and methane concentrations for each monitoring location and the site as a whole, from both the Celtic and WA dataset, so that a worst-case check can be undertaken. Where initial peak flows and negative flows have been recorded, but judged unrepresentative, this has been noted and / or discussed.

15.3 Results and Assessment

15.3.1 The gas monitoring results from WA ground gas monitoring undertaken between 30th November 2020 to 25th March 2021 have recorded concentrations of methane up to 5.8% by volume and concentrations of carbon dioxide up to 20.2% by volume and variable flow rates ranging from -3.7l/hr to 20.9/hr.

15.3.2 The gas monitoring from the Celtic 2007 investigation undertaken between 27th June 2007 to 23rd July 2007 recorded concentrations of carbon dioxide between <0.1% and 14.3% (typically between <0.1% and 9.8%), methane concentrations up to 30.5% (typically <0.1%) and gas flow rates of up to 2.3 l/hr.

15.3.3 Nine visits have been undertaken by WA and three visits were undertaken by Celtic. Atmospheric pressures were below 1000mb for four of the WA visits and two of the Celtic visits with a minimum pressure of 966mb being recorded during the most recent

round of monitoring. The WA data was collected through the late autumn to early spring and the Celtic data was collected during the summer months. Two of the visits were undertaken during periods of falling atmospheric pressure. Therefore, the data collected is believed to cover the worst-case conditions and the frequency and period of monitoring undertaken is considered to be sufficient.

15.3.4 The results and the subsequent GSV calculations from both the WA and Celtic data are included within Table 15.1 below:

Table 15.1: Summary of Ground Gas Monitoring Data

Borehole ID	Max Steady Flow Rate (l/hr)	Max Peak CH_4 (% v/v)	Max Peak CO_2 (% v/v)	Max. BH Q_{hg} (CH_4)	Max. BH Q_{hg} (CO_2)	Characteristic Situation (CS)
WA Data						
CP103a	-2.40*2	**1.2**	1.3	0.0288	0.0312	CS2*3
CP103b	-2.40*2	**1.5**	3	0.036	0.072	CS2
CP107#	-2.40*2	0.1	1.3	0.0024	0.0312	CS1
CP108#	-2.80*2	0	1.7	0	0.0476	CS1
CP109#	2.50	**3.1**	0.3	0.0775	0.0075	CS2
CP110	-3.00*2	0	**6.3**	0	0.189	CS2
CP112#	-2.40*2	**5.8**	**5.8**	0.1392	0.1392	CS2
CP113#	-3.00*2	0	2.6	0	0.078	CS2
RH101#	-2.50*2	0	0.8	0	0.02	CS1
RH102#	-2.80*2	0	1.7	0	0.0476	CS1
RH106	-2.10*2	0	4.4	0	0.0924	CS2
RH108#	20.9	0	2.8	0	0.5852	CS2
RH109a#	-2.50*2	0	**7.3**	0	0.1825	CS2
RH109b	-2.30*2	0	**6.7**	0	0.1541	CS2
RH110	-2.50*2	0	1	0	0.025	CS1
WS101#	-2.40*2	0	3.1	0	0.0744	CS2
WS102	-2.20*2	0	**10.7**	0	0.2354	CS2
WS103	-2.70*2	0	**5.1**	0	0.1377	CS2
WS104	-2.50*2	0	1.6	0	0.04	CS1
WS105#	-2.50*2	0	0.4	0	0.01	CS1
WS106#	-2.70*2	0	1.5	0	0.0405	CS1
WS107#	-3.00*2	0	**20.2**	0	0.606	CS2
WS108#	-3.70*2	0	4.9	0	0.1813	CS2
WS109#	-2.20*2	0	7	0	0.154	CS2
WS111#	-3.70*2	**3.8**	**14.8**	0.1406	0.5476	CS2
WS112	-3.00*2	0	**5.9**	0	0.177	CS2
WS113#	-1.50*2	0	**17.4**	0	0.261	CS2

Table 15.1: Summary of Ground Gas Monitoring Data						
Borehole ID	**Max Steady Flow Rate (l/hr)**	**Max Peak CH_4 (% v/v)**	**Max Peak CO_2 (% v/v)**	**Max. BH Q_{hg} (CH_4)**	**Max. BH Q_{hg} (CO_2)**	**Characteristic Situation (CS)**
WS119	-2.40*2	0	2.4	0	0.0576	CS1
WS120	-2.40*2	0	1.4	0	0.0336	CS1
BH04	-2.10*2	0	**13.7**	0	0.2877	CS2
BH06	-2.40*2	0	**11.8**	0	0.3422	CS2
Celtic Data						
WS1	0.1	0	1.6	0	0.0016	CS1
WS2	0.1	0	0.8	0	0.0008	CS1
WS3	0.1	0	1.7	0	0.0017	CS1
WS4	0.1	0	**5.5**	0	0.0055	CS2*3
WS5	0.1	0	**5.5**	0	0.0055	CS2*3
WS6	0.1	0	4.5	0	0.0045	CS1
WS7	0.1	0	1.7	0	0.0017	CS1
WS8	0.6	0	3.3	0	0.0198	CS1
WS9	0.1	**7.6**	**15**	0.0076	0.015	CS2*3
WS10	0.1	0.4	**6.3**	0.0004	0.0063	CS2*3
WS11	0.1	0	**6.3**	0	0.0063	CS2*3
WS12	0.1	0	**5.7**	0	0.0057	CS2*3
WS13	0.1	0	3.2	0	0.0032	CS1
WS14	0.1	0	1.5	0	0.0015	CS1
WS15	0.1	0	1.9	0	0.0019	CS1
WS16	0.1	0	2.6	0	0.0026	CS1
WS17	0.1	0	2.9	0	0.0029	CS1
WS18	0.1	**1**	**8.7**	0.001	0.0087	CS2*3
WS19	0.1	**2.3**	**7.7**	0.0023	0.0077	CS2*3
WS20	0.1	0.1	**9.8**	0.0001	0.0098	CS2*3
WS21	0.1	0.8	**9.6**	0.0008	0.0096	CS2*3
WS22	0.1	0.9	**8.6**	0.0009	0.0086	CS2*3
BH1#	0.1	**30.6**	**8.4**	0.0306	0.0084	CS2*3
BH2#	0.1	**19.7**	2.2	0.0197	0.0022	CS2*3
BH3	0.1	0	0.2	0	0.0002	CS1
BH4	2.3	0	0	0	0	CS1
BH5	2.3	0	0	0	0	CS1
BH6	0.1	0.4	**8**	0.0004	0.008	CS1*3
BH7	0.1	0.3	1.2	0.0003	0.0012	CS1
BH8	0.1	0	1.2	0	0.0012	CS1
BH9	0.1	0	2.1	0	0.0021	CS1

Table 15.1: Summary of Ground Gas Monitoring Data

Borehole ID	Max Steady Flow Rate (l/hr)	Max Peak CH_4 (% v/v)	Max Peak CO_2 (% v/v)	Max. BH Q_{hg} (CH_4)	Max. BH Q_{hg} (CO_2)	Characteristic Situation (CS)
BH10	0.1	15.4	8.6	0.0154	0.0086	CS2*3
BH11	0.1	15.4	8.3	0.0154	0.0083	CS2*3
BH12	0.1	6.8	5.7	0.0068	0.0057	CS2*3
Worst-credible Qhg (l/hr) *				0.1406	0.606	CS2
Worst-possible Qhg (l/hr) +				6.3954	4.2218	CS4 (CS2)

Qhg = Hazardous gas flow rate, in accordance with BS8485:2015

* Based on maximum recorded concentration and maximum flow rate applicable to any individual borehole.

+ Based on maximum recorded concentration and maximum flow rate across the whole site.

*1 Where no flow is detected, detection limits of 0.1l/hr have been used.

*2 Denotes where negative flow rates are the maximum flow rates recorded. As there are uncertainties regarding the reason for the negative flow rates these negative values have been reversed and used for the calculation of the GSV.

*3 Denotes where the characteristic situation has been increased due to methane being recorded above 1% and / or carbon dioxide being recorded above 5%.

Response zone of monitoring well flooded or partially flooded.

15.3.5 The gas monitoring data indicates that the site should be classified as CS2 and that ground gas protection measures are required. While a highly conservative worst possible CS4 situation has been calculated for the site based on the maximum recorded concentrations and maximum flow rate across the whole site, this is not consistent with the conceptual model for the site (i.e. an old landfill with mostly inert wastes from a ground gas perspective) and is deemed to be unrepresentative for the following reasons:

- The maximum flow rate of 20.9l/hr recorded from RH108 is the main driver behind this worst possible characterisation and the response zone for this borehole is located at a depth of between 26m and 28m bgl in sandstone bedrock and is not representative of the main source of ground gas (i.e. the landfill) at the site and pathways for flow are unlikely due to the significant thickness of Glacial clay.
- The peak methane and carbon dioxide concentrations used in the assessment were recorded in boreholes where the response zones were noted to be either fully flooded or partially flooded, which may have resulted in elevated carbon

dioxide or methane concentrations due to the presence of dissolved gases and / or the presence of biodegradable material in the groundwater.

15.3.6 By taking the above into consideration, the worst possible characterisation is reduced to CS2, which is more in line with the overall dataset and the conceptual model for the site.

15.3.7 Consideration has been given to the zoning of the site (specifically for the south western section of the site that lies outside of the landfill and where natural superficial strata are present at shallow depth) but the current dataset does not justify this approach (CS2 is indicated for boreholes in this area) and the presence of sand layers within the natural superficial deposits could act as pathways for ground gas from the nearby landfill.

15.3.8 The ground gas monitoring results are included at Appendix G.

15.4 Ground Gas Protection Measures

15.4.1 As outlined in BS8485, the proposed building types are likely to be Type A (Private) or Type B (Private or commercial / public, possible multiple) and in consideration of a CS2 situation for the site, a minimum gas protection score of 3.5 is required.

15.4.2 To achieve the points required, new structures will need to incorporate a combination of two or more types of gas protection measures in accordance with BS8485. The three general types of ground protection measures include:

- Structural barrier (within floor slab)
- Appropriate ventilation
- Gas resistant membrane

15.4.3 It is likely that most of the residential structures would be formed on a precast suspended segmental subfloor (i.e. beam and block). In this situation the 3.5 points required can be achieved by incorporating the following into the floor slab construction:

- Passive Subfloor Dispersal Layer (2.5 points for very good performance and 1.5 points for good performance) that meets all the relevant criteria as set out in BS8485.
- Gas Resistant Membrane (2 points) that meets all the relevant criteria as set out in BS8485.

15.4.4 By incorporating the above with the floor slab construction, a maximum of 4.5 points can be achieved. While this point allocation seems like an overdesign this is the only way that a beam and block floor slab construction can achieve the required points for a CS2 situation.

15.4.5 When further information about the form of the proposed residential structures is available and if a significant number of structures are found to conform to the model low rise housing type for the NHBC Traffic Light System assessment, then it may be prudent to undertake a separate assessment for those structures where this would be applicable, as the scope of the ground gas protection measures could be reduced.

15.5 Radon Gas

15.5.1 An initial assessment for radon gas has been carried out. The determination follows the two-stage procedure outlined in BR211 Radon: Guidance on protective measures for new dwellings (2007).

15.5.2 The assessment indicates that the site is in a lower to intermediate probability radon area where <1% to 1 to 3% of homes are estimated to be at or above the Action Level. In both instances no radon protection measures are required.

16 REVISED CONCEPTUAL SITE MODEL AND QUALITATIVE RISK ASSESSMENT

16.1 Introduction

16.1.1 In line with relevant guidance documents, plausible source, pathway and receptor linkages have been identified for the site. A preliminary conceptual site model (CSM) was presented in Section 8. As the CSM was largely based on desk study information a number of uncertainties in the CSM existed.

16.1.2 The uncertainties have been revised and an updated CSM is presented below which is based on the findings of the intrusive site investigation works and associated laboratory testing.

16.2 Sources

16.2.1 The potential sources identified with the preliminary CSM are still applicable and further specific details are included below:

Soils

16.2.2 In soil, there are exceedances of screening values within:

- The suspected combustion type wastes that predominated within the north western and to a lesser extent the south western and south eastern sections of the site. These materials were generally found to contain widespread metals (arsenic and lead) and PAH; relatively localised nickel in the north east, relatively localised total cyanide restricted in the north west; and relatively isolated TPH and BTEX restricted to the north west; and isolated asbestos restricted to the north western and south western sections.
- The suspected construction and demolition type wastes that were typically recorded within central section of the site and to a lesser extent the north eastern section of the site. These materials were generally found to contain relatively localised metals (arsenic and lead), PAH and PCB's; isolated total cyanide restricted to a single location in the central south east; relatively isolated TPH, SVOC and VOC restricted to individual locations within the north east and south east; isolated asbestos restricted to the central section; and isolated copper and zinc exceedance restricted to the central south western section.
- Those general cohesive and granular Made Ground types that were present across the entire site and intermixed with those other waste types noted above were generally found to contain widespread metals (arsenic and lead) and PAH; relatively localised TPH restricted to north west and south east; relatively localised

total cyanide restricted to the north west; relatively isolated SVOC and VOC restricted to the north west; and isolated nickel restricted to a single location within the north west.

- The suspected colliery spoil type waste that was typically recorded within the north eastern section of the site recorded isolated arsenic, total cyanide, naphthalene and trichloroethene exceedences that were restricted to individual locations.
- Those natural deposits (possibly reworked natural ground in this instance) were generally found to contain isolated metals (arsenic and lead), total cyanide, PAH, SVOC and VOC that were restricted to all four corners of the site. In most instances only a single exceedence was recorded.

Leachate

16.2.3 In soil leachate, there are exceedances of screening values for:

- Relatively widespread metals (nickel, chromium IV, cadmium, chromium, copper, zinc, arsenic and lead) predominantly within the suspected combustion type wastes and to a lesser extent the suspected construction and demolition type wastes. Exceedences were generally isolated to individual locations across the entire site but localised exceedences were noted the north western section of the site.
- Relatively isolated TPH restricted to the suspected construction and demolition wastes and suspected household waste restricted to individual locations within the central section of the site.
- Relatively widespread PAH predominantly from the suspected combustion type waste materials and to a lesser extent the suspected construction and demolition type wastes and the general cohesive and granular Made Ground. Exceedences were generally localised to the north western, south western and south eastern sections of the site but relatively isolated exceedences were noted within the north east and central parts of the site.
- Isolated total cyanide within the suspected combustion type wastes and restricted to a single location within the north western section of the site.
- Relatively isolated sulphate predominantly from the suspected combustion type wastes and to a lesser extent the suspected construction and demolition type wastes. Exceedences were generally isolated to individual locations within the north eastern and central south western sections of the site.

- Isolated phenol within cohesive Made Ground restricted to a single location within the north eastern section of the site.

Groundwater

16.2.4 In groundwater there are exceedances of screening values for:

- Metals (widespread boron, iron and manganese and relatively isolated arsenic, cadmium, nickel and selenium) mostly within perched waters within Made Ground and to a lesser extent within perched waters within underlying Glacial Till where continuity is indicated. Manganese, selenium and iron exceedances within bedrock are indicated to be representative of baseline conditions.
- Relatively widespread TPH within the perched groundwaters within the Made Ground and to a lesser extent within perched groundwaters within underlying Glacial Till where continuity is indicated. Those TPH exceedences recorded within bedrock are indicated to be anomalies.
- Relatively widespread PAH compounds are indicated but are largely restricted to the perched groundwaters within the Made Ground and to a lesser extent within perched waters within underlying Glacial Till where continuity is indicated. Those PAH exceedences recorded within bedrock are indicated to not be representative.
- Relatively isolated phenol and benzene exceedences within perched waters within the Made Ground and to a lesser extent within perched waters within the underlying Glacial Till where continuity is indicated.
- Relatively isolated exceedences of sulphate within perched groundwater within Glacial Till and groundwater within bedrock. Those exceedences within bedrock are believed to be representative of baseline conditions.
- Isolated cyanide exceedences within perched groundwaters within Made Ground.
- It should be noted that 1,4-Dichlorobenzene, Chlorobenzene and 1,2-Dichlorobenzene were detected in the sample of groundwater seepage and it has been concluded that this groundwater is from the perched groundwaters within the Made Ground. These and other SVOC / VOC compounds may be present.

Surface Waters

16.2.5 In surface waters there are exceedances of screening values for:

- Marginal exceedences of chromium and TPH from midstream along the canal.
- Marginal exceedences of lead from upstream, downstream and midway along the canal.

- PAH compounds (benzo(a)pyrene and fluoranthene) were recorded within all samples from upstream, downstream and midway along the canal.

Non-Aqueous Phase Liquids or Free Product

16.2.6 During the WA 2020 investigation water levels during monitoring were measured using a product / water interface probe. No free phase product was detected. Celtic also state that no non-aqueous phase liquid (NAPL) was encountered during the fieldwork and that no visual or olfactory evidence of contamination was noted.

16.2.7 However, hydrocarbon sheens were occasionally observed to shallow perched groundwaters mostly within the north western section of the site during trial pitting and this could be indicative of free product. During development of the monitoring wells from the 2020 WA investigation putrid odours were noted at RH102, CP103, CP109 and CP112.

Ground Gas

16.2.8 The site investigation works indicate that the following ground gas sources are present at the site:

- Made Ground of significant thickness (up to 13.85m) within the historical landfill with abundant degradable constituents. A moderate ground gas generation potential is envisaged based on the age of the landfill.
- Made Ground of limited thickness extent associated with the former infilled reservoir. Low degradable content. A very low ground gas generation potential is envisaged.

16.2.9 Off-site possible ground gas sources include areas of possibly infilled ground (e.g. ponds, excavations and the extension of those on-site excavations off-site), other historic landfills other areas of Made Ground deposits.

16.3 **Pathways**

Human Health

16.3.1 In terms of human health, the main potential exposure pathways are considered to be inhalation of soil dust and vapours / ground gas, dermal contact and ingestion of soils, dust, and waters. Possible consumption of homegrown vegetables and ingestion of soil attached to vegetables following development of the site. However, the viability of these pathways varies as follows:

- Following development of the site there is expected to be an increase in hardstanding areas, which would help to minimise the dermal, ingestion and inhalation pathways (excluding vapours).
- Construction works and to a lesser extent current site users are likely to have acute interaction with soil and materials, so they are likely to be at risk from all three potential pathways whilst working on the site (i.e. dermal contact, ingestion and inhalation).
- Windblown pathways are most likely during construction of the site but will be significantly reduced following development of the site due to the increase in hardstanding areas.
- Seepage of groundwater at the surface and migration to off-site receptors was noted during one of the ground gas and groundwater monitoring visits. This has since been mitigated as outlined in 18.2.9.

Controlled Waters Pathways – Groundwater

16.3.2 The main pathways by which contaminants are likely to reach groundwaters on-site is through the infiltration of rainwater causing vertical movement through the unsaturated zone followed by vertical and lateral movement of contaminants within groundwater as follows:

- Currently, most of the site is densely vegetated and derelict land with only a limited thickness of clayey and / or sandy topsoil so vertical migration pathways are likely. During development vertical migration pathways are likely to increase following removal of vegetation and during earthworks. Following development, vertical migration pathways are likely to be significantly reduced from the baseline due to an increase in hardstanding areas and the possible use of low permeability clean cover systems. Surface waters are also more likely to be captured by drainage before soaking into the ground.
- Due to the predominantly granular nature of the Made Ground materials within the backfilled clay pits, vertical migration pathways are likely. However, further vertical migration to deeper groundwaters within the underlying natural superficial deposits and bedrock is limited due to the predominantly low permeability nature of the underlying Glacial Till. This is supported by the observed groundwater seepage within the south western section of the site, which indicates

that the perched groundwaters within the backfilled clay pits are relatively self-contained.

- Lateral migration pathways are also indicated to be limited within the backfilled clay pits due extent and geometry of the various excavations that are indicated, and the variability encountered within the backfilled materials. For example, limited connectivity is indicated between the clay pit within the north west of the site and the larger clay pit within the centre of the site.
- Within the centre of the site there are localised areas of deep Made Ground that directly overlie natural granular deposits. This indicates that vertical migration pathways are present in places to the underlying granular layers within the Glacial Till. However, these granular layers are indicated to have limited vertical and lateral connectivity and are likely to be confined and perched.
- Lateral migration of perched groundwaters through the ground to the Rochdale Canal is considered unlikely due to the clay lining that would be present along the canal and the natural clay deposits that are indicated along the site boundaries.
- Analysis of groundwater levels within the perched groundwaters within the Made Ground / landfill are variable but are generally indicated to be towards the south west and towards those deepest parts of the clay pit excavations. Groundwater flow within bedrock groundwater is indicated to be to the south west. Groundwater flow within Glacial Till is difficult to ascertain due to the lack of interconnectivity between the various sand and gravel layers, but a groundwater flow to the south west and east is indicated.
- Sub artesian conditions within deeper groundwaters within the natural superficial deposits and bedrock are indicated. It is expected that sub artesian conditions would further reduce the downward migration of contaminants through groundwater.
- Vertical migration via the faults that are recorded beneath the site. However, mudstone bedrock is indicated to the west of the fault and this could be acting as a barrier to lateral groundwater migration within bedrock. The fault is also overlain by a significant thickness of predominantly low permeability Glacial Till.
- Vertical and lateral migration pathways may also exist via historic and future man-made features such as foundations, underground infrastructure / voids, excavations and buried services.

Controlled Waters Pathways – Surface Water

16.3.3 The main pathway by which contaminants are likely to reach surface water receptors is through surface water run-off / overland flow as follows:

- The site and the surrounding topography generally falls to the south west and away from the Rochdale Canal. However, there are areas immediately adjacent to the canal where the site is elevated and surface water run-off / very shallow perched groundwater migration towards the canal could occur.
- During development of the site surface water run-off is likely to increase due to the removal of vegetation and topsoil. However, management of these surface waters would be required, and this should limit pathways to the canal.
- Following the development of the site it is envisaged that surface water pathways will be reduced as any waters will likely to be captured within on-site drainage before they encounter any surface water receptors or soils.

Ground Gas Pathways

16.3.4 With the exception of downward migration, the main ground gas pathways are similar to those lateral and vertical migration pathways envisaged for groundwater. However, ground gas generation of the source is the main factor in the potential for the lateral migration of any ground gases and groundwater itself can sometimes facilitate lateral migration of dissolved ground gases. Ingress and accumulation then occurs once the ground gas has reached a valid receptor (e.g. a building). Inhalation is the main pathway for human health receptors.

16.4 **Receptors**

16.4.1 Several sensitive receptors have been identified.

Human Health

16.4.2 Human health receptors include current site users, future site users / occupiers, construction workers, and the general public / adjacent site users (includes residential properties and the school to the south).

Groundwater

16.4.3 Groundwater receptors include the superficial Secondary A and Secondary Undifferentiated Aquifers and groundwaters within the bedrock Principal Aquifer and Secondary B Aquifer. Groundwater within the deeper Principle Aquifer is considered to be the most sensitive groundwater receptor.

16.4.4 Furthermore, the superficial Secondary A and Undifferentiated Aquifers are indicated to comprise several minor aquifers restricted to individual high permeability strata (e.g. sand and gravel layers) and separated from each other by low permeability strata (e.g. clay strata). Consequently, groundwater tables are likely to be perched and isolated from one another.

Surface Water

16.4.5 The Rochdale Canal is considered to be the most sensitive surface water receptor due to its immediate proximity to the site. While the River Medlock is technically more sensitive it is located 650m to the south of the site.

Building and Services

16.4.6 Historic, current and future buildings and service infrastructure (including those adjacent to the site) are also potential receptors.

16.5 Qualitative Risk Assessment

16.5.1 A qualitative risk assessment has been undertaken for the contaminant linkages to identify any potentially unacceptable risks. The CIRIA document Contaminated Land Risk Assessment – a guide to good practice C552, 2001 defines the Consequence of Risk, Probability of Risk Being Realised and Risk Classification Definition. These definitions are provided in Section 8 and are used to provide a qualitative risk assessment for each identified source, pathway, receptor linkage.

16.5.2 The combined CSM and preliminary qualitative risk assessment for each identified source, pathway, receptor linkage can be found in Table 16.1 below:

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
Contamination in soil/shallow perched groundwater noted in the CSM originating from the following on-site sources: 1. Made Ground associated with sites former historic uses. 2. Sites former use as brickworks with clay extraction pits. 3. Sites former uses as historic	Human Health (inhalation, dermal contact and ingestion).	Future site users	Moderate	Likely	Moderate (Low with mitigation)	The most sensitive receptor in this scenario would be a child. Hardstanding in the form of roads and pavements will be present across most of the site, reducing the potential for most pathways to be present. However, pathways could still be present in gardens and areas of soft landscaping. Remediation and mitigating measures will be required to protect future site users, and this would likely include clean cover systems within private gardens / areas of soft landscaping. Following remediation, the consequence of any risk being realised would be reduced.
		Current site users	Medium	Low	Low to Moderate	The site is currently densely vegetated and derelict and only has infrequent use (e.g. dog walkers). Fly tipped materials are present but pathways and long-term exposure are limited.
		Construction workers	Medium	Likely	Moderate (Low with mitigation)	Less sensitive receptor in this instance (adult). Increased risk to construction workers due to acute interaction with soils. Asbestos fibres have been recorded within soils above the threshold for human health and airborne fibres could be generated. No acute GAC exceedences noted. Risk to construction workers can be managed through the use of appropriate and safe working procedures, the use

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
and registered landfill.						of appropriate PPE and suitable mitigating measures to deal with asbestos fibres.
4. Former reservoir (possibly infilled) 5. Perched groundwaters within the made ground / landfill. 6. Fly tipped materials & bund along the sites eastern boundary		Adjacent site users	Medium	High Likelihood	High (Low with mitigation)	The most sensitive receptor in this instance would be a child. Contaminated shallow perched groundwaters have recently been observed seeping out of the ground and migrating to sensitive off-site receptors following a period of heavy rainfall. However, an impermeable bund and drainage channel has since been installed to divert these waters back onto the site and away from off-site receptors. During development of the site contaminated soils and shallow perched groundwaters will likely be exposed and the risk of migration to off-site receptors (e.g. windblown soils or surface water run-off) would be increased. However, it is unlikely that contaminants from on-site would migrate off-site in large quantities or at the concentrations recorded on-site, so the consequence is reduced. Risks could be reduced by undertaking development works in accordance with a CEMP. Some form of leachate / shallow perched groundwater mitigation will be required to prevent future groundwater seepage to off-site receptors.

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
	Controlled waters (migration of groundwater through the ground and surface water run-off/overland flow).	Bedrock Principal Aquifer	Medium/Severe	Unlikely	Low	Increased risk to the Principal Aquifer due to it sensitivity. However, there are no sensitive groundwater within 1km of the site and the site does not lie within an SPZ. A substantial covering thickness of low-permeability cohesive Glacial Till deposits is indicated from BGS data with the most recent site investigation data also indicating a substantial thicknesses of Glacial Till (between 25m and 40m thick) that confines the underlying Principal Aquifer.
		Bedrock Secondary B Aquifer	Mild	Unlikely	Very Low	The bedrock Secondary B Aquifer is not considered to be overly sensitive and is likely acting as a barrier to groundwater flow for the Principal Aquifer. As outlined above, it is also covered by a substantial thickness of predominantly low permeability Glacial Till.
		Superficial Secondary Undifferentiated Aquifer	Mild	Low	Low	The superficial Secondary Undifferentiated aquifer is not considered to be overly sensitive and typically comprises low permeability Glacial Till. However, pathways do exist in places from the landfill to sand and gravel lenses within the till where these directly underlie the landfill and exceedences of contaminants have been recorded but the levels of contaminants observed within Made Ground were generally not reflected within shallow or deep

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
						natural deposits. However, the granular lenses are indicated to be discontinuous and not in continuity with other groundwater or surface water bodies, so the overall impact is indicated to be relatively localised.
		Superficial Secondary A Aquifer	Medium	Unlikely	Low	The superficial Secondary A Aquifer encroaches into the north western section of the site and is likely be of limited extent. Pathways are considered unlikely for the reasons outlined above for the Secondary Undifferentiated Aquifer.
		Rochdale Canal	Medium	Low	Low to Moderate (Low with mitigation)	The Rochdale Canal is moderately sensitive (River Quality B) but is assumed to be clay lined and natural glacial clays are indicated along the northern boundary of the site negating most lateral migration pathways of groundwater from the site. No outfalls or discharges are recorded from the site to the canal. However, the site is slightly elevated from the canal along its northern boundary so surface waters and very shallow perched groundwaters with leached contaminants could migrate to the canal at this location. Elsewhere surface waters will migrate downgradient to the south west. Furthermore, significant leaching is unlikely to occur as any waters are likely to migrate to the canal fairly quickly. While groundwater

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
						flooding has not been observed adjacent to the canal there is a possibility that this could occur, but this is considered relatively unlikely as perched groundwaters are indicated to be migrating away from the canal. Increased risks to the canal are envisaged during development of the site, but this could be mitigated through the use of a CEMP.
		River Medlock	Mild	Unlikely	Very Low	The River Medlock is not overly sensitive (River Quality E), and pathways are limited due to the distance to the receptors, the presence of predominantly low permeability Glacial Till between the site and the river and in some instance's barriers to surface water runoff/overland flow. While granular lenses are present within the Glacial Till the ground model for the site indicates that these are relatively isolated and its unlikely that any continuity is present over such a large distance.
	Buildings / Infrastructure (Direct contact)	Future and existing buildings and water pipes	Mild	Likely	Low to Moderate (Low with mitigation)	Elevated and widespread concentrations of aggressive contaminants (e.g. sulphates and PAH) are widespread and would have the ability to degrade concrete or water pipes. Mitigating measures could include concrete design to withstand chemical attack and barrier pipe/ ductile pipes for water supply pipes.

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
	Flora and Fauna	Existing vegetation and potential fauna on site and future vegetation	Minor	Likely	Low	The site is heavily vegetated with numerous mature trees and other flora and fauna being present that have developed within contaminated soils. Future vegetation may be planted at the site and may come into contact with contaminated soils.
On-site ground gas sources and vapour sources including Made Ground / landfill, former infilled reservoir and groundwaters.	Buildings (gas / vapour migration, ingress and accumulation). Human Health (inhalation)	Future site users	Severe	Likely	High (Low with mitigation)	Significant thicknesses of Made Ground (up to 14m) have been identified within the historical landfill with abundant degradable constituents. A moderate ground gas generation potential is envisaged based on the age of the landfill and the recorded waste types. Elevated ground gas concentrations and flow rates have been recorded and the most recent monitoring visits to date are generally indicative of CS2 and a worst-case possible scenario of CS4. Recent data also indicates that there is a risk vapours could be generated from soils and groundwater. SVOC/VOC concentrations were also noted from the groundwater seepage sample from the perched groundwaters within the Made Ground. Based on the most recent results, ground gas and vapour protection is envisaged (to be confirmed following completion of the ground gas monitoring programme) for new buildings on-site and this will mitigate the risk.
		Future on-site buildings	Severe	Likely	High (Low with mitigation)	

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
		Current site users	Mild	Unlikely	Very low	Current site users are infrequent (e.g. dog walkers) and activities are undertaken in open atmosphere so the risk to current site users is very low.
		Adjacent site users	Severe	Unlikely	Low to Moderate (Low with mitigation)	Based on previous and more recent site investigations pathways to off-site receptors are considered unlikely due to the natural clay deposits that are indicated along the sites boundaries. Possible pathways are indicated within the south easternmost corner of the site where historic excavations appear to have extended off-site. However, these are indicated to be relatively isolated from the main excavations that occurred on-site, and recent data indicates that only low gas concentrations have been recorded in this area. Mitigation measures could include gas venting trenches along site boundaries to reduce the risk.
		Adjacent buildings	Severe	Unlikely	Low to Moderate (Low with mitigation)	
Off-site historic and current sources as outlined in the CSM.	Inhalation, dermal contact and ingestion	Future site users	Medium	Low	Low to Moderate (Low with mitigation)	It is unlikely that soil bound contaminants from off-site (unless fully exposed) have made their way to site in large quantities. However, contamination from historic surrounding land uses may have been landfilled at the site. Most of the surrounding area is also developed so any significant sources of contamination are likely to have
		Current site users	Medium	Low	Low to Moderate	

Table 16.1: Qualitative Environmental Risk Assessment						
Source / Contaminant	**Pathways**	**Receptors**	**Consequence of Risk Being Realised*[1]**	**Probability of Risk Being Realised*[2]**	**Risk Rating**	**Necessary Actions / Commentary**
					(Low with mitigation)	been removed or covered thereby breaking the pollutant pathway linkage.
		Construction workers	Medium	Low	Low to Moderate (Low with mitigation)	
	Migration of groundwater through the ground and surface water run-off/overland flow to those receptors beneath the site	Bedrock Principal Aquifer	Medium/Severe	Unlikely	Low	In most cases migration of contaminants to the site via surface water / overland flow is unlikely due to the distance of the sources from the site, the presence of physical barriers and that interception by local drainage in developed areas is likely to occur. Migration of groundwater through the ground is unlikely due to the predominantly low permeability of the surrounding Glacial Till. High permeability is envisaged for Principle Aquifer, but a significant cover of Glacial Till is present. The fault and Manchester Marls could also be acting as a barrier to lateral groundwater flow for deep groundwaters within bedrock. While outfalls to the canal may be present from off-site sources, continuity between those groundwaters at the site and the Rochdale Canal is not indicated.
		Bedrock Secondary B Aquifer	Mild	Unlikely	Very Low	
		Superficial Secondary A Aquifer	Medium	Unlikely	Low	
		Superficial Secondary Undifferentiated Aquifer	Mild	Unlikely	Very Low	
		Rochdale Canal	Medium	Unlikely	Low	

Table 16.1: Qualitative Environmental Risk Assessment

Source / Contaminant	Pathways	Receptors	Consequence of Risk Being Realised*[1]	Probability of Risk Being Realised*[2]	Risk Rating	Necessary Actions / Commentary
	Direct contact	Existing and future buildings and water pipes	Mild	Unlikely	Very Low	See previous sections regarding the contaminative potential for off-site sources and the potential pathways for soils and groundwater that may be aggressive to buildings and water pipes.
Other off-site ground gas and vapour sources including: 4. Potential areas of infilled land 5. Historic landfills 6. Cemetery	Gas migration, ingress, and accumulation	Future site users	Medium	Unlikely	Low (Very low with mitigation)	These sources are anticipated to have a low to moderate ground gas generation potential, so the consequence is reduced. However, pathways to the site are unlikely due to the predominantly low permeability of the surrounding Glacial Till. Gas concentrations recorded for those monitoring wells adjacent to the sites south eastern boundary are relatively low and indicate that ground gas generation / migration from the infilled ground adjacent to the sites south eastern boundary is of a limited nature. Ground gas protection is likely required for those on-site sources anyway so this will further reduce the risk from off-site sources.
		Current site users	Medium	Unlikely	Low (Very low with mitigation)	
		Existing and future buildings	Medium	Unlikely	Low (Very low with mitigation)	

Notes

*[1] Considers both the potentially severity of the hazard and the sensitivity of the receptor. Where applicable, the most sensitive receptor / hazard has been used for the overall assessment.

*[2] Considers both the presence of the hazard and the integrity of the pathway. Where applicable, the most likely hazard / pathways have been used for the overall assessment.

17 GROUND ENGINEERING CONSIDERATIONS

17.1.1 It is understood that the site is to be redeveloped for a residential end use that also includes a school. Following finalisation of any proposed development layout, detailed design or structural loading information and any earthworks designs this section may require detailed review to assess whether the recommendations made remain applicable or require re-assessment.

17.2 Design Stratigraphy

17.2.1 Highly variable Made Ground deposits have been encountered across the site and are associated with the historical infilling of those former clay pit excavations that are recorded to have occupied most of the site. The depth of the Made Ground was found to vary significantly and has been recorded between 0.3m bgl and 13.85m bgl (an indicative Made Ground contour plan is shown in Drawing LD10162-007) and is underlain by a significant thickness of Glacial Till that is present to depths of between 15m and 40m bgl, which is in turn underlain by solid geology of the Collyhurst Sandstone and Manchester Marls Formations.

17.3 Foundations and Floor Slabs

17.3.1 The Made Ground in its current state would not be suitable as a founding stratum without some form of ground improvement, due to its extremely variable nature and variable strength characteristics. Immediate and consolidation settlements would also need to be considered as significant thickness of Made Ground have been recorded that may settle in response to additional loads, degradation of waste materials and / or self-weight settlement etc. and these movements could exceed the serviceability limit states for residential housing.

17.3.2 Numerous buried highwalls to the former clay pit excavations are present beneath the site and the variation in the depth of the Made Ground could result in severe differential settlements if buildings are constructed across these areas. To a lesser extent similar problem are envisaged for any buildings constructed over more than one stratum type or areas of improved and unimproved ground.

17.3.3 Numerous very coarse constituents were encountered within the Made Ground and these may affect subsequent design and construction by creating obstructions to excavations and / or the chosen foundation solutions by acting as ‘hard spots’ in the ground and increasing variability and / or impeding the progress of certain foundation types (e.g. piles).

17.3.4 Consideration will need to be given to the low to medium shrinkage potential and medium compressibility of those natural Glacial clay deposits at shallow depth as changes in volume may occur (e.g. due to the proximity of existing / recently felled trees) and settlements may occur following loading, which could be problematic for shallow foundations or floor slabs bearing into this stratum. Consideration will also need to be given to those sand lenses that have been encountered at shallow depth which are indicated to have different materials properties to that of the Glacial clays and are locally water bearing.

17.4 **External Areas**

1.5.1 The most likely sub-grade formations for external areas will be the shallow Made Ground materials and to a lesser extent the very shallow natural Glacial Till. Based on the laboratory testing results undertaken for the cohesive Made Ground and shallow cohesive Glacial Till materials frost susceptibility and the influence of trees will need to be considered when external designs are carried out.

1.5.2 For those areas of the site where deeper Made Ground is to be left in-situ beneath any re-engineered Made Ground there is a risk of ongoing long-term settlement and this will need to be considered in external designs.

17.5 **Earthworks**

17.5.1 Those materials excavated and potentially re-used as part of an earthworks exercise at the site are likely to comprise the shallow Made Ground materials and to a lesser extent the natural Glacial Till.

17.5.2 The Made Ground materials were often dry of the optimum and were generally of intermediate plasticity and medium shrinkage potential.

17.5.3 The Glacial Till was often slightly dry of the optimum and was generally of low to intermediate plasticity and low to medium shrinkage potential.

17.6 **Excavations**

17.6.1 Instability of the trial pit excavations within the Made Ground was noted during the site investigation works and due to the highly variable nature of this material, excavations are unlikely to remain stable in the long or short term. Excavations within the natural Glacial Till may be stable in the short term provided that no sand lenses are present.

17.7 **Groundwater**

17.7.1 Shallow perched groundwaters were frequently encountered within Made Ground during the construction of exploratory holes at the site and during groundwater monitoring visits. A temporary groundwater seepage at the surface was also noted along the sites southern boundary following a period of heavy rainfall. Mitigation measures have since been put in place as outlined in 18.2.9.

17.7.2 Groundwater levels can vary seasonally or following periods of prolonged wet or dry weather and levels higher or lower than those measured may be present during construction. The groundwater level may also change following any changes to site levels. Groundwater monitoring is currently ongoing and future groundwater monitoring results will be included within a future amendment to this report.

17.9 **Collapse Compression Risk**

17.9.1 Areas of colliery spoil material have been identified mainly within the north eastern section of the site. This type of material can be susceptible to water inundation and result in excessive settlements via collapse compression if mitigation measures are not undertaken.

17.9.2 Trial pit excavations within the colliery spoil noted distinct angled layering within this stratum that is indicative of end tipped materials that have likely been placed without any systematic compaction. While corrected SPT N-Values indicate that the suspected colliery spoil materials are of medium density, there were a number of very coarse constituents (e.g. cobbles and boulders of weak siltstone) that could have exaggerated the results.

17.9.3 While no water strikes were generally encountered within this stratum, it was noted to be damp throughout with moisture contents being recorded between 9.4 and 20% (on average 14.5%), which is indicative of partial saturation. Groundwater monitoring undertaken by Celtic in 2007 from two monitoring wells (BH5 and BH12) screened within this stratum recorded groundwater from this base of this stratum only at depths of between 4.99m and 7.1m bgl (between 76.21m and 71.12m AOD).

17.9.4 Two laboratory compaction tests have been completed on the suspected colliery spoil and a comparison of the results with recorded moisture contents indicates that the materials were generally at their optimum moisture contents, but in some instances were wet of the optimum (-5.6%) indicating that is a higher potential for collapse compression to occur.

17.9.5 Two soakaway tests were undertaken within the Colliery Spoil, with dimensions of the pit monitored before and after the test to assess any collapse caused by the addition of water. 1000 litres of water were added to SA05 within the Colliery Spoil and this initially drained within 12 minutes. After the inundation test, the depth of the trial pit was 100mm deeper than prior to the test. An identical test was undertaken in SA02, with the water completely draining in 90 seconds and the base of the pit 70mm deeper after completion of the test.

17.9.6 Based on the findings it is considered that there is a low to moderate risk of collapse compression within the Colliery Spoil. Results suggest that there are areas where placed moisture contents are lower than optimum resulting in the potential for collapse compression to occur. The inundation testing and laboratory compaction tests have provided evidence that collapse compression may occur because of water inundation.

17.10 Combustion

17.10.1 Calorific value (CV) is commonly used for assessing combustibility of Colliery Spoil. It is generally accepted that samples with a CV of 10 MJ/kg or greater are almost certainly combustible, whilst samples with a CV of 2 MJ/kg or less are unlikely to be combustible. Samples with a CV of 7 MJ/kg or greater are considered to be at risk from smouldering.

17.10.2 Three samples of colliery spoil material were tested for calorific value. The results ranged from 3.2 – 8.6MJ/kg with two of the results >7MJ/kg and being associated with the deeper materials.

17.10.3 Based on the findings it is considered that there is a low to moderate risk of combustion within the colliery spoil materials with those materials at shallow depth being less likely to be susceptible to combustion (in part due to the effects of weathering and oxidation). An increased risk is envisaged for those materials at greater depth where higher calorific contents have been recorded.

17.1 Slag Expansion

17.1.1 Two emery expansion tests were undertaken on the suspected slag materials to assess the degree of expansion following subjection to increasing temperatures. Changes in height of between 0.22 – 0.81mm (on average 0.51mm) were noted. No significant heat sources are envisaged for the proposed development so the risk of slag expansion due to heat is thought to be low.

17.1.2 Slag can also expand following saturation due to hydration. However, as most of the materials were either below the water table or partially saturated to some extent the risk from expansion is thought to be low.

17.2 Design Concrete Class

17.2.1 A suite of chemical tests were undertaken in Accordance with BRE Special Digest 1: 2005 - Concrete in Aggressive Ground in order to specify the concrete class required at the site. Results from both the 2020 WA and 2007 Celtic investigations have been considered in this assessment (this includes specific geochemical testing and those results obtained from the environmental testing).

17.2.2 The suspected colliery spoil has the potential for pyrite to be present, so consideration has been given to the total potential sulfate content to account for the potential for oxidation of pyrite following ground disturbance.

17.2.3 A summary of the Design Concrete Class (DS) and the Aggressive Chemical Environment (ACEC) for each soil type is presented in Table 17.1:

Table 17.1: Summary of Design Concrete Class

Soil Type	Design Concrete Class	ACEC Class (mobile groundwater)
Made Ground – Suspected Colliery Spoil	DS-3	AC-5
Made Ground – Suspected Combustion Waste	DS-2	AC-2
Made Ground – Suspected Construction and Demolition Waste	DS-2	AC-2
Made Ground – Suspected Household Waste	DS-1	AC-1
Granular Made Ground	DS-2	AC-2
Cohesive Made Ground	DS-2	AC-3Z
Topsoil Fill	DS1	AC-2Z
Glacial Till	DS1	AC-1[d]

17.2.4 Due to the high degree of variability encountered across the site and the potential for various Made Ground types to be intermixed a worst case Design Sulphate Class (DS) of “DS-2” and an Aggressive Chemical Environment for Concrete (ACEC) of “AC-3Z” has been determined for the Made Ground. The exceptions being for those suspected

colliery spoil materials were "DS-3" and "AC-5" is indicated due to the potential for pyrite to be present. For the natural strata at the site the assessment for natural ground locations has been undertaken and "DS-1" and "AC-1^{d}" is indicated.

17.3 Soakaways

17.3.1 Four soakaway tests were carried out in general accordance with BRE Digest 3652 "Soakaway Design". The locations of the soakaways are shown on Drawing LD10162-003, and the logs are within Appendix D. Where the water level did not fall to 25% effective depth, the test was not considered suitable for calculation of an infiltration rate and this was the case for both of the tests undertaken. Calculated infiltration rates for each successful test are summarised in the table below:

Table 17.1: Summary of Soakaway Testing

Soakaway	Stratum	Infiltration Rate	Remarks
SA01	Cohesive Glacial Till	n/a	Groundwater level remained constant for two hours
SA03		n/a	Seepage in pit during excavation. Water level increased slightly during two-hour test
SA02	Colliery Spoil	1.01E-02	-
SA05 x2		1.21E-04 & 2.07E-04	Two tests undertaken

17.3.2 Testing indicates that traditional soakaways will not provide a suitable drainage solution for the discharge of surface water run-off within the Cohesive Glacial Till at the site. Furthermore, given the significant thicknesses of Made Ground encountered across the site, the recorded levels of contamination, the shallow perched groundwater issues and that are risk associated with collapse compression, soakaway construction is not considered suitable.

17.4 Trafficability

17.4.1 During the site investigation works undertaken between by WA in 2020 ground conditions at the site were generally noted to be wet, soft and compressible and this resulted in significant delays due to trafficability issues.

18 CONCLUSIONS AND RECOMMENDATIONS

18.1 Contamination – Human Health

18.1.1 Laboratory results were analysed using the CLEA methodology to assess the risk to human health for a residential with plant uptake land use scenario. A range of widespread to isolated exceedances of the screening values were recorded in soils for a range of determinands that are typical of a historical landfill. This included metals (arsenic, lead, nickel, chromium IV, copper and zinc), PAH's, TPH's, total cyanide, PCB's, SVOC / VOC and BTEX. Asbestos was identified in ten samples with quantifiable concentrations recorded between <0.001 and 5.11%.

Future Site Users

18.1.2 Remedial works / mitigation will be required to prepare a site of this nature for residential development and to reduce the risks from those contaminant concentrations above the screening values. While some of the mitigation could be provided by the proposed development itself (i.e. external hardstanding areas and building cover breaking most of the source-pathway-receptor linkages) there are large areas of public open space and private gardens where clean cover systems will be required to act as a pathway break. The final thickness and composition of any clean cover system, the inclusion of any hardstanding areas as pathway breaks and / or the requirement for a Detailed Quantitative Risk Assessment (DQRA) to derive any remedial targets will need to be agreed with the regulatory authorities.

Construction Workers

18.1.3 Construction workers are envisaged to be at increased risk as they are likely to have acute interaction with contaminated soils, but the risks can be managed through the use of appropriate health and safety measures, practices and procedures, the use of appropriate PPE and suitable mitigating measures to deal with asbestos fibres. Following mitigation, the risks to construction workers is considered to be low.

Adjacent Site Users

18.1.4 Due to the sensitivity of the adjacent site users (e.g. primary school and residential properties with gardens), that contaminated shallow perched groundwaters have recently been observed seeping out of the site and migrating off-site (this has since been mitigated as outlined in 18.2.9) and that contaminated soils and groundwaters could be mobilised during the development of the site, mitigation measures will need to be undertaken to reduce the risk to off-site receptors. This could be achieved by

undertaking development works in accordance with an appropriate Construction and Environment Management Plan and the installation of a leachate management system to prevent future groundwater seepage to off-site receptors.

Vapours

18.1.5 Soil and groundwater vapours could pose a risk to those identified receptors and at this early stage it is envisaged that passive vapour protection measures may be required in new buildings, which is line with third party assessments. However, further DQRA will be required in line with current guidance to specify the precise requirements for vapour protection and / or confirm if remediation is necessary. The final choice for mitigation will be in conjunction with specialist remediation contractors and will be subject to agreement with relevant regulators.

18.1.6 Depending on the outcome of the vapour assessment from the DQRA, there may be a requirement for vapour monitoring in line with BS8576. To allow for a more representative / pragmatic assessment to be undertaken, additional shallow monitoring wells should be installed post remediation with subsequent vapour monitoring being undertaken.

Asbestos in Soils

18.1.7 Due to the low to moderate concentrations of asbestos fibres that have been recorded within the Made ground at the site, it is recommended that groundworks at the site are undertaken in accordance with an Asbestos Management Plan to ensure compliance with the Control of Asbestos Regulations 2012. The groundworks on site should be designed and planned to minimise potential generation of airborne fibres and to minimise the exposure of workers with asbestos contaminated soils with appropriate environmental controls established by the contractors working on the site. This should also be considered in the Health and Safety plan under the CDM regulations.

18.1.8 It is also recommended that a watching brief for asbestos containing material is maintained during groundworks across the site and if any unrecorded asbestos is visually identified during the groundworks, all works within the vicinity should cease and further advice should be sought, as additional testing, mitigation or remedial measures may be required.

18.2 Contamination – Controlled Waters

18.2.1 Exceedances in groundwater screening values have been recorded for metals, cyanide, sulphate, TPH, PAH, phenol and benzene with the most widespread and elevated exceedances present within perched groundwaters within the Made Ground. Exceedances in surface water screening values have been recorded for lead, chromium, TPH and PAH. Similar exceedences have also been recorded within soil leachate for some of these contaminants indicating that soil leachate may be contributing to some extent to those concentrations of contaminants recorded within perched groundwaters.

Groundwaters

18.2.2 The ground model for the site indicates that the perched groundwaters within the Made ground are largely contained by the underlaying natural Glacial Clays. While pathways to perched waters directly underlying granular lenses within the Secondary Undifferentiated Aquifer are present in places and exceedences have been recorded, these granular layers are indicated to be discontinuous and not in continuity with other groundwater or surface water bodies. Furthermore, the underlying Principal Aquifer (sandstone bedrock) is overlain by substantial thicknesses (between 25.0m and 40m thick) of predominantly low permeability Glacial Till.

18.2.3 In the absence of a plausible pathways it is unlikely that continuity exists at the site between the perched groundwaters within the overlying Made ground and the Principal Aquifer. Furthermore, sub artesian conditions within deeper groundwaters are indicated and it is expected that this would further reduce any downward migration of contaminants through groundwater.

18.2.4 Consequently, the exceedences recorded within perched groundwaters within Made Ground and Secondary Undifferentiated Aquifer are not considered to represent an ongoing significant risk to the Principal Aquifer. While anomalous exceedences have been recorded within groundwaters from the Principal Aquifer, these have been discounted for the reasons outlined in Section 14.2.

18.2.5 Dewatering and groundwater treatment will be required for those shallow perched groundwaters within Made Ground that are likely to be encountered during earthworks / remediation and require discharge from the site. Early liaison with the relevant regulatory authorities and utility providers is recommended to establish any permitting and / or discharge requirements that would need to be met.

Surface Waters

18.2.6 Continuity between the Rochdale Canal and those perched groundwaters at the site are not indicated to be present and the lines of evidence indicate that baseline concentrations within the canal are likely to be elevated independent of any influence from the site. While limited surface water run-off and / or very shallow lateral groundwater migration with leached contaminants into the canal could be occurring, significant leaching is unlikely to occur as any waters are likely to migrate to the canal fairly quickly. Groundwater flooding has not been observed adjacent to the canal and this is considered relatively unlikely as perched groundwaters are indicated to be flowing away from the canal. No outfalls from the site to the canal are recorded.

18.2.7 On this basis it is considered that the observed contamination at the site does not appear to be having a significant adverse impact upon water quality in the Rochdale Canal.

Groundwater Flooding and Water Management

18.2.8 A temporary seepage of contaminated perched groundwaters at the surface was noted at the site following a period of heavy rainfall and shallow perched groundwaters have been encountered across the site.

18.2.9 For the sites current use (derelict land) some form of mitigation will be required in the short term with the most immediate concern being to divert these seeping groundwaters away from off-site receptors. These works have since been undertaken by a third party and this included the installation of a temporary impermeable bund along the impacted part of the sites southern boundary with a small drainage ditch to divert the groundwaters back onto the site and away from off-site receptors.

18.2.10 During development of the site the control / management of surface waters and shallow perched groundwaters will naturally be required, as pathways to those identified off-site controlled waters and human health receptors may be created and these waters will be encountered by construction workers. This could be mitigated through the implementation an appropriate Construction and Environmental Management Plan (CEMP) during the development of the site.

18.2.11 Following development of the site there will likely be a requirement for the ongoing management / mitigation of the shallow perched groundwaters as further groundwater seepage could occur. Discussions should be undertaken with specialist contractors and / or the relevant utility providers to determine the most effective way to manage this in the long term and how this can safely be discharged from the site. Early liaison with the relevant regulatory authorities should is also recommended to establish any permitting requirements.

18.2.12 In all instances, care will need to be taken to ensure that no new pathways are created to receptors, that the schemes are sufficiently robust and that the relevant permits, if required, are obtained.

18.2.13 Regardless, it is considered that protection and betterment of the groundwater and surface waters can be achieved through the construction of the proposed development due to increased hardstanding areas and / or any surface waters being captured by drainage. This would reduce infiltration of rainwater into the near surface soils and correspondingly any associated leaching and migration of potential contaminants into the groundwater or surface waters will be reduced.

Possible Further Works

18.2.14 It should be noted that further sampling and testing of groundwaters and / or a DQRA for controlled waters may be required to satisfy regulatory authorities. Early liaison with the regulatory authorities is recommended to establish any further requirements.

18.3 Materials Management

18.3.1 The reuse of any site won materials as part of the redevelopment of the site should be undertaken in accordance with the Definition of Waste Code of Practice (DoWCoP) or similar and an accompanying Materials Management Plan (MMP) to enable for the reuse of excavated material without it being classified as waste and to demonstrate that the re-used material does not pose a risk to future site users or controlled waters. The MMP should be produced and agreed with relevant qualified persons and regulators prior to work commencing. Early engagement with the regulatory authorities is recommended to ensure compliance.

18.3.2 Care will need to be taken during earthworks that are undertaken at the site to avoid unnecessarily excavating materials that could be classified as waste. In the event that any material is required to be removed from site to landfill, it is recommended that

the chemical results obtained and the results from any further necessary testing are analysed to tentatively divide the materials at the site into hazardous and non-hazardous waste classifications in accordance with the relevant regulations, which include, but are not limited to Duty of Care, the Landfill Regulations, the Hazardous Waste Regulations and Publication WM3.

18.4 Ground Gas and Radon

18.4.1 The ground gas risk assessments indicates that the site should be classified as Characteristic Situation 2 and that ground gas protection measures would be required for new buildings. Protection measures are likely to comprise a gas resistant membrane and passive subfloor dispersal layer.

18.4.2 When further information about the form of the proposed residential structures is available and if a significant number of structures are found to conform to the model low rise housing type for the NHBC Traffic Light System assessment, then it may be prudent to undertake a separate assessment for those structures where this would be applicable, as the scope of the ground gas protection measures could be reduced.

18.4.3 An initial assessment for radon gas has been carried out. The assessment indicates that the site is located within an area where no radon protection measures are required.

18.5 Possible Free Phase Contamination

18.5.1 While the in-situ and laboratory testing undertaking during the WA site investigation does not indicate that free phase contamination is present, visual and olfactory evidence of possible free phase contamination was noted and previously recorded by Celtic in 2007. Further delineation of previously identified “free phase” products / odorous materials may be required.

18.6 Unrecorded Contamination

18.6.1 It should be noted that the site was a landfill and a high degree of variability is envisaged and unrecorded contamination may be present. A protocol should be implemented to allow groundworkers to act appropriately upon encountering or suspecting the presence of previously unidentified ground contamination so that specialist advice can be sought.

18.6.2 A mound covering an area of approximately 950m^2 is present within the eastern section of the site. It is unknown at this stage if any contamination and / or asbestos

is present within or beneath this mound as investigation of this feature was beyond the scope of these works and its integrity had to be maintained to prevent fly-tipping. There were also areas of the site that could not be accessed due to extremely dense vegetation and / or where stockpiled materials where buried in the undergrowth and could not be cleared due to ecological constraints (including the presence of Japanese Knotweed).

18.6.3 Consequently, it is likely that further works within these areas will need to be undertaken as the remediation works progress. Due to the difficulty in accessing these areas a live "hotspot protocol" could be implemented that would allow for any unrecorded or problematic ground to be further investigated, assessed and the remediation strategy updated accordingly as the remediation works progress (subject to approval by the regulators).

18.7 Detailed Remediation Strategy and Verification Reporting

18.7.1 A detailed remediation strategy will be required for the site and will ultimately need to consider the above noted uncertainties. The exact requirements of the remedial strategy are also dependent on the completion of those further works that are required and the subsequent DQRA and Options Appraisal that includes feedback from the Client's appointed remediation contractor. This information will be used to inform the mitigation and / or remediation that is required on site to reduce the identified risks and will feed into the final remediation strategy submitted to the Local Authority for approval.

18.7.2 The final remediation strategy shall set out the overall objectives and outline methodologies to be used to undertake the mitigation / remediation. The Detailed Remediation Strategy will outline criteria that the remediation should meet in order to demonstrate that risks have been suitably reduced and describe the verification and validation requirements for mitigation and remediation works.

18.7.3 Subsequent verification and validation reporting will also be required to demonstrate to the regulatory authorities that the Detailed Remediation Strategy and associated plans have been followed and the remedial targets met.

18.8 Water Supply Pipes

18.8.1 Consideration should be given to the risks posed to any drinking water pipes and underlying utility connections that may be present and / or are constructed within, or come into contact with, the soils or shallow perched waters that have been identified

at the site, as aggressive contaminants with the ability to permeate the materials and affect water supply are widespread (e.g. sulphates and PAH). Appropriate assessment of subsurface ground services should be undertaken utilising the associated regulator documentation. It should be noted that the requirement for further chemical testing to meet these requirements may be required.

18.9 Decommissioning of Monitoring Wells

18.9.1 As part of the remedial works at the site, those monitoring wells that have been installed at the site should be decommissioned, as they may pose an ongoing risk to the Principal Aquifer and those other controlled waters receptors identified. Decommissioning should be undertaken in line with the Environment Agencies 'Good practice for decommissioning redundant boreholes and wells' (October 2012) to ensure that groundwater pollution does not occur.

18.10 Invasive Species

18.10.1 A legislatively compliant Invasive Non-Native Species Management Plan covering in particular Japanese knotweed, as well as other species, together with suitable monitoring, validation and management of the remedial works themselves to deal with the Japanese Knotweed and associated infested soils that are present at the site. Consideration will need to be given to the impacts of dealing with the Japanese Knotweed and how this could impact on the development programme for the site.

18.11 Geotechnical

18.11.1 It is understood that the site is to be redeveloped for a residential end use that also includes a school. Following finalisation of any proposed development layouts, detailed design or structural loading information and any earthworks designs these recommendations and conclusions may require detailed review to assess whether they remain applicable or require re-assessment. These recommendations should not be considered in isolation without considering the reporting in full.

Foundations

18.11.2 The Made Ground in its current state would not be suitable as a founding stratum without some form of ground improvement, due to its extremely variable nature and variable strength characteristics. For those areas where Made Ground can be fully excavated, recompacted and engineered without restriction; buildings could be founded on shallow reinforced foundations. However, for those areas where deeper Made Ground is to be left in-situ beneath the re-engineered Made ground, it is

recommended that either deep trench reinforced foundations or raft foundations are utilised. Larger structures with higher loadings such as the proposed school or multi-storey residential dwellings may require piling into the underlying Glacial Till.

18.11.3 Vibrostone / concrete columns or dynamic compaction may also be a suitable ground improvement technique for some parts of the site (exclusion zones will likely be required from neighbouring properties and the canal to protect them from vibration), and this may be adopted in combination with any material turnover that is undertaken. This combination may eliminate the requirement for raft or piled foundations in the areas where this can successfully be undertaken. However, this is subject to detailed inspection / advice from specialist ground improvement contractors as significant shallow perched waters are present that may require dewatering and consideration would also need to be given to the contamination that is present in soils and groundwater.

18.11.4 For those areas of the site where natural Glacial Till deposits are present at shallow depth (<2.5m bgl) it may be feasible to use traditional shallow foundations bearing into the Glacial Till. However, this is subject to careful design which ensures that totals settlements do not exceed serviceability limit states and ensures that the minimum ground cover to foundation formation level and foundation depths to suit the proximity / species of existing / recently felled trees are both maintained in accordance with current design standards and good engineering practice.

18.11.5 It is recommended that new buildings are not constructed in the vicinity of the buried high walls of the former clay pit excavations as this could result in severe differential settlements. During earthworks it is recommended that exposed highwalls are surveyed and that the properties and geometry of the fill are further investigated so that exclusion zones where ground movements are likely to be unacceptably large can be delineated. Consideration should be given to the use of piled or raft foundation solutions in these areas as this would mitigate against any unacceptable movements and hence reduce the extent of any exclusion zones.

18.11.6 To minimise issues with potential differential settlement of the foundation structure, it is recommended that foundations are not constructed upon more than one stratum type and that new buildings do not straddle areas of improved and unimproved ground. Where these areas cannot be avoided foundations should be either stepped / deepened to the same depth, alternative foundation solutions (e.g. piles) be adopted or the area of ground improvement is extended to include all areas where buildings

are proposed. Any localised 'soft spot' areas encountered during the excavation for shallow foundations should also be removed and foundations extended down to suitable formation strata.

Floor Slabs

18.11.7 Due to the significant thicknesses of Made Ground across the site with areas where deeper Made Ground is likely to be left in-situ beneath re-engineered Made Ground, suspended floor slabs will likely be required to mitigate against settlement / differential settlement. This form of construction would also be beneficial for the ground gas protection measures that are indicated.

External Areas

18.11.8 For those areas where Made Ground is to be fully excavated, recompacted and engineered without restriction, validation testing should be undertaken to finalise the design for any external areas. To limit settlements within those areas where deeper Made Ground is to be left in-situ beneath engineered Made Ground, reinforcement (e.g. geogrids or geotextiles), soil modification / stabilisation and / or ground improvement should be considered.

18.11.9 Modification / stabilisation or a non-volumetrically active capping layer may be required for those cohesive Made Ground and / or natural shallow cohesive Glacial Till deposits that are indicated to be susceptible to frost and / or likely influenced by trees / shrubs. Further geotechnical testing may be required to confirm this.

18.11.10 In all instances it is recommended that advice and consultation with a specialist ground works contractors be sought and further geotechnical testing and / or validation (e.g. Californian Bearing Ratio tests at formation level) may be required once site levels are known to finalise external designs.

Earthworks

18.11.11 Earthworks will be required across the site for the proposed structures and external areas and the materials excavated and potentially re-used are likely to comprise the shallow Made Ground materials and to a lesser extent the natural Glacial Till; provided they comply with the acceptability criteria for earthworks as defined by the Highways Agency Manual of Contract for Highways Work, Volume 1: Specification for Highway Works, Series 600, Earthworks (SHW) and that the excavated materials are considered suitable for use under the Definition of Waste Code of Practice (DoWCoP) or similar

and accompanying Materials Management Plan (MMP) and are not classified as waste.

18.11.12 In areas of fill beneath proposed structures, fills should be selected in accordance with the SHW and compacted using an appropriate end product compaction specification. An appropriate level of compaction and frequency and method of testing will need to be selected.

18.11.13 It may be feasible to stockpile concrete derived from the Made Ground and old foundations / surfacing which have been grubbed out. This material may be reused on site, once it has been crushed to a suitable size, provided that the material complies with the requirements of the SHW, DoWCoP and MMP.

18.12 Other Engineering Considerations

Excavations

18.12.1 Excavations within the Made Ground and natural superficial strata present across the site should be readily achievable using conventional mechanical backhoe excavators. Occasionally hard digging conditions may be encountered where obstructions are present within the Made Ground Deposits and in this instance larger capacity excavators and pneumatic / hydraulic breaking equipment may be necessary.

18.12.2 Due to the high degree of variability encountered within the Made Ground, excavations should be supported or battered back to a stable angle to ensure adequate stability is achieved for the duration of any works. No excavations should be left open for prolonged periods of time and the contractor shall ensure that excavated areas be backfilled within a suitable timescale to reduce the risk of instability to any other surrounding works.

18.12.3 Any excavations requiring entry by site personnel should be fully supported for reasons of safety and the main works Contractor shall satisfy themselves at all times of the suitability and stability of excavated strata and adopt appropriate shoring techniques.

Groundwater

18.12.4 Due to the presence of shallow perched groundwaters, there will likely be a requirement for localised temporary works in the form of dewatering / barriers during excavation of any service trenches, mass excavations or excavations that are undertaken as part of any earthworks exercise at the site. There are also

environmental considerations associated with the management of these shallow perched groundwaters and these are detailed further in Section 18.2.

Collapse Compression

18.12.5 Areas of colliery spoil material have been identified across the site and there is a low to moderate risk of collapse compression for those materials that are to be left in-situ. It would be prudent to investigate the risk of collapse compression further for any colliery spoil materials that are to remain in-situ once earthworks are completed in these areas. For those areas where suspected colliery spoil is excavated and recompacted, the risk of collapse compression will be significantly reduced.

Combustion

18.12.6 Those colliery spoil materials identified at the site are indicated to be susceptible to combustion. Materials with a calorific value >7 MJ/kg should be kept a minimum of 1m away from any potential sources of ignition (sub-station, services etc.) and when used in areas of private gardens or soft landscaping that a 1m thick layer of inert material is present to prevent accidental ignition.

18.12.7 Any colliery spoil excavated during development of the site with a calorific value >7 MJ/kg should not be left exposed for long periods of time to minimise the risk of combustion. Covering any stockpiles with suitable cohesive material will prevent any oxygen getting to the coal and minimise the combustion risk.

18.12.8 Further calorific value testing is recommended during earthworks where Colliery Spoil is used as fill material, so that the material placed in the upper 1 m, or within 1m of a potential ignition source does not exceed 7 MJ/kg. The same applies to those materials that are to be stockpiled at the site.

Concrete Assessment

18.12.9 A worst-case Design Sulphate Class (DS) of “DS-2” and an Aggressive Chemical Environment for Concrete (ACEC) of “AC-3Z” has been determined for the Made Ground at the site. The exceptions being for those suspected colliery spoil materials were “DS-3” and “AC-5” is indicated. For the natural strata at the site the assessment for natural ground locations has been undertaken and “DS-1” and “AC-1d” is indicated.

Soakaways

18.12.10 Given the significant thicknesses of Made Ground encountered across the site, the recorded levels of contamination, the shallow perched groundwater issues and that are risk associated with collapse compression, soakaway construction is not

considered suitable for the site. Soakaways in those areas where natural Glacial Till is present at shallow are also not considered to be feasible.

Slag Expansion

18.12.11 While testing and site conditions indicate that the risk from the expansion of slag is thought to be low, only limited testing was undertaken. Further testing should be undertaken during earthworks if the suspected combustion waste materials, particularly those above the water table or indicated to be relatively dry, are to be used as engineered fill.

18.12.12 Consideration should be given to the stockpiling of any excavated slag to expose the material to moisture from natural precipitation and / or application of water by spraying so that hydration and associated expansion takes place prior to use of the material. Up to 18 months may be needed to hydrate any potentially expansive oxides.

Total Settlements

18.12.13 Following earthworks and remediation at the site, settlement testing (e.g. skip load tests) should be undertaken to model total settlements and the time it would take for these settlements to occur for those areas where shallow foundations are to be utilised in order to satisfy NHBC requirements. This would inform what mitigation measures would be required to deal with any unacceptable settlements.

18.12.14 For those areas where deeper Made Ground is to remain in-situ beneath engineered fill alternative foundation solutions may need to be adopted as outlined in the foundation's recommendations subsection. Alternatively, to limit settlements within these areas and to potentially allow for the re-use of shallow foundations, reinforcement (e.g. geogrids or geotextiles), soil modification / stabilisation and / or ground improvement of the shallow and deep Made Ground should be considered to mitigate against any ongoing settlements.

Trafficability

18.12.15 Trafficability at the site on surface materials and / or on any excavated shallow Made Ground may need to be considered, particularly during wet weather and this could necessitate stabilisation of the soils or the use of track matts during the development of the site.

18.13 Foundation Works Risk Assessment

18.13.1 Due to the presence of contaminated ground consideration should be given to possibility for some forms of foundations (e.g. vibrostone columns or piles) to act as vertical vents for potentially hazardous ground gases. Consequently, the use of a propriety system that does not permit vertical venting may be required. However, this is subject to detailed inspection / advice from specialist ground improvement / piling contractors.

18.13.2 Risk assessment and subsequent mitigation may also be required for some forms of foundation (e.g. piles) on the basis that new pathway linkages to deeper groundwaters may be created. If the risk assessment or mitigation measures are not deemed to be adequate by the EA an alternative foundation solution may need to be considered (e.g. rafts).

18.14 UXO

18.14.1 The previous UXO Detailed Risk Assessment that was carried out for the site in 2020 was based on the proposed site investigation works and future bulk excavations of parts of the site. The report states that a reassessment will be required for the bulk earthworks that would need to be undertaken as part of the development of the site.

19 GEOTECHNICAL RISK REGISTER

19.1 Introduction

19.1.1 This section presents the Geotechnical Risk Register for the site, together with details of other construction related risks known at this time. The risks have been evaluated using the risk evaluation matrix suggested in Part 2 of HD22/08 "Managing Geotechnical Risk" which is reproduced below:

Table 19.1: Risk Evaluation Matrix

Probability	Impact		Risk (R = P X I)	Response to Risk
Very Likely (5)	Very High (5)	Potential to halt project or potential for major claim or similar	17 to 25	Unacceptable: act now to prevent
Likely (4)	High (4)	Significant delay on overall project or major impact on cost	13 to 16	Unacceptable: act now to prevent
Probable (3)	Medium (3)	Major delay on this task, but significant impact on overall project unlikely or Significant impact on cost	9 to 12	Early attention required
Unlikely (2)	Low (2)	Minor delay on this task, but significant impact on overall project unlikely or minor impact on cost	5 to 8	Regular attention required
Negligible (1)	Very Low (1)	No significant impact on task or project or negligible impact on cost	1 to 4	Monitor

19.1.2 The geotechnical risk register is presented in the Table 19.2 below. The purpose of the risk register is to highlight the potential risks, and consequences of those risks, together with measures to be taken to mitigate the risks:

Table 19.2: Geotechnical Risk Register

Reference	Identified Geotechnical Hazard/Risk	Cause	Risk Before Control			Consequence	General Control Measures	Residual Risk		
			P	I	R			P	I	R
1	Total Settlements	Site is a historical landfill with significant thickness of Made Ground with varying proportions of waste materials that may settle in response to additional loads, degradation of waste materials, self-weight settlement etc. Natural cohesive soils of very low to high compressibility (generally medium compressibility) indicated.	4	4	16	Settlement of the ground and damage to overlying buildings, externals, pipes or services by differential settlement. Negative friction can occur on piles installed through a compressible layer due to consolidation.	Settlement calculations, mini zone load tests and / or monitoring to quantify risk. Avoid large differential loadings of ground. Piled foundations or rafts for structures. Reinforcement or soil stabilisation / ground improvement of shallow soils for external areas and services. Service and external designs to accommodate ongoing settlement. Settlement of deeper fill materials likely to be ongoing. Deep ground improvement (e.g. dynamic compaction may be an option). Long-term maintenance of external areas and services may be required.	3	2	6
2	Unforeseen or highly variable ground conditions	Ground conditions encountered different from those encountered during the ground investigation. Inherent variability due to the site being a historical landfill and high degree of variability indicated from site investigation.	4	4	16	Problematic for foundation, floor slab and external design and earthworks if ground conditions change over short distances. Cost and programme implications.	Various control measures as discussed in the sections below.	1	4	4

Table 19.2: Geotechnical Risk Register

Reference	Identified Geotechnical Hazard/Risk	Cause	Risk Before Control			Consequence	General Control Measures	Residual Risk		
			P	I	R			P	I	R
3	Exposed site surface becoming soft causing trafficability problems	Excess rainfall, vegetation removal, grubbing of concrete bases and site strip exposing variable and susceptible soils, shallow perched and deeper groundwaters, standing water and frequent trafficking. Significant delays due to trafficability experienced during the most recent stage of site investigations.	4	4	16	Vehicles becoming struck and areas of the site being inaccessible, causing delays and additional costs.	Avoid exposure of soft material if possible. Consider specialist plant, track matting or surface stabilisation / ground improvement of soils.	2	3	6
4	Groundwater	Shallow perched groundwaters frequently encountered within Made Ground. High water table indicated with groundwater seepage at the surface following a period of heavy rainfall. Deeper groundwater within granular layers within Glacial soils. Slight artesian conditions noted for groundwater encountered within bedrock and deeper Glacial soils.	4	3	12	Potential for water ingress into open excavations that may result in instability and collapse. Softening of sub-grade material. Reduced bearing capacity for some types of foundations. Sub artesian groundwater may cause issues for deep piled foundations. Groundwater levels may vary seasonally and change following any changes to site levels.	Groundwater control measures during excavations (e.g. dewatering / barriers). Drainage and foundation designs that consider groundwater conditions. Groundwater monitoring. During development of the site control / management of surface waters and shallow perched groundwaters will naturally be required. Ongoing management required post development to deal with the potential for groundwater seepage / flooding.	2	2	4

Table 19.2: Geotechnical Risk Register

Reference	Identified Geotechnical Hazard/Risk	Cause	Risk Before Control			Consequence	General Control Measures	Residual Risk		
			P	I	R			P	I	R
5	Collapse Compression	Susceptible materials (e.g. colliery spoil) prone to water inundation if left in-situ.	3	3	9	Collapse due to increased loads and / or more commonly the addition of water causing damage to structures, externals and services by sudden or differential settlements.	Assessment via wetting / loading tests. Rafts or piled foundations for structures, ground improvement techniques for externals and services. Where practicable, excavation of recompaction and reengineering as engineered fill. Avoid large amounts of water entering the ground via soakaways	1	3	3
6	UXO	The site is located within a moderate risk bombing area with several bomb strikes within the surrounding area and nearby strategic military targets.	3	3	9	UXO or munitions encountered in excavations or at depth.	UXO risk assessment to be undertaken prior to development to re-quantify the risk.	1	3	3
7	Bulking	Overconsolidated Glacial materials and colliery spoil are likely to be susceptible to bulking or an increase in volume upon excavation. Slag within the suspected combustion wastes could expand in certain conditions.	3	3	9	Bulking could have implications for any cut and fill balance that may be required and if material is planned for re-use. Bulking will also influence haulage operations, especially where material will need to be sent off-site.	Determination of bulking factor for incorporation into any civil engineering designs.	1	3	3

Table 19.2: Geotechnical Risk Register

Reference	Identified Geotechnical Hazard/Risk	Cause	Risk Before Control			Consequence	General Control Measures	Residual Risk		
			P	I	R			P	I	R
8	Excavatability and obstructions	Numerous very coarse constituents within Made Ground impeding excavations progression of piled foundations. Further obstructions associated with relict foundations and underground infrastructure in the areas of the former brickworks buildings.	4	2	8	Delays caused by breaking out obstructions. Significant obstructions may affect subsequent design and construction by hindering excavations and / or obstructing foundations. Obstructions may contain voids or be filled with hazardous substances.	Larger capacity excavators and pneumatic / hydraulic breaking equipment to deal with obstructions. Probing for piled foundations or mass excavation works for other foundation types.	1	2	2
9	Aggressive Ground	Concentrations of sulphate noted in soils and groundwater that would be harmful to concrete and services. Potential for pyrite to be present within colliery spoil.	4	2	8	Damage to building materials (e.g. foundations, external areas, aggregates, and services) via chemical attack or corrosion	Design concrete to withstand aggressive ground. Results indicate a design sulphate class of DS-2 and Aggressive Chemical for Concrete (ACEC) class of AC-3Z may be appropriate.	1	2	2
10	Instability of excavations	Highly variable, loose, or soft compressible soils at shallow depth associated with Made Ground infill material and granular layers within Glacial Till.	3	2	6	Failure / instability of excavations.	Temporary supports or battering of side slopes. Dewatering or groundwater barriers.	1	2	2

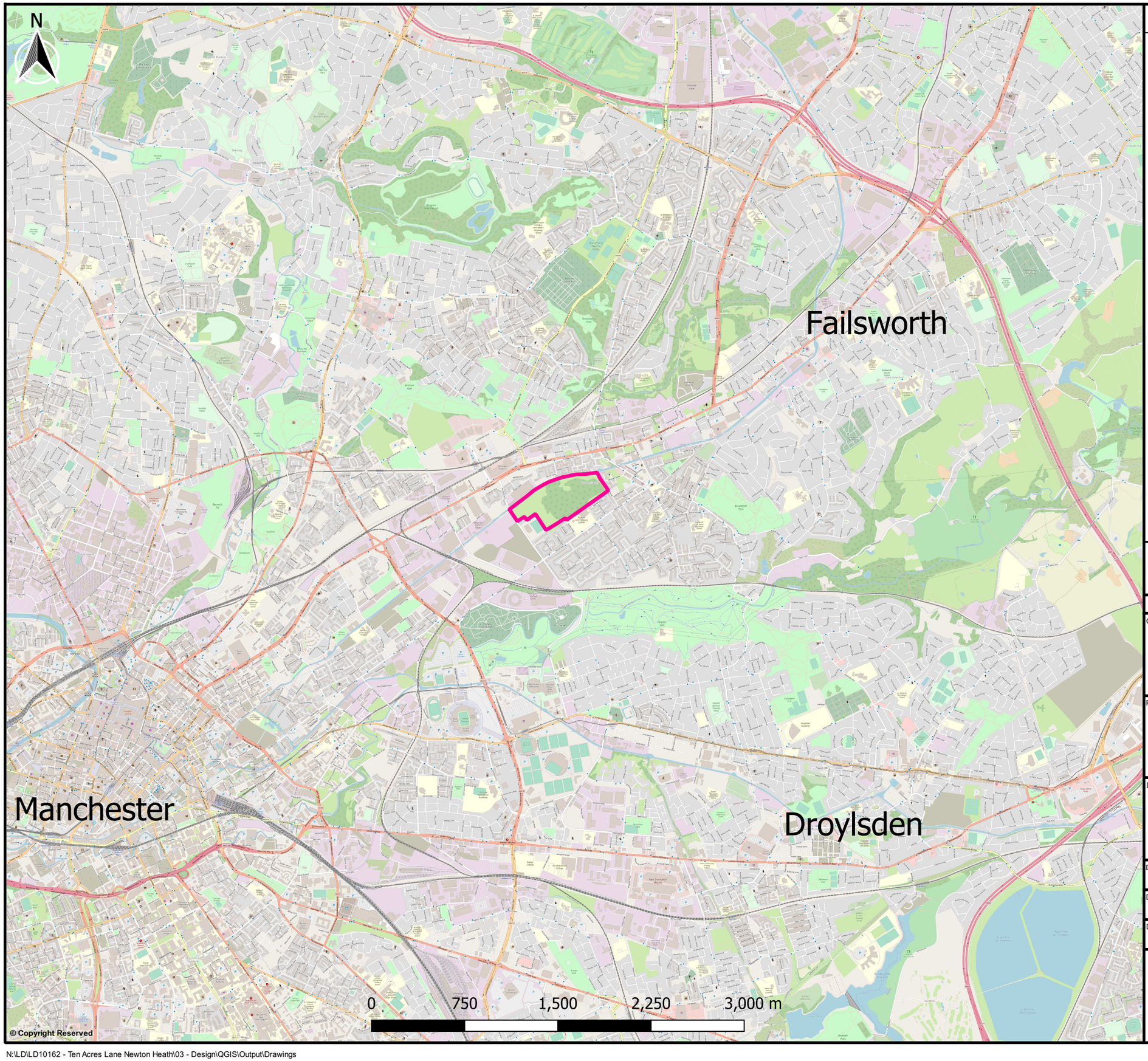
Table 19.2: Geotechnical Risk Register

Reference	Identified Geotechnical Hazard/Risk	Cause	Risk Before Control			Consequence	General Control Measures	Residual Risk		
			P	I	R			P	I	R
11	Faulting	A geological fault crosses the westernmost section of the site	2	3	6	High weathered or fractured rock within the zone of influence of the fault that impacts on foundation designs. Land instability issues. Gas and / or water emissions.	Non percussive piling techniques and / or foundation designs to consider ground conditions if foundations are to extend to rockhead	1	3	3
12	Combustibility	Some of the Made Ground materials at the site (e.g. colliery spoil or combustion waste) are indicated to be susceptible to combustion.	2	3	6	Combustion or smouldering of materials	Stockpiles should be protected to prevent ignition and any susceptible material used as engineered fill may need to be placed beneath a 1m thick inert layer in garden areas / areas of soft landscaping to prevent accidental ignition for Further calorific value testing should be undertaken if these materials are to be sued as engineered fill.	1	3	3

Table 19.2: Geotechnical Risk Register

Reference	Identified Geotechnical Hazard/Risk	Cause	Risk Before Control			Consequence	General Control Measures	Residual Risk		
			P	I	R			P	I	R
13	Expansive Soils (Shrink / Swell) including Frost Heave	Cohesive soils of low to intermediate (generally low) shrinkage potential and very low to moderate (generally very low) volume change potential indicated.	2	2	4	Shrink / swell of ground potentially damaging building foundations, externals, pipes, or services by differential movements.	Consideration of deepening foundations where near to trees. Foundations in excess of 1m depth to counter the effects of frost heave. Removal of unsuitable materials and replacement with engineered fill for external areas. Reinforcement or soil stabilisation / ground improvement. Do not plant or remove trees near to buildings without specialist advice.	1	2	2
14	Services	Unrecorded services may be present at the site.	1	2	2	Service strike	Obtain service plans prior to the start of works.	1	2	2

D R A W I N G S



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Site Boundary

Notes

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REVISION	DETAILS	DATE	DRN	CHKD	APP'D

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PROJECT

TEN ACRES LANE

DRAWING TITLE

SITE LOCATION PLAN

DRG No.		REV
LD10162-001		
DRG SIZE	SCALE	DATE
A3	1:30,000	15/12/2020
DRAWN BY	CHECKED BY	APPROVED BY
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Site Boundary

Notes

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TEN ACRES LANE

DRAWING TITLE

SITE LOCATION PLAN - AERIAL

DRG No.	REV
LD10162-002	

DRG SIZE	SCALE	DATE
A3	1:5,000	15/12/2020

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- Trial Pit Positions 2020
- Soakaway Positions 2020
- Cable Percussive Borehole Locations 2020
- Rotary Borehole Locations 2020
- Window Sample Hole Positions 2020
- Wardell Armstrong Locations 2019
- Celtic Locations 2007

Notes

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TT = Trial Trench
BH = Cable Percussion Borehole
WS = Window Sample
RH = Rotary Borehole

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

EXPLORATORY HOLE LOCATION PLAN

DRG No.	REV
LD10162-003	

DRG SIZE	SCALE	DATE
A3	1:3,000	15/12/2020

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TEN ACRES LANE, NEWTON HEATH

DRAWING TITLE

BOREHOLE INSTALLATION DETAILS

DRG No.	REV
LD10162 - 004	

DRG SIZE	SCALE	DATE
A3	1:2,500	22/11/20

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Legend

- Site Boundary
- Collyhurst Sandstone Formation
- Manchester Marls Formation
- Chester Formation
- Conjectured Fault
- Trial Pit Positions 2020
- Soakaway Positions 2020
- Cable Percussive Borehole 2020
- Rotary Borehole Locations 2020
- Window Sample Hole Positions 2020
- Wardell Armstrong Locations 2019
- Celtic Locations 2007

Notes

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TEN ACRES LANE

DRAWING TITLE

GEOLOGICAL SITE FEATURES PLAN - SOLID GEOLOGY

DRG No.	REV
LD10162-004	

DRG SIZE	SCALE	DATE
A3	1:3,000	15/12/2020

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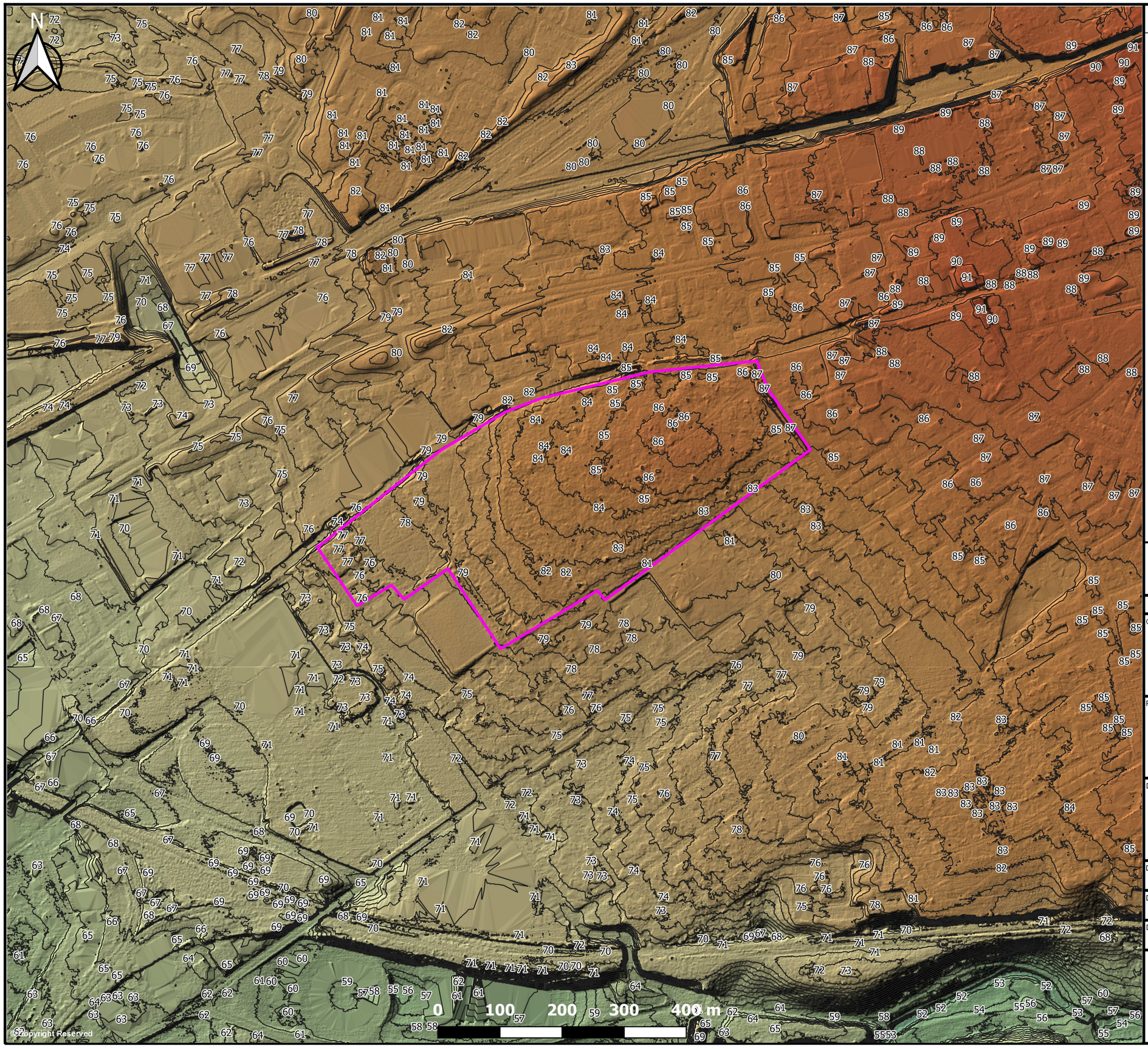

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Site Boundary

Elevation in Metres Above Ordnance Datum

- 38
- 53
- 69
- 84
- 100

Notes

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TEN ACRES LANE

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SHADED RELIEF MAP

DRG No.	REV
LD10162-005	

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A3	1:6,000	15/12/2020

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Site Boundary

Slope in Degrees

- 0
- 8.75
- 17.5
- 26.25
- 35

Notes

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DRAWING TITLE

SLOPE MAP

DRG No.	REV
LD10162-006	

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Legend

- Site Boundary
- Indicative Extent of On-Site Clay Pit Excavations

MG Contour mbgl

- 0.0 - 1.1
- 1.1 - 2.1
- 2.1 - 3.2
- 3.2 - 4.3
- 4.3 - 5.3
- 5.3 - 6.4
- 6.4 - 7.5
- 7.5 - 8.5
- 8.5 - 9.6
- 9.6 - 10.7
- 10.7 - 11.7
- 11.7 - 12.8
- 12.8 - 13.8

Notes

mbgl = metres beow ground level
Contours are indciative only and have been interpolated between those exploratory holes shown where the full depth of Made Ground has been proved. There are large areas of the site where data is limited and due to the complex geometry of the historic clay pit excavations the contours should be used with caution.
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TEN ACRES LANE

DRAWING TITLE

INDICATIVE MADE GROUND CONTOUR PLAN - MBGL

DRG No.	REV
LD10162-008	

DRG SIZE	SCALE	DATE
A3	1:3,000	15/12/2020

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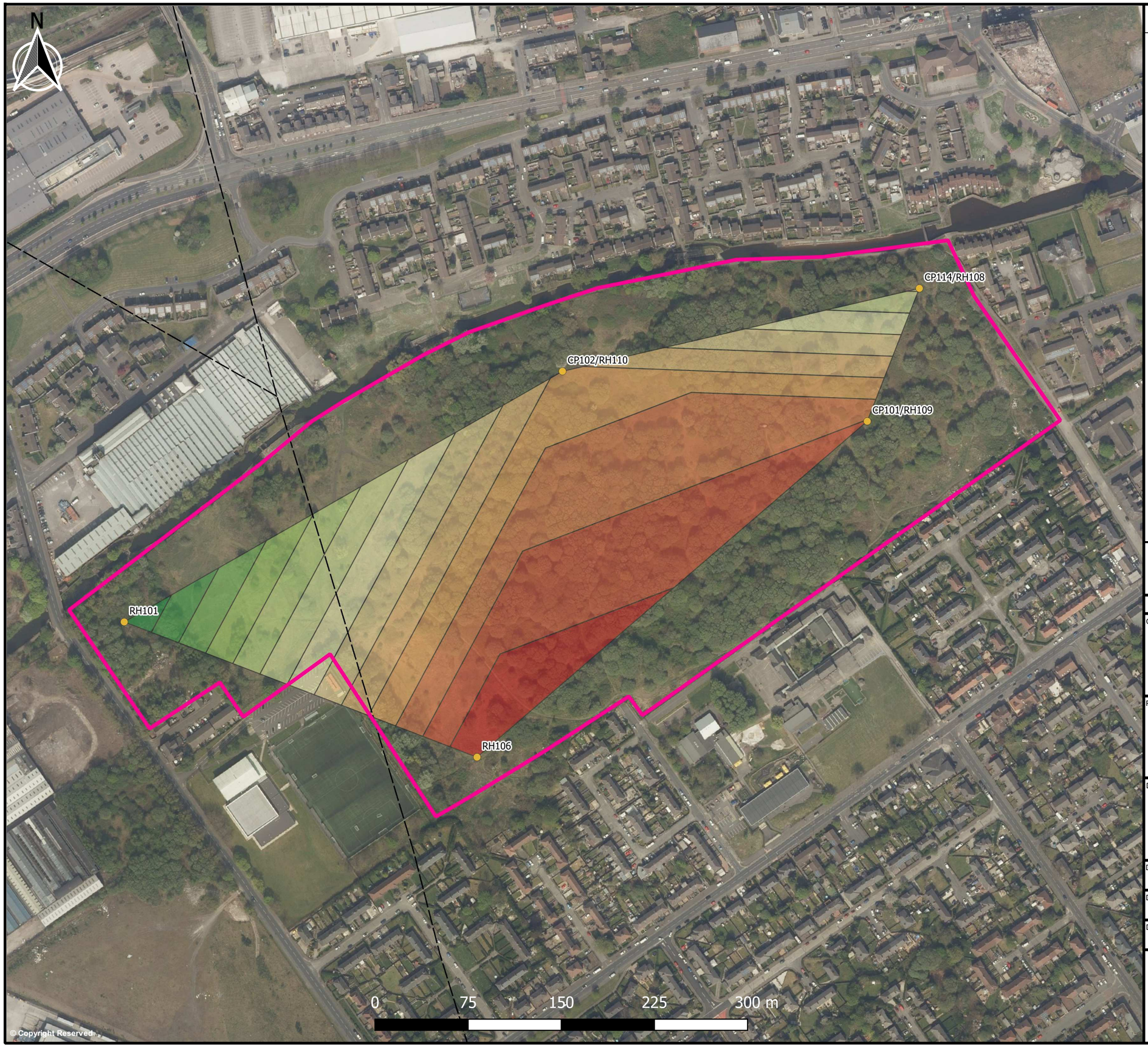

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Legend

- Site Boundary
- Conjectured Fault

Rockhead Contour mbgl

- 15.0 - 17.3
- 17.3 - 19.5
- 19.5 - 21.8
- 21.8 - 24.1
- 24.1 - 26.3
- 26.3 - 28.6
- 28.6 - 30.9
- 30.9 - 33.2
- 33.2 - 35.4
- 35.4 - 37.7
- 37.7 - 40.0
- 40.0 - 42.2
- 42.2 - 44.5

Notes

mbgl =metres below ground level

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TEN ACRES LANE

DRAWING TITLE

ROCKHEAD CONTOUR

DRG No.	REV
LD10162-008	

DRG SIZE	SCALE	DATE
A3	13,000	15/12/2020

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Legend

- Site Boundary
- Recorded Extent of Clay Pit Excavations
- Celtic Locations 2007
- Wardell Armstrong Locations 2019
- Wardell Armstrong Locations 2020
- Areas of Largely Suspected Combustion Waste
- Areas of Largely Suspected Construction & Demolition Waste
- Areas of Largely Suspected Combustion Waste >1m Thick
- Areas of Largely Suspected Colliery Spoil
- Areas of Suspected Household Waste
- Significant Areas of Largely Unknown Ground Conditions

Notes

TP = Trial Pit
TT = Trial Trench
BH = Cable Percussion Borehole
WS = Window Sample Borehole
RH = Rotary Borehole

Areas outlined are indicative and are for illustrative purposes only. Predominant Made Ground types are indicated. Vertical extent is not represented.

Suspected household waste materials are centred on the areas in which they were encountered and are not indicative of the lateral and vertical extent.

Actual ground conditions may vary between exploratory hole locations due to the inherent variability that would be expected within a historical landfill of this nature.

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

INDICATIVE MADE GROUND TYPES

DRG No.		REV
LD10162-009		
DRG SIZE	SCALE	DATE
A3	1:3,000	16/12/2020
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0 75 150 225 300 m

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Site Boundary

Arsenic Concentrations mg/kg

- <37 (screening value)
- 37 - 100
- 100 - 1000
- 1000 - 1930

Notes

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Labelling order as follows:
1. Location
2. Depth of Sample
3. Result
4. Strata

Abbreviations:
TP = Trial Pit
TT = Trial Trench
BH = Cable Percussion Borehole
WS = Window Sample
RH = Rotary Borehole
MGC/CMG = Cohesive Made Ground
MGG/GMG = Granular Made Ground
MG-GW = Suspected Combustion Waste
MG-CDW = Suspected Construction & Demolition Waste
MG-HS = Suspected Household Waste
TF = Topsoil Fill

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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PROJECT

TEN ACRES LANE

DRAWING TITLE

ARSENIC CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-010	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Legend

Site Boundary

Lead Concentrations mg/kg

- <200 (screening value)
- 200 - 1000
- 1000 - 10000
- 10000 - 28700

Notes

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3. Result
4. Strata

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MGG/GMG = Granular Made Ground
MG-CW = Suspected Combustion Waste
MG-CDW = Suspected Construction & Demolition Waste
MG-HS = Suspected Household Waste
TF = Topsoil Fill

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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NUVU DEVELOPMENTS LIMITED

PROJECT

TEN ACRES LANE

DRAWING TITLE

LEAD CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-011	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Nickel ALL

- <130 (screening value)
- 130 - 175
- 175 - 360
- 360 - 535

Notes

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Labelling order as follows:
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4. Strata

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MG-CW = Suspected Combustion Waste
MG-CDW = Suspected Construction & Demolition Waste
MG-HS = Suspected Household Waste
TF = Topsoil Fill

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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NUVU DEVELOPMENTS LIMITED

PROJECT

TEN ACRES LANE

DRAWING TITLE

NICKEL CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-012	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Cyanide, Total Concentrations mg/kg

- <1 (Limit of Detection)
- <50 (screening value)
- 50 - 100
- 100 - 920

Notes

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MG-CDW = Suspected Construction & Demolition Waste
MG-HS = Suspected Household Waste
TF = Topsoil Fill

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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NUVU DEVELOPMENTS LIMITED

PROJECT

TEN ACRES LANE

DRAWING TITLE

CYANIDE TOTAL CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-013	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

DRAWN BY	CHECKED BY	APPROVED BY
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Site Boundary

Aromatics EC16-EC21 mg/kg

- <260 (screening value)
- 260 - 1000
- 1000 - 8780

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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NUVU DEVELOPMENTS LIMITED

PROJECT

TEN ACRES LANE

DRAWING TITLE

TPH AROMATIC EC16-EC21
CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-014	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

DRAWN BY	CHECKED BY	APPROVED BY
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Site Boundary

Aromatics C21-C35 mg/kg

- <1100 (screening value)
- 1100 - 10000
- 10000 - 10200

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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NUVU DEVELOPMENTS LIMITED

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TEN ACRES LANE

DRAWING TITLE

TPH AROMATIC EC21-EC35
CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-015	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Napthalene Concentrations mg/kg

- <2.3 (screening value)
- 2.3 - 10
- 10 - 100
- 100 - 1000
- 1000 - 10000
- 10000 - 13100

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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PROJECT

TEN ACRES LANE

DRAWING TITLE

NAPHTHALENE CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-016	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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- Site Boundary

Benz(a)anthracene Concentrations mg/kg

- <7.2 (screening value)
- 7.2 - 10
- 10 - 100
- 100 - 432

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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PROJECT

TEN ACRES LANE

DRAWING TITLE

BENZ(A)ANTHRACENE CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-017	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Chrysene Concentrations mg/kg

<15 (screening value)

15 - 100

100 - 432

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

CHRYSENE CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-018	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Benzo(b)fluoranthene Concentrations mg/kg

- <2.6 (screening value)
- 2.6 - 10
- 10 - 100
- 100 - 461

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

BENZO(B)FLUORANTHENE CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-019	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Benzo(a)pyrene Concentrations mg/kg

- <2.2 (screening value)
- 2.2 - 10
- 10 - 100
- 100 - 376

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

BENZO(A)PYRENE CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-020	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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Site Boundary

Dibenzo(a,h)anthracene Concentrations mg/kg

- <0.24 (screening value)
- 0.24 - 1
- 1 - 10
- 10 - 51.6

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

DIBENZO(A,H)ANTHRACENE CONCENTRATIONS IN MADE GROUND

DRG No.	REV
LD10162-021	

DRG SIZE	SCALE	DATE
A3	1:3,000	04/01/2020

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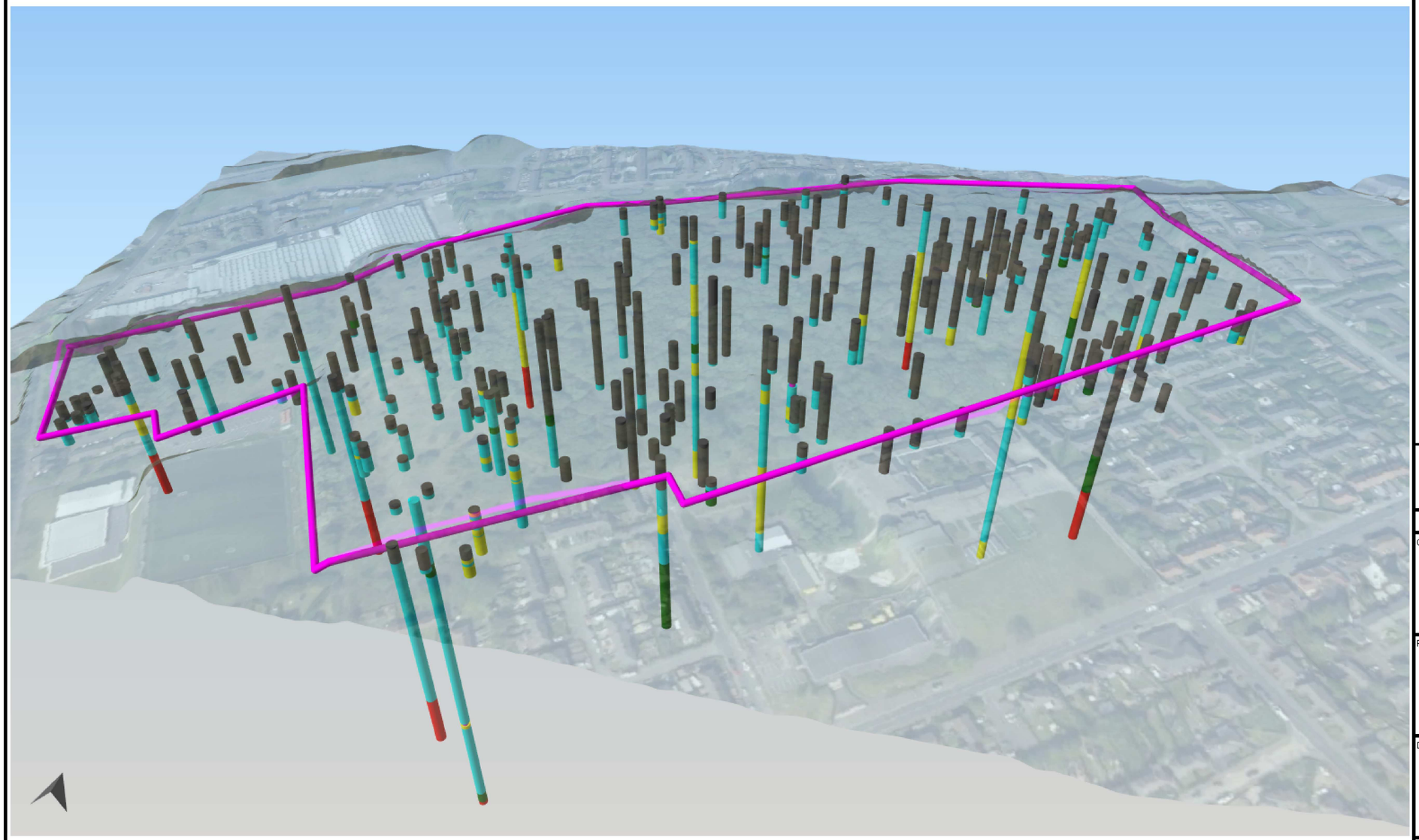

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Legend

- Site Boundary
- Made Ground
- Glacial Clay
- Glacial Sand
- Glacial Gravel
- Bedrock

Notes

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DRAWING TITLE

3D MODEL BOREHOLES VIEW

DRG No.	REV
LD10162-022	

DRG SIZE	SCALE	DATE
A3	-	30/01/2021

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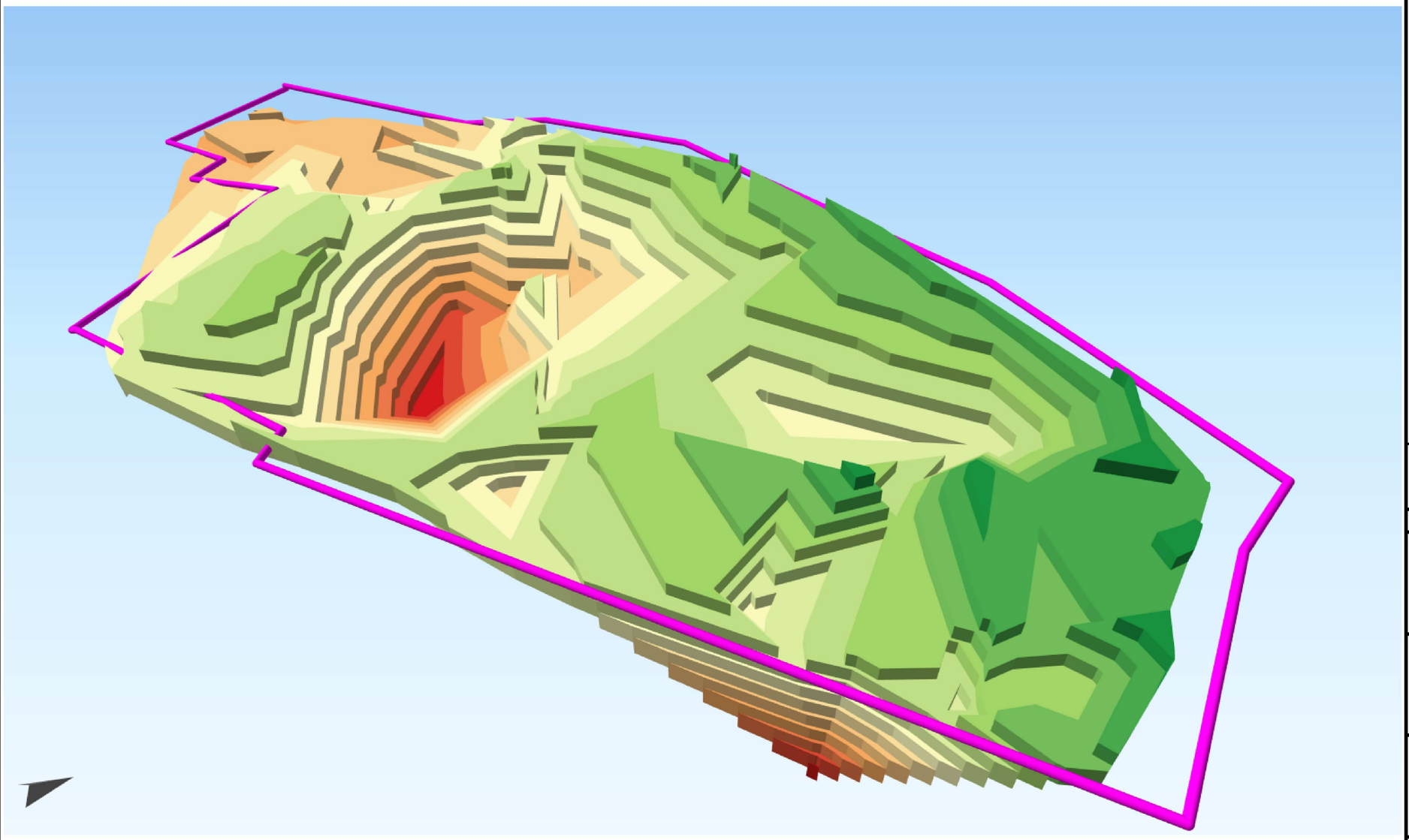

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Legend

Site Boundary

Made Ground Base mAOD

- 68.8 - 70.0
- 70.0 - 71.3
- 71.3 - 72.6
- 72.6 - 73.9
- 73.9 - 75.2
- 75.2 - 76.5
- 76.5 - 77.8
- 77.8 - 79.1
- 79.1 - 80.4
- 80.4 - 81.7
- 81.7 - 83.0
- 83.0 - 84.3
- 84.3 - 85.6

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TEN ACRES LANE

DRAWING TITLE

3D MODEL VIEW FOR THE BASE OF THE MADE GROUND / TOP OF NATURAL STRATA

DRG No.	REV
LD10162-023	

DRG SIZE	SCALE	DATE
A3	-	30/01/2021

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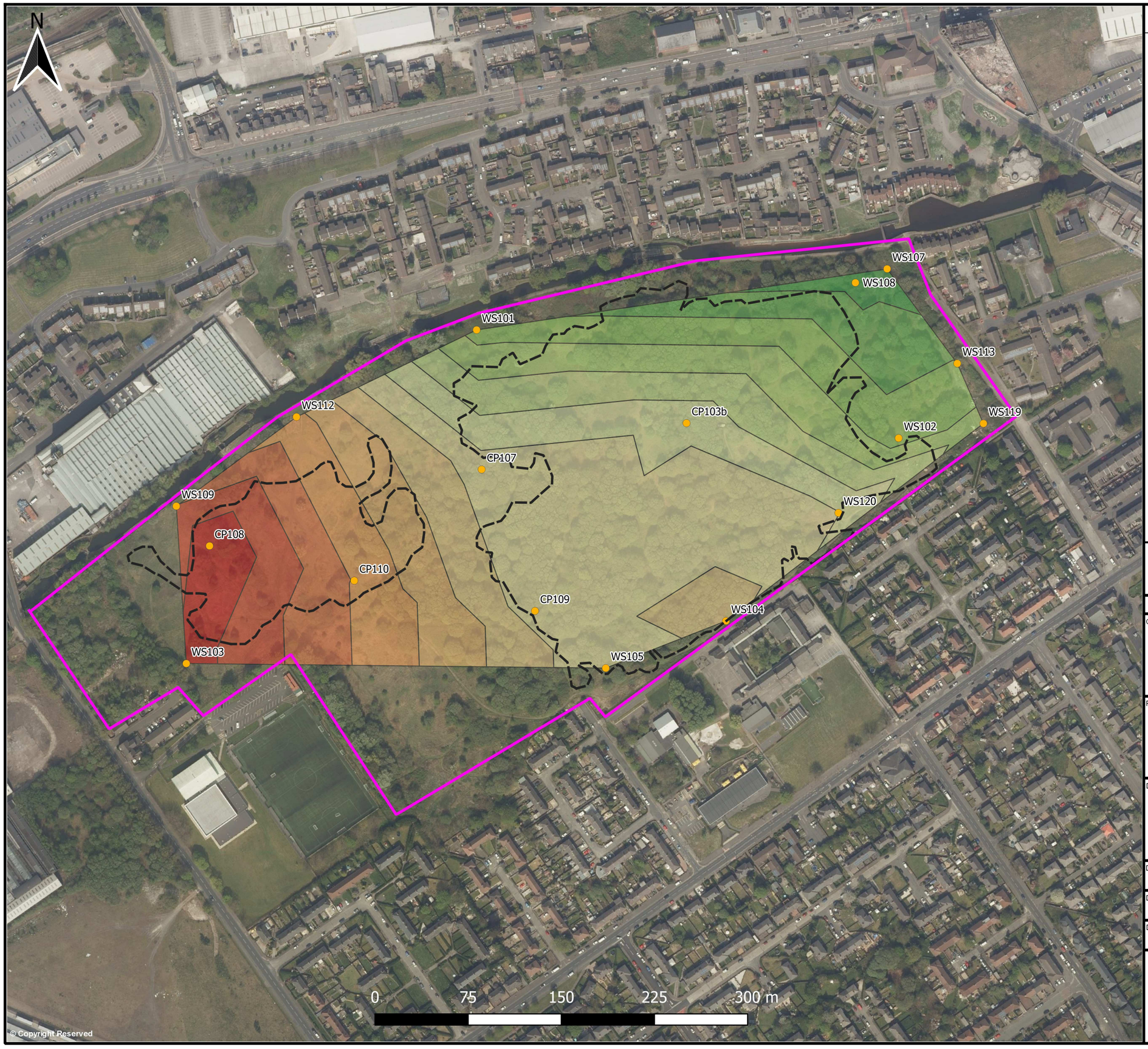

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Legend

- Site Boundary
- Recorded Extent of Clay Pit Excavations

Groundwater Contour mAOD

- 75.56 - 76.33
- 76.33 - 77.10
- 77.10 - 77.86
- 77.86 - 78.63
- 78.63 - 79.40
- 79.40 - 80.17
- 80.17 - 80.93
- 80.93 - 81.70
- 81.70 - 82.47
- 82.47 - 83.24
- 83.24 - 84.00
- 84.00 - 84.77
- 84.77 - 85.54

Notes

Contours are indicative only and have been interpolated between monitoring wells with the average groundwater level being used from the visits to date. Due to the complex geometry of of the historic clay pit excavations groundwater flow is likley to be variable and the contours shown should be used with caution.
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TEN ACRES LANE

DRAWING TITLE

INDICATIVE GROUNDWATER FLOW CONTOUR WITHIN MADE GROUND

DRG No.	REV
LD10162-024	

DRG SIZE	SCALE	DATE
A3	1:3,000	30/01/2021

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Legend

- Site Boundary
- Conjectured Fault

Groundwater Contour Bedrock mAOD

- 54.21 - 55.95
- 55.95 - 57.69
- 57.69 - 59.43
- 59.43 - 61.16
- 61.16 - 62.90
- 62.90 - 64.64
- 64.64 - 66.38
- 66.38 - 68.12
- 68.12 - 69.86
- 69.86 - 71.59
- 71.59 - 73.33
- 73.33 - 75.07
- 75.07 - 76.81

Notes

Contours are indicative only and have been interpolated between monitoring wells with the average groundwater level being used from the visits to date. Due to the faulting that is present at the site the contours shown should be used with caution.
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TEN ACRES LANE

DRAWING TITLE

INDICATIVE GROUNDWATER FLOW CONTOUR WITHIN BEDROCK

DRG No.	REV
LD10162-025	

DRG SIZE	SCALE	DATE
A3	1:3,000	30/01/2021

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Legend

- Site Boundary
- Approximate Area of Groundwater Flooding
- Location of Groundwater Seepage
- Recorded Extent of Clay Pit Excavations

Notes

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REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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TEN ACRES LANE

DRAWING TITLE

INDICATIVE AREA OF GROUNDWATER SEEPAGE

DRG No.	REV
LD10162-026	

DRG SIZE	SCALE	DATE
A3	1:2,250	10/02/2021

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Legend

- Site Boundary
- 2007 Celtic Locations
- 2019 WA Locations
- WA 2020 Locations
- Recorded Extent of Clay Pit Excavations
- Acrid Odours
- Chemical Odour
- Hydrocarbon Odour / Staining
- Hydrocarbon Sheen on Water
- Organic Odour
- Putrid Odours
- Sulphurous Odour

Notes

TP = Trial Pit
TT = Trial Trench
BH = Cable Percussion Borehole
WS = Window Sample Borehole
RH = Rotary Borehole

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TEN ACRES LANE

DRAWING TITLE

INDICATIVE AREAS OF VISUAL AND / OR OLFACTORY EVIDENCE OF CONTAMINATION

DRG No.	REV
LD10162-027	

DRG SIZE	SCALE	DATE
A3	1:3,000	16/04/21

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APPENDIX A

Standard Terms and Conditions and Limitations to Report

STANDARD TERMS AND CONDITIONS AND LIMITATIONS TO REPORT

General

This Report is provided for the stated purpose and for the sole use of the client in accordance with the Terms and Conditions of Appointment under which the services were performed. The Report is confidential to the client and no other warranty, expressed or implied, is made as to the professional advice included in the Report or any other services provided by Wardell Armstrong LLP. This Report may not be disclosed by the Client nor relied upon by any other party without the prior and express written agreement of Wardell Armstrong LLP.

Wardell Armstrong LLP disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report which may come or be brought to Wardell Armstrong LLP's attention after the date of the Report.

Where any site observations have been carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results from any site observations made may vary and further confirmatory work should be made after the issuance of this Report. Wardell Armstrong LLP does not guarantee or warrant any estimates or projections contained in this Report.

The findings and recommendations are considered to be valid and appropriate at the time of preparation and for the specific purpose or purposes intended. Wardell Armstrong LLP will not be liable if any findings are used by third parties, without written agreement of the company, or if an interpretation is made and action taken without further consultation.

The conclusions and recommendations contained in this Report provide an overview and guidance only and should not be specifically relied upon without considering the context of the reporting fully. They are also based upon information provided by others including details supplied by the client and/or professional advisors on the assumption that all relevant information from whom it has been requested and/or supplied is accurate. Information so provided and/or supplied has not been verified independently by Wardell Armstrong LLP, unless otherwise stated in the Report.

Should any third party wish to use or rely upon the contents of this report, written approval must be sought, and a charge may be levied accordingly.

Wardell Armstrong LLP accepts no responsibility or liability for the consequences of this document being used:

- For any purpose or project other than for which it was commissioned, and
- By any third party with whom an agreement has not been executed.

Desk Study

The methodology adopted and the sources of information used by Wardell Armstrong LLP in providing the services are outlined in this Report. The work described in this Report is based on the conditions and information as stated at the date the Report was completed. The scope of this Report and the services are accordingly limited by these circumstances. The findings outlined in the Report together with any opinions expressed and recommendations made are considered to be valid and appropriate at the time of preparation and for the specific purpose or purposes intended.

Wardell Armstrong LLP disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report which may come or be brought to Wardell Armstrong LLP's attention after the date of the Report. Unless otherwise stated in this Report, the assessments made assume that the sites and facilities will continue to be used for their current purpose without significant changes.

The report does not constitute or contain a valuation nor is it a full rigorous environmental audit. In this instance the report is prepared for a proposed residential land use that will also incorporate a new school and playing fields and includes a review of past investigations, environmental reports and relevant correspondence supplied for review.

A site walkover survey has been completed and while reasonable effort has been made to obtain an overview of the site conditions, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible. The walkover survey does not constitute an asbestos, archaeological or ecological survey and not all areas of the site may have been visited or made available for inspection.

The opinions given in this report have been based on finite data and are relevant only to the purpose for which the report was commissioned.

The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data indicative of site conditions. Should additional information become available which may affect the opinions expressed in this report, Wardell Armstrong LLP, reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in a Phase 1 report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Site Investigation

The findings within this report are based on those light percussion boreholes, rotary open and cored boreholes, windowless sampling holes, trial pits and soakaways. The results from this site assessment

are indicative of the ground conditions encountered at the positions the boreholes were drilled and/or where the trial pits were excavated and only represent a fraction of the site. Whilst reasonable inferences have been made between the site investigation locations, ground conditions for a site of this nature are inherently variable and their physical/chemical conditions can only be inferred between investigation locations. Localised conditions may vary, and the opinions expressed are for guidance only.

It should be noted that some of the proposed site investigation locations could not be drilled because of access restrictions or due to the presence of Japanese Knotweed.

The number of sampling points, methods of sampling and testing do not preclude the existence of other more variable ground conditions and/or "hotspots" of contamination elsewhere on the site where physical and/or chemical concentrations may be higher than those encountered. Contamination may vary spatially and temporally. The absence of certain ground, contamination or groundwater conditions at the positions tested is not a guarantee that such conditions do not exist anywhere across the site or could exist at these locations at a later date.

Observations made in respect of soil gas and/or groundwater conditions are based on monitoring work carried out over a relatively short period of time. It should be noted the gas and/or groundwater levels will vary due to seasonal, tidal and/or weather-related effects. These effects may not be reflected fully in relation to the monitoring works carried out to date.

The scope of the investigation was selected on the basis of the Client's general development proposals and may be inappropriate to any other form of development or scheme that may be considered at the site in the future.

There may be exceptional ground conditions elsewhere on the site which may not have been encountered during this phase of investigation that have not been considered as part of this report.

The risk assessment(s) and opinion(s) provided are based on current guidance; no liability can be accepted for the retrospective effects of any future changes or amendments that may be relevant in the future.

APPENDIX B

Landmark Envirocheck Reports and Maps

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

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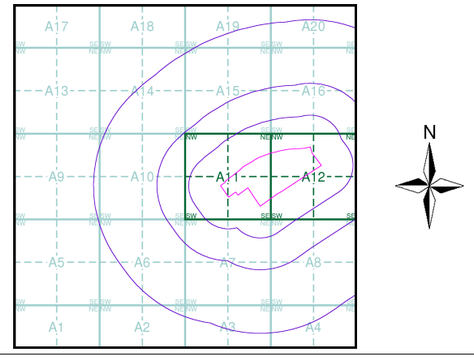
Historical Mapping & Photography included:

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	5
Cheshire	1:10,560	1899	6
Lancashire And Furness	1:10,560	1909 - 1910	7
Cheshire	1:10,560	1911	8
Lancashire And Furness	1:10,560	1923	9
Lancashire And Furness	1:10,560	1932 - 1933	10
Cheshire	1:10,560	1938	11
Lancashire And Furness	1:10,560	1938	12
Ordnance Survey Plan	1:10,000	1956	13
Ordnance Survey Plan	1:10,000	1966 - 1968	14
Manchester	1:25,000	1975	15
Ordnance Survey Plan	1:10,000	1978	16
Ordnance Survey Plan	1:10,000	1981 - 1982	17
Ordnance Survey Plan	1:10,000	1987	18
Ordnance Survey Plan	1:10,000	1990 - 1993	19
10K Raster Mapping	1:10,000	1999	20
10K Raster Mapping	1:10,000	2006	21
VectorMap Local	1:10,000	2020	22

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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

Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

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

243,8 — Values for prominent elevations

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

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

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

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

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

Key to Numbers on Mapping

SD80_Manchester

No.	Description
24	Depot (Railway)
75	Factory (Locomotives And Railway Carriage Repairs)
136	Foundry (Cast Iron)
233	Factory (Textiles)

SJ89_Manchester

No.	Description
61	Factory (Gas)
83	Factory (Machinery)

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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	5
Cheshire	1:10,560	1899	6
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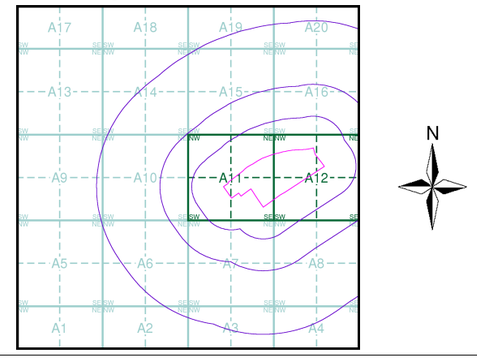
Ordnance Survey Plan	1:10,000	1981 - 1982	17
Ordnance Survey Plan	1:10,000	1987	18
Ordnance Survey Plan	1:10,000	1990 - 1993	19
10K Raster Mapping	1:10,000	1999	20
10K Raster Mapping	1:10,000	2006	21
VectorMap Local	1:10,000	2020	22

Russian Map - Slice A



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 1000

Site Details

Site at 387600, 400310

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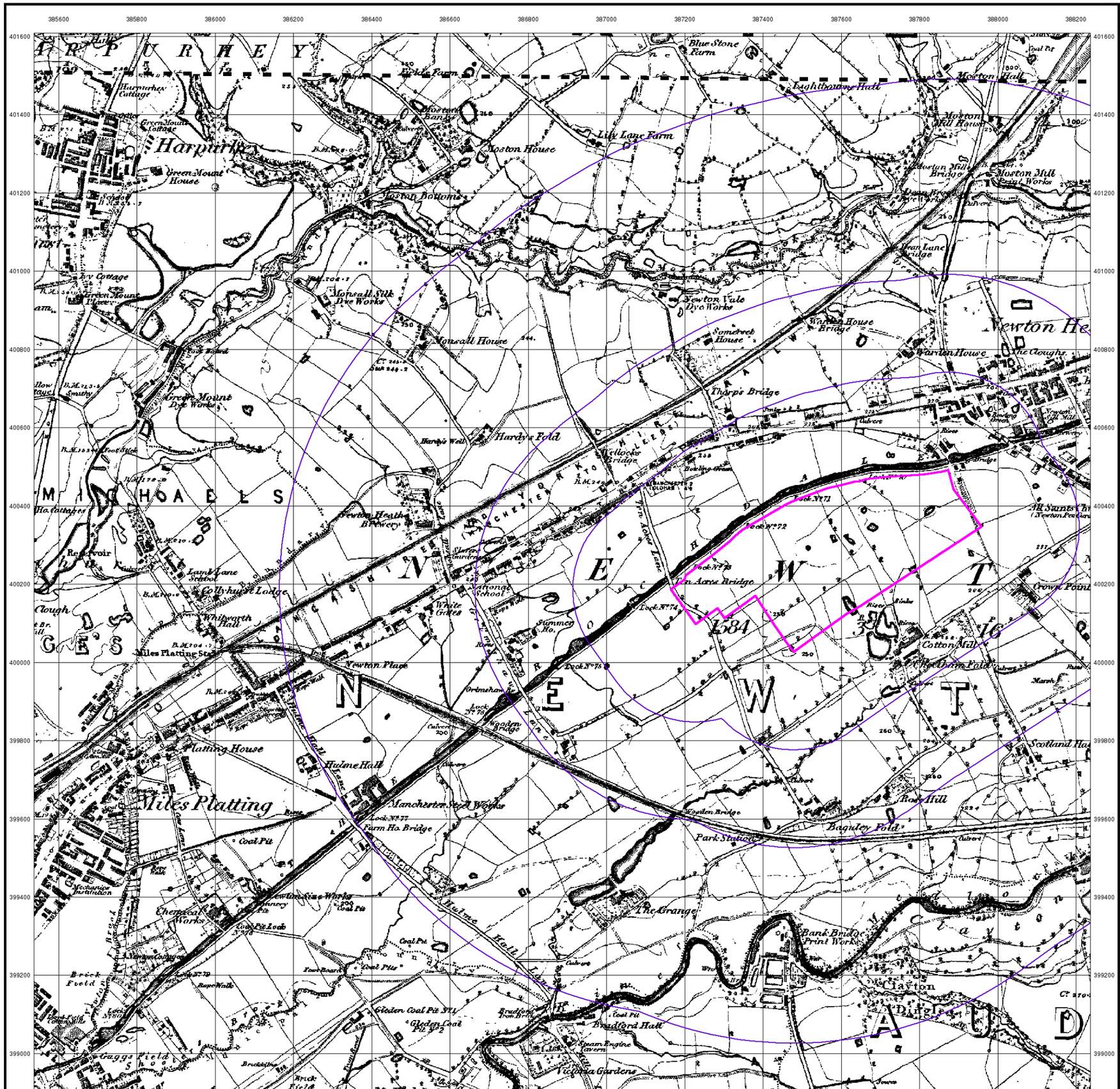

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Lancashire And Furness

Published 1848

Source map scale - 1:10,560

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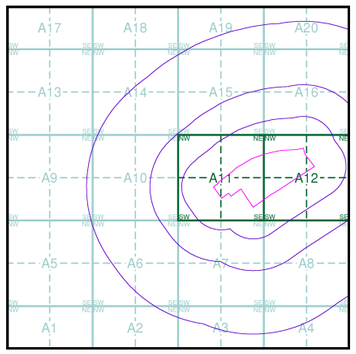
Map Name(s) and Date(s)

09600
1848
1:10,560

10400
1848
1:10,560

Historical Map - Slice A



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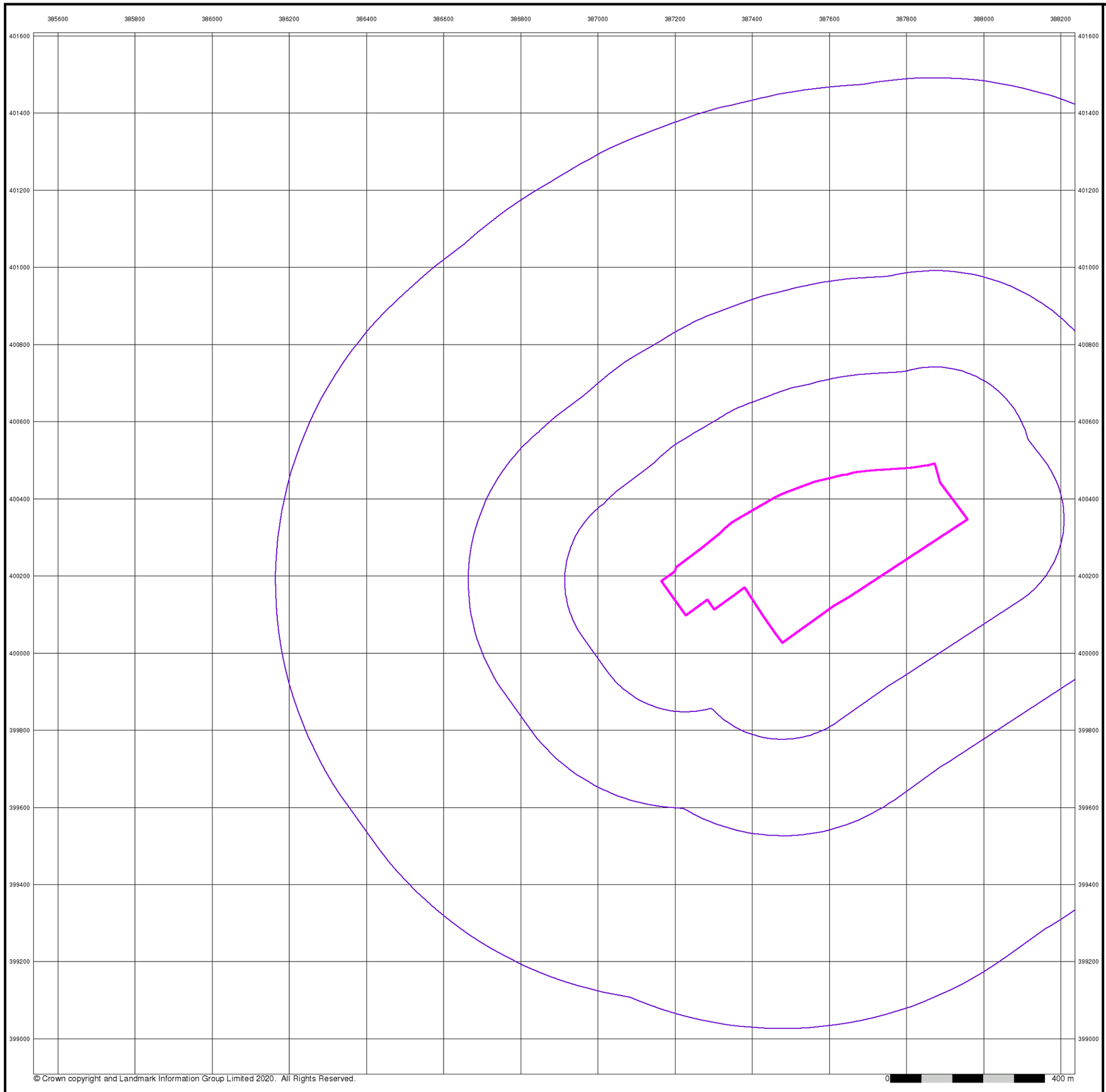

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Cheshire

Published 1882

Source map scale - 1:10,560

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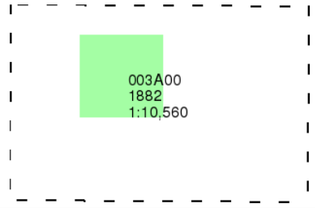
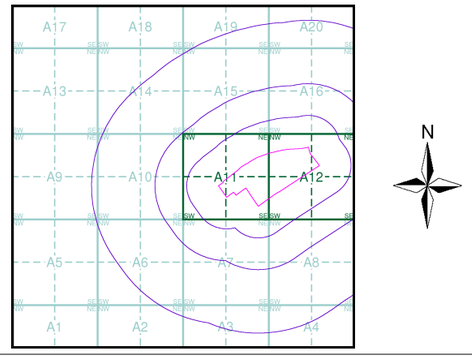


Historical Map - Slice A



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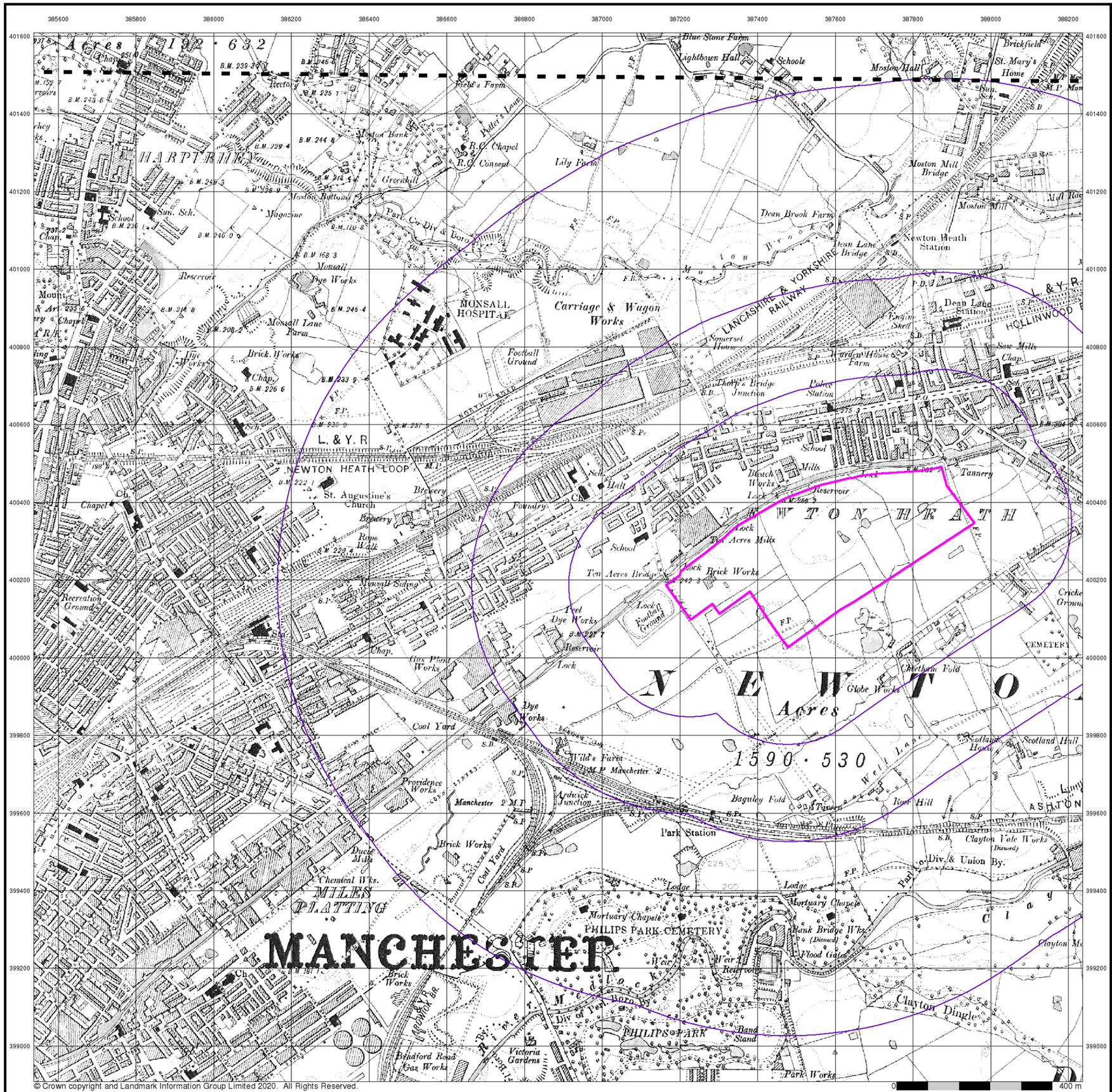

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Lancashire And Furness

Published 1894

Source map scale - 1:10,560

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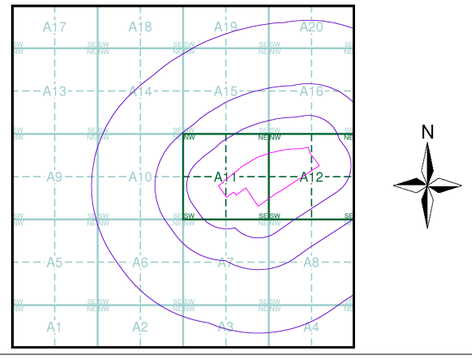
Map Name(s) and Date(s)

096SE
1894
1:10,560

104NE
1894
1:10,560

Historical Map - Slice A



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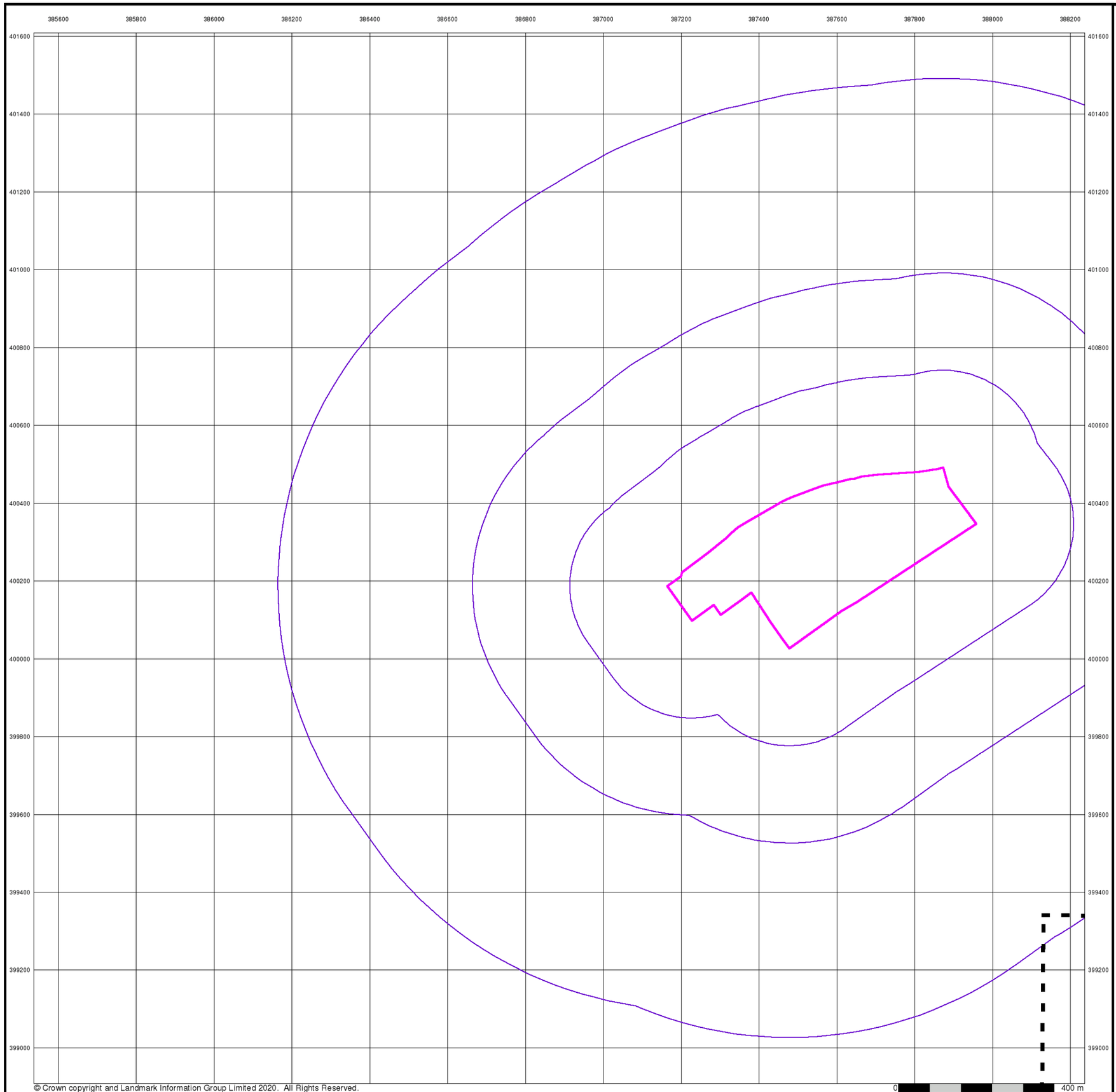

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Cheshire

Published 1899

Source map scale - 1:10,560

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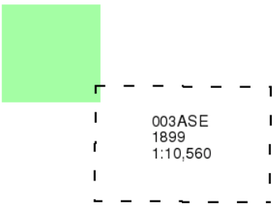
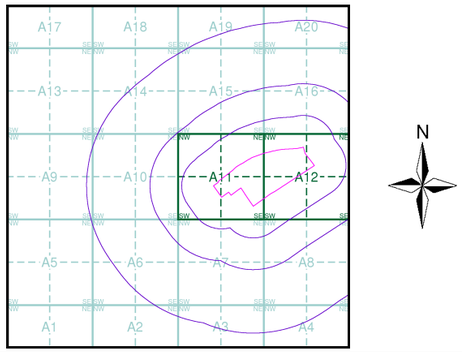


Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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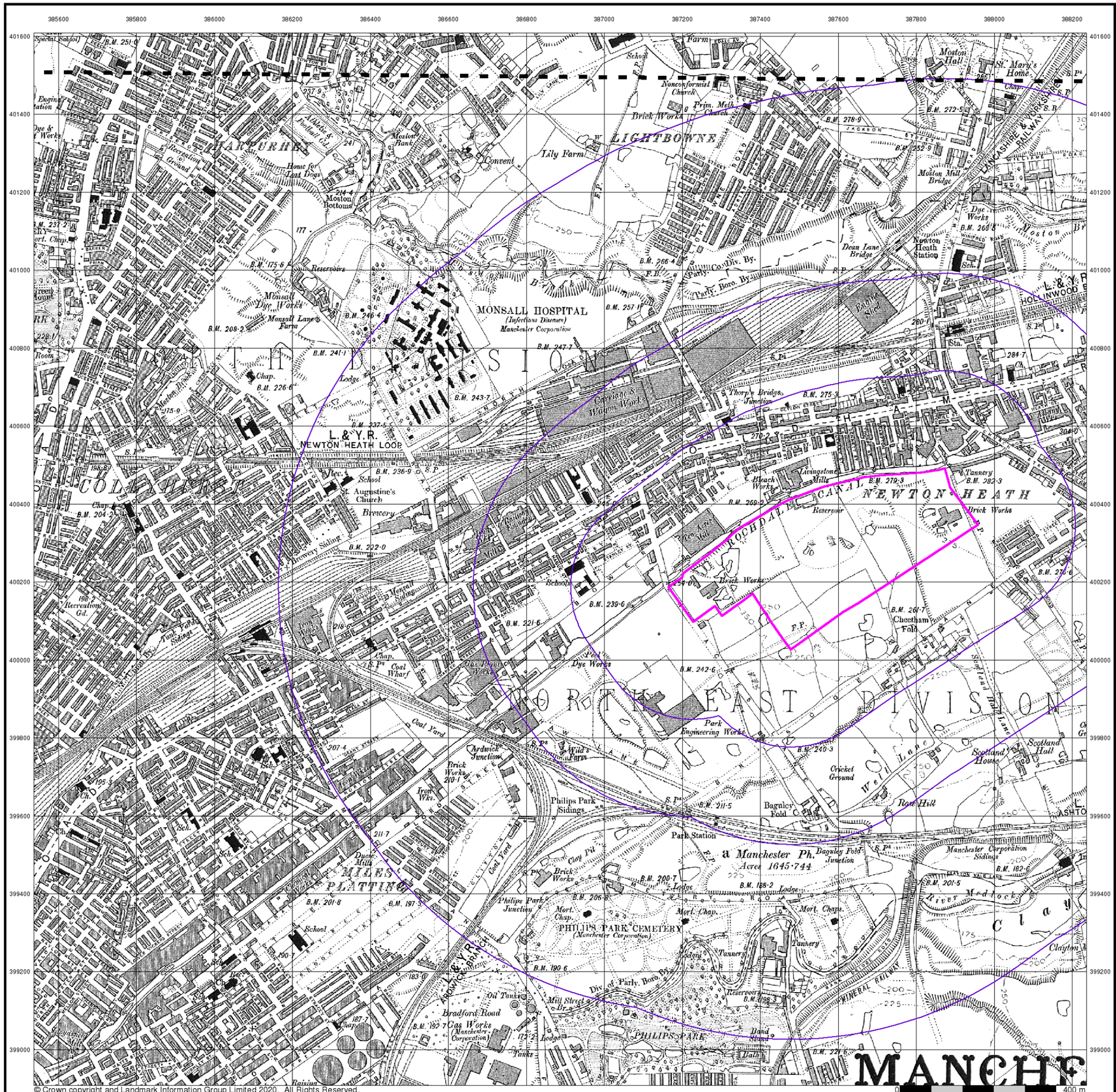
Web: www.envirocheck.co.uk



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wardell armstrong

Lancashire And Furness

Published 1909 - 1910

Source map scale - 1:10,560

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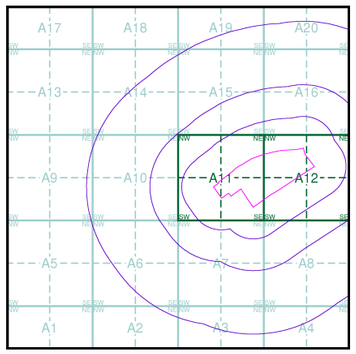
Map Name(s) and Date(s)

096SE
1910
1:10,560

104NE
1909
1:10,560

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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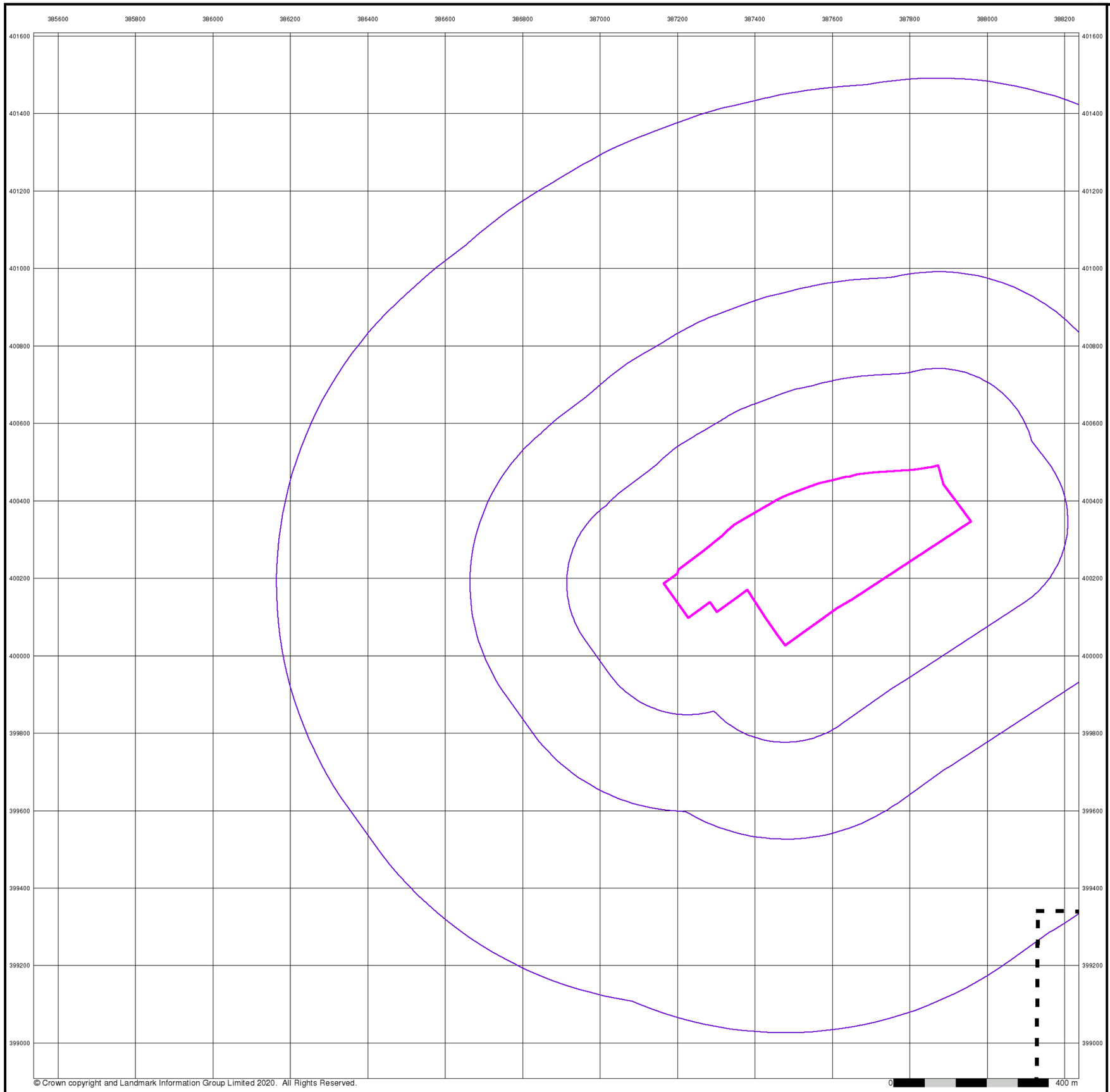

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wardell armstrong

Cheshire

Published 1911

Source map scale - 1:10,560

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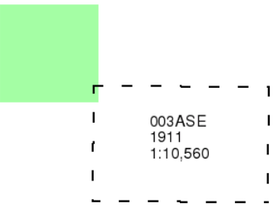
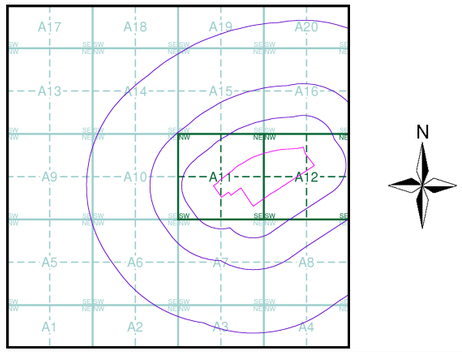
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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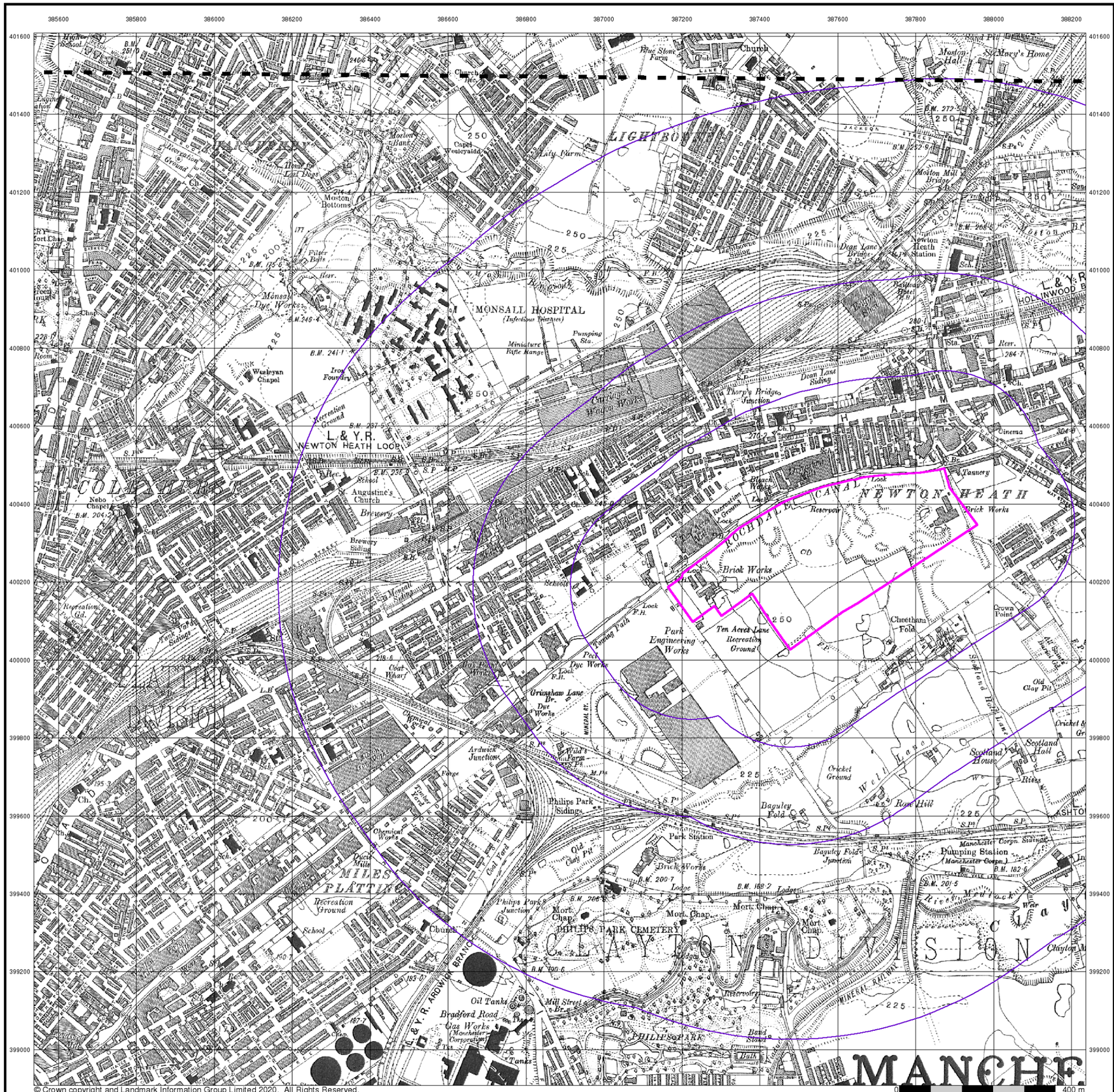

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Lancashire And Furness

Published 1923

Source map scale - 1:10,560

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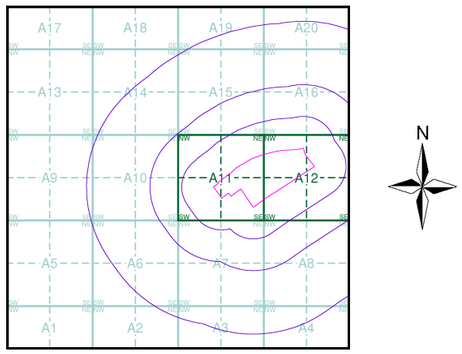
Map Name(s) and Date(s)

096SE
1923
1:10,560

104NE
1923
1:10,560

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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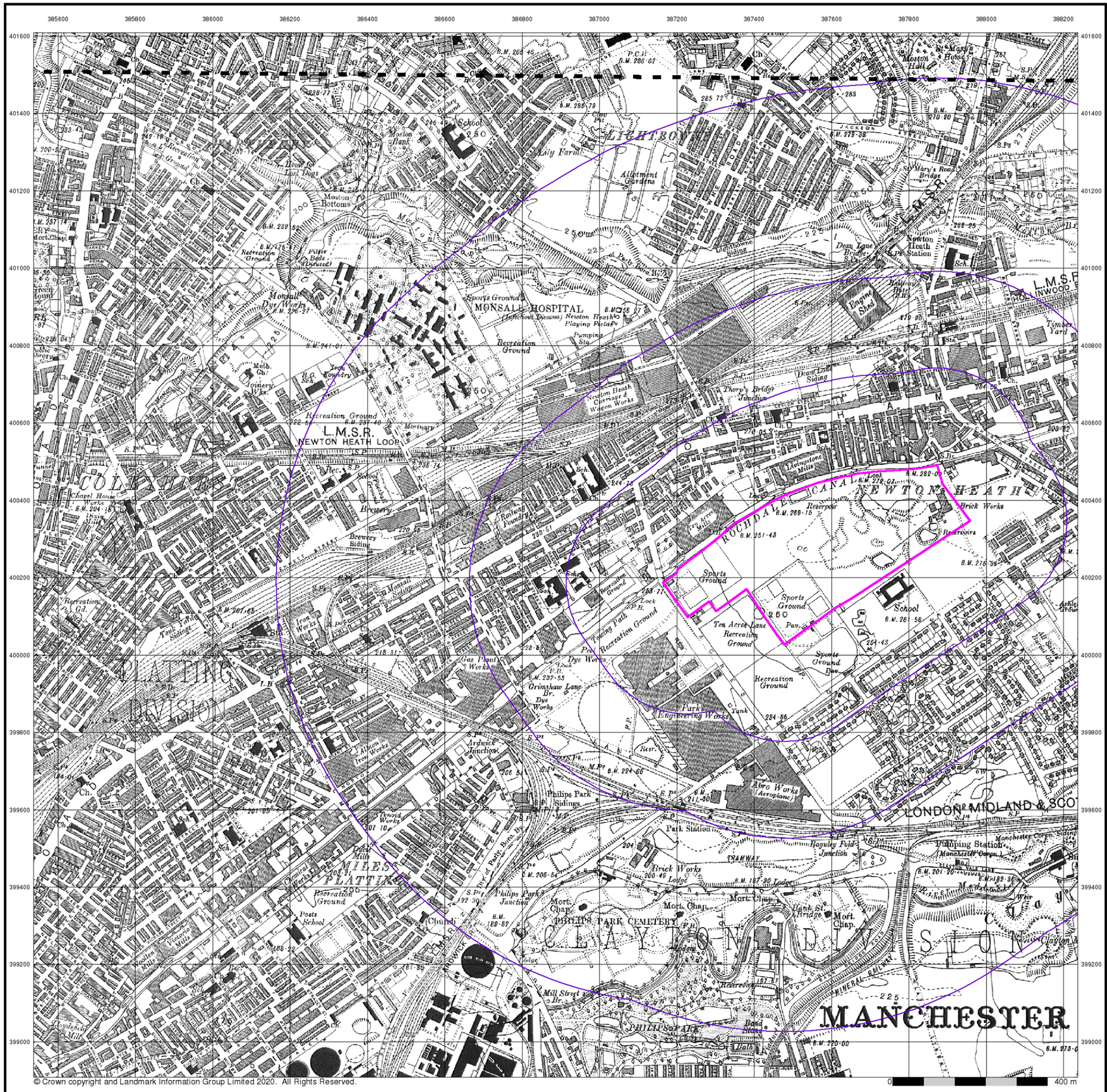

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Lancashire And Furness

Published 1932 - 1933

Source map scale - 1:10,560

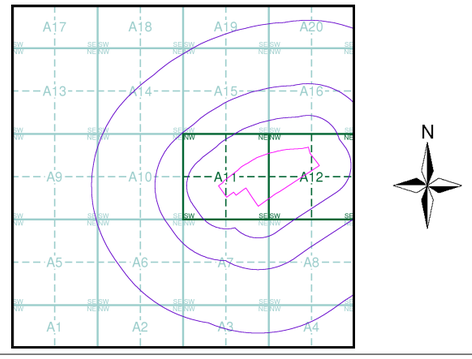
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

096SE
1933
1:10,560

104NE
1932
1:10,560

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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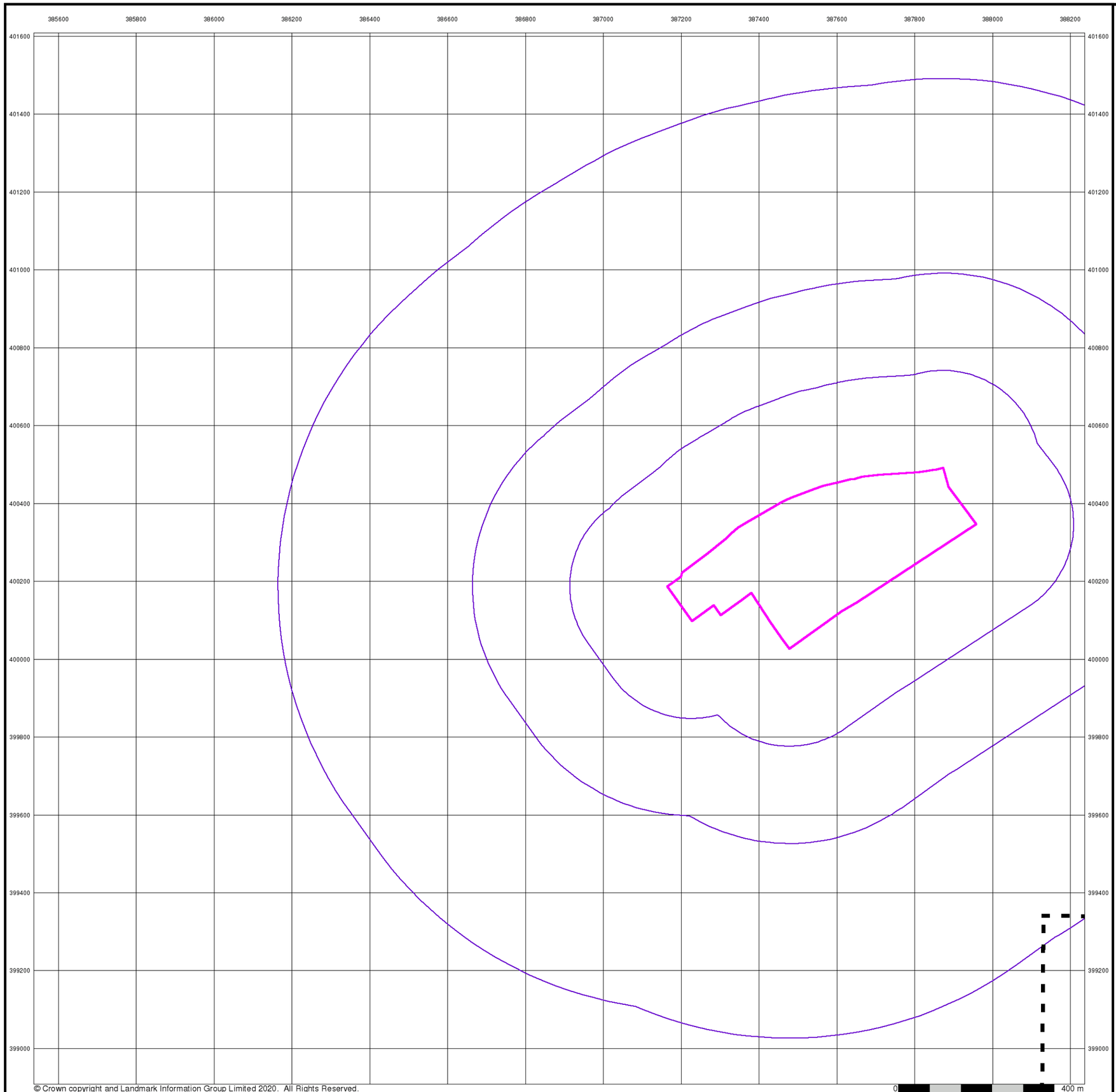

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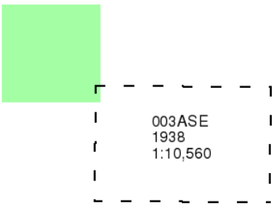
Cheshire

Published 1938

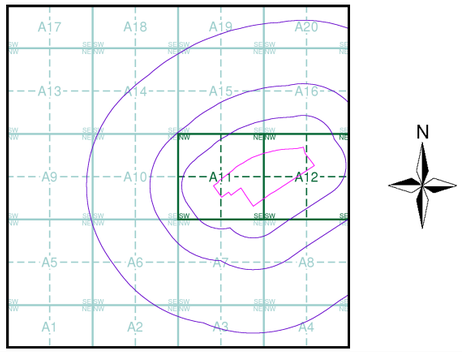
Source map scale - 1:10,560

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

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
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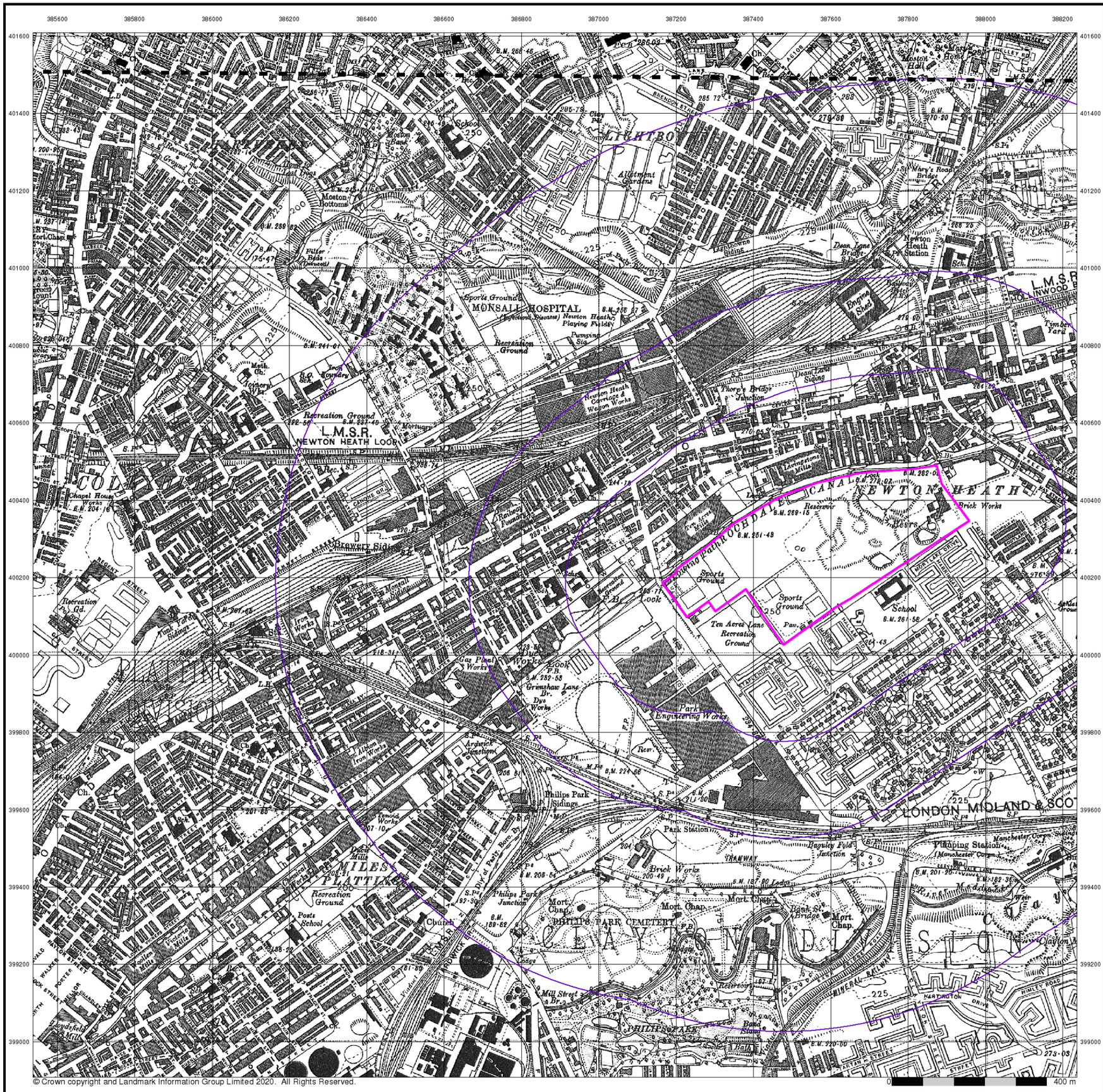

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Lancashire And Furness

Published 1938

Source map scale - 1:10,560

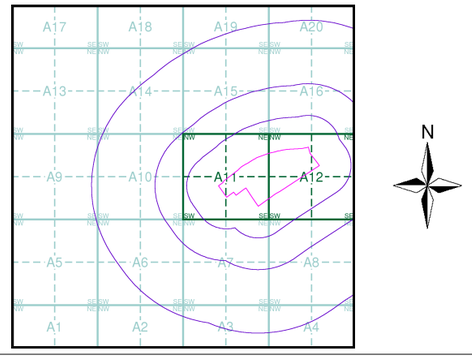
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

096SE
1938
1:10,560

104NE
1938
1:10,560

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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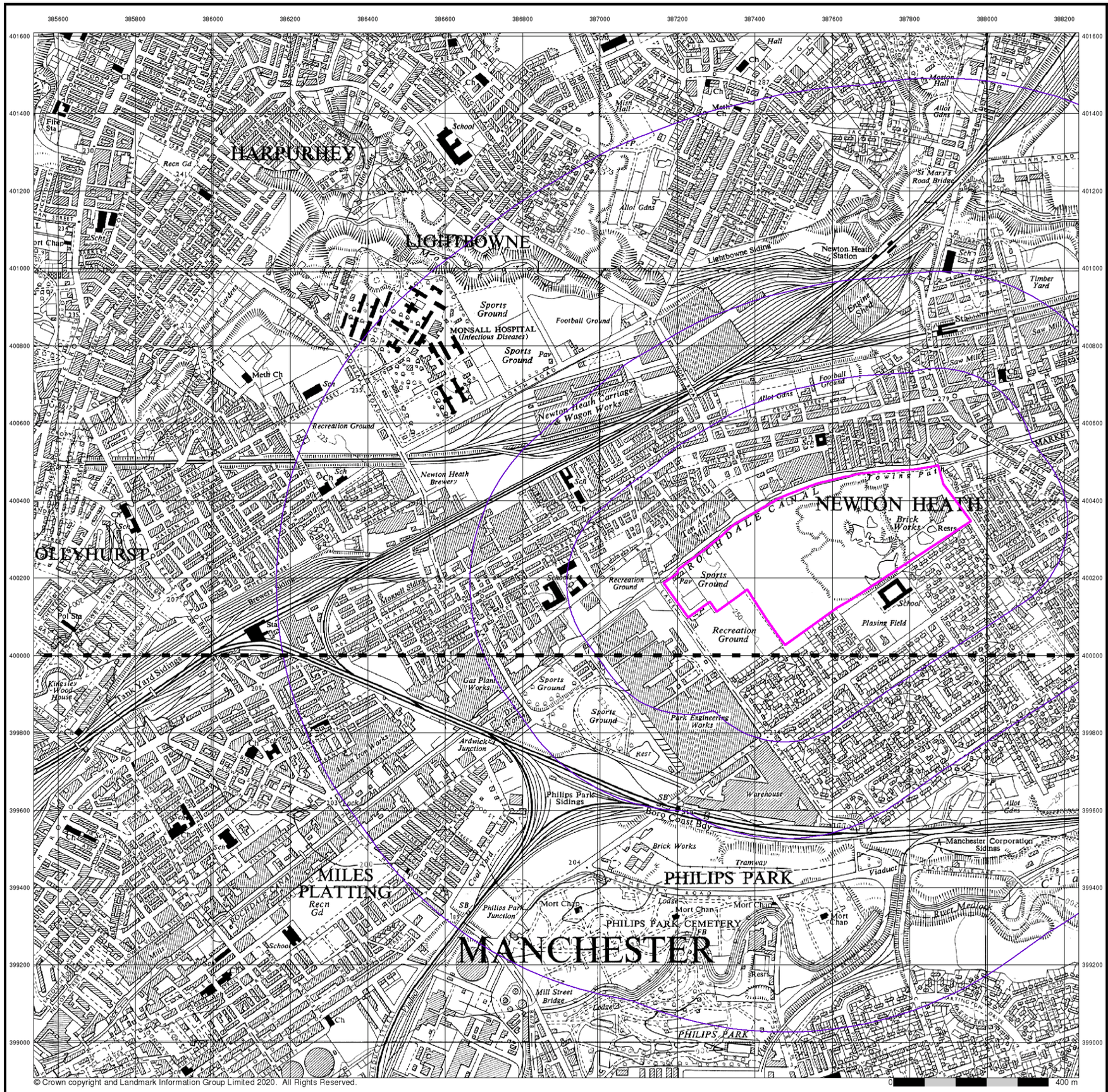

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Ordnance Survey Plan

Published 1956

Source map scale - 1:10,000

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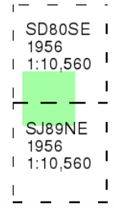
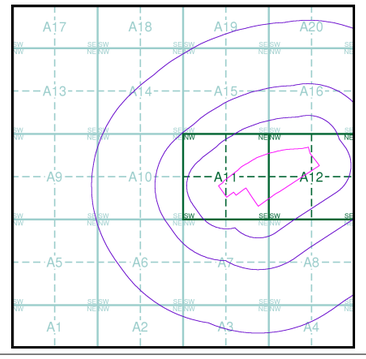
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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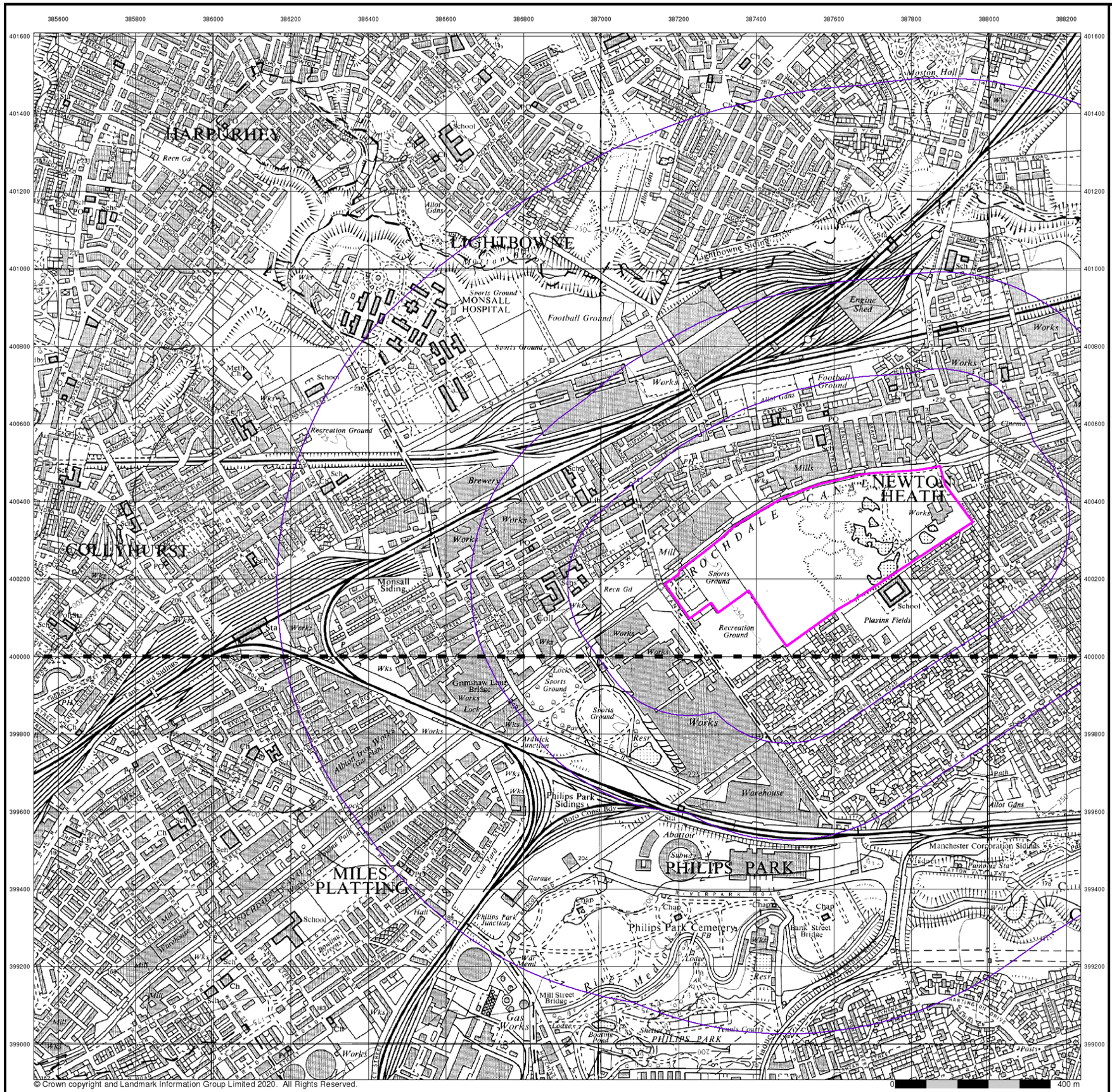

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Ordnance Survey Plan

Published 1966 - 1968

Source map scale - 1:10,000

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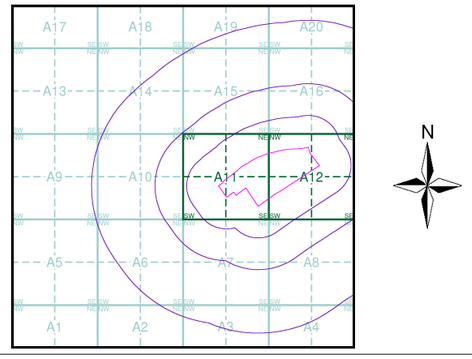
Map Name(s) and Date(s)

SD80SE
1966
1:10,560

SJ89NE
1968
1:10,560

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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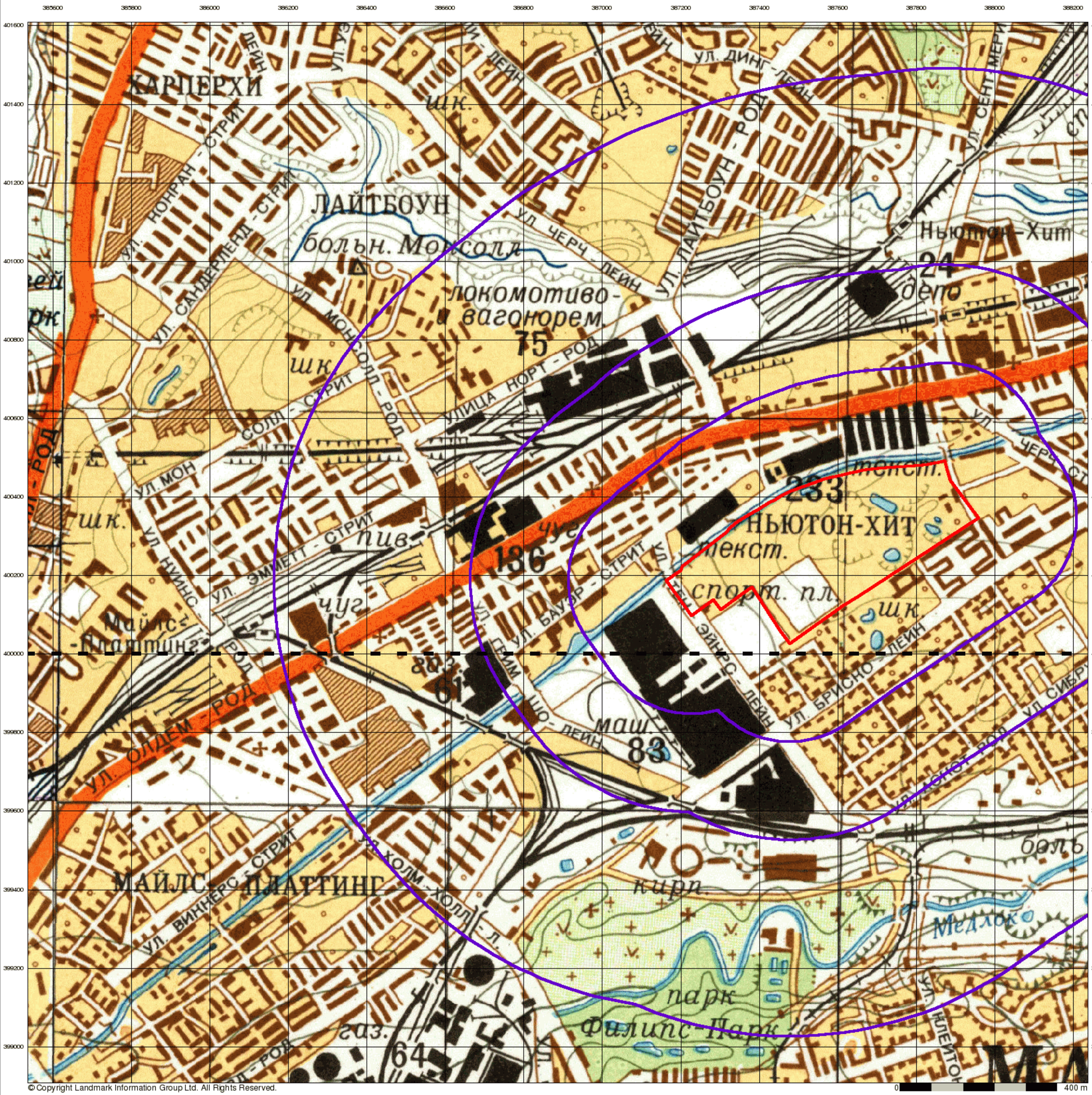

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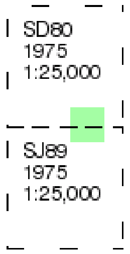
Manchester

Published 1975

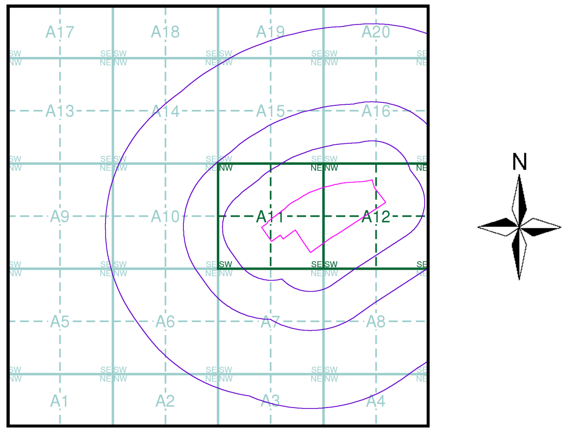
Source map scale - 1:25,000

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)



Russian Map - Slice A



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 1000

Site Details

Site at 387600, 400310

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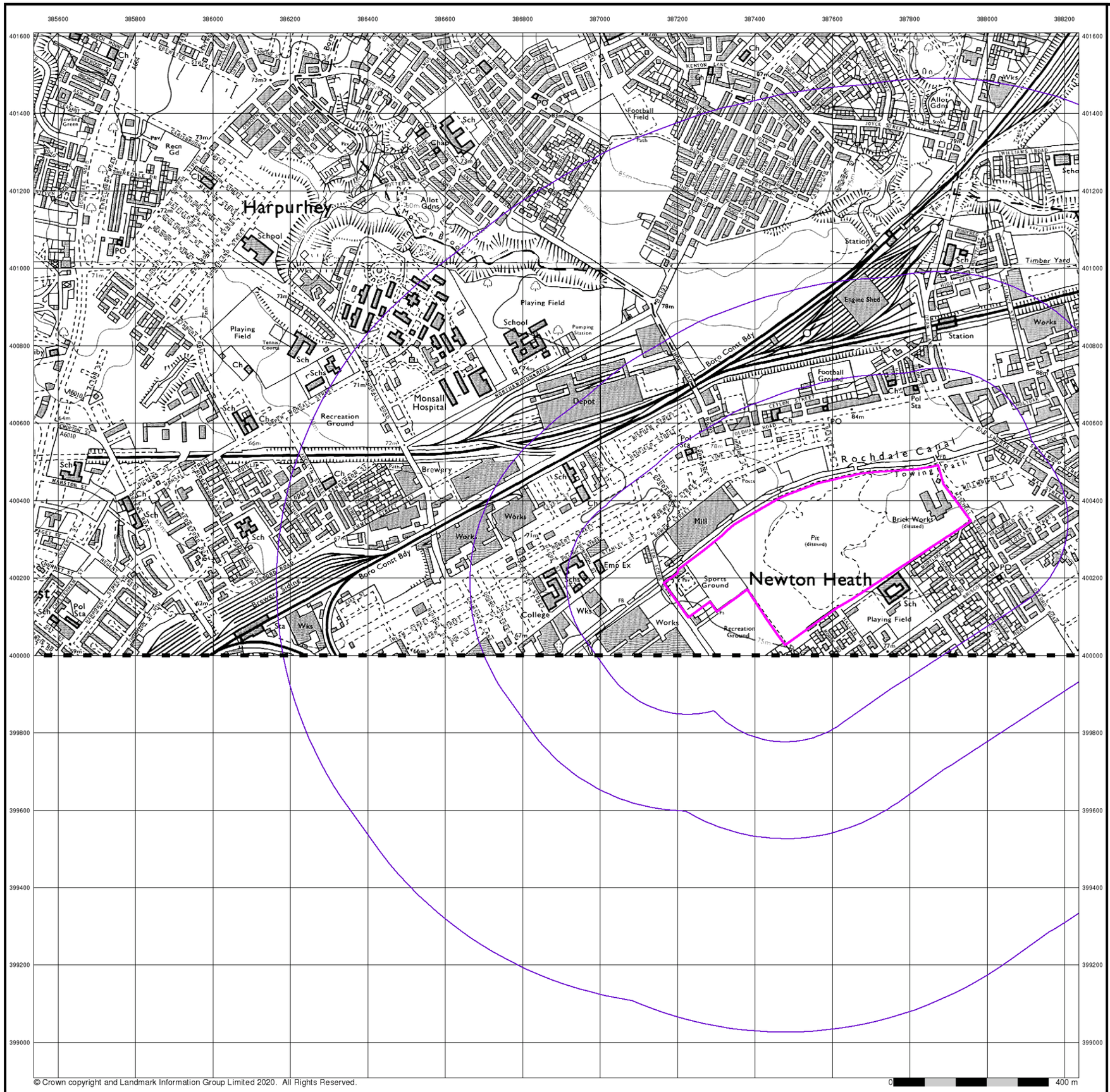

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0 400 m

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Ordnance Survey Plan

Published 1978

Source map scale - 1:10,000

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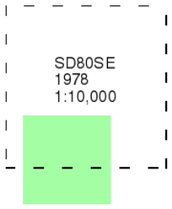
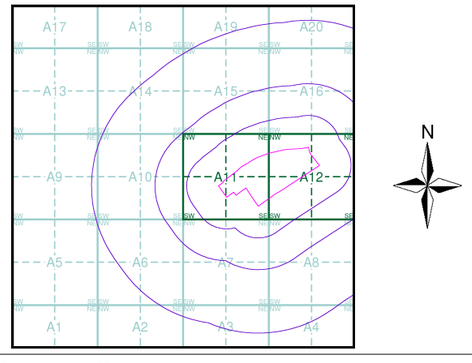
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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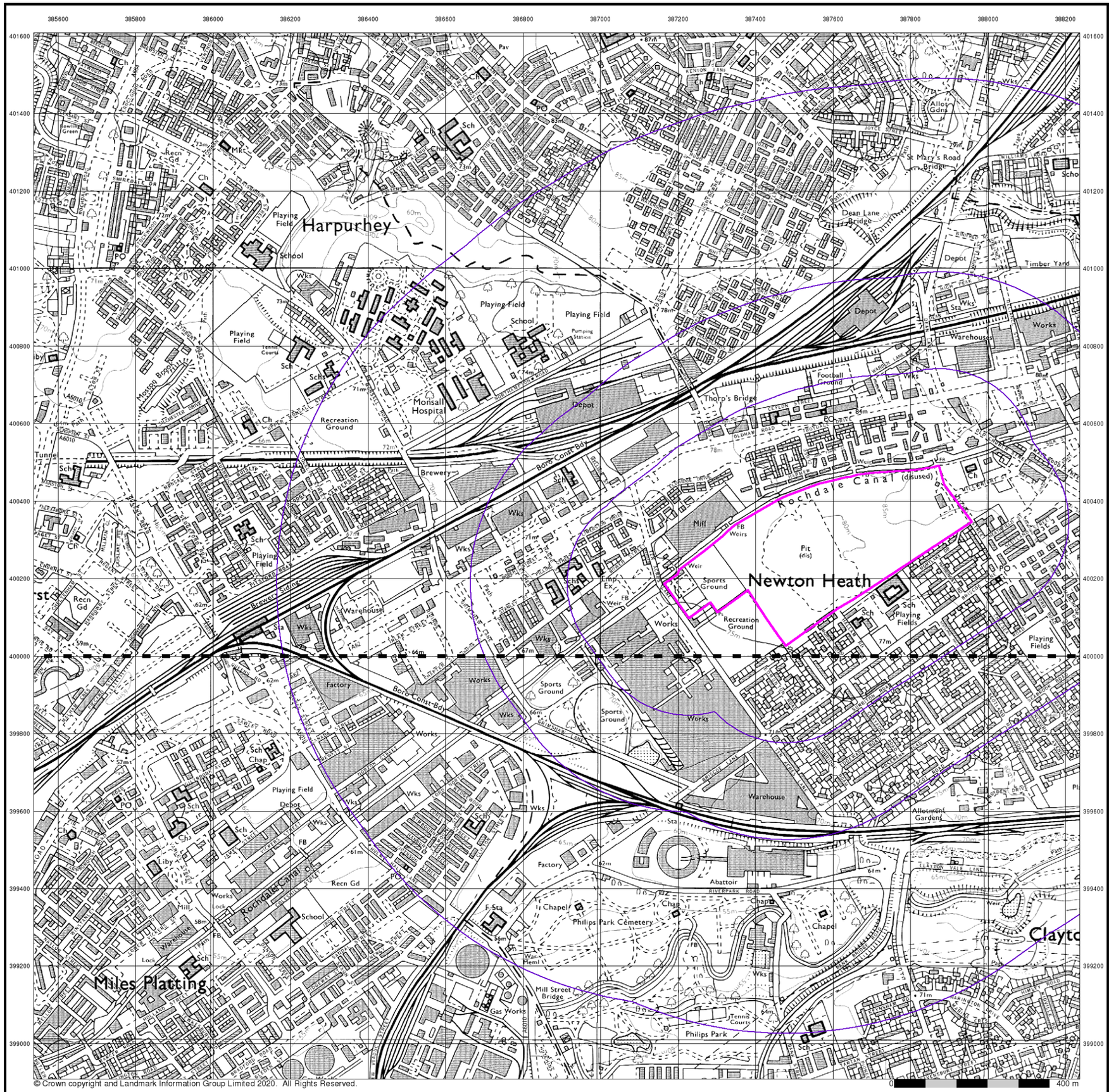

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Ordnance Survey Plan

Published 1981 - 1982

Source map scale - 1:10,000

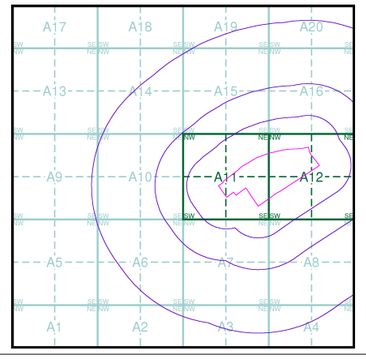
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

SD80SE
1982
1:10,000

SJ89NE
1981
1:10,000

Historical Map - Slice A



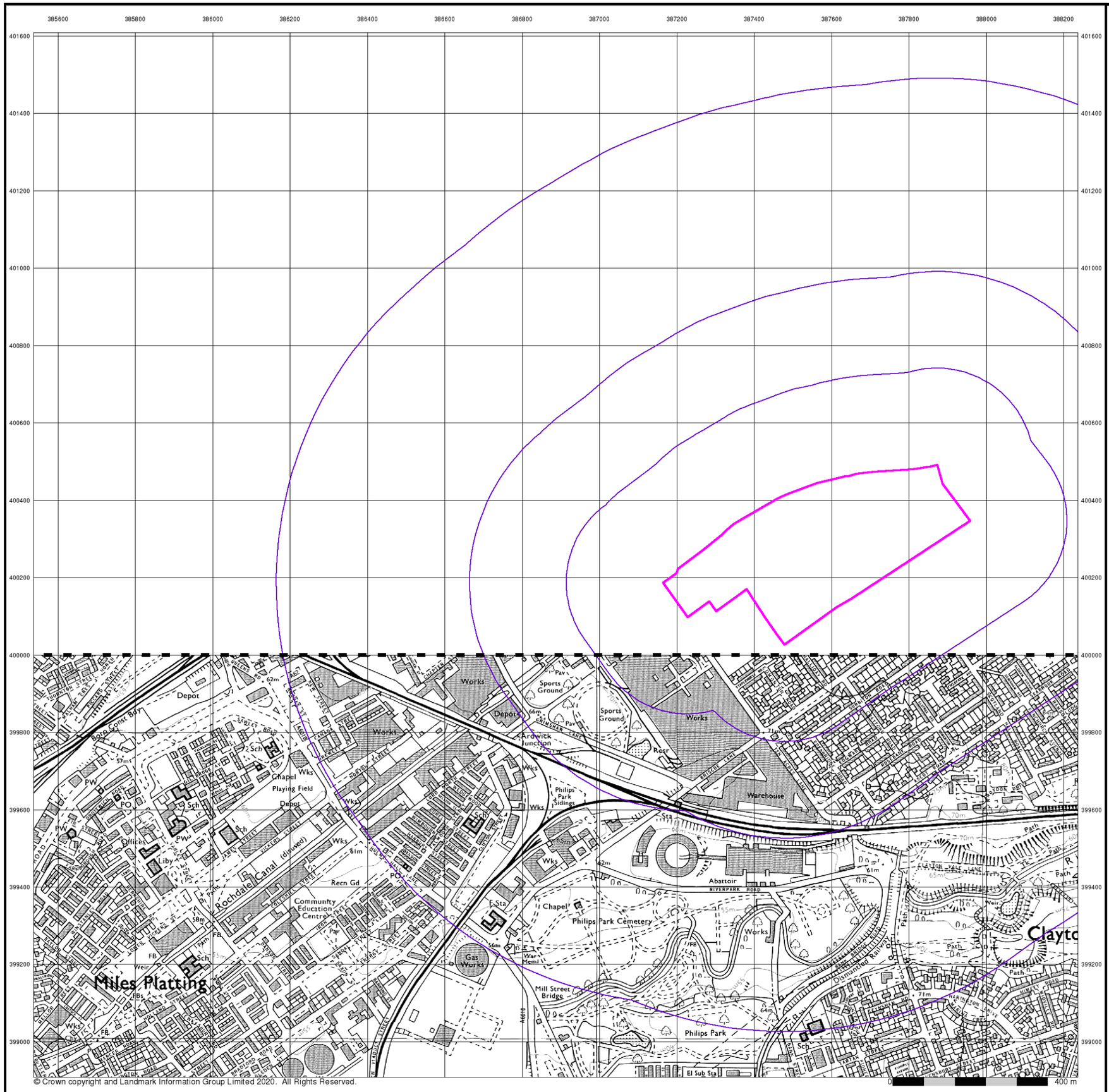
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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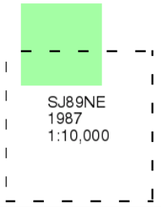
Ordnance Survey Plan

Published 1987

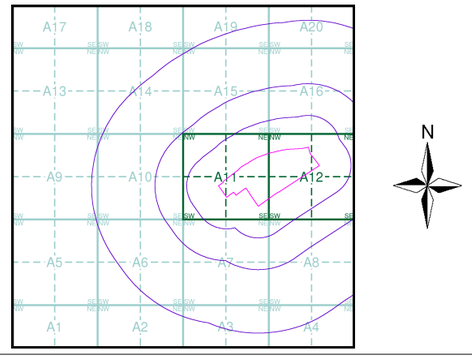
Source map scale - 1:10,000

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



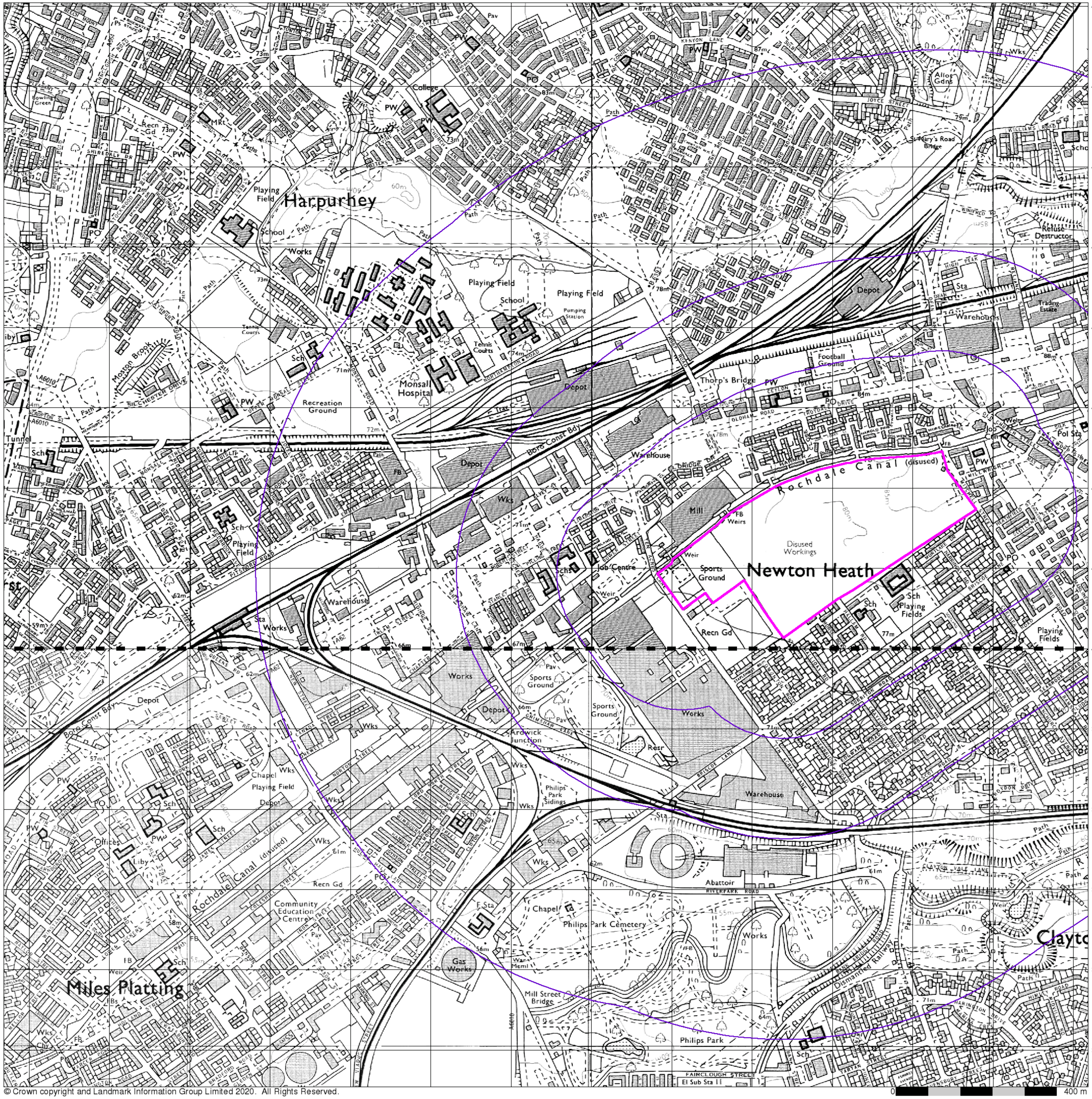
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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Ordnance Survey Plan

Published 1990 - 1993

Source map scale - 1:10,000

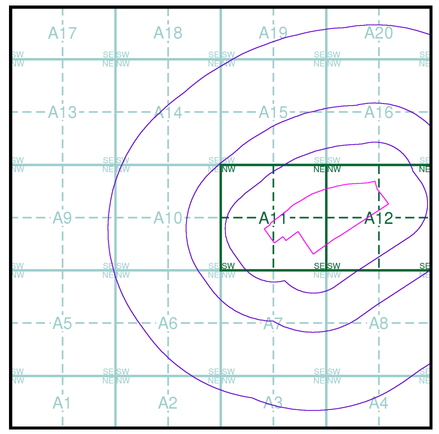
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

SD80SE
1990
1:10,000

SJ89NE
1993
1:10,000

Historical Map - Slice A



N

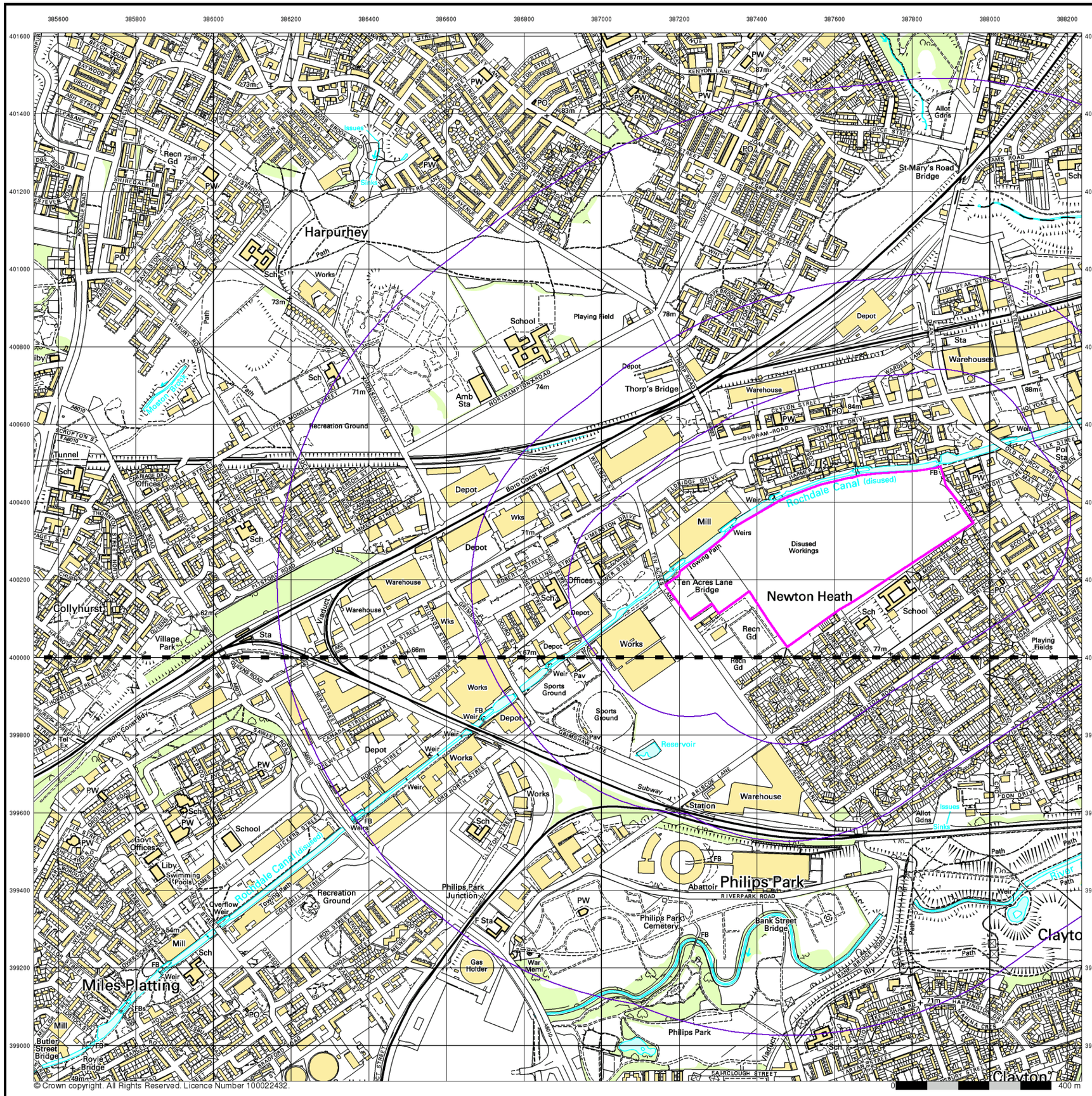
Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 1000

Site Details

Site at 387600, 400310

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



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10k Raster Mapping

Published 1999

Source map scale - 1:10,000

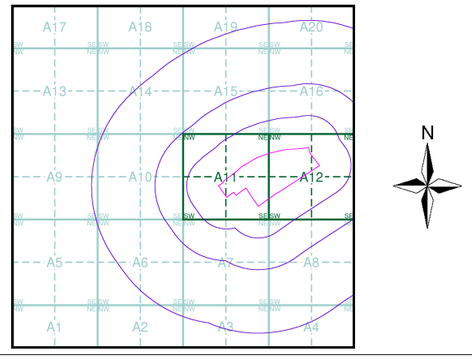
The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

SD80SE
1999
1:10,000

SJ89NE
1999
1:10,000

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP
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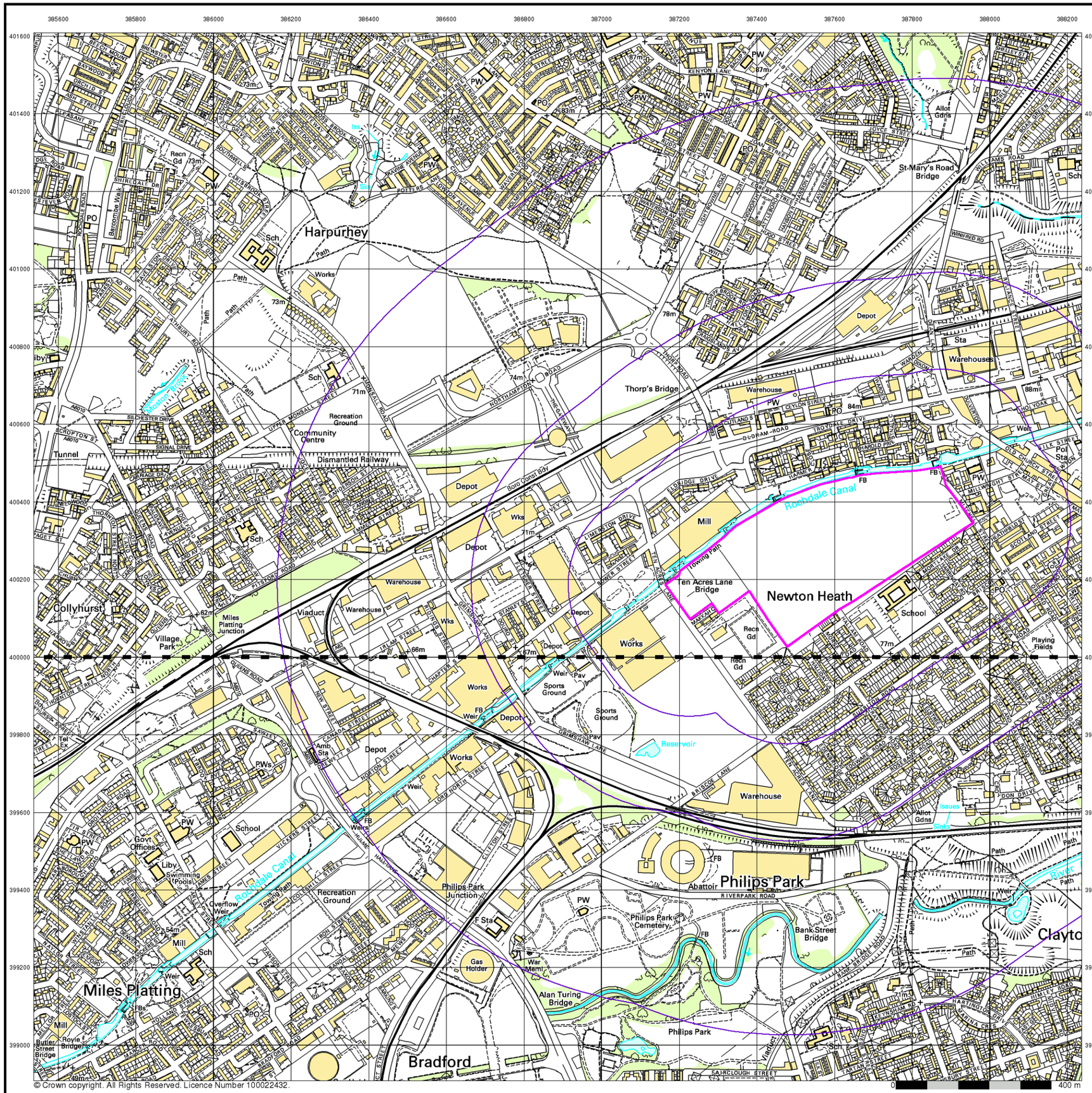
Web: www.envirocheck.co.uk



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10k Raster Mapping

Published 2006

Source map scale - 1:10,000

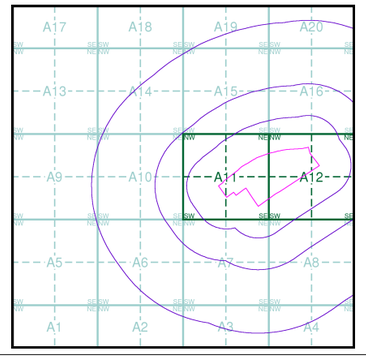
The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

SD80SE
2006
1:10,000

SJ89NE
2006
1:10,000

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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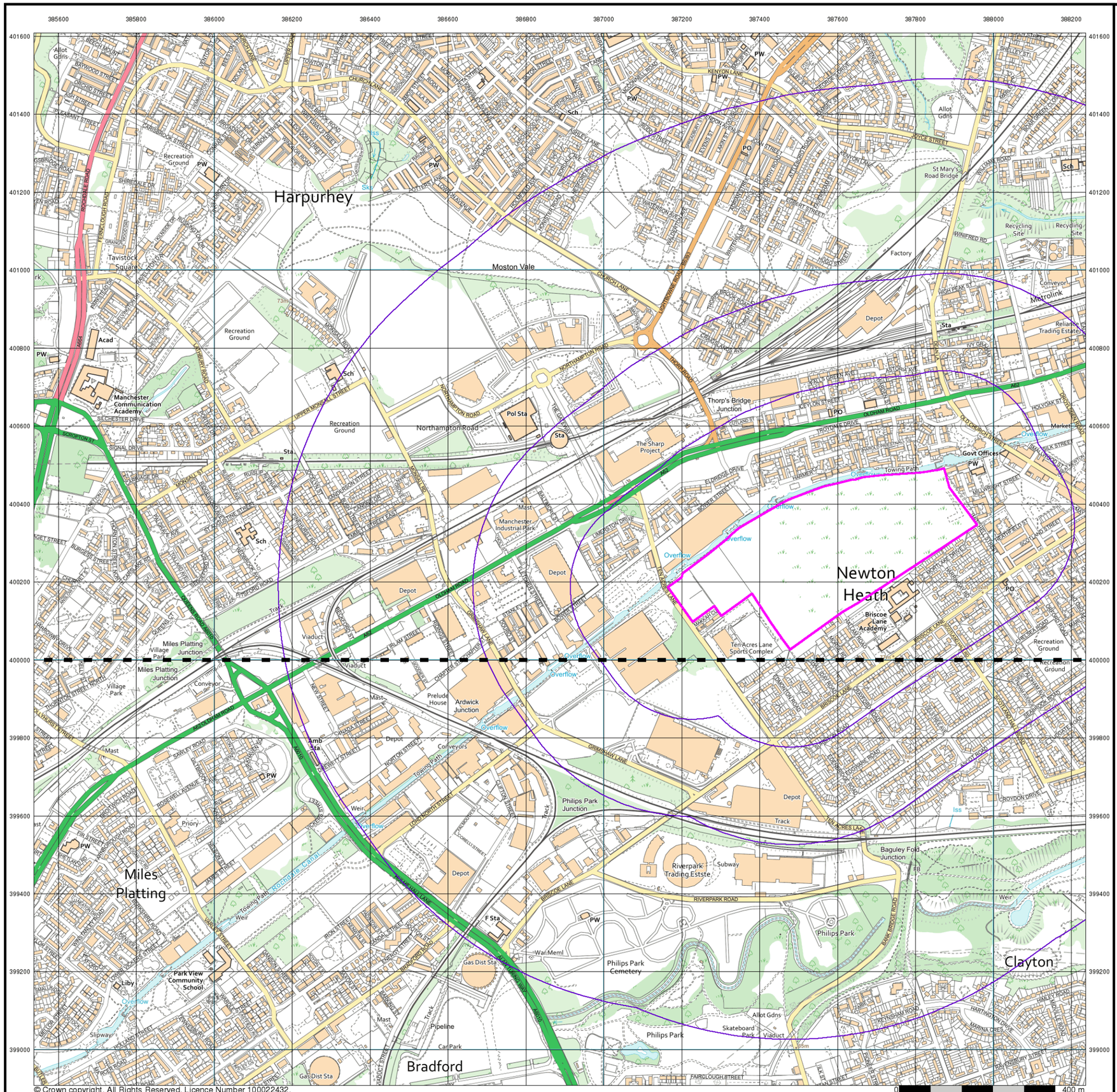

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VectorMap Local

Published 2020

Source map scale - 1:10,000

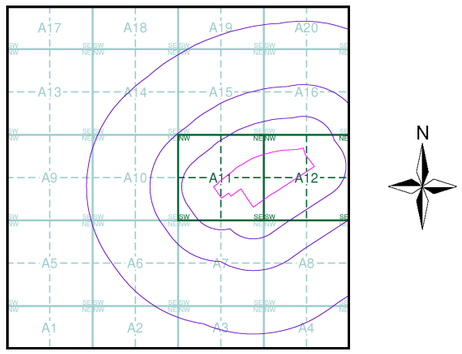
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap 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)

SD80SE
2020
Variable

SJ89NE
2020
Variable

Historical Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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

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
Electricity Transmission Line
Pole
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

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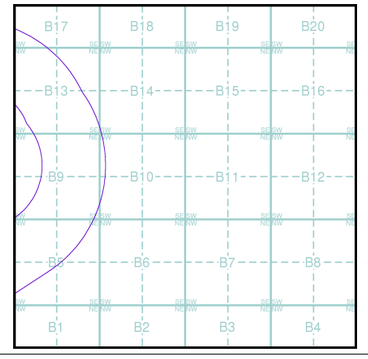
Historical Mapping & Photography included:

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 - 1895	5
Cheshire	1:10,560	1899	6
Lancashire And Furness	1:10,560	1909 - 1910	7
Cheshire	1:10,560	1911	8
Lancashire And Furness	1:10,560	1922 - 1923	9
Lancashire And Furness	1:10,560	1932 - 1933	10
Cheshire	1:10,560	1938	11
Lancashire And Furness	1:10,560	1938	12
Lancashire And Furness	1:10,560	1938	13
Ordnance Survey Plan	1:10,000	1954 - 1956	14
Ordnance Survey Plan	1:10,000	1966 - 1968	15
Ordnance Survey Plan	1:10,000	1970 - 1978	16
Manchester	1:25,000	1975	17
Ordnance Survey Plan	1:10,000	1981 - 1983	18
Ordnance Survey Plan	1:10,000	1987	19
Ordnance Survey Plan	1:10,000	1990 - 1993	20
10K Raster Mapping	1:10,000	1999	21
10K Raster Mapping	1:10,000	2006	22
VectorMap Local	1:10,000	2020	23

Historical Map - Slice B



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 388530, 400380
Slice: B
Site Area (Ha): 18.51
Search Buffer (m): 1000

Site Details

Site at 387600, 400310

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

Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

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

243,8 Values for prominent elevations

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

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

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

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

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

Key to Numbers on Mapping

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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 - 1895	5
Cheshire	1:10,560	1899	6
Lancashire And Furness	1:10,560	1909 - 1910	7
Cheshire	1:10,560	1911	8
Lancashire And Furness	1:10,560	1922 - 1923	9
Lancashire And Furness	1:10,560	1932 - 1933	10
Cheshire	1:10,560	1938	11
Lancashire And Furness	1:10,560	1938	12
Lancashire And Furness	1:10,560	1938	13
Ordnance Survey Plan	1:10,000	1954 - 1956	14
Ordnance Survey Plan	1:10,000	1966 - 1968	15
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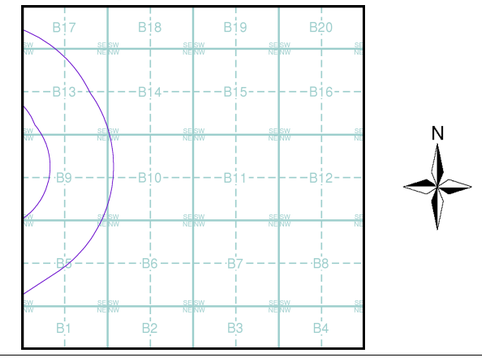
Ordnance Survey Plan	1:10,000	1981 - 1983	18
Ordnance Survey Plan	1:10,000	1987	19
Ordnance Survey Plan	1:10,000	1990 - 1993	20
10K Raster Mapping	1:10,000	1999	21
10K Raster Mapping	1:10,000	2006	22
VectorMap Local	1:10,000	2020	23

Russian Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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

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Lancashire And Furness

Published 1848

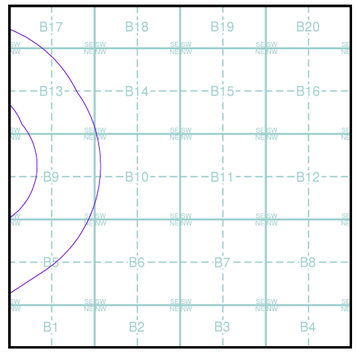
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

09600 1848 1:10,560	09700 1848 1:10,560
10400 1848 1:10,560	10500 1848 1:10,560

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
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Slice:	B
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Search Buffer (m):	1000

Site Details

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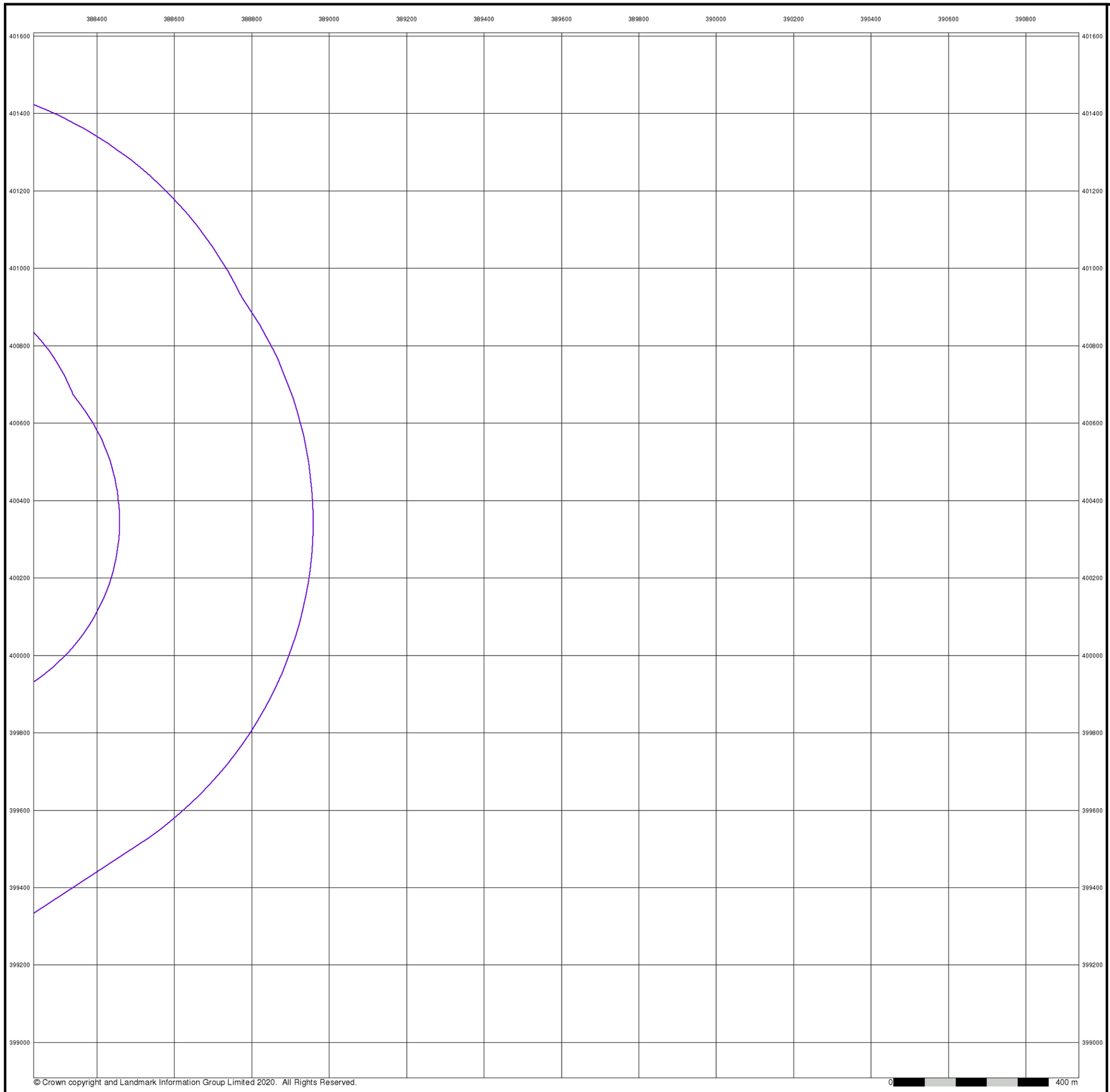

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wardell armstrong

Cheshire

Published 1882

Source map scale - 1:10,560

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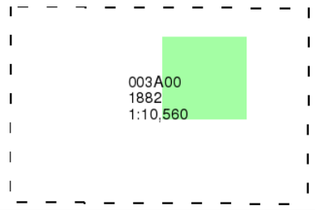
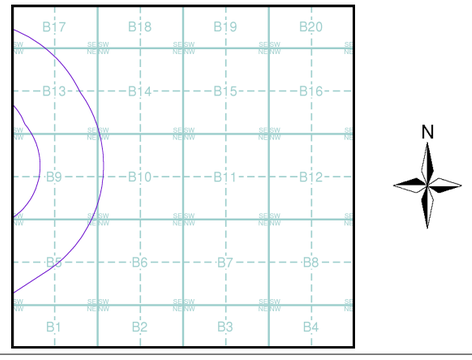
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

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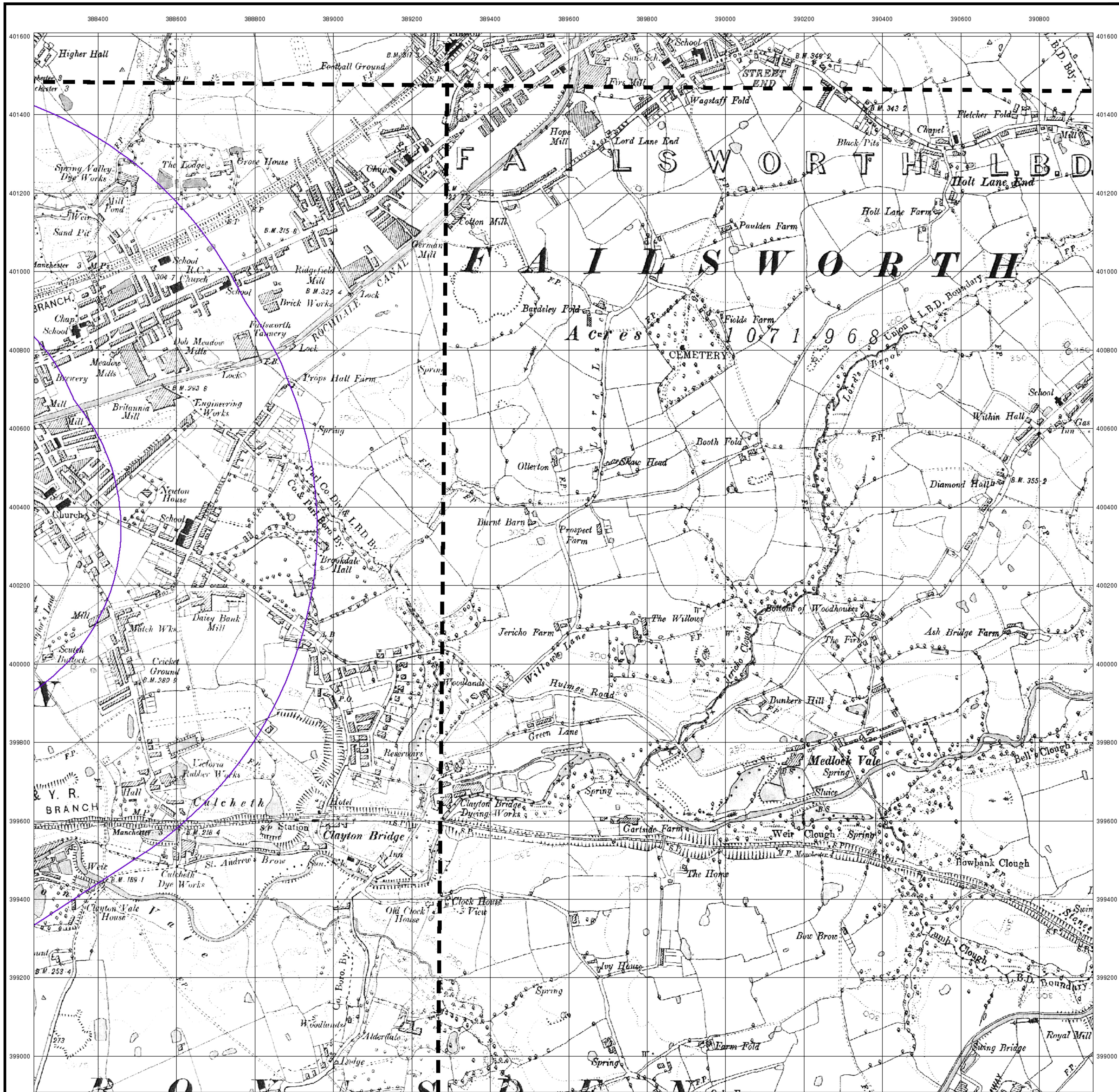

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Lancashire And Furness

Published 1894 - 1895

Source map scale - 1:10,560

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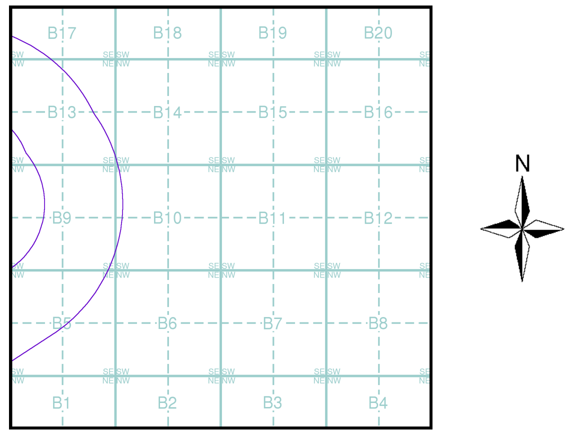
Map Name(s) and Date(s)

096SE 1894 1:10,560	097SW 1895 1:10,560
104NE 1894 1:10,560	105NW 1895 1:10,560

Historical Map - Slice B



Order Details

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Customer Ref: Ten Acres
National Grid Reference: 388530, 400380
Slice: B
Site Area (Ha): 18.51
Search Buffer (m): 1000

Site Details

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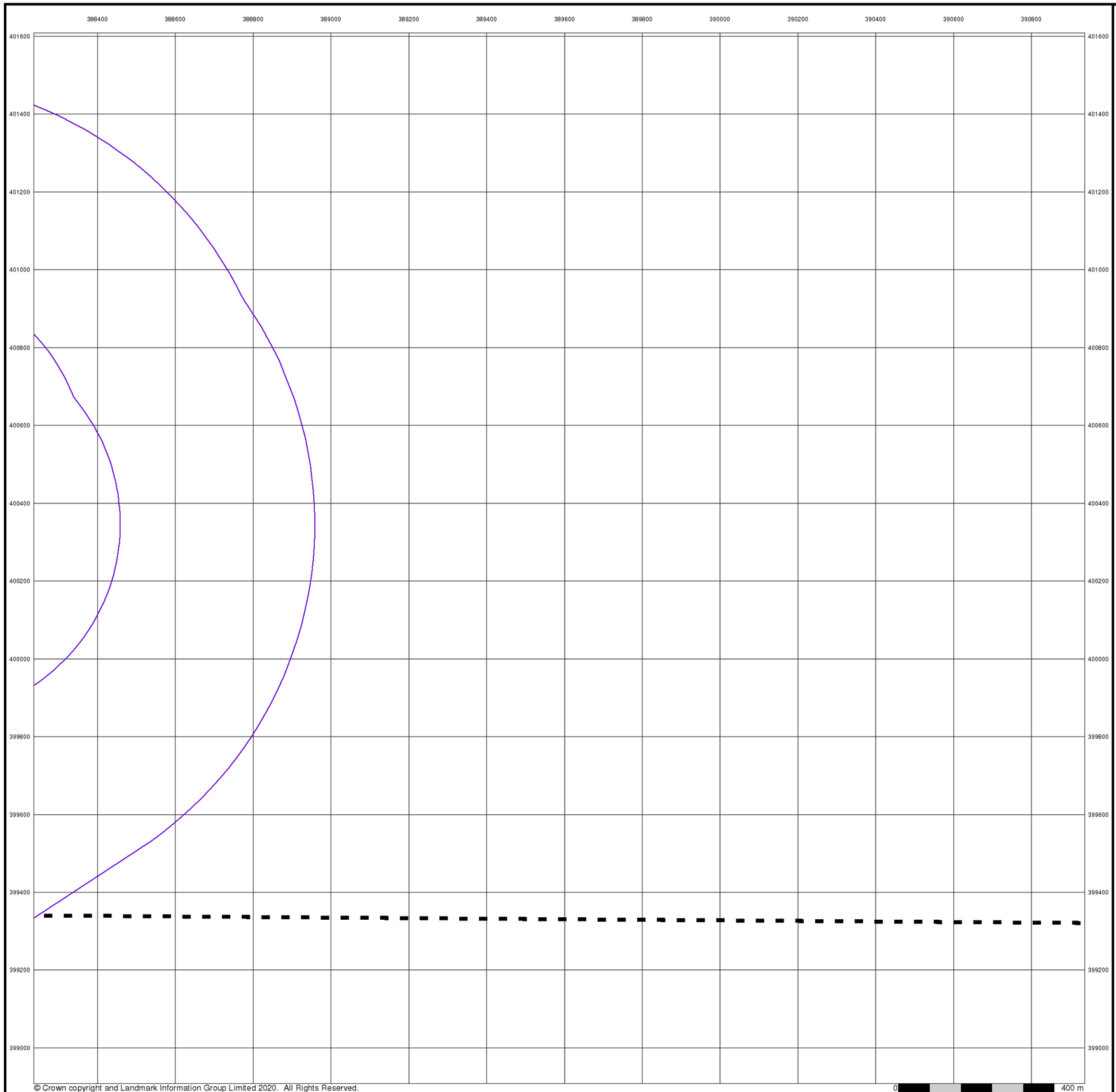

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wardell armstrong

Cheshire

Published 1899

Source map scale - 1:10,560

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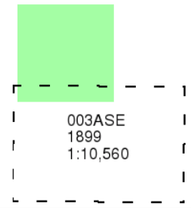
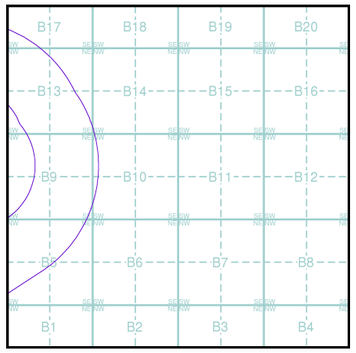
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

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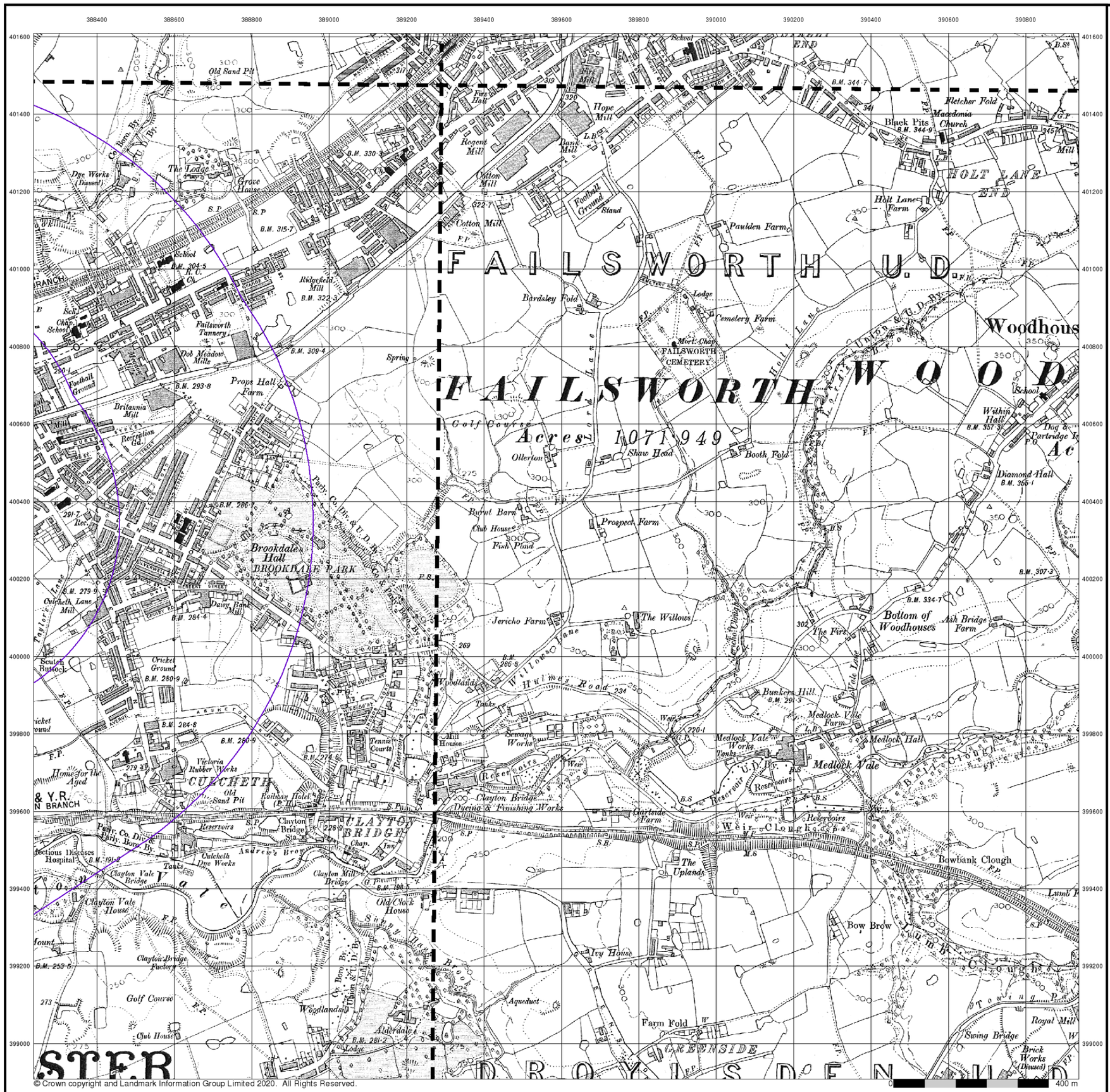

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wardell armstrong

Lancashire And Furness

Published 1909 - 1910

Source map scale - 1:10,560

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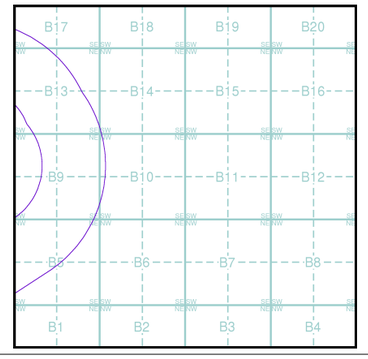
Map Name(s) and Date(s)

096SE 1910 1:10,560	097SW 1910 1:10,560
104NE 1909 1:10,560	105NW 1910 1:10,560

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
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Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

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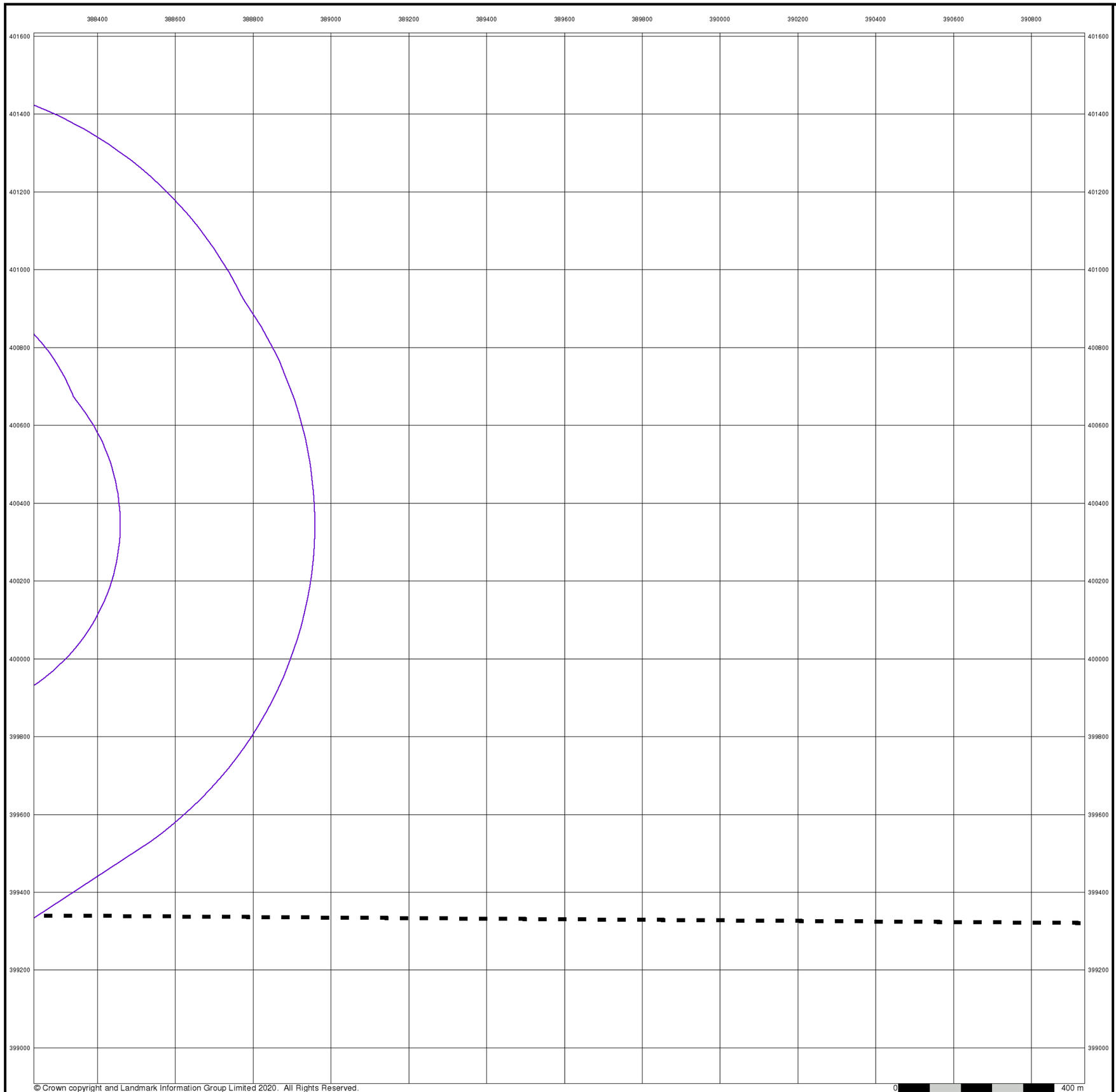

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wardell armstrong

Cheshire

Published 1911

Source map scale - 1:10,560

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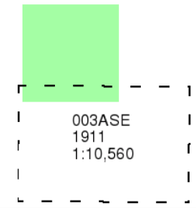
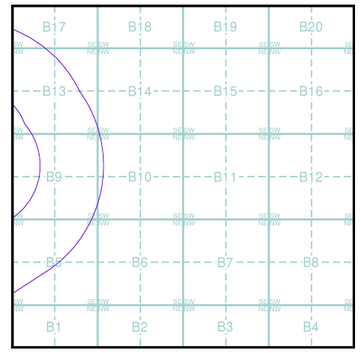
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
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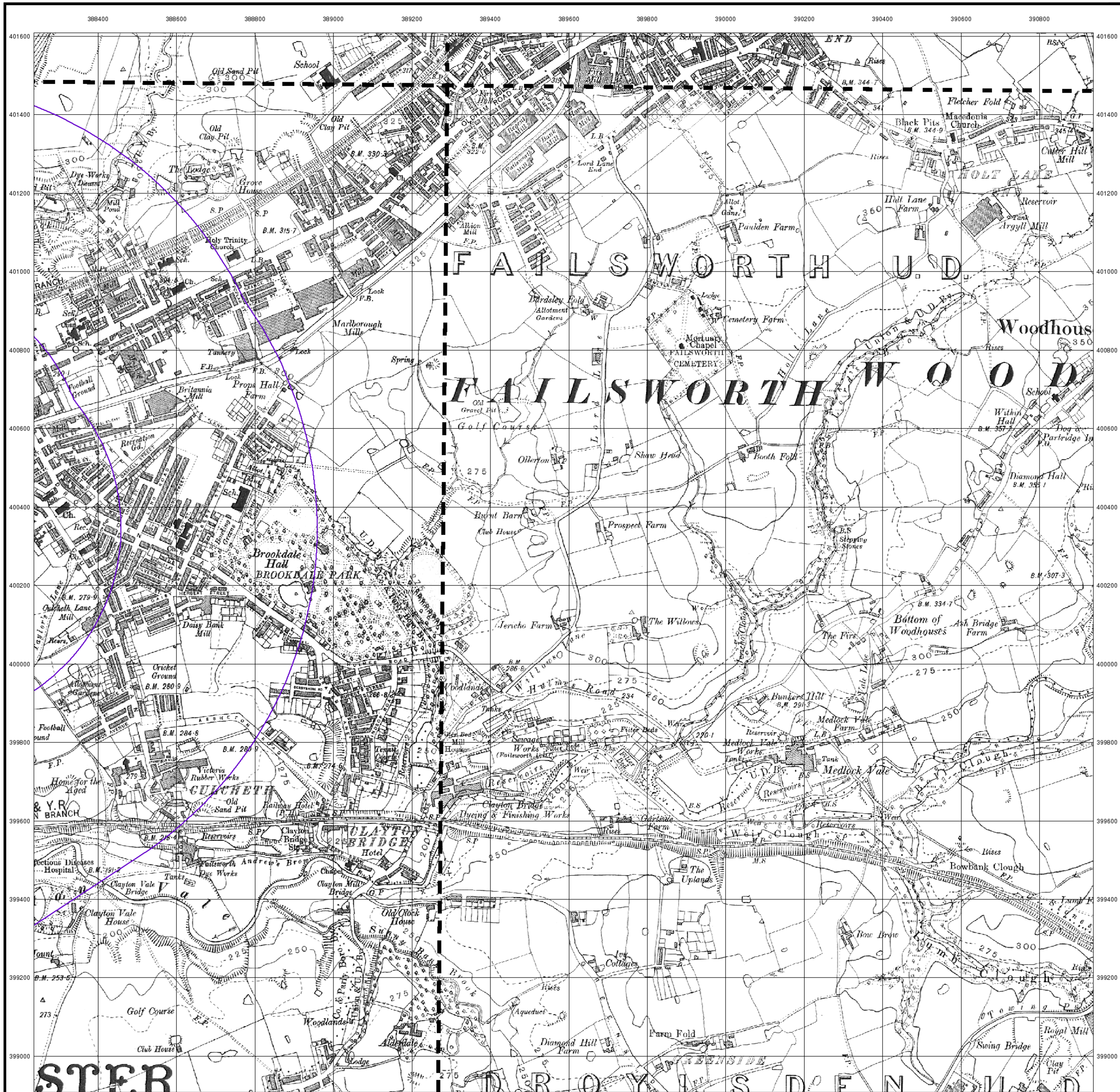

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Lancashire And Furness

Published 1922 - 1923

Source map scale - 1:10,560

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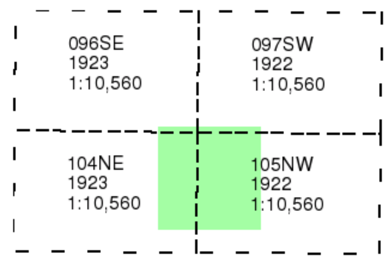
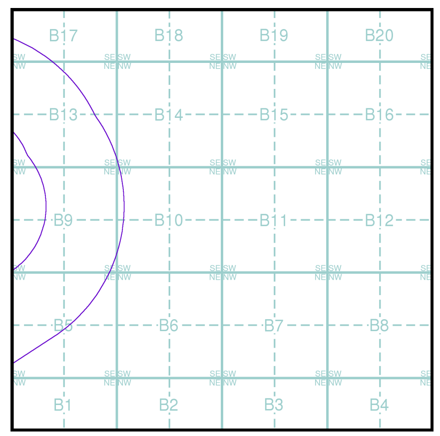
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 388530, 400380
Slice: B
Site Area (Ha): 18.51
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Site Details

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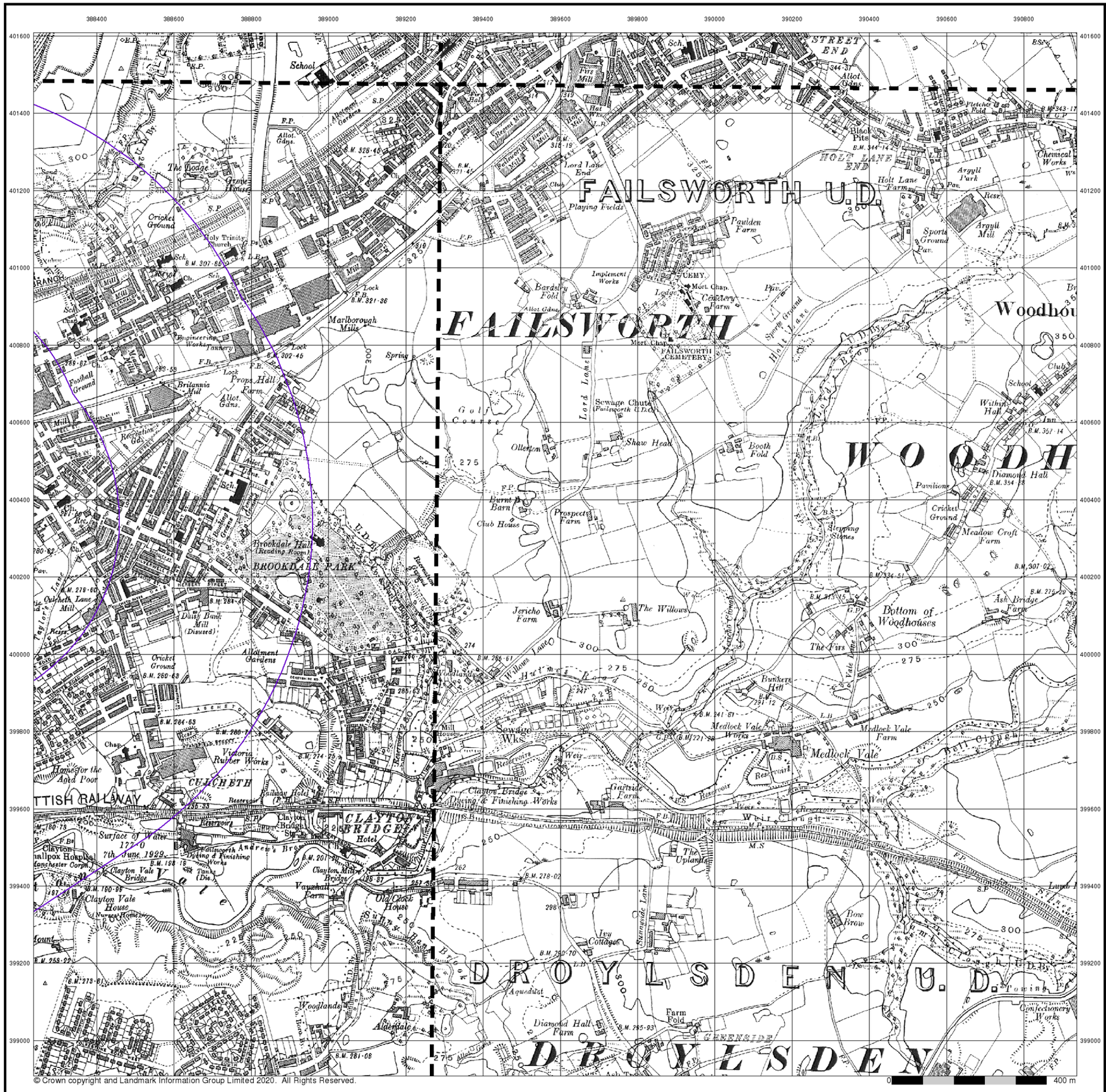

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wardell armstrong

Lancashire And Furness

Published 1932 - 1933

Source map scale - 1:10,560

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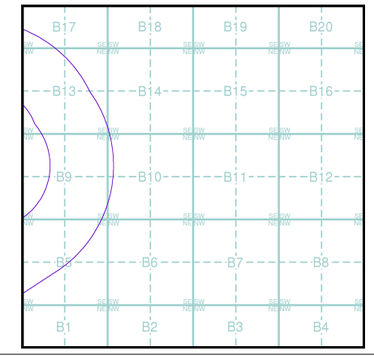
Map Name(s) and Date(s)

096SE 1933 1:10,560	097SW 1933 1:10,560
104NE 1932 1:10,560	105NW 1933 1:10,560

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
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National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

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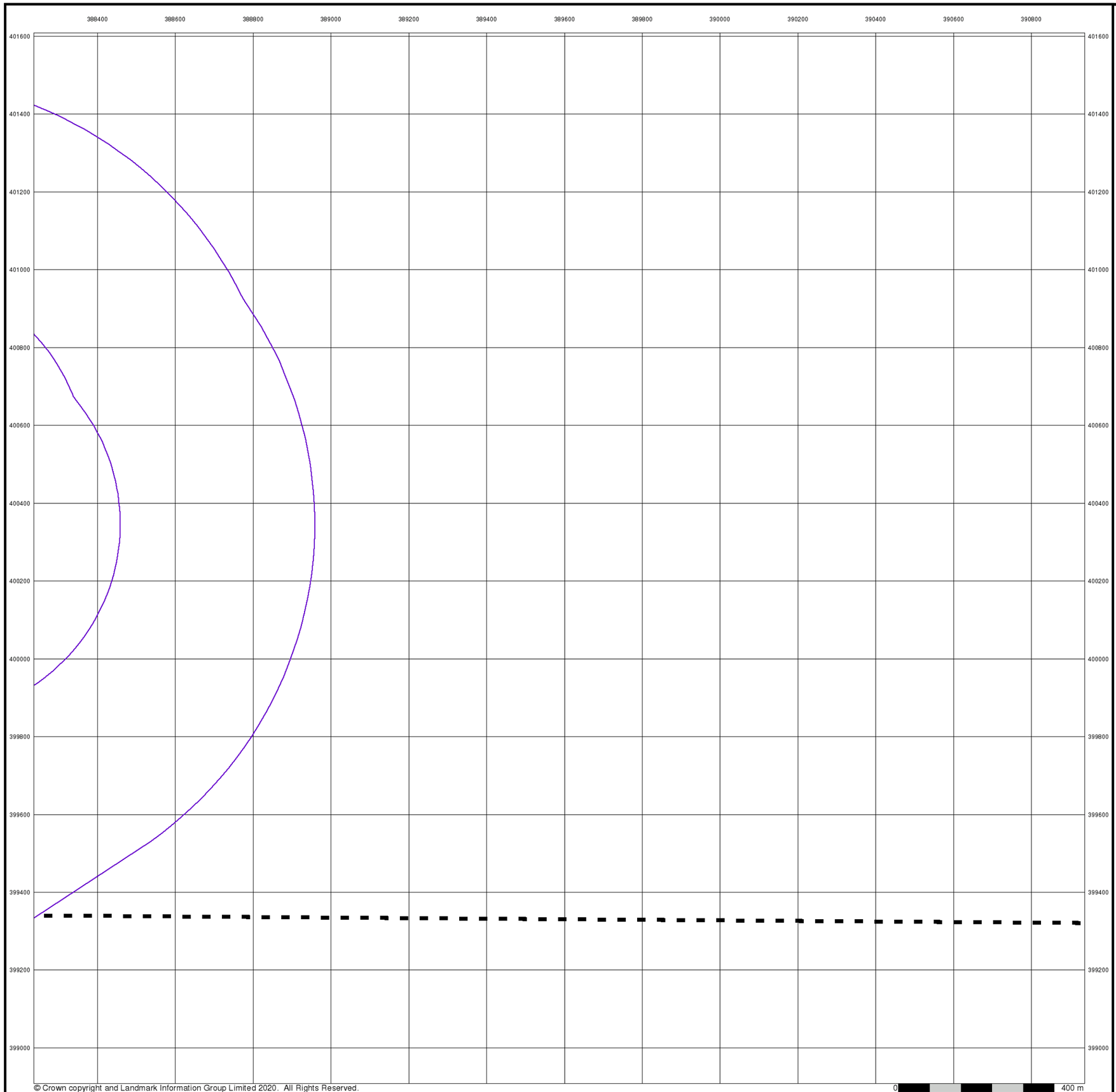

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Cheshire

Published 1938

Source map scale - 1:10,560

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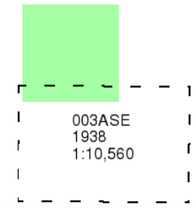
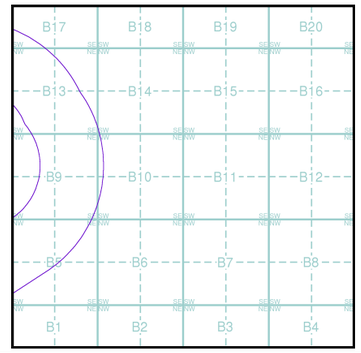
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
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Lancashire And Furness

Published 1938

Source map scale - 1:10,560

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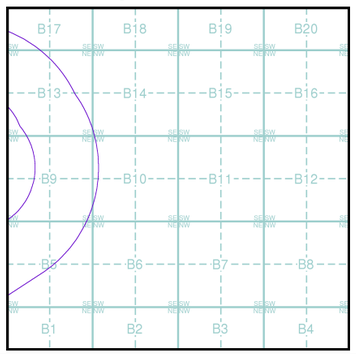
Map Name(s) and Date(s)

096SE 1938 1:10,560	097SW 1938 1:10,560
104NE 1938 1:10,560	105NW 1938 1:10,560

Historical Map - Slice B



Order Details

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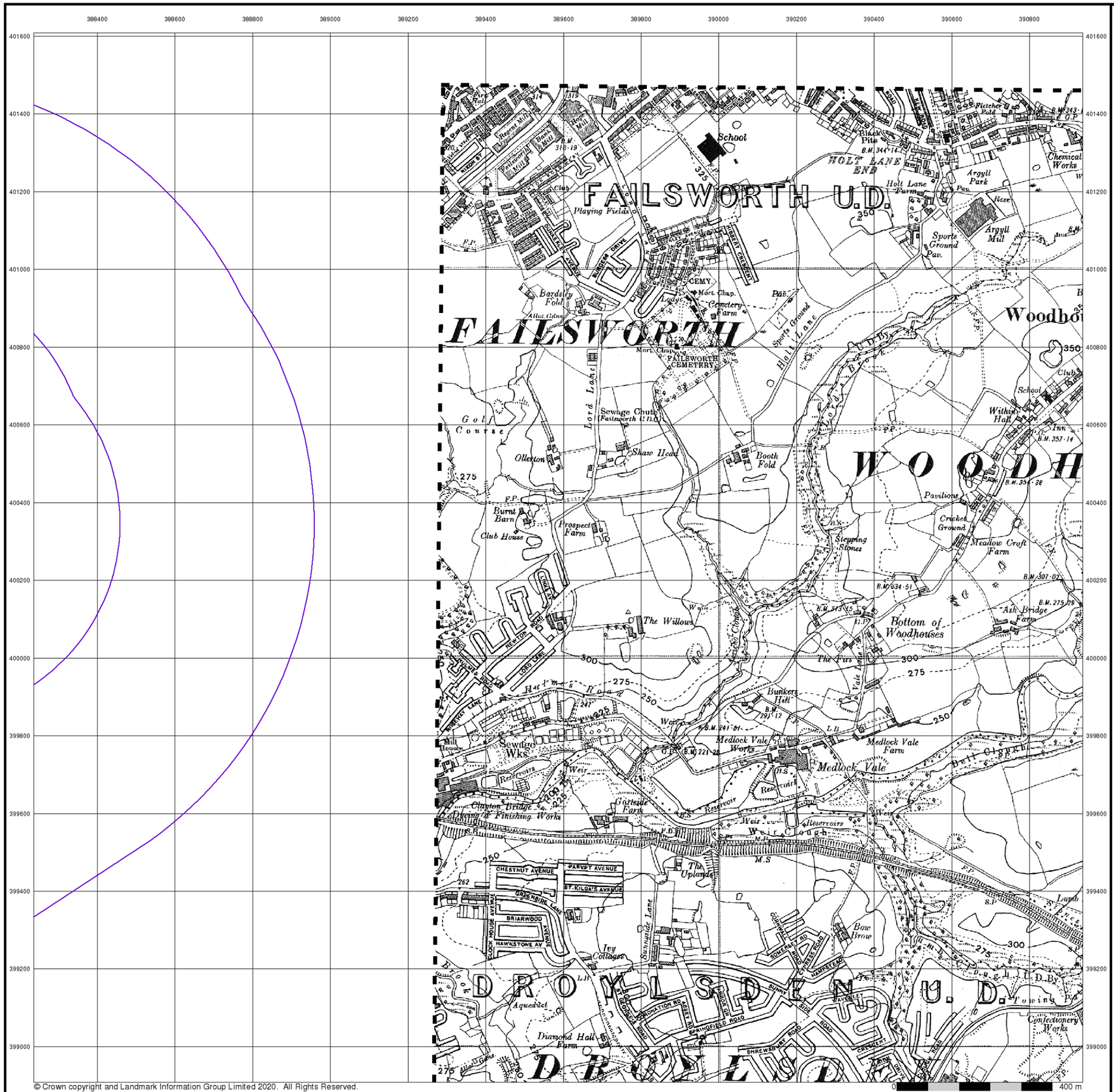

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Lancashire And Furness

Published 1938

Source map scale - 1:10,560

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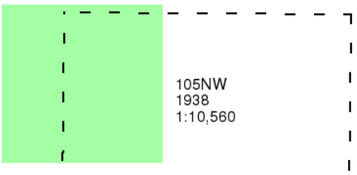
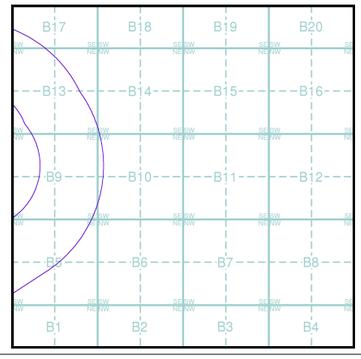


Historical Map - Slice B



Order Details

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Slice:	B
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Site Details

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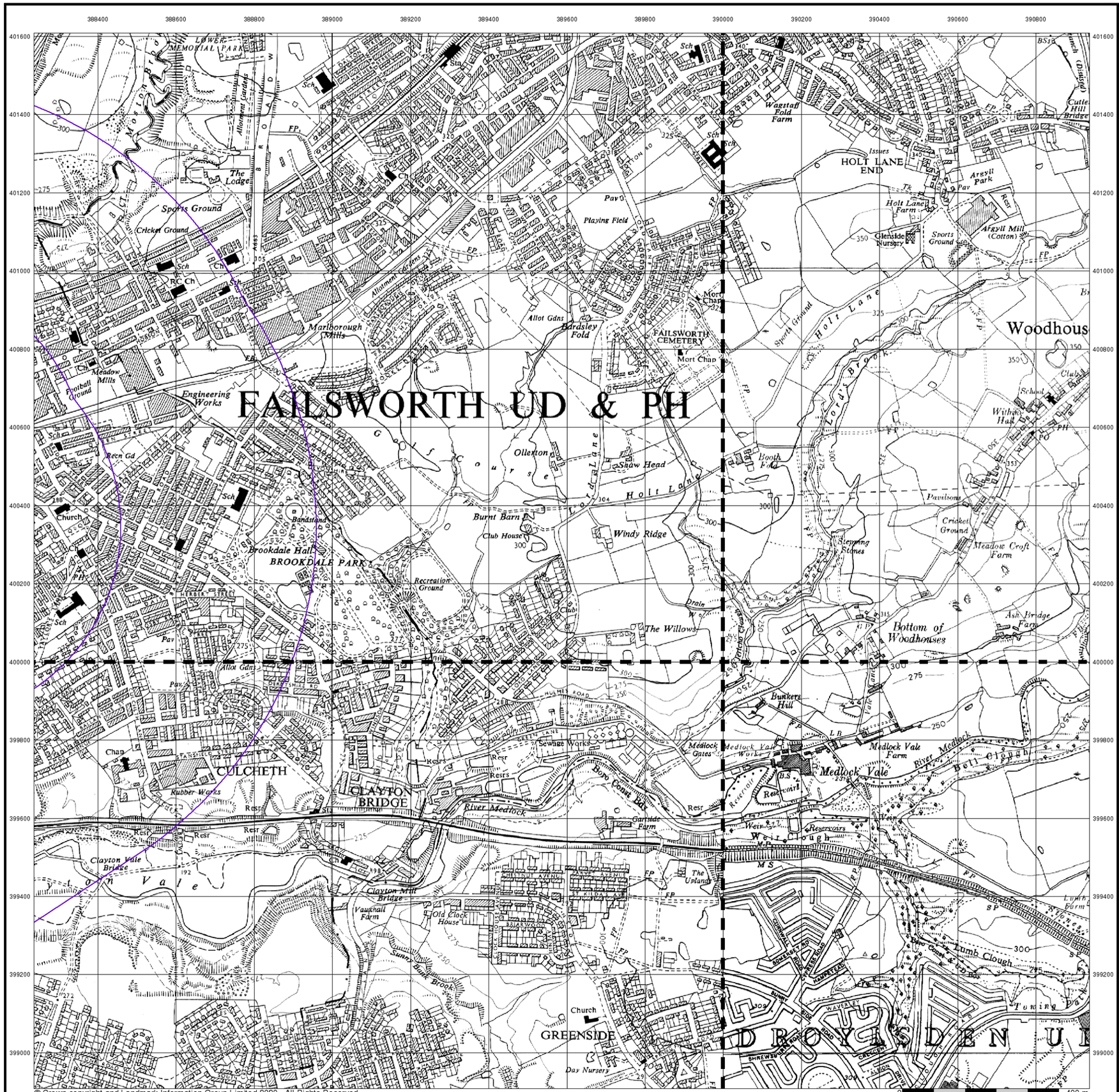

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Ordnance Survey Plan

Published 1954 - 1956

Source map scale - 1:10,000

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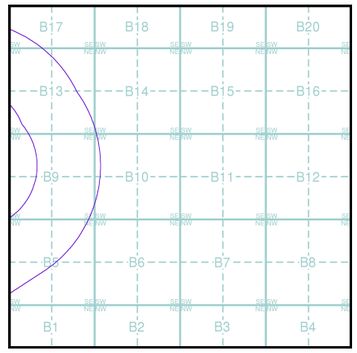
Map Name(s) and Date(s)

SD80SE 1956 1:10,560	SD90SW 1956 1:10,560
SJ89NE 1956 1:10,560	SJ99NW 1954 1:10,560

Historical Map - Slice B



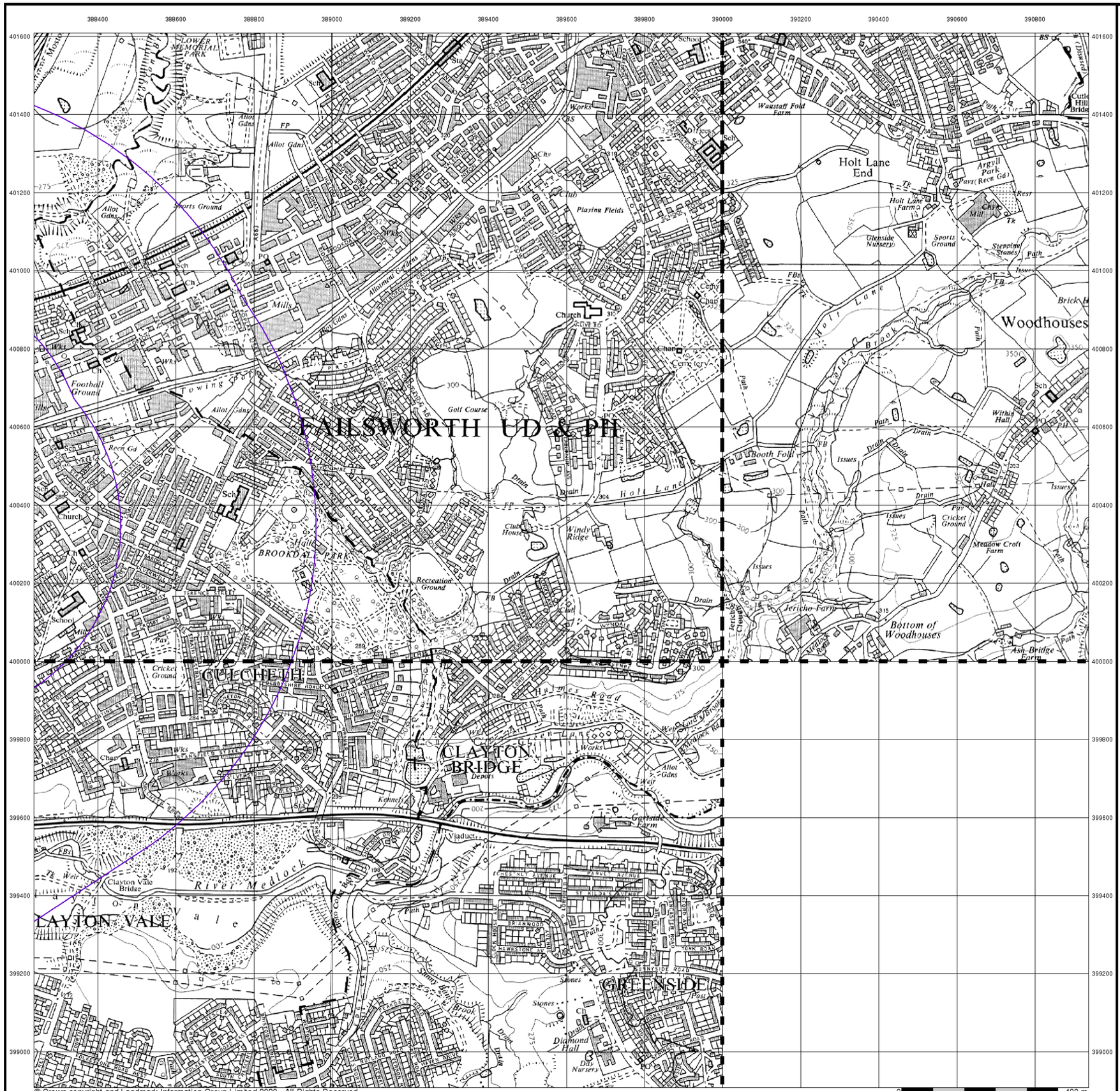
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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Ordnance Survey Plan

Published 1966 - 1968

Source map scale - 1:10,000

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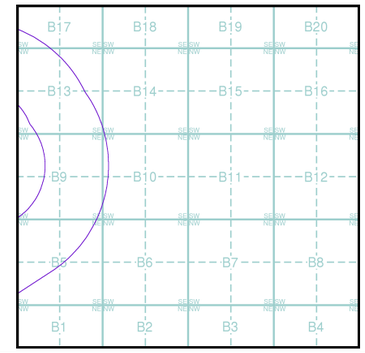
Map Name(s) and Date(s)

SD80SE 1966 1:10,560
SD90SW 1967 1:10,560
SJ89NE 1968 1:10,560

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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Ordnance Survey Plan

Published 1970 - 1978

Source map scale - 1:10,000

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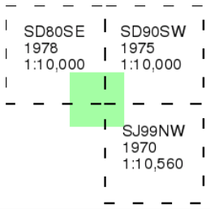
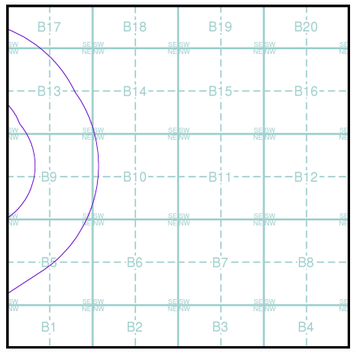
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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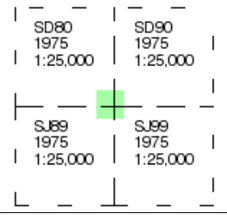
Manchester

Published 1975

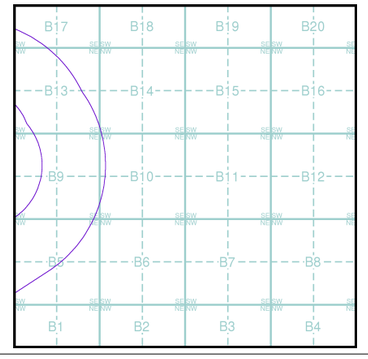
Source map scale - 1:25,000

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)



Russian Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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Ordnance Survey Plan

Published 1981 - 1983

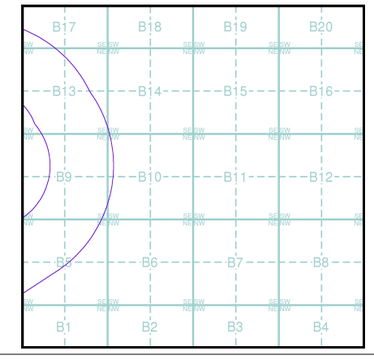
Source map scale - 1:10,000

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)

SD80SE 1982 1:10,000	SD90SW 1983 1:10,000
SJ89NE 1981 1:10,000	SJ99NW 1982 1:10,000

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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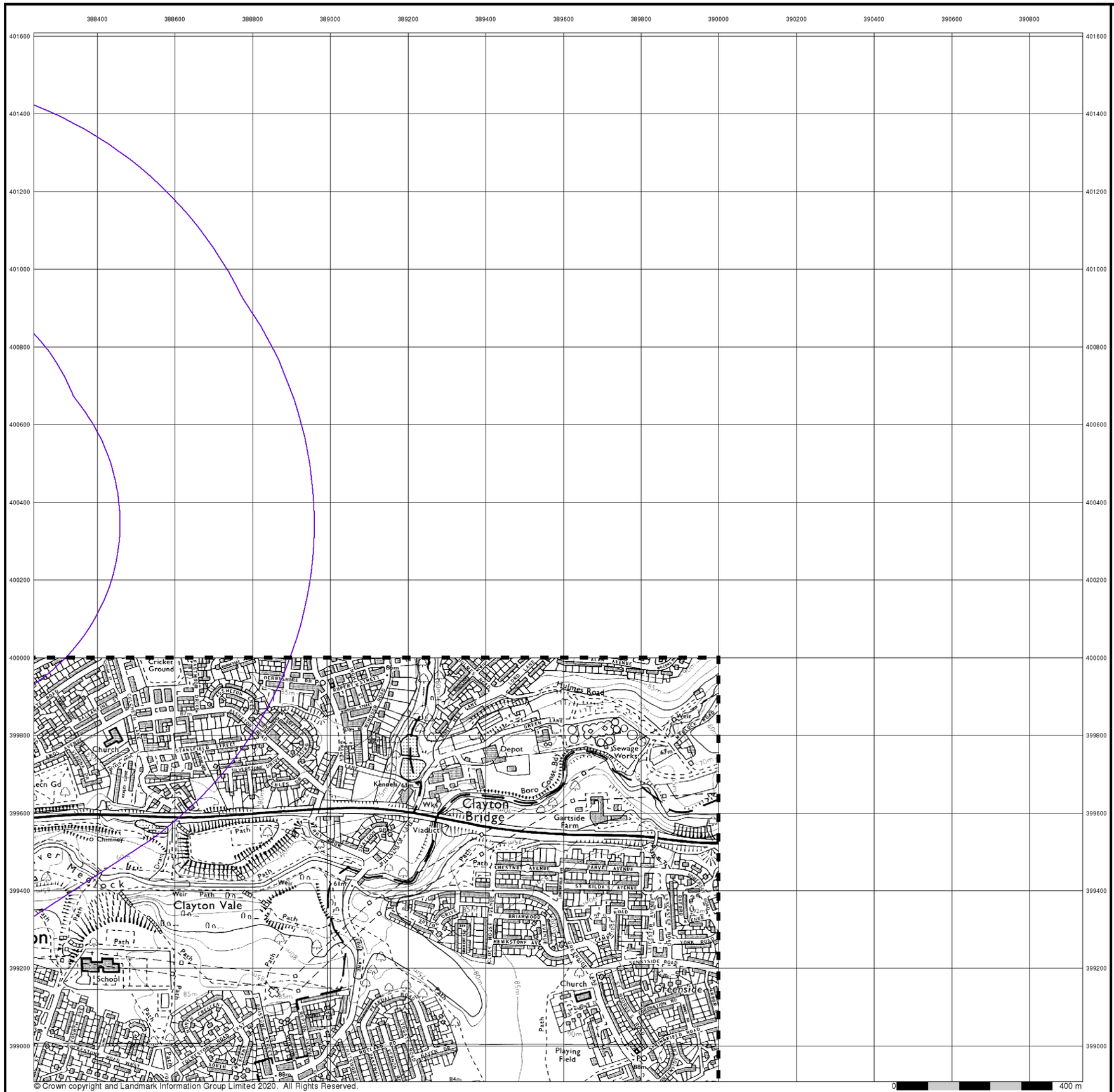

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Ordnance Survey Plan

Published 1987

Source map scale - 1:10,000

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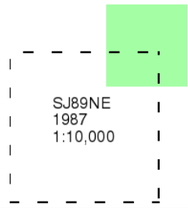
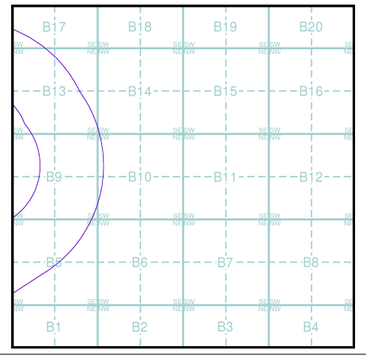
Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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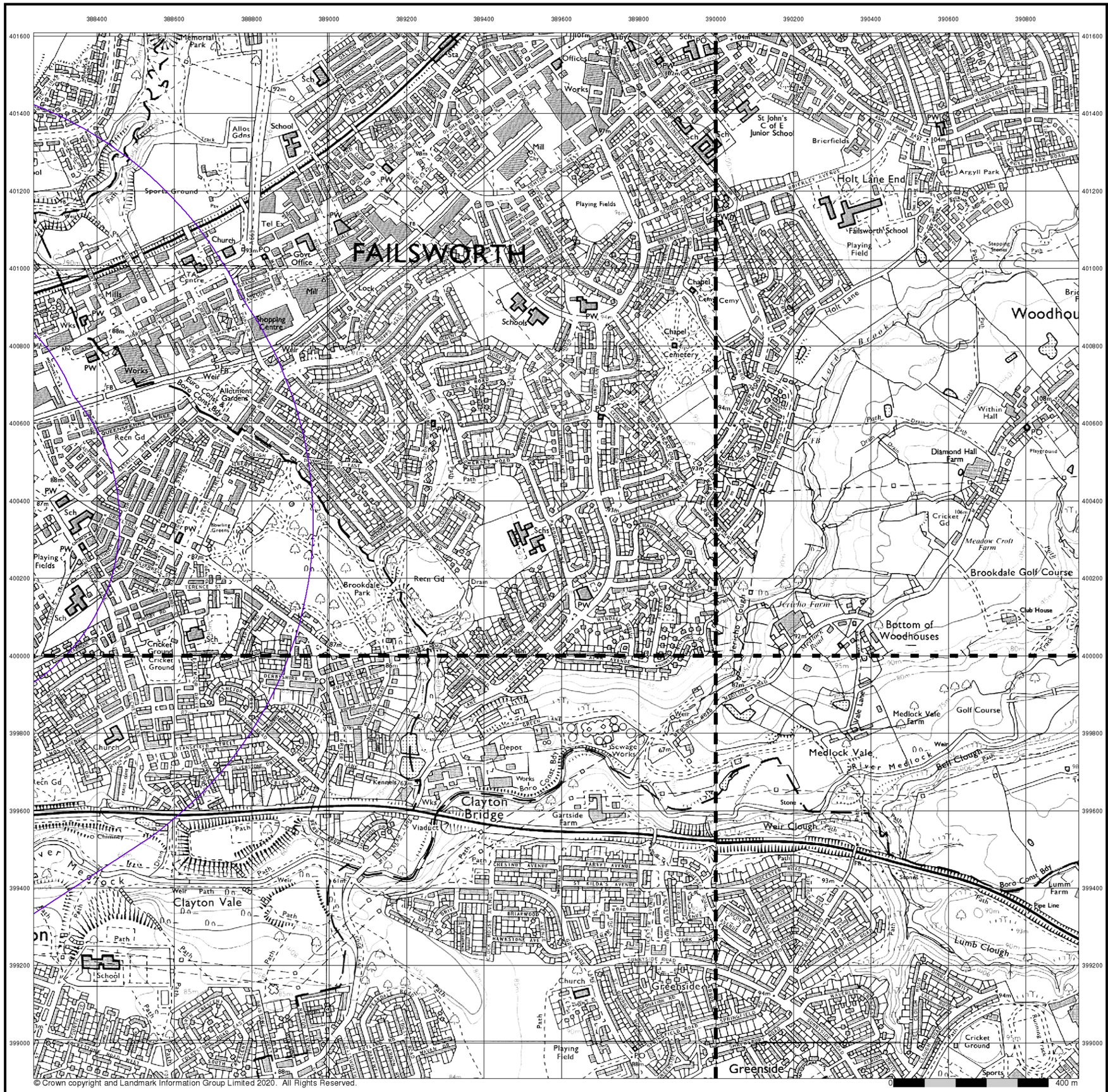

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0 400 m

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Ordnance Survey Plan

Published 1990 - 1993

Source map scale - 1:10,000

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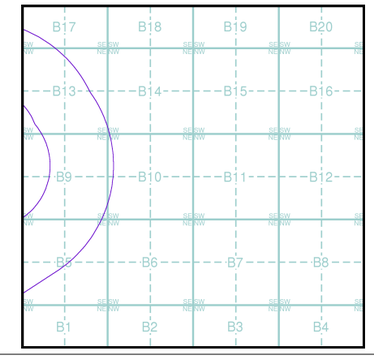
Map Name(s) and Date(s)

SD80SE 1990 1:10,000	SD90SW 1990 1:10,000
SJ89NE 1993 1:10,000	SJ99NW 1991 1:10,000

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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10k Raster Mapping

Published 1999

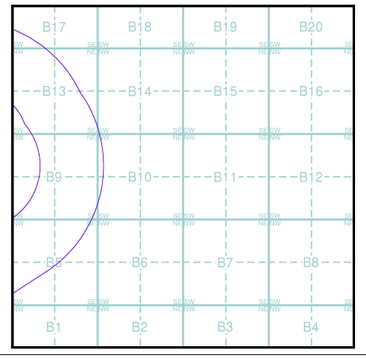
Source map scale - 1:10,000

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)

SD80SE 1999 1:10,000	SD90SW 1999 1:10,000
SJ89NE 1999 1:10,000	SJ99NW 1999 1:10,000

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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0 400 m

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10k Raster Mapping

Published 2006

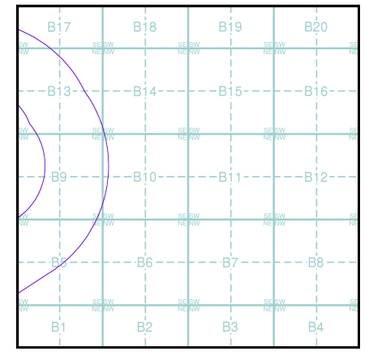
Source map scale - 1:10,000

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)

SD80SE 2006 1:10,000	SD90SW 2006 1:10,000
SJ89NE 2006 1:10,000	SJ99NW 2006 1:10,000

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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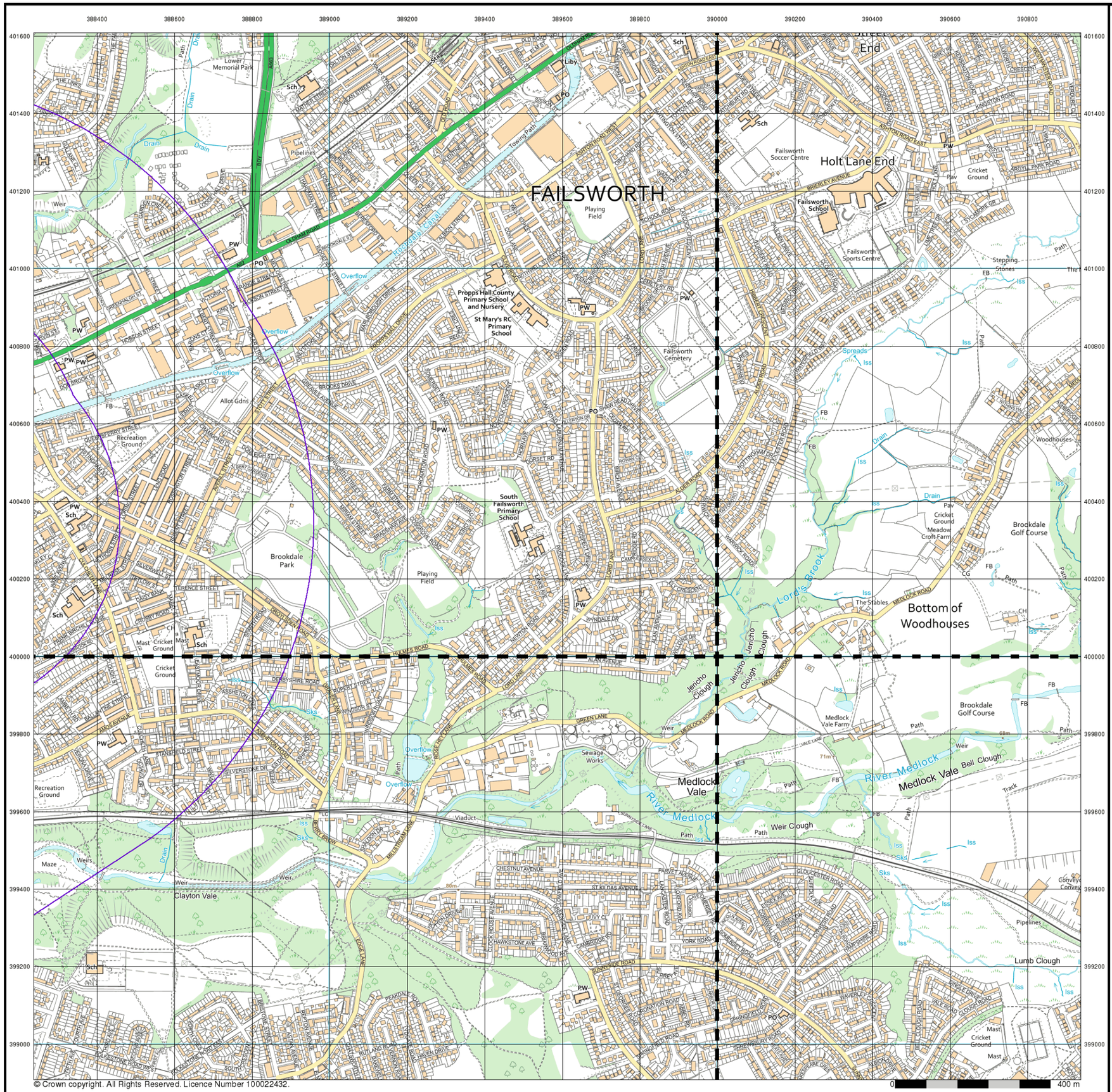
Web: www.envirocheck.co.uk



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VectorMap Local

Published 2020

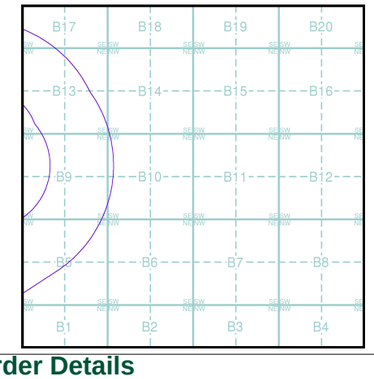
Source map scale - 1:10,000

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)

SD80SE 2020 Variable	SD90SW 2020 Variable
SJ89NE 2020 Variable	SJ99NW 2020 Variable

Historical Map - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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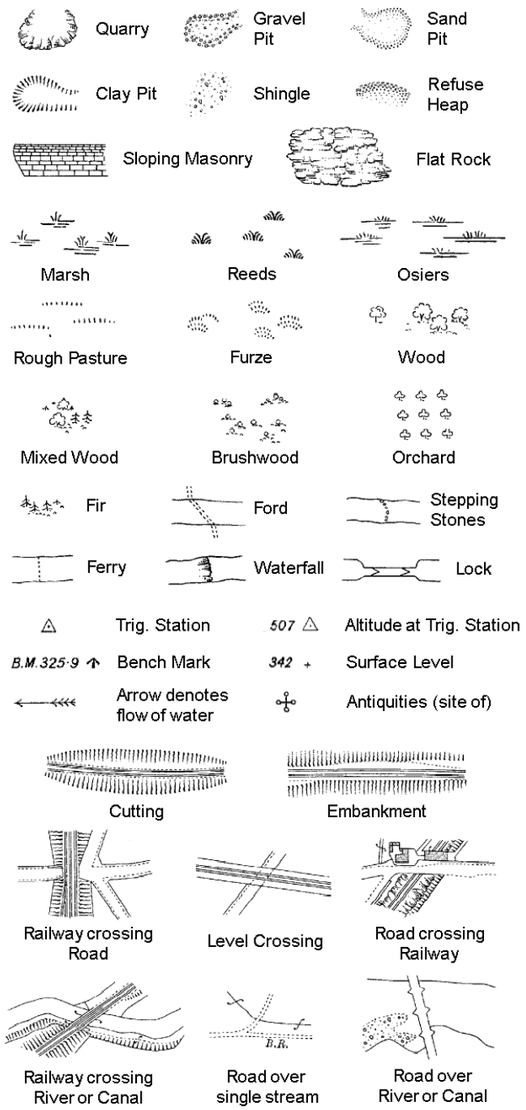
Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

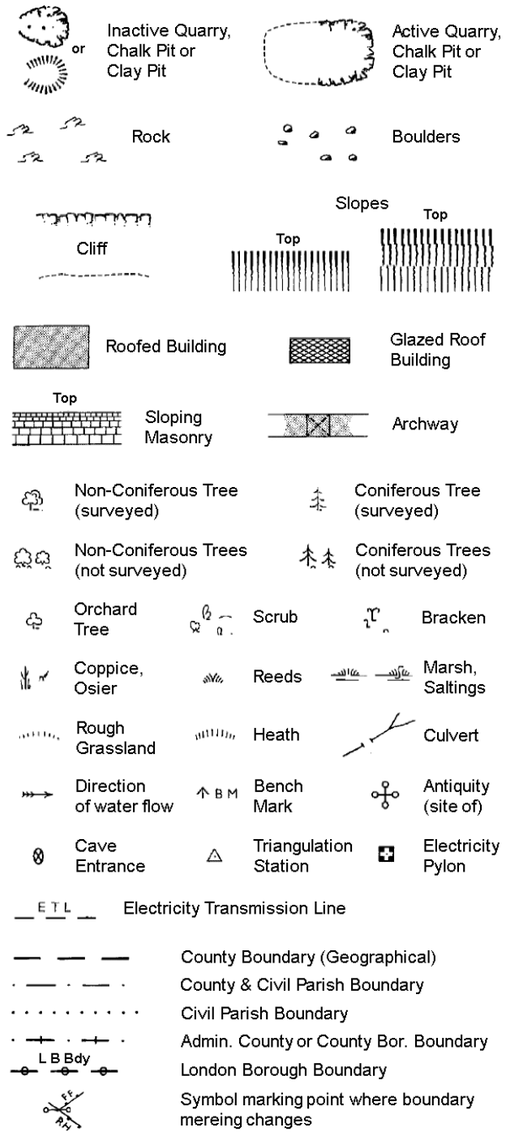
Administrative County & Civil Parish Boundary

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	Sl.	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

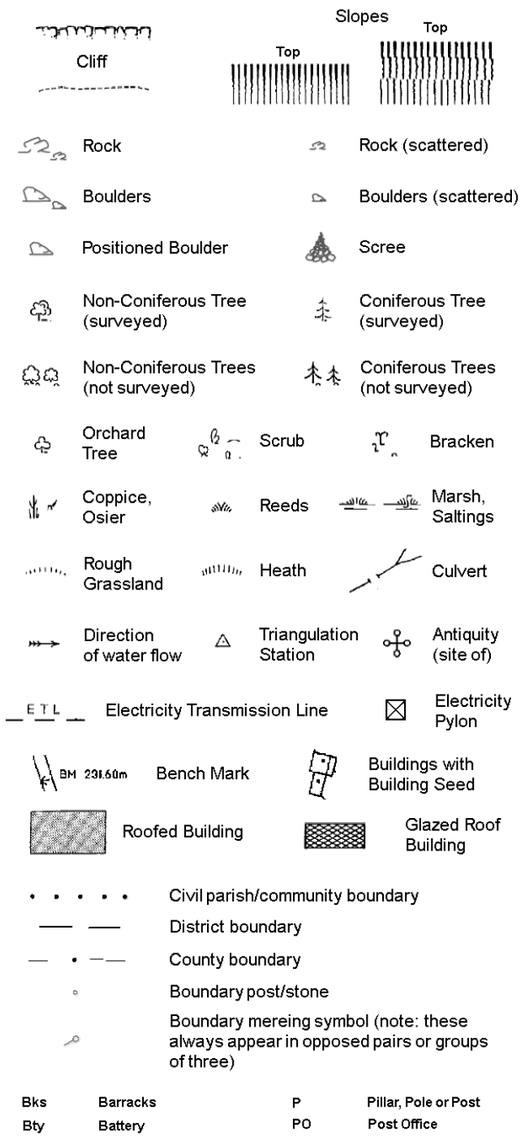
Admin. County or County Bor. Boundary

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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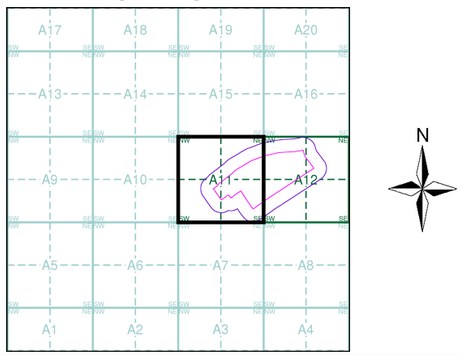
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1931	4
Ordnance Survey Plan	1:1,250	1948 - 1951	5
Ordnance Survey Plan	1:2,500	1951	6
Ordnance Survey Plan	1:1,250	1953 - 1980	7
Ordnance Survey Plan	1:2,500	1970	8
Supply of Unpublished Survey Information	1:1,250	1975 - 1976	9
Additional SIMs	1:1,250	1977 - 1991	10
Additional SIMs	1:1,250	1986 - 1991	11
Ordnance Survey Plan	1:1,250	1990	12
Large-Scale National Grid Data	1:1,250	1992	13
Large-Scale National Grid Data	1:1,250	1992 - 1995	14
Large-Scale National Grid Data	1:1,250	1993	15
Large-Scale National Grid Data	1:1,250	1996	16
Historical Aerial Photography	1:2,500	2000	17

Historical Map - Segment A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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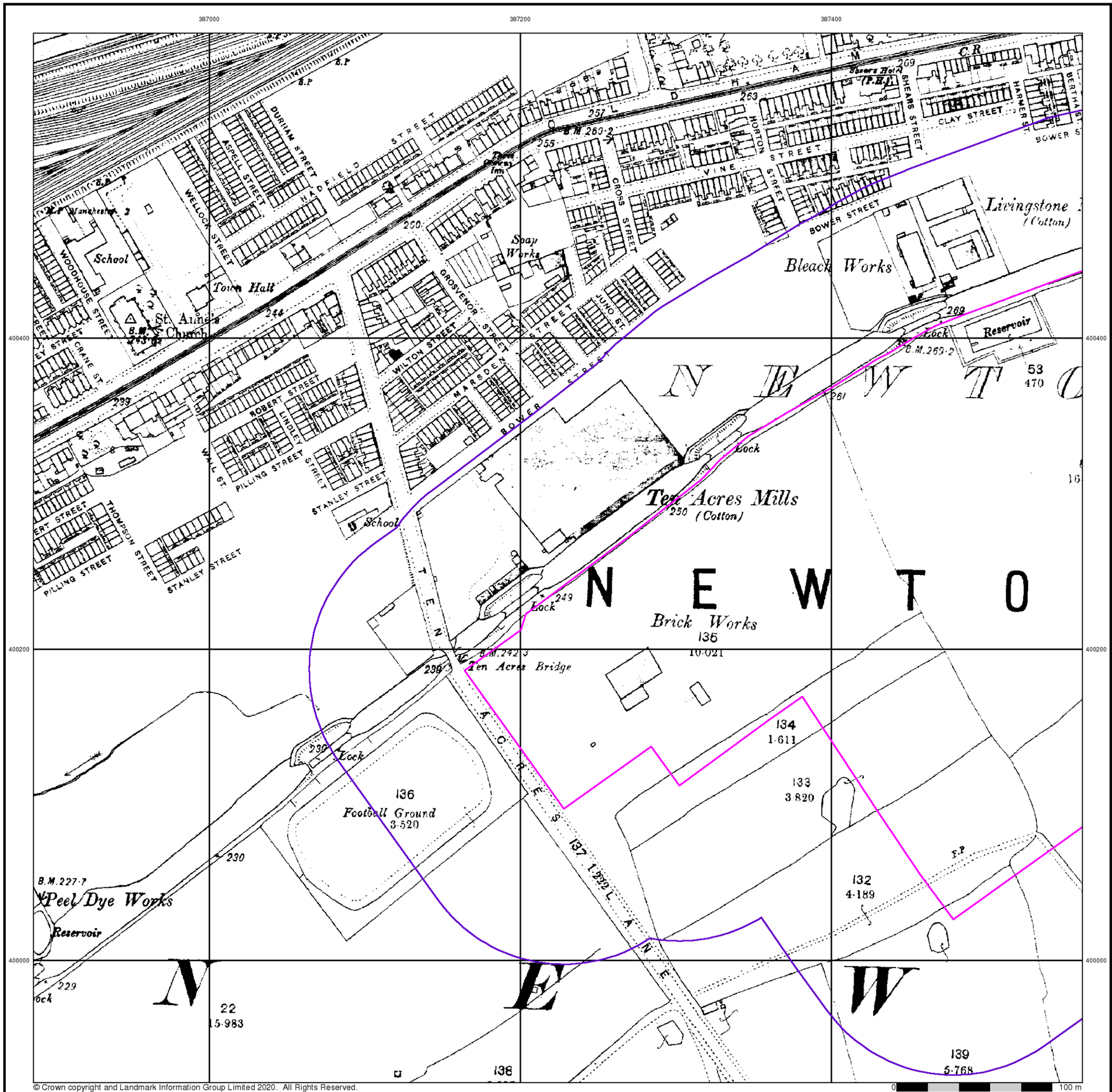


wardell armstrong

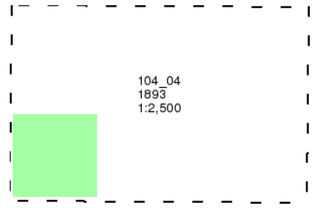
Lancashire And Furness

Published 1893

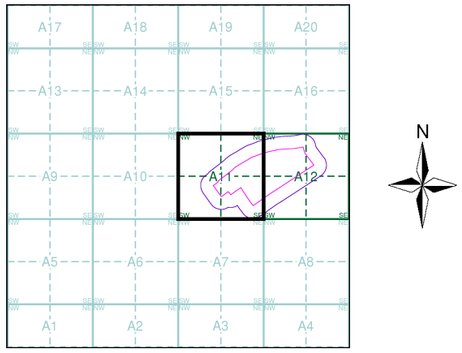
Source map scale - 1:2,500

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 A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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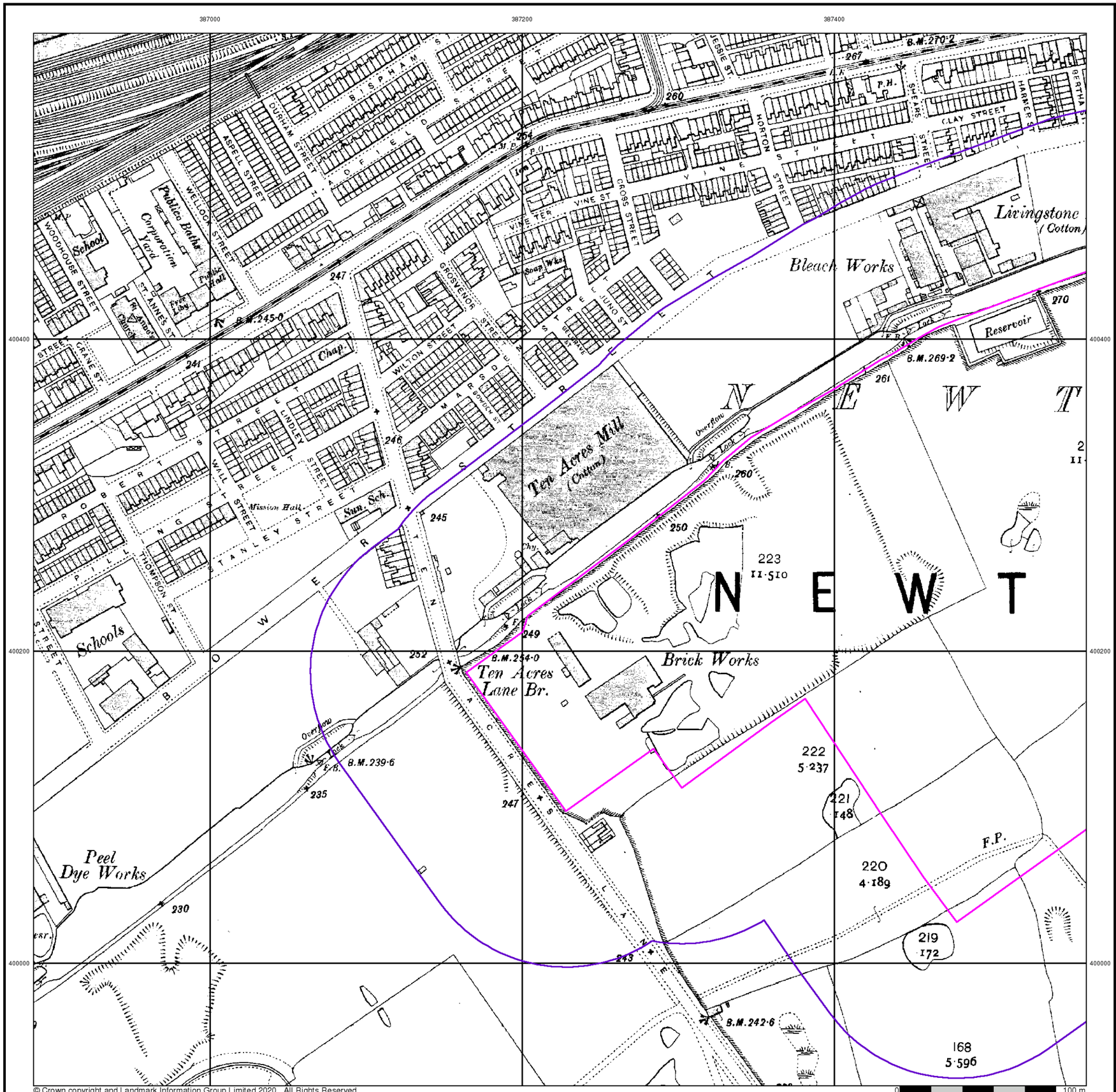

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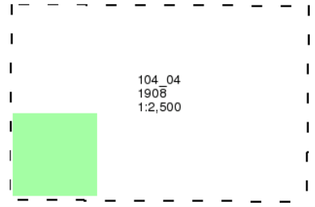
Lancashire And Furness

Published 1908

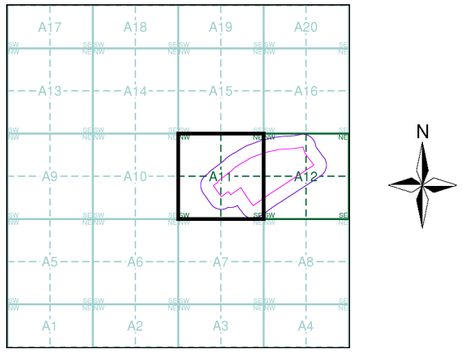
Source map scale - 1:2,500

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 A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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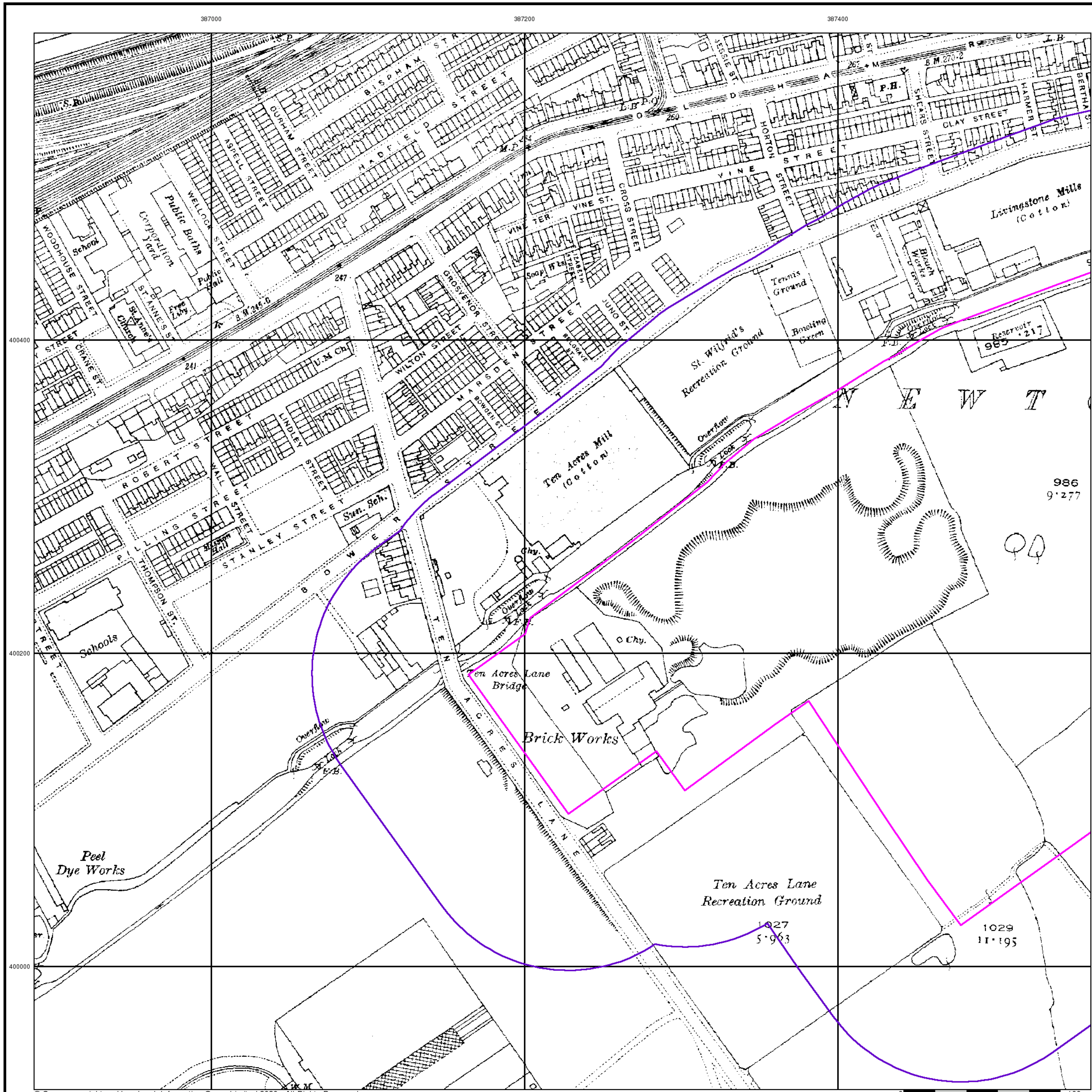

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0 100 m

Lancashire And Furness

Published 1931

Source map scale - 1:2,500

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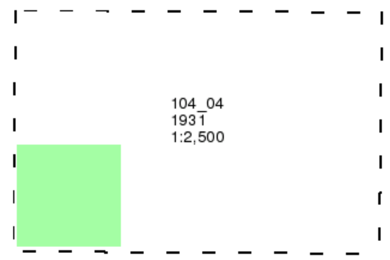
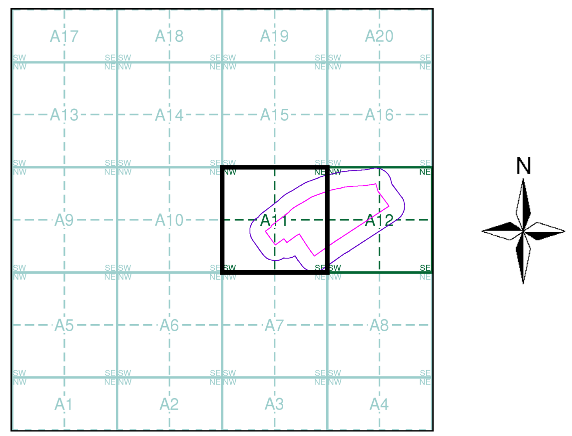
Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 100

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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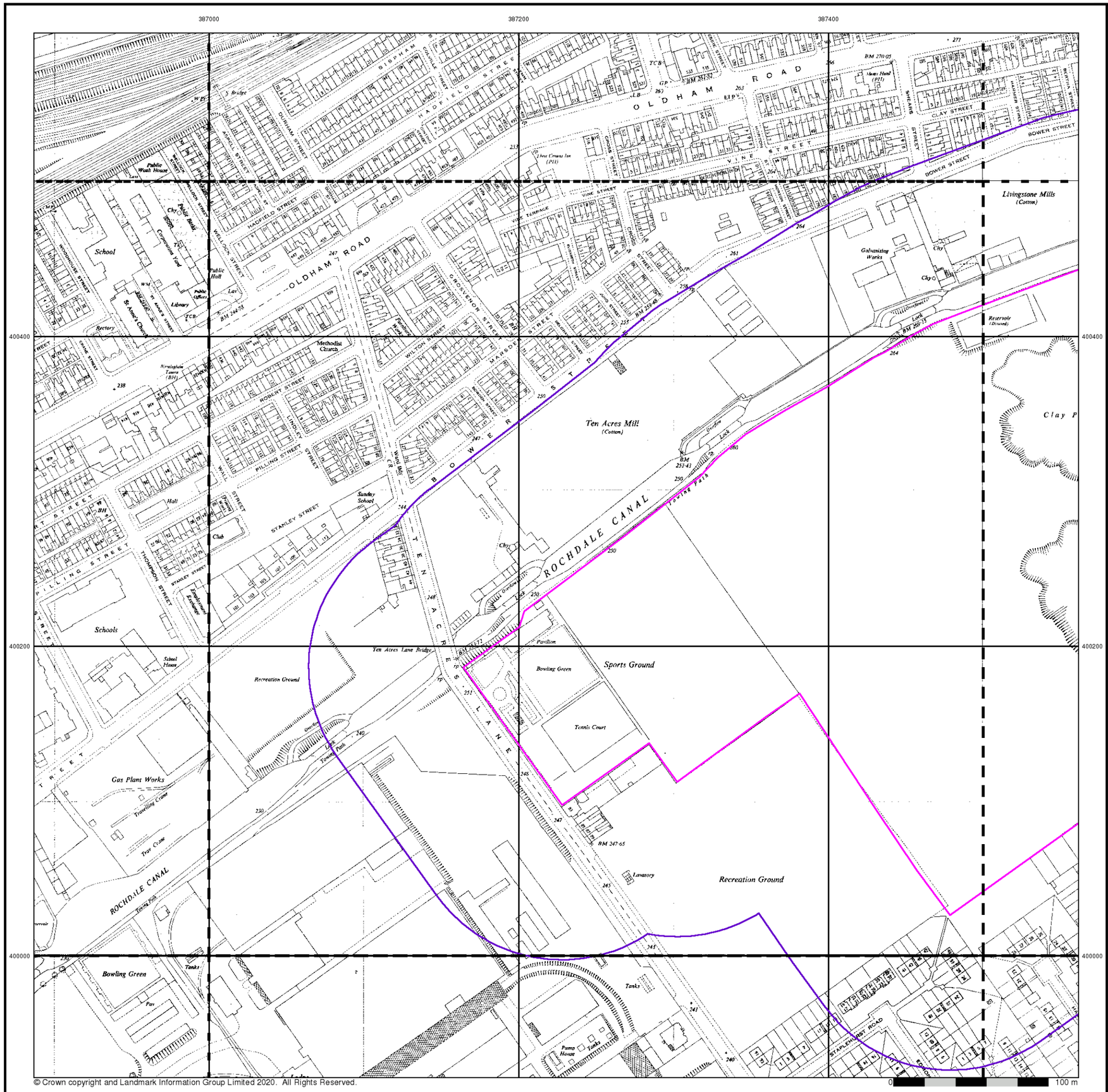


wardell armstrong

Ordnance Survey Plan

Published 1948 - 1951

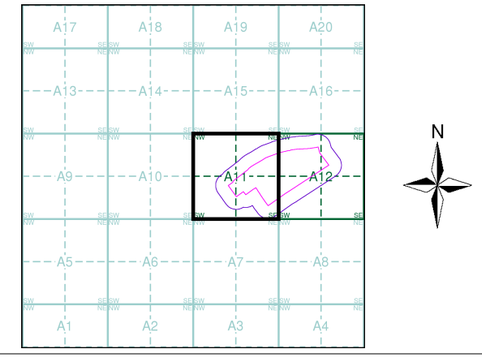
Source map scale - 1:1,250

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)

SD8600NE 1948 1:1,250	SD8700NW 1951 1:1,250	SD8700NE 1951 1:1,250
SD8600SE 1949 1:1,250	SD8700SW 1951 1:1,250	SD8700SE 1951 1:1,250
SJ8699NE 1949 1:1,250	SJ8799NW 1949 1:1,250	SJ8799NE 1949 1:1,250

Historical Map - Segment A11

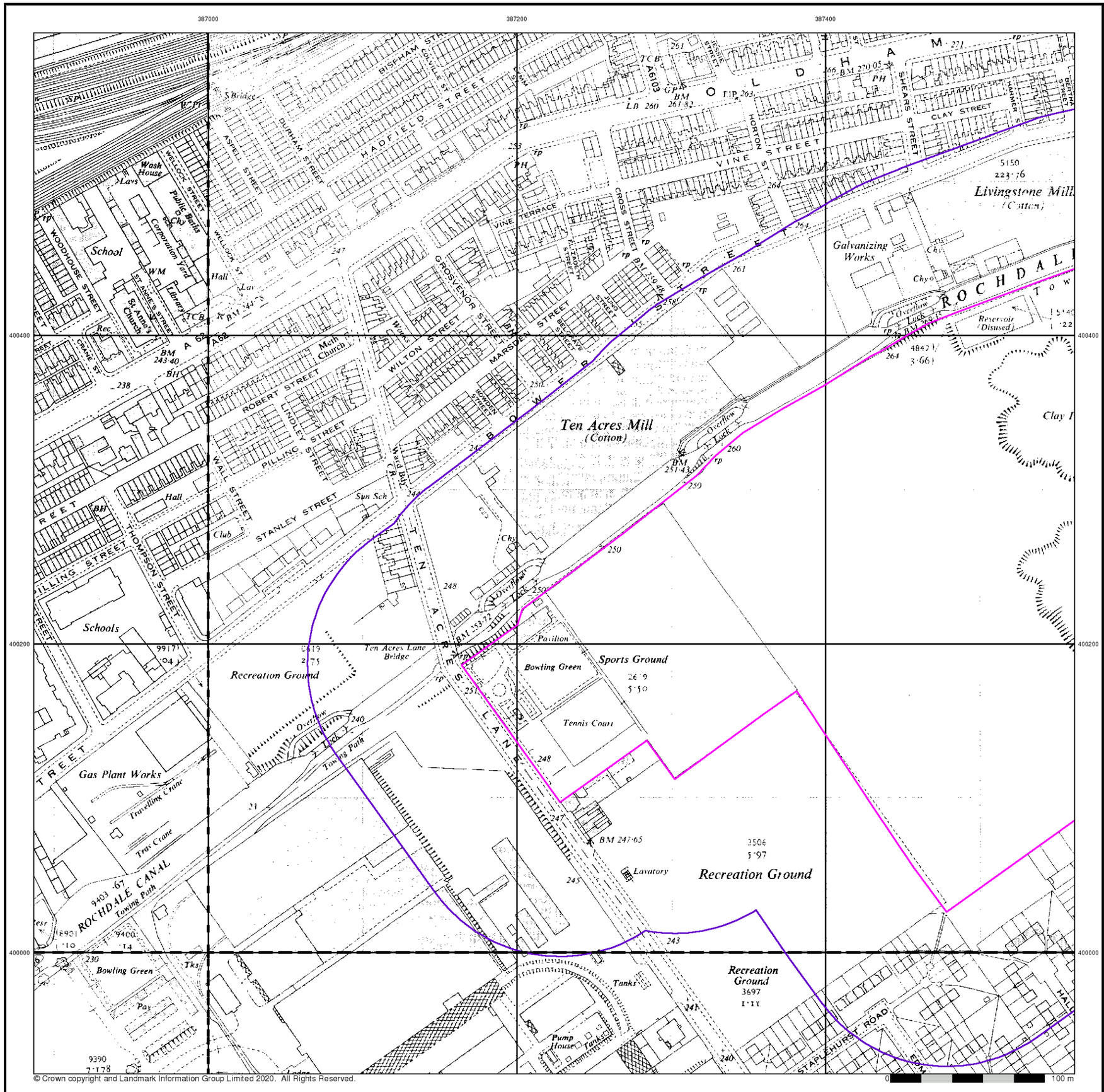


Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310



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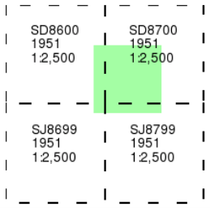
Ordnance Survey Plan

Published 1951

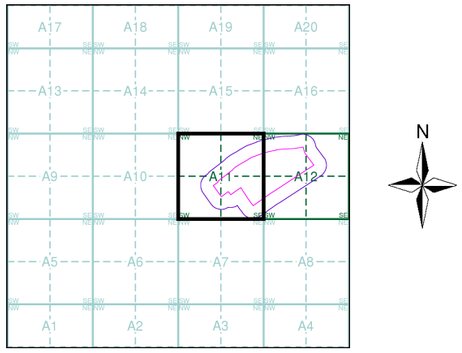
Source map scale - 1:2,500

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 A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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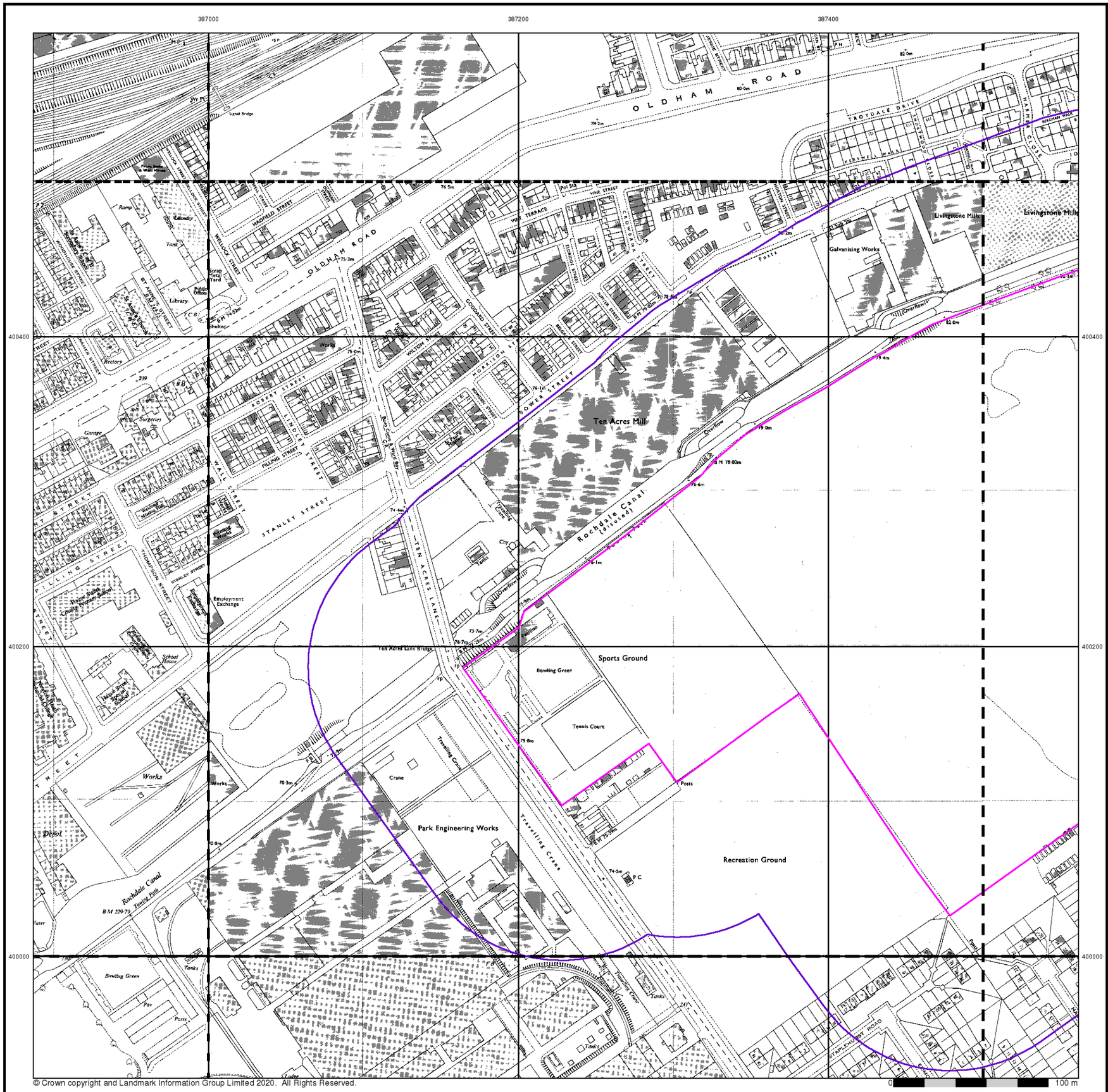

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Ordnance Survey Plan

Published 1953 - 1980

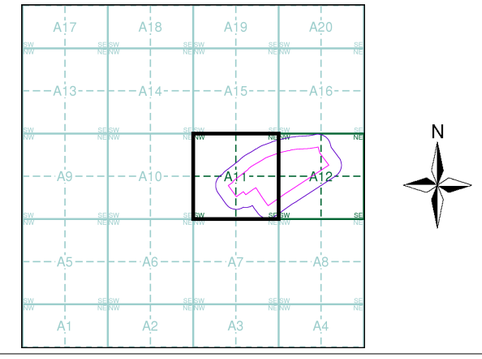
Source map scale - 1:1,250

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)

SD8600NE 1970 1:1,250	SD8700NW 1980 1:1,250	SD8700NE 1980 1:1,250
SD8600SE 1961 1:1,250	SD8700SW 1971 1:1,250	SD8700SE 1973 1:1,250
SJ8699NE 1953 1:1,250	SJ8799NW 1966 1:1,250	SJ8799NE 1966 1:1,250

Historical Map - Segment A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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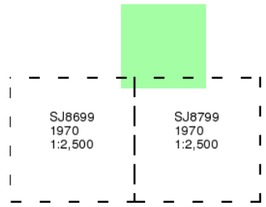
Ordnance Survey Plan

Published 1970

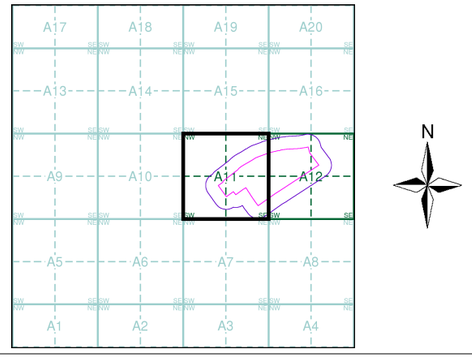
Source map scale - 1:2,500

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 A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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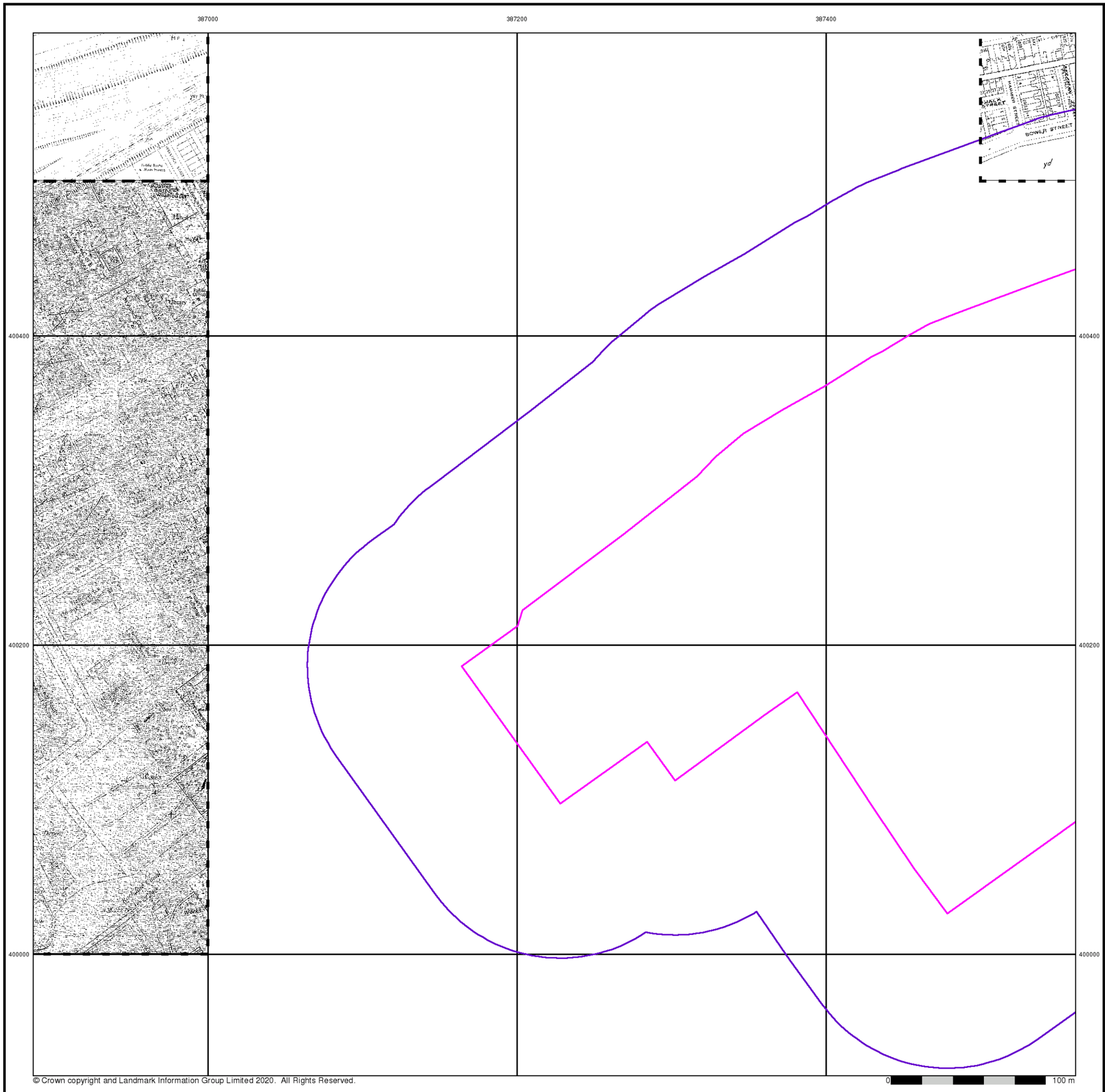
Web: www.envirocheck.co.uk



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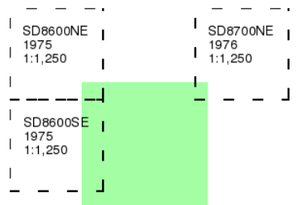
Supply of Unpublished Survey Information

Published 1975 - 1976

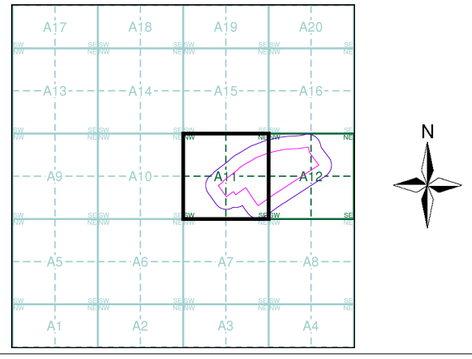
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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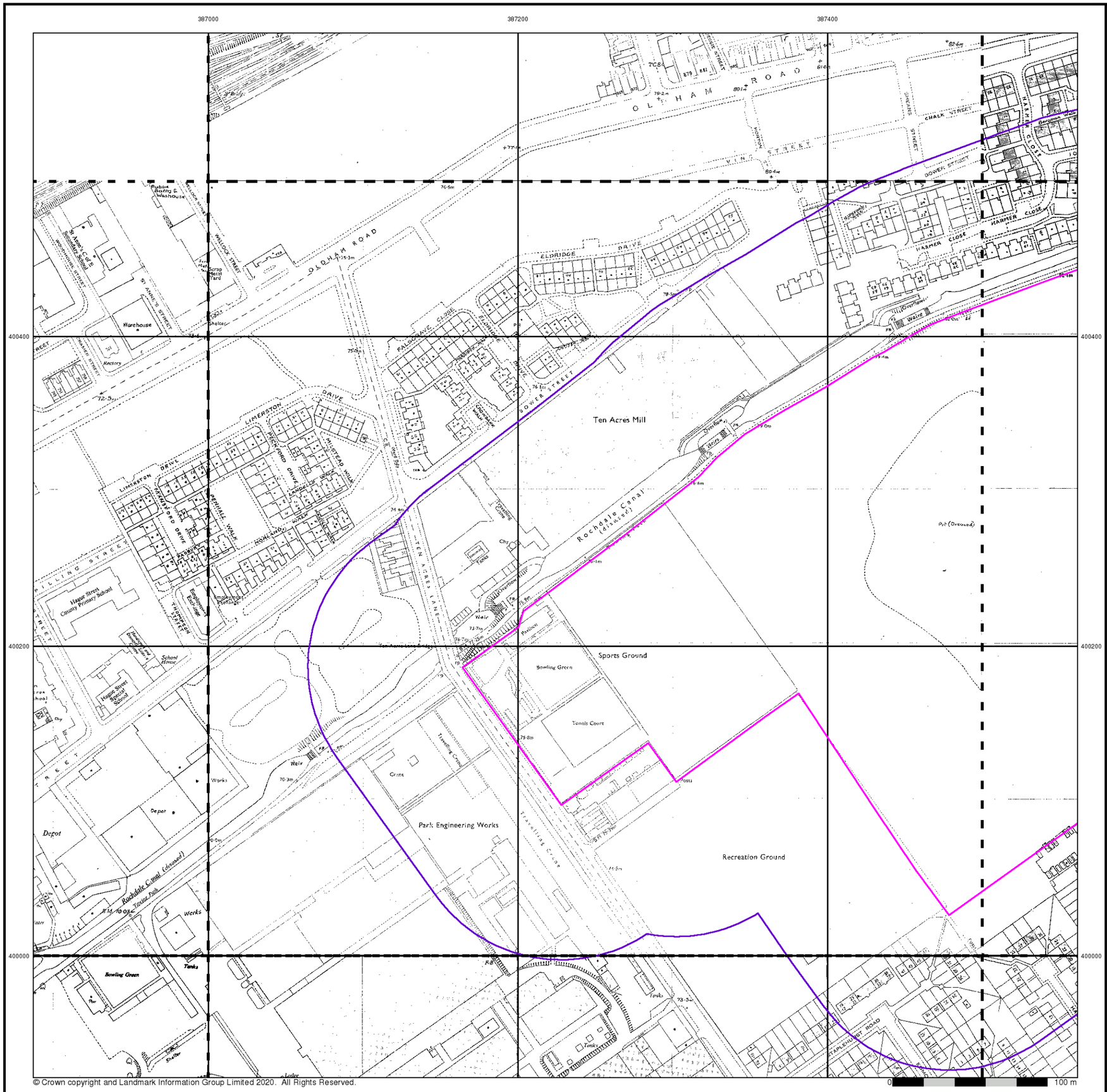

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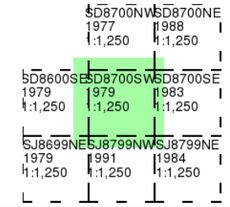
Additional SIMs

Published 1977 - 1991

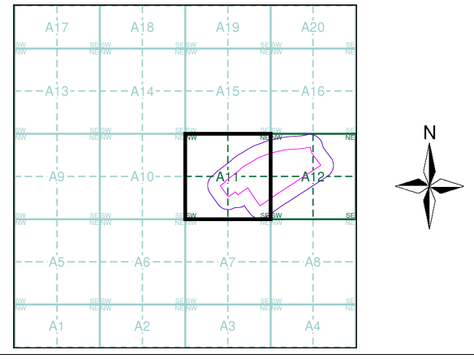
Source map scale - 1:1,250

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 A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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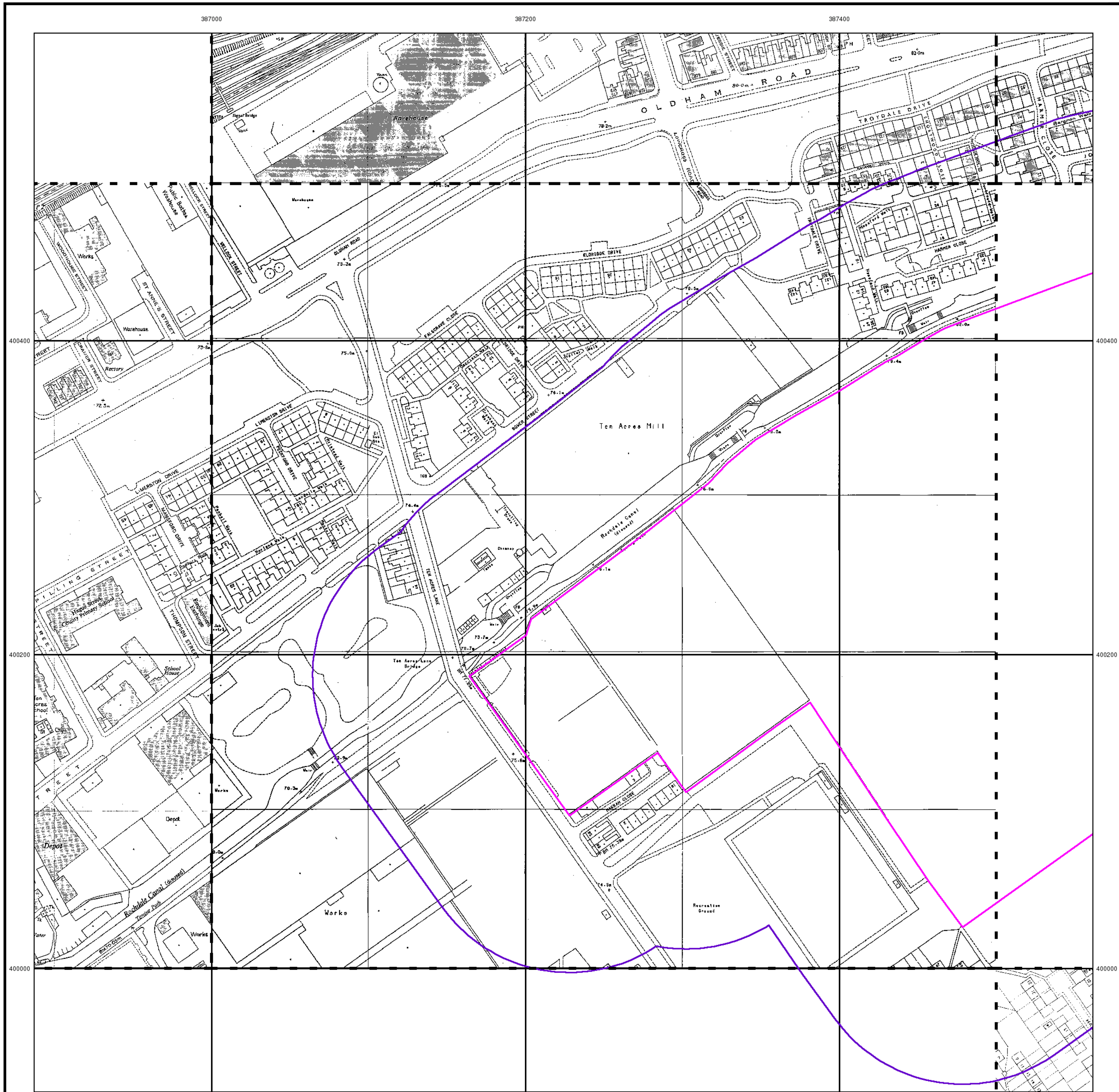

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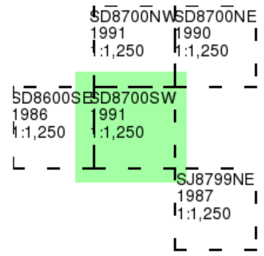
Additional SIMs

Published 1986 - 1991

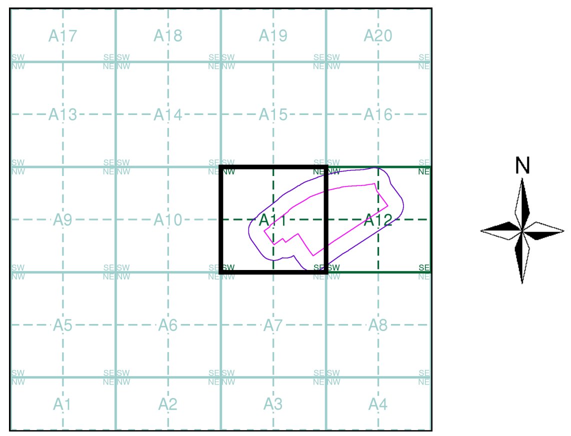
Source map scale - 1:1,250

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 A11



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 100

Site Details

Site at 387600, 400310

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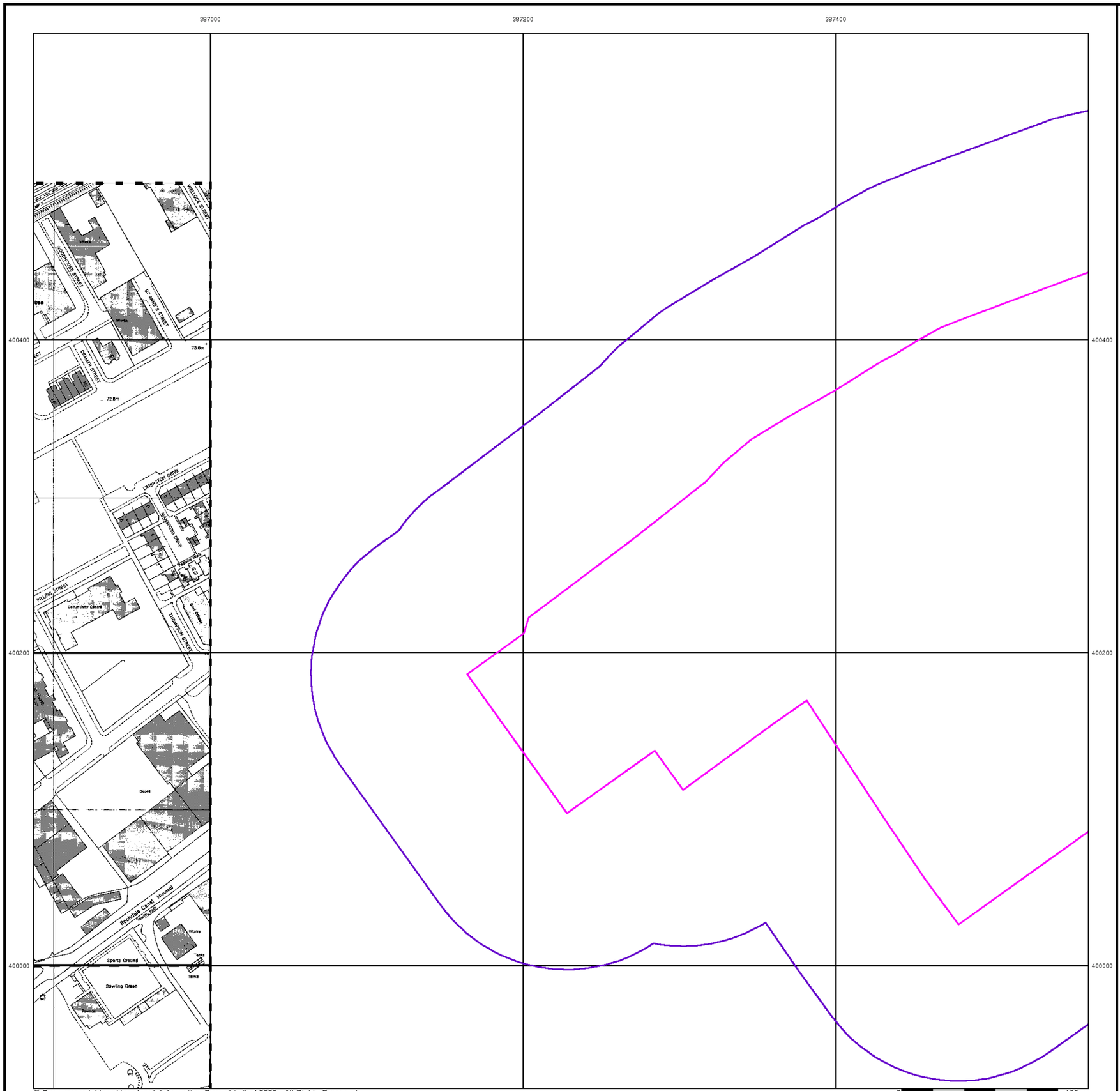

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Ordnance Survey Plan

Published 1990

Source map scale - 1:1,250

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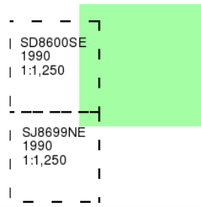
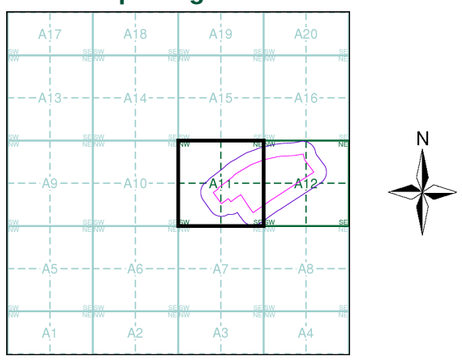
Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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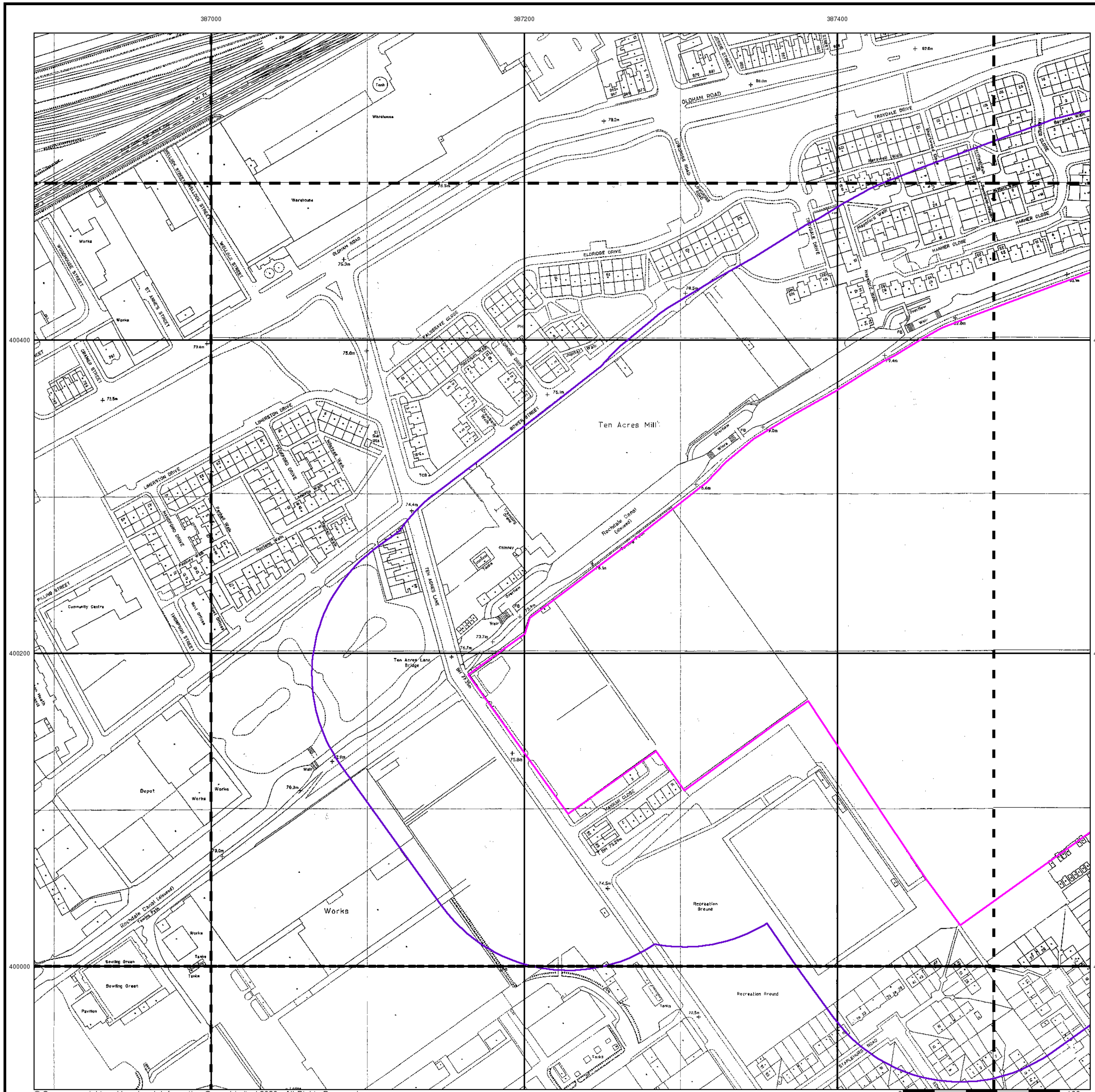
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Large-Scale National Grid Data

Published 1992

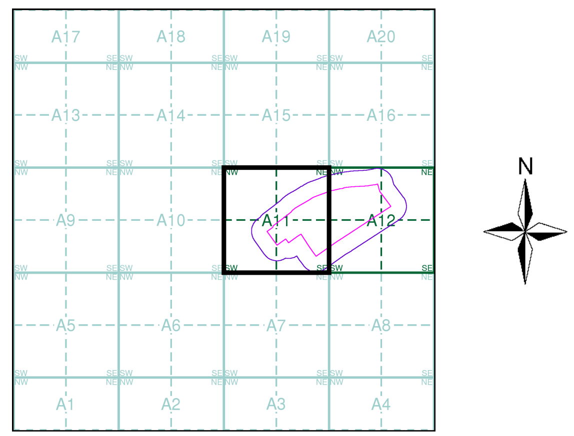
Source map scale - 1:1,250

'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)

SD8600NE 1992 1:1,250	SD8700NW 1992 1:1,250	SD8700NE 1992 1:1,250
SD8600SE 1992 1:1,250	SD8700SW 1992 1:1,250	SD8700SE 1992 1:1,250
SJ8699NE 1992 1:1,250	SJ8799NW 1992 1:1,250	SJ8799NE 1992 1:1,250

Historical Map - Segment A11



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 100

Site Details

Site at 387600, 400310

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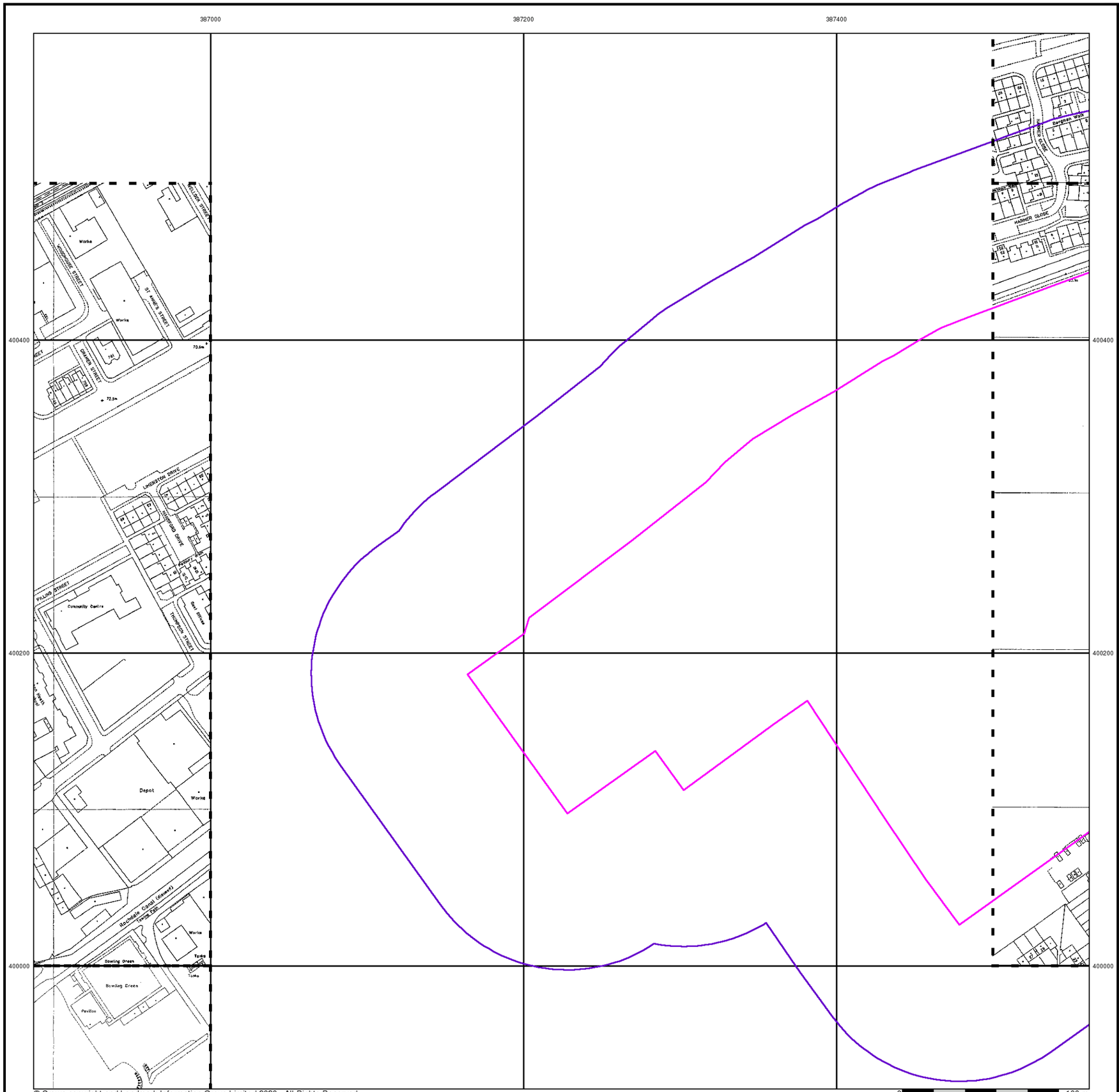
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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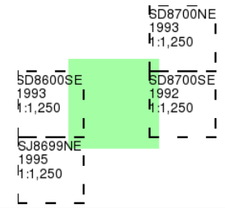
Large-Scale National Grid Data

Published 1992 - 1995

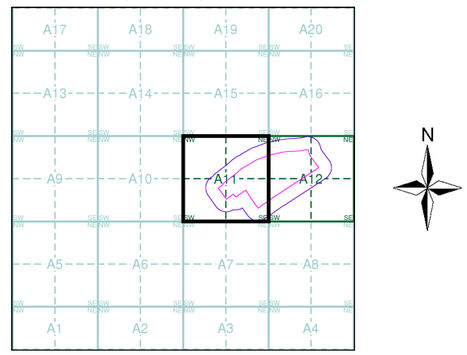
Source map scale - 1:1,250

'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 A11



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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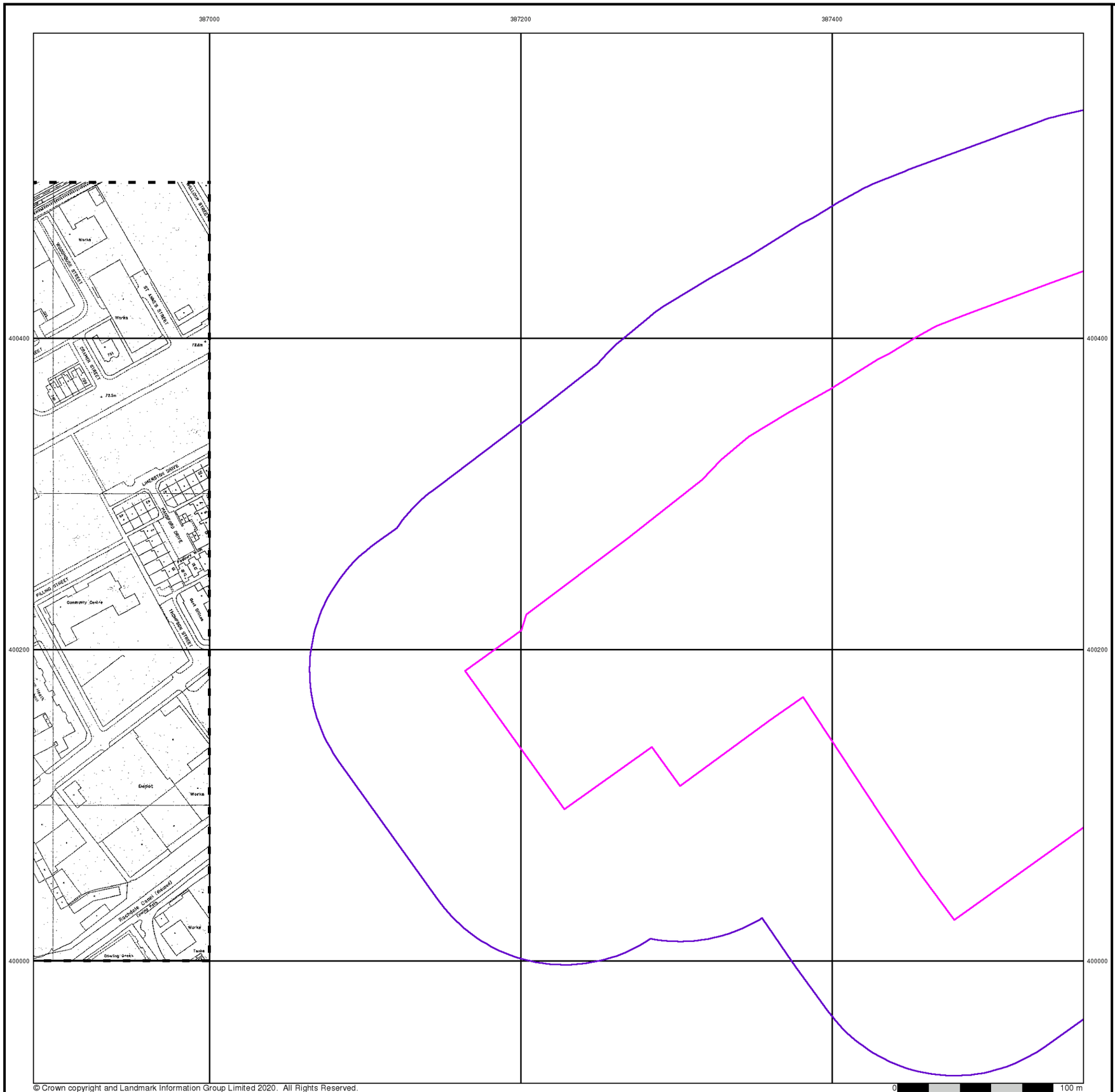


wardell armstrong

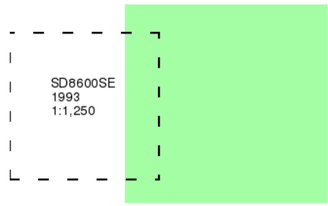
Large-Scale National Grid Data

Published 1993

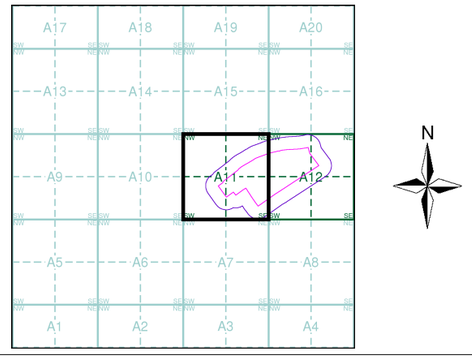
Source map scale - 1:1,250

'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 A11



Order Details

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Site at 387600, 400310

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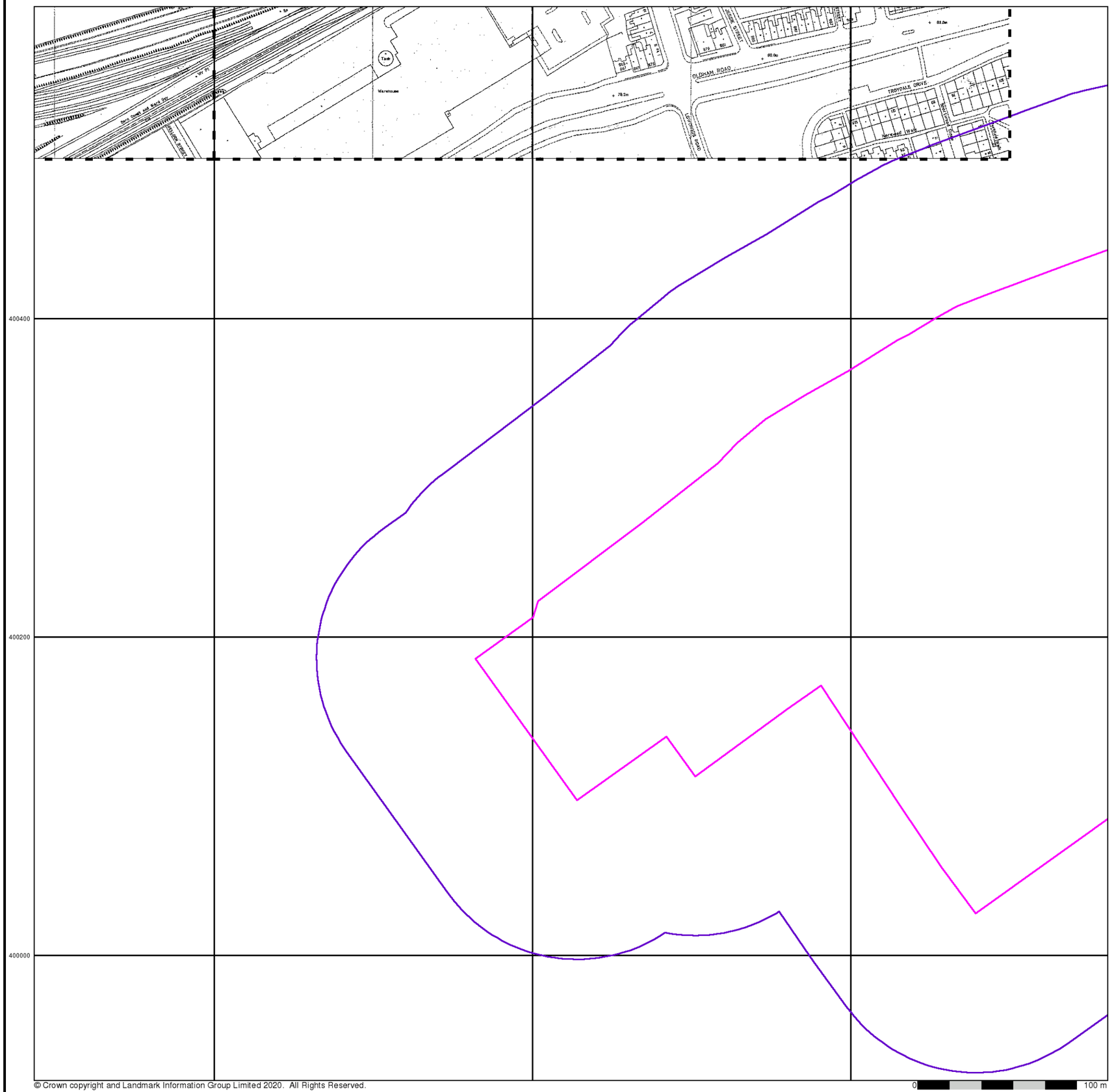

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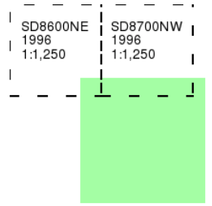
Large-Scale National Grid Data

Published 1996

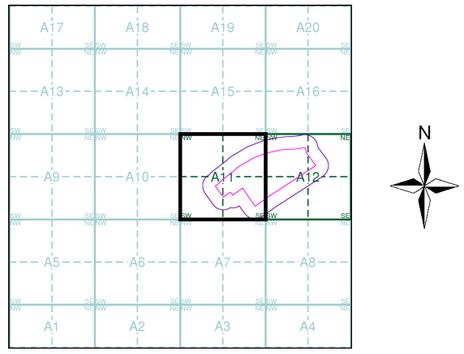
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

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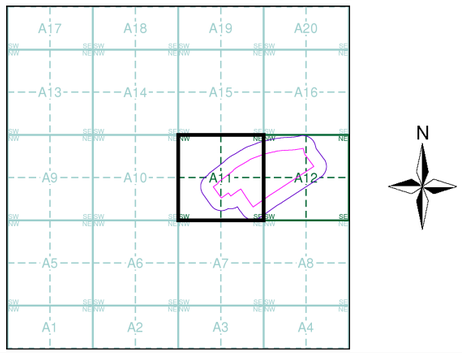
Historical Aerial Photography

Published 2000

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

Historical Aerial Photography - Segment A11



Order Details

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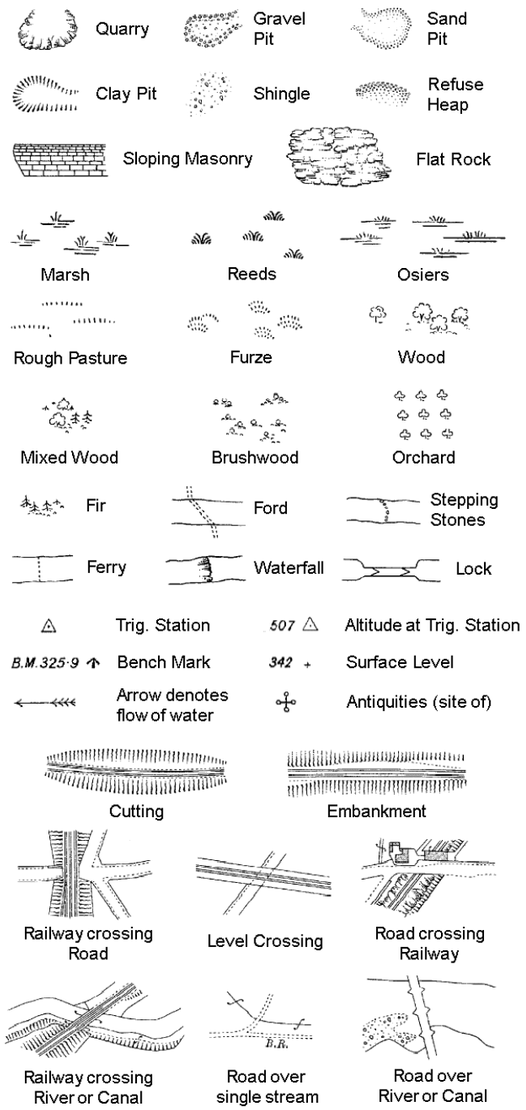
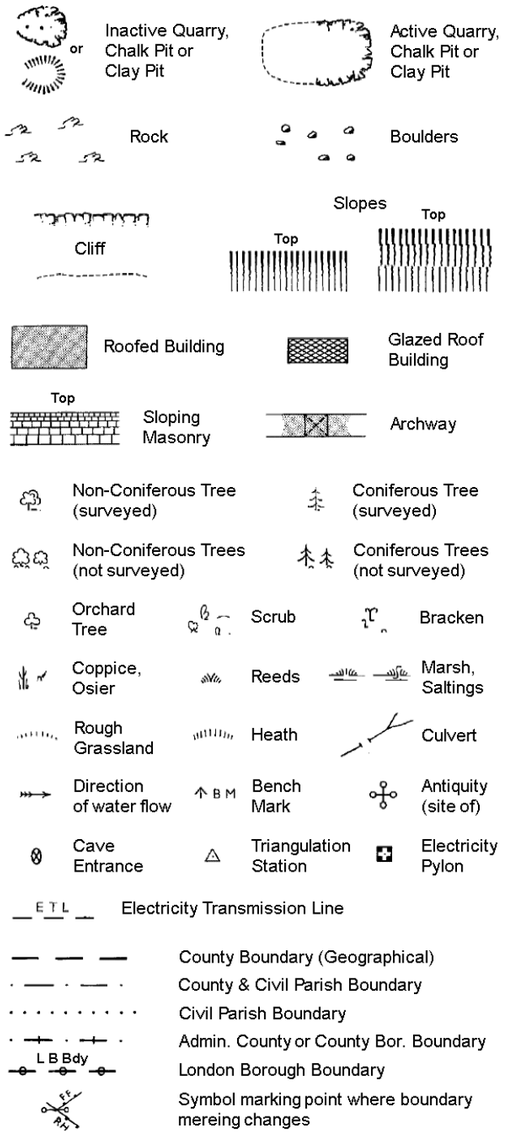
Historical Mapping Legends

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



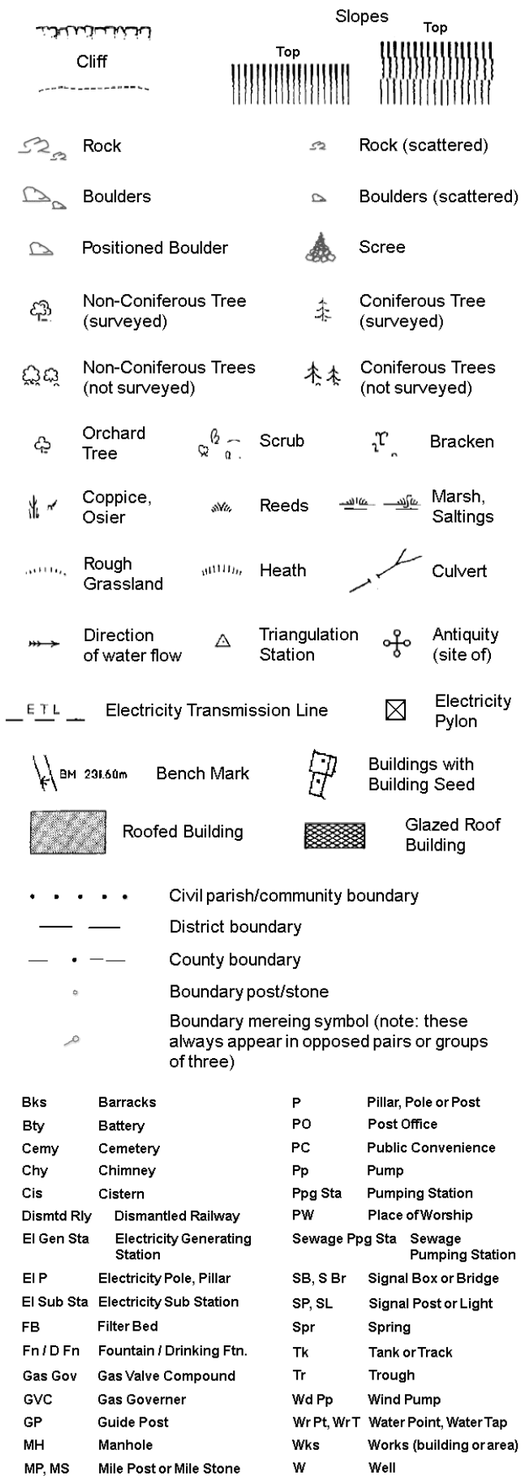
B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	Sl.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



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



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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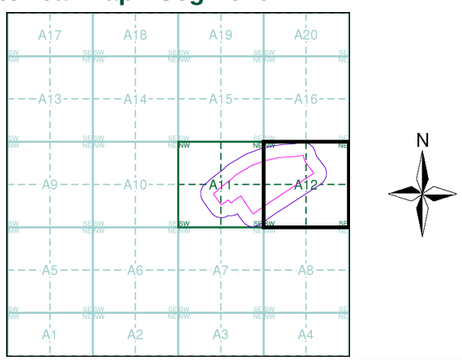
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1931	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	1953 - 1980	7
Ordnance Survey Plan	1:2,500	1967	8
Ordnance Survey Plan	1:2,500	1969 - 1970	9
Supply of Unpublished Survey Information	1:1,250	1975 - 1976	10
Additional SIMs	1:1,250	1979 - 1988	11
Additional SIMs	1:1,250	1980 - 1990	12
Ordnance Survey Plan	1:1,250	1981 - 1989	13
Additional SIMs	1:1,250	1986 - 1987	14
Large-Scale National Grid Data	1:1,250	1992	15
Large-Scale National Grid Data	1:1,250	1992 - 1993	16
Large-Scale National Grid Data	1:1,250	1993 - 1994	17
Large-Scale National Grid Data	1:1,250	1994	18
Historical Aerial Photography	1:2,500	2000	19

Historical Map - Segment A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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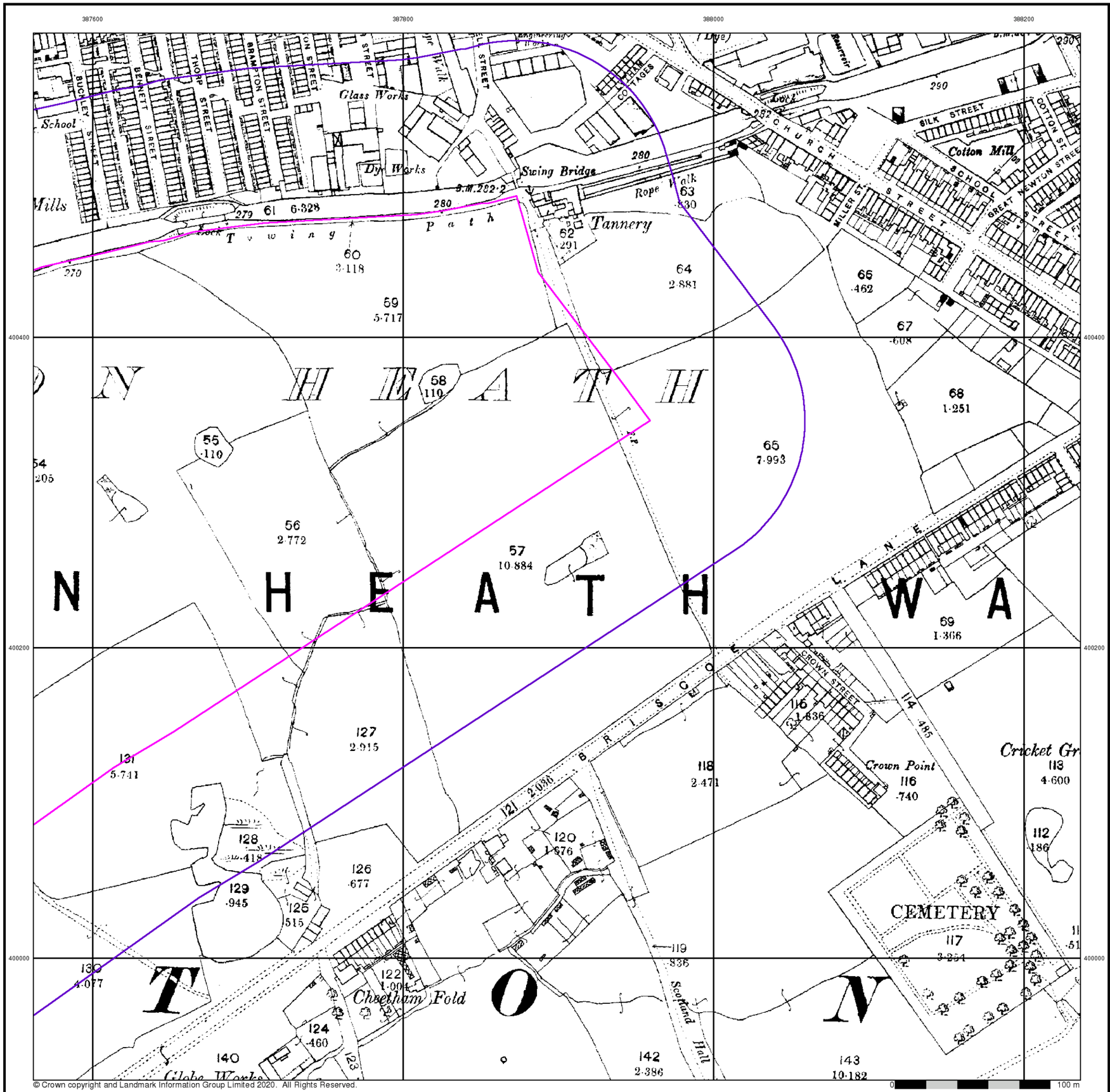

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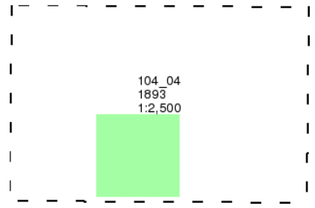
Lancashire And Furness

Published 1893

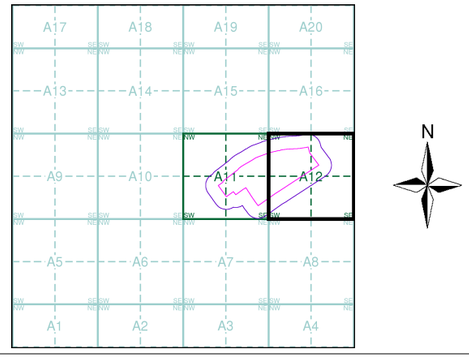
Source map scale - 1:2,500

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 A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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Lancashire And Furness

Published 1908

Source map scale - 1:2,500

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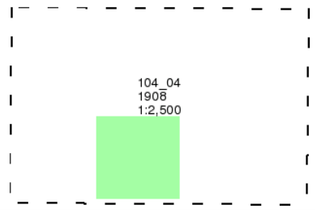
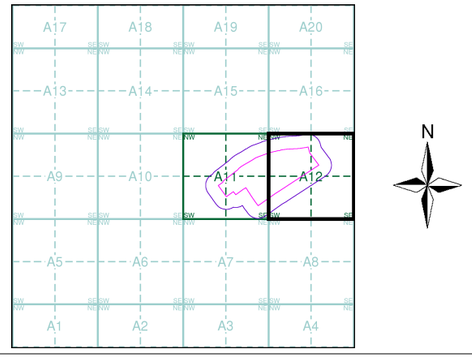


Historical Map - Segment A12



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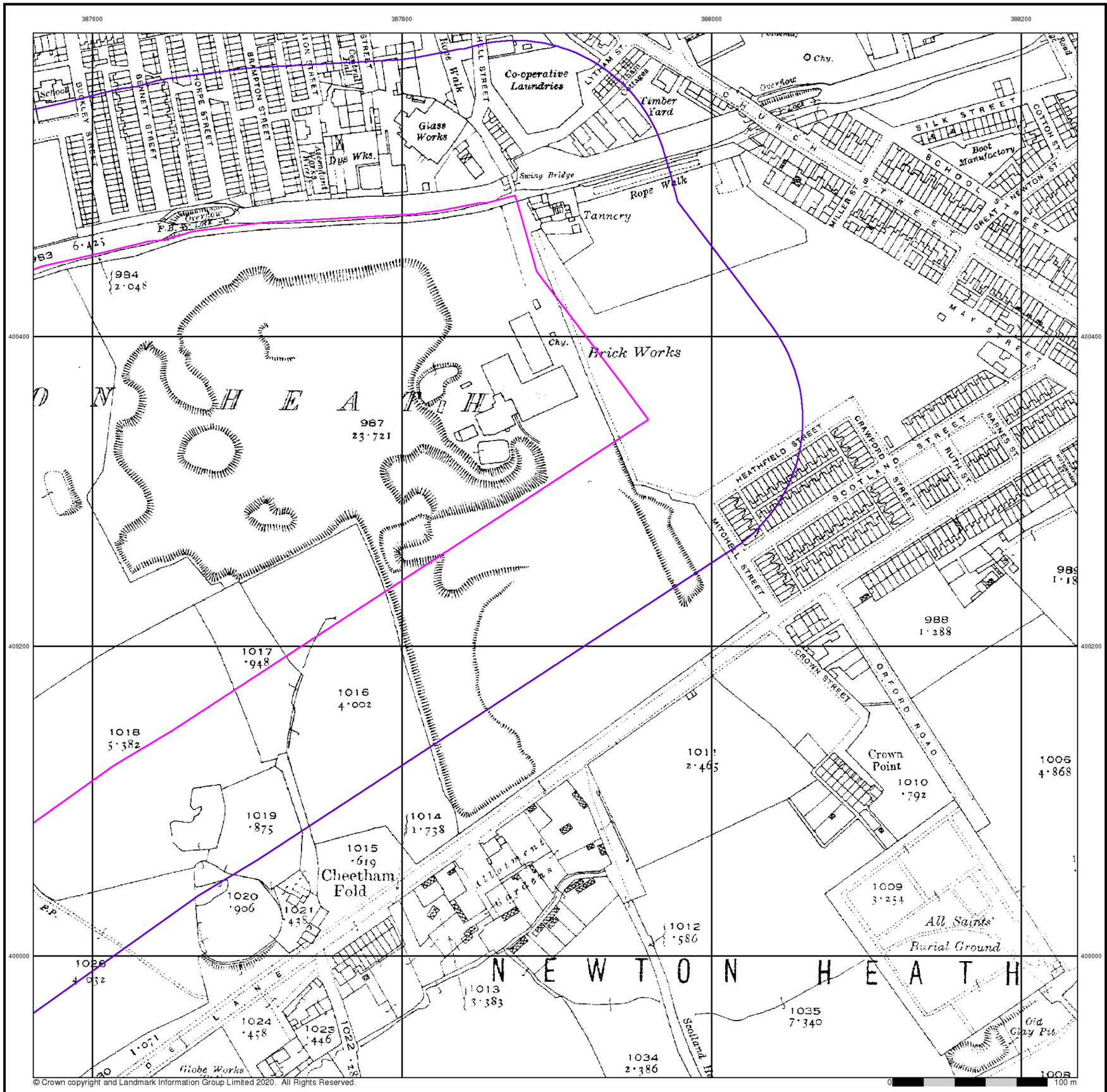

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Lancashire And Furness

Published 1931

Source map scale - 1:2,500

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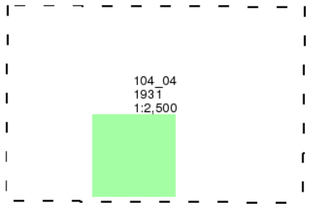
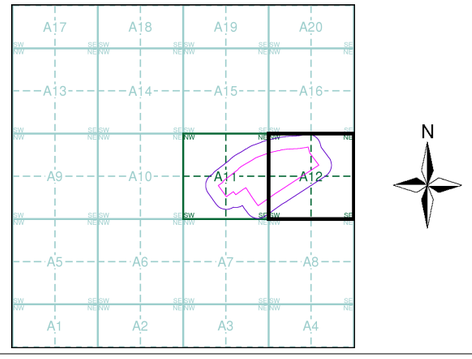
Map Name(s) and Date(s)



Historical Map - Segment A12



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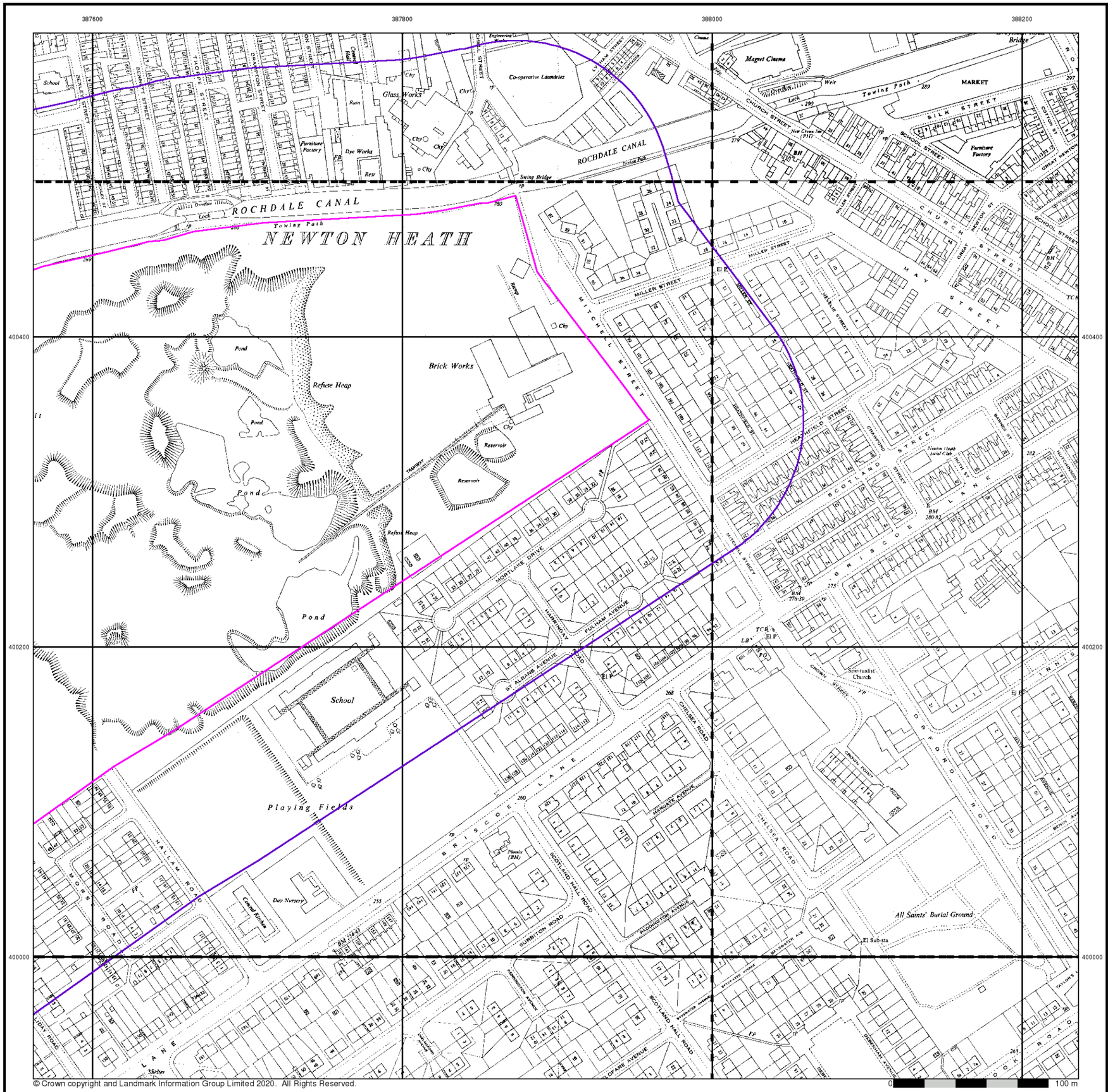
Site Details

Site at 387600, 400310



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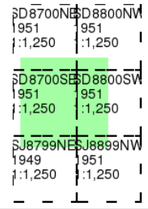
Ordnance Survey Plan

Published 1949 - 1951

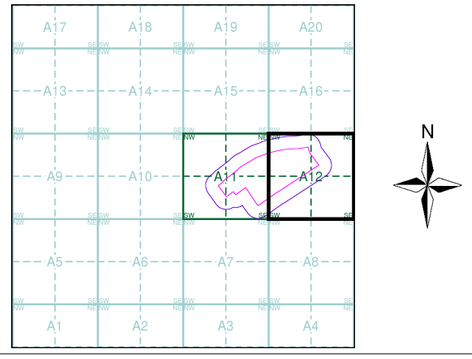
Source map scale - 1:1,250

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 A12



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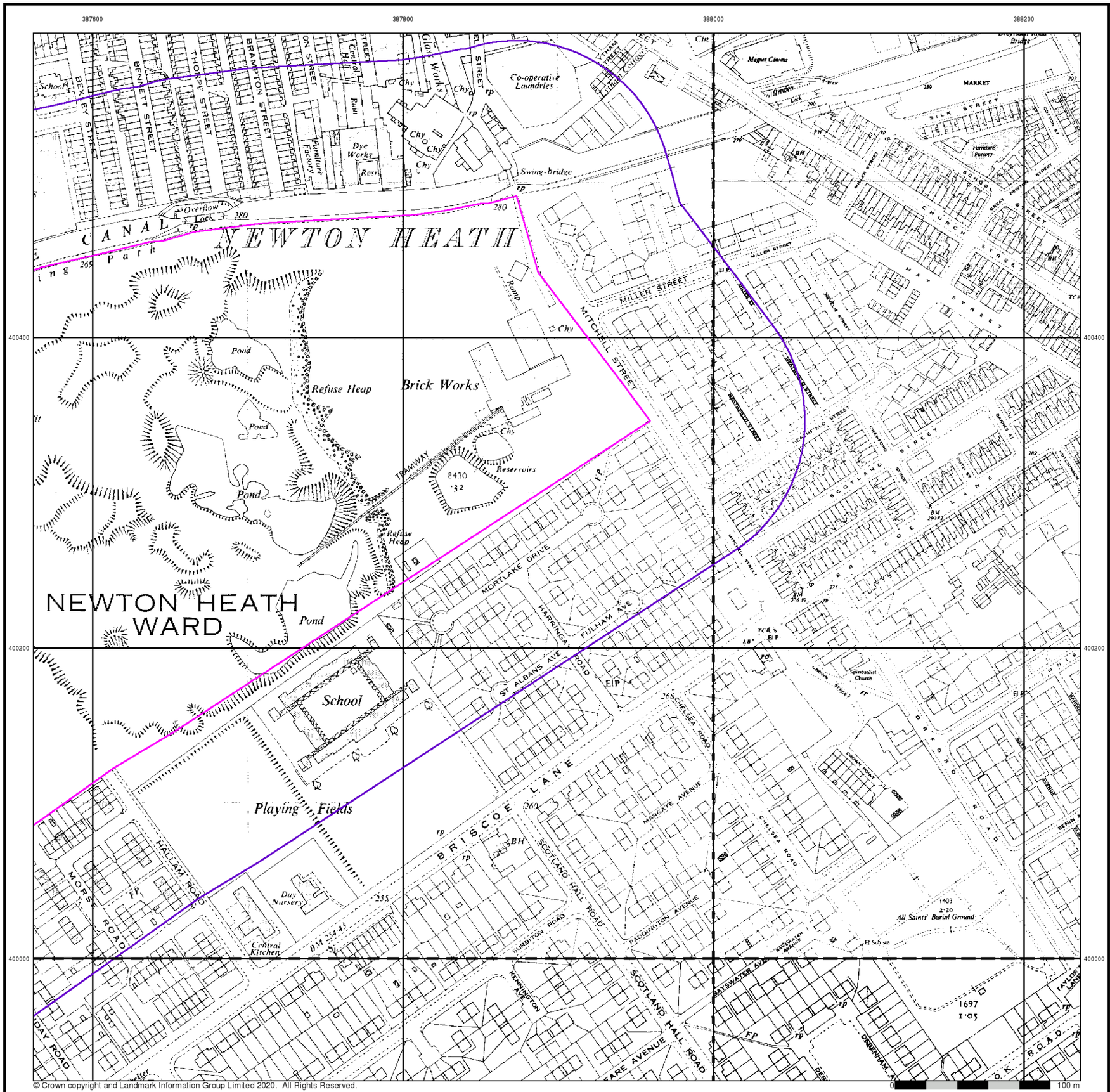

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Ordnance Survey Plan

Published 1951 - 1952

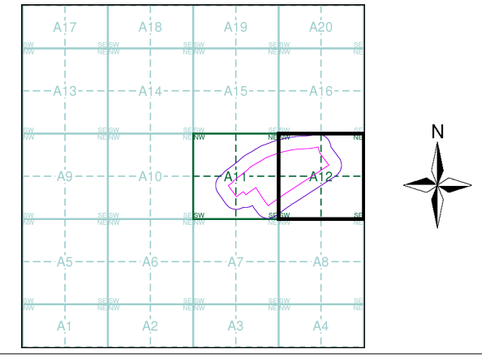
Source map scale - 1:2,500

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)

SD8700 1951 1:2,500	SD8800 1952 1:2,500
SJ8799 1951 1:2,500	SJ8899 1952 1:2,500

Historical Map - Segment A12



Order Details

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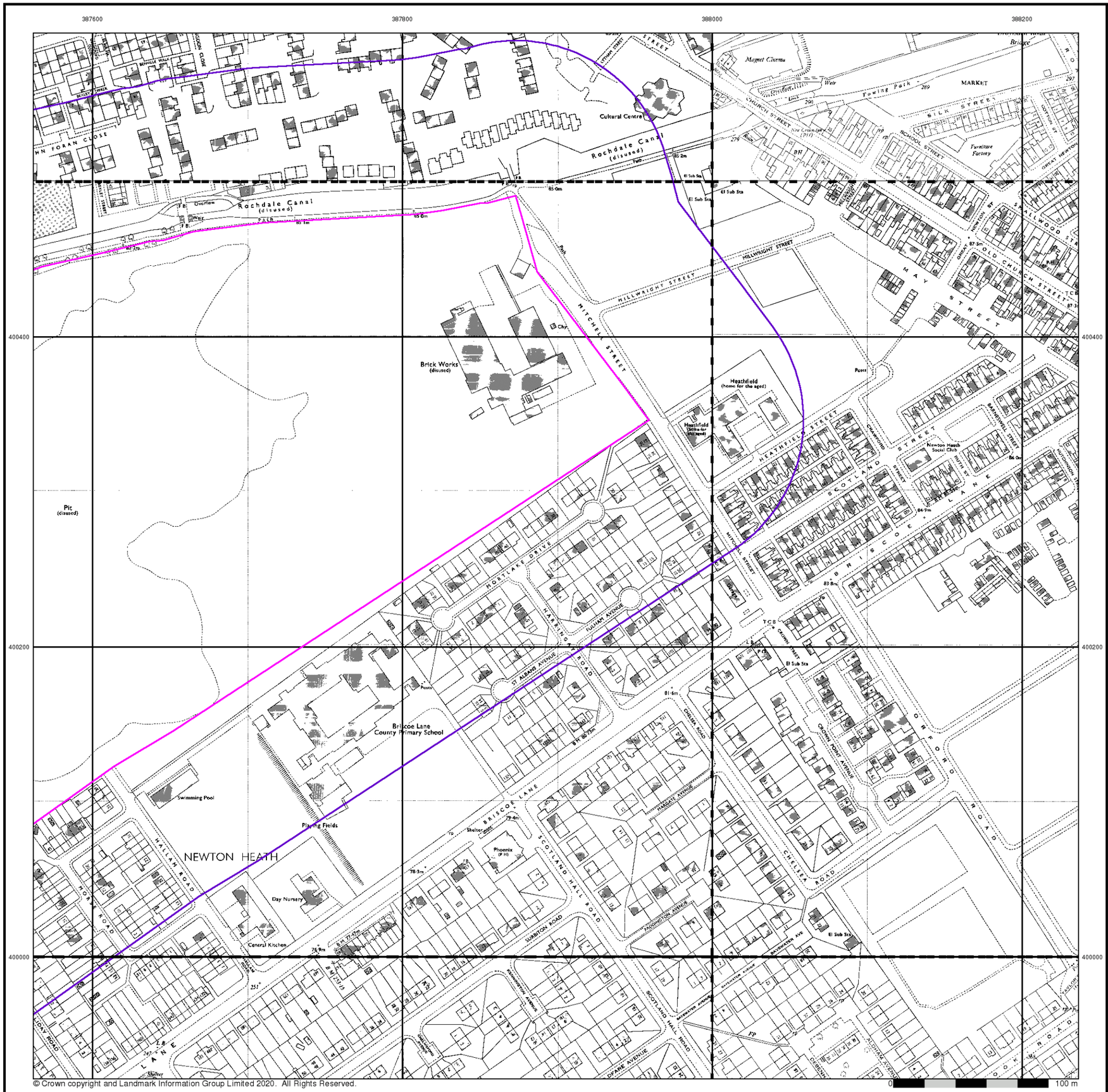

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Ordnance Survey Plan

Published 1953 - 1980

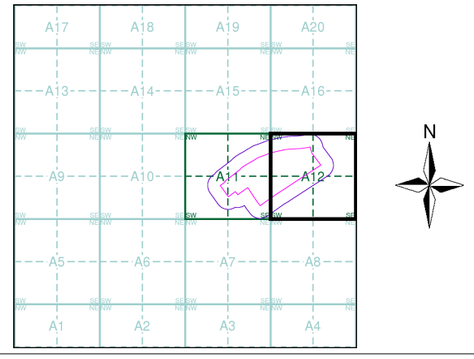
Source map scale - 1:1,250

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)

SD8700NE 1980 1:1,250
SD8800NW 953 1:1,250
SD8700SE 973 1:1,250
SD8800SW 972 1:1,250
SJ8799NE 1966 1:1,250
SJ8899NW 960 1:1,250

Historical Map - Segment A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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Fax: 0844 844 9951
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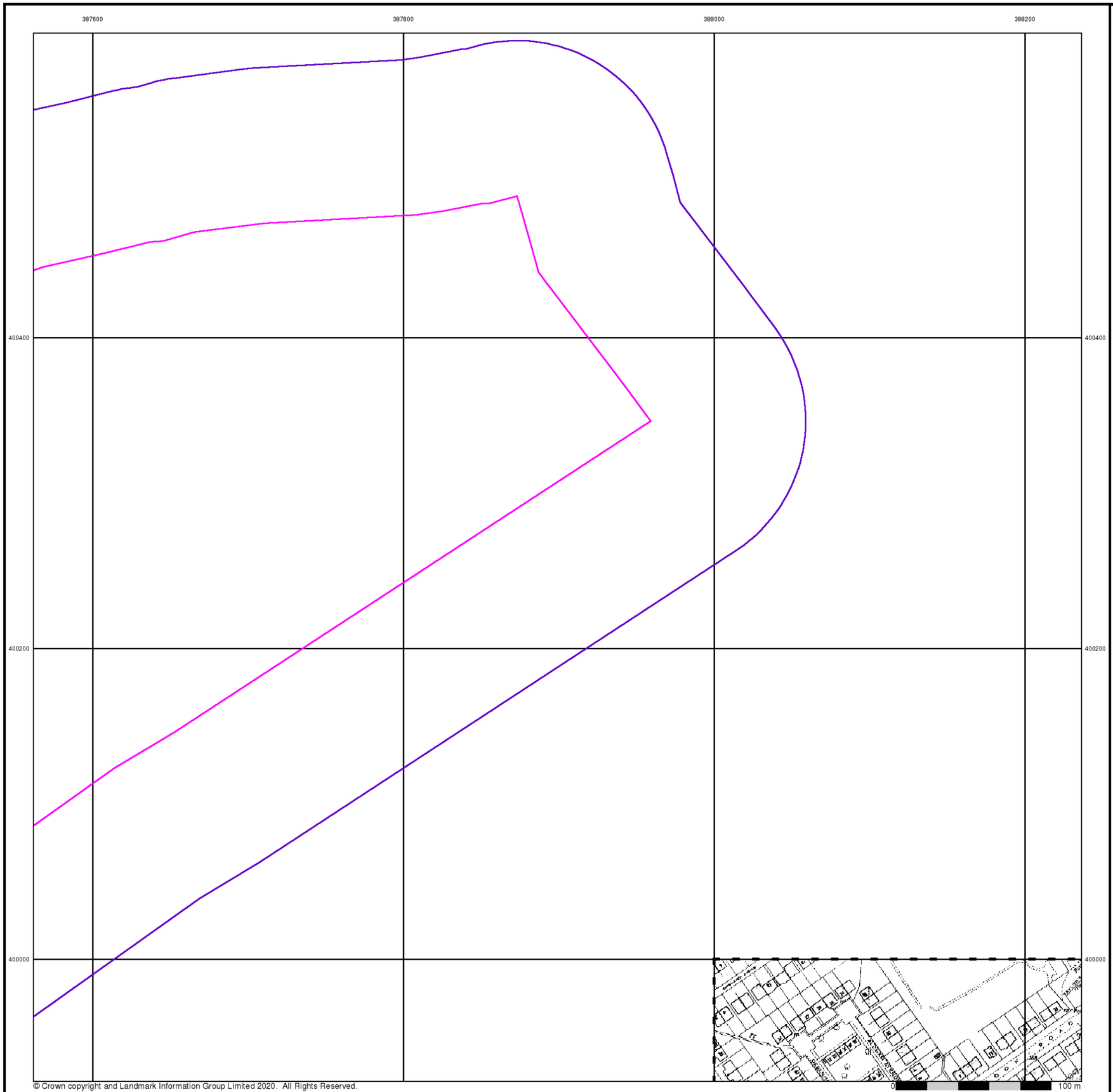

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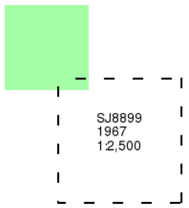
Ordnance Survey Plan

Published 1967

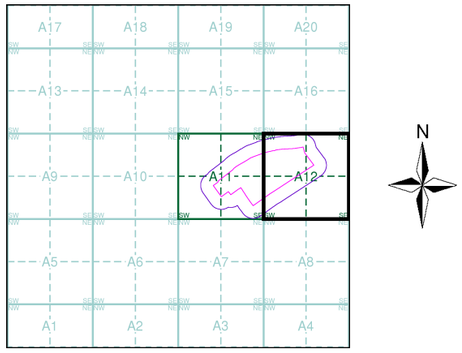
Source map scale - 1:2,500

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 A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
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Slice:	A
Site Area (Ha):	18.51
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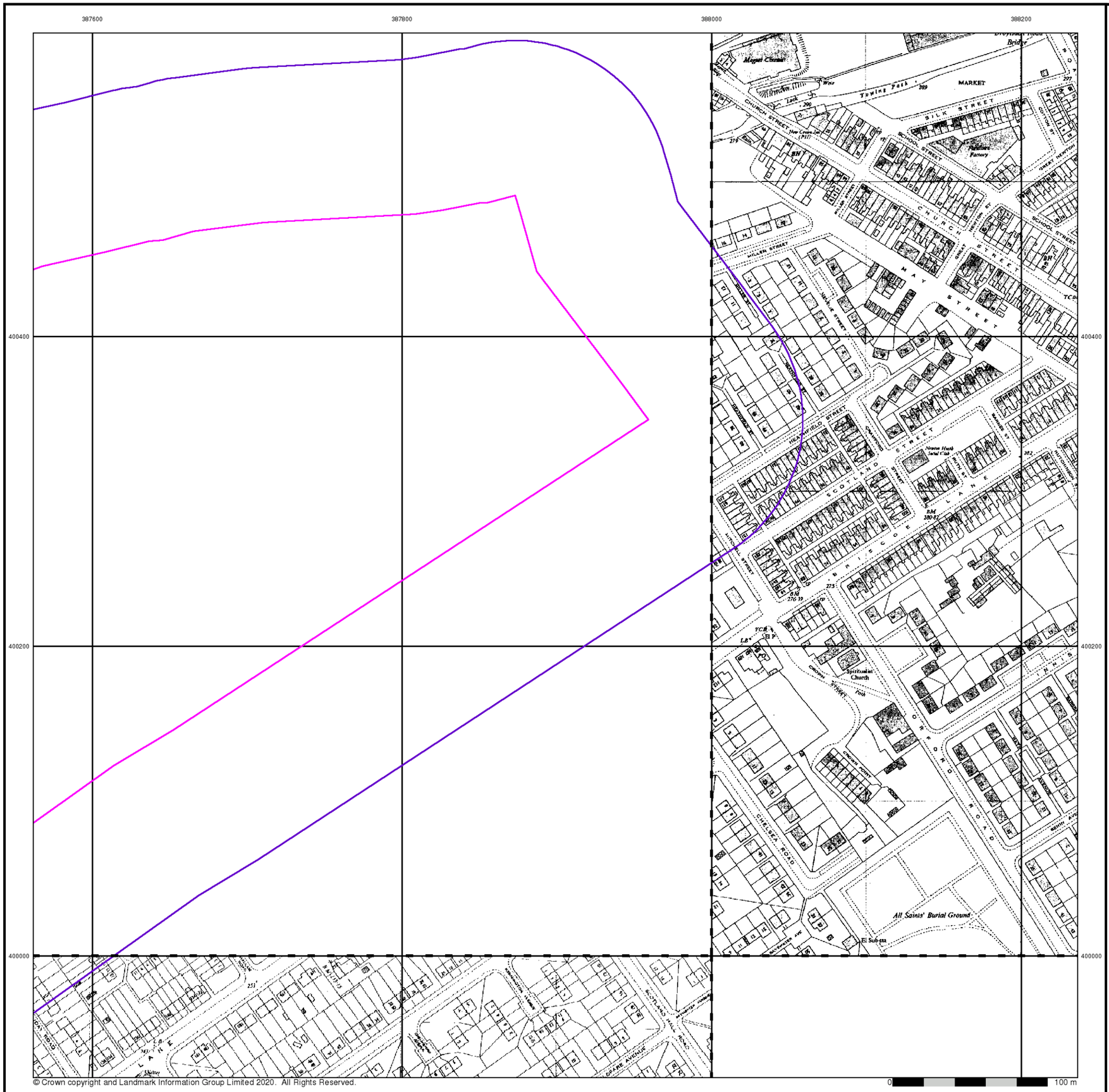

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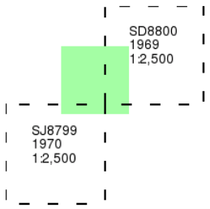
Ordnance Survey Plan

Published 1969 - 1970

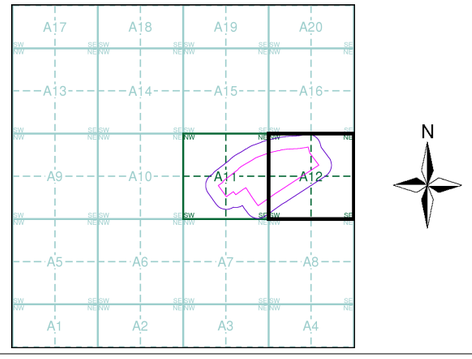
Source map scale - 1:2,500

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 A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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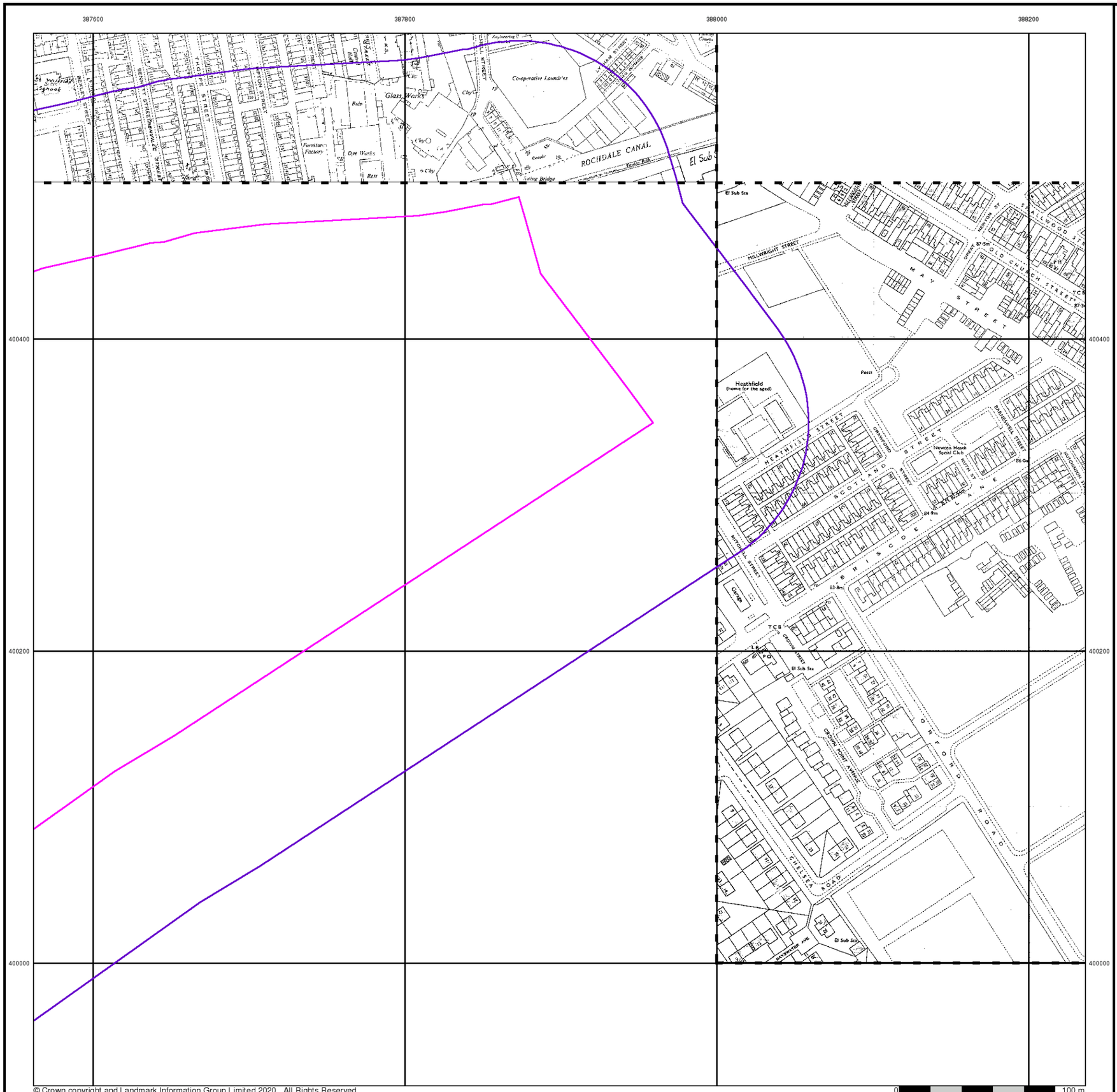

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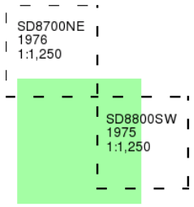
Supply of Unpublished Survey Information

Published 1975 - 1976

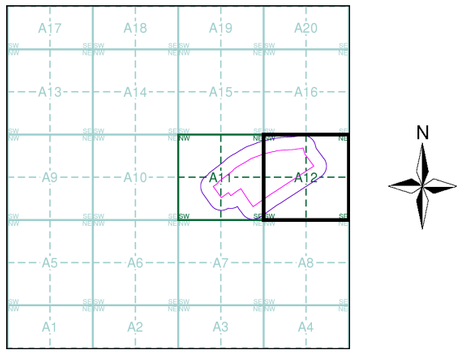
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

Site at 387600, 400310

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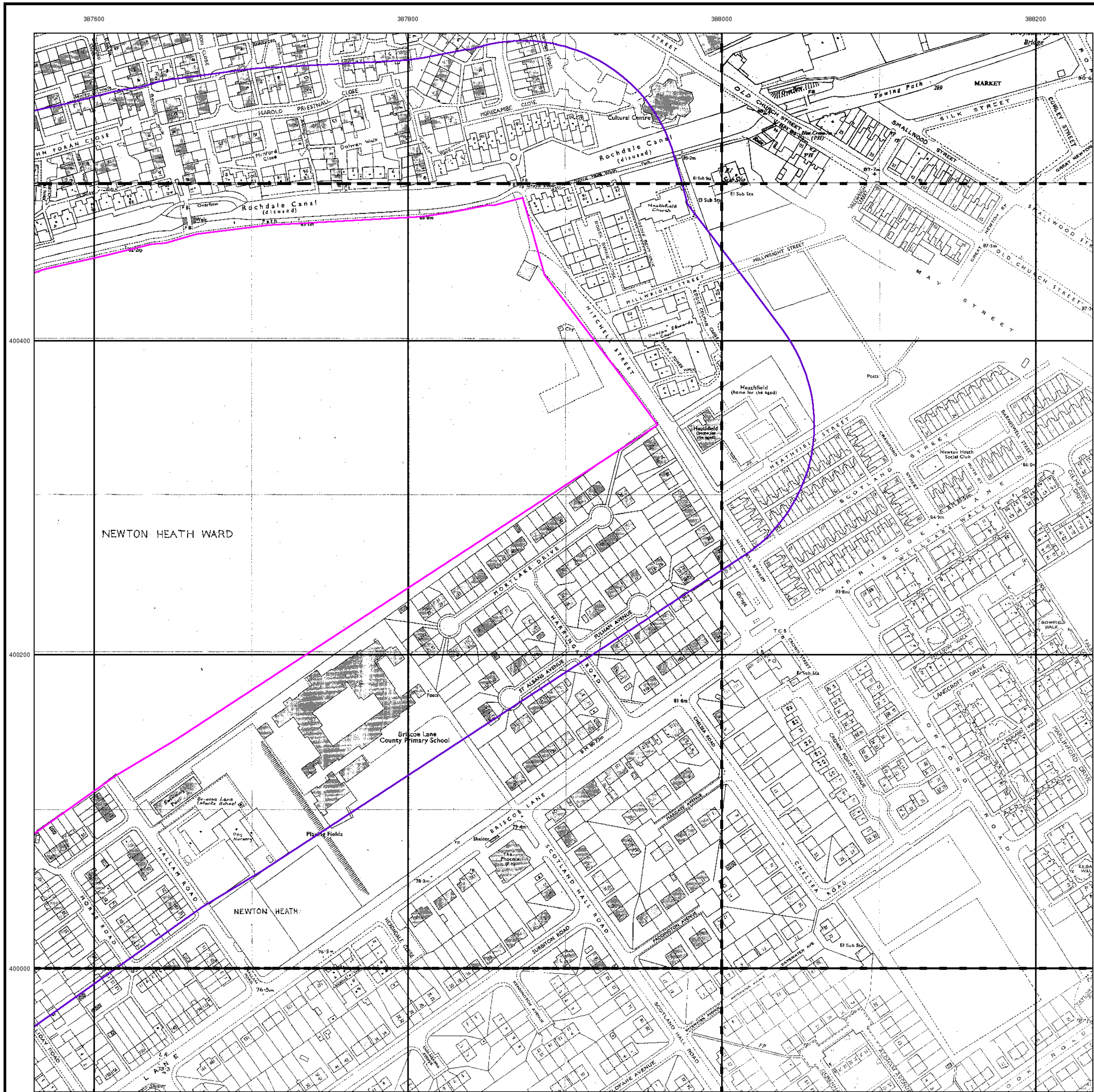

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Additional SIMs

Published 1979 - 1988

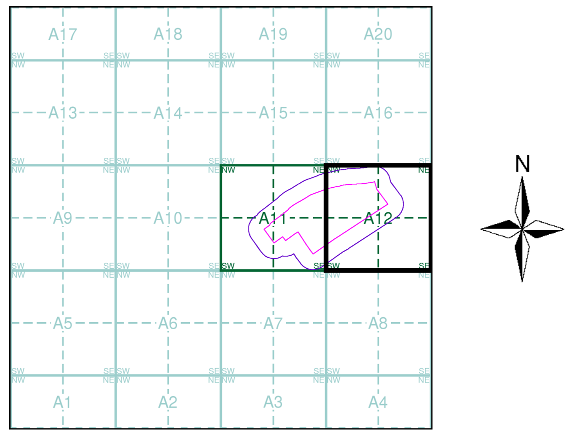
Source map scale - 1:1,250

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)

SD8700NE 1988 1:1,250	SD8800NW 1980 1:1,250
SD8700SE 1983 1:1,250	SD8800SW 1979 1:1,250
SJ8799NE 1984 1:1,250	SJ8899NW 1979 1:1,250

Historical Map - Segment A12



Order Details

Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 100

Site Details

Site at 387600, 400310

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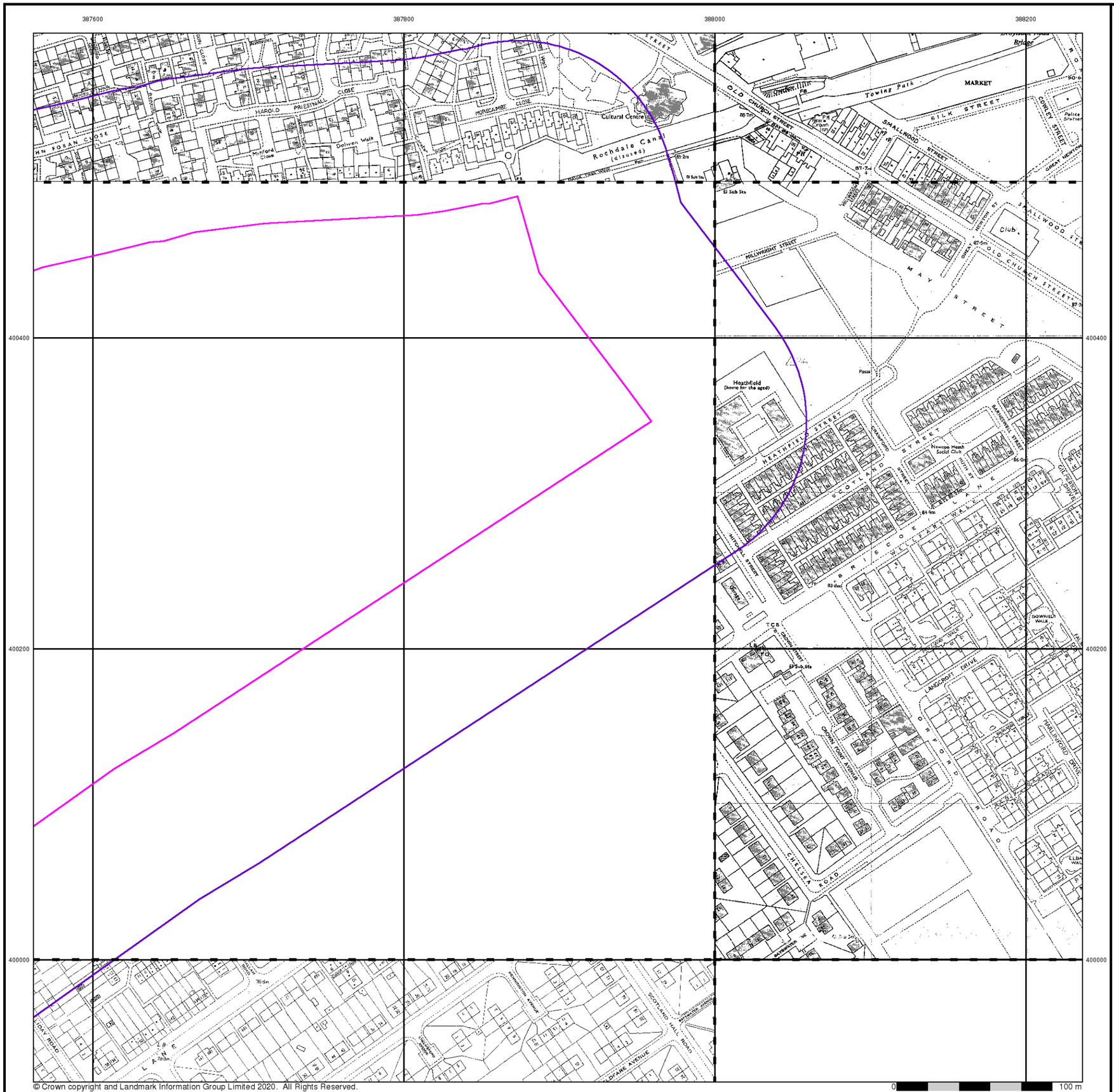

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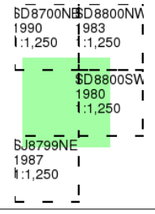
Additional SIMs

Published 1980 - 1990

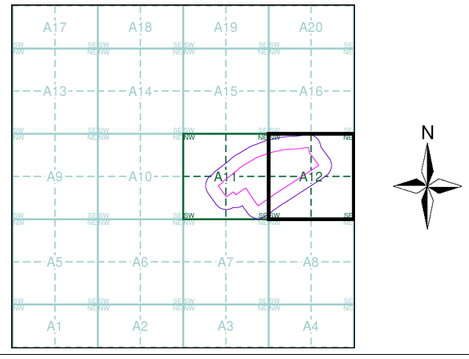
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

Order Number:	267713911_1_1
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Ordnance Survey Plan

Published 1981 - 1989

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.

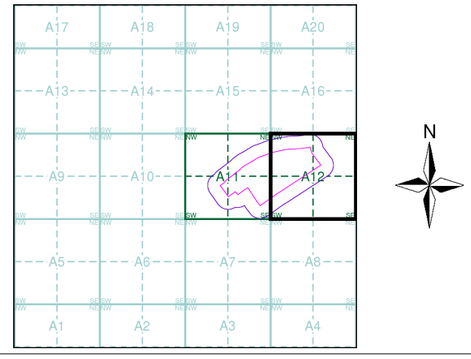
Map Name(s) and Date(s)

SD8800NW
1989
1:1,250

SD8800SW
1981
1:1,250

SJ8899NW
1986
1:1,250

Historical Map - Segment A12



Order Details

Order Number:	267713911_1_1
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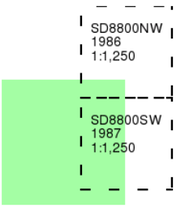
Additional SIMs

Published 1986 - 1987

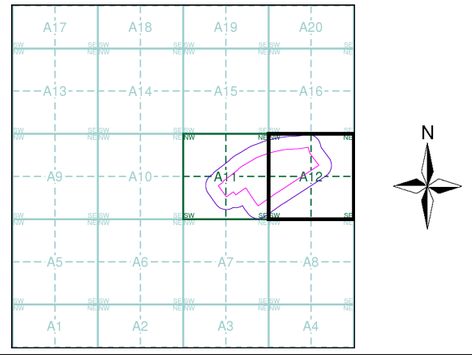
Source map scale - 1:1,250

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 A12



Order Details

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Slice:	A
Site Area (Ha):	18.51
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Site Details

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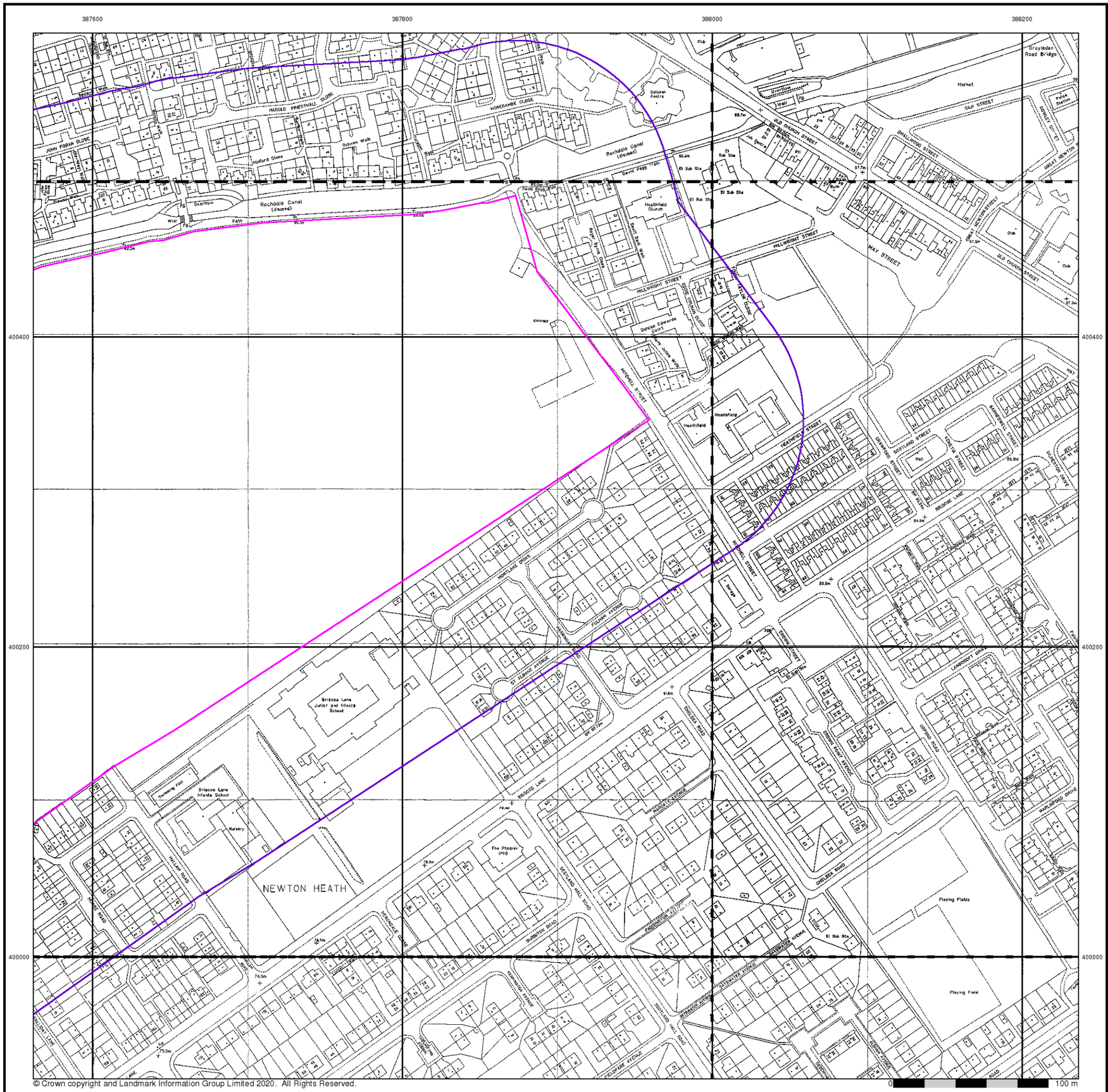

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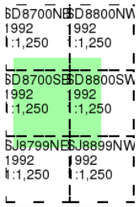
Large-Scale National Grid Data

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)



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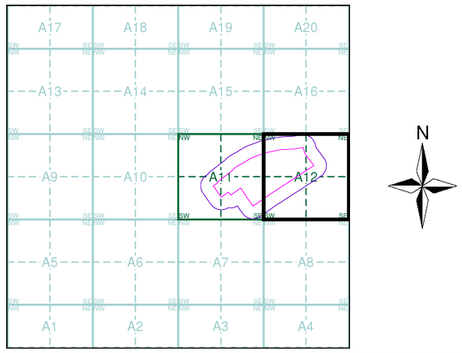

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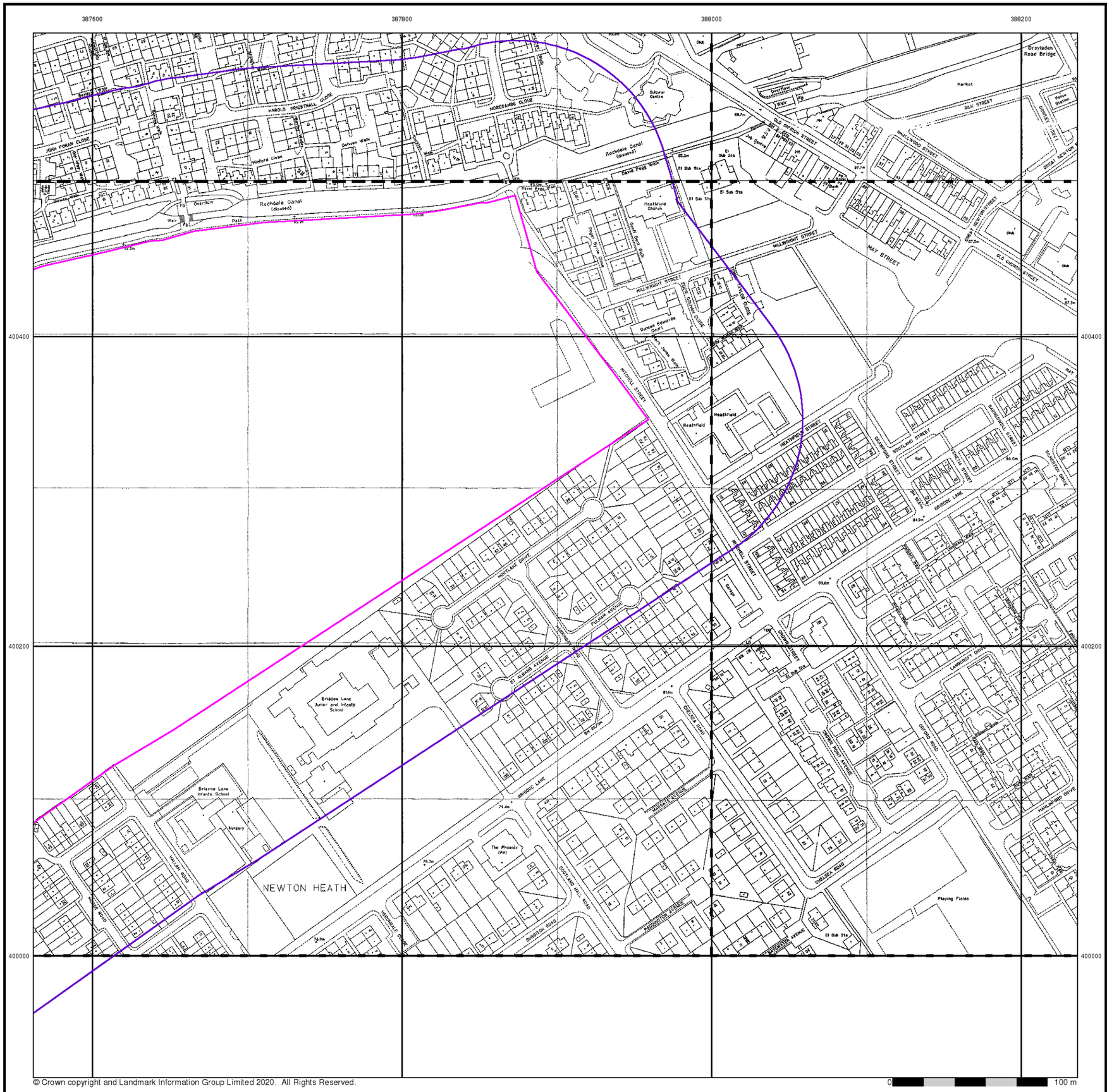

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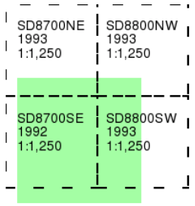
Large-Scale National Grid Data

Published 1992 - 1993

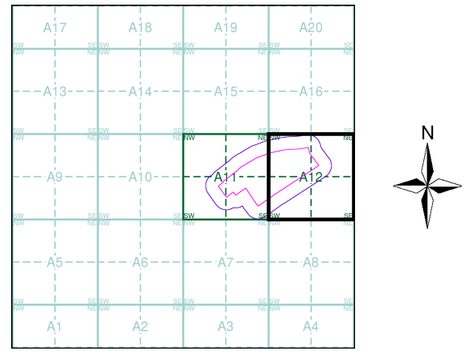
Source map scale - 1:1,250

'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 A12



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Large-Scale National Grid Data

Published 1993 - 1994

Source map scale - 1:1,250

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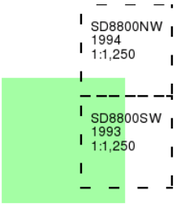

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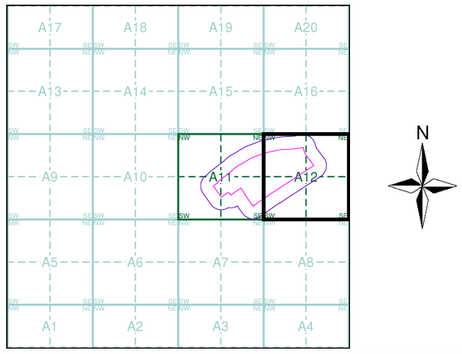

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Large-Scale National Grid Data

Published 1994

Source map scale - 1:1,250

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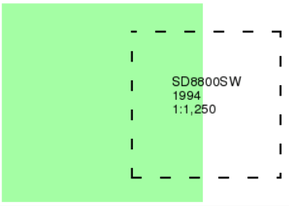
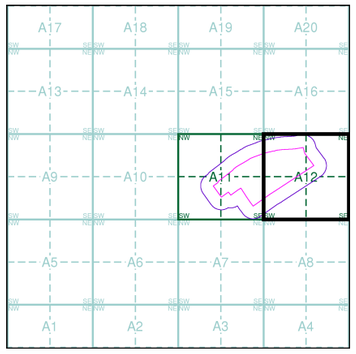


Historical Map - Segment A12



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Order Number:	267713911_1_1
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Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	100

Site Details

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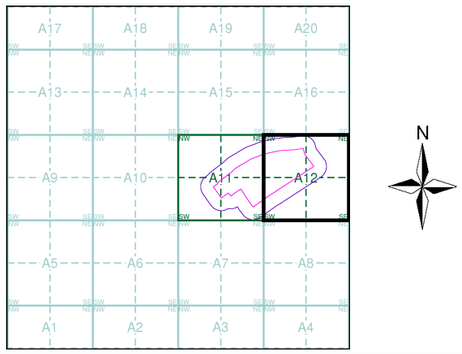
Historical Aerial Photography

Published 2000

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

Historical Aerial Photography - Segment A12



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Site at 387600, 400310

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

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
267713911_1_1

Customer Reference:
Ten Acres

National Grid Reference:
387320, 400240

Slice:
A

Site Area (Ha):
18.51

Search Buffer (m):
1000

Site Details:
Site at 387600, 400310

Client Details:
Mr H Pars
Wardell Armstrong LLP
Unit 4, Newton Business Centre
Thorncliffe Park
Chapletown
Sheffield
S35 2PH

Contents

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Introduction

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

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Report Version v53.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2				21
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 7				7
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 9		5	4	10
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 11		Yes		
Pollution Incidents to Controlled Waters	pg 11		1	1	4
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 12	1		1	1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 13				4
Water Abstractions	pg 13			1	3 (*27)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 21	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 22	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 22	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 23		18	3	22

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 28				1
Historical Landfill Sites	pg 28	1			9
Integrated Pollution Control Registered Waste Sites	pg 30				1
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 30		1	2	8
Local Authority Landfill Coverage	pg 32	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 32	2	1	2	10
Potentially Infilled Land (Water)	pg 33	3	19	32	52
Registered Landfill Sites	pg 39	1			2
Registered Waste Transfer Sites	pg 40		1		3
Registered Waste Treatment or Disposal Sites	pg 42			2	5
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 47			1	
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents	pg 47			1	
Planning Hazardous Substance Enforcements					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 48	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 48	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 52	2		1	5
BGS Urban Soil Chemistry	pg 54			Yes	Yes
BGS Urban Soil Chemistry Averages	pg 55	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 55	Yes	n/a	n/a	n/a
Mining Instability	pg 55	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 55	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 55	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 56	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 56	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 56	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas	pg 56	Yes	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 57		20	62	134
Fuel Station Entries	pg 75		1	1	3
Points of Interest - Commercial Services	pg 76			25	40
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 81		11	47	49
Points of Interest - Public Infrastructure	pg 90		9	4	34
Points of Interest - Recreational and Environmental	pg 94		1	1	5
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt	pg 95				1
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 95				1
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 95	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: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (W)	0	1	387300 400243
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (SW)	0	1	387250 400150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (NW)	0	1	387318 400243
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (E)	0	1	387350 400250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (S)	9	1	387350 400050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (S)	27	1	387318 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (S)	39	1	387400 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (W)	95	1	387150 400300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16SW (NE)	274	1	387650 400750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11NW (NW)	275	1	387050 400450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NW (SW)	279	1	387100 399850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SE (N)	301	1	387450 400750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16SW (NE)	310	1	387750 400800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	324	1	387600 400800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NW (SW)	347	1	387050 399800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SW (SW)	353	1	386900 399950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NW (S)	357	1	387150 399750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10SE (SW)	366	1	386850 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NW (SW)	371	1	387100 399750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10SE (W)	389	1	386800 400050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE (SW)	394	1	386850 399950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10SE (W)	415	1	386750 400243

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: Lightbowne Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0083 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: Moston Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A15NW (N)	623	2	387180 400960
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: River Park Road, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0118 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 Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A8SW (SE)	637	2	387750 399450
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Kenyon Lane Cso, Kenyon Lane, Manchester, Greater Manchester, M40 5fh Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982953 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: 20th February 2005 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Trib River Irk **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A16NW (NE)	671	2	387750 401150
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Kenyon Lane Cso, Kenyon Lane, Manchester, Greater Manchester, M40 5fh Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0352 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: Moston Brook **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A16NW (NE)	685	2	387720 401160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: Viridor Waste (Greater Manchester)Limited Property Type: WASTE COLLECTION/TREATMENT/DISPOSAL/MATERIALS RECOVERY Location: Refuse Treatment/Transfer Station, Newton Heath, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016990218 Permit Version: 1 Effective Date: 17th June 1980 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Moston Brook **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A16NE (NE)	678	2	388100 401130
5	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Kenyon Lane Cso, Kenyon Lane, Manchester, Greater Manchester, M40 5fh Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982953 Permit Version: 2 Effective Date: 21st February 2005 Issued Date: 21st February 2005 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Trib 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	A16NW (NE)	686	2	387700 401160
6	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Briscoe Lane Cso Briscoe Lane / Riverpark Rd Jnct, ., Manchester, Greater Manchester, M40 2nl Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982735 Permit Version: 2 Effective Date: 31st August 1999 Issued Date: Not Supplied Revocation Date: 3rd December 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A7SE (S)	687	2	387470 399340
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Briscoe Lane Cso Briscoe Lane / Riverpark Rd Jnct, ., Manchester, Greater Manchester, M40 2nl Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982735 Permit Version: 3 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 Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7SE (S)	689	2	387470 399338

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Riverpark Road, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0337 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 Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A7SE (S)	697	2	387460 399330
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Riverpark Road, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982735 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 30th August 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A7SE (S)	697	2	387460 399330
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Clayton Sso Bank Street, Urmston, Trafford, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016940385 Permit Version: 1 Effective Date: 23rd November 1982 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked: Discharge ceased (Water Resources Act 1991, Schedule 10 & 6)** Positional Accuracy: Located by supplier to within 100m	A7SE (S)	707	2	387480 399320
6	**Discharge Consents** Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: River Park Road/Bank St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0119 Permit Version: 2 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	A7SE (S)	717	2	387490 399310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: River Park Road/Bank St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0119 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	A7SE (S)	717	2	387490 399310
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lord North Street/Clifton St Cso Lord North Street/Clifton St Jnc, ., Manchester, Greater Manchester, M40 2hj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0069 Permit Version: 5 Effective Date: 20th November 2019 Issued Date: 20th November 2019 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	749	2	386622 399658
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lord North Street/Clifton St Cso Lord North Street/Clifton St Jnc, ., Manchester, Greater Manchester, M40 2hj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0069 Permit Version: 4 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 19th November 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	749	2	386620 399660
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lord North Street/Clifton St Cso Lord North Street/Clifton St Jnc, ., Manchester, Greater Manchester, M40 2hj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0069 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: Shooters Brook **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	749	2	386620 399660

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lord North Street/Clifton St Cso Lord North Street/Clifton St Jnc, ., Manchester, Greater Manchester, M40 2hj Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0069 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: Shooters Brook **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	749	2	386620 399660
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lord North Street/Clifton St Cso Lord North Street/Clifton St Jnc, ., Manchester, Greater Manchester, M40 2hj Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0069 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: Shooters Brook **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A6NE (SW)	749	2	386620 399660
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bank Street Cso, Clayton, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982847 Permit Version: 2 Effective Date: 15th September 1996 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A3NE (S)	797	2	387490 399230
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Bank Street Cso, Clayton, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982847 Permit Version: 1 Effective Date: 3rd January 1995 Issued Date: Not Supplied Revocation Date: 14th September 1996 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A3NE (S)	797	2	387490 399230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Hulme Hall Lane Opp Falmo, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0260 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: Freshwater Stream/River Receiving Water: Shooters Brook **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A6SW (SW)	980	2	386520 399420
10	**Integrated Pollution Prevention And Control** Name: Suez Recycling And Recovery Uk Ltd Location: North Manchester Mbt, North Manchester Mbt, Reliance Street,,, MANCHESTER, Lancashire, M40 3EZ Authority: Environment Agency, North West Region Permit Reference: RP3836QY Original Permit Ref: Rp3836qy Effective Date: 1st June 2019 **Status: Effective** Application Type: Transfer App. Sub Type: Whole limited change in management Positional Accuracy: Located by supplier to within 100m Activity Code: 5.4 A(1) a) (i) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Primary Activity: Y Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A16NE (NE)	581	2	388170 400990
10	**Integrated Pollution Prevention And Control** Name: Viridor Waste (Greater Manchester) Ltd Location: North Manchester Mbt, North Manchester Mbt, Reliance Street,,, MANCHESTER, Lancashire, M40 3EZ Authority: Environment Agency, North West Region Permit Reference: LP3135DH Original Permit Ref: Xp3335gu Effective Date: 4th January 2017 **Status: Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 100m Activity Code: 5.4 A(1) a) (i) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N	A16NE (NE)	581	2	388170 400990

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Integrated Pollution Prevention And Control** Name: Viridor Waste (Greater Manchester) Ltd Location: North Manchester Mbt, North Manchester Mbt, Reliance Street,,, MANCHESTER, Lancashire, M40 3EZ Authority: Environment Agency, North West Region Permit Reference: NP3530EF Original Permit Ref: Xp3335gu Effective Date: 21st October 2013 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 100m Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N Activity Code: 5.4 A(1) a) (i) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A16NE (NE)	581	2	388170 400990
10	**Integrated Pollution Prevention And Control** Name: Viridor Waste (Greater Manchester) Ltd Location: North Manchester Mbt, North Manchester Mbt, Reliance Street,,, MANCHESTER, Lancashire, M40 3EZ Authority: Environment Agency, North West Region Permit Reference: CP3934NB Original Permit Ref: Xp3335gu Effective Date: 29th May 2013 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.4 A(1) a) (i) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Primary Activity: Y	A16NE (NE)	581	2	388170 400990
10	**Integrated Pollution Prevention And Control** Name: Viridor Waste (Greater Manchester) Ltd Location: North Manchester Mbt, North Manchester Mbt, Reliance Street,,, MANCHESTER, Lancashire, M40 3EZ Authority: Environment Agency, North West Region Permit Reference: XP3335GU Original Permit Ref: Xp3335gu Effective Date: 19th May 2010 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 100m Activity Code: 1.1 A(1) (B) (III) Activity Description: Combustion; Waste Derived Fuel Greater Or Equal To 3Mw But Less Than 50Mw Primary Activity: Y	A16NE (NE)	581	2	388170 400990
11	**Integrated Pollution Prevention And Control** Name: Princes Ltd Location: Princes Soft Drinks Division (Uk), Lord North Street, Newton Heath,, Manchester, M40 2HJ Authority: Environment Agency, North West Region Permit Reference: Tp3832pn Original Permit Ref: Tp3832pn Effective Date: 13th October 2005 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 6.8 A(1) (D) (II) Activity Description: Animal, Vegetable & Food; Treating Etc. Vegetable Raw Materials For Food Greater Than 300T/Day Primary Activity: Y	A6NE (SW)	665	2	386668 399739

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Integrated Pollution Prevention And Control** Name: Princes Ltd Location: Manchester Soft Drinks - Epr/Tp3832pn, Lord North Street, Newton Heath,, Manchester, M40 2HJ Authority: Environment Agency, North West Region Permit Reference: CP3138CX Original Permit Ref: Tp3832pn Effective Date: 11th July 2012 **Status: Effective** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 6.8 A(1) (D) (II) Activity Description: Animal, Vegetable & Food; Treating Etc. Vegetable Raw Materials For Food Greater Than 300T/Day Primary Activity: Y	A6NE (SW)	679	2	386660 399724
12	**Local Authority Pollution Prevention and Controls** Name: Weir Pumps Location: Park Works, Newton Heath, Manchester, Lancashire, M40 2ba Authority: Manchester City Council, Environmental Health Department Permit Reference: 37/93 Dated: 10th February 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A11SW (SW)	94	3	387122 400084
13	**Local Authority Pollution Prevention and Controls** Name: Briscoe Lane Service Station Location: 86-90 Briscoe Lane, Newton Heath, MANCHESTER, M40 2TH Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/049/06 Dated: 28th December 2001 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A12SE (E)	131	3	388016 400228
14	**Local Authority Pollution Prevention and Controls** Name: Weir Pumps Location: Park Works, Newton Heath, MANCHESTER, Lancashire, M40 2BA Authority: Manchester City Council, Environmental Health Department Permit Reference: 37/93 Dated: 10th February 1993 Process Type: Local Authority Air Pollution Control Description: PG2/3 Electrical and rotary furnaces **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A11SW (SW)	153	3	387069 400057
15	**Local Authority Pollution Prevention and Controls** Name: Mathers Foundry Ltd Location: Park Works, Ten Acres Lane/Briscoe Lane, Newton Heath, M40 2BA Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/26/05/AW Dated: 15th December 1997 Process Type: Local Authority Pollution Prevention and Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A11SW (SW)	220	3	386996 400044
15	**Local Authority Pollution Prevention and Controls** Name: Mathers Foundry Ltd Location: Park Works, Ten Acres Lane/Briscoe Lane, Newton Heath, M10 6ba Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/26/05/AW Dated: 15th December 1997 Process Type: Local Authority Pollution Prevention and Control Description: PG2/3 Electrical and rotary furnaces **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A11SW (SW)	220	3	386996 400044
16	**Local Authority Pollution Prevention and Controls** Name: Quickmix Concrete Co Ltd Location: Dean Lane, Manchester, Lancashire, M10 0ad Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/21/92 Dated: 17th July 1992 Process Type: Local Authority Air Pollution Control Description: PG3/10 China and ball clay **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A16SW (NE)	286	3	387701 400759

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Local Authority Pollution Prevention and Controls** Name: Newton Heath Service Station Location: 1123 Oldham Road, Newton Heath, MANCHESTER, Lancashire, M40 2FU Authority: Manchester City Council, Environmental Health Department Permit Reference: Pfs/10/98 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	A16SE (NE)	320	3	388081 400734
18	**Local Authority Pollution Prevention and Controls** Name: Drummer Boy Trading Company Location: Bower Street, Newton Heath, Manchester, M12 6BL Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/96/97 Dated: 17th October 1997 Process Type: Local Authority Air Pollution Control Description: PG6/15 Coating in drum manufacturing and reconditioning processes **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A11SW (SW)	321	3	386887 400025
19	**Local Authority Pollution Prevention and Controls** Name: Olympia Furniture Ltd Location: Holt Street, Off Oldham Road, Newton Heath, Manchester, Lancashire, M10 9ax Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/67/94 Dated: 1st February 1995 Process Type: Local Authority Air Pollution Control Description: PG6/32 Adhesive coating **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A10NE (W)	420	3	386780 400355
20	**Local Authority Pollution Prevention and Controls** Name: Sapphire Garage Ltd Location: Unit 1-3 Quantum Trading Park, Monsall Road, Manchester, M40 8fx Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/01/10/RM Dated: 8th March 2010 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A10NE (W)	532	3	386641 400277
21	**Local Authority Pollution Prevention and Controls** Name: Grm Insulation Solutions Location: Block 1, Riverpark Road, Eastlands, Manchester, M40 2xp Authority: Manchester City Council, Environmental Health Department Permit Reference: Not Supplied Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/32 Adhesive coating **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A7SE (S)	568	3	387491 399459
22	**Local Authority Pollution Prevention and Controls** Name: Moston Service Station Location: Lightbowne Road, Moston, MANCHESTER, Lancashire, M10 9BU Authority: Manchester City Council, Environmental Health Department Permit Reference: Pfs/9/98 Dated: 22nd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A15NW (N)	652	3	387177 400991
23	**Local Authority Pollution Prevention and Controls** Name: Murco Service Station Location: 55 St Mary's Road, Newton Heath, MANCHESTER, Lancashire, M40 3AR Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/025/06 Dated: 22nd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A16NW (NE)	654	3	387886 401145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	**Local Authority Pollution Prevention and Controls** Name: Tcs - Monsall Location: 571 Oldham Road, Newton Heath, MANCHESTER, Lancashire, M40 5AF Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/023/06 Dated: 22nd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A10SW (W)	671	3	386495 400145
25	**Local Authority Pollution Prevention and Controls** Name: Trafford Rubber Products Location: North Manchester Sites, 55 Clifton Street, Miles Platting, Manchester, Greater Manchester, M10 8hf Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/63/93 Dated: 12th September 1994 Process Type: Local Authority Air Pollution Control Description: PG6/28 Rubber processes **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	696	3	386737 399605
26	**Local Authority Pollution Prevention and Controls** Name: Hanson Aggregates Location: Norton Street, Miles Platting, MANCHESTER, Lancashire, M40 8HD Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/04/05/AW Dated: 5th August 1992 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status:** **Authorised** Positional Accuracy: Manually positioned to the address or location	A6NE (SW)	696	3	386591 399792
27	**Local Authority Pollution Prevention and Controls** Name: Northern Butchers Hide Markets Ltd Location: 228 Briscoe Lane, Newton Heath, MANCHESTER, Lancashire, M40 2XG Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/52/93 Dated: 1st March 1995 Process Type: Local Authority Air Pollution Control Description: PG6/21 Hide and skin processes **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A6SE (SW)	745	3	386831 399468
28	**Local Authority Pollution Prevention and Controls** Name: North Manchester Commercials Location: Briscoe Lane, Newton Heath, MANCHESTER, Lancashire, M40 2NL Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/78/95/03 Dated: 1st November 1995 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	A6SE (SW)	858	3	386776 399369
29	**Local Authority Pollution Prevention and Controls** Name: Manchester Cabins Ltd Location: Harden Works, Oldham Road, MANCHESTER, Lancashire, M40 8AG Authority: Manchester City Council, Environmental Health Department Permit Reference: 64/93 Dated: 14th January 1994 Process Type: Local Authority Air Pollution Control Description: PG6/29 Di-isocyanate processes **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A6NW (W)	983	3	386236 399865
	Nearest Surface Water Feature	A11NE (NE)	2	-	387486 400418
30	**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: Not Supplied Incident Date: 21st April 1993 Incident Reference: 93630820 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (NE)	28	2	387700 400500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Rochdale Canal; None Pollution Found Incident Date: 23rd May 1995 Incident Reference: 95611216 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A15SW (N)	301	2	387200 400600
32	**Pollution Incidents to Controlled Waters** Property Type: Agriculture: Manure Compound Location: M C R Abatoir, Riverpark Road Authority: Environment Agency, North West Region Pollutant: General Biodegradable : Solid Manure Note: Not Supplied Incident Date: 6th January 1999 Incident Reference: 362 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SW (S)	686	2	387200 399400
33	**Pollution Incidents to Controlled Waters** Property Type: Transport, Storage, Communications: Road Location: Mill Street, Failsworth, MANCHESTER, Greater Manchester Authority: Environment Agency, North West Region Pollutant: Inert : Plaster & Plasterboard Note: Not Supplied Incident Date: 18th April 1999 Incident Reference: 1432 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Approximate location provided by supplier	A16NE (NE)	721	2	388000 401200
34	**Pollution Incidents to Controlled Waters** Property Type: Manufacturing: Metal Fabrication Location: Nall St, Levenshulme, MANCHESTER, Greater Manchester Authority: Environment Agency, North West Region Pollutant: Organic Chemicals : Oils: Mixed / Unidentified / Waste Note: Not Supplied Incident Date: 10th May 1999 Incident Reference: 28748 Catchment Area: River Mersey (Etherow) Receiving Water: River Stretch (Freshwater) Cause of Incident: Un-Consented Works Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A8SW (S)	760	2	387700 399300
35	**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: Crude Sewage Note: River Medlock Incident Date: 1st September 1995 Incident Reference: 95632224 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	870	2	388100 399400
	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	A11SE (NW)	0	2	387318 400243

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Moston Bk GQA Grade: River Quality F Reach: Qsl At Hale Lane Failsworth To Irk Estimated Distance (km): 5.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A15SE (N)	461	2	387258 400845
	River Quality Name: Medlock GQA Grade: River Quality E Reach: Lords Bk To Irwell Estimated Distance (km): 9.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A3NE (S)	822	2	387459 399205
36	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 28th July 2016 Incident Reference: 1457159 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Lubricating Pollutant: Oils And Fuel: Mixed/Waste Oils	A16NW (NE)	516	2	387806 401002
37	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 25th December 2003 Incident Reference: 208157 Water Impact: Category 3 - Minor Incident 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: Smoke Pollutant: Contaminated Water: Firefighting Run-Off	A8SW (S)	622	2	387592 399415
38	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 14th May 2004 Incident Reference: 237969 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: Organic Chemicals : Other Organic Wastes	A10SW (W)	679	2	386517 399982
39	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 19th March 2005 Incident Reference: 299985 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Crude Sewage	A3NE (S)	804	2	387500 399223
40	**Water Abstractions** Operator: Cochrane & Gibbs Ltd Licence Number: 2569006022 Permit Version: Not Supplied Location: Rochdale Canal, Bower Street, Newton Heath, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Boiler Feed & Manufacturing Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 773 Yearly Rate (m3): 168202 Details: Additional Purpose: Boiler feed; 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	A11SW (SW)	322	2	386901 400001

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**Water Abstractions** Operator: Watney Mann (North) Ltd Licence Number: 2569005004 Permit Version: Not Supplied Location: Two Boreholes, NEWTON HEATH Authority: Environment Agency, North West Region Abstraction: Cooling & Manufacturing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1364 Yearly Rate (m3): 478435 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	A15SW (NW)	643	2	386900 400800
42	**Water Abstractions** Operator: Hanson Quarry Products Europe Limited Licence Number: 2569005061 Permit Version: 3 Location: Borehole At Norton Street, Miles Platting, Manchester Authority: Environment Agency, North West Region Abstraction: Construction: 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: At Norton Street, Miles Platting Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th August 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	732	2	386550 399790
42	**Water Abstractions** Operator: Hanson Quarry Products Europe Ltd Licence Number: 2569005061 Permit Version: 2 Location: Borehole At Norton Street, Miles Platting, Manchester Authority: Environment Agency, North West Region Abstraction: Construction: 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: At Norton Street, Miles Platting Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st July 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NE (SW)	732	2	386550 399790
	Water Abstractions Operator: V H E Construction Limited Licence Number: 2569006040 Permit Version: Not Supplied Location: The River, Medlock, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Dust Suppression Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 20 Yearly Rate (m3): 2000 Details: Licence Status: Lapsed 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	A2NE (SW)	1086	2	386800 399100

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: Location Description Not Available 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	A3SW (S)	1339	2	386900 398800
	Water Abstractions Operator: British Waterways Board Licence Number: 2569006992 Permit Version: Not Supplied Location: Ashton Canal, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Drinking; Cooking; Sanitary; Washing For Industrial Premises Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 0 Yearly Rate (m3): 1136500 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	A3SW (S)	1344	2	386900 398795
	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	(S)	1631	2	387600 398400
	Water Abstractions Operator: British Waterways Licence Number: 2569006996 Permit Version: 100 Location: Ashton Canal, Manchester [Vitacom] 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): 227300 Details: (British Vita Ltd) 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	(S)	1636	2	387600 398395

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	(S)	1658	2	387800 398400
	Water Abstractions Operator: Canal And River Trust Licence Number: 2569006997 Permit Version: 100 Location: Ashton Canal Manchester Clayton Analine 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: Surface Daily Rate (m3): 0 Yearly Rate (m3): 3500420 Details: Land At Ciba 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	(S)	1663	2	387800 398395
	Water Abstractions Operator: Air Products Chemicals Ltd Licence Number: 2569006037 Permit Version: 100 Location: Boreholes X 2 On Premises At Croft Street Clayton Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 655 Yearly Rate (m3): 111832 Details: Premises Croft St, Clayton, M/Cr Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st July 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1680	2	387900 398400
	Water Abstractions Operator: Victor Wolf Ltd Licence Number: 2569007020 Permit Version: Not Supplied Location: Two Boreholes, Croft Street, Clayton, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 2182 Yearly Rate (m3): 372772 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)	1685	2	387900 398395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Evonik Chemicals Limited Licence Number: 2569006037 Permit Version: 103 Location: Borehole 1 On Premises At Croft Street, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Croft Street, Clayton, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 9th March 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1691	2	387860 398379
	Water Abstractions Operator: Air Products (Chemicals) Limited Licence Number: 2569006037 Permit Version: 102 Location: Borehole 1 On Premises At Croft Street, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Croft Street, Clayton, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th January 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1691	2	387860 398379
	Water Abstractions Operator: Air Products (Chemicals) Plc Licence Number: 2569006037 Permit Version: 101 Location: Borehole 1 On Premises At Croft Street, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Croft Street, Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1691	2	387860 398379
	Water Abstractions Operator: Evonik Chemicals Limited Licence Number: 2569006037 Permit Version: 103 Location: Borehole 2 On Premises At Croft Street, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Croft Street, Clayton, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 9th March 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1695	2	387859 398375

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Air Products (Chemicals) Limited Licence Number: 2569006037 Permit Version: 102 Location: Borehole 2 On Premises At Croft Street, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Croft Street, Clayton, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th January 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1695	2	387859 398375
	Water Abstractions Operator: Air Products (Chemicals) Plc Licence Number: 2569006037 Permit Version: 101 Location: Borehole 2 On Premises At Croft Street, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Croft Street, Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1695	2	387859 398375
	Water Abstractions Operator: Evonik Chemicals Limited Licence Number: 2569006036 Permit Version: 103 Location: Borehole On Premises At Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th March 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1834	2	388027 398277
	Water Abstractions Operator: Air Products (Chemicals) Limited Licence Number: 2569006036 Permit Version: 102 Location: Borehole On Premises At Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th January 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1834	2	388027 398277

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Air Products (Chemicals) Plc Licence Number: 2569006036 Permit Version: 101 Location: Borehole On Premises At Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1834	2	388027 398277
	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	(S)	1835	2	388100 398300
	Water Abstractions Operator: Canal And River Trust Licence Number: 2569006995 Permit Version: 100 Location: Ashton Canal, 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: Surface Daily Rate (m3): 0 Yearly Rate (m3): 68190 Details: Land At Air Products 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	(S)	1840	2	388100 398295
	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	A1SE (SW)	1857	2	385900 398800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A1SE (SW)	1861	2	385900 398795
	Water Abstractions Operator: Air Products Chemicals Ltd Licence Number: 2569006036 Permit Version: 100 Location: Borehole On Premises At Clayton Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 3600 Yearly Rate (m3): 372772 Details: Premises At Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st July 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1900	2	388000 398200
	Water Abstractions Operator: Air Products Chemicals Ltd Licence Number: 2569006036 Permit Version: 100 Location: Borehole On Premises At Clayton Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Clayton, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st July 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1900	2	388000 398200
	Water Abstractions Operator: City Of Manchester Licence Number: 2569005038 Permit Version: Not Supplied Location: River Irk, Collyhurst, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 546 Yearly Rate (m3): 93557 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1910	2	385300 400600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ciba Specialty Chemicals Plc Licence Number: 2569006026 Permit Version: 101 Location: Borehole At Premises, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 2837 Yearly Rate (m3): 633949 Details: Premises At Clayton Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th July 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1939	2	387700 398100
	Water Abstractions Operator: Ciba Specialty Chemicals Plc Licence Number: 2569006026 Permit Version: 101 Location: Borehole At Premises, Clayton, Manchester Authority: Environment Agency, North West Region Abstraction: Chemicals: 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: Premises At Clayton Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th July 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1939	2	387700 398100
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A11SE (NW)	0	4	387318 400243
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A11SE (S)	0	4	387279 400140

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A11SE (E)	0	4	387366 400258
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A11SE (SW)	0	4	387232 400166
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A11SE (SW)	0	4	387265 400129
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A11SE (E)	0	4	387366 400258
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A11SE (SW)	0	4	387232 400166
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A11SE (NW)	0	4	387318 400243
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A11SE (NW)	0	4	387318 400243
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SE (S)	0	4	387279 400140
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flood Water Storage Areas None				
	Flood Defences None				
43	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 92.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11NE (N)	7	5	387351 400350
44	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 167.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11NE (NE)	7	5	387480 400422
45	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 110.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11NE (NW)	8	5	387275 400286
46	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 55.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11NE (N)	8	5	387308 400315
47	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 56.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11NE (NE)	8	5	387429 400398
48	**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	A12NW (NE)	8	5	387698 400481
49	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 69.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	A11NE (N)	9	5	387308 400315
50	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 41.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A11NE (NE)	9	5	387442 400418

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 59.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A12NW (NE)	9	5	387639 400472
52	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 67.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	A12NW (NE)	9	5	387639 400472
53	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 52.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11SW (W)	10	5	387220 400248
54	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 65.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	A11SW (W)	11	5	387220 400248
55	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 25.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A11NE (NE)	11	5	387429 400398
56	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 354.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11SW (W)	13	5	387179 400216
57	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 85.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A12NE (NE)	137	5	388001 400537
58	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 37.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A12NE (NE)	137	5	388001 400537
59	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 55.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A12NE (NE)	171	5	388030 400559

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 638.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A12NE (NE)	222	5	388084 400562
61	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 56.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A11SW (SW)	324	5	386901 399998
62	**OS Water Network Lines** Watercourse Form: Transfer Watercourse Length: 66.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	A11SW (SW)	324	5	386901 399998
63	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 164.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A10SE (SW)	380	5	386857 399964
64	**OS Water Network Lines** Watercourse Form: Transfer Watercourse Length: 61.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	A6NE (SW)	544	5	386727 399863
65	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 9.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6NE (SW)	544	5	386727 399863
66	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 25.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6NE (SW)	553	5	386720 399857
67	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 16.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6NE (SW)	579	5	386700 399841
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8NW (SE)	589	5	387898 399602

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2111.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Moston Brook Catchment Name: Mersey Primacy: 1	A15NW (N)	593	5	387190 400964
70	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 368.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6NE (SW)	595	5	386687 399831
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 287.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Moston Brook Catchment Name: Mersey Primacy: 1	A16NE (NE)	677	5	387972 401162
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Moston Brook Catchment Name: Mersey Primacy: 1	A16NW (NE)	680	5	387753 401193
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 934.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A7SE (S)	691	5	387443 399336
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 101.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A8SW (SE)	710	5	387765 399376
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A7SE (S)	712	5	387482 399314
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 185.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A16NW (NE)	713	5	387753 401193
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 380.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A7SE (S)	717	5	387483 399310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 845.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A8SW (SE)	730	5	387805 399373
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A20SW (NE)	870	5	387835 401360
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A20SW (NE)	887	5	387826 401379
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 360.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A20SW (NE)	887	5	387835 401377
82	**OS Water Network Lines** Watercourse Form: Transfer Watercourse Length: 58.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	A6NW (SW)	963	5	386397 399604
83	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 9.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6NW (SW)	963	5	386397 399604
84	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 25.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6NW (SW)	973	5	386389 399598
85	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 10.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A6SW (SW)	998	5	386370 399582

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	**BGS Recorded Landfill Sites** Site Name: Clayton Vale Location: Clayton, MANCHESTER, Gt Manchester, M11 Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A8SW (SE)	539	-	387677 399526
87	**Historical Landfill Sites** Licence Holder: Messrs H Evers Location: Mitchell Street, Newton Heath, Manchester, Greater Manchester Name: Land adjacent to Mitchell Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16455 First Input Date: 1st May 1973 Last Input Date: 31st December 1984 Specified Waste Type: Deposited Waste included Inert, Industrial, Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9171 BGS Ref: Not Supplied Other Ref: F008, RD/LIC/013/76	A11SE (NE)	0	2	387326 400249
88	**Historical Landfill Sites** Licence Holder: Central Electricity Generating Board Location: Bank Bridge Road, Manchester Name: Clayton Vale Power Station Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16476 First Input Date: 31st December 1901 Last Input Date: 31st December 1980 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9178 BGS Ref: Not Supplied Other Ref: GDO F001,RD/LIC/045/76	A8SW (SE)	527	2	387767 399574
89	**Historical Landfill Sites** Licence Holder: Central Electricity Generating Board Location: Bank Bridge Road, Manchester Name: Clayton Vale Power Station Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16480 First Input Date: 31st December 1965 Last Input Date: 31st December 1968 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: 4200/9729 BGS Ref: Not Supplied Other Ref: RD/LIC/045/76,GDO F001	A8SW (SE)	536	2	387663 399523
90	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Clayton, Manchester, Greater Manchester Name: Clayton Vale Operator Location: Stuart Street Power Station Boundary Accuracy: As Supplied Provider Reference: EAHLD32041 First Input Date: 31st December 1901 Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2777 Other Ref: Not Supplied	A8SW (SE)	538	2	387678 399526

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	**Historical Landfill Sites** Licence Holder: George Cox and Sons Limited Location: St Marys Road - Joyce Street, Kenyan Lane, Moston, Manchester Name: Lightbowne Phase II Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16420 First Input Date: 7th May 1980 Last Input Date: 31st December 1981 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9283 BGS Ref: Not Supplied Other Ref: F036, RD/LIC/188/79	A16NW (NE)	583	2	387684 401069
92	**Historical Landfill Sites** Licence Holder: Manchester City Council Location: Northampton Road, Harpurhey, Manchester, Greater Manchester Name: Moston Brook Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16424 First Input Date: 1st May 1974 Last Input Date: 1st December 1977 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: 4200/9660 BGS Ref: Not Supplied Other Ref: F006	A15SW (NW)	587	2	387008 400821
93	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Church Lane, Harpurhey, Manchester, Greater Manchester Name: Land adjacent to Church Lane North Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16416 First Input Date: Not Supplied Last Input Date: 31st December 1977 Specified Waste Type: Deposited Waste included Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: F007	A15SW (N)	594	2	387143 400906
94	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Newton Heath, Manchester, Greater Manchester Name: Land off Reliance Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16433 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: F041	A16NE (NE)	602	2	388001 401079
95	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Moston, Manchester, Greater Manchester Name: Land to the rear of Fairway Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16384 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: F021, G036	A16NE (NE)	687	2	388001 401165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	**Historical Landfill Sites** Licence Holder: North West Gas Location: Bradeley Hall Road, Haslington, Crewe, Cheshire Name: Bradford Road Works Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16491 First Input Date: 7th December 1979 Last Input Date: 1st December 1983 Specified Waste Type: Deposited Waste included Inert, Industrial and Special Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9286 BGS Ref: Not Supplied Other Ref: RD/LIC/180/79, GDO F058, 0381	A2NE (SW)	992	2	386755 399226
97	**Integrated Pollution Control Registered Waste Sites** Name: Evans Universal Ltd Location: The Abattoir, Riverpark Road, MANCHESTER, M10 2XP Authority: Environment Agency, North West Region Permit Reference: AW8467 Dated: 15th October 1996 Process Type: IPC new application Description: 5.1 A (C) Incineration within the Waste Disposal Industry **Status: Application has met the requirements for authorisation (but not yet authorised)** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	2	387365 399456
98	**Licensed Waste Management Facilities (Locations)** Licence Number: 53890 Location: 13 Warden Lane, Manchester, M40 2FH Operator Name: Bolger K Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Revoked** Issued: 10th July 1991 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 9th April 2015 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (NE)	233	2	387698 400706
99	**Licensed Waste Management Facilities (Locations)** Licence Number: 53488 Location: Manchester Drums Ltd, Bower Street, Newton Heath, Manchester, M40 2AF Operator Name: N C G - M D L U K Limited Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Material Recycling Treatment Facilities **Licence Status: Transferred** Issued: 12th August 1998 Last Modified: 9th June 2014 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10SE (W)	340	2	386846 400067
99	**Licensed Waste Management Facilities (Locations)** Licence Number: 53559 Location: Navigation Trading Estate, Bower Street, Newton Heath, Manchester, M40 2AR Operator Name: Recon Packaging Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Material Recycling Treatment Facilities **Licence Status: Modified** Issued: 12th March 1997 Last Modified: 23rd October 2014 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10SE (W)	363	2	386831 400043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	**Licensed Waste Management Facilities (Locations)** Licence Number: 102576 Location: Yard 3, Arkady Ind Est, Brisco Lane, Newton Heath, Manchester, M40 2XG Operator Name: D M R Recycling (MCr) Limited Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: HCl Waste TS + treatment **Licence Status: Revoked** Issued: 8th September 2011 Last Modified: 18th March 2014 Expires: Not Supplied Suspended: Not Supplied Revoked: 3rd July 2015 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	539	2	387038 399593
101	**Licensed Waste Management Facilities (Locations)** Licence Number: 53930 Location: Reliance Street, Manchester, M40 3EZ Operator Name: G M Waste Ltd Operator Location: Po Box 151, Higher Swan Lane, Bolton, BL3 3WW Authority: Environment Agency - North West Region, South Area Site Category: Physical Treatment Facilities **Licence Status: Modified** Issued: 3rd April 1984 Last Modified: 2nd June 2000 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	584	2	388184 400985
102	**Licensed Waste Management Facilities (Locations)** Licence Number: 53930 Location: North Manchester T L S & M B T Plant, Reliance Street, Newton Heath, Manchester, M40 3EZ Operator Name: Suez Recycling And Recovery U K Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Treatment - Biological **Licence Status: Transferred** Issued: 3rd April 1984 Last Modified: 4th January 2017 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	589	2	388141 401015
103	**Licensed Waste Management Facilities (Locations)** Licence Number: 53767 Location: Land At The Junction Of, Cheetham Street & Goodier Street, Oldham Road, Manchester, M40 2BP Operator Name: European Metal Recycling Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Mixed) **Licence Status: Expired** Issued: 12th October 1993 Last Modified: 4th January 2005 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10SW (W)	729	2	386465 399982

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
103	**Licensed Waste Management Facilities (Locations)** Licence Number: 50355 Location: Land/premises At, Irlam Street, Off Irlam Road, Manchester, M40 2BP Operator Name: European Metal Recycling Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Mixed) **Licence Status: Modified** Issued: 4th January 2005 Last Modified: 11th December 2009 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10SW (W)	744	2	386446 399995
104	**Licensed Waste Management Facilities (Locations)** Licence Number: 53518 Location: Old Leaches Yard, Beckford Street, Miles Platting, Manchester, M40 5AE Operator Name: Anthony & Darren James Benson Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Transferred** Issued: 9th February 1993 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	A10SW (W)	909	2	386258 400130
105	**Licensed Waste Management Facilities (Locations)** Licence Number: 403404 Location: Land Adjacent To 498 Oldham Road, Miles Platting, Manchester, M40 5AA Operator Name: Northbank Demolition Company Limited Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Inert & Excavation WTS with treatment **Licence Status: Issued** Issued: 25th July 2016 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	A9SE (W)	961	2	386210 400075
105	**Licensed Waste Management Facilities (Locations)** Licence Number: 103632 Location: 498 Oldham Road, Miles Platting, Manchester, M40 5AA Operator Name: Anthony O' Connor & Sons Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Inert & Excavation WTS with treatment **Licence Status: Revoked** Issued: 23rd December 2011 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 10th May 2016 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (W)	961	2	386210 400075
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	6	387318 400243
106	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A11SE (NW)	0	-	387318 400243
107	**Potentially Infilled Land (Non-Water)** Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A11SE (E)	0	-	387524 400246

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A11SW (SW)	235	-	387006 400004
109	**Potentially Infilled Land (Non-Water)** Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12SE (E)	460	-	388175 399939
110	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A16SE (NE)	461	-	388065 400909
111	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7SW (S)	503	-	387171 399577
112	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7SW (SW)	598	-	386991 399549
113	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8NE (SE)	644	-	388117 399681
114	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8SW (SE)	678	-	387824 399444
115	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6NE (SW)	705	-	386646 399700
116	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8SW (SE)	734	-	387803 399368
117	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A16NE (NE)	768	-	388181 401194
118	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6SE (SW)	778	-	386714 399514
119	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14SW (NW)	889	-	386404 400646
120	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A19SW (N)	981	-	387202 401355
121	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A11NE (NE)	0	-	387515 400407
122	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (E)	0	-	387629 400132
123	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A11NE (E)	0	-	387521 400272
124	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A11SE (SE)	17	-	387405 400105

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
125	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A11SE (SE)	19	-	387467 400012
126	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (E)	42	-	387698 400120
127	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12NW (NE)	56	-	387726 400530
128	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A12SW (SE)	64	-	387680 400088
129	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11SW (SW)	65	-	387154 400090
130	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A12SW (SE)	86	-	387673 400055
131	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15SE (N)	87	-	387441 400637
132	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A11SE (S)	159	-	387298 399954
133	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A11SE (S)	172	-	387298 399940
134	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11NW (W)	189	-	387007 400290
135	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11NW (W)	191	-	387037 400327
136	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (SE)	222	-	387721 399927
137	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	225	-	387671 399874
138	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	233	-	388045 400649
139	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A16SE (NE)	236	-	388082 400600
140	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	237	-	387662 399866
141	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7NE (S)	240	-	387476 399787
142	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A12SW (SE)	241	-	387874 400004
143	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11SW (SW)	273	-	387014 399929
144	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7NW (SW)	289	-	387011 399908
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A16SE (NE)	294	-	388138 400617

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NE (S)	299	-	387331 399767
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (S)	309	-	387201 399790
148	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	310	-	386855 400162
149	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	318	-	388034 400765
150	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A11SW (SW)	323	-	386892 400013
151	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16SE (NE)	329	-	388015 400787
152	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (SW)	346	-	387088 399782
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7NW (S)	348	-	387142 399760
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (SW)	349	-	386954 399883
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	350	-	387795 399822
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SW (NE)	352	-	387653 400821
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A8NW (SE)	370	-	387689 399723
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A12SE (E)	371	-	388214 400077
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (S)	372	-	387204 399727
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	375	-	388058 400817
161	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	387	-	386782 400238
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	388	-	387860 399819
163	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NE (S)	393	-	387313 399669
164	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16SE (NE)	411	-	388133 400809
165	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	414	-	387584 399626
166	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7NE (S)	426	-	387492 399601

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
167	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11NW (NW)	428	-	386980 400589
168	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A6NE (SW)	449	-	386829 399884
169	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7SE (S)	454	-	387412 399577
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NE (SE)	456	-	387928 399782
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16SE (NE)	459	-	388143 400862
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	459	-	388057 400911
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	469	-	386722 400032
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (S)	493	-	387174 399607
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	504	-	387732 399591
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (SW)	508	-	387017 399635
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15SW (N)	559	-	387188 400892
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	563	-	386611 400088
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A8SW (SE)	567	-	387671 399493
180	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NE (SE)	569	-	387907 399626
181	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7SW (S)	582	-	387040 399547
182	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A15NE (N)	584	-	387269 400966
183	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NE (SE)	595	-	388110 399734
184	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NE (SE)	627	-	388176 399740
185	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A8SW (SE)	633	-	387891 399544
186	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SW (W)	636	-	386542 400057
187	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NE (N)	645	-	387362 401056

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
188	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A15NW (N)	648	-	387154 400974
189	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NE (SW)	653	-	386616 399831
190	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A6NE (SW)	659	-	386658 399762
191	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A16NE (NE)	673	-	387973 401158
192	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6SE (SW)	675	-	386814 399565
193	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A15NW (N)	676	-	387101 400976
194	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16NW (NE)	682	-	387752 401162
195	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7SW (S)	686	-	387005 399449
196	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A8SW (SE)	704	-	387765 399384
197	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A16NE (NE)	704	-	388038 401195
198	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NW (N)	711	-	387109 401021
199	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A15NW (NW)	721	-	386990 400968
200	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16NE (NE)	722	-	388176 401146
201	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A6SE (SW)	732	-	386848 399472
202	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NW (N)	735	-	387209 401095
203	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NE (SW)	748	-	386570 399733
204	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16NE (NE)	757	-	388203 401172
205	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10NW (W)	772	-	386412 400362
206	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A15NW (NW)	777	-	386910 400979
207	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NW (SW)	794	-	386440 399863
208	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10NW (W)	794	-	386392 400368

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A20SE (NE)	797	-	387909 401287
210	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A3NE (S)	803	-	387408 399227
211	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NE (N)	815	-	387328 401223
212	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A3NE (S)	819	-	387382 399213
213	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A6SE (SW)	820	-	386786 399408
214	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A3NE (S)	822	-	387456 399204
215	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A4NW (S)	835	-	387627 399205
216	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NW (SW)	865	-	386389 399804
217	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A3NE (S)	894	-	387403 399136
218	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14NE (NW)	899	-	386768 401025
219	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (N)	922	-	387166 401279
220	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8SE (SE)	937	-	388220 399383
221	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10NW (W)	952	-	386263 400492
222	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A4NW (S)	955	-	387667 399089
223	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A4NW (SE)	981	-	387847 399117
224	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A14SW (W)	983	-	386304 400661
225	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SE (N)	989	-	387340 401407
226	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19SW (N)	991	-	387054 401309

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	**Registered Landfill Sites** Licence Holder: H Evers (Messrs) Licence Reference: 00013 Site Location: Mitchell Street, Newton Heath, Manchester, Greater Manchester Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: Taylor Road, Urmston, TRAFFORD, Greater Manchester, M31 3JL Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 13th July 1978 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate Authorised Waste: Construction And Demolition Wastes Foundry Sand Ind. Non-Haz. Waste Slag, Boiler/Flue Cleanings Prohibited Waste: Liquid Wastes Sludge Wastes	A11SE (NE)	0	2	387324 400247
228	**Registered Landfill Sites** Licence Holder: George Cox & Sons Ltd Licence Reference: 00188 Site Location: Lightbowne Phase 2, Kenyon Lane, Manchester, Greater Manchester Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: Hall Lane Works, Farnsworth, BOLTON, Lancashire, BL4 7QF Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 4th February 1982 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate Authorised Waste: Construction And Demolition Wastes Prohibited Waste: Liquid/Slurry/Sludge Wastes	A16NW (N)	599	2	387579 401100
229	**Registered Landfill Sites** Licence Holder: C.E.G.B. Licence Reference: 00045/76 Site Location: Clayton Vale Power Station, Bank Bridge Road, Manchester, Greater Manchester Licence Easting: 388000 Licence Northing: 399500 Operator Location: Europa House, Stockport, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 12th March 1979 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Construction And Demolition Wastes Mine And Quarry Wastes - Mill Rejects Pulverised Fuel Ash Prohibited Waste: Liquid/Sludge Wastes	A8SE (SE)	732	2	388000 399500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
230	**Registered Waste Transfer Sites** Licence Holder: K Bolger - Manchester Waste Recovery Licence Reference: 00613 Site Location: 13 Warden Lane, Newton Heath, Manchester, Greater Manchester, M40 2fh Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st July 1991 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: Asbestos Inherently Mixed In Other Was Electrical Fitting/Fixture/Appliances Empty Used Containers General Commercial Rubbish General Ind. Rubbish Gmwda Group 1 - Non/V.Slow Decomp.Wast Gmwda Group 2 - Slow Decomp./Slight So Gmwda Group 3 - Decomp./Sol.- But Only Max.Waste Permitted By Licence-Stated Plasterboard/Plaster Scrap Machinery - Ferrous/Non-Ferrous Scrap Rubber (Including Tyres) Prohibited Waste: All Other Waste N.O.S. Explosive Waste Liquid/Sludge Wastes Odiferous Wastes Violently Reactive Wastes Waste In Drums Waste In Pressurised Cont'Rs	A16SW (NE)	237	2	387700 400710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
231	**Registered Waste Transfer Sites** Licence Holder: James Moores Ltd Licence Reference: 00727/91 Site Location: Oldham Road, Miles Platting, Manchester, Greater Manchester Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st December 1991 Preceded By Licence: Not Given Superseded By Licence: 00727/M01/T01 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Bonded Asbestos Sheet/Piping; Contaminated Waste/Soils; Gmwda Group 1 - Non/V.Slow Decomp.Wast; Gmwda Group 2 - Slow Decomp./Slight So; Gmwda Group 3 - Decomp./Sol.Waste = No; Household Waste As Part Of Skip Waste; Max.Storage; Max.Storage Of Reclaimed Mat'L; Max.Waste Permitted By Licence-Stated; Plaster Prohibited Waste: Asbestos; Ash, Clinker; Boiler Scale, Slag; Clinical Wastes; Cosmetic Products; Explosive Waste; Foundry Sand; Gas Under Pressure; Incinerator Residues; Liquid/Sludge Wastes; Malodorous Waste; Pretreated Waste Not Permit By Lic; Sewage; Soap, Detergents; Special Wastes; Veg. Food/Proc, Animal Carcass; Violently Reactive Waste; Waste In Drums; Waste N.O.S.	A10SW (W)	732	2	386460 399990
232	**Registered Waste Transfer Sites** Licence Holder: B A Hibbert Licence Reference: 00774/M01/T01 Site Location: Old Leaches Yard, Beckford Street, Miles Platting, Manchester, Greater Manchester, M40 5ae Operator Location: As Site Address 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: Operational as far as is knownOperational Dated: 1st December 1997 Preceded By Licence: 00774 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Gmwda Group 1 - Non/V.Slow Decomp.Wast; Gmwda Group 2 - Slow Decomp./Slight So; Gmwda Group 3 - Decomp./Sol.Waste = No; Max.Storage In Licence; Max.Waste Permitted By Licence Prohibited Waste: Asbestos; Explosive Waste; Liquid Wastes; Pressurised Wastes Or Containers; Sludge Wastes; Spec.Waste (Epa'90:S62/1996 Regs); Waste In Drums; Waste N.O.S.; Waste React Violently With Water	A10SW (W)	839	2	386330 400100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
232	**Registered Waste Transfer Sites** Licence Holder: T J Mc Ivor Licence Reference: 00774 Site Location: Old Leaches Yard, Beckford Street, Miles Platting, Manchester, Greater Manchester, M40 5ae Operator Location: 63 Brierley Avenue, FAILSWORTH, Greater Manchester, M35 0RF 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: Record supersededSuperseded Dated: 1st February 1993 Preceded By Licence: Not Given Superseded By Licence: 00774/M01/T01 Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Gmwda Group 1 - Non/V.Slow Decomp.Wast Gmwda Group 2 - Slow Decomp./Slight So Gmwda Group 3 - Decomp./Sol.Waste = No High-Dens/Hard/Bonded/Cement Asbestos Max.Storage In Licence Max.Storage Of Reclaimed Waste Max.Waste Permitted By Licence Prohibited Waste: Explosive Waste Gmwda Group 5 - Chemical/Toxic Waste Liquid/Sludge Wastes Special Wastes Waste In Drums Waste In Pressurised Cont'Rs Waste N.O.S. - Pretreated Or Not Waste Violently Reactive With Water	A10SW (W)	839	2	386330 400100
233	**Registered Waste Treatment or Disposal Sites** Licence Holder: Drummer Boy Trading Co Ltd Licence Reference: 00782 Site Location: Bower Street, Newton Heath, MANCHESTER, Greater Manchester, M10 6BX Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Recycling Drums Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 12th August 1998 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Empty Used Ibcs With < 2 Litre Liq Or 10 Litre Solid Residues Which May Include Empty Used Packagescontainers With < 1%Vol Residues Which May Include Maximum Waste In Working Plan Maximum Waste Permitted By Licence Packagescontainers/Ibcs With < 10%Vol Non-Haz. Residues Which May Include Special Waste (As In Epa 1990:S62 Of 1996 Regs) Starch Based Polymers Surfactants Water Based Adhesive Wastes Prohibited Waste: Drums With Residues Of Subs In Prescribed Subs/Processes Regs 1989) Drums/Cont'Rs With Residues Of List I Subs In Eec Directive 80/68/Eec Material With Haz.Code H 1 - Explosive Material With Haz.Code H 2 - Oxidising Material With Haz.Code H 3a - Highly Flammable Material With Haz.Code H 6 - Toxic Material With Haz.Code H 7 - Carcinogenic Material With Haz.Code H 9 - Infectious Material With Haz.Code H10 - Teratogenic Material With Haz.Code H11 - Mutagenic Material With Haz.Code H12 - Can Release Toxic Gases Material With Haz.Code H14 - Ecotoxic Other Waste/Waste Not Otherwise Specified	A10SE (W)	298	2	386880 400100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
234	**Registered Waste Treatment or Disposal Sites** Licence Holder: Recon Packaging Ltd Licence Reference: 00840 Site Location: Navigation Trading Estate, Bower Street, Newton Heath, MANCHESTER, Greater Manchester, M10 6BX Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Recycling Drums Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st March 1997 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Cont'Rs With < 1% Of Permitted Residue; Cont'Rs With Waste Cosmetics; Cont'Rs With Waste Latex; Cont'Rs With Waste Soap/Detergent; Max.Waste Permitted By Licence; Max.Waste Permitted By Licence Plus; Pre-Cleaned Empty Drums Prohibited Waste: Drums Cont. Uk Red List Subs; Drums Cont.Subs In Eec Dir. 76/464; Drums Cont.Subs In Eec Dir. 80/68; Highly Malodorous Wastes; Pressurised Waste; Residues Of Haz.Chemicals; Residues Of Spec.Waste (Epa'90:S62); Sub'S Control. Radioactive Subs Act'60; Subs React Violently With Water; Waste N.O.S.	A10SE (SW)	408	2	386801 400001
235	**Registered Waste Treatment or Disposal Sites** Licence Holder: Greater Manchester Waste Ltd Licence Reference: 00329/M04 Site Location: North Manchester R.T.P., Reliance Street, Newton Heath, MANCHESTER, Greater Manchester, M6 6NA Operator Location: PO Box 151, 151 Higher Swan Lane, BOLTON, Lancashire, BL3 3WW Authority: Environment Agency - North West Region, South Area Site Category: Treatment Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 2nd June 2000 Preceded By Licence: 00329/M03 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Biocides; Contaminated Rubbish/Bags/Sacks; Distillation Residues; Dyestuffs Waste; Empty Used Containers; Ind. Non-Haz. Inert, Non-Flammable; Ind. Non-Haz. Potentially Combustible; Paint Waste; Polymeric Material, Products/Scrap; Printing Industry Wastes/Ink; Prod'Ts Of Incomplete Polymerisation $; Pulverised/Compacted Dom./Com. Waste; Soaps & Detergents; Tar, Pitch, Bitumen, Asphalts; Untreated Dom./Com. Waste; Waste Treated Timber Prohibited Waste: Waste N.O.S; Waste Wgiving Rise To Health Hazard; Waste Which Is Corrosive Due To Acidity; Waste Which Is Corrosive Due To Alkalinity; Waste Which Is/Reacts To Give Spontaneously Combustible Mat'L; Waste Which Reacts With Air/Water/Other Waste Giving Toxic/Inlam.Gases; Waste With Flash Pt Less Than 75 C	A16NE (NE)	574	2	388165 400985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
235	**Registered Waste Treatment or Disposal Sites** Licence Holder: Waste Treatment Ltd (G.M.Waste) Licence Reference: 00329/M03 Site Location: Dano Pulveriser At Reliance Street, Newton Heath, Manchester, Greater Manchester Operator Location: PO Box 151, Higher Swan Lane, BOLTON, Lancashire, BL3 3WW Authority: Environment Agency - North West Region, South Area Site Category: Pulverization - with transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 3rd April 1984 Preceded By Licence: R/047 Superseded By Licence: 00329/M04 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Biocides, Cellulose Wastes (Natural/Synth.), Civic Amenity/Refuse Amenity Waste, Contaminated Rubbish/Bags/Sacks, Distillation Residues, Dyestuffs Waste, Empty Used Containers, House. + Com. Pulverised Waste, House. + Com. Untreated Waste, Ind. Non-Haz. Inert, Non-Flammable, Ind. Non-Haz. Potentially Combustible, Paint Waste $, Polymeric Material, Products/Scrap, Printing Industry Wastes/Ink $, Prod'Ts Of Incomplete Polymerisation $, Soaps & Detergents, Tannery & Fellmongers Waste, Tar, Pitch, Bitumen, Asphalts, Waste Treated Timber Prohibited Waste: Acids, Alkalis, Highly Reactive/Corrosive Wastes, Waste N.O.S, Waste Not Acceptable To W.D.A., Waste With F.Pt Less Than 75	A16NE (NE)	574	2	388165 400985
235	**Registered Waste Treatment or Disposal Sites** Licence Holder: G.M.W.D.A. Licence Reference: R/047 Site Location: Reliance Street, Newton Heath, Manchester, Greater Manchester Operator Location: Blackfriars House, Parsonage, MANCHESTER, Greater Manchester, M3 2JA Authority: Environment Agency - North West Region, South Area Site Category: Pulverization Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 27th August 1981 Preceded By Licence: Not Given Superseded By Licence: 00329/M03 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Biocides, Cellulose Wastes (Natural/Synth.), Contaminated Rubbish/Bags/Sacks, Distillation Residues, Dyestuffs Waste, Empty Used Containers, House. + Com. Untreated Waste, Household Waste, Ind. Non-Haz. Waste, Paint Waste $, Polymeric Material, Products/Scrap, Printing Industry Wastes/Ink $, Prod'Ts Of Incomplete Polymerisation $, Soaps & Detergents, Tannery & Fellmongers Waste, Tar, Pitch, Bitumen, Asphalts, Waste Treated Timber	A16NE (NE)	574	2	388165 400985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	**Registered Waste Treatment or Disposal Sites** Licence Holder: The Sheppard Group Ltd Licence Reference: 00727/M01/T01 Site Location: E M R Moores Division, Irlam Street, Miles Platting, Manchester, Greater Manchester, M40 2bp Operator Location: Alexandra Building, Alexandra Dock, Bootle, Liverpool, Merseyside Authority: Environment Agency - North West Region, South Area Site Category: Scrapyard - with Transfer Station Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 12th October 1993 Preceded By Licence: 00943 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Brake Fluid/Antifreeze Cadmium & Cpds Carbides And Acetylides Comp.Bonded Asbestos Sheet/Piping Contaminated Soil - Class C Copper & Cpds Electrical Goods/Tvs/Whiteware Fuel Oil Gmwda Group 1 - Non/V.Slow Decomp.Wast Gmwda Group 2 - Slow Decomp./Slight So Gmwda Group 3 - Only As Follows Gmwda Group 5 - Only As Follows Household Waste Inorganic Acids Iron & Cpds Kerosene And Derv. Lead & Cpds Max.Waste Permitted By Licence Mineral Oils Organic Acids + Related Cmpds Organo-Metallic Cmpds Phenols, Analogues/Derivatives Plaster Plasterboard Scrap Metal Scrap Rubber (Including Tyres) Silver & Cpds Tin & Cpds Titanium & Cpds Zinc & Cpds Prohibited Waste: Explosive Waste Liquid Wastes Mineral Processing Wastes Pressurised Cont'Rs/Waste Therein Slag, Boiler/Flue Cleanings Sludge Wastes Violently Reactive Wastes Waste In Drums Waste N.O.S.	A10SW (W)	729	2	386460 400000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
237	**Registered Waste Treatment or Disposal Sites** Licence Holder: Manchester Cabins Ltd Licence Reference: 00863/92 Site Location: Albion Works, Drewett Street, Miles Platting, MANCHESTER, Greater Manchester, M10 8AR Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Treatment Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Site exempt from licenceExempt Dated: 1st July 1993 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: Max.Storage Reclaimed Materials Scrap Rubber (Including Tyres) Prohibited Waste: Explosive Waste Liquid Wastes Malodorous Waste Pressurized Containers/Waste Therein Sludge Wastes Special Wastes Violently Reactive Wastes Waste In Drums Waste N.O.S.	A6NW (SW)	933	2	386340 399750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
238	**Control of Major Accident Hazards Sites (COMAH)** Name: GOLDEN LTD Location: Dean Lane, Newton Heath, MANCHESTER, Greater Manchester, M40 3AA Reference: Not Supplied Type: Lower Tier **Status: Record Ceased To Be Supplied Under COMAH Regulations** Positional Accuracy: Manually positioned to the road within the address or location	A16SW (NE)	320	7	387853 400810
239	**Planning Hazardous Substance Consents** Name: L'Oreal Golden Ltd Location: L'Oreal Buildings, Oldham Road, MANCHESTER, Lancashire, M40 3AA Authority: Manchester City Council, Planning Department Application Ref: 058432/Hsc/North1/00 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 120 Application date: 25th January 2000 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	282	6	387940 400765

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Permian Rocks (Undifferentiated)	A11SE (NW)	0	1	387318 400243
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A11SE (SW)	0	1	387312 400239
	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 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11SE (E)	0	1	387366 400258
	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 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11SE (NW)	0	1	387318 400243
	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 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11SE (SW)	0	1	387232 400166
	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	A11SE (SE)	27	1	387463 400000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11SE (S)	30	1	387318 400000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11SE (S)	53	1	387379 400000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (SE)	97	1	387608 400000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A7NE (S)	151	1	387467 399876
	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	A8NW (SE)	248	1	387756 399893
	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	A11SW (SW)	257	1	387000 399976
	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 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11SW (SW)	257	1	386999 399977

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: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NW (SW)	305	1	387058 399845
	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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NW (SW)	314	1	387000 399883
	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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A10SE (W)	337	1	386829 400157
	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	A8NW (SE)	457	1	387605 399588
	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 mg/kg Nickel Concentration: 15 - 30 mg/kg	A15SW (N)	584	1	387187 400920
	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	A8SW (S)	651	1	387615 399390

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: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A10SW (W)	690	1	386500 400000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A6SE (SW)	699	1	386865 399500
	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 mg/kg Nickel Concentration: 15 - 30 mg/kg	A6SE (SW)	699	1	386838 399518
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A15NW (NW)	747	1	387000 401000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A15NW (N)	770	1	387000 401026
	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	A8SW (S)	799	1	387669 399250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A15NW (N)	850	1	387000 401119
	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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (N)	866	1	387219 401333
	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 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SE (N)	967	1	387479 401416
	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	A4NE (SE)	997	1	388022 399191
240	**BGS Recorded Mineral Sites** Site Name: Mitchell Street Brickworks Location: Newton Heath, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15091 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12NW (E)	0	1	387725 400380
241	**BGS Recorded Mineral Sites** Site Name: Newton Brick Works Location: Newton, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95120 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian Geology: Manchester Marls Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A11SE (SW)	0	1	387280 400195

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
242	**BGS Recorded Mineral Sites** Site Name: Cheetham Fold Clay Pit Location: Cheetham Fold, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95124 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SE (E)	454	1	388174 399945
243	**BGS Recorded Mineral Sites** Site Name: Philips Park Brick Works Location: Clayton, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95126 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	A7SE (S)	565	1	387359 399474
244	**BGS Recorded Mineral Sites** Site Name: Philips Park Brick Works Location: Clayton, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95125 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	A7SW (SW)	665	1	386930 399504
245	**BGS Recorded Mineral Sites** Site Name: Williams Road Sand Pit Location: Failsworth, Oldham, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15099 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	808	1	388230 401215
246	**BGS Recorded Mineral Sites** Site Name: Moston Brickworks Location: Moston, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15085 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	A15NW (NW)	859	1	386960 401105
247	**BGS Recorded Mineral Sites** Site Name: Miles Platting Brick Works Location: Miles Platting, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95121 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	A6SE (SW)	933	1	386605 399404

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: 387070, 399770 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 47.60 mg/kg Cadmium Measured Concentration: 1.40 mg/kg Chromium Measured Concentration: 204.80 mg/kg Lead Measured Concentration: 302.00 mg/kg Nickel Measured Concentration: 51.30 mg/kg	A7NW (SW)	364	1	387070 399770
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 386860, 399870 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 41.70 mg/kg Cadmium Measured Concentration: 1.80 mg/kg Chromium Measured Concentration: 96.40 mg/kg Lead Measured Concentration: 283.20 mg/kg Nickel Measured Concentration: 42.80 mg/kg	A6NE (SW)	432	1	386860 399870
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 387740, 399600 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 54.70 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 93.40 mg/kg Lead Measured Concentration: 465.00 mg/kg Nickel Measured Concentration: 48.40 mg/kg	A8NW (SE)	500	1	387740 399600
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 387220, 399210 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 40.50 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 71.10 mg/kg Lead Measured Concentration: 412.40 mg/kg Nickel Measured Concentration: 31.50 mg/kg	A3NW (S)	857	1	387220 399210
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 387720, 399180 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 79.50 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 87.30 mg/kg Lead Measured Concentration: 425.80 mg/kg Nickel Measured Concentration: 56.60 mg/kg	A4NW (S)	880	1	387720 399180

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: 386750, 399310 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 20.20 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 68.10 mg/kg Lead Measured Concentration: 282.00 mg/kg Nickel Measured Concentration: 24.40 mg/kg	A6SE (SW)	922	1	386750 399310
	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	A11SE (NW)	0	1	387318 400243
	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.	A11SE (NW)	0	8	387318 400243
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A11SE (NW)	0	-	387318 400243
	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	A11SE (NW)	0	1	387318 400243
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	387293 400280
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A11SE (NE)	0	1	387331 400251

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387301 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	42	1	387318 400000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	387400 400101
	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	A11SE (NW)	0	1	387318 400243
	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	A11SE (SE)	0	1	387400 400101
	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	A11SE (NW)	0	1	387318 400243

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
248	**Contemporary Trade Directory Entries** Name: Uk Basements Ltd Location: 24, Kerswell Walk, Manchester, Lancashire, M40 2AH Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	99	-	387437 400501
249	**Contemporary Trade Directory Entries** Name: Briscoe Lane Service Station Location: 86-90, Briscoe Lane, MANCHESTER, M40 2TH Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (E)	111	-	388000 400241
249	**Contemporary Trade Directory Entries** Name: Briscoe Lane Petrol Services Location: 86-90, Briscoe Lane, Manchester, M40 2TH Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (E)	131	-	388016 400228
250	**Contemporary Trade Directory Entries** Name: Co-Op Pharmacy Location: 9 Old Church St, Manchester, Lancashire, M40 2JF Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A16SE (NE)	131	-	387946 400600
251	**Contemporary Trade Directory Entries** Name: Prescotts Transport Location: Briscoe Lane, Manchester, M40 2TX Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A12SW (E)	154	-	387879 400111
252	**Contemporary Trade Directory Entries** Name: Newton Domestic Appliance Location: 56, Old Church Street, Manchester, M40 2JF Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (E)	174	-	388058 400503
253	**Contemporary Trade Directory Entries** Name: Enterprise Cleaning Location: 20, Scotland Street, Manchester, M40 1LJ Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (E)	193	-	388151 400363
254	**Contemporary Trade Directory Entries** Name: Welding Engineers Location: Unit 1-4, Navigation Trading Estate, Bower Street, Newton Heath, Manchester, M40 2AR Classification: Roller Shutter Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SW (W)	193	-	386977 400142
255	**Contemporary Trade Directory Entries** Name: First Choice Furniture & Beds Location: 1043, Oldham Road, Manchester, M40 2EH Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SW (NE)	195	-	387800 400675
255	**Contemporary Trade Directory Entries** Name: Quality Design Ltd Location: 4, Hopwood Street, Manchester, Lancashire, M40 2FA Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SW (NE)	196	-	387789 400674
256	**Contemporary Trade Directory Entries** Name: Specialised Transmission Services Location: Unit 1 Worrall St,Newton Heath, Manchester, M40 2ED Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A15SE (N)	202	-	387416 400604

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
257	**Contemporary Trade Directory Entries** Name: Julie'S Homebrew Location: 881-883, Oldham Road, Manchester, M40 2EE Classification: Brewery Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (N)	218	-	387320 400575
258	**Contemporary Trade Directory Entries** Name: Mathers Foundry Ltd Location: Park Works, Grimshaw Lane, Manchester, M40 2BA Classification: Die-Casting Equipment & Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SW (SW)	220	-	386996 400044
259	**Contemporary Trade Directory Entries** Name: Mayfair Blinds Location: 94a, Old Church Street, Manchester, M40 2JF Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (E)	221	-	388152 400453
260	**Contemporary Trade Directory Entries** Name: Discount Tyres Location: Orford Road, Manchester, M40 1JY Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A12SE (E)	241	-	388107 400157
260	**Contemporary Trade Directory Entries** Name: Motor Mechanic Location: Orford Road, Manchester, M40 1JY Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A12SE (E)	241	-	388107 400157
260	**Contemporary Trade Directory Entries** Name: Orford Road Motor Mechanics Location: Unit 3, Orford Road, Manchester, M40 1JY Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (E)	268	-	388130 400140
261	**Contemporary Trade Directory Entries** Name: T A S Tyres & Exhausts Location: 239-241, Briscoe Lane, Manchester, M40 2ST Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (S)	245	-	387468 399782
261	**Contemporary Trade Directory Entries** Name: Decorative Designs Location: 239-241, Briscoe Lane, Manchester, M40 2ST Classification: Stained Glass Designers & Producers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (S)	245	-	387468 399782
261	**Contemporary Trade Directory Entries** Name: James Lucas Ltd Location: 239-241, Briscoe Lane, Manchester, M40 2ST Classification: Bacon & Ham Curers & Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (S)	245	-	387468 399782
262	**Contemporary Trade Directory Entries** Name: Yes Group Location: 1328, Oldham Road, Manchester, M40 1EZ Classification: Catering Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	250	-	388052 400665
263	**Contemporary Trade Directory Entries** Name: Maid It Sparkle Location: Chelsea Rd, Manchester, Lancashire, M40 2TR Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SE (E)	260	-	388051 400097
264	**Contemporary Trade Directory Entries** Name: Pound Shack Location: 69, Old Church Street, Manchester, M40 2JN Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (E)	284	-	388225 400444

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
265	**Contemporary Trade Directory Entries** Name: Manchester Drums Location: Bower Street, Newton Heath, Manchester, M40 2AF Classification: Drums, Kegs, Barrels & Casks **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A10SE (W)	286	-	386884 400133
266	**Contemporary Trade Directory Entries** Name: Nuglaze Panel Location: Bower St, Manchester, Lancashire, M40 2BH Classification: PVC-U Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A11SW (W)	289	-	386893 400087
266	**Contemporary Trade Directory Entries** Name: Recon Packaging Location: Bower Street, Newton Heath, Manchester, M40 2AF Classification: Drums, Kegs, Barrels & Casks **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	317	-	386869 400073
266	**Contemporary Trade Directory Entries** Name: M C G M D L Location: Bower Street, Newton Heath, Manchester, M40 2AF Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SE (W)	349	-	386839 400060
267	**Contemporary Trade Directory Entries** Name: Searchlight Electric Ltd Location: 900, Oldham Road, MANCHESTER, M40 2BS Classification: Lighting Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SE (W)	296	-	386873 400238
268	**Contemporary Trade Directory Entries** Name: Sunde Technologies Ltd Location: Thorp Rd, Manchester, Lancashire, M40 5BJ Classification: Computer Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A11NW (NW)	302	-	387140 400557
269	**Contemporary Trade Directory Entries** Name: A Leach (Productions) Ltd Location: 31, Dean Lane, Manchester, M40 3AZ Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SW (NE)	304	-	387844 400794
270	**Contemporary Trade Directory Entries** Name: Total Location: 1123 Oldham Rd, Manchester, M40 2EH Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	320	-	388081 400734
270	**Contemporary Trade Directory Entries** Name: The Health Service Station Location: 1123 Oldham Rd, Manchester, M40 2FU Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	320	-	388081 400734
271	**Contemporary Trade Directory Entries** Name: Scrap Cars In Manchester Location: 5, LEWISHAM AVENUE, MANCHESTER, M40 2UR Classification: Car Breakers & Dismantlers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (SE)	320	-	387765 399838
272	**Contemporary Trade Directory Entries** Name: Mrs Mops Location: 17, Elstree Avenue, Manchester, M40 2UL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SE)	327	-	387819 399865
273	**Contemporary Trade Directory Entries** Name: Manchester Mot Centre Location: Unit 17, Reliance Trading Estate, Manchester, M40 3AG Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	372	-	388123 400767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
273	**Contemporary Trade Directory Entries** Name: Manchester M O T Centre Location: Unit 17, Reliance Trading Estate, MANCHESTER, M40 3AG Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	372	-	388123 400767
273	**Contemporary Trade Directory Entries** Name: T D Autocare Location: Lonsdale Street, Manchester, M40 2FT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	400	-	388153 400777
273	**Contemporary Trade Directory Entries** Name: Businessgas.Net Location: 1145-1147, Oldham Road, Manchester, Lancashire, M40 2FU Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	409	-	388178 400764
273	**Contemporary Trade Directory Entries** Name: Business Gas.Com Location: 1145, Oldham Road, Manchester, M40 2FU Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	409	-	388178 400764
274	**Contemporary Trade Directory Entries** Name: Ensign Location: Ensign Garage, Robert Street, Manchester, M40 2DX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	377	-	386792 400242
275	**Contemporary Trade Directory Entries** Name: Van Parts Ltd Location: Thorp Mill,Thorp Rd, Manchester, Lancashire, M40 5BL Classification: PVC-U Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	388	-	387200 400700
275	**Contemporary Trade Directory Entries** Name: Orion Upholstery Location: Thorp Rd, Manchester, Lancashire, M40 5BJ Classification: Upholstery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A15SW (N)	402	-	387216 400726
276	**Contemporary Trade Directory Entries** Name: Highbank Jig & Tools Co Ltd Location: Unit 7, Reliance Trading Estate, Manchester, M40 3AG Classification: Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	398	-	388098 400819
276	**Contemporary Trade Directory Entries** Name: Jigsaw Bodystylings Location: Unit 1, Reliance Trading Estate, Manchester, M40 3AG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	429	-	388096 400858
276	**Contemporary Trade Directory Entries** Name: Flexographic Solutions Location: Unit 1, Reliance Trading Estate, Manchester, Lancashire, M40 3AG Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	429	-	388096 400858
276	**Contemporary Trade Directory Entries** Name: Dayton Motor Location: Unit 1b, Reliance Trading Estate, Manchester, M40 3AG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	433	-	388100 400859
276	**Contemporary Trade Directory Entries** Name: P L H Recovery Manchester Scrap My Car Location: Unit 1,Reliance Trading Estate, Manchester, Greater Manchester, M40 3AG Classification: Car Breakers & Dismantlers **Status: Active** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	433	-	388100 400859

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
276	**Contemporary Trade Directory Entries** Name: Manchester Vehicle Painters Location: Unit 2, Reliance Trading Estate, Manchester, M40 3AG Classification: Commercial Vehicle Bodybuilders & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	445	-	388115 400864
277	**Contemporary Trade Directory Entries** Name: Wintan Easy Foods Ltd Location: Unit 6, Holt Street, MANCHESTER, M40 5AX Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	405	-	386806 400374
277	**Contemporary Trade Directory Entries** Name: New Road Service Station Location: Elvey House, 15, Baltimore Street, Manchester, M40 5AL Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NE (W)	416	-	386815 400411
277	**Contemporary Trade Directory Entries** Name: Howdens Joinery Manchester Location: Unit 5, Holt Street, Manchester, M40 5AX Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	421	-	386788 400375
278	**Contemporary Trade Directory Entries** Name: Travis Perkins Plc Location: Holt Street,Off Oldham Road, Manchester, Greater Manchester, M40 5AX Classification: Builders' Merchants **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A10NE (W)	416	-	386778 400339
278	**Contemporary Trade Directory Entries** Name: G J D Fabrications Ltd Location: Unit 3-4, Holt Street, Manchester, Lancashire, M40 5AX Classification: Aluminium Fabricators **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	438	-	386759 400352
279	**Contemporary Trade Directory Entries** Name: Bobbies Food Products Location: 11-12a, Unit, Reliance Enterprise Park, Manchester, Lancashire, M40 3AL Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	423	-	387987 400898
279	**Contemporary Trade Directory Entries** Name: Quality Pine Location: 6 Reliance St Enterprise Pk, Manchester, Lancashire, M40 3AL Classification: Paint & Varnish Stripping **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	437	-	388020 400902
280	**Contemporary Trade Directory Entries** Name: S B Motorbodies Ltd Location: 2a, Bower Street, Newton Heath, Manchester, M40 2AF Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SE (SW)	429	-	386778 400001
281	**Contemporary Trade Directory Entries** Name: United Aluminium Ltd Location: Holt St, Manchester, M40 5AX Classification: Aluminium Fabricators **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10NE (W)	430	-	386746 400282
282	**Contemporary Trade Directory Entries** Name: P H Conversions Location: Unit 12a, Reliance Trading Estate, Manchester, M40 3AG Classification: Commercial Vehicle Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	439	-	388148 400833
282	**Contemporary Trade Directory Entries** Name: Failsworth Metal Recycling Location: Unit Aa Reliance Trading Est, Manchester, Greater Manchester, M40 3AG Classification: Reclaiming - Waste Products **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A16SE (NE)	439	-	388157 400826

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
282	**Contemporary Trade Directory Entries** Name: Commercial Vehicle Painters Manchester Location: Unit 2 Reliance Trading Estate, Manchester, Greater Manchester, M40 3AG Classification: Car Painters & Sprayers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A16SE (NE)	442	-	388148 400837
282	**Contemporary Trade Directory Entries** Name: Balti Wines Location: Unit 3, Reliance Trading Estate, Manchester, M40 3AG Classification: Soft Drinks - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	462	-	388136 400871
282	**Contemporary Trade Directory Entries** Name: Tameside Solutions Ltd Location: Unit 3, Reliance Trading Estate, Manchester, M40 3AG Classification: Janitorial Equipment - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	462	-	388136 400871
282	**Contemporary Trade Directory Entries** Name: Chipsaway Tameside Location: Unit 4, Reliance Trading Estate, Manchester, M40 3AG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	478	-	388156 400876
282	**Contemporary Trade Directory Entries** Name: J M R Fabrications Location: Unit 4, Reliance Trading Estate, Manchester, M40 3AG Classification: Sheet Metal Work **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	478	-	388156 400876
282	**Contemporary Trade Directory Entries** Name: Auto Body Centre Location: Unit 5 Reliance Trading Estate,Reliance Street, Manchester, Greater Manchester, M40 3AG Classification: Car Body Repairs **Status: Active** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	487	-	388169 400877
283	**Contemporary Trade Directory Entries** Name: Robinson Mesh Products Location: Unit 4 Reliance Enterprise Park, Manchester, Greater Manchester, M40 3AL Classification: Wire Products - Manufacturers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	449	-	388043 400906
283	**Contemporary Trade Directory Entries** Name: Anglo Joinery Manufacturers Location: Reliance St, Manchester, Lancashire, M40 3EZ Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A16NE (NE)	487	-	388046 400946
283	**Contemporary Trade Directory Entries** Name: Viridor Waste Management Ltd Location: Reliance Street, Manchester, Greater Manchester, M40 3EZ Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A16NE (NE)	493	-	388046 400952
283	**Contemporary Trade Directory Entries** Name: Right Price Scaffolding Location: unit 16,Reliance St, Manchester, Lancashire, M40 3EZ Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A16NE (NE)	510	-	388040 400973
284	**Contemporary Trade Directory Entries** Name: Promotor Direct Ltd Location: Unit 2, 3a, Eagar Street, Manchester, M40 1EP Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	451	-	388192 400810

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
284	**Contemporary Trade Directory Entries** Name: Hanley Chesworth Ltd Location: Unit 14, Reliance Trading Estate, Manchester, M40 3ET Classification: Drums, Kegs, Barrels & Casks **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	460	-	388186 400828
284	**Contemporary Trade Directory Entries** Name: International Packaging Network Location: Unit 14, Reliance Trading Estate, Manchester, M40 3ET Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	460	-	388186 400828
284	**Contemporary Trade Directory Entries** Name: Chair Fillings Location: Unit 15, Reliance Trading Estate, Manchester, M40 3AG Classification: Foam Products - Rubber & Plastics **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	480	-	388208 400836
285	**Contemporary Trade Directory Entries** Name: S C S Motors Location: Unit 9, Reliance Enterprise Park, Manchester, M40 3AL Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16SE (NE)	454	-	387981 400932
285	**Contemporary Trade Directory Entries** Name: Rani Frozen Foods Location: Unit 7-8, Reliance Enterprise Park, Manchester, M40 3AL Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A16NE (NE)	475	-	387975 400955
286	**Contemporary Trade Directory Entries** Name: T & K Location: 3, Altham Walk, Manchester, M40 5LD Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (N)	461	-	387291 400833
287	**Contemporary Trade Directory Entries** Name: Tyco Control Systems Ltd Location: Wormald Park, Grimshaw Lane, Manchester, M40 2WL Classification: Automation Systems & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	486	-	386679 400168
287	**Contemporary Trade Directory Entries** Name: Wormald Fire Systems Location: Wormald Park, Grimshaw Lane, Manchester, M40 2WL Classification: Firefighting Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	486	-	386679 400168
287	**Contemporary Trade Directory Entries** Name: Jonson Controls Location: Tyco Park,Grimshaw Lane, Manchester, Greater Manchester, M40 2WL Classification: Firefighting Equipment **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10SE (W)	488	-	386677 400170
287	**Contemporary Trade Directory Entries** Name: Johnson Controls Location: Grimshaw Lane, Manchester, M40 2AX Classification: Door Manufacturers - Industrial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	488	-	386677 400170
287	**Contemporary Trade Directory Entries** Name: Johnson Control Location: Grimshaw Lane, Manchester, Greater Manchester, M40 2WL Classification: Firefighting Equipment **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10SE (W)	488	-	386677 400170
288	**Contemporary Trade Directory Entries** Name: Tyreworld Location: 704, Oldham Road, Manchester, M40 2AA Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A10SE (W)	493	-	386676 400252

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
289	**Contemporary Trade Directory Entries** Name: K M H Printers Location: Chapter Street, Manchester, Lancashire, M40 2AY Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	497	-	386695 400024
290	**Contemporary Trade Directory Entries** Name: Budget Greeting Cards Location: Prelude House, Chapter Street, Manchester, M40 2AY Classification: Greeting Card Publishers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (SW)	528	-	386690 399955
290	**Contemporary Trade Directory Entries** Name: Budget Greeting Cards Ltd Location: Prelude House, Chapter Street, Manchester, M40 2AY Classification: Greeting Card Publishers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (SW)	548	-	386684 399924
291	**Contemporary Trade Directory Entries** Name: Tyco Fire Solutions Location: Tyco Park,Grimshaw Lane, Manchester, Greater Manchester, M40 2WL Classification: Firefighting Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SE (W)	528	-	386639 400135
291	**Contemporary Trade Directory Entries** Name: Johnson Controls Ltd Location: Tyco Park,Grimshaw Lane, Manchester, Greater Manchester, M40 2WL Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SE (W)	544	-	386622 400158
292	**Contemporary Trade Directory Entries** Name: Maxi Haulage Ltd Location: 2, Monsall Road, Manchester, M40 8FZ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	544	-	386635 400311
292	**Contemporary Trade Directory Entries** Name: Sapphire Garage Location: 1-3, Monsall Road, Manchester, M40 8FZ Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NE (W)	544	-	386635 400311
293	**Contemporary Trade Directory Entries** Name: David Audley Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	557	-	387440 399471
293	**Contemporary Trade Directory Entries** Name: Robert Edward Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	557	-	387440 399471
293	**Contemporary Trade Directory Entries** Name: 151 Products Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	557	-	387440 399471
293	**Contemporary Trade Directory Entries** Name: Kennoh Cleaning & Care Support Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	557	-	387440 399471
293	**Contemporary Trade Directory Entries** Name: Kosmo Services Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	557	-	387440 399471

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
294	**Contemporary Trade Directory Entries** Name: Medic Bath Co Ltd Location: Ashfield Works, Briscoe Lane, Manchester, M40 2XG Classification: Disability Equipment - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (S)	569	-	387057 399555
295	**Contemporary Trade Directory Entries** Name: Kuehne & Nagel Drinks Logistics Location: Monsall Road, Manchester, M40 8PA Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	577	-	386643 400434
295	**Contemporary Trade Directory Entries** Name: Kurt Lachenmeier (Uk) Ltd Location: Monsall Road, Manchester, M40 8PA Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	577	-	386643 400434
295	**Contemporary Trade Directory Entries** Name: John Smith Ltd Location: Monsall Road, Manchester, M40 8PA Classification: Brewers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	577	-	386643 400434
296	**Contemporary Trade Directory Entries** Name: Weir Pumps Ltd Location: Park Works, Grimshaw Lane, Manchester, M40 2BA Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (W)	577	-	386591 400254
296	**Contemporary Trade Directory Entries** Name: High Access Cleaning & Maintenance Ltd Location: Unit 3, Stanley House, 7, Monsall Road, Manchester, M40 8FY Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (W)	611	-	386561 400279
297	**Contemporary Trade Directory Entries** Name: Choice Game Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XR Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	-	387365 399456
297	**Contemporary Trade Directory Entries** Name: Samuel Howarth Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	-	387365 399456
297	**Contemporary Trade Directory Entries** Name: Choice Game Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XR Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	-	387365 399456
297	**Contemporary Trade Directory Entries** Name: Kurpas Meats Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XS Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	-	387365 399456
297	**Contemporary Trade Directory Entries** Name: T Ritchie C & E Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, Lancashire, M40 2XS Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	-	387365 399456
297	**Contemporary Trade Directory Entries** Name: United Cattle Products Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, Lancashire, M40 2XS Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	582	-	387365 399456

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
297	**Contemporary Trade Directory Entries** Name: Harvey Ashworth (Manchester) Ltd Location: Manchester Abattoir,Riverpark Rd, Manchester, M40 2XR Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (S)	582	-	387364 399456
297	**Contemporary Trade Directory Entries** Name: Hanson Business Support Uk Ltd Location: Riverpark Rd, Manchester, Lancashire, M40 2XP Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SE (S)	582	-	387365 399456
297	**Contemporary Trade Directory Entries** Name: Pennine Meats Location: Manchester Abattoir,Riverpark Ind Est,Riverpark Rd, Manchester, Lancashire, M40 2XP Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SE (S)	602	-	387318 399446
298	**Contemporary Trade Directory Entries** Name: Azura Location: Chapter St, Manchester, M40 2AY Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SE (W)	582	-	386619 399985
299	**Contemporary Trade Directory Entries** Name: D-Energi Location: Unit D, Madison Place, Northampton Road, Manchester, M40 5AG Classification: Gas Companies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NW)	583	-	387062 400846
300	**Contemporary Trade Directory Entries** Name: Kennoh Cleaning & Care Support Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SW (S)	590	-	387128 399517
301	**Contemporary Trade Directory Entries** Name: S C S Motors Ltd Location: Unit 6 Reliance Enterprise Park, Manchester, Greater Manchester, M40 3AL Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A16NE (NE)	594	-	388185 400997
302	**Contemporary Trade Directory Entries** Name: River Park Press Ltd Location: Market Hall Unit 3, Riverpark Trading Estate, Riverpark Road, Manchester, M40 2XP Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	620	-	387240 399454
302	**Contemporary Trade Directory Entries** Name: S I G Technical Insulation Location: Block 1,River Park, Manchester, Greater Manchester, M40 2XP Classification: Insulation Materials **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SE (S)	632	-	387238 399442
302	**Contemporary Trade Directory Entries** Name: A Burns Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Meat - Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (S)	632	-	387238 399442
303	**Contemporary Trade Directory Entries** Name: Alloy Bodies Location: Jubilee Works, Clifton Street, Miles Platting, Manchester, M40 8HN Classification: Commercial Vehicle Bodybuilders & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NE (SW)	624	-	386754 399692

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
304	**Contemporary Trade Directory Entries** Name: Fine Castings Location: 800, Oldham Road, Manchester, M40 2AB Classification: Fireplaces & Mantelpieces **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	629	-	386540 400115
305	**Contemporary Trade Directory Entries** Name: Grace Motor Engineers Location: Chapter Street, Manchester, Lancashire, M40 2AY Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NE (SW)	649	-	386573 399919
305	**Contemporary Trade Directory Entries** Name: Eckersley Motors Location: Unit 1-3, Goodier Street, Manchester, M40 2BD Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	682	-	386535 399923
306	**Contemporary Trade Directory Entries** Name: Hbs Uk Cleaning Services Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (S)	650	-	387128 399455
306	**Contemporary Trade Directory Entries** Name: Northern Optical Manchester Co Ltd Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Classification: Optical Goods - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (S)	650	-	387128 399455
307	**Contemporary Trade Directory Entries** Name: Asaka Computer Systems Location: Riverpark Rd, Manchester, Lancashire, M40 2XP Classification: Computer Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7SE (S)	655	-	387352 399384
308	**Contemporary Trade Directory Entries** Name: Texaco Location: 55, St. Marys Road, Manchester, M40 3AR Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A16NW (NE)	659	-	387875 401150
308	**Contemporary Trade Directory Entries** Name: Murco Petroleum Ltd Location: 55, St. Marys Road, Manchester, M40 3AR Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A16NW (NE)	659	-	387875 401150
309	**Contemporary Trade Directory Entries** Name: Prestige Autos Location: Wilsons House, Wilsons Park, Monsall Road, Manchester, Lancashire, M40 8WN Classification: Car Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NW (W)	665	-	386533 400396
309	**Contemporary Trade Directory Entries** Name: Tresu Location: Unit 1, Wilsons Park, Monsall Road, Manchester, Lancashire, M40 8WN Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NW (W)	665	-	386533 400396
309	**Contemporary Trade Directory Entries** Name: Data Design & Assembly Services Location: Unit 1-4a, Wilsons Park, Monsall Road, Manchester, Lancashire, M40 8WN Classification: Electronic Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NW (W)	665	-	386533 400396

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
309	**Contemporary Trade Directory Entries** Name: Durham Duplex Location: Office L Wilsons Park,Monsall Road, Manchester, Greater Manchester, M40 8WN Classification: Tool Sharpening, Repairing & Servicing **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A10NW (W)	668	-	386518 400356
309	**Contemporary Trade Directory Entries** Name: S M O P C T Ltd Location: Wilsons House Wilsons Park,Monsall Road, Manchester, Greater Manchester, M40 8WN Classification: Mechanical Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (W)	680	-	386517 400393
309	**Contemporary Trade Directory Entries** Name: Sapphire Garage Location: Unit 1 2 3,Monsall Rd, Manchester, Lancashire, M40 8FZ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10NW (W)	682	-	386514 400392
310	**Contemporary Trade Directory Entries** Name: Clynder Cables Ltd Location: 3, Lord North Street, MANCHESTER, M40 8AD Classification: Cable & Wire Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NE (SW)	665	-	386668 399739
310	**Contemporary Trade Directory Entries** Name: Princes Soft Drinks Division Location: Lord North Street, Manchester, M40 2HJ Classification: Soft Drinks - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NE (SW)	680	-	386660 399724
311	**Contemporary Trade Directory Entries** Name: Roanza Location: Briscoe Lane, Manchester, Greater Manchester, M40 2NL Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7SW (SW)	668	-	386956 399488
311	**Contemporary Trade Directory Entries** Name: North Manchester Commercials Location: Briscoe Lane, Manchester, Lancashire, M40 2NL Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	668	-	386956 399488
311	**Contemporary Trade Directory Entries** Name: It'S All In The Image Ltd Location: Unit 1b, 230, Briscoe Lane, Manchester, M40 2XG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	680	-	386914 399495
311	**Contemporary Trade Directory Entries** Name: Its All In The Image Location: 230 Briscoe Lane, Manchester, Greater Manchester, M40 2XG Classification: Kitchen Furniture Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	680	-	386914 399495
311	**Contemporary Trade Directory Entries** Name: N N C Contracts Hire Ltd Location: Briscoe La, Manchester, Lancashire, M40 2NL Classification: Commercial Vehicle Bodybuilders & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7SW (SW)	704	-	386958 399448
312	**Contemporary Trade Directory Entries** Name: Shell Service Station Location: 571, Oldham Road, Manchester, M40 5AF Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	671	-	386495 400145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
312	**Contemporary Trade Directory Entries** Name: Monsal Service Station Location: 571, Oldham Road, Manchester, M40 5AF Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	671	-	386495 400145
313	**Contemporary Trade Directory Entries** Name: The Electricity Advisory Centre Location: Monsall RdWilsons Pk, Manchester, Lancashire, M40 8WN Classification: Electricity Companies **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10NW (W)	674	-	386510 400348
313	**Contemporary Trade Directory Entries** Name: Power To Light Location: Unit 10f, Wilsons Park, Monsall Road, MANCHESTER, M40 8WN Classification: Electronic Equipment - Manufacturers & Assemblers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (W)	716	-	386466 400344
313	**Contemporary Trade Directory Entries** Name: Data Design Location: Unit 10G, Wilsons Park, Monsall Road, Manchester, Lancashire, M40 8WN Classification: Electronic Equipment - Manufacturers & Assemblers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (W)	716	-	386466 400344
313	**Contemporary Trade Directory Entries** Name: Charlton Fabrics Ltd Location: Unit 10f, Wilsons Park, Monsall Road, Manchester, M40 8WN Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (W)	719	-	386462 400342
313	**Contemporary Trade Directory Entries** Name: Abbey R X Ltd Location: Unit 10a, Wilsons Park, Monsall Road, Manchester, M40 8WN Classification: Optical Goods - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (W)	719	-	386462 400342
313	**Contemporary Trade Directory Entries** Name: Bravo Tango Cleaning Services Ltd Location: Wilsons Park,Monsall Road, Manchester, Greater Manchester, M40 8WN Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A10NW (W)	720	-	386462 400342
314	**Contemporary Trade Directory Entries** Name: Gokill Manchester Pest Control Location: Initial Business Centre Wilson Business Park,Monsall Road, Manchester, Greater Manchester, M40 8WN Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A10NW (W)	689	-	386488 400314
314	**Contemporary Trade Directory Entries** Name: Honour Freight Solutions Ltd Location: Wilsons Pk,Monsall Rd, Manchester, Lancashire, M40 8WN Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10NW (W)	714	-	386461 400304
314	**Contemporary Trade Directory Entries** Name: Boggart Brewery Location: Unit 7, Wilsons Park, Monsall Road, MANCHESTER, M40 8WN Classification: Brewers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (W)	719	-	386452 400282
315	**Contemporary Trade Directory Entries** Name: Addax Products Location: 36, Irlam Street, Manchester, M40 2BW Classification: Stationery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	696	-	386490 400017

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
315	**Contemporary Trade Directory Entries** Name: E M R Group Location: Irlam Street, MANCHESTER, M40 2BP Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	718	-	386471 400002
316	**Contemporary Trade Directory Entries** Name: Sinter Studio Location: One Central Park, Northampton Road, Manchester, M40 5BP Classification: Tile Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (NW)	715	-	386649 400681
317	**Contemporary Trade Directory Entries** Name: Mont Blanc Location: Arkady,Unit2 Briscoe La, Manchester, Lancashire, M40 2XG Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7SW (SW)	729	-	386928 399433
318	**Contemporary Trade Directory Entries** Name: Anglo European Ltd Location: 228, Briscoe Lane, Manchester, M40 2XG Classification: Steel Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SE (SW)	745	-	386831 399468
318	**Contemporary Trade Directory Entries** Name: Northern Butchers Hide Markets Ltd Location: 228, Briscoe Lane, Manchester, M40 2XG Classification: Leather Merchants & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SE (SW)	745	-	386831 399468
318	**Contemporary Trade Directory Entries** Name: Anglo European Location: 228 Briscoe La, Manchester, Lancashire, M40 2XG Classification: Steel Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A6SE (SW)	745	-	386831 399467
319	**Contemporary Trade Directory Entries** Name: M & G Repairs Location: Unit 11b, Wilsons Park, Monsall Road, Manchester, M40 8WN Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (W)	748	-	386434 400344
319	**Contemporary Trade Directory Entries** Name: Qepos Solution Ltd Location: Unit 12a, Wilsons Park, Monsall Road, Manchester, M40 8WN Classification: Cash Registers & Check-Out Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (W)	766	-	386411 400321
319	**Contemporary Trade Directory Entries** Name: Draf Engineering Services Ltd Location: Unit 12c, Wilsons Park, Monsall Road, Manchester, M40 8WN Classification: Pumps - Sales, Servicing & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (W)	766	-	386411 400321
319	**Contemporary Trade Directory Entries** Name: S L J Engineering Services Location: Unit 12c, Wilsons Park, Monsall Road, Manchester, Lancashire, M40 8WN Classification: Engineers - General **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (W)	766	-	386411 400321
319	**Contemporary Trade Directory Entries** Name: Heart & Solar Location: Unit 20, Wilsons Park, Monsall Road, Manchester, M40 8WN Classification: Electricity Generating & Distributing Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (W)	799	-	386376 400310
320	**Contemporary Trade Directory Entries** Name: E M R Manchester Location: Irlam Street, Manchester, M40 2BP Classification: Recycling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	761	-	386422 400023

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
321	**Contemporary Trade Directory Entries** Name: Unit 6 Auto Location: 6, Beckford Street, Manchester, M40 5AE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	770	-	386400 400100
321	**Contemporary Trade Directory Entries** Name: Jewson Location: Beckford Street, Manchester, M40 5AJ Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	798	-	386373 400086
321	**Contemporary Trade Directory Entries** Name: Jewson Ltd Location: Beckford Street, MANCHESTER, M40 5AJ Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	798	-	386373 400086
321	**Contemporary Trade Directory Entries** Name: Shawford Building Services Location: Beckford Street,Newton Heath, Manchester, Greater Manchester, M40 5AE Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A10SW (W)	834	-	386336 400088
321	**Contemporary Trade Directory Entries** Name: Manchester Safety Towers Location: Beckford St, Manchester, M40 5AE Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SW (W)	834	-	386337 400085
321	**Contemporary Trade Directory Entries** Name: Manchester Safety Tower Sales Location: Unit 2, Beckford Street, Manchester, M40 5AE Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	845	-	386326 400091
322	**Contemporary Trade Directory Entries** Name: Plant & Automation Ltd Location: Lord North Street, Miles Platting, Manchester, M40 8HT Classification: Tube Bending **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NE (SW)	777	-	386558 399699
323	**Contemporary Trade Directory Entries** Name: Kreativ Location: Quays Rech,10 Langworthy Rd, Manchester, Lancashire, M40 5FS Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A15NE (N)	785	-	387412 401214
324	**Contemporary Trade Directory Entries** Name: Philips Park Cemetery Location: Hulme Hall La, Manchester, Lancashire, M40 8HE Classification: Cemeteries & Crematoria **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SW (S)	801	-	386951 399346
325	**Contemporary Trade Directory Entries** Name: Lennox Industries Location: Unit 22,Wilsons Pk,Monsall Rd, Manchester, Lancashire, M40 8WN Classification: Heating Equipment - Sales & Service **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NW (W)	816	-	386357 400302
326	**Contemporary Trade Directory Entries** Name: Crescent Motors Location: 17, Beckford Street, Manchester, M40 5AE Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	828	-	386338 400144
326	**Contemporary Trade Directory Entries** Name: Beckford Street Tyre Services Location: 16, Beckford Street, Manchester, M40 5AE Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	843	-	386323 400140

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
327	**Contemporary Trade Directory Entries** Name: Hanson Aggregates Location: Norton Street, Miles Platting, Manchester, Greater Manchester, M40 8HD Classification: Concrete & Mortar Ready Mixed **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A6NW (SW)	834	-	386419 399814
327	**Contemporary Trade Directory Entries** Name: Norton Services Ltd Location: Norton Street, Miles Platting, Manchester, M40 8HD Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	834	-	386419 399814
327	**Contemporary Trade Directory Entries** Name: Nortons Cabins Location: Norton Street, Miles Platting, Manchester, M40 8HD Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	834	-	386419 399814
327	**Contemporary Trade Directory Entries** Name: K S L Crane Hire Location: Norton Street, Miles Platting, Manchester, Lancashire, M40 8HD Classification: Crane Hire, Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	834	-	386419 399814
327	**Contemporary Trade Directory Entries** Name: Nortons Tyres Manchester Location: Norton Street, Miles Platting, Manchester, M40 8HD Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	882	-	386375 399793
327	**Contemporary Trade Directory Entries** Name: Birmingham H I A B Hire Services Location: Norton Street, Miles Platting, Manchester, M40 8HD Classification: Cargo Handling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	882	-	386375 399793
328	**Contemporary Trade Directory Entries** Name: Doug Priestley Transport Location: Briscoe La, Manchester, Lancashire, M40 2XG Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A6SE (SW)	835	-	386826 399366
329	**Contemporary Trade Directory Entries** Name: Manchester Crane Hire Location: Norton St, Miles Platting, Manchester, M40 8HD Classification: Crane Hire, Sales & Service **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A6NW (SW)	844	-	386451 399736
329	**Contemporary Trade Directory Entries** Name: B S Diesels Location: Norton St, Miles Platting, Manchester, M40 8HD Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A6NW (SW)	852	-	386444 399732
329	**Contemporary Trade Directory Entries** Name: Autodeutsch Location: Providence Works,Norton St, Miles Platting, Manchester, M40 8EH Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A6NW (SW)	853	-	386474 399686
329	**Contemporary Trade Directory Entries** Name: Manchester Hiabs Hire Location: Norton Street, Miles Platting, Manchester, Greater Manchester, M40 8HD Classification: Road Haulage Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A6NW (SW)	857	-	386440 399729
329	**Contemporary Trade Directory Entries** Name: Manchester Recycling & Waste Co Ltd Location: Manchester, M40 8EH Classification: Recycling Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	869	-	386443 399701

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
329	**Contemporary Trade Directory Entries** Name: Norton Car Sales Location: Unit 10 Providence Works,Norton Street, Miles Platting, Manchester, Greater Manchester, M40 8EH Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	869	-	386443 399701
329	**Contemporary Trade Directory Entries** Name: Clad-It Eco Roofing Solutions Ltd Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Classification: Cladding Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	869	-	386443 399701
329	**Contemporary Trade Directory Entries** Name: Audi Only Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A6NW (SW)	872	-	386448 399689
329	**Contemporary Trade Directory Entries** Name: Hanson Aggregates Location: Norton St, Miles Platting, Manchester, M40 8HD Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A6NW (SW)	874	-	386427 399718
329	**Contemporary Trade Directory Entries** Name: Hanson Aggregates Location: Norton St, Miles Platting, Manchester, M40 8HD Classification: Concrete Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A6NW (SW)	874	-	386427 399718
329	**Contemporary Trade Directory Entries** Name: G S M Industrial Properties Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Classification: Metal Products - Fabricated **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	892	-	386423 399691
329	**Contemporary Trade Directory Entries** Name: Central Hydraulics Manchester Ltd Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Classification: Hydraulic Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	892	-	386423 399691
329	**Contemporary Trade Directory Entries** Name: Feltham Hydraulics Ltd Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Classification: Hydraulic Equipment & Accessories - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	892	-	386433 399676
330	**Contemporary Trade Directory Entries** Name: Roanza Location: Briscoe Lane, Manchester, Greater Manchester, M40 2NL Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A6SE (SW)	848	-	386753 399396
330	**Contemporary Trade Directory Entries** Name: Roanza Mercedes Benz Truck & Van Location: Enza Mercedes Benz, Briscoe Lane, Manchester, M40 2NL Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SE (SW)	853	-	386784 399369
331	**Contemporary Trade Directory Entries** Name: Clynder Cables Ltd Location: 3, Lord North Street, MANCHESTER, M40 8AD Classification: Ropes & Hawsers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	883	-	386506 399589

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
331	**Contemporary Trade Directory Entries** Name: J C S Pallets Location: Lord North Street, Manchester, M40 8AD Classification: Pallets, Crates & Packing Cases **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	883	-	386506 399589
331	**Contemporary Trade Directory Entries** Name: Vintage Wings & Radiators Location: Lord North Street, Manchester, M40 8HT Classification: Classic Car Specialists **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A6SW (SW)	924	-	386479 399557
331	**Contemporary Trade Directory Entries** Name: Eyres Forgings Ltd Location: Lord North Street, Manchester, M40 8HT Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A6SW (SW)	924	-	386479 399557
332	**Contemporary Trade Directory Entries** Name: Modern Waste Recycling Ltd Location: Hillbit House, New Street, Manchester, M40 8AW Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	897	-	386308 399919
332	**Contemporary Trade Directory Entries** Name: Worldwide Waste Management Ltd Location: Hillbit House, New Street, MANCHESTER, M40 8AW Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	897	-	386308 399919
332	**Contemporary Trade Directory Entries** Name: Boiler House Supplies Location: Hillbit House, New Street, Manchester, M40 8AW Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	897	-	386308 399919
332	**Contemporary Trade Directory Entries** Name: Majid Bros Plant Location: Hillbit House, New Street, Manchester, Lancashire, M40 8AW Classification: Machinery - Industrial & Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A6NW (W)	898	-	386308 399919
333	**Contemporary Trade Directory Entries** Name: I B C O Ltd Location: Lord North Street, Manchester, M40 8AD Classification: Frozen Food Processors & Distributors **Status: Active** Positional Accuracy: Automatically positioned to the address	A6SE (SW)	901	-	386614 399439
334	**Contemporary Trade Directory Entries** Name: Crawford Commercials Location: 497 A Oldham Rd, Manchester, Lancashire, M40 5AA Classification: Commercial Vehicle Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SW (W)	901	-	386282 400004
334	**Contemporary Trade Directory Entries** Name: Rainbow Group Location: 497, Oldham Road, Manchester, M40 5AA Classification: Bed & Mattress Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	905	-	386274 400029
334	**Contemporary Trade Directory Entries** Name: Data Day Shredding Ltd Location: 497, Oldham Road, Manchester, M40 5AA Classification: Recycling Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	906	-	386274 400020
334	**Contemporary Trade Directory Entries** Name: Johnson & Scott Location: 497, Oldham Road, Manchester, M40 5AA Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	906	-	386274 400020

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
335	**Contemporary Trade Directory Entries** Name: Permanoid Ltd Location: 107, Hulme Hall Lane, Manchester, M40 8HH Classification: Cable & Wire Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	922	-	386443 399611
335	**Contemporary Trade Directory Entries** Name: Fixings North West Ltd Location: 107, Hulme Hall Lane, Manchester, M40 8HH Classification: Fasteners & Fixing Devices **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	922	-	386443 399611
335	**Contemporary Trade Directory Entries** Name: Permanoid Ltd Location: 107, Hulme Hall Lane, MANCHESTER, M40 8HH Classification: Cable & Wire Equipment Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	922	-	386443 399611
336	**Contemporary Trade Directory Entries** Name: Multiblend Chemicals Ltd Location: 495, Oldham Road, Manchester, M40 5AA Classification: Chemical Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	929	-	386242 400080
337	**Contemporary Trade Directory Entries** Name: Johnson & Scott Refrigeration Location: 497 Oldham Rd, Manchester, M40 5AA Classification: Refrigeration Equipment - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SW (W)	952	-	386235 399980
338	**Contemporary Trade Directory Entries** Name: Textino Location: Hulme Hall Lane, Manchester, M40 8YD Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	970	-	386354 399654
338	**Contemporary Trade Directory Entries** Name: Withers & Bolton Location: Hulme Hall Lane, Manchester, M40 8YD Classification: Do It Yourself Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	970	-	386354 399654
339	**Fuel Station Entries** Name: Briscoe Lane Service Station Location: 86, Briscoe Lane Mitchell Street, Newton Heath , Manchester, Greater Manchester, M40 2TH Brand: Pace Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A12SE (E)	115	-	388008 400242
340	**Fuel Station Entries** Name: Newton Heath Service Station Location: 1123, Oldham Road Reliance Street, Newton Heath , Manchester, Greater Manchester, M40 2AB Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A16SE (NE)	320	-	388081 400734
341	**Fuel Station Entries** Name: Mfg Newton Heath Location: St Marys Road , Newton Heath , Manchester, Greater Manchester, M40 3AR Brand: Texaco Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A16NW (NE)	659	-	387875 401150
342	**Fuel Station Entries** Name: Mfg Oldham Road Location: 571, Oldham Road , Newton Heath , Manchester, Greater Manchester, M40 5AF Brand: Shell Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A10SW (W)	671	-	386495 400145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
343	**Fuel Station Entries** Name: Moston Service Station Location: Lightbowne Road , Moston , Manchester, Greater Manchester, M40 5EE Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Located by supplier to within 100m	A15NW (N)	711	-	387185 401060
344	**Points of Interest - Commercial Services** Name: Orford Road Motor Mechanics Location: Orford Road, Manchester, M40 1JY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (E)	267	9	388125 400138
344	**Points of Interest - Commercial Services** Name: Orford Road Motor Mechanics Location: Unit 3, Orford Road, Manchester, M40 1JY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (E)	268	9	388125 400137
345	**Points of Interest - Commercial Services** Name: Manchester M O T Centre Location: Unit 17, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	371	9	388122 400766
345	**Points of Interest - Commercial Services** Name: Manchester MOT Centre Location: Unit 17, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	372	9	388123 400767
345	**Points of Interest - Commercial Services** Name: Td Autocare Location: Lonsdale Street, Manchester, M40 2FT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	400	9	388153 400777
345	**Points of Interest - Commercial Services** Name: T D Autocare Location: Lonsdale Street, Manchester, M40 2FT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	400	9	388152 400777
345	**Points of Interest - Commercial Services** Name: T D Autocare Location: Lonsdale Street, Manchester, M40 2FT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	400	9	388153 400777
346	**Points of Interest - Commercial Services** Name: New Road Service Station Location: Elvey House 15, Baltimore Street, Manchester, M40 5AL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NE (W)	416	9	386815 400411
346	**Points of Interest - Commercial Services** Name: New Road Service Station Location: Elvey House 15, Baltimore Street, Manchester, M40 5AL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NE (W)	416	9	386815 400411
347	**Points of Interest - Commercial Services** Name: S B Motorbodies Ltd Location: 2a Bower Street, Newton Heath, Manchester, M40 2AF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SE (SW)	422	9	386783 400006
347	**Points of Interest - Commercial Services** Name: S & B Motor Bodies Ltd Location: 2a Bower Street, Newton Heath, Manchester, M40 2AF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SE (SW)	422	9	386784 400006

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
348	**Points of Interest - Commercial Services** Name: Dayton Motor Location: Unit 1b, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	429	9	388095 400858
348	**Points of Interest - Commercial Services** Name: P L H Recovery Manchester Scrap My Car Location: Unit 1, Reliance Trading Estate, Manchester, M40 3AG Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A16SE (NE)	433	9	388100 400859
348	**Points of Interest - Commercial Services** Name: Upholstery Vehicle Service Ltd Location: Unit 12A, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	439	9	388148 400833
348	**Points of Interest - Commercial Services** Name: Upholstery Vehicle Services Location: Unit 12a, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	439	9	388148 400833
348	**Points of Interest - Commercial Services** Name: Commercial Vehicle Painters Manchester Location: Unit 2, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	442	9	388114 400861
348	**Points of Interest - Commercial Services** Name: Sprinter & Vito Breakers Location: Unit 16, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	450	9	388188 400812
348	**Points of Interest - Commercial Services** Name: Manchester Van & Car Location: Unit 16, Reliance Trading Estate, Manchester, M40 3AG Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A16SE (NE)	450	9	388188 400812
348	**Points of Interest - Commercial Services** Name: J M R Fabrications Location: Unit 4, Reliance Trading Estate, Manchester, M40 3AG Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A16SE (NE)	478	9	388156 400876
348	**Points of Interest - Commercial Services** Name: J M R Fabrications Location: Unit 4, Reliance Trading Estate, Manchester, M40 3AG Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A16SE (NE)	478	9	388156 400876
348	**Points of Interest - Commercial Services** Name: Auto Body Centre Location: Unit 5, Reliance Trading Estate, Manchester, M40 3AG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	487	9	388169 400877
348	**Points of Interest - Commercial Services** Name: Auto Body Centre Location: Unit 5, Reliance Trading Est, Reliance St/Newton Heath, Manchester, Lancashire, M40 3AL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	489	9	388169 400880
349	**Points of Interest - Commercial Services** Name: The Alcohol Free Shop Location: Unit 1-2, Holt Street, Manchester, M40 5AX Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NE (W)	438	9	386750 400326

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
349	**Points of Interest - Commercial Services** Name: Padimax Ltd Location: Unit 1-2, Holt Street, Manchester, M40 5AX Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NE (W)	438	9	386750 400326
350	**Points of Interest - Commercial Services** Name: Chapter House Garage Location: Chapter Street, Manchester, M40 2AY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SE (W)	497	9	386695 400024
351	**Points of Interest - Commercial Services** Name: Sapphire Garage Location: 1-3 Monsall Road, Manchester, M40 8FZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NE (W)	544	9	386635 400311
351	**Points of Interest - Commercial Services** Name: Maxi Haulage Ltd Location: 2 Monsall Road, Manchester, M40 8FZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NE (W)	544	9	386635 400311
352	**Points of Interest - Commercial Services** Name: Kuehne + Nagel Drinks Logistics Ltd Location: Monsall Road, Manchester, M40 8PA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NE (W)	577	9	386643 400433
352	**Points of Interest - Commercial Services** Name: Kuehne & Nagel Drinks Logistics Location: Monsall Road, Manchester, M40 8PA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NE (W)	577	9	386643 400434
353	**Points of Interest - Commercial Services** Name: Mont Blanc Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SE (S)	582	9	387365 399456
354	**Points of Interest - Commercial Services** Name: S C S Motors Location: Unit 6 Reliance Enterprise Park, Manchester, M40 3AL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16NE (NE)	593	9	388184 400996
355	**Points of Interest - Commercial Services** Name: Klee International Location: Jubilee Works, Clifton Street, Miles Platting, Manchester, M40 8HN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6NE (SW)	624	9	386754 399692
356	**Points of Interest - Commercial Services** Name: Grace Motor Engineers Location: Chapter Street, Manchester, M40 2AY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6NE (SW)	649	9	386573 399919
356	**Points of Interest - Commercial Services** Name: Eckersley Motors Location: Unit 1-3, Goodier Street, Manchester, M40 2BD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	681	9	386533 399933
356	**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	A10SW (W)	701	9	386514 399926

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
357	**Points of Interest - Commercial Services** Name: Mont Blanc Location: Manchester Abattoir, Riverpark Road, Manchester, M40 2XP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7SW (S)	650	9	387128 399455
358	**Points of Interest - Commercial Services** Name: Mfg Newton Heath Location: St Marys Road, Newton Heath, Manchester, M40 3AR Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A16NW (NE)	659	9	387875 401150
358	**Points of Interest - Commercial Services** Name: Car Wash Location: St Marys Road, Newton Heath, Manchester, Lancashire, M40 3AR Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A16NW (NE)	659	9	387875 401150
359	**Points of Interest - Commercial Services** Name: Oldham Road Service Station Location: 571 Oldham Road, Manchester, M40 5AF Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400144
359	**Points of Interest - Commercial Services** Name: Shell Car Wash Location: 571 Oldham Road, Manchester, M40 5AF Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400144
359	**Points of Interest - Commercial Services** Name: Maxi Haulage Ltd Location: 571 Oldham Road, Manchester, M40 5AF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400145
359	**Points of Interest - Commercial Services** Name: Car Wash Location: 571 Oldham Road, Manchester, M40 5AF Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400145
360	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M40 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	727	9	386459 400014
360	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M40 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A10SW (W)	744	9	386452 399973
360	**Points of Interest - Commercial Services** Name: E M R Manchester Location: Irlam Street, Manchester, M40 2BP Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A10SW (W)	761	9	386422 400023
361	**Points of Interest - Commercial Services** Name: M & G Location: Unit 11B Wilsons Park, Monsall Road, Manchester, M40 8WN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NW (W)	745	9	386436 400341
361	**Points of Interest - Commercial Services** Name: M & G Repairs Location: Unit 11b Wilsons Park, Monsall Road, Manchester, M40 8WN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NW (W)	745	9	386436 400341

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
361	**Points of Interest - Commercial Services** Name: M & G Repairs Location: Unit 11b Wilsons Park, Monsall Road, Manchester, M40 8WN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NW (W)	746	9	386435 400341
362	**Points of Interest - Commercial Services** Name: Vintage Wings & Radiators Ltd Location: Lord North Street, Miles Platting, Manchester, M40 8HT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6NE (SW)	777	9	386558 399699
362	**Points of Interest - Commercial Services** Name: Autodeutsch Location: Providence Works, Norton St, Miles Platting, Manchester, M40 8EH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6NW (SW)	853	9	386474 399686
362	**Points of Interest - Commercial Services** Name: Auto Deutsch Ltd Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6NW (SW)	853	9	386474 399686
362	**Points of Interest - Commercial Services** Name: Manchester Recycling & Waste Co Ltd Location: Unit 10 Providence Works, Norton Street, Manchester, M40 8EH Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A6NW (SW)	870	9	386443 399701
362	**Points of Interest - Commercial Services** Name: Auto Deutsch Ltd Location: Providence Works, Norton Street, Miles Platting, Manchester, M40 8EH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6NW (SW)	892	9	386423 399691
363	**Points of Interest - Commercial Services** Name: UK Number 1 Car Wash Location: 1 Walderton Avenue, Manchester, M40 9BU Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A15NE (N)	798	9	387237 401174
364	**Points of Interest - Commercial Services** Name: Crescent Motors Location: 17 Beckford Street, Manchester, M40 5AE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	824	9	386342 400145
364	**Points of Interest - Commercial Services** Name: Crescent Motors Location: 17 Beckford Street, Manchester, M40 5AE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	825	9	386341 400144
364	**Points of Interest - Commercial Services** Name: Unit 6 Auto Location: 6 Beckford Street, Manchester, M40 5AE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	865	9	386304 400096
365	**Points of Interest - Commercial Services** Name: Nortons Hiab Services Location: Norton Hiab Services, Norton Street, Miles Platting, Manchester, M40 8EH Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6NW (SW)	835	9	386418 399813
365	**Points of Interest - Commercial Services** Name: Birmingham H I A B Hire Services Location: Norton Street, Miles Platting, Manchester, M40 8HD Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6NW (SW)	883	9	386374 399793

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
366	**Points of Interest - Commercial Services** Name: Roanza Truck & Van Location: Briscoe Lane, Manchester, M40 2NL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6SE (SW)	849	9	386752 399395
367	**Points of Interest - Commercial Services** Name: Roanza Mercedes Benz Truck & Van Location: Enza Mercedes Benz, Briscoe Lane, Manchester, M40 2NL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A6SE (SW)	854	9	386783 399369
367	**Points of Interest - Commercial Services** Name: Nw Transporting Services Location: Fire Station, Briscoe Lane, Manchester, M40 2XG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6SE (SW)	932	9	386745 399300
368	**Points of Interest - Commercial Services** Name: Worldwide Waste Management Ltd Location: Hillbit House, New Street, Manchester, M40 8AW Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A6NW (W)	898	9	386308 399918
369	**Points of Interest - Commercial Services** Name: Data Day Shredding Ltd Location: 497 Oldham Road, Manchester, M40 5AA Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A10SW (W)	906	9	386274 400019
370	**Points of Interest - Commercial Services** Name: A to Z Windscreens Location: 17 Boar Green Close, Manchester, M40 3AW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A20SE (NE)	927	9	388095 401391
371	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A11SW (SW)	150	9	387090 400033
371	**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	A11SW (SW)	157	9	387080 400035
372	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SW (SW)	174	9	387008 400112
373	**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	A11SW (SW)	190	9	386992 400107
373	**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	A11SW (SW)	238	9	386991 400021
373	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SW (SW)	241	9	386987 400020

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
373	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A11SW (SW)	251	9	386990 400000
373	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A11SW (SW)	255	9	386990 399993
374	**Points of Interest - Manufacturing and Production** Name: Factory Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	215	9	387752 400691
374	**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	A16SW (NE)	216	9	387757 400692
374	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	234	9	387751 400710
374	**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	A16SW (NE)	235	9	387755 400711
374	**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	A16SW (NE)	265	9	387786 400743
374	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	265	9	387782 400743
375	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A15SE (NE)	240	9	387499 400675
375	**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	A15SE (N)	311	9	387459 400736
375	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SE (N)	311	9	387459 400736
376	**Points of Interest - Manufacturing and Production** Name: Factory Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	263	9	387840 400752

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
376	**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	A16SW (NE)	264	9	387845 400753
376	**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	A16SW (NE)	283	9	387840 400772
376	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	283	9	387837 400771
376	**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	A16SW (NE)	317	9	387819 400803
376	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	317	9	387815 400802
377	**Points of Interest - Manufacturing and Production** Name: Newton Silk Mill Business Centre Location: Newton Silk Mill, Holyoak Street, Manchester, M40 1HA Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A16SE (NE)	271	9	388102 400635
378	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A16SW (NE)	314	9	387653 400782
378	**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	A16SW (NE)	316	9	387652 400784
379	**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	A11NW (NW)	317	9	386944 400413
379	**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	A11NW (NW)	370	9	386920 400463
380	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A11NW (NW)	327	9	387108 400562
381	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A10SE (SW)	348	9	386870 400002

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
381	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SE (SW)	360	9	386860 399994
381	**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	A10SE (SW)	361	9	386859 399994
381	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A10SE (SW)	377	9	386841 399993
381	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A10SE (SW)	378	9	386842 399989
381	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A10SE (SW)	390	9	386832 399984
382	**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	A16SE (NE)	350	9	388198 400621
382	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A16SE (NE)	351	9	388199 400620
382	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SE (NE)	371	9	388208 400650
382	**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	A16SE (NE)	375	9	388211 400653
383	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A16SE (NE)	396	9	388154 400769
384	**Points of Interest - Manufacturing and Production** Name: Manchester Industrial Park Location: M40 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A10NE (W)	405	9	386778 400308
384	**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	A10NE (W)	423	9	386776 400353

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
385	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	450	9	387779 400931
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	455	9	387783 400937
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16SW (NE)	456	9	387750 400932
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	457	9	387786 400939
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	459	9	387788 400942
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	459	9	387753 400935
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	461	9	387756 400937
385	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A16NW (NE)	462	9	387749 400938
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	463	9	387794 400947
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	464	9	387797 400948
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	466	9	387799 400951
385	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A16NW (NE)	467	9	387768 400946

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
385	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NW (NE)	468	9	387803 400953
385	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A16NW (NE)	471	9	387792 400955
386	**Points of Interest - Manufacturing and Production** Name: Reliance Street Enterprise Park Location: M40 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A16SE (NE)	455	9	387991 400930
386	**Points of Interest - Manufacturing and Production** Name: Enterprise Park Location: M40 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A16SE (NE)	467	9	388024 400933
387	**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	A10SE (W)	508	9	386688 400010
387	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SE (W)	512	9	386684 400009
388	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	526	9	386730 399891
388	**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	A6NE (SW)	562	9	386677 399908
389	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A16NE (NE)	532	9	388128 400958
389	**Points of Interest - Manufacturing and Production** Name: Reliance Street Mechanical Biological Treatment Facility (MBT) - Anaerobic Digestion (DECC) Location: Reliance Street, Newton Heath, Manchester, M40 3EZ Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A16NE (NE)	588	9	388175 400995
390	**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	A10SE (W)	565	9	386608 400088
390	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A10SE (W)	571	9	386601 400093

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
391	**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	A6NE (SW)	589	9	386775 399722
391	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	589	9	386775 399722
391	**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	A6NE (SW)	590	9	386786 399707
391	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	590	9	386786 399707
391	**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	A6NE (SW)	600	9	386801 399676
391	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	603	9	386797 399677
391	**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	A6NE (SW)	606	9	386741 399737
391	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	610	9	386737 399736
391	**Points of Interest - Manufacturing and Production** Name: Tanks Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	611	9	386713 399768
391	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A6NE (SW)	613	9	386708 399772
391	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A6NE (SW)	614	9	386704 399775
391	**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	A6NE (SW)	632	9	386761 399673

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
391	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	635	9	386757 399672
392	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A10NE (W)	622	9	386551 400286
392	**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	A10NW (W)	624	9	386548 400284
393	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	644	9	386791 399625
393	**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	A6NE (SW)	645	9	386791 399624
393	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A6SE (SW)	675	9	386810 399568
393	**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	A6SE (SW)	708	9	386780 399550
393	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	708	9	386738 399587
393	**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	A6NE (SW)	709	9	386737 399587
393	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6SE (SW)	709	9	386780 399549
394	**Points of Interest - Manufacturing and Production** Name: Bizspace Ltd Location: Wilsons House Wilsons Park, Monsall Road, Manchester, M40 8WN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A10NW (W)	665	9	386533 400396
395	**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	A7SW (SW)	668	9	386910 399510

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
395	**Points of Interest - Manufacturing and Production** Name: Factory Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A7SW (SW)	680	9	386915 399494
396	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	677	9	386649 399744
396	**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	A6NE (SW)	758	9	386591 399685
396	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	763	9	386586 399684
397	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	687	9	386604 399790
397	**Points of Interest - Manufacturing and Production** Name: Ready-Mixed Concrete Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	724	9	386566 399780
398	**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	A10SW (W)	699	9	386484 400029
398	**Points of Interest - Manufacturing and Production** Name: Factory Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A10SW (W)	703	9	386478 400037
399	**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	A6SE (SW)	764	9	386840 399440
399	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6SE (SW)	764	9	386840 399440
400	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	866	9	386510 399614
400	**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	A6NW (SW)	866	9	386510 399614

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
400	**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	A6SW (SW)	939	9	386444 399581
400	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6SW (SW)	942	9	386440 399581
401	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	893	9	386312 399923
402	**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	A10SW (W)	926	9	386246 400069
402	**Points of Interest - Manufacturing and Production** Name: Works Location: M40 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	930	9	386242 400068
403	**Points of Interest - Public Infrastructure** Name: Weirs Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A11NE (N)	8	9	387327 400331
404	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12NW (NE)	8	9	387651 400472
405	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	9	9	387455 400411
406	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A11SW (W)	15	9	387181 400216
407	**Points of Interest - Public Infrastructure** Name: Briscoe Lane Service Station Location: 86-90 Briscoe Lane, Manchester, M40 2TH Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (E)	115	9	388008 400242
407	**Points of Interest - Public Infrastructure** Name: Briscoe Lane Service Station Location: 86-90 Briscoe Lane, Manchester, M40 2TH Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (E)	116	9	388008 400241
408	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A11SW (SW)	121	9	387062 400123

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
409	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12NE (NE)	182	9	388045 400551
410	**Points of Interest - Public Infrastructure** Name: K Bolger Location: 13 Warden Lane, Manchester, M40 2FH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A16SW (NE)	233	9	387698 400706
411	**Points of Interest - Public Infrastructure** Name: Newton Heath Police Station Location: Newton Heath Police Station 40, Silk Street, Manchester, M40 1HE Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A12NE (E)	339	9	388224 400557
412	**Points of Interest - Public Infrastructure** Name: Thorp's Bridge Junction Location: M40 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A15SE (N)	345	9	387273 400694
413	**Points of Interest - Public Infrastructure** Name: Dean Lane Station Location: Dean Avenue, M40 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A16SE (NE)	354	9	387902 400843
414	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A10SE (SW)	376	9	386858 399969
415	**Points of Interest - Public Infrastructure** Name: Baguley Fold Junction Location: M40 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	537	9	387722 399548
416	**Points of Interest - Public Infrastructure** Name: Refuse Destructor Location: M40 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A16NE (NE)	568	9	388159 400982
416	**Points of Interest - Public Infrastructure** Name: Viridor Ltd Location: Reliance Street, Manchester, M40 3EZ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A16NE (NE)	588	9	388175 400995
416	**Points of Interest - Public Infrastructure** Name: Public Recycling Facility Location: M40 Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to an adjacent address or location	A16NE (NE)	651	9	388214 401045
417	**Points of Interest - Public Infrastructure** Name: Greater Manchester Police HQ Location: Central Park, Northampton Road (Off Oldham Road), Manchester, M40 5BP Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A14SE (NW)	574	9	386796 400626
418	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	578	9	386704 399837

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
418	**Points of Interest - Public Infrastructure** Name: Ardwick Junction Location: M40 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	611	9	386719 399759
419	**Points of Interest - Public Infrastructure** Name: Amenity Tip Location: M40 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A16NE (NE)	610	9	388063 401070
420	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	650	9	386647 399793
420	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A6NE (SW)	728	9	386585 399745
421	**Points of Interest - Public Infrastructure** Name: Texaco Location: 55 St. Marys Road, Manchester, M40 3AR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A16NW (NE)	658	9	387874 401149
421	**Points of Interest - Public Infrastructure** Name: Murco Petroleum Ltd Location: 55 St. Marys Road, Manchester, M40 3AR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A16NW (NE)	659	9	387875 401150
421	**Points of Interest - Public Infrastructure** Name: Newton Heath Murco Service Station Location: 55 St. Marys Road, Manchester, M40 3AR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A16NW (NE)	659	9	387875 401150
421	**Points of Interest - Public Infrastructure** Name: Newton Heath Service Station Location: St Marys Road, Newton Heath, Manchester, Lancashire, M40 3AR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A16NW (NE)	659	9	387875 401150
422	**Points of Interest - Public Infrastructure** Name: Total Location: 571 Oldham Road, Manchester, M40 5AF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400145
422	**Points of Interest - Public Infrastructure** Name: Shell Service Station Location: 571 Oldham Road, Manchester, M40 5AF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400144
422	**Points of Interest - Public Infrastructure** Name: Tcs Monsall Location: 571 Oldham Road, Manchester, M40 5AF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400145
422	**Points of Interest - Public Infrastructure** Name: Shell Oldham Road Location: 571 Oldham Road, Manchester, M40 5AF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SW (W)	671	9	386495 400145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
423	**Points of Interest - Public Infrastructure** Name: Greater Manchester Police Location: One Central Park, Northampton Road, Manchester, M40 5BP Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A14SE (NW)	692	9	386668 400668
424	**Points of Interest - Public Infrastructure** Name: European Metal Recycling Location: Irlam Street, Manchester, M40 2BP Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A10SW (W)	718	9	386471 400002
425	**Points of Interest - Public Infrastructure** Name: Philips Park Cemetery Location: M11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	742	9	387573 399291
426	**Points of Interest - Public Infrastructure** Name: Philips Park Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	743	9	387273 399313
427	**Points of Interest - Public Infrastructure** Name: Philips Park Cemetery Location: Hulme Hall La, Manchester, Lancashire, M40 8HE Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to address or location	A7SW (S)	801	9	386951 399346
427	**Points of Interest - Public Infrastructure** Name: Philips Park Cemetery Location: M40 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7SW (S)	881	9	386945 399264
428	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	831	9	386504 399682
429	**Points of Interest - Public Infrastructure** Name: Weir Location: M11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A8SE (SE)	866	9	388060 399378
429	**Points of Interest - Public Infrastructure** Name: Weir Location: M11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A8SE (SE)	867	9	388058 399375
430	**Points of Interest - Public Infrastructure** Name: Modern Waste Recycling Ltd Location: Unit 1 Hillbit House, Miles Platting, Manchester, M40 8AW Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A6NW (W)	898	9	386308 399919
431	**Points of Interest - Public Infrastructure** Name: Philips Park Junction Location: M40 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A6SE (SW)	909	9	386711 399350
431	**Points of Interest - Public Infrastructure** Name: Greater Manchester County Fire Service Location: Fire Station, Briscoe Lane, Manchester, M40 2XG Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A6SE (SW)	932	9	386745 399300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
431	**Points of Interest - Public Infrastructure** Name: Greater Manchester County Fire Service Location: Fire Station, Briscoe Lane, Manchester, M40 2XG Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A6SE (SW)	932	9	386745 399300
431	**Points of Interest - Public Infrastructure** Name: Philips Park Fire Station Location: Fire Station, Briscoe Lane, Manchester, M40 2XG Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A6SE (SW)	933	9	386745 399300
432	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	965	9	386392 399609
432	**Points of Interest - Public Infrastructure** Name: Weirs Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A6SW (SW)	999	9	386372 399578
433	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	24	9	387482 400439
434	**Points of Interest - Recreational and Environmental** Name: Playground Location: Grimshaw Lane, M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10SE (W)	454	9	386732 400049
435	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	725	9	388177 399623
436	**Points of Interest - Recreational and Environmental** Name: Playground Location: Joan Street, M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A19SE (N)	855	9	387496 401305
437	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A4NW (S)	909	9	387692 399143
438	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A3NE (S)	987	9	387243 399068
439	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10NW (W)	999	9	386236 400555

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
440	**Areas of Adopted Green Belt** Authority: Manchester City Council Plan Name: Proposals Map **Status: Adopted** Plan Date: 11th July 2012	A8SW (SE)	583	11	387806 399545
441	**Local Nature Reserves** Name: Clayton Vale Multiple Area: N Area (m2): 525664.5 Source: Natural England Designation Date: 26th July 2006	A8SW (SE)	603	10	387814 399525
442	**Nitrate Vulnerable Zones** Name: River Irk (Moston Brook To River Irwell) Nvz Description: Surface Water Source: Environment Agency, Head Office	A11NE (NE)	0	4	387450 400550

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Environment Agency - Head Office	June 2020	Annually
Salford City Council - Environmental Health Department	November 2013	Annual Rolling Update
Rochdale Metropolitan Borough Council - Environmental Health Department	October 2017	Annually
Oldham Metropolitan Borough Council - Environmental Health Department	September 2013	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - North West Region	July 2020	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - North West Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - North West Region	July 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Rochdale Metropolitan Borough Council - Environmental Health Department	July 2014	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
Rochdale Metropolitan Borough Council - Environmental Health Department	July 2014	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Annual Rolling Update
Salford City Council - Environmental Health Department	March 2015	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Rochdale Metropolitan Borough Council - Environmental Health Department	July 2014	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	September 2013	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	August 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - North West Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - North West Region - South Area	July 2020	Quarterly
Water Abstractions		
Environment Agency - North West Region	July 2020	Quarterly
Water Industry Act Referrals		
Environment Agency - North West Region	October 2017	Quarterly

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2020	Quarterly
Flood Defences Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines Ordnance Survey	June 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North West Region - South Area	July 2020	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North West Region - South Area	July 2020	Quarterly
Local Authority Landfill Coverage		
Manchester City Council - Planning Department	May 2000	Not Applicable
Oldham Metropolitan Borough Council	May 2000	Not Applicable
Rochdale Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Salford City Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Manchester City Council - Planning Department	May 2000	Not Applicable
Oldham Metropolitan Borough Council	May 2000	Not Applicable
Rochdale Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Salford City Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable

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

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

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

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2020	Bi-Annually
Areas of Adopted Green Belt		
Manchester City Council	June 2020	As notified
Oldham Metropolitan Borough Council	June 2020	As notified
Rochdale Metropolitan Borough Council	June 2020	As notified
Salford City Council	June 2020	As notified
Areas of Unadopted Green Belt		
Manchester City Council	June 2020	As notified
Oldham Metropolitan Borough Council	June 2020	As notified
Rochdale Metropolitan Borough Council	June 2020	As notified
Salford City Council	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	April 2020	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	July 2019	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	May 2020	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	September 2020	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	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**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
7	**Health and Safety Executive** 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
8	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
9	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
10	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
11	**Manchester City Council** Town Hall, Albert Square, Manchester, Greater Manchester, M60 2JT	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.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.

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
267713911_1_1

Customer Reference:
Ten Acres

National Grid Reference:
388530, 400380

Slice:
B

Site Area (Ha):
18.51

Search Buffer (m):
1000

Site Details:

Site at 387600, 400310

Client Details:

Mr H Pars
Wardell Armstrong LLP
Unit 4, Newton Business Centre
Thorncliffe Park
Chapletown
Sheffield
S35 2PH

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Introduction

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

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Report Version v53.0

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Summary

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

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 7				1
Historical Landfill Sites	pg 7				7
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 8			3	5
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 10			1	3
Potentially Infilled Land (Water)	pg 10			3	30
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 12			1	1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 14	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 14	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 15				Yes
BGS Urban Soil Chemistry Averages	pg 15	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 15	Yes	n/a	n/a	n/a
Mining Instability	pg 15	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 15	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 17			7	72
Fuel Station Entries	pg 24			1	2
Points of Interest - Commercial Services	pg 24			6	25
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 27			2	17
Points of Interest - Public Infrastructure	pg 28				15
Points of Interest - Recreational and Environmental	pg 29				5
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	pg 31				1
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 31				1
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 31	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	B9NW (NW)	0	1	388532 400376
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	B9SW (S)	27	1	388532 400000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	274	1	387750 400750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	301	1	387600 400800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	310	1	387850 400800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	324	1	387800 400850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(SW)	366	1	387350 399500
1	**Local Authority Pollution Prevention and Controls** Name: Woodlowe Coach & Body Works Ltd Location: Atlantic Works, Droylsden Road, Newton Heath, MANCHESTER, Greater Manchester, M10 6HD Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/38/93 Dated: 24th May 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	B13SW (NW)	406	2	388246 400652
2	**Local Authority Pollution Prevention and Controls** Name: Heath Service Station Location: 1370 Oldham Road, Newton Heath, MANCHESTER, Lancashire, M40 1EZ Authority: Manchester City Council, Environmental Health Department Permit Reference: Pfs/49/98 Dated: 23rd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	B13SW (NW)	447	2	388249 400733
3	**Local Authority Pollution Prevention and Controls** Name: Failsworth Filling Station Location: 15 / 49 Oldham Road, Failsworth, MANCHESTER, Lancashire, M35 0BR Authority: Oldham Metropolitan Borough Council, Environmental Health Department Permit Reference: 4-003 Dated: 2nd September 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	666	3	388451 400822
4	**Local Authority Pollution Prevention and Controls** Name: Old Church Filling Station Location: Oldham Road, Failsworth, MANCHESTER, Lancashire, M35 0BH Authority: Oldham Metropolitan Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	B13NE (N)	854	3	388593 400949
	Nearest Surface Water Feature	B13SW (N)	369	-	388422 400656

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Pollution Incidents to Controlled Waters** Property Type: Connection To Surface Drains Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Tributary Moston Brk Incident Date: 15th September 1995 Incident Reference: 95612350 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Wrong Connection Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B9SW (SW)	421	4	388300 400100
6	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Natural Note: Moston Brook; Natural Ochre Incident Date: 9th February 1996 Incident Reference: 96610242 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Natural Causes Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B13NW (N)	828	4	388300 401200
7	**Pollution Incidents to Controlled Waters** Property Type: No Premises Identified Location: Bottom Of Mill Lane, Failsworth, OLDHAM, Lancashire Authority: Environment Agency, North West Region Pollutant: General Biodegradable : Tree Cuttings Note: Not Supplied Incident Date: 17th May 1999 Incident Reference: 27409 Catchment Area: Medlock Receiving Water: River Stretch (Freshwater) Cause of Incident: Unauthorised Activity : Flytipping: MOU Response C Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	B13NW (N)	880	4	388400 401195
7	**Pollution Incidents to Controlled Waters** Property Type: WSC Sewage, Sewerage & Supply: Anglian Water Limited Location: Moston, MOSTON, Greater Manchester Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 26th October 1999 Incident Reference: 33986 Catchment Area: Irk Receiving Water: River Stretch (Freshwater) Cause of Incident: Wrong Connection Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	B13NW (N)	883	4	388405 401195
7	**Pollution Incidents to Controlled Waters** Property Type: Connection To Surface Drains Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Moston Brook; Washing Machine Incident Date: 14th September 1995 Incident Reference: 95612352 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Wrong Connection Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B13NW (N)	884	4	388400 401200
8	**Prosecutions Relating to Authorised Processes** Location: Land off Rothwell Street, Newton Heath, Manchester, M40 1EL Prosecution Text: Keeping Controlled Waste Comprising Around 250 Scrap Motor Vehicles And Associated Material In Breakers Yard. Prosecution Act: Epa S33(1)(B) & S33(6) Hearing Date: 2nd March 2001 Verdict: Guilty Fine: 2500 Costs: 1463.32 Positional Accuracy: Manually positioned to the road within the address or location	B13SW (NW)	475	4	388287 400723

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	B9NW (N)	0	4	388479 400587
	River Quality Name: Moston Bk GQA Grade: River Quality F Reach: Qsl At Hale Lane Failsworth To Irk Estimated Distance (km): 5.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	B13NW (N)	461	4	388378 401057
	River Quality Name: Medlock GQA Grade: River Quality E Reach: Lords Bk To Irwell Estimated Distance (km): 9.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	B5SW (S)	822	4	388378 399339
9	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 15th May 2006 Incident Reference: 399273 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: General Biodegradable Materials And Wastes: Vegetable Cuttings And Deposits Pollutant: Inert : Construction / Demolition Material	B13NW (N)	831	4	388452 401087
	Water Abstractions Operator: Manchester Abattoir Licence Number: 2569006021 Permit Version: 100 Location: Borehole At Clayton Mill Bridge, Manchester Authority: Environment Agency, North West Region Abstraction: Slaughtering: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 909 Yearly Rate (m3): 250030 Details: Land At Phillips Park, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 22nd May 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	B6SW (SE)	1421	4	389100 399500
	Water Abstractions Operator: Astor Chemicals Limited Licence Number: 2569006011 Permit Version: Not Supplied Location: Rochdale Canal, Beresford Street, FAILSWORTH Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 600 Yearly Rate (m3): 54552 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	B14NW (NE)	1452	4	389200 401100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	(W)	0	5	388000 400376
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	B9NW (NW)	0	5	388532 400376
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	B9NW (NW)	0	5	388532 400376
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
10	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 638.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	B13SW (N)	222	6	388446 400671
11	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 287.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Moston Brook Catchment Name: Mersey Primacy: 1	B13NW (N)	677	6	388245 401136
12	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 9.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	B13NW (N)	713	6	388247 401098
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	B13NW (N)	716	6	388245 401102

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	B13NW (N)	721	6	388247 401107
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	B13NW (N)	725	6	388246 401112
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 845.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	B5SW (S)	730	6	388316 399504
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 446.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Moston Brook Catchment Name: Mersey Primacy: 1	B13NW (N)	745	6	388299 401124
18	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 64.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 2	B13SE (NE)	836	6	388698 400737
19	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 18.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	B13SE (NE)	836	6	388698 400737
20	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 25.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	B13SE (NE)	854	6	388715 400742
21	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 9.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	B13SE (NE)	879	6	388740 400748
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 290.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	B9SE (SE)	882	6	388740 399938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 127.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	B13SE (NE)	887	6	388749 400750
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 207.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	B13NW (N)	977	6	388477 401258
25	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 45.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	B5SW (S)	988	6	388550 399556

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**BGS Recorded Landfill Sites** Site Name: Clayton Vale Location: Clayton, MANCHESTER, Gt Manchester, M11 Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	B5SW (S)	539	-	388526 399577
27	**Historical Landfill Sites** Licence Holder: Central Electricity Generating Board Location: Bank Bridge Road, Manchester Name: Clayton Vale Power Station Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16476 First Input Date: 31st December 1901 Last Input Date: 31st December 1980 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9178 BGS Ref: Not Supplied Other Ref: GDO F001,RD/LIC/045/76	B5NW (S)	527	4	388336 399729
28	**Historical Landfill Sites** Licence Holder: Central Electricity Generating Board Location: Bank Bridge Road, Manchester Name: Clayton Vale Power Station Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16480 First Input Date: 31st December 1965 Last Input Date: 31st December 1968 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: 4200/9729 BGS Ref: Not Supplied Other Ref: RD/LIC/045/76,GDO F001	B5SW (S)	536	4	388562 399582
29	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Clayton, Manchester, Greater Manchester Name: Clayton Vale Operator Location: Stuart Street Power Station Boundary Accuracy: As Supplied Provider Reference: EAHLD32041 First Input Date: 31st December 1901 Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2777 Other Ref: Not Supplied	B5SW (S)	538	4	388527 399578
30	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Newton Heath, Manchester, Greater Manchester Name: Land off Reliance Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16433 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: F041	B13NW (N)	602	4	388274 401009

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Failsworth, Greater Manchester Name: Land at Mill Lane Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16434 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: G109	B13NW (N)	641	4	388308 400961
32	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Moston, Manchester, Greater Manchester Name: Land to the rear of Fairway Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16384 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: F021, G036	B13NW (N)	687	4	388366 401157
33	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Mill Street, Failsworth, Greater Manchester Name: Land off Mill Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16429 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: G104	B13NW (N)	819	4	388432 401089
34	**Licensed Waste Management Facilities (Locations)** Licence Number: 50081 Location: Rothwell Street, Newton Heath, Manchester, M40 1EL Operator Name: Hafiz Mohammed Operator Location: 3 , Oldham, Lancs, OL4 1EL Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Vehicle Dismantlers) **Licence Status: Issued** Issued: 3rd July 2001 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	B13SW (NW)	441	4	388257 400708
34	**Licensed Waste Management Facilities (Locations)** Licence Number: 50081 Location: Land/premises At, Rothwell Street, Newton Heath, Manchester, M40 1EL Operator Name: Hygrade Motor Spares Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Vehicle Dismantlers) **Licence Status: Expired** Issued: 3rd July 2001 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	B13SW (NW)	441	4	388257 400708

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	**Licensed Waste Management Facilities (Locations)** Licence Number: 104837 Location: Hygrade Motor Spares, Rothwell Street, Newton Heath, Manchester, M40 1EL Operator Name: Mr Mohammed Qadeer & Mr Shafqut Ali Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Vehicle Depollution Facility <5000 tps **Licence Status: Modified** Issued: 25th March 2013 Last Modified: 11th July 2013 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	B13SW (NW)	463	4	388292 400687
35	**Licensed Waste Management Facilities (Locations)** Licence Number: 400829 Location: Unit 26 Failsworth Ind Est, Morton Street, Failsworth, Oldham, Lancashire, M35 0BN Operator Name: Blackstone Breakers Limited Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Vehicle Depollution Facility <5000 tps **Licence Status: Revoked** Issued: 1st November 2013 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 20th September 2016 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	B13SW (N)	673	4	388391 400921
36	**Licensed Waste Management Facilities (Locations)** Licence Number: 53606 Location: Morton Street, Failsworth, Manchester, M35 0BN Operator Name: Mr Adam Peter Stott & Mr David John Koomen Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Vehicle Dismantlers) **Licence Status: Transferred** Issued: 29th March 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	B13NW (N)	721	4	388364 401019
36	**Licensed Waste Management Facilities (Locations)** Licence Number: 404537 Location: A1 Jap Spares Ltd, Mill Lane, Failsworth, Manchester, M35 0BJ Operator Name: A1 Jap Spares Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Vehicle depollution facility **Licence Status: Issued** Issued: 24th April 2018 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	B13NW (N)	733	4	388400 401000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	**Licensed Waste Management Facilities (Locations)** Licence Number: 50048 Location: Mill Lane, Failsworth, Manchester, M35 0BJ Operator Name: Khan Gustasaf Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Vehicle Dismantlers) **Licence Status: Modified** Issued: 7th June 2002 Last Modified: 11th June 2013 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	B13NW (N)	779	4	388385 401078
38	**Licensed Waste Management Facilities (Locations)** Licence Number: 50439 Location: Manchester Auto Spares, Hobson Street, Failsworth, Manchester, M35 0JH Operator Name: Mr Graham Sykes & Mr Robert Lewtas Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: End of Life Vehicles **Licence Status: Modified** Issued: 24th February 2006 Last Modified: 24th July 2012 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	B13SE (N)	826	4	388621 400840
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	7	388532 400376
	Local Authority Landfill Coverage Name: Oldham Metropolitan Borough Council - Has not been able to supply Landfill data		589	8	388683 400620
39	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	B13NW (N)	461	-	388309 400969
40	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	B5NW (S)	644	-	388336 399723
41	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	B13NW (N)	768	-	388348 401182
42	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	B5NE (S)	986	-	388662 399648
43	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B9SW (SW)	454	-	388318 400069
44	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B9SW (SW)	464	-	388344 400089
45	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B13SW (NW)	474	-	388346 400620
46	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B9SW (SW)	540	-	388348 399973
47	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B9SW (S)	574	-	388393 399972

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13SW (N)	631	-	388377 400891
49	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5NW (SW)	652	-	388238 399750
50	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5NW (SW)	653	-	388282 399779
51	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B13NW (N)	673	-	388308 401119
52	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B9SE (SE)	716	-	388658 400195
53	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B13NW (N)	722	-	388376 401156
54	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B5NW (S)	731	-	388482 399836
55	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5NW (S)	766	-	388386 399711
56	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B13NW (N)	835	-	388378 401156
57	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5NE (S)	845	-	388609 399788
58	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B13SE (N)	852	-	388686 400789
59	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B9NE (E)	853	-	388808 400430
60	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5NE (S)	861	-	388656 399799
61	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B5SW (S)	879	-	388345 399533
62	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5SW (S)	881	-	388316 399522
63	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B5NE (S)	899	-	388609 399726
64	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B13NW (N)	903	-	388451 401185
65	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13SE (NE)	903	-	388774 400733
66	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B9SE (SE)	920	-	388869 400192
67	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13NE (N)	933	-	388606 401069
68	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5SW (S)	937	-	388258 399424

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B9NE (E)	943	-	388902 400361
70	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5SW (S)	964	-	388348 399450
71	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B13SE (NE)	974	-	388827 400790
72	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13NW (N)	975	-	388496 401241
73	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B5SW (S)	986	-	388536 399548
74	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B10NW (E)	988	-	388934 400499
75	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B13NE (N)	995	-	388695 401052
76	**Registered Waste Treatment or Disposal Sites** Licence Holder: M Hafiz Licence Reference: Eawml50081 Site Location: Rothwell Street, Newton Heath, Manchester, Greater Manchester, M40 1el Operator Location: 3 Morris Street, Oldham, Lancashire, Ol4 1el Authority: Environment Agency - North West Region, South Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 3rd July 2001 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: New Licence, Wastes Not To Hand Scrap Motor Vehicles (Inferred From Regis Listing)	B13SW (NW)	431	4	388250 400700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Registered Waste Treatment or Disposal Sites				
77	Licence Holder: Breakdown Services Manchester Ltd Licence Reference: 01127 Site Location: Failsworth Autospares, Morton Street, Failsworth, MANCHESTER, Greater Manchester, M35 0BN Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st March 1996 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Ferrous Metal Scrap Fibreglass Max.Waste Permitted By Licence Non-Ferrous Metal Scrap Paper/Cardboard Plastics Presorted Scrap Metal Restricted To Rubber Scrap Vehicles Textiles Wood Prohibited Waste: Asbestos (Other Than Parts Of Vehicles Bulk Powders Clinical Wastes Explosive Waste Pcbs Pressurised Wastes Special Wastes N.O.S. Violently Reactive Waste Waste Drums (Unless Pre-Cleaned) Waste N.O.S.	B13NW (N)	712	4	388370 401000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Permian Rocks (Undifferentiated)	B9NW (NW)	0	1	388532 400376
	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 mg/kg Nickel Concentration: 30 - 45 mg/kg	B9NW (W)	0	1	388500 400376
	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	B5NE (S)	30	1	388599 399727
	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	B9NW (NW)	248	1	388532 400376
	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	B5SW (S)	457	1	388297 399577
	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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	B17SW (N)	866	1	388468 401325
	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	B5SW (S)	997	1	388500 399247

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: 388260, 399690 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 22.60 mg/kg Cadmium Measured Concentration: 3.60 mg/kg Chromium Measured Concentration: 92.40 mg/kg Lead Measured Concentration: 126.40 mg/kg Nickel Measured Concentration: 37.20 mg/kg	B5NW (S)	715	1	388260 399690
	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	B9SW (S)	0	1	388532 400200
	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.	B9NW (NW)	0	9	388532 400376
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	B9NW (NW)	0	-	388532 400376
	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	B9NW (NW)	0	1	388532 400376
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	1	388532 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	1	388532 400376
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	1	388532 400000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	1	388532 400376

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	1	388532 400000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	1	388532 400376
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	1	388532 400000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	1	388532 400376
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	1	388532 400000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	1	388532 400376
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	1	388532 400000
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	1	388532 400376
	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	B9NW (NW)	0	1	388532 400376

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	**Contemporary Trade Directory Entries** Name: M W Transport Services Location: 2, Briscoe Lane, Manchester, M40 1JX Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B9NW (W)	279	-	388237 400361
79	**Contemporary Trade Directory Entries** Name: Manchester Car Sales Location: 1370, Oldham Road, Manchester, M40 1EZ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (NW)	455	-	388257 400735
79	**Contemporary Trade Directory Entries** Name: Manchester Car Sales Location: Oldham Rd, Manchester, Lancashire, M40 1EZ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (NW)	456	-	388251 400745
80	**Contemporary Trade Directory Entries** Name: Hygrade Motor Salvage Location: Rothwell Street, MANCHESTER, M40 1EL Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (NW)	463	-	388293 400686
80	**Contemporary Trade Directory Entries** Name: Hygrade Motor Spares Location: Rothwell Street, Manchester, M40 1EL Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (NW)	463	-	388293 400686
80	**Contemporary Trade Directory Entries** Name: Hygrade Motor Spares Location: Rothwell Street, Manchester, Lancashire, M40 1EL Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (NW)	463	-	388293 400686
81	**Contemporary Trade Directory Entries** Name: M Kelly Location: 3, Winnall Walk, Manchester, Lancashire, M40 1HL Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B9NW (NW)	470	-	388360 400590
82	**Contemporary Trade Directory Entries** Name: M40 Cleaning Services Location: 217, Droylsden Road, Manchester, M40 1NY Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B9NW (SE)	615	-	388572 400309
83	**Contemporary Trade Directory Entries** Name: F 1 Cars Location: Oldham Rd, Failsworth, Manchester, M35 0BH Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13SW (N)	616	-	388391 400824
83	**Contemporary Trade Directory Entries** Name: Pvc Vendo Location: Unit 5, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	640	-	388402 400850
83	**Contemporary Trade Directory Entries** Name: Failsworth Filling Station Location: 18, Oldham Road, Failsworth, Manchester, M35 0JE Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	645	-	388426 400822

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**Contemporary Trade Directory Entries** Name: Washing Machine Service Location: 18, Oldham Road, Failsworth, Manchester, Lancashire, M35 0JE Classification: Washing Machines - Servicing & Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	645	-	388426 400822
83	**Contemporary Trade Directory Entries** Name: Texaco Location: 15-49 Oldham Road, Failsworth, Manchester, M35 0JE Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	649	-	388428 400827
83	**Contemporary Trade Directory Entries** Name: Vinyl Techniques Ltd Location: Meadow Ind Est,Hobson St, Failsworth, Manchester, M35 0JJ Classification: Door Manufacturers - Domestic **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13SW (N)	658	-	388454 400800
83	**Contemporary Trade Directory Entries** Name: Tesco Petrol Station Location: Filling Station, Oldham Road, Failsworth, M35 0EJ Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	680	-	388464 400826
84	**Contemporary Trade Directory Entries** Name: Ice Kings Location: Unit 2,Victory Pk Ind Est, Failsworth, Manchester, Lancashire, M35 0BG Classification: Refrigeration Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	B13SW (N)	618	-	388434 400750
85	**Contemporary Trade Directory Entries** Name: Pdq Lifting Location: Failsworth Ind Est,Morton St, Failsworth, Manchester, M35 0BN Classification: Lifting Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	634	-	388362 400894
85	**Contemporary Trade Directory Entries** Name: Boardman Bros Ltd Location: Unit 12/15, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, Lancashire, M35 0BN Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	642	-	388369 400898
85	**Contemporary Trade Directory Entries** Name: Gatewear Location: Unit 12-15, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Gate Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	642	-	388369 400898
85	**Contemporary Trade Directory Entries** Name: B P M Engineering Services Ltd Location: Unit 18, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Plastics - Machinery & Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	658	-	388358 400936
85	**Contemporary Trade Directory Entries** Name: S W Motor Engineers Location: Sandfield House, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	B13SW (N)	663	-	388392 400904
85	**Contemporary Trade Directory Entries** Name: B A R Janatorial Supplies Location: Unit 20, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Janitorial Equipment - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	670	-	388368 400942

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	**Contemporary Trade Directory Entries** Name: Phil Powell Location: Unit 9,Failsworth Ind Est,Morton St, Failsworth, Manchester, Lancashire, M35 0BN Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	676	-	388401 400912
85	**Contemporary Trade Directory Entries** Name: Gold Star Pallet Services Location: Morton Street, Failsworth, Manchester, Greater Manchester, M35 0BN Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	B13SW (N)	678	-	388399 400919
85	**Contemporary Trade Directory Entries** Name: J L Wood & Son Ltd Location: Unit 11, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	680	-	388396 400925
85	**Contemporary Trade Directory Entries** Name: Robeck Engineering Location: Failsworth Ind Est,Morton St, Failsworth, Manchester, M35 0BN Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13SW (N)	687	-	388411 400918
85	**Contemporary Trade Directory Entries** Name: Goldstar Pallet Services Ltd Location: The Yard, Morton Street, Failsworth, Manchester, M35 0BN Classification: Pallets, Crates & Packing Cases **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	B13SW (N)	688	-	388414 400915
85	**Contemporary Trade Directory Entries** Name: Intadex Location: Morton St, Failsworth, Manchester, Lancashire, M35 0BP Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13SW (N)	688	-	388410 400920
86	**Contemporary Trade Directory Entries** Name: Heritage Engineering North West Ltd Location: Unit 16, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Engineers - General **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	646	-	388346 400931
87	**Contemporary Trade Directory Entries** Name: Clearcoat Location: Unit 7,Meadow Ind Est,Hobson St, Failsworth, Manchester, M35 0JJ Classification: Spraying - Paint & Coatings **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	673	-	388474 400794
87	**Contemporary Trade Directory Entries** Name: Britmark Ltd Location: Unit 4, Meadow Industrial Estate, Hobson Street, Failsworth, Manchester, M35 0JJ Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	674	-	388474 400795
87	**Contemporary Trade Directory Entries** Name: Manorbrook Ltd Location: Unit 3, Meadow Industrial Estate, Hobson Street, Failsworth, Manchester, M35 0JJ Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	674	-	388474 400795
87	**Contemporary Trade Directory Entries** Name: North Manchester Powder Coatings Location: Unit 2, Meadow Industrial Estate, Hobson Street, Failsworth, Manchester, M35 0JJ Classification: Coating Specialists **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	B13SW (N)	674	-	388474 400795

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87	**Contemporary Trade Directory Entries** Name: Velten Interiors Ltd Location: Unit 7, Meadow Industrial Estate, Hobson Street, Failsworth, Manchester, M35 0JJ Classification: Kitchen Furniture Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	674	-	388474 400795
87	**Contemporary Trade Directory Entries** Name: North Manchester Powder Coatings Location: Unit 2, Meadow Industrial Estate, Hobson Street, Failsworth, Manchester, M35 0JJ Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	674	-	388474 400795
88	**Contemporary Trade Directory Entries** Name: Prestigious Fabrications Location: Unit 3,Stanfield House,Morton St, Failsworth, Manchester, Lancashire, M35 0BN Classification: Aluminium Fabricators **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13NW (N)	700	-	388392 400960
89	**Contemporary Trade Directory Entries** Name: Turners Garage Location: 21, Oldham Road, Failsworth, Manchester, M35 0BR Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	709	-	388464 400881
89	**Contemporary Trade Directory Entries** Name: Newlink Ltd Location: Unit 25 Failsworth Ind Est,Greenhalgh St, Failsworth, Manchester, Lancashire, M35 0BW Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	750	-	388496 400908
90	**Contemporary Trade Directory Entries** Name: Failsworth Auto Spares Location: Sandfield House, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Car Breakers & Dismantlers **Status: Active** Positional Accuracy: Automatically positioned to the address	B13NW (N)	733	-	388380 401020
90	**Contemporary Trade Directory Entries** Name: Breakdown Services Ltd Location: Sandfield House, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, Lancashire, M35 0BN Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13NW (N)	733	-	388380 401020
90	**Contemporary Trade Directory Entries** Name: Morton Street Crash Repair Location: Sandfield House, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13NW (N)	733	-	388380 401020
90	**Contemporary Trade Directory Entries** Name: Stott Location: Sandfield House, Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, Lancashire, M35 0BN Classification: Breakdown and Recovery **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13NW (N)	733	-	388380 401020
90	**Contemporary Trade Directory Entries** Name: B'Kay Grab Hire Ltd Location: Sandfield House,Morton Street, Failsworth, Manchester, Greater Manchester, M35 0BN Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	B13NW (N)	734	-	388381 401021

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**Contemporary Trade Directory Entries** Name: Failsworth Fiat Spares Location: Failsworth, M35 0BN Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	B13NW (N)	734	-	388381 401021
91	**Contemporary Trade Directory Entries** Name: Speed Print Services Ltd Location: Brook Street, Failsworth, Manchester, M35 0BS Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	735	-	388542 400794
91	**Contemporary Trade Directory Entries** Name: Tachograph Services M C R Ltd Location: Hobson Street, Failsworth, MANCHESTER, M35 0JH Classification: Industrial Instrument & Apparatus Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	735	-	388542 400794
92	**Contemporary Trade Directory Entries** Name: Northern Marking Location: Corn Street, Failsworth, Manchester, Lancashire, M35 0UE Classification: Road Construction Equipment Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	745	-	388526 400850
92	**Contemporary Trade Directory Entries** Name: Northern Marking Location: Corn Street, Failsworth, Manchester, Lancashire, M35 0UE Classification: Road Marking & Surfacing Equipment & Material Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	745	-	388526 400850
92	**Contemporary Trade Directory Entries** Name: Wheeler Reg Ltd Location: Peel St,Hobson St, Failsworth, Manchester, M35 0JF Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13SW (N)	750	-	388536 400842
92	**Contemporary Trade Directory Entries** Name: The Watermain Reconditioning Co Location: 59-63, Hobson Street, Failsworth, Manchester, M35 0JH Classification: Chemical Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	757	-	388537 400854
92	**Contemporary Trade Directory Entries** Name: Firehawk Ltd Location: 4, Peel Street, Failsworth, Manchester, Lancashire, M35 0UF Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SW (N)	768	-	388543 400866
93	**Contemporary Trade Directory Entries** Name: Alex J Cheetham Ltd Location: Morton Street, Failsworth, MANCHESTER, M35 0BP Classification: Sheet Metal Work **Status: Active** Positional Accuracy: Automatically positioned to the address	B13NW (N)	746	-	388471 400937
93	**Contemporary Trade Directory Entries** Name: Rahman Packaging Location: Greenhalgh Street, Failsworth, Manchester, M35 0BW Classification: Aluminium Fabricators **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	783	-	388491 400972
93	**Contemporary Trade Directory Entries** Name: Rahman Packaging Location: Greenhalgh Street, Failsworth, Manchester, M35 0BW Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	784	-	388492 400972
94	**Contemporary Trade Directory Entries** Name: Western Rebores & Co Location: 1, Mill Lane, Failsworth, Manchester, M35 0BJ Classification: Engine Rebuilding & Reconditioning **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SW (N)	778	-	388525 400914

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	**Contemporary Trade Directory Entries** Name: A1 Jap Spares Location: Mill La, Failsworth, Manchester, M35 0BJ Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13NW (N)	794	-	388510 400964
94	**Contemporary Trade Directory Entries** Name: Autoline Accident Repair Centre Ltd Location: Unit 4, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	805	-	388539 400944
94	**Contemporary Trade Directory Entries** Name: Auto Line Location: Unit 4, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	805	-	388539 400944
94	**Contemporary Trade Directory Entries** Name: Run Master Location: Unit 2, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NW (N)	812	-	388523 400977
94	**Contemporary Trade Directory Entries** Name: East M C M O T Ltd Location: Unit 1, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	B13NW (N)	812	-	388523 400977
94	**Contemporary Trade Directory Entries** Name: H N Location: Unit 5 Mill Street, Failsworth, Manchester, Greater Manchester, M35 0BY Classification: Tyre Dealers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	B13NW (N)	839	-	388561 400970
95	**Contemporary Trade Directory Entries** Name: H & J Reclaimed Timber Location: Mill La, Failsworth, Manchester, M35 0BJ Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13NW (N)	809	-	388472 401034
96	**Contemporary Trade Directory Entries** Name: Manchester Auto Spares Ltd Location: Hobson Street, Failsworth, Manchester, M35 0JH Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SE (N)	814	-	388611 400835
96	**Contemporary Trade Directory Entries** Name: Manchester Japanese Spares Location: Hobson Street, Failsworth, Manchester, M35 0JH Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SE (N)	814	-	388611 400835
96	**Contemporary Trade Directory Entries** Name: Manchester Motor Spares Location: Hobson Street, Failsworth, Manchester, M35 0JH Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SE (N)	814	-	388611 400835
96	**Contemporary Trade Directory Entries** Name: R & G Van Spares Location: Hobson Street, Failsworth, Manchester, M35 0JH Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SE (N)	814	-	388611 400835
96	**Contemporary Trade Directory Entries** Name: Bellis Brothers Tyres Ltd Location: Hobson Street, Failsworth, Manchester, M35 0JH Classification: Tyre Repairs & Retreading **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SE (N)	819	-	388609 400851

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96	**Contemporary Trade Directory Entries** Name: Manage Support Services Location: Ground Floor,Barons Court,Manchester Road, Stockport, Cheshire, SK1 9BQ Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13SE (N)	842	-	388654 400821
96	**Contemporary Trade Directory Entries** Name: Crown Metal Fabrications Ltd Location: 24-26, Albert Street West, Failsworth, MANCHESTER, M35 0JN Classification: Wire Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	B13SE (N)	857	-	388652 400850
96	**Contemporary Trade Directory Entries** Name: John Gregory & Sons (P M) Ltd Location: 24-26, Albert Street West, Failsworth, Manchester, M35 0JN Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13SE (N)	857	-	388652 400850
97	**Contemporary Trade Directory Entries** Name: Mars Car Sales Location: Old Church Service Station,Oldham Road, Failsworth, Manchester, Greater Manchester, M35 0BH Classification: Car Dealers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	B13SE (N)	853	-	388605 400928
97	**Contemporary Trade Directory Entries** Name: Pun Enterprise Location: Griffin Rd, Failsworth, Manchester, Lancashire, M35 0UA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13NE (N)	894	-	388631 400964
97	**Contemporary Trade Directory Entries** Name: Performance Developments Location: Oldham Rd, Failsworth, Manchester, Lancashire, M35 0BH Classification: Window Tinting **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	B13NE (N)	917	-	388662 400958
98	**Contemporary Trade Directory Entries** Name: All Round Mobile Car Repairs Location: 37, Brookdale Avenue, Manchester, M40 1GH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B9SE (SE)	869	-	388733 399953
99	**Contemporary Trade Directory Entries** Name: F S Simione Location: Old St. Marys RC School, Griffin Road, Failsworth, Manchester, M35 0UA Classification: Clothing Accessory Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B13NE (N)	882	-	388578 401021
99	**Contemporary Trade Directory Entries** Name: F S Simione Location: Old St. Marys RC School,Griffin Rd, Failsworth, Manchester, Lancashire, M35 0UA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	B13NE (N)	884	-	388578 401024
100	**Contemporary Trade Directory Entries** Name: New Century Blinds Location: 29, William Lister Close, Manchester, M40 1PU Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B5NW (S)	886	-	388538 399676
100	**Contemporary Trade Directory Entries** Name: Drain Services N W Ltd Location: 211, Culcheth Lane, Manchester, M40 1WB Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B5NW (S)	922	-	388568 399655

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**Contemporary Trade Directory Entries** Name: Dr Pest Control Location: 4, CARNOUSTIE CLOSE, MANCHESTER, M40 3NF Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Automatically positioned to the address	B17SW (N)	971	-	388261 401381
102	**Fuel Station Entries** Name: Heath Service Station Location: 1370, Oldham Road , Newton Heath , Manchester, Greater Manchester, M40 2NW Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	B13SW (NW)	458	-	388254 400745
103	**Fuel Station Entries** Name: Failsworth Service Station Location: 15-49, Oldham Road , Failsworth , Manchester, Greater Manchester, M35 0BR Brand: TEXACO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	B13SW (N)	666	-	388451 400822
104	**Fuel Station Entries** Name: Old Church Service Station Location: Oldham Road , Failsworth , Oldham, Greater Manchester, M35 0BH Brand: Unbranded Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	B13NE (N)	972	-	388692 401015
105	**Points of Interest - Commercial Services** Name: M W Transport Services Location: 2 Briscoe Lane, Manchester, M40 1JX Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	B9NW (W)	279	10	388237 400361
106	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M40 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B13SW (NW)	443	10	388261 400705
106	**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	B13SW (NW)	444	10	388263 400702
106	**Points of Interest - Commercial Services** Name: Hygrade Motor Spares Location: Rothwell Street, Manchester, M40 1EL Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B13SW (NW)	463	10	388293 400685
107	**Points of Interest - Commercial Services** Name: M Kelly Location: 3 Winnall Walk, Manchester, M40 1HL Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B9NW (NW)	470	10	388360 400590
107	**Points of Interest - Commercial Services** Name: M Kelly Location: 3 Winnall Walk, Manchester, M40 1HL Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B9NW (NW)	470	10	388360 400590
108	**Points of Interest - Commercial Services** Name: B T C Motor Repairs Ltd Location: Unit 12-15 Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SW (N)	641	10	388368 400898

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	**Points of Interest - Commercial Services** Name: Gatewear & Co Location: Unit 12-15 Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	B13SW (N)	642	10	388369 400898
108	**Points of Interest - Commercial Services** Name: R G S Wrought Iron Location: Unit 4 Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	B13SW (N)	645	10	388407 400852
109	**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	B13NW (N)	678	10	388327 400994
109	**Points of Interest - Commercial Services** Name: Failsworth Fiat Spares Location: Sandfield House Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	732	10	388379 401019
109	**Points of Interest - Commercial Services** Name: Failsworth Auto Spares Location: Sandfield House Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B13NW (N)	732	10	388379 401019
109	**Points of Interest - Commercial Services** Name: Morton Street Crash Repair Location: Sandfield House Failsworth Industrial Estate, Morton Street, Failsworth, Manchester, M35 0BN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	733	10	388380 401020
109	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M35 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B13NW (N)	737	10	388325 401073
110	**Points of Interest - Commercial Services** Name: Turners Garage Location: 21 Oldham Road, Failsworth, Manchester, M35 0BR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SW (N)	708	10	388464 400880
110	**Points of Interest - Commercial Services** Name: Alex J Cheetham Ltd Location: Morton Street, Failsworth, Manchester, M35 0BP Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	B13NW (N)	745	10	388470 400936
110	**Points of Interest - Commercial Services** Name: Alex J Cheetham Ltd Location: Morton Street, Failsworth, Manchester, M35 0BP Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	B13NW (N)	746	10	388471 400937
110	**Points of Interest - Commercial Services** Name: Western Rebores & Co Location: 1 Mill Lane, Failsworth, Manchester, M35 0BJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SW (N)	777	10	388525 400914

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	**Points of Interest - Commercial Services** Name: Autoline Accident Repair Centre Ltd Location: Unit 4, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	804	10	388538 400943
110	**Points of Interest - Commercial Services** Name: Auto-Line Location: Unit 4, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	805	10	388539 400944
110	**Points of Interest - Commercial Services** Name: Auto Line Location: Unit 4, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	805	10	388539 400944
110	**Points of Interest - Commercial Services** Name: Automobile Auto -Line Motor Body Repairs Location: Unit 4, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	805	10	388539 400944
110	**Points of Interest - Commercial Services** Name: East M C M O T Ltd Location: Unit 1, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	812	10	388523 400977
110	**Points of Interest - Commercial Services** Name: T J Automotives Location: Unit 2, Victory Park Industrial Estate, Failsworth, Manchester, M35 0BG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13NW (N)	813	10	388524 400978
111	**Points of Interest - Commercial Services** Name: Tachograph Services Location: Hobson Street, Failsworth, Manchester, M35 0JH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SW (N)	735	10	388542 400794
111	**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	B13SE (N)	805	10	388609 400821
111	**Points of Interest - Commercial Services** Name: Oldham Van Spares Location: Hobson Street, Failsworth, Manchester, M35 0JH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SE (N)	814	10	388611 400835
111	**Points of Interest - Commercial Services** Name: Bellis Brothers Tyres Ltd Location: Hobson Street, Failsworth, Manchester, M35 0JH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SE (N)	816	10	388605 400852
112	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M35 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B13NW (N)	789	10	388389 401088
112	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M35 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	B13NW (N)	790	10	388444 401037

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
113	**Points of Interest - Commercial Services** Name: Advanced Car Services Location: 14 Askett Close, Manchester, M40 1DD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B13SE (NE)	824	10	388704 400696
114	**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	B13SW (NW)	411	10	388248 400659
114	**Points of Interest - Manufacturing and Production** Name: Tank Location: M40 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	B13SW (NW)	440	10	388283 400651
115	**Points of Interest - Manufacturing and Production** Name: Industrial Estate Location: M35 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	B13SW (N)	651	10	388366 400916
116	**Points of Interest - Manufacturing and Production** Name: Failsworth Industrial Estate Location: M35 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	B13SW (N)	651	10	388386 400891
116	**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	B13SW (N)	701	10	388458 400877
116	**Points of Interest - Manufacturing and Production** Name: Works Location: M35 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	B13SW (N)	704	10	388460 400880
117	**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	B13SW (N)	664	10	388484 400753
117	**Points of Interest - Manufacturing and Production** Name: Works Location: M35 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	B13SW (N)	675	10	388498 400752
118	**Points of Interest - Manufacturing and Production** Name: Tank Location: M35 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	B13SW (N)	716	10	388571 400718
118	**Points of Interest - Manufacturing and Production** Name: Tank Location: M35 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	B13SE (N)	754	10	388582 400770
118	**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	B13SE (N)	757	10	388578 400782

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
118	**Points of Interest - Manufacturing and Production** Name: Tank Location: M35 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	B13SE (N)	775	10	388623 400746
118	**Points of Interest - Manufacturing and Production** Name: Works Location: M35 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	B13SE (N)	782	10	388603 400789
119	**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	B13NW (N)	782	10	388492 400969
119	**Points of Interest - Manufacturing and Production** Name: Works Location: M35 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	B13NW (N)	783	10	388497 400963
120	**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	B5NW (S)	840	10	388559 399759
121	**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	B13SE (N)	852	10	388651 400842
121	**Points of Interest - Manufacturing and Production** Name: Works Location: M35 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	B13SE (N)	858	10	388657 400845
122	**Points of Interest - Manufacturing and Production** Name: Tank Location: M35 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	B13NE (N)	928	10	388646 401004
123	**Points of Interest - Public Infrastructure** Name: Failsworth Filling Station Location: 18 Oldham Road, Failsworth, Manchester, M35 0JE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	B13SW (N)	645	10	388426 400822
123	**Points of Interest - Public Infrastructure** Name: Failsworth Service Station Location: 18 Oldham Road, Failsworth, Manchester, M35 0JE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	B13SW (N)	645	10	388426 400822
123	**Points of Interest - Public Infrastructure** Name: Texaco Location: 15-49 Oldham Road, Failsworth, Manchester, M35 0BR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	B13SW (N)	649	10	388428 400827
123	**Points of Interest - Public Infrastructure** Name: Failsworth Service Station Location: 15-49 Oldham Road, Failsworth, Manchester, M35 0JE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	B13SW (N)	666	10	388451 400822

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
123	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Station Location: Filling Station, Oldham Road, Failsworth, M35 0EJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	B13SW (N)	680	10	388464 400826
124	**Points of Interest - Public Infrastructure** Name: B'kay Grab Hire Ltd Location: Sandfield House, Morton Street, Failsworth, Manchester, M35 0BN Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	B13NW (N)	734	10	388381 401021
125	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B13NW (N)	797	10	388328 401145
125	**Points of Interest - Public Infrastructure** Name: Weir Location: M40 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B13NW (N)	801	10	388332 401147
126	**Points of Interest - Public Infrastructure** Name: Weir Location: M35 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B13SE (NE)	849	10	388709 400743
127	**Points of Interest - Public Infrastructure** Name: Graveyard Location: M35 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	B13NE (N)	865	10	388586 400980
128	**Points of Interest - Public Infrastructure** Name: David's Drains Ltd Location: 211 Culcheth Lane, Manchester, M40 1WB Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	B5NW (S)	922	10	388568 399655
129	**Points of Interest - Public Infrastructure** Name: Weir Location: M11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	928	10	388341 399488
129	**Points of Interest - Public Infrastructure** Name: Weir Location: M11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	931	10	388341 399484
129	**Points of Interest - Public Infrastructure** Name: Weir Location: M11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	972	10	388366 399452
129	**Points of Interest - Public Infrastructure** Name: Weir Location: M11 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	973	10	388369 399452
130	**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	B5NW (S)	728	10	388290 399694

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	**Points of Interest - Recreational and Environmental** Name: Playground Location: Amos Avenue, M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	B5NW (S)	732	10	388299 399695
131	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	B9SE (SE)	814	10	388763 400223
132	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Miriam Street, M40 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	B9NE (E)	945	10	388902 400395
132	**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	B9NE (E)	953	10	388910 400395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
133	**Areas of Adopted Green Belt** Authority: Manchester City Council Plan Name: Proposals Map **Status: Adopted** Plan Date: 11th July 2012	B5SW (S)	583	11	388561 399581
134	**Local Nature Reserves** Name: Clayton Vale Multiple Area: N Area (m2): 525664.5 Source: Natural England Designation Date: 26th July 2006	B5SW (S)	603	13	388528 399575
135	**Nitrate Vulnerable Zones** Name: River Irk (Moston Brook To River Irwell) Nvz Description: Surface Water Source: Environment Agency, Head Office	B13SW (N)	0	5	388532 400700

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Environment Agency - Head Office	June 2020	Annually
Tameside Metropolitan Borough Council - Environmental Health Department	October 2017	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	September 2013	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - North West Region	July 2020	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - North West Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - North West Region	July 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	September 2013	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	August 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - North West Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - North West Region - South Area	July 2020	Quarterly
Water Abstractions		
Environment Agency - North West Region	July 2020	Quarterly
Water Industry Act Referrals		
Environment Agency - North West Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2020	Quarterly
Flood Defences Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines Ordnance Survey	June 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North West Region - South Area	July 2020	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North West Region - South Area	July 2020	Quarterly
Local Authority Landfill Coverage		
Manchester City Council - Planning Department	May 2000	Not Applicable
Oldham Metropolitan Borough Council	May 2000	Not Applicable
Tameside Metropolitan Borough Council	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Manchester City Council - Planning Department	May 2000	Not Applicable
Oldham Metropolitan Borough Council	May 2000	Not Applicable
Tameside Metropolitan Borough Council	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - North West Region - South Area	March 2003	Not Applicable
Hazardous Substances	**Version**	**Update Cycle**
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Manchester City Council - Planning Department	February 2016	Variable
Oldham Metropolitan Borough Council	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Planning Hazardous Substance Consents		
Manchester City Council - Planning Department	February 2016	Variable
Oldham Metropolitan Borough Council	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable

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

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

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

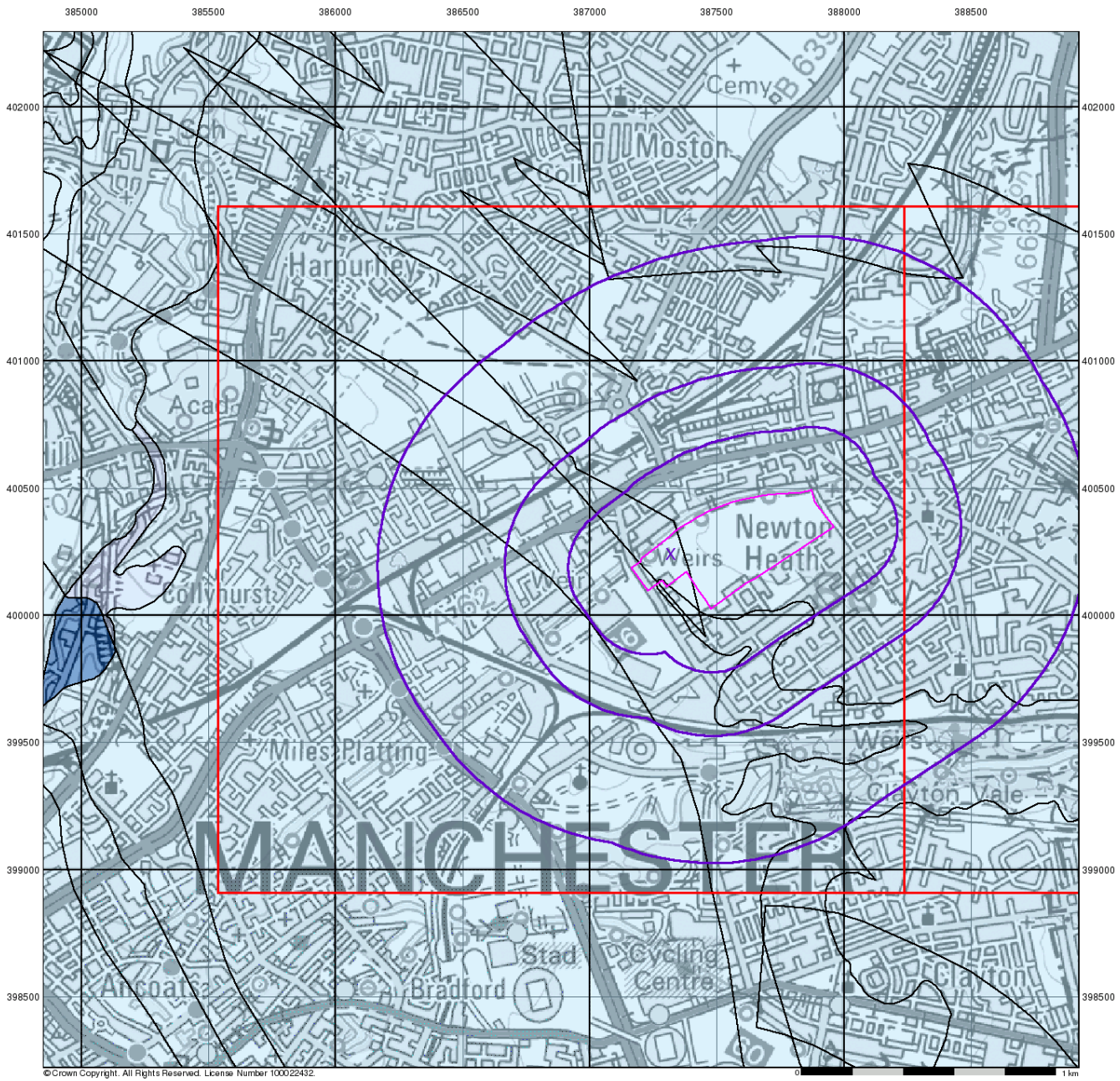
Data Suppliers

A selection of organisations who provide data within this report

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

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**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
3	**Oldham Metropolitan Borough Council - Environmental Health Department** Area Office West End House, West End Street, Oldham, Lancashire, OL1 6DW	Telephone: 0161 911 4503 Fax: 0161 678 4550 Website: www.oldham.gov.uk
4	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
5	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
6	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
7	**Manchester City Council - Planning Department** Town Hall, Manchester, Greater Manchester, M60 2LA	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.uk
8	**Oldham Metropolitan Borough Council** Civic Centre, P O Box 55, West Street, Oldham, Lancashire, OL1 1XN	Telephone: 0161 911 3000 Fax: 0161 678 4550 Website: www.oldham.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
11	**Manchester City Council** Town Hall, Albert Square, Manchester, Greater Manchester, M60 2JT	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.uk
12	**Tameside Metropolitan Borough Council** Wellington Road, Ashton-under-Lyne, Lancashire, OL6 6DL	Telephone: 0161 342 8355 Fax: 0161 342 3070 Website: www.tameside.gov.uk
13	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



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Groundwater Vulnerability

General

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

Slice | Map ID

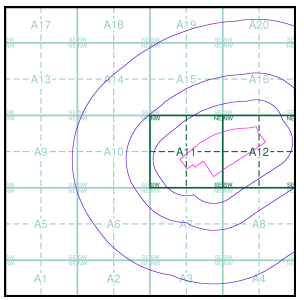
Agency and Hydrological

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

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark® INFORMATION GROUP

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

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Bedrock Aquifer Designation

General

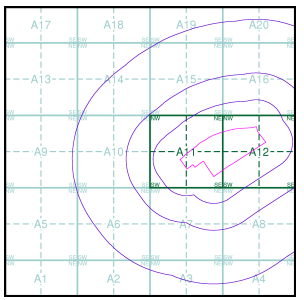
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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



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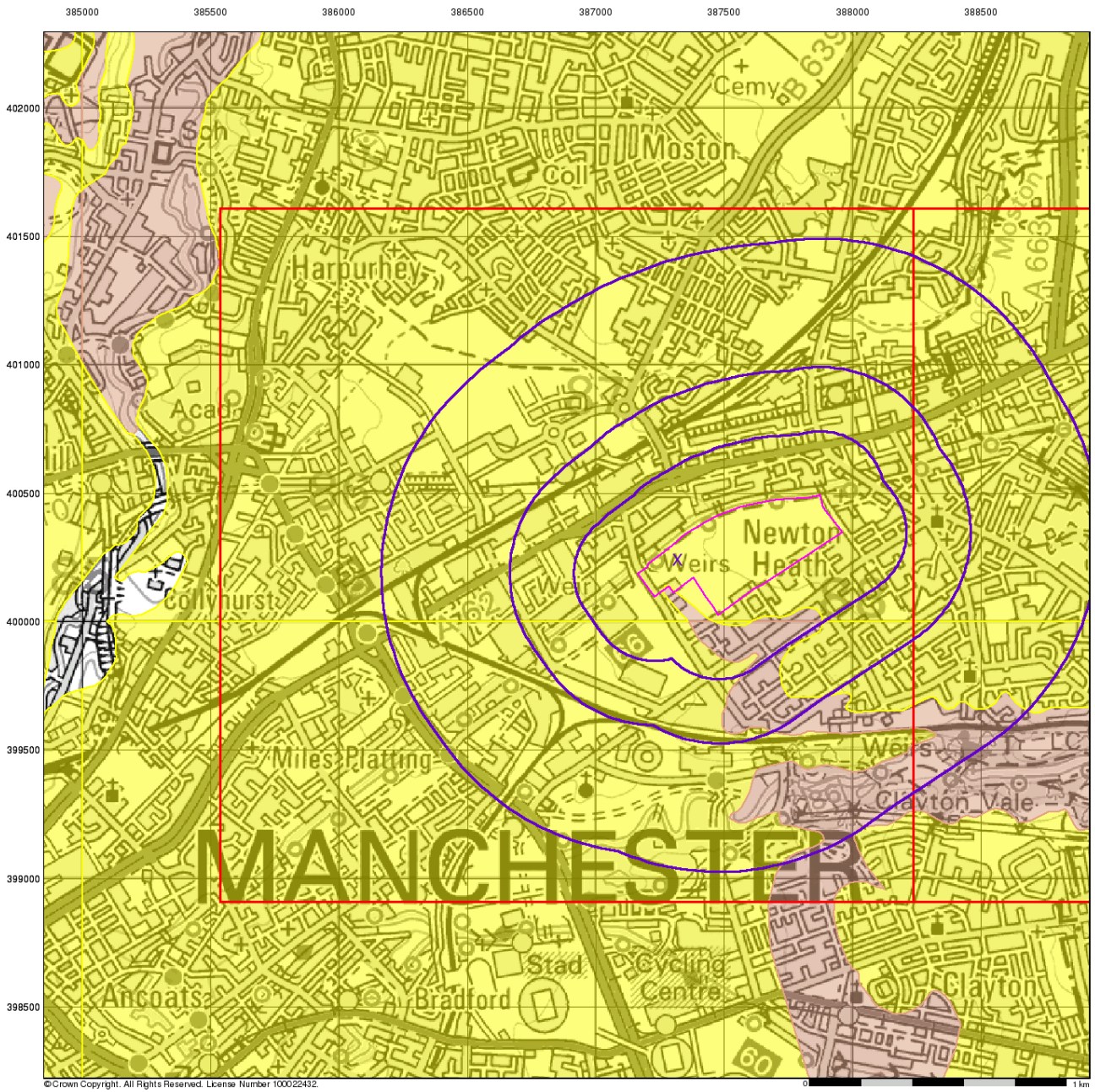
Site Details

Site at 387600, 400310



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Superficial Aquifer Designation

General

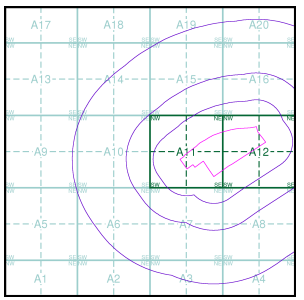
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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



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Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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Source Protection Zones

General

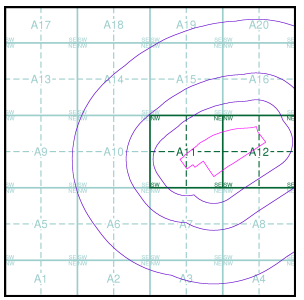
Specified Site | Specified Buffer(s) | Bearing Reference Point

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



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Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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Sensitive Land Uses

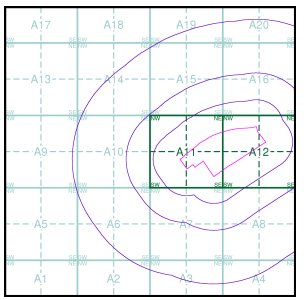
General

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



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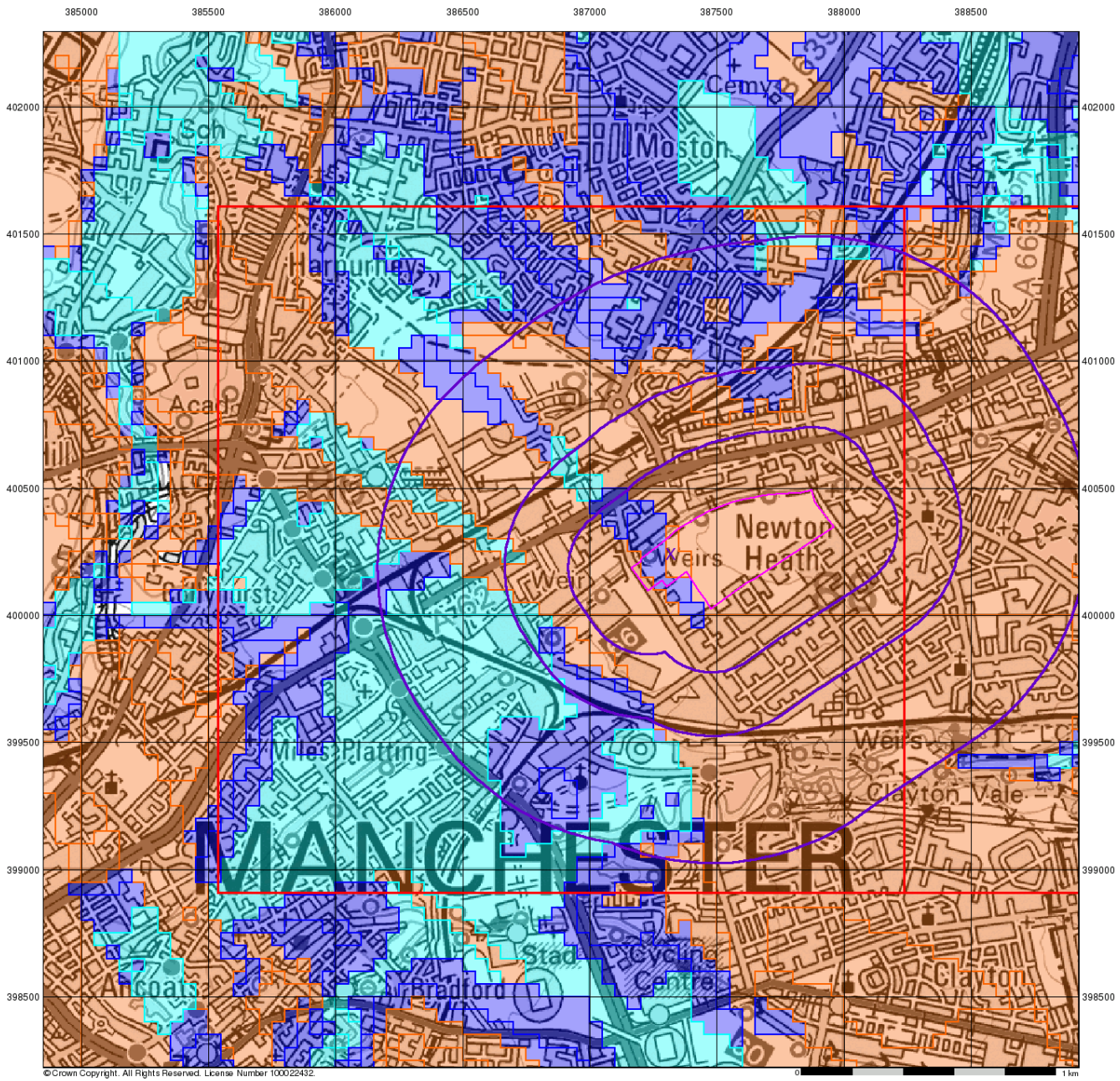
Site Details

Site at 387600, 400310



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BGS Flood GFS Data

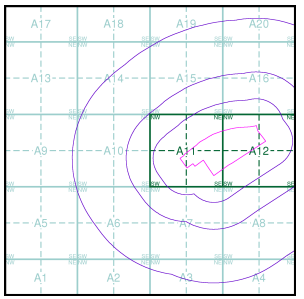
General

- 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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Customer Ref:	Ten Acres
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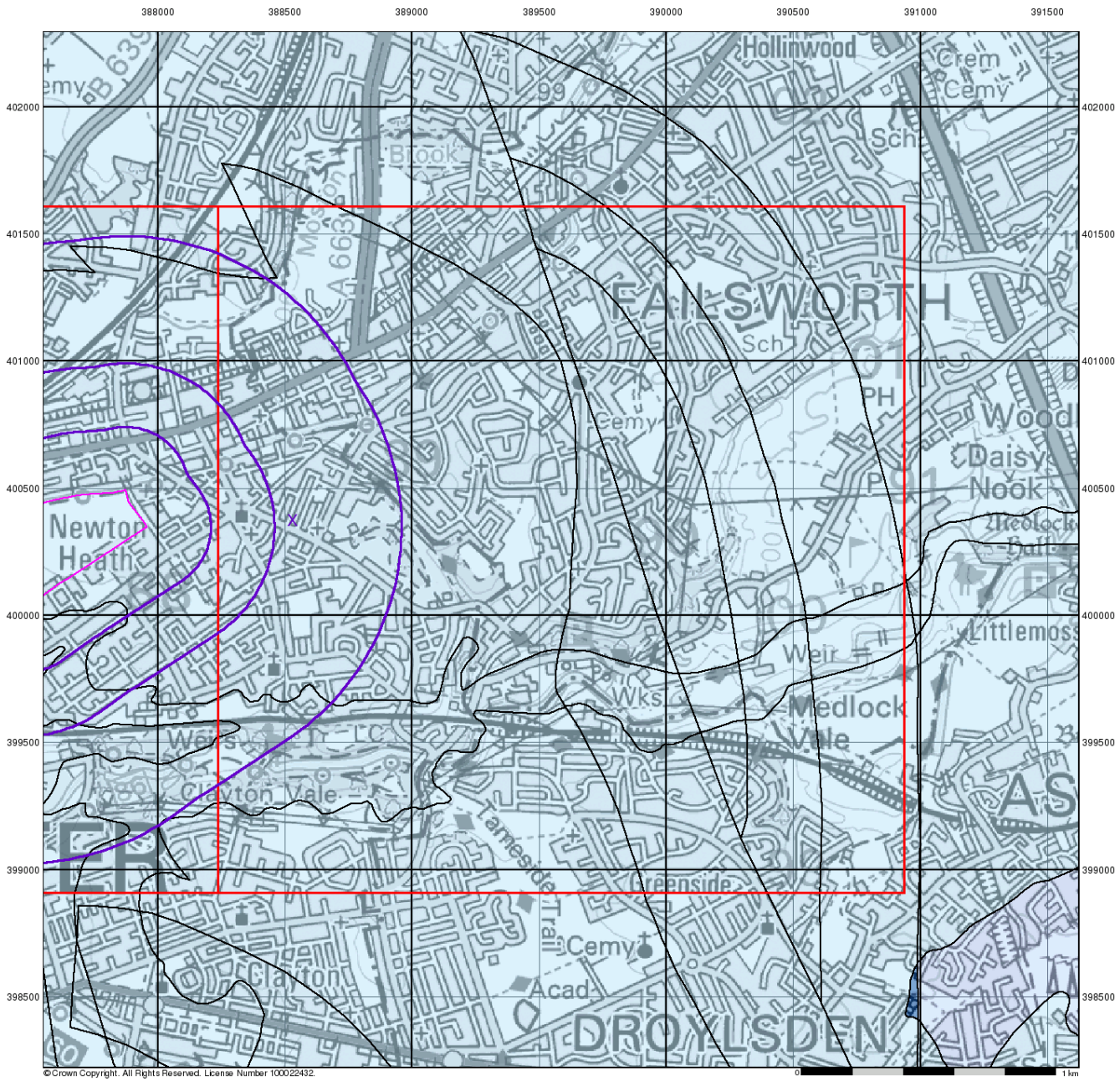
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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Groundwater Vulnerability

General

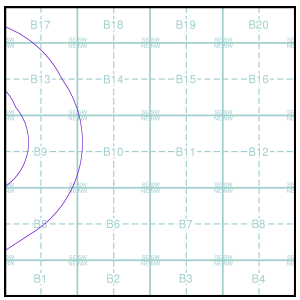
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

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

Unproductive Aquifer
Soluble Rock

Site Sensitivity Context Map - Slice B



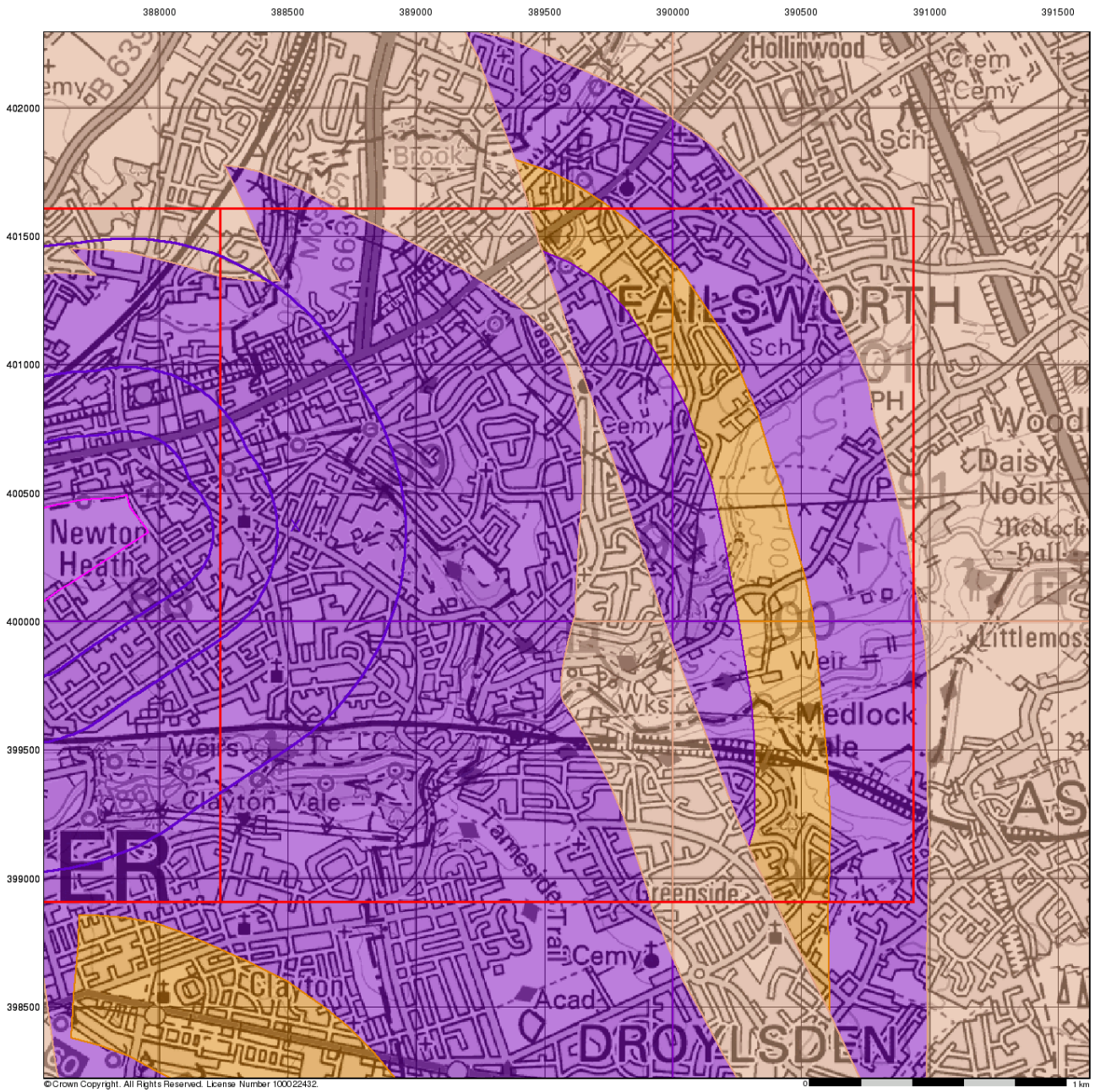
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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Bedrock Aquifer Designation

General

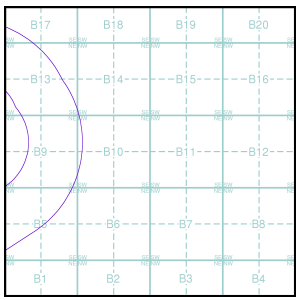
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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 B

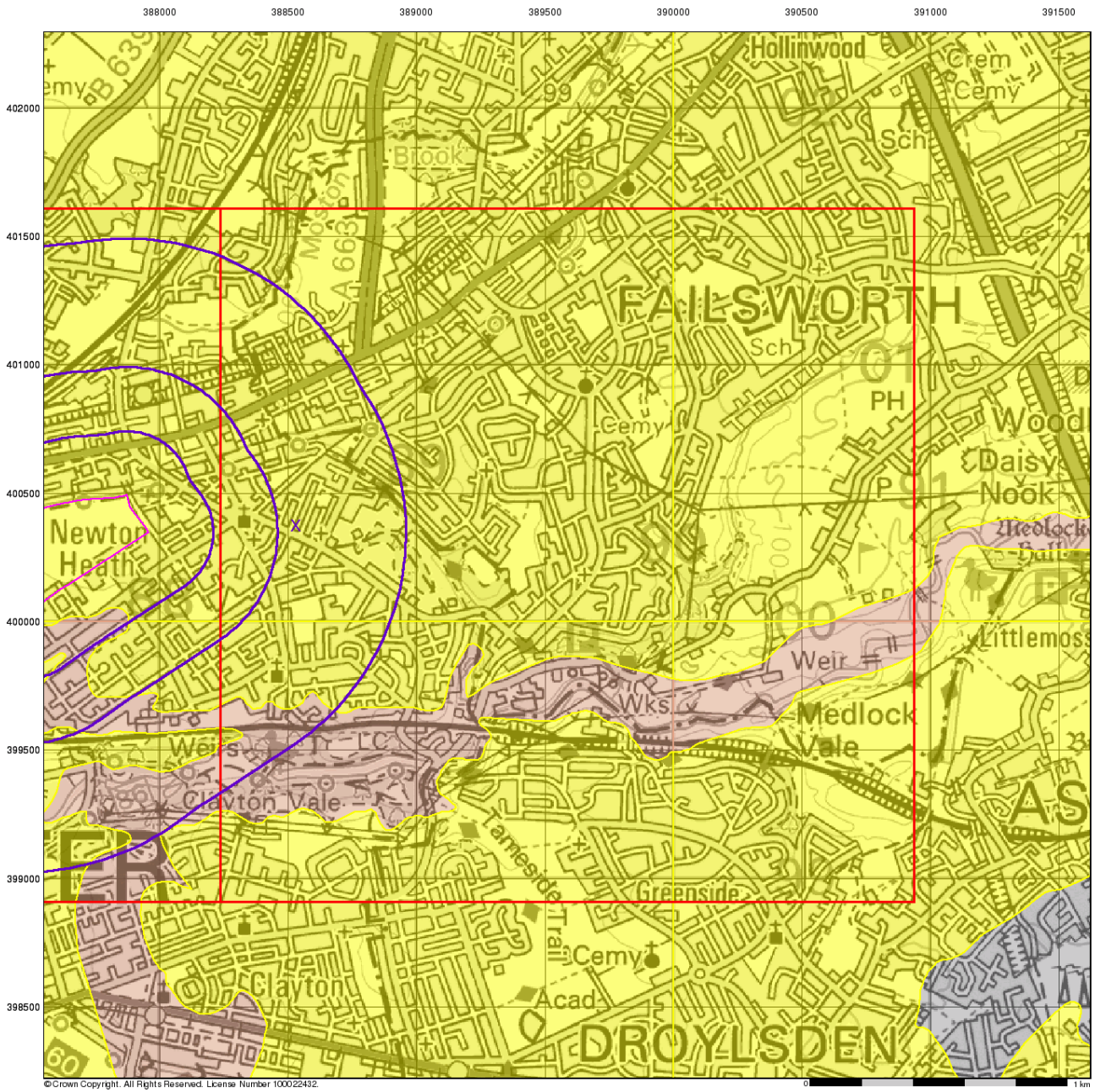


Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310



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Superficial Aquifer Designation

General

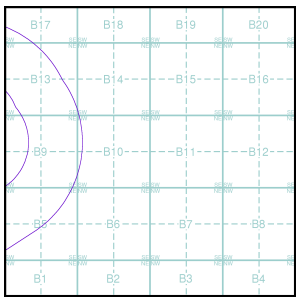
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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 B



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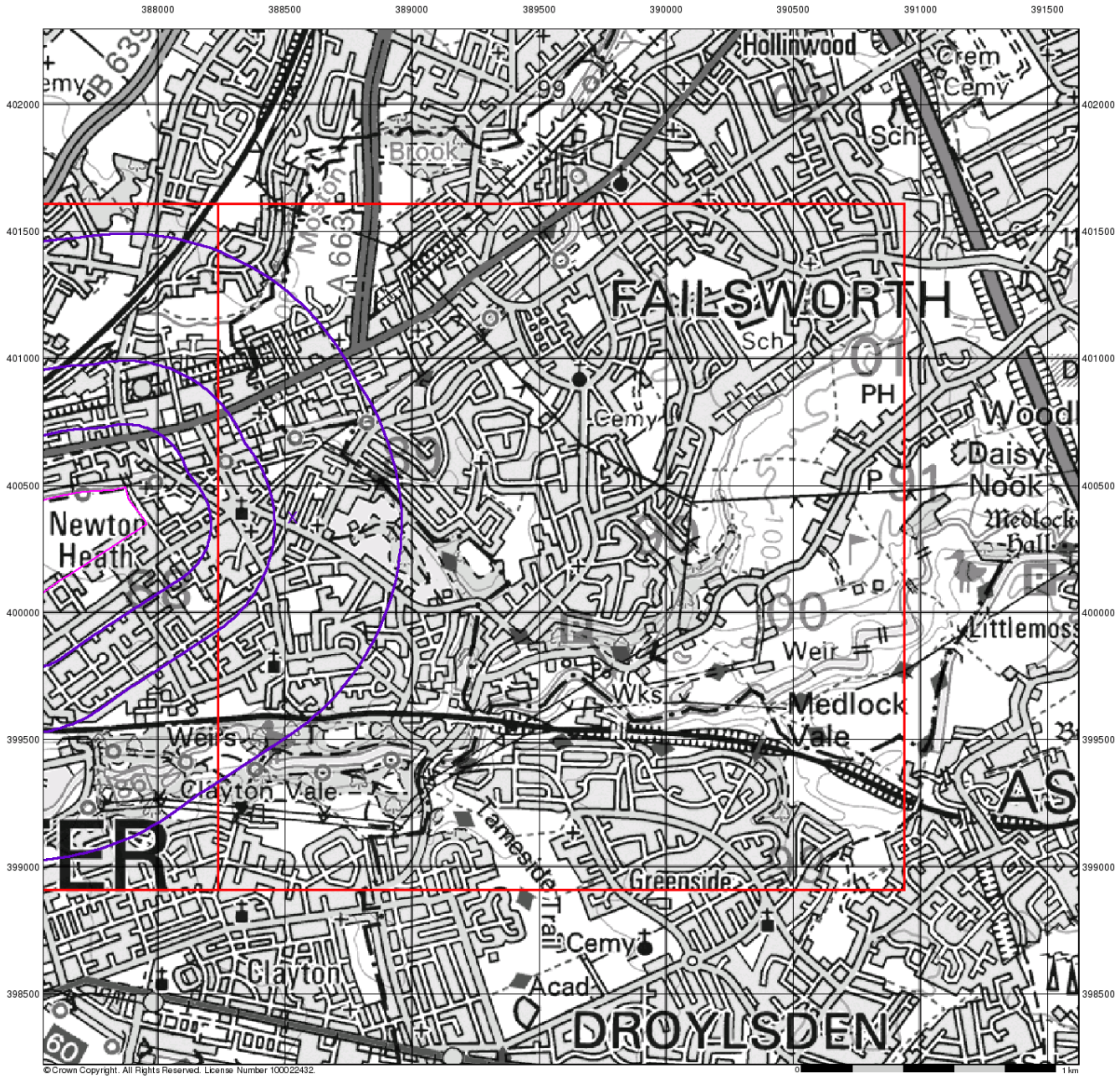
Site Details

Site at 387600, 400310



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Source Protection Zones

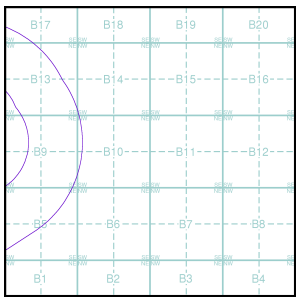
General

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 B



Order Details

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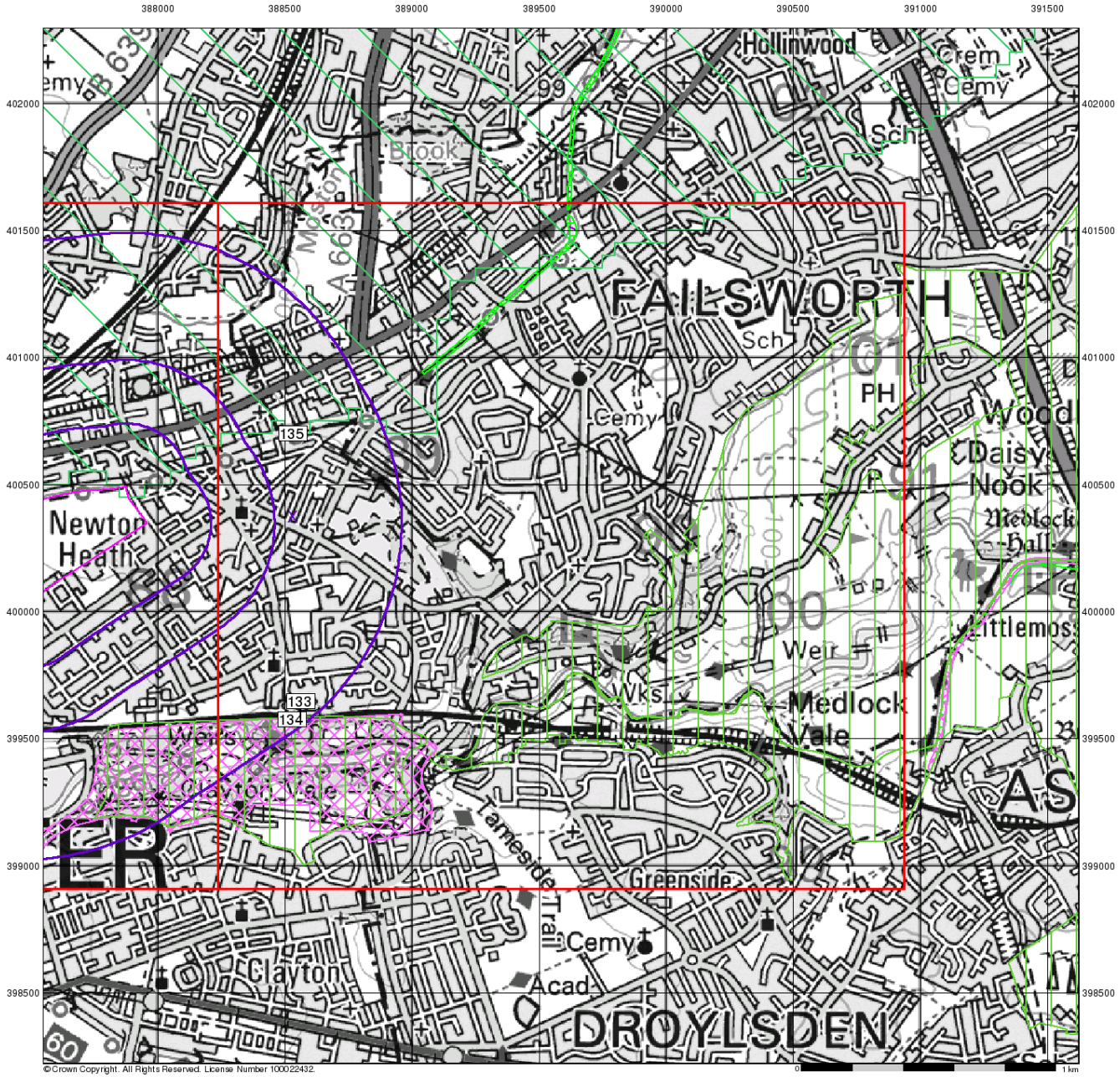
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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Sensitive Land Uses

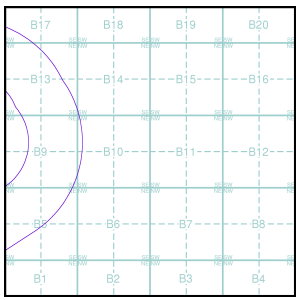
General

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 B



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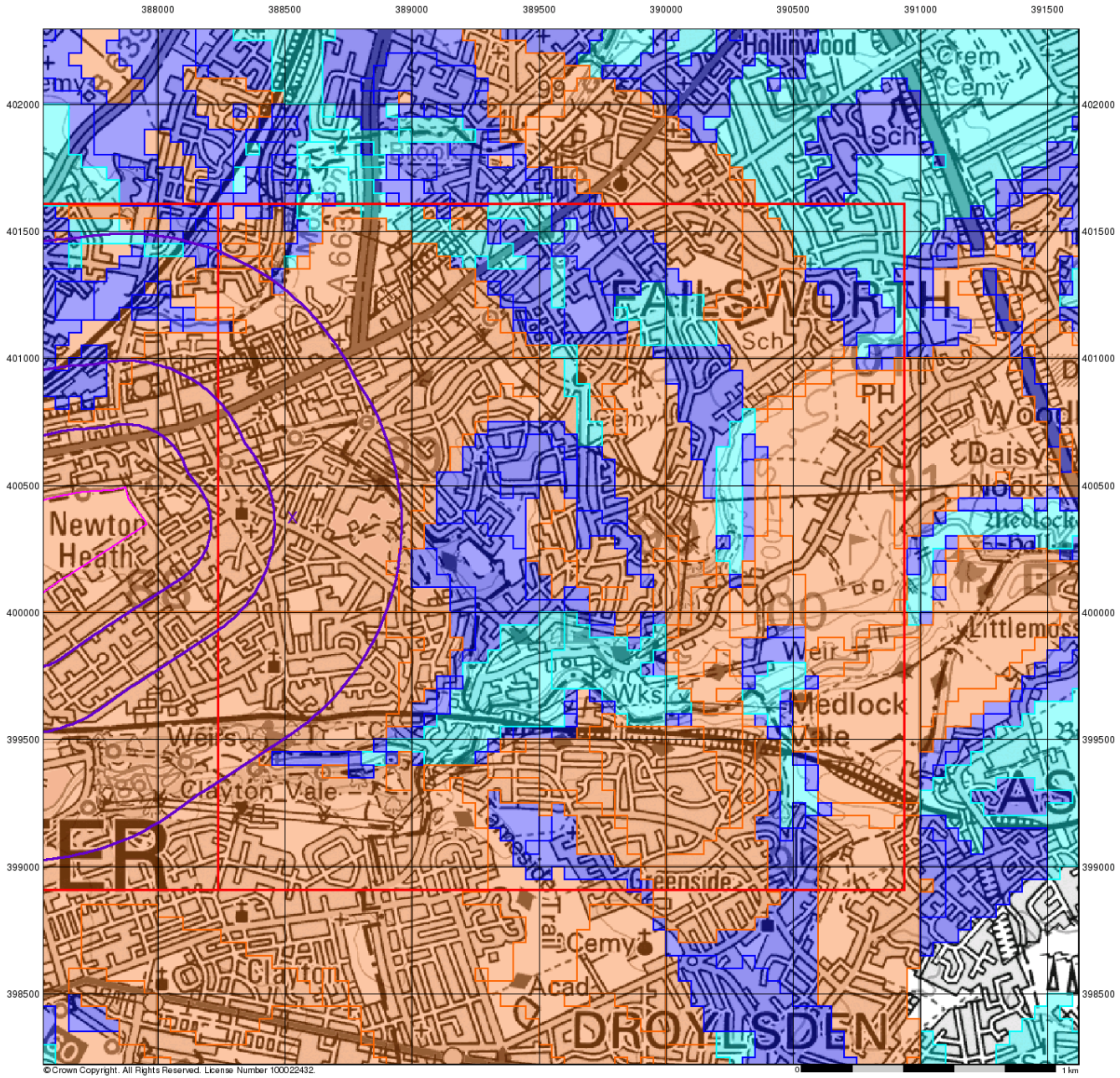
Site Details

Site at 387600, 400310



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BGS Flood GFS Data

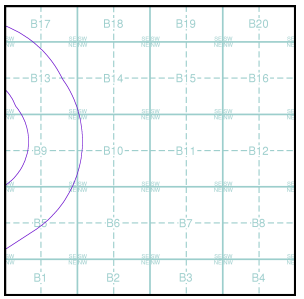
General

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 B



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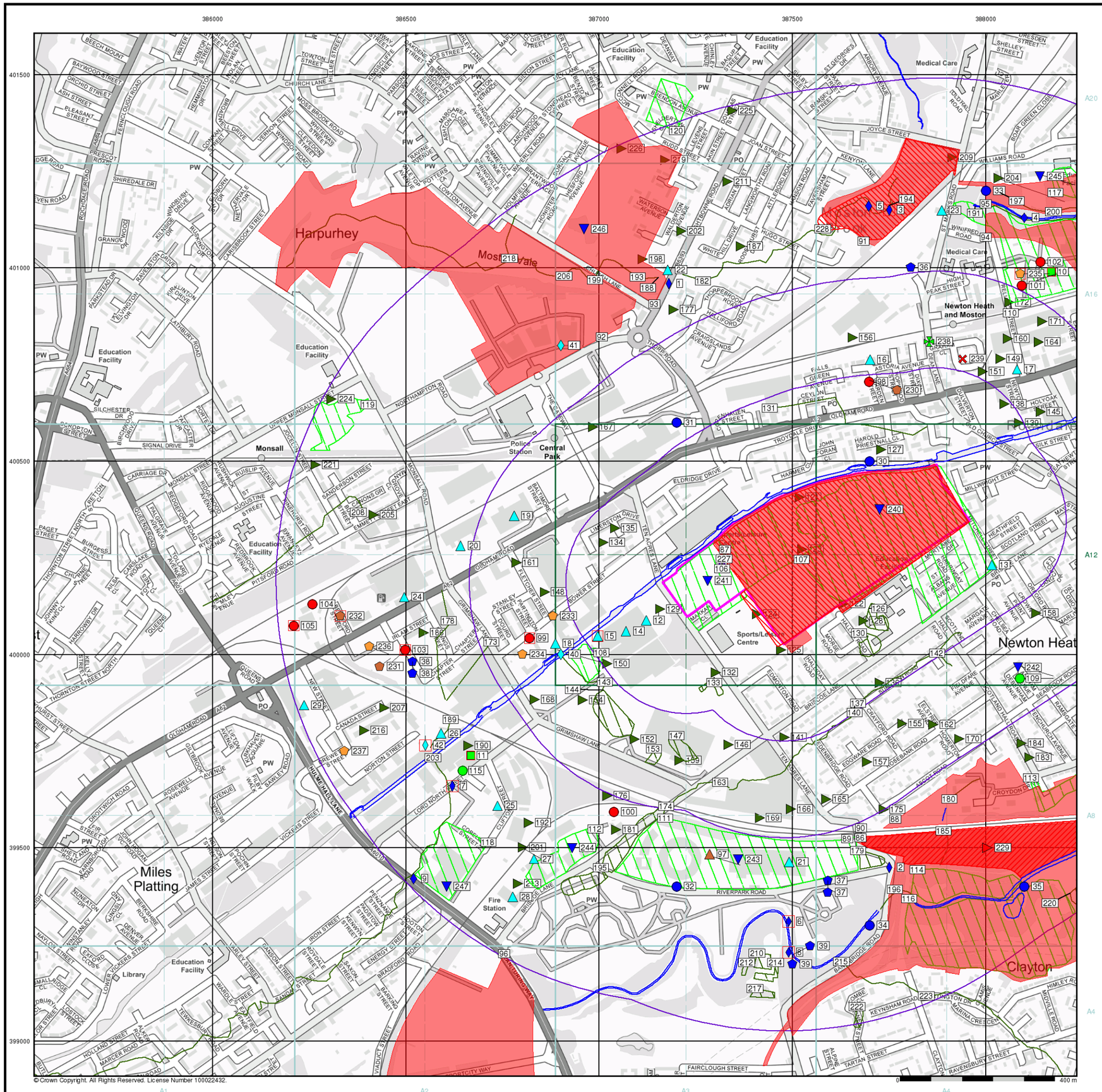
Site Details

Site at 387600, 400310



wardell armstrong

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

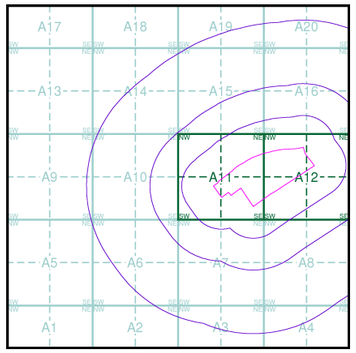
Geological

- 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



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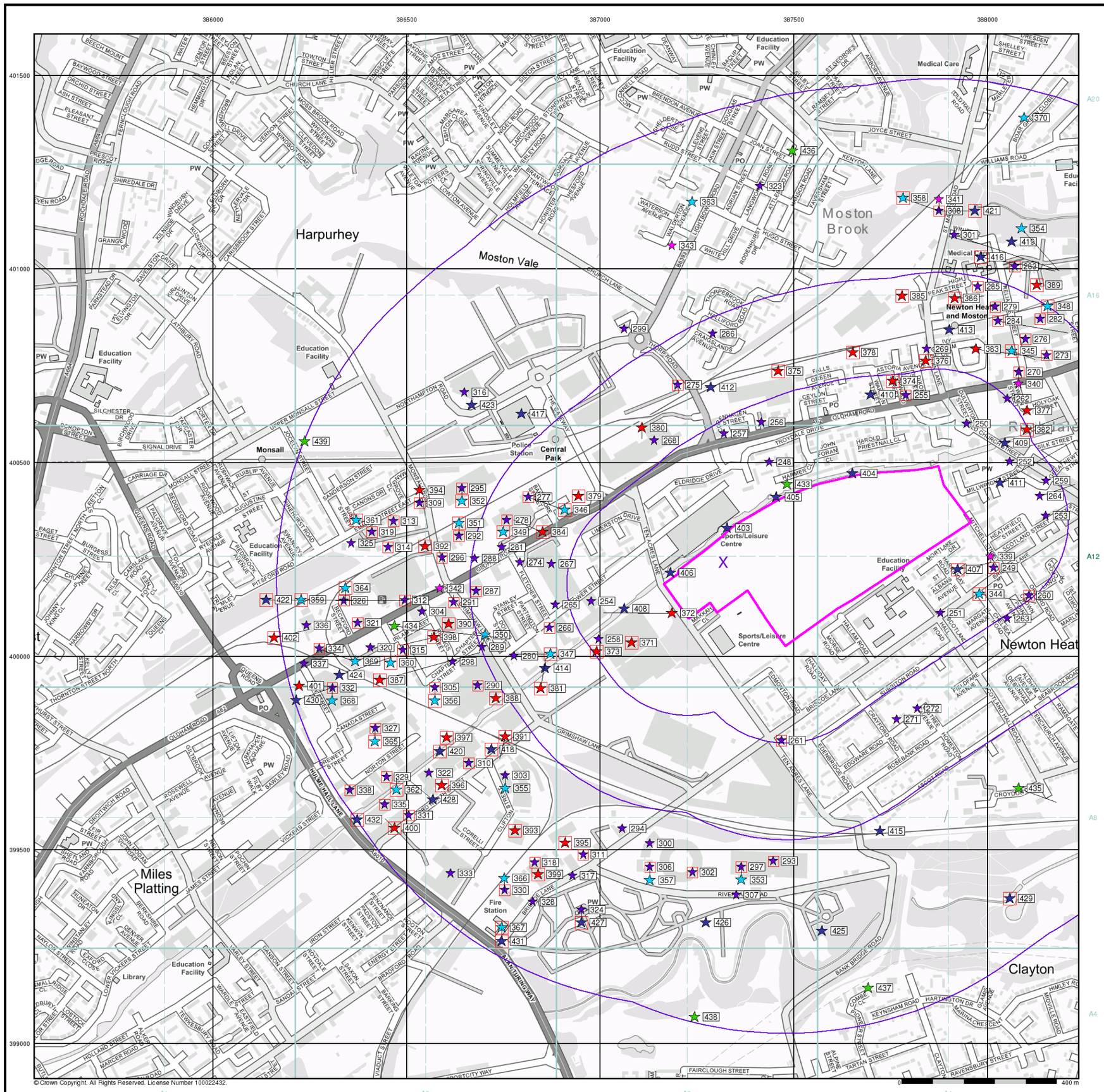
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Industrial Land Use Map

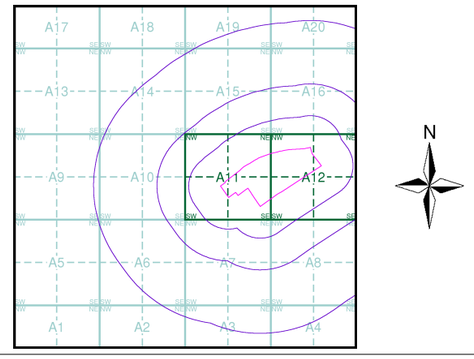
General

- 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



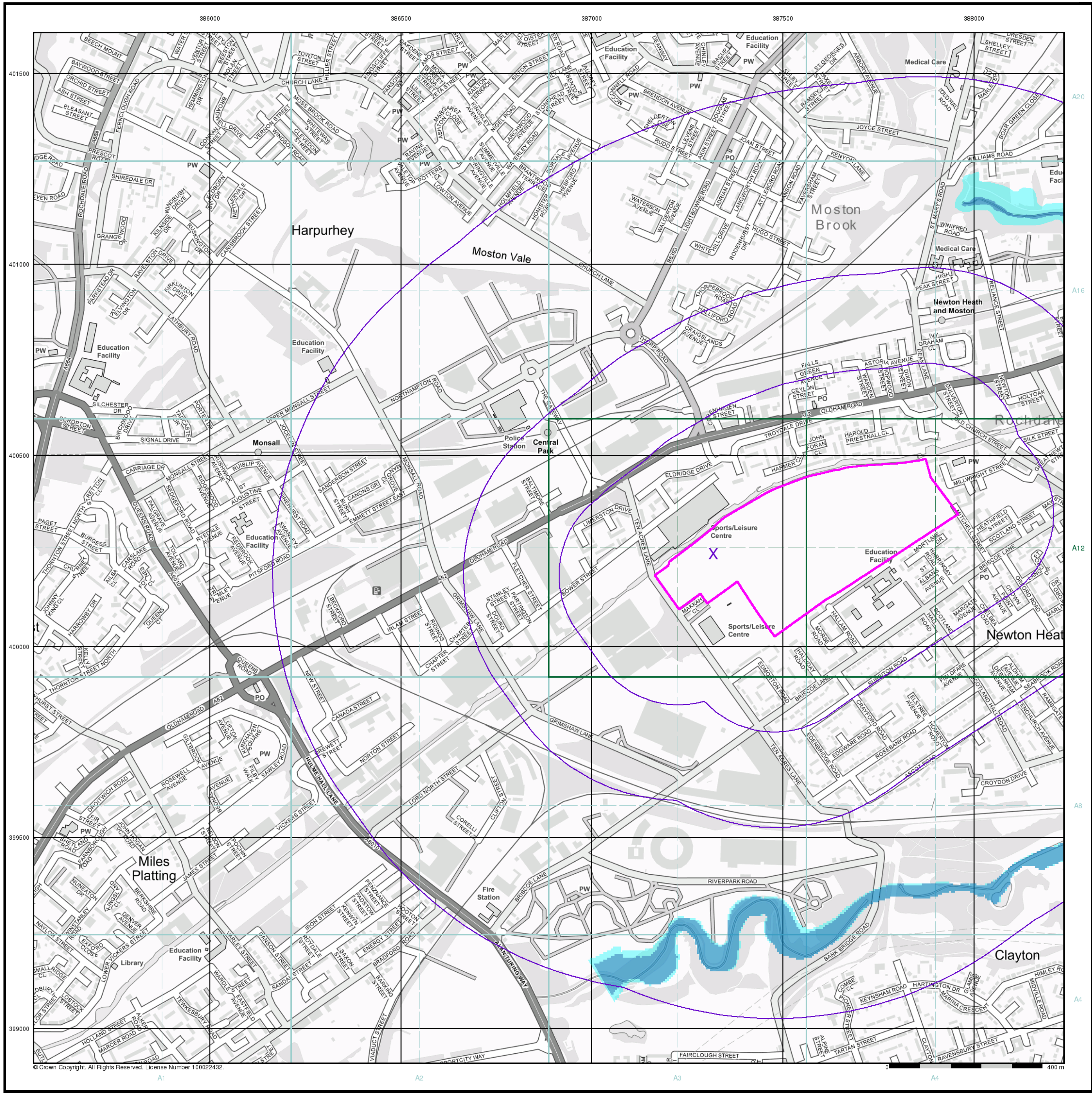
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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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)

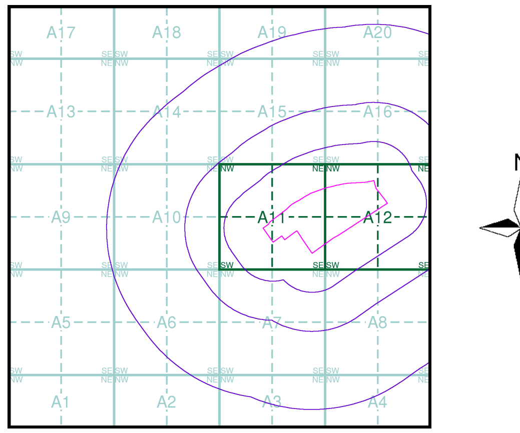
Flooding from Rivers or Sea without Defences (Zone 3)

Area Benefiting from Flood Defence

Flood Water Storage Areas

Flood Defence

Flood Map - Slice A



Order Details

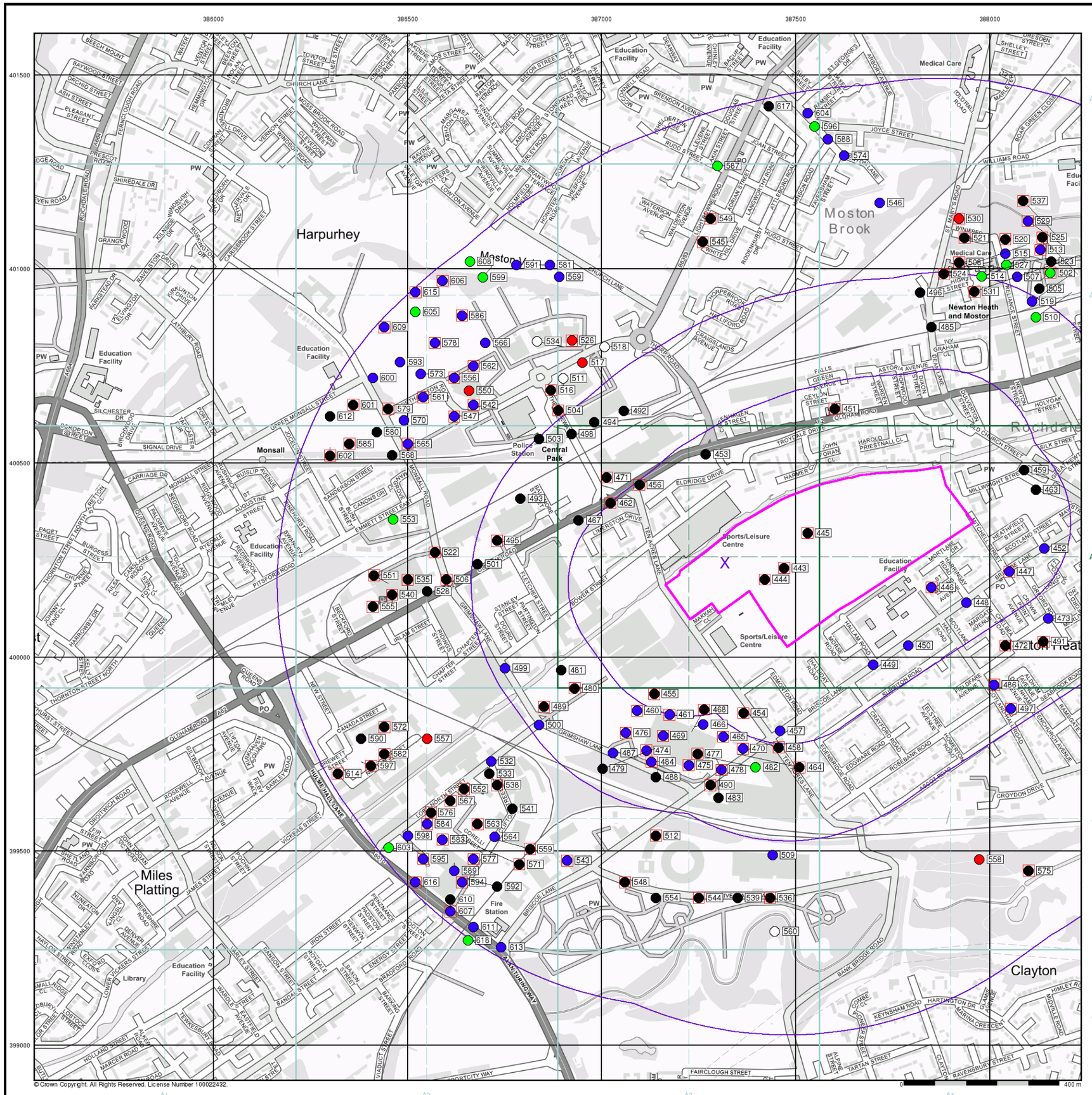
Order Number: 267713911_1_1
Customer Ref: Ten Acres
National Grid Reference: 387320, 400240
Slice: A
Site Area (Ha): 18.51
Search Buffer (m): 1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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



General

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

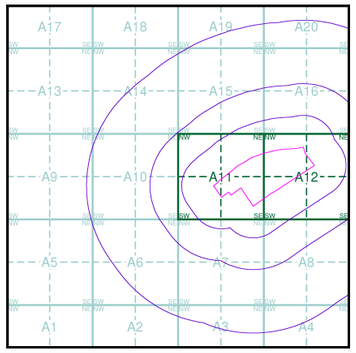
Agency and Hydrological (Boreholes)

- 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

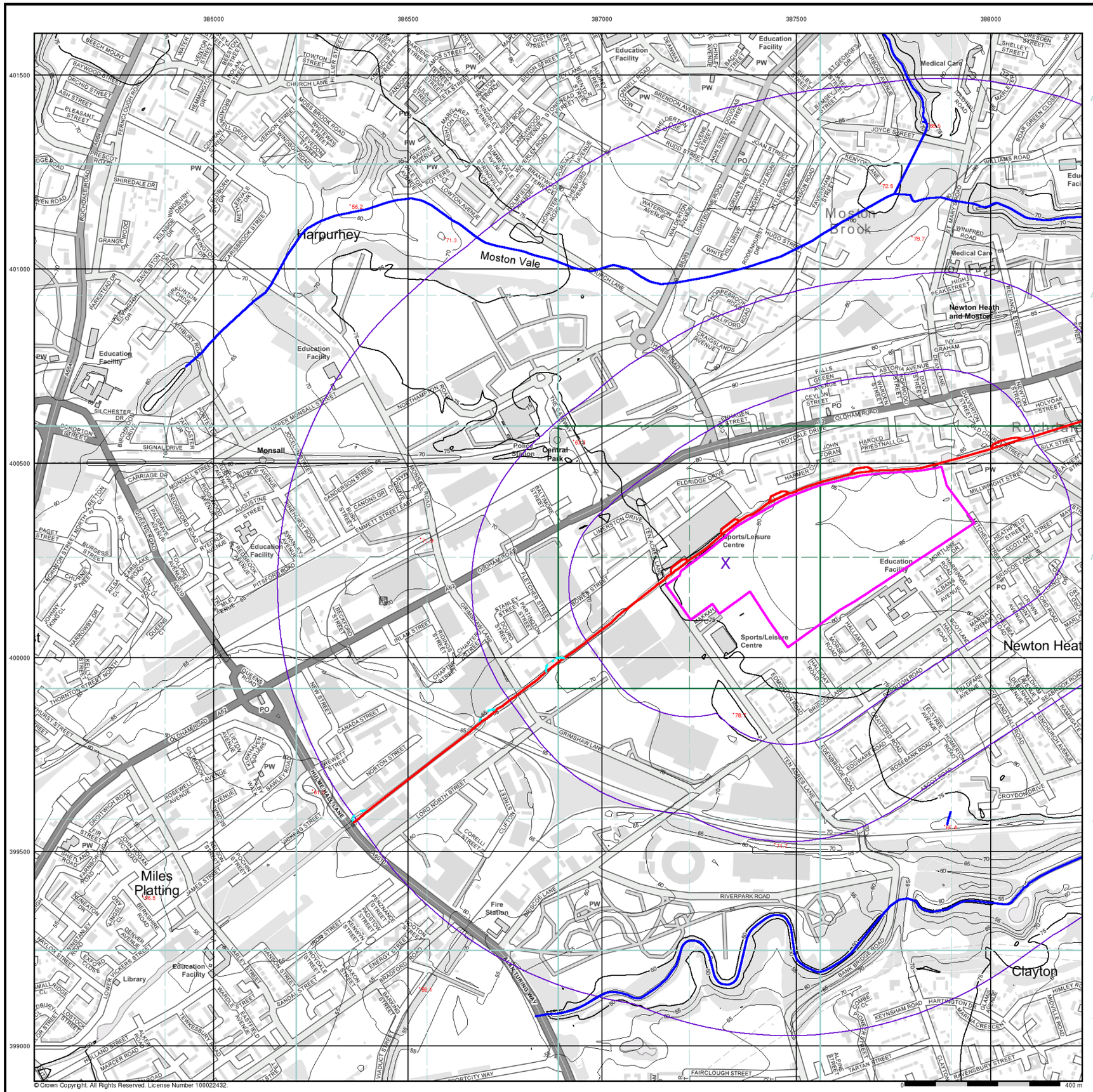


Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310



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General

- Specified Site
- Specified Buffer(s)
- X 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)

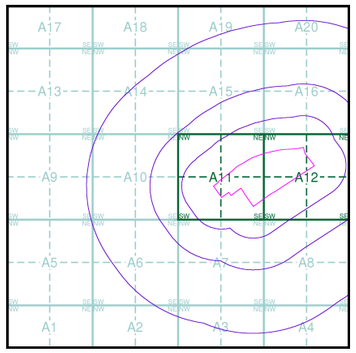
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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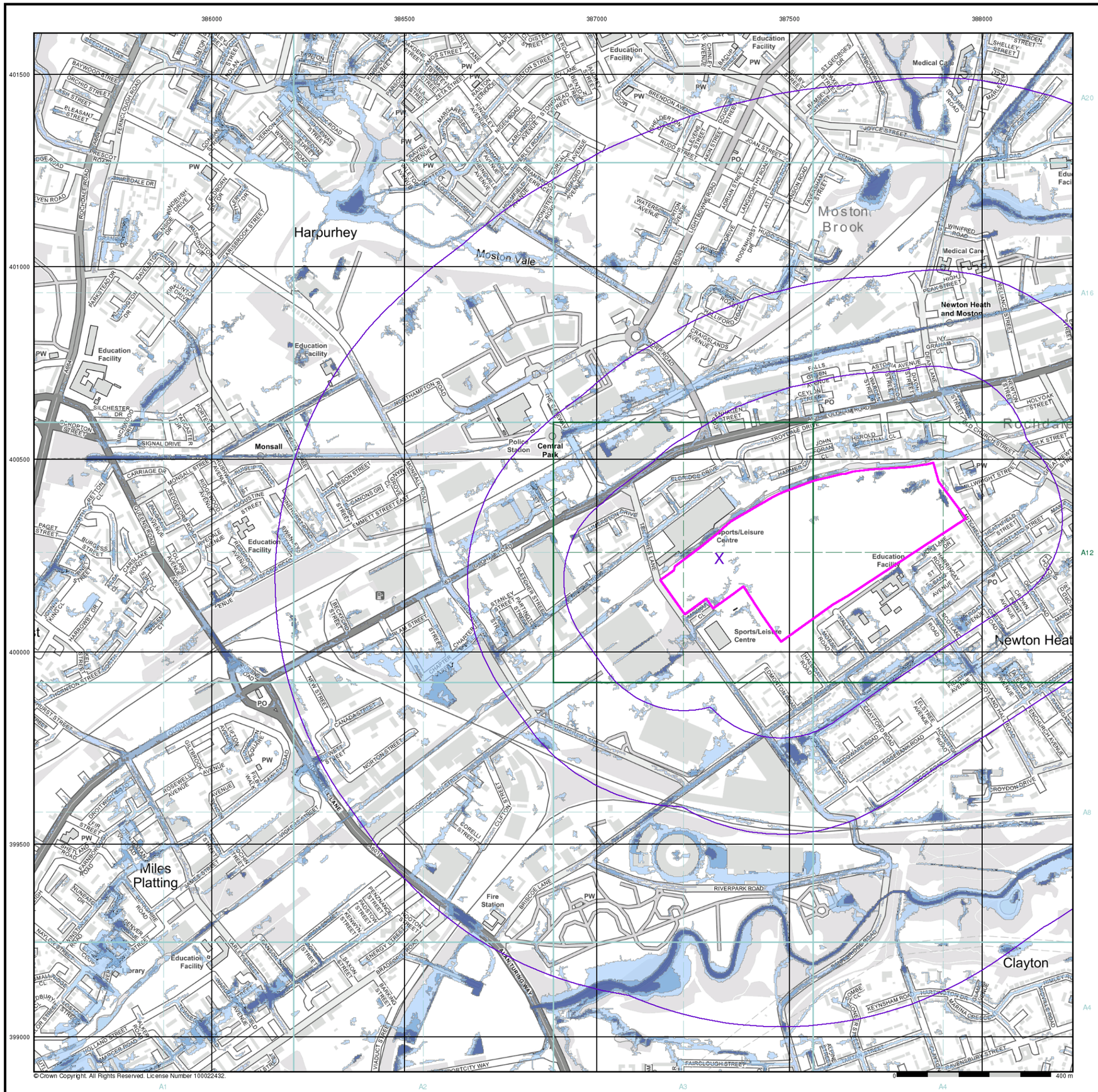
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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General

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

Risk of Flooding from Surface Water

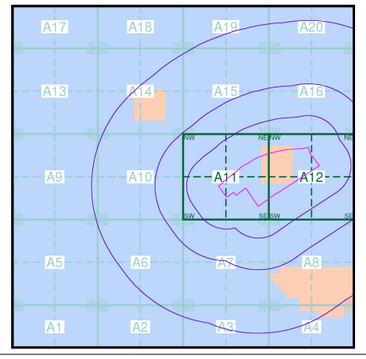
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



Order Details

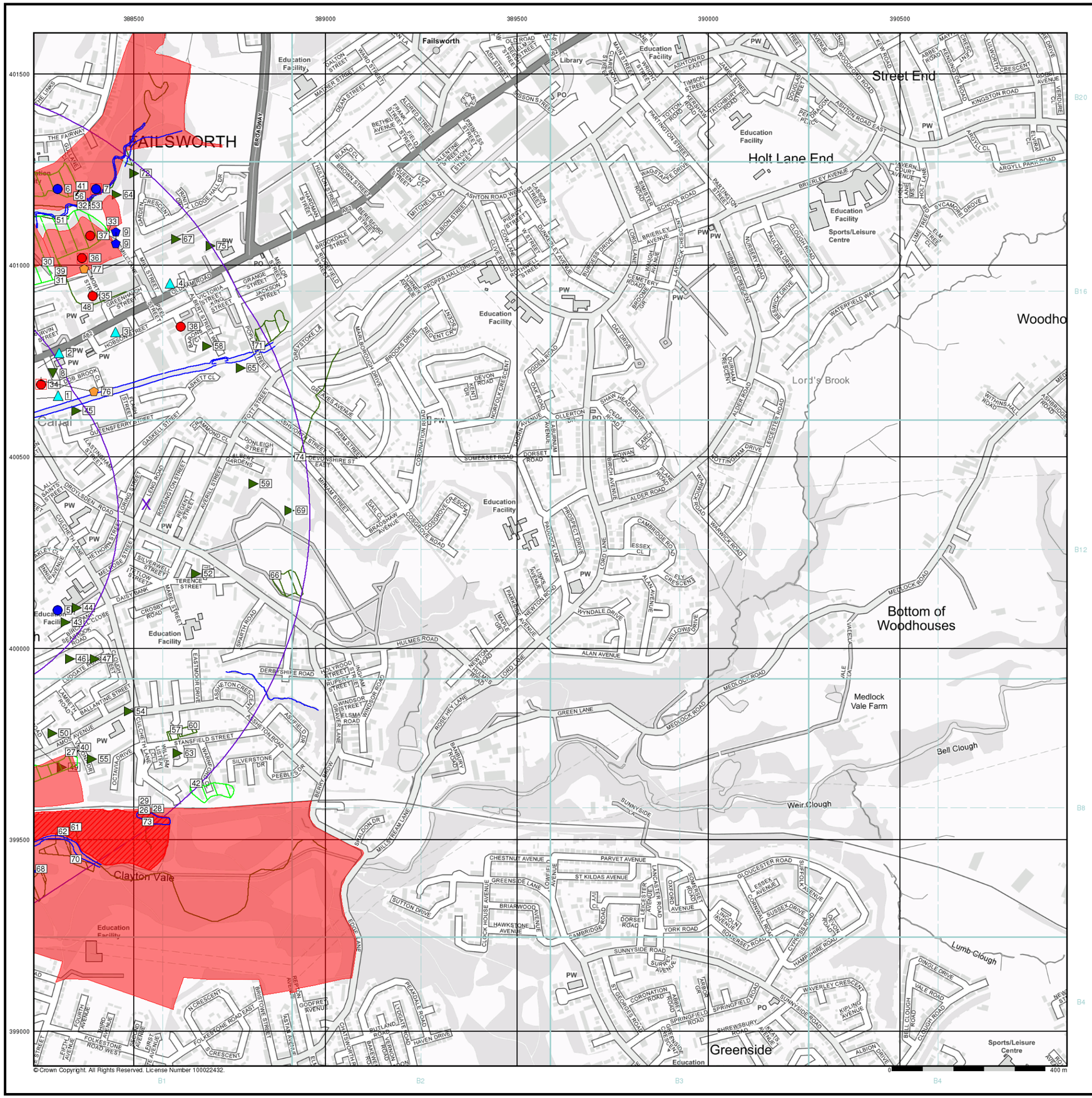
Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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



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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

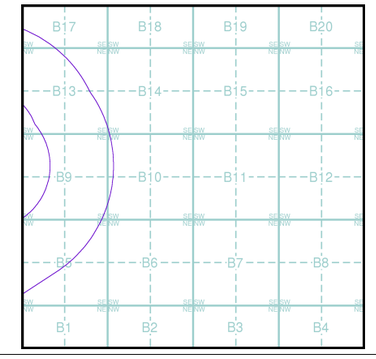
Geological

- 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 B



Order Details

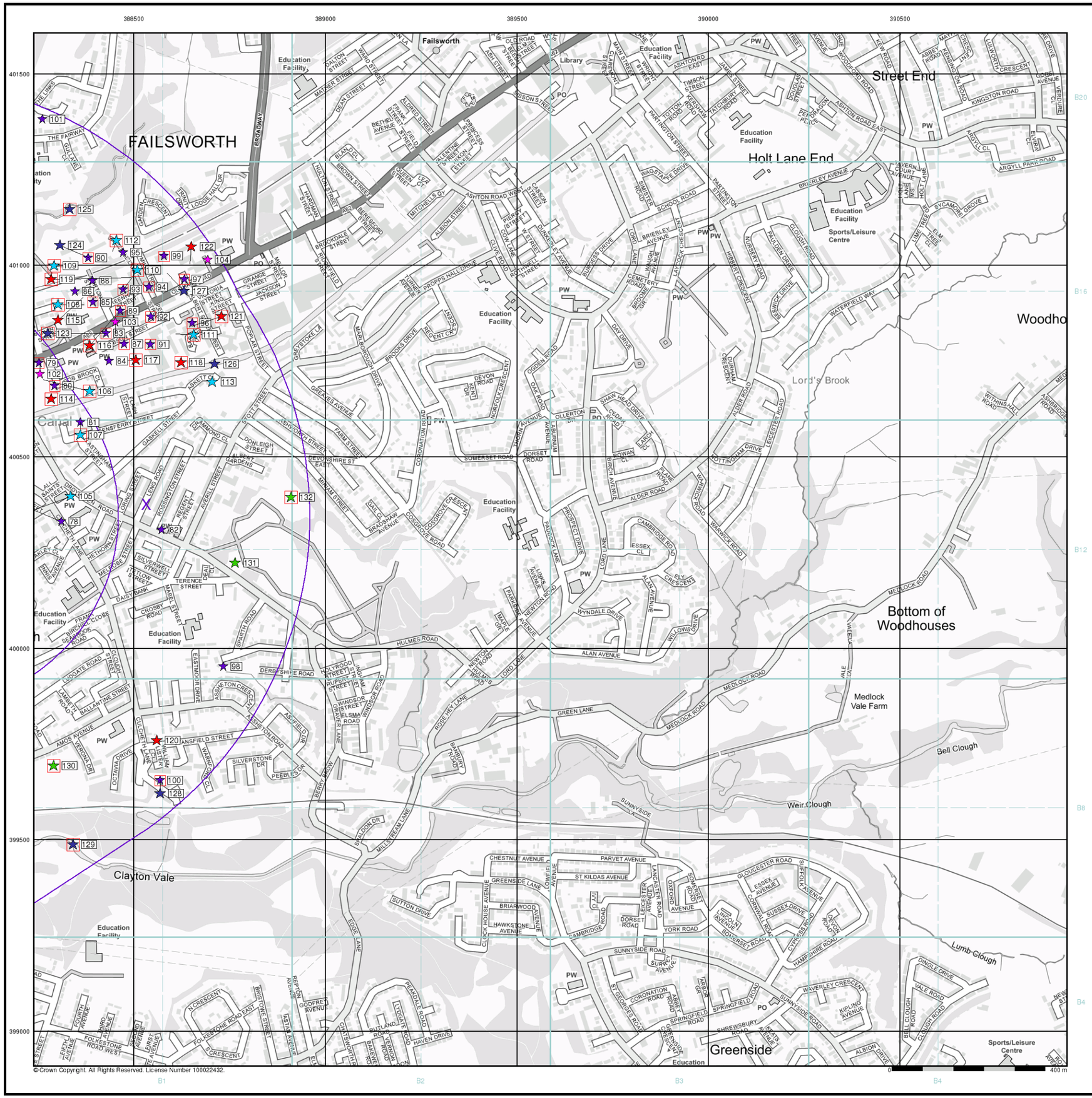
Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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



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Industrial Land Use Map

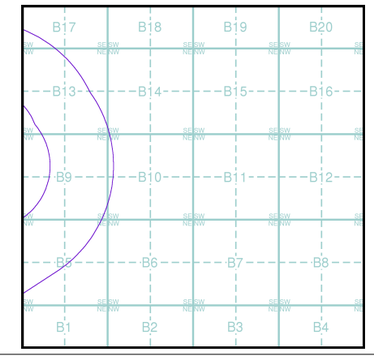
General

- 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 B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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

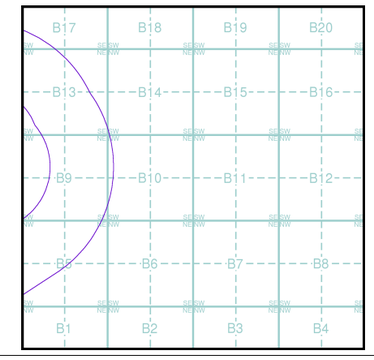
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice B



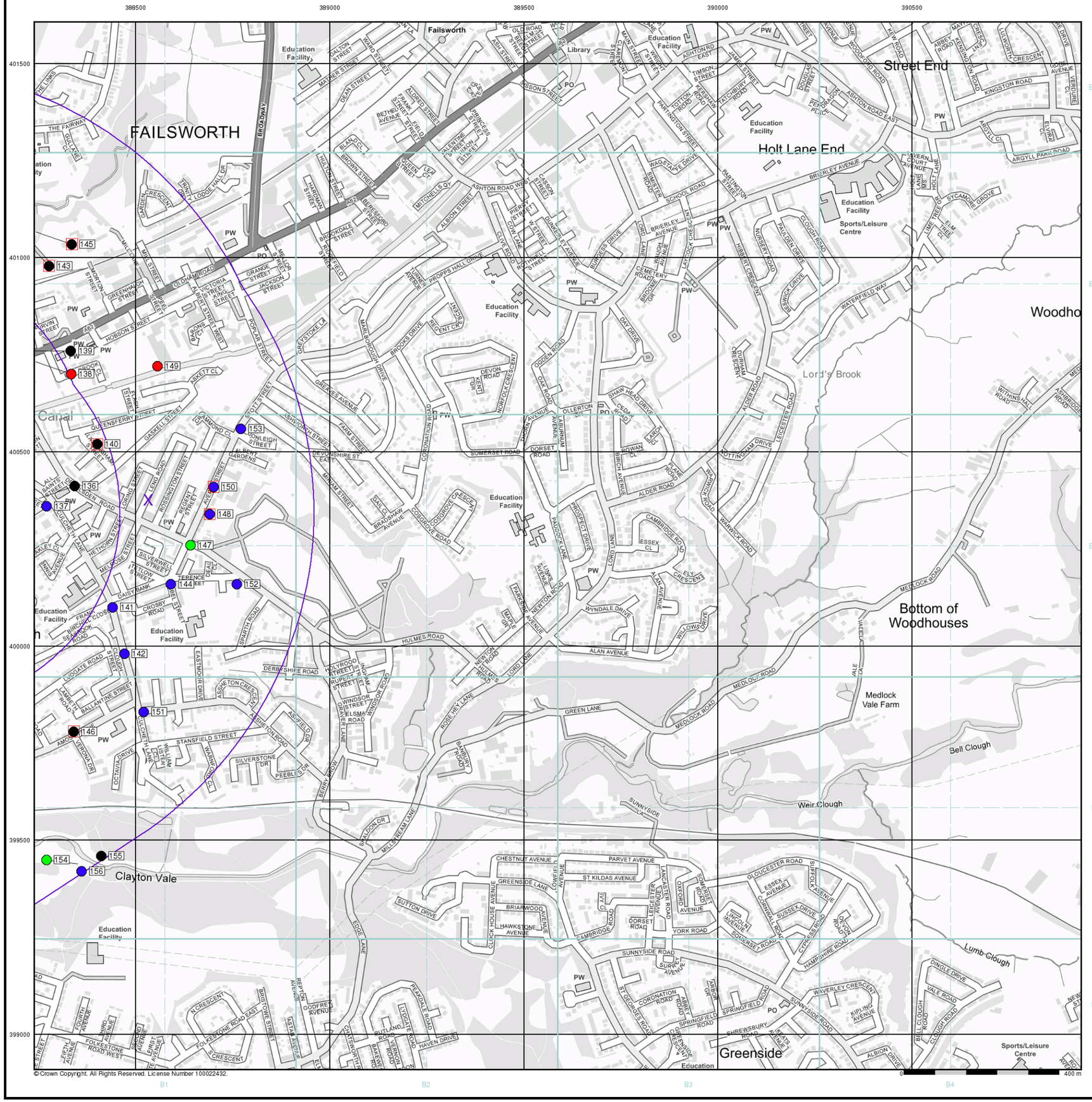
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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General

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

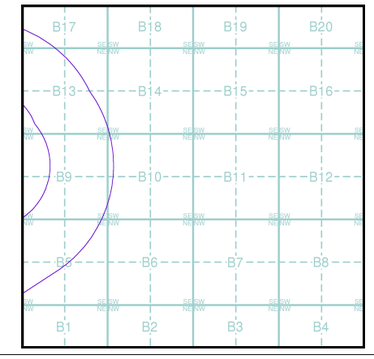
Agency and Hydrological (Boreholes)

- 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 B

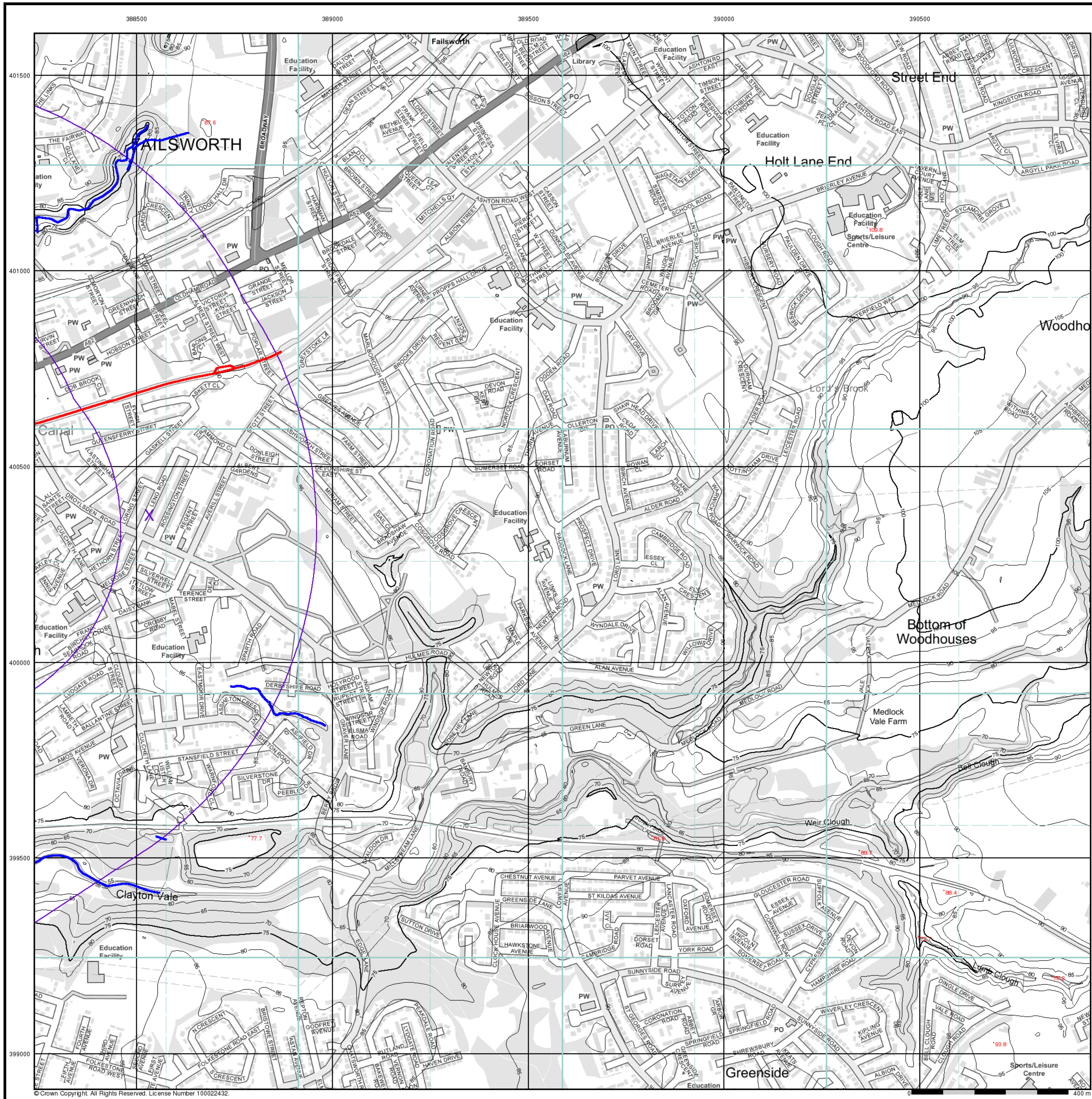


Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310



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General

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

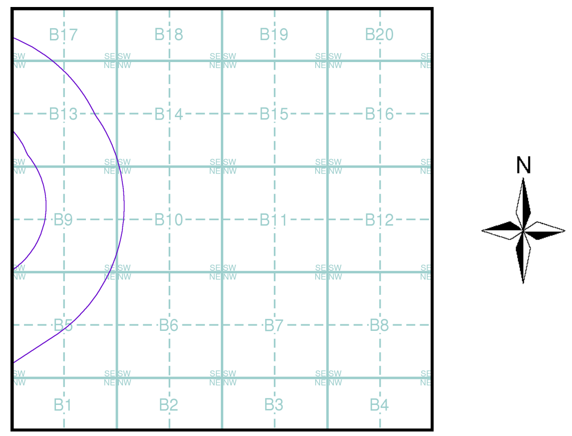
OS Water Network Data

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

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice B



Order Details

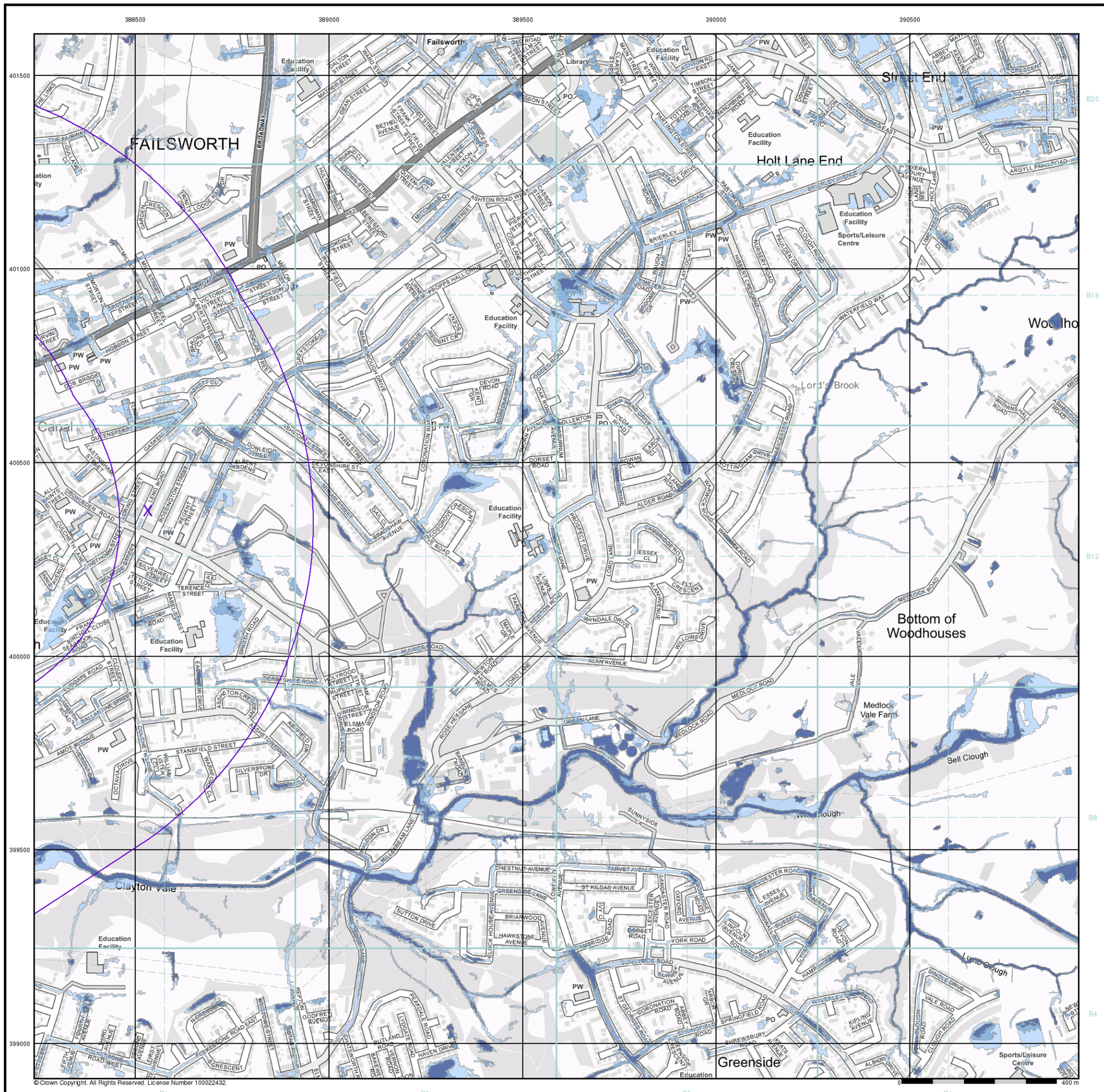
Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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



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General

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

Risk of Flooding from Surface Water

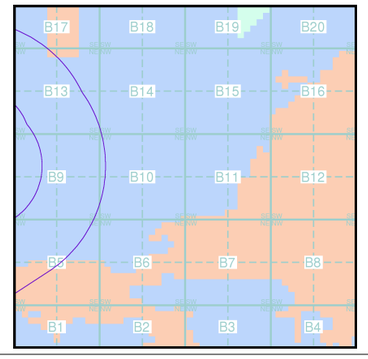
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice B



Order Details

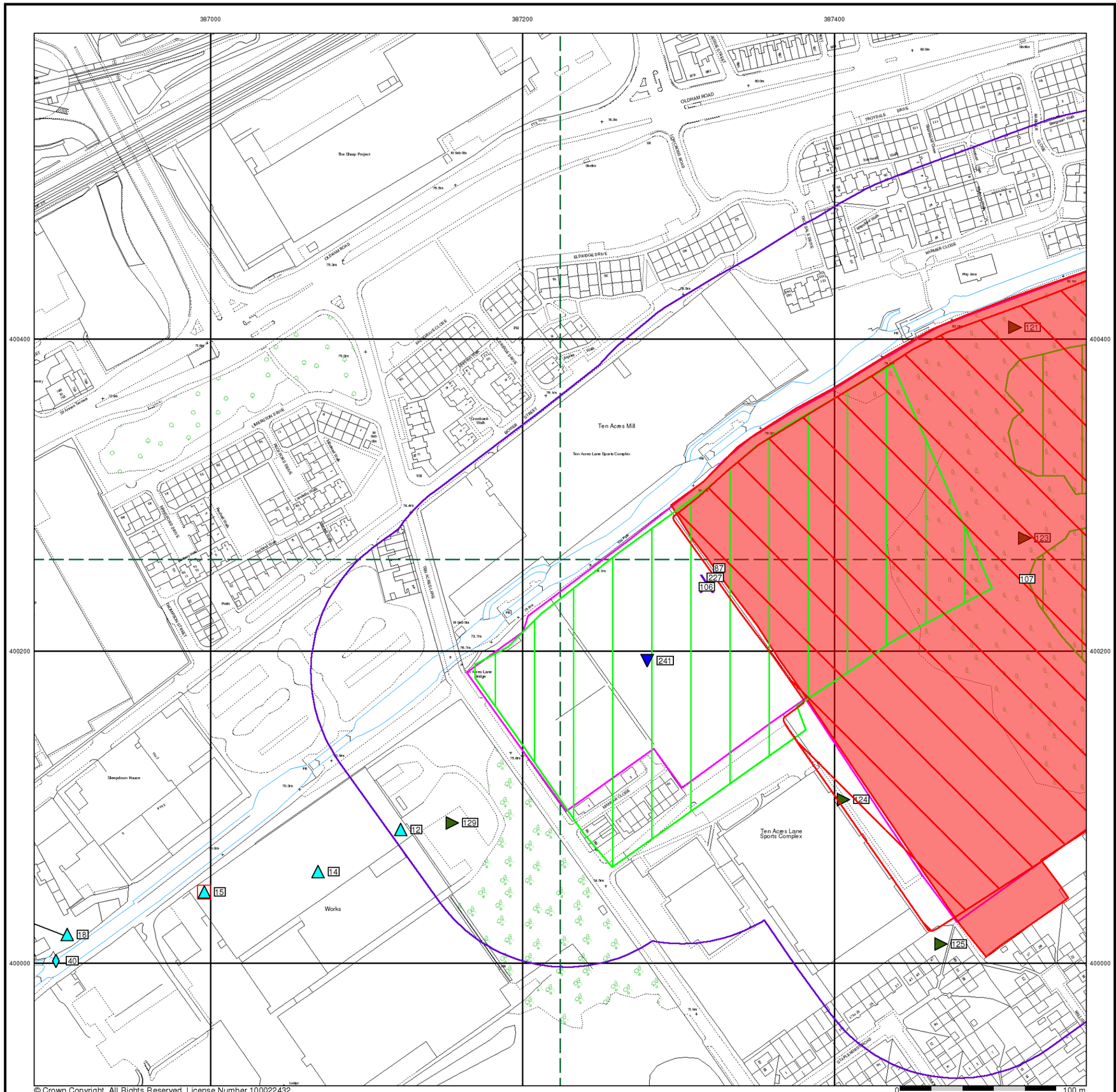
Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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



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0 100 m

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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

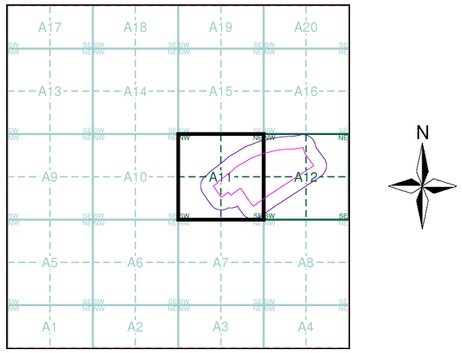
Geological

- 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 A11



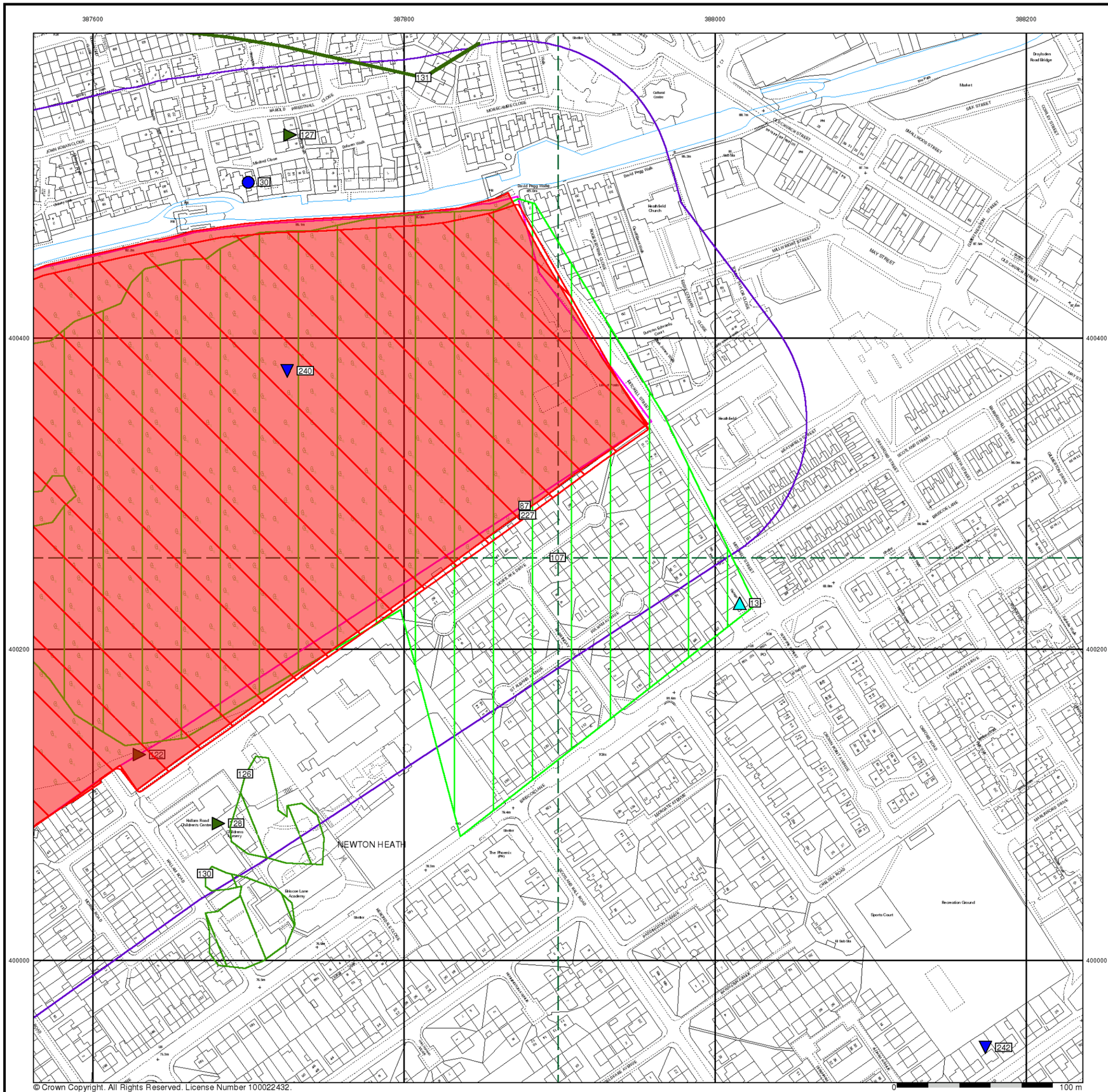
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Plot Buffer (m):	100

Site Details

Site at 387600, 400310

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



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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

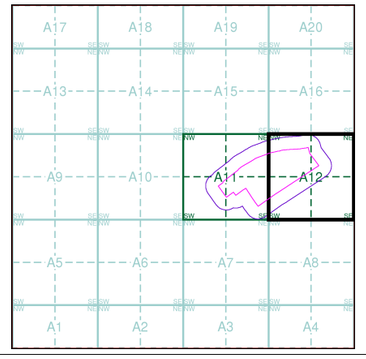
Geological

- 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 A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Plot Buffer (m):	100

Site Details

Site at 387600, 400310

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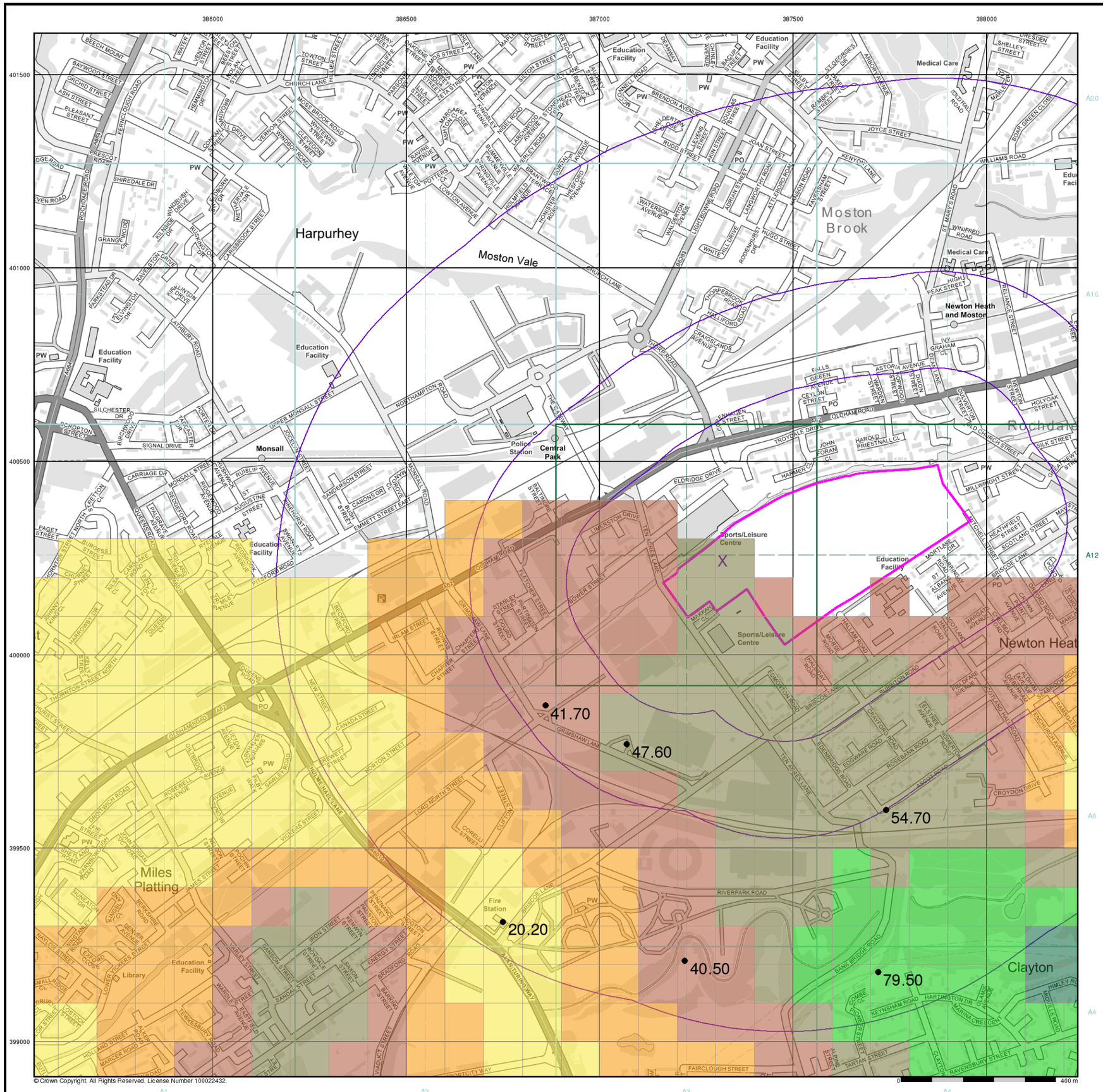

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General

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

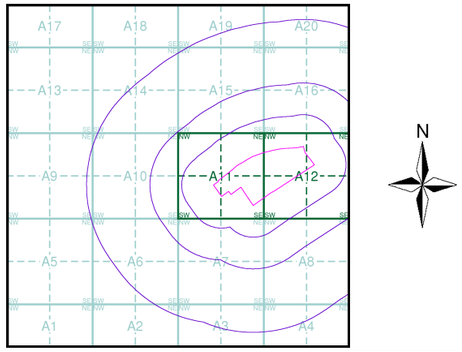
Urban Soil Chemistry Arsenic

● 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:	Ten Acres
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Search buffer (m):	1000

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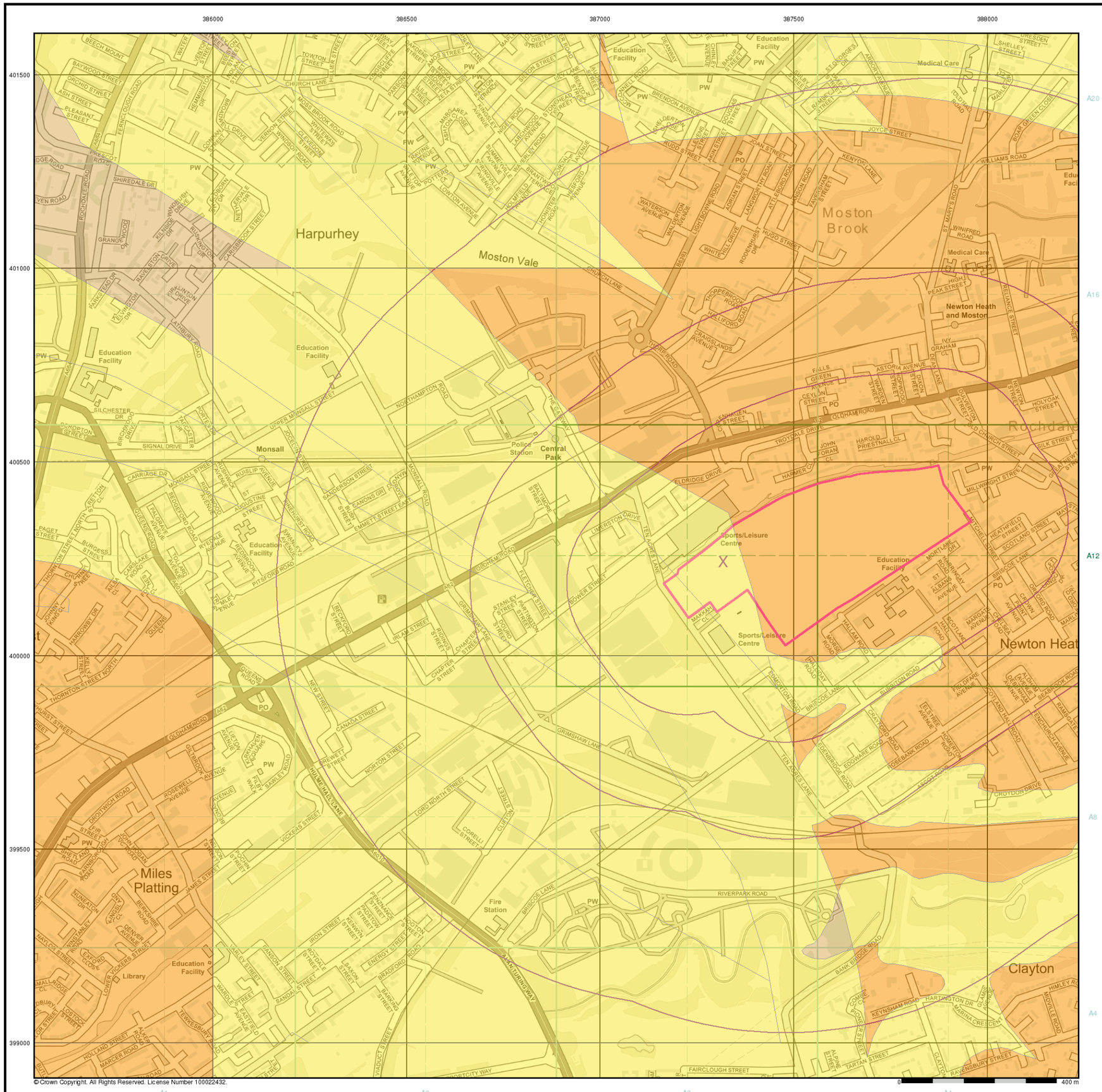

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General

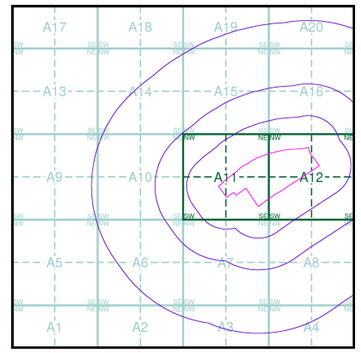
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

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

Estimated Soil Chemistry Arsenic - Slice A



Order Details

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Site Details

Site at 387600, 400310

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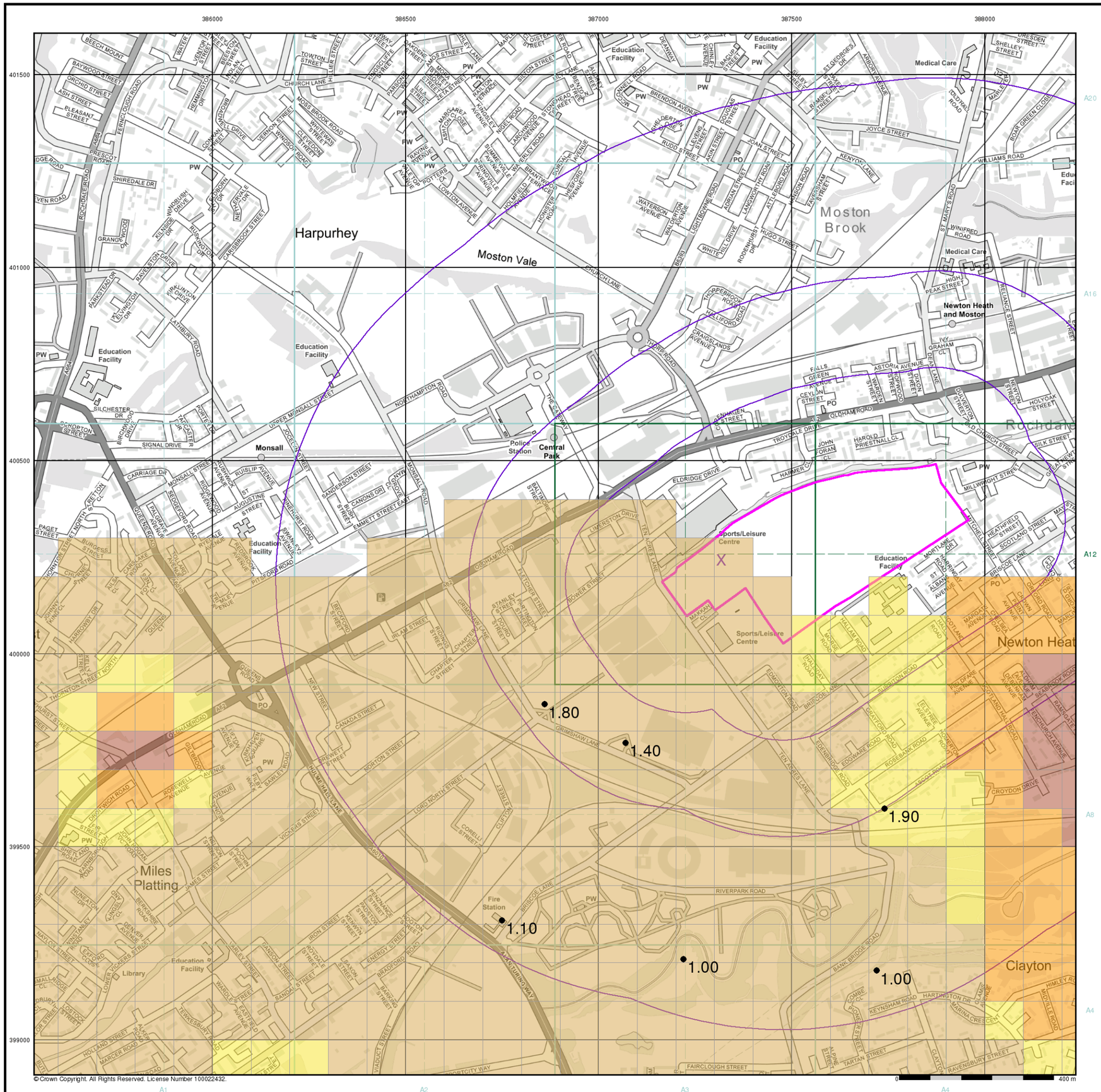

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General

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

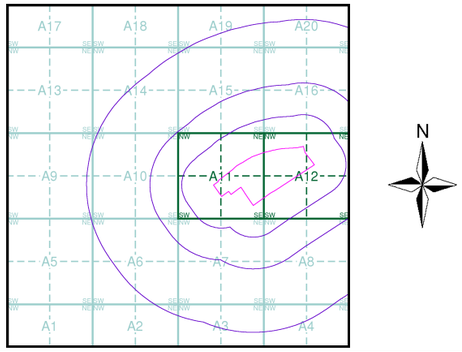
Urban Soil Chemistry Cadmium

● 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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Site Details

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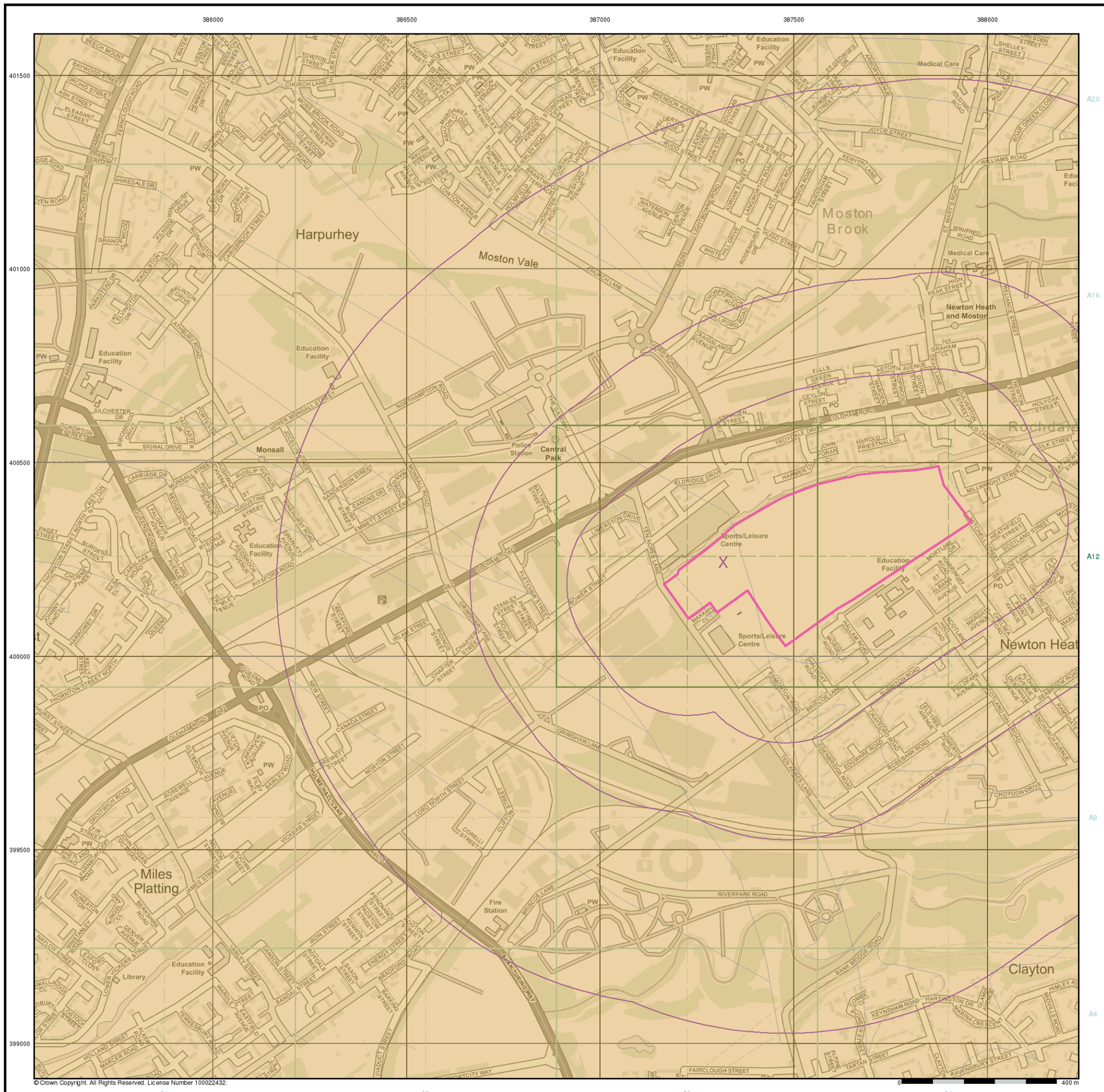

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General

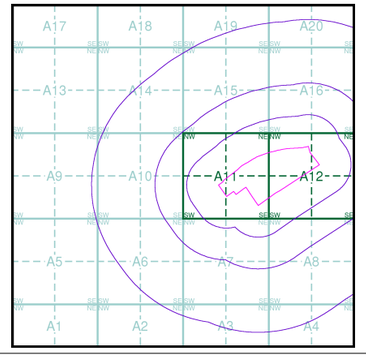
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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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Site at 387600, 400310

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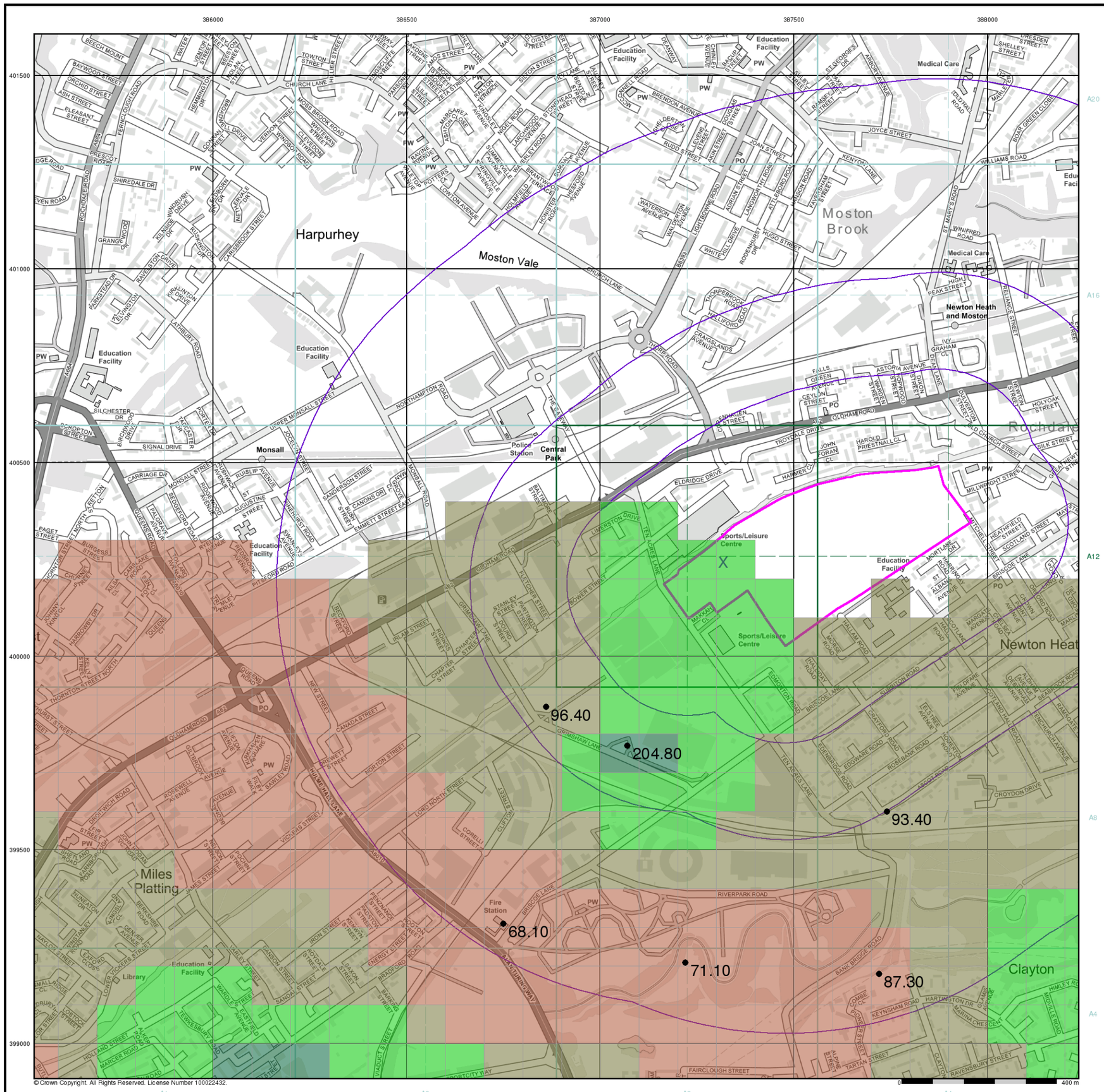

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General

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

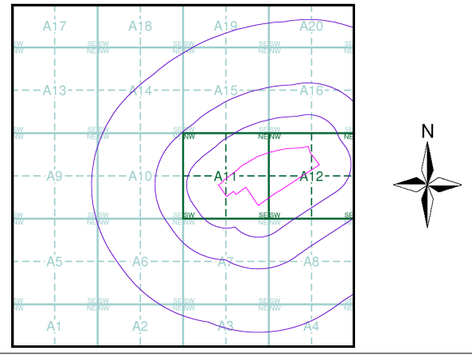
Urban Soil Chemistry Chromium

● 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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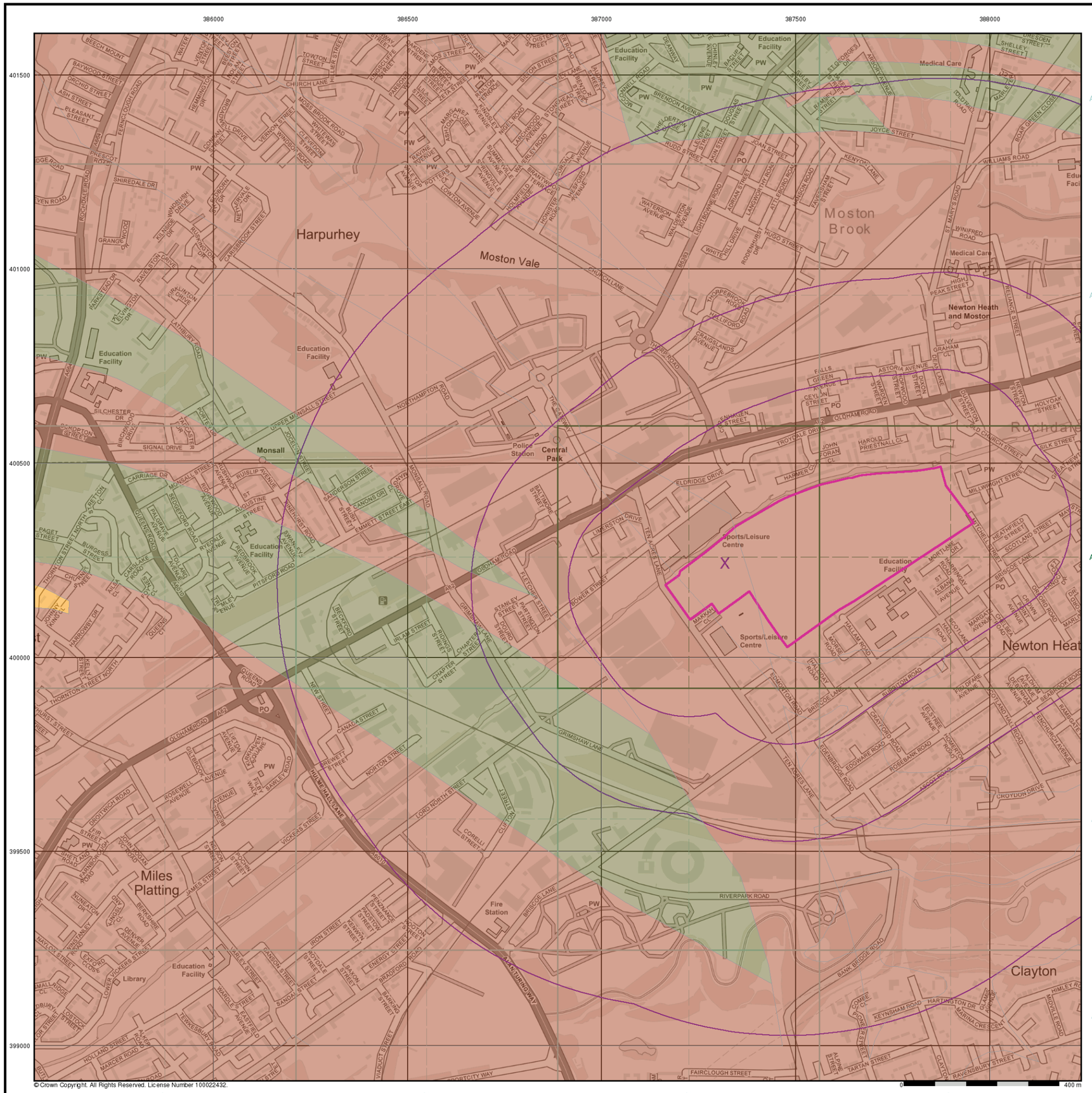

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General

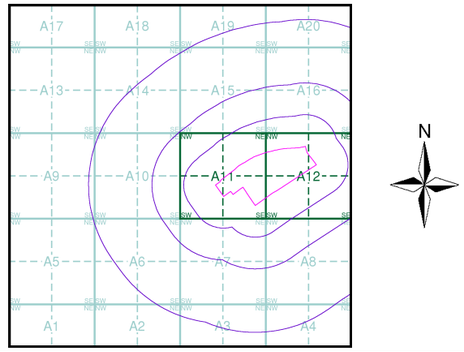
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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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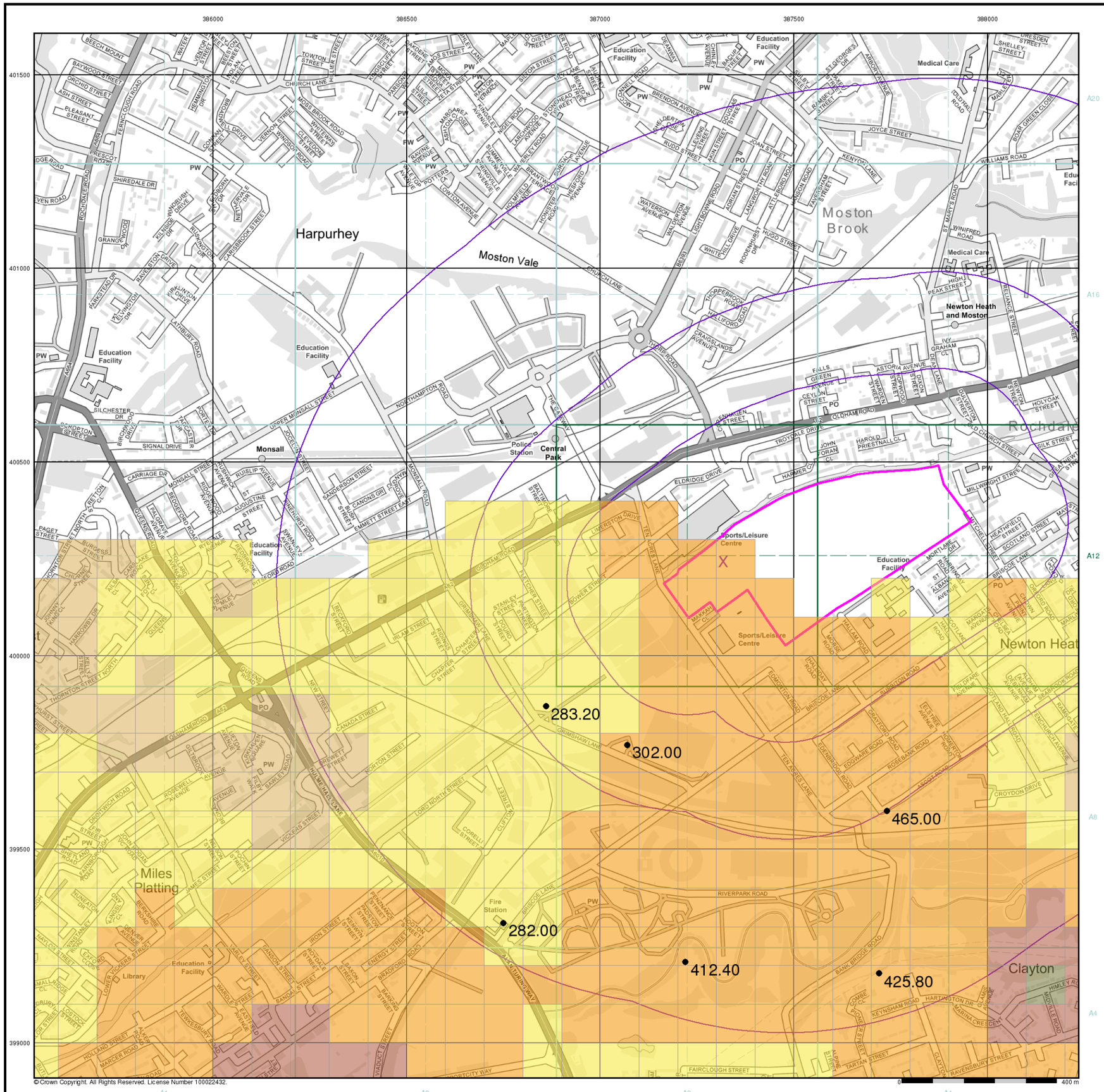

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General

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

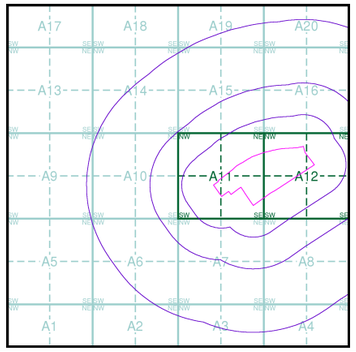
Urban Soil Chemistry Lead

● 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



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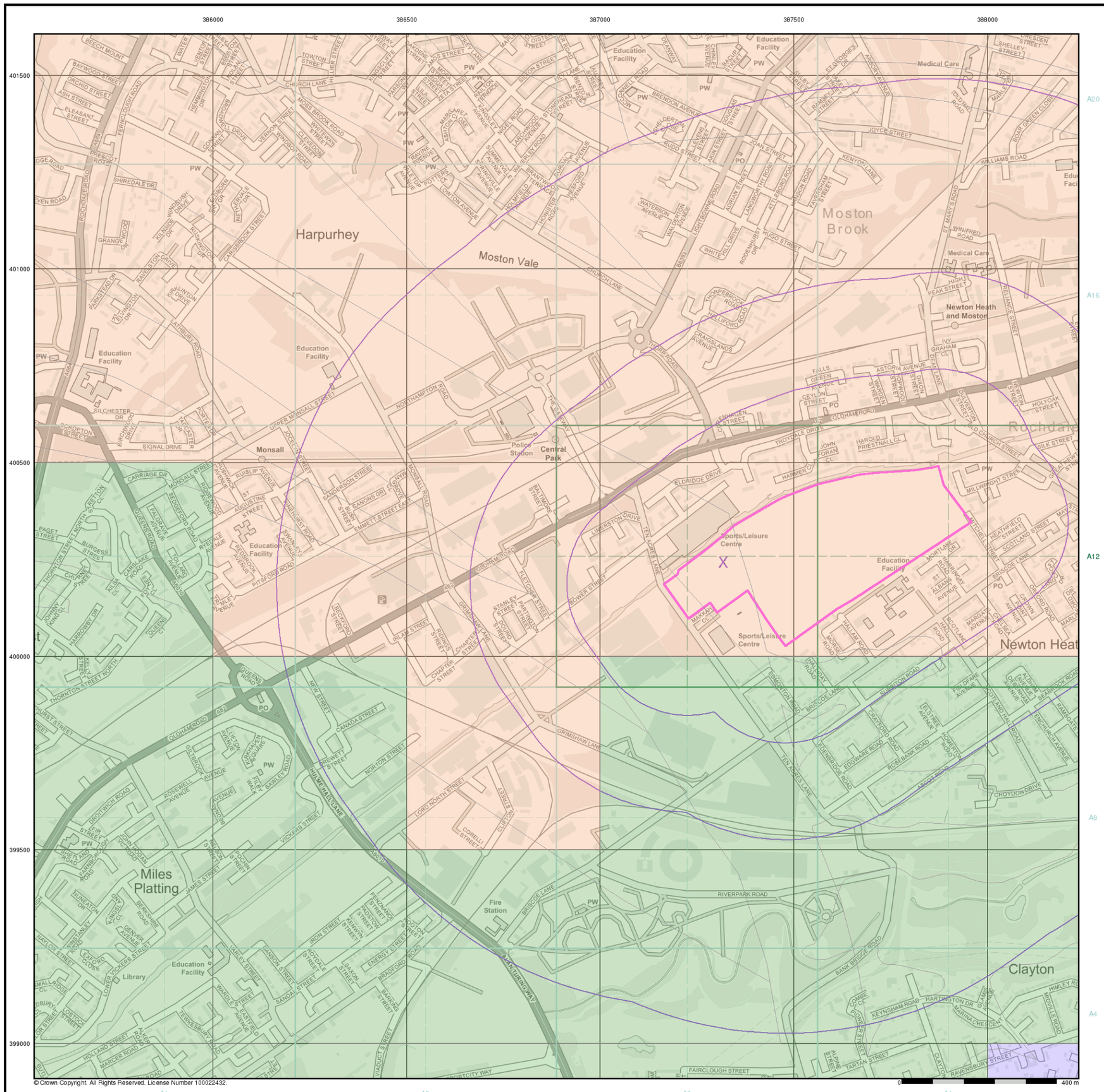

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General

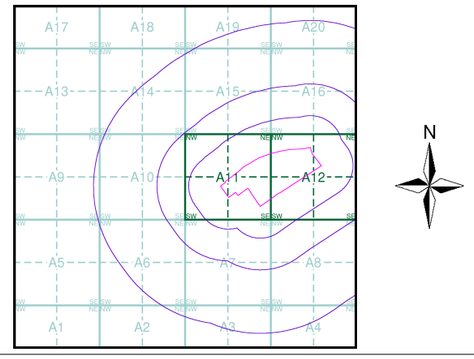
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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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Site Details

Site at 387600, 400310

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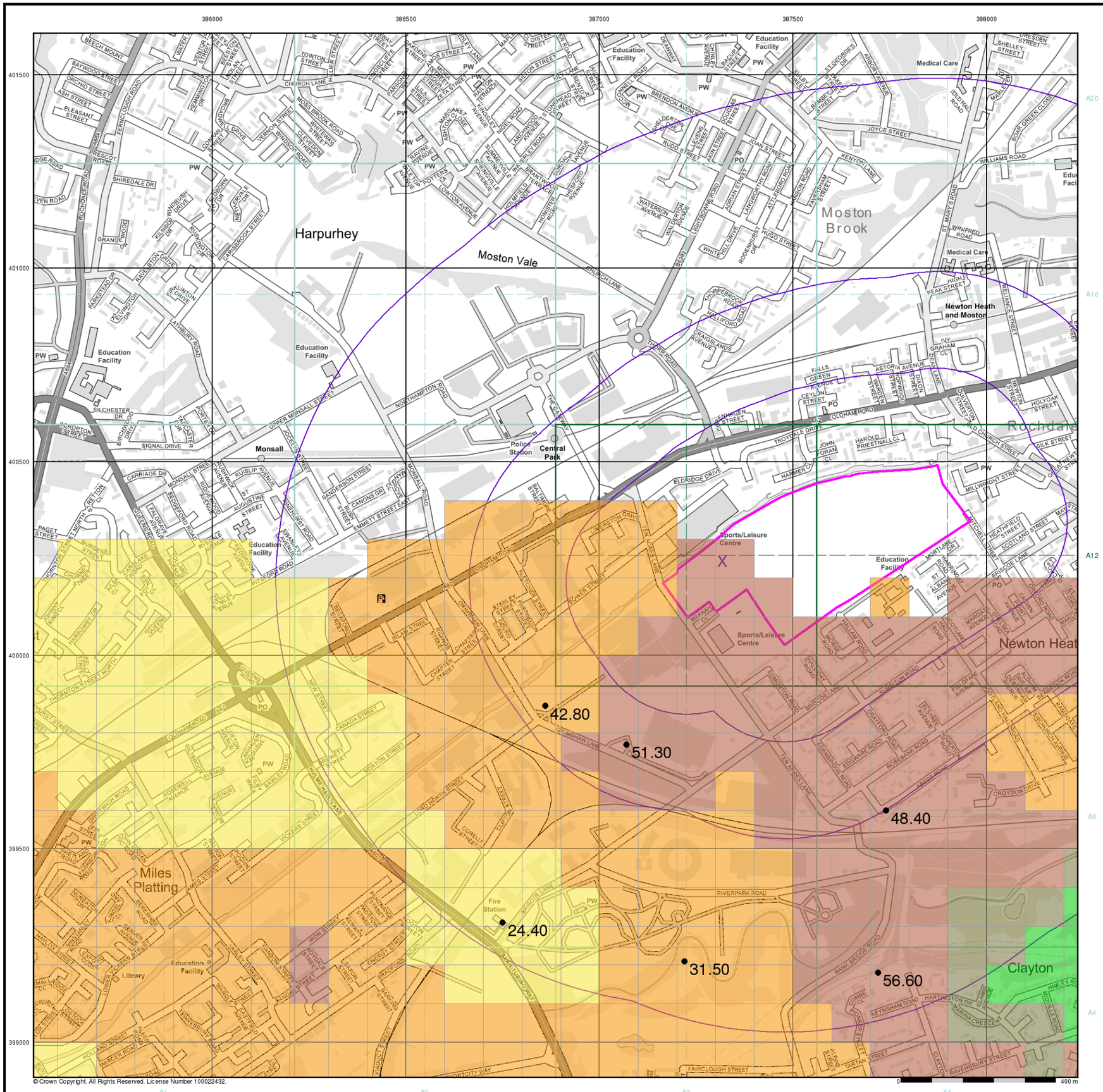

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General

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

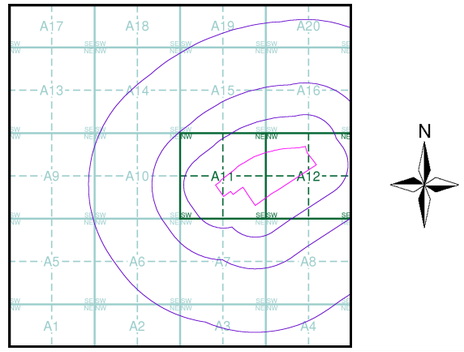
Urban Soil Chemistry Nickel

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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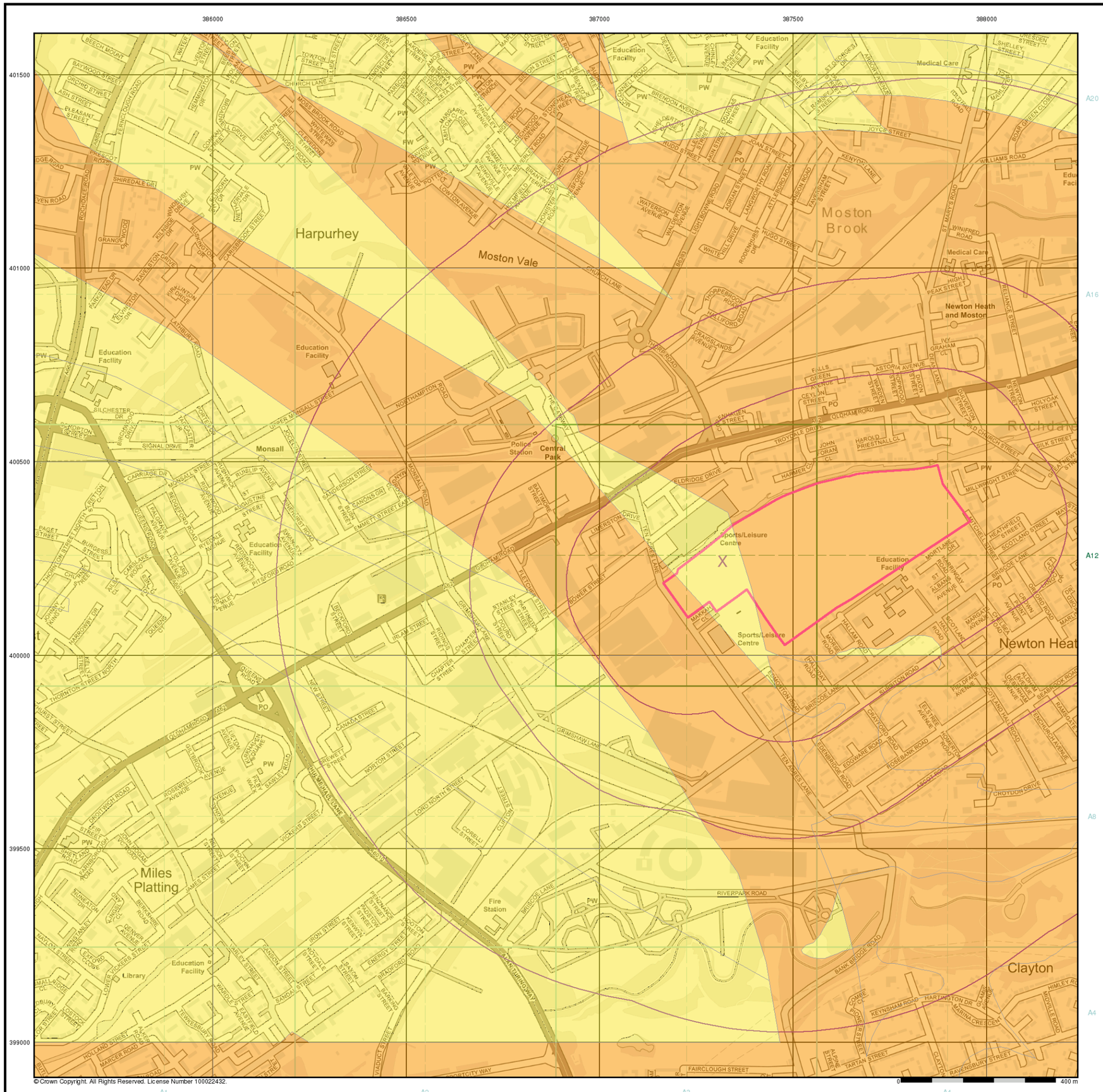

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General

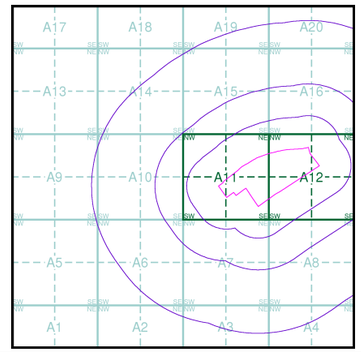
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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



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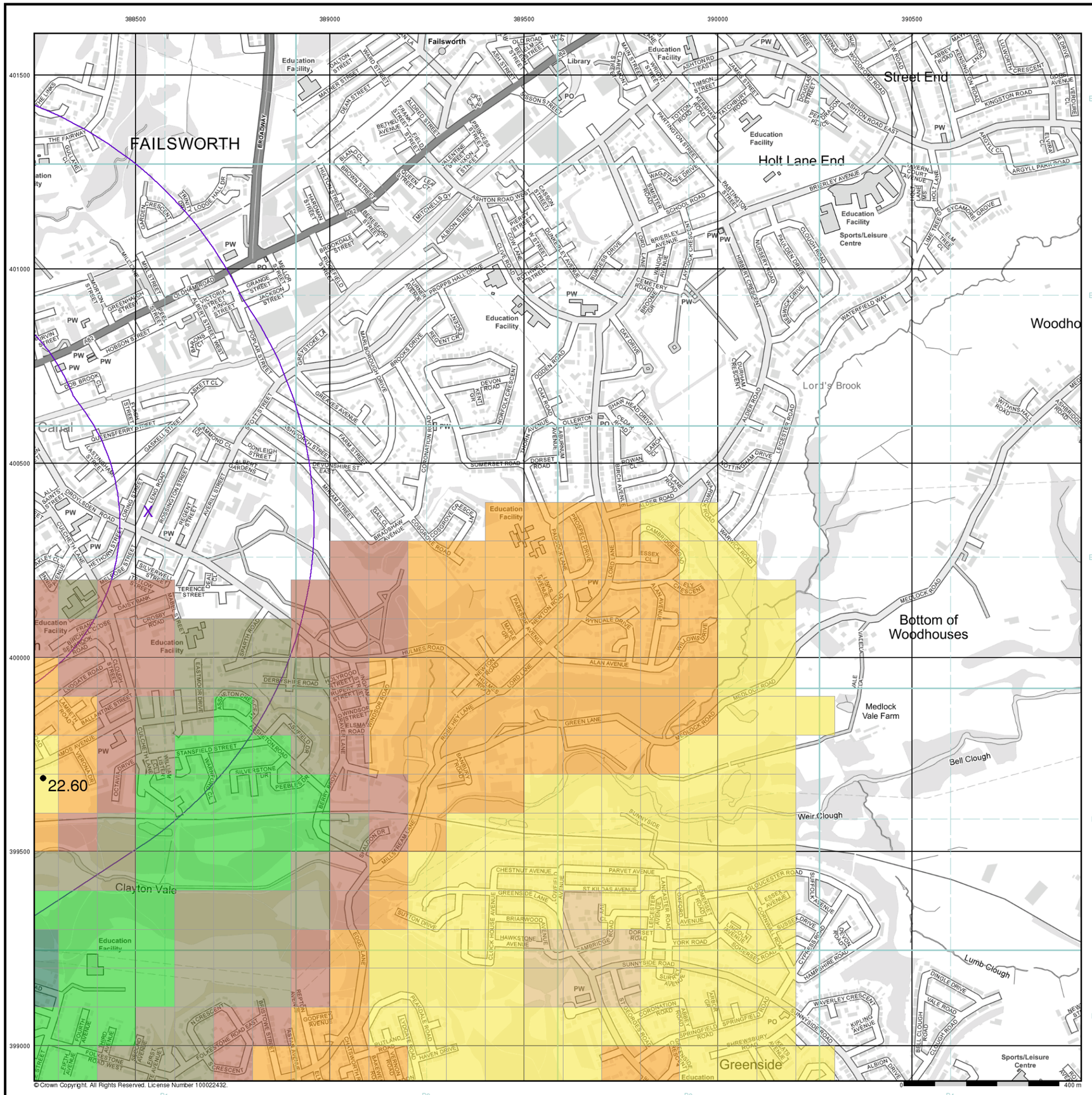

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General

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

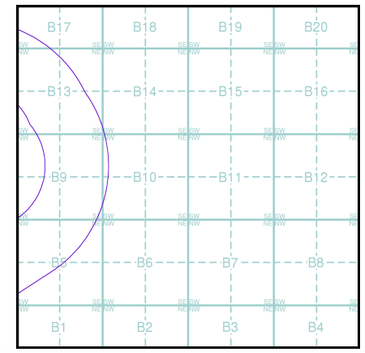
Urban Soil Chemistry Arsenic

● 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 B



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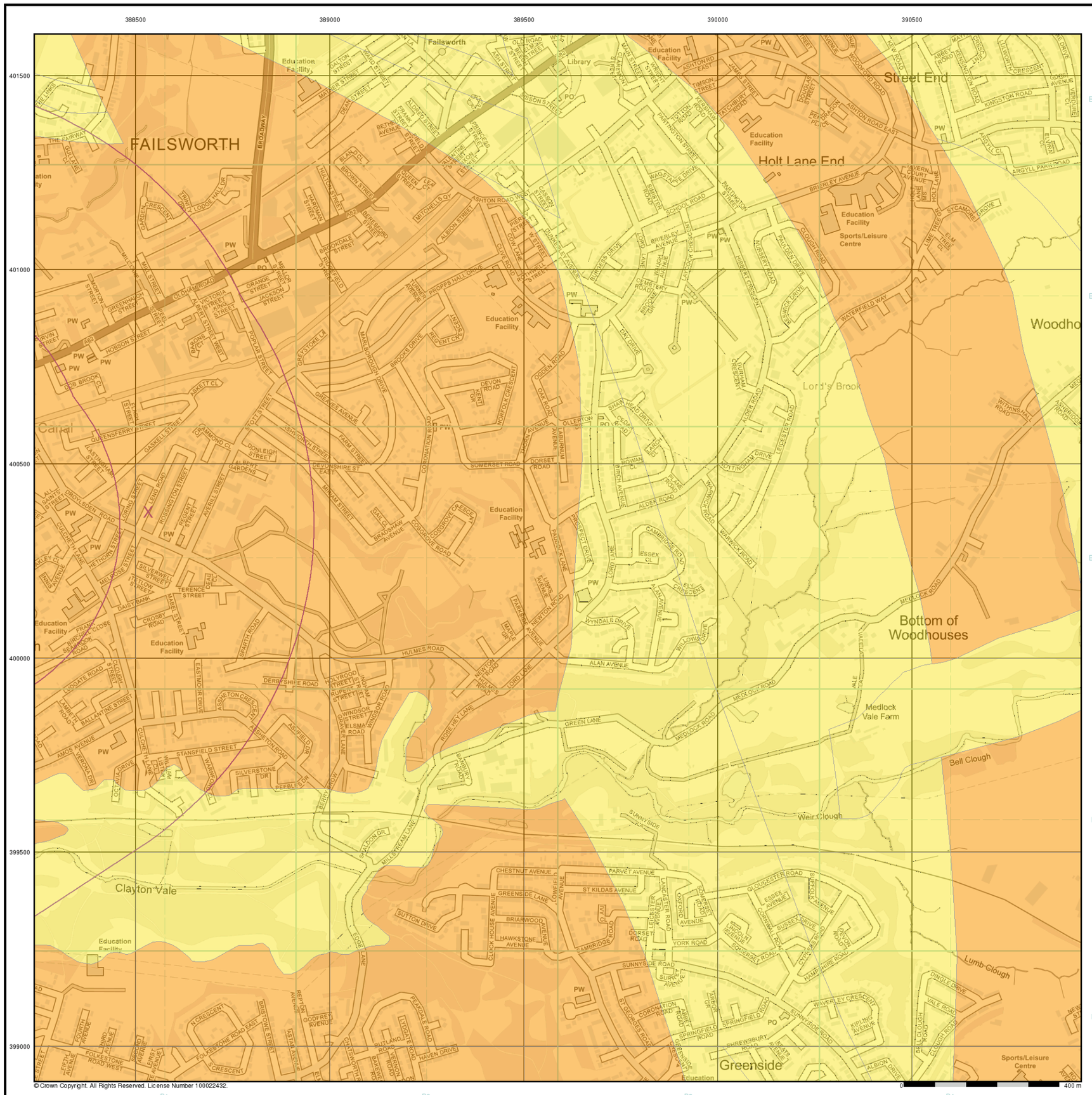

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General

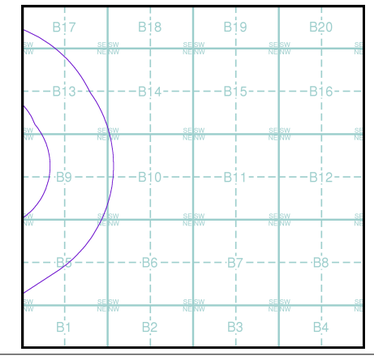
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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 B



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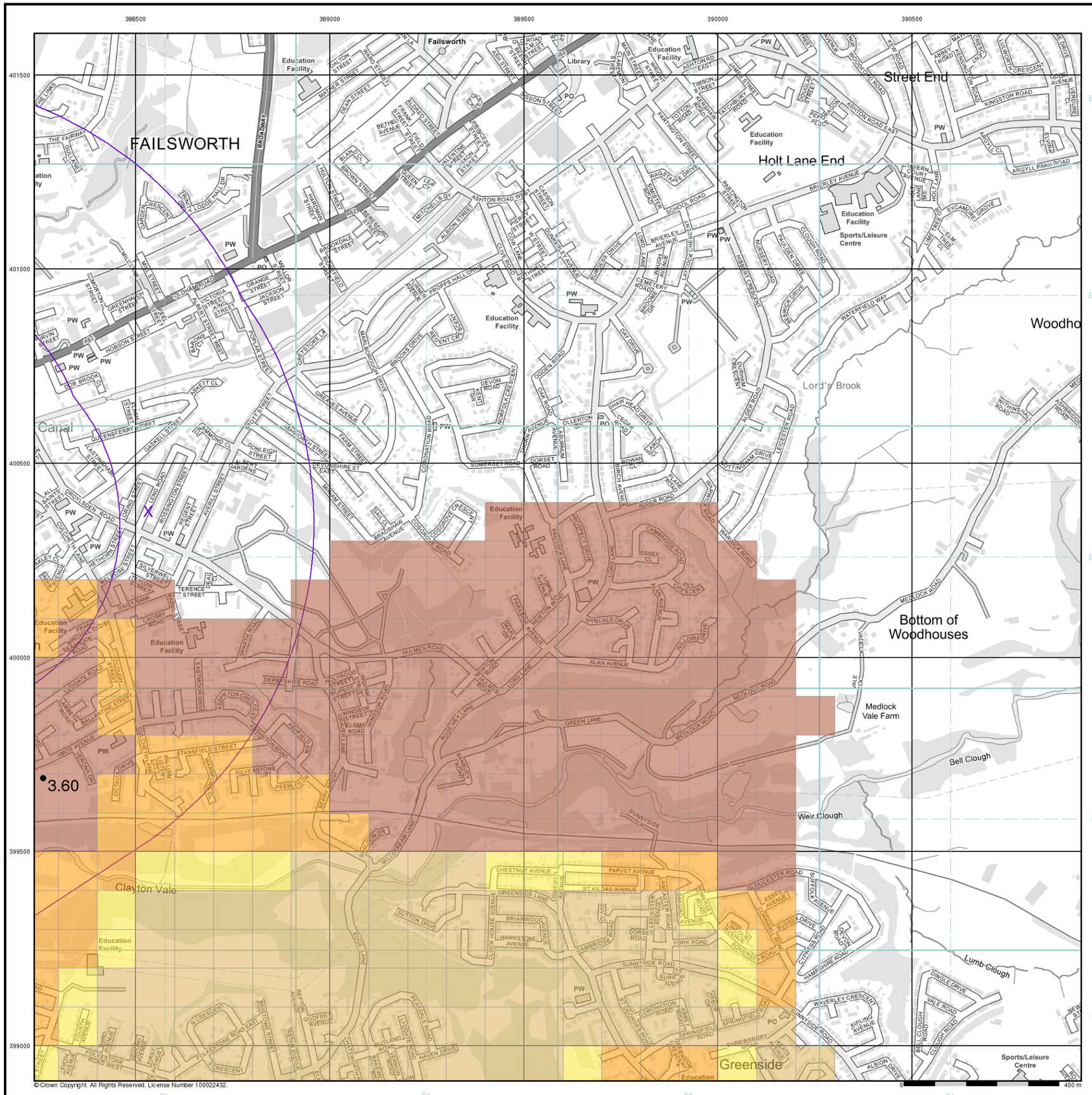
Site Details

Site at 387600, 400310



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General

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

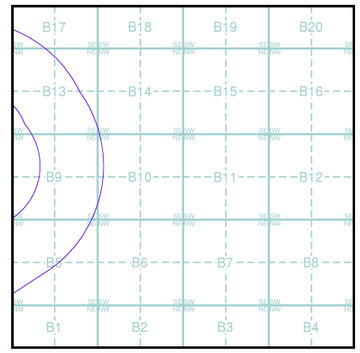
Urban Soil Chemistry Cadmium

● 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 B



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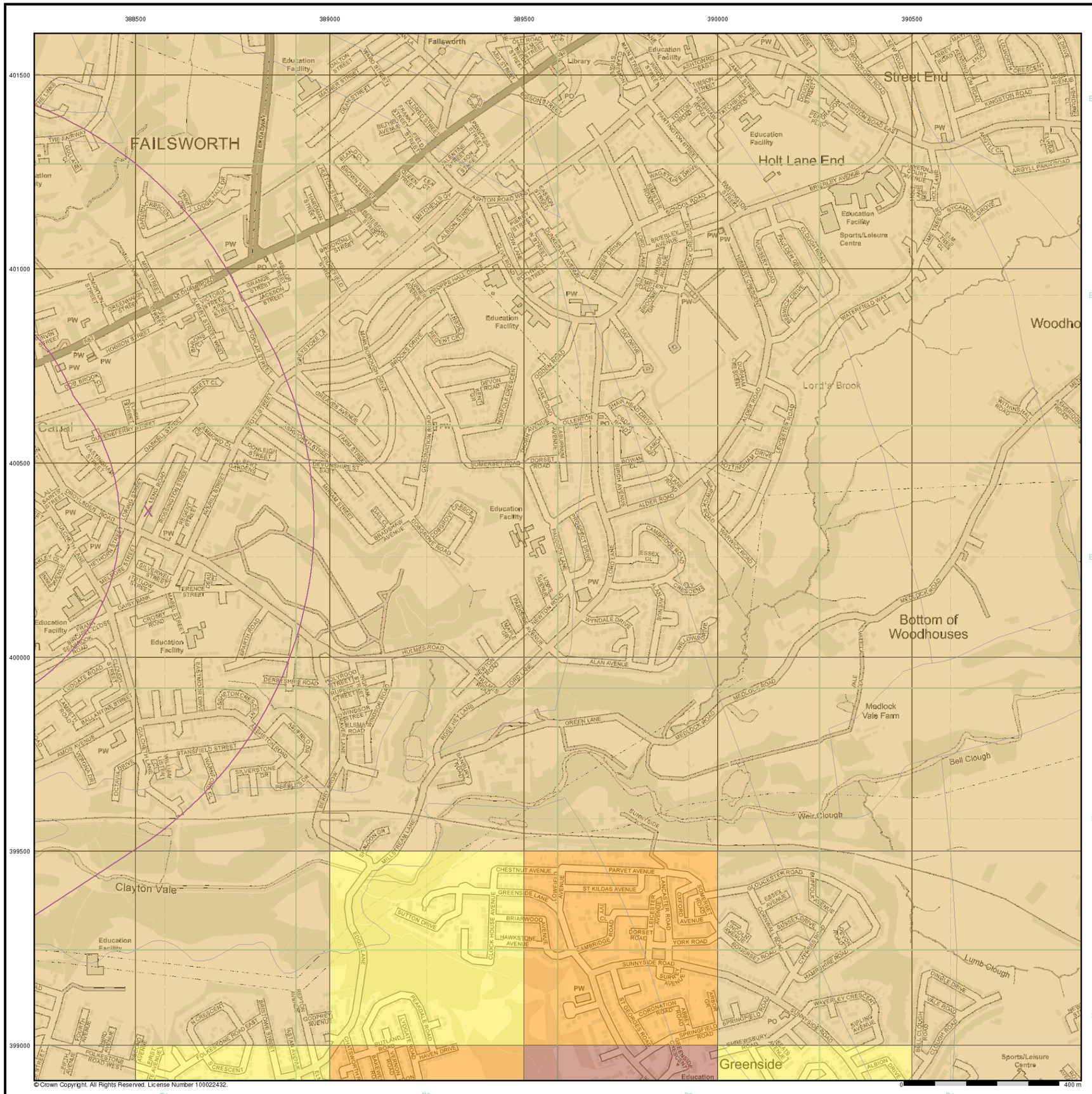

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General

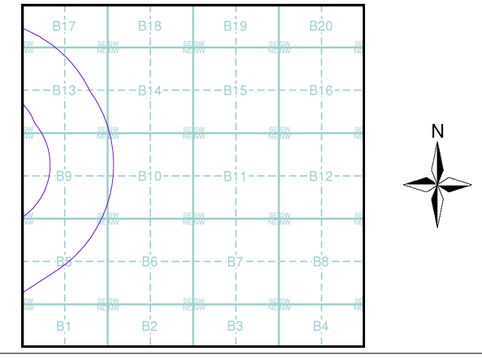
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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 B



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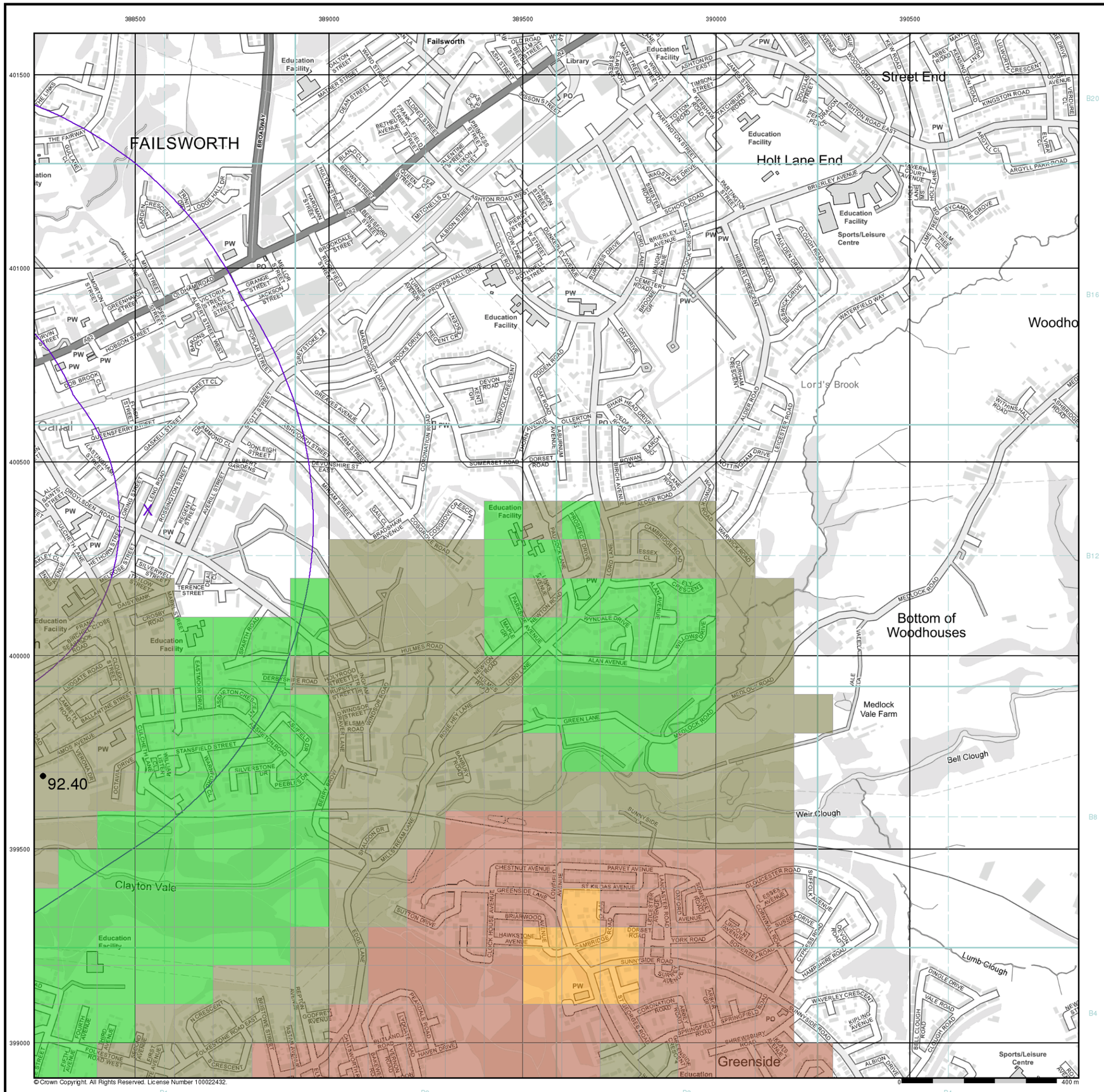

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General

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

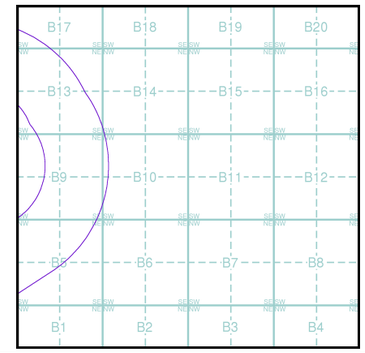
Urban Soil Chemistry Chromium

● 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 B



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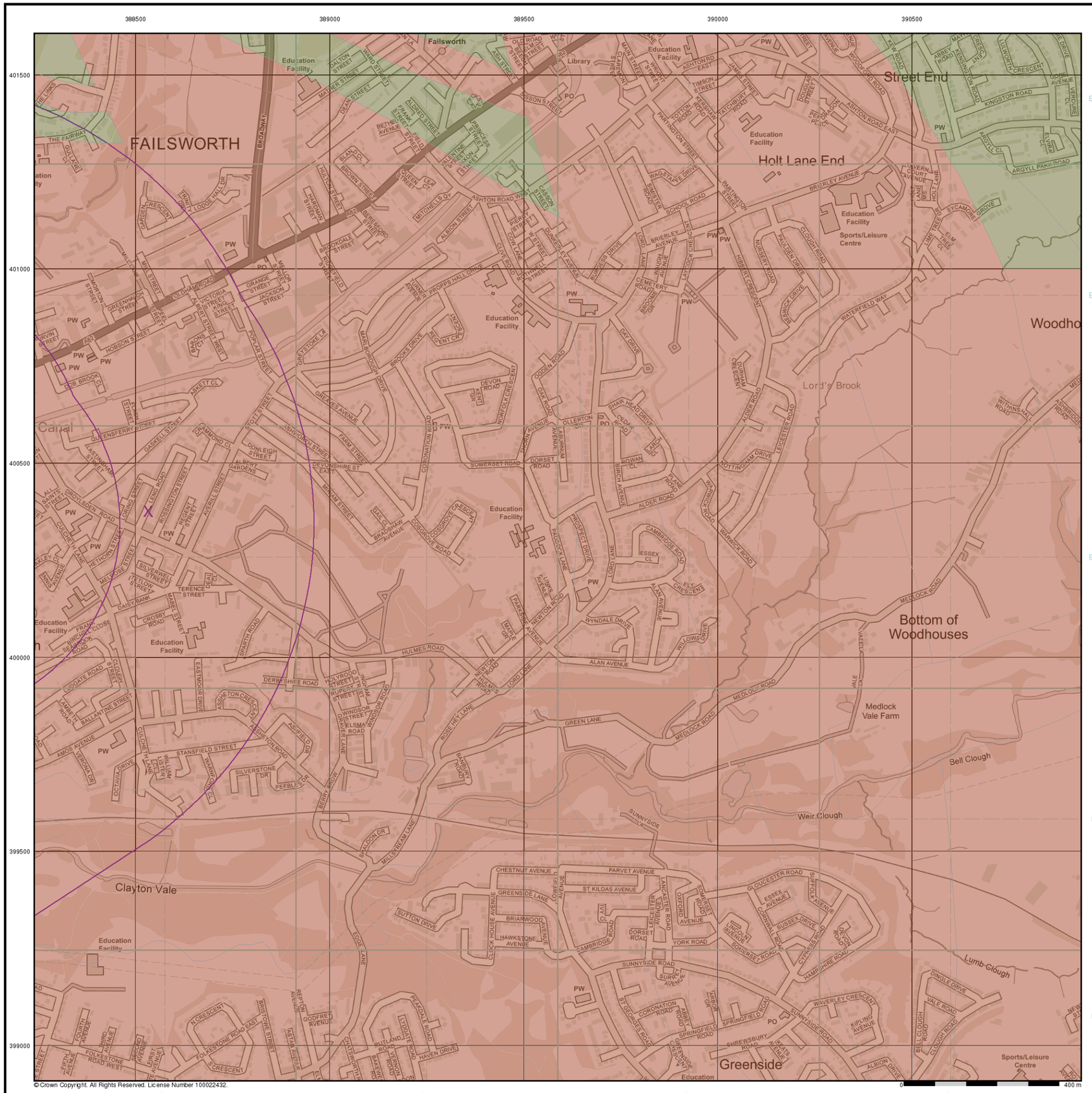

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General

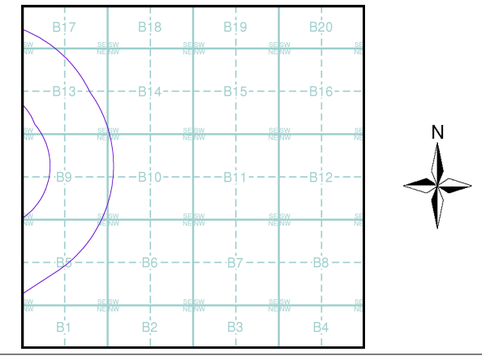
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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 B



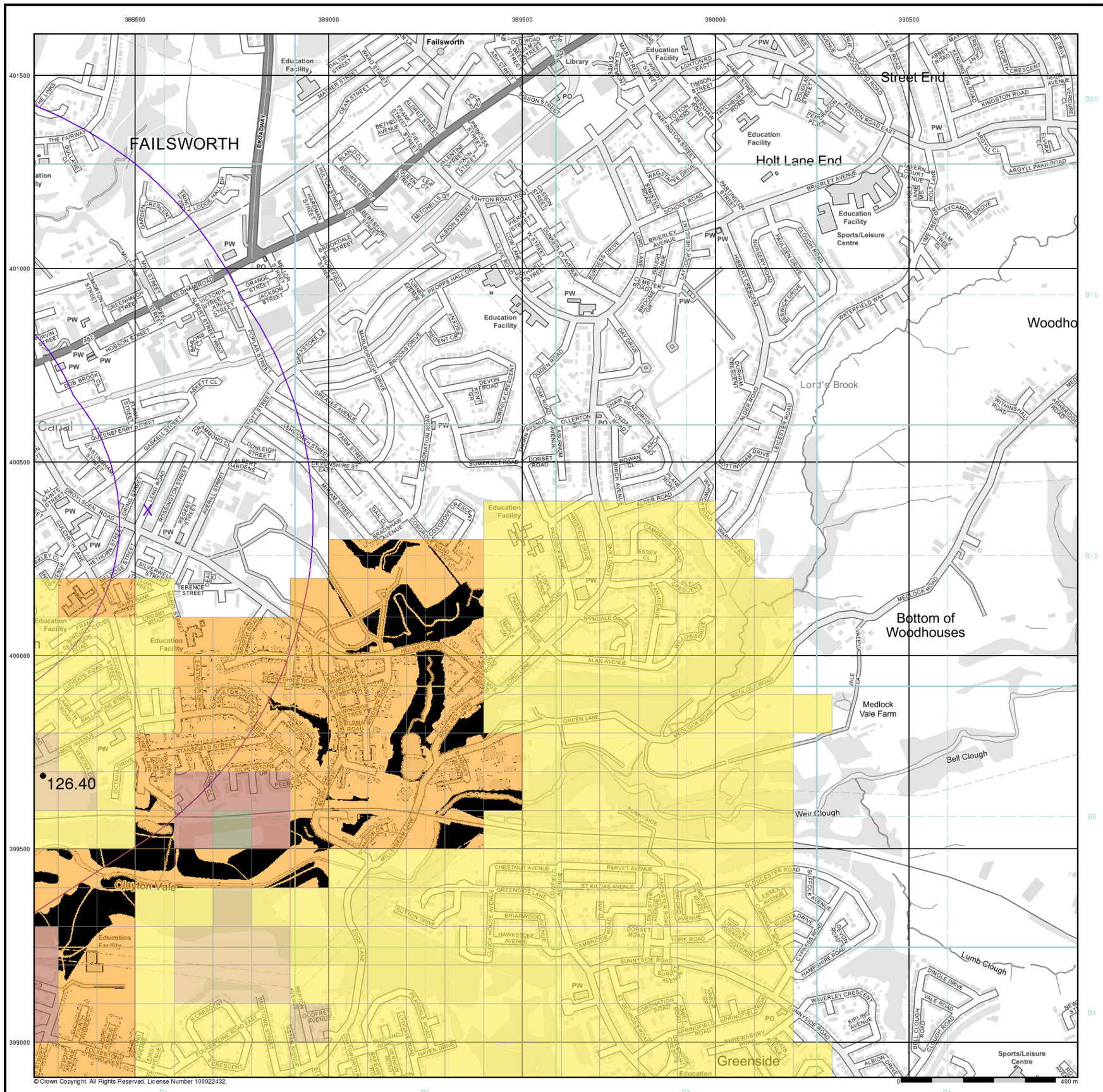
Order Details

Order Details:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search buffer (m):	1000

Site Details

Site at 387600, 400310

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



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General

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

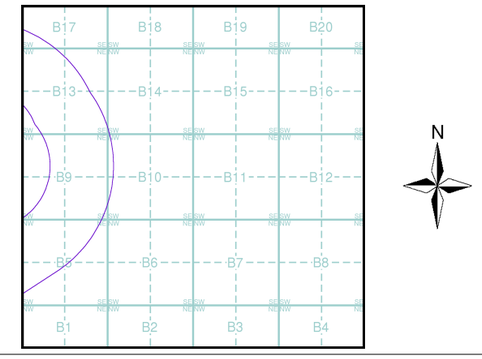
Urban Soil Chemistry Lead

● 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 B



Order Details

Order Details:	267713911_1_1
Customer Ref:	Ten Acres
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Slice:	B
Site Area (Ha):	18.51
Search buffer (m):	1000

Site Details

Site at 387600, 400310

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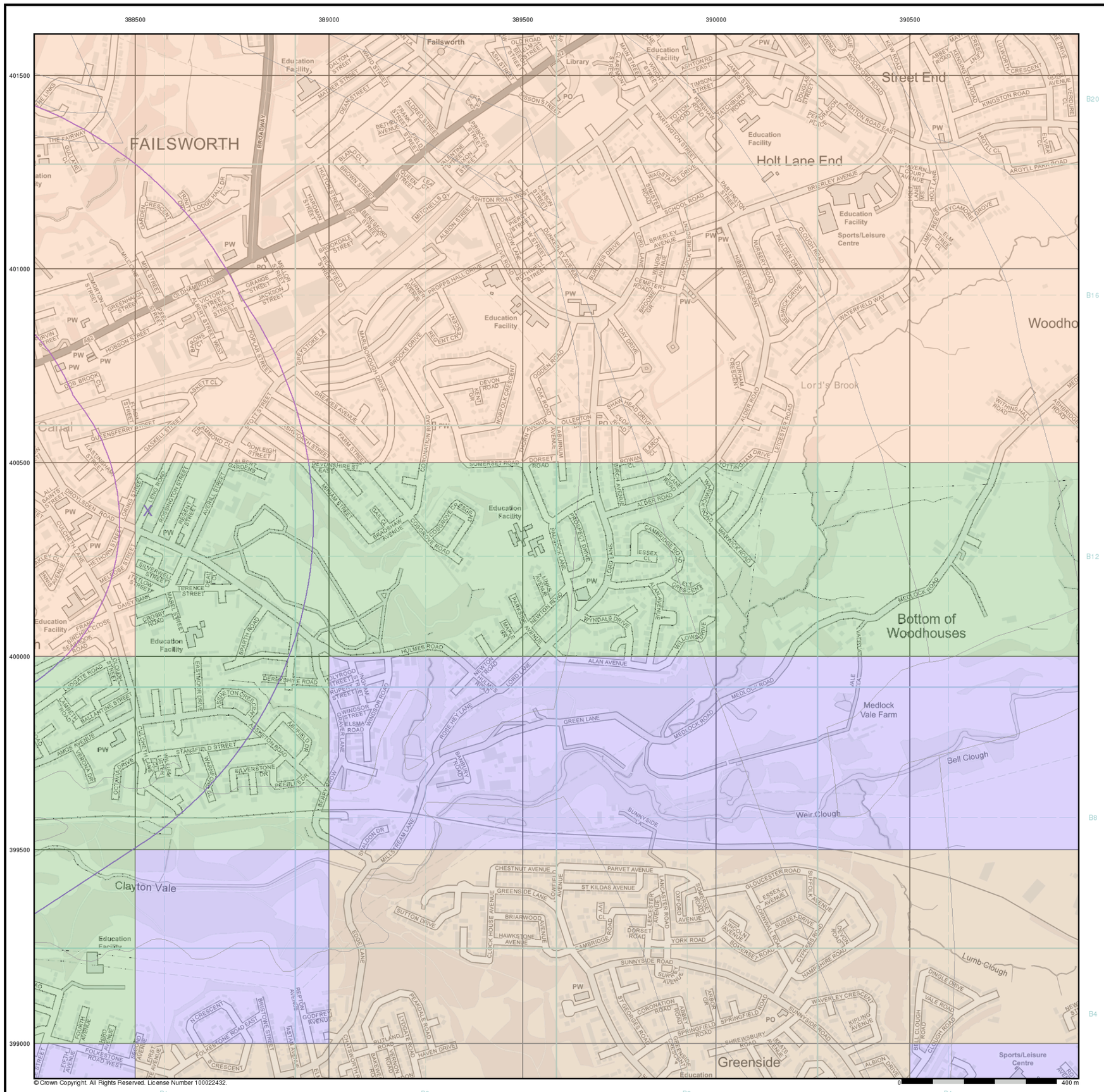
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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General

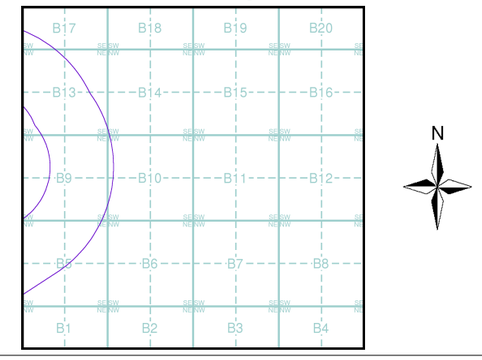
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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 B



Order Details

Order Details:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP
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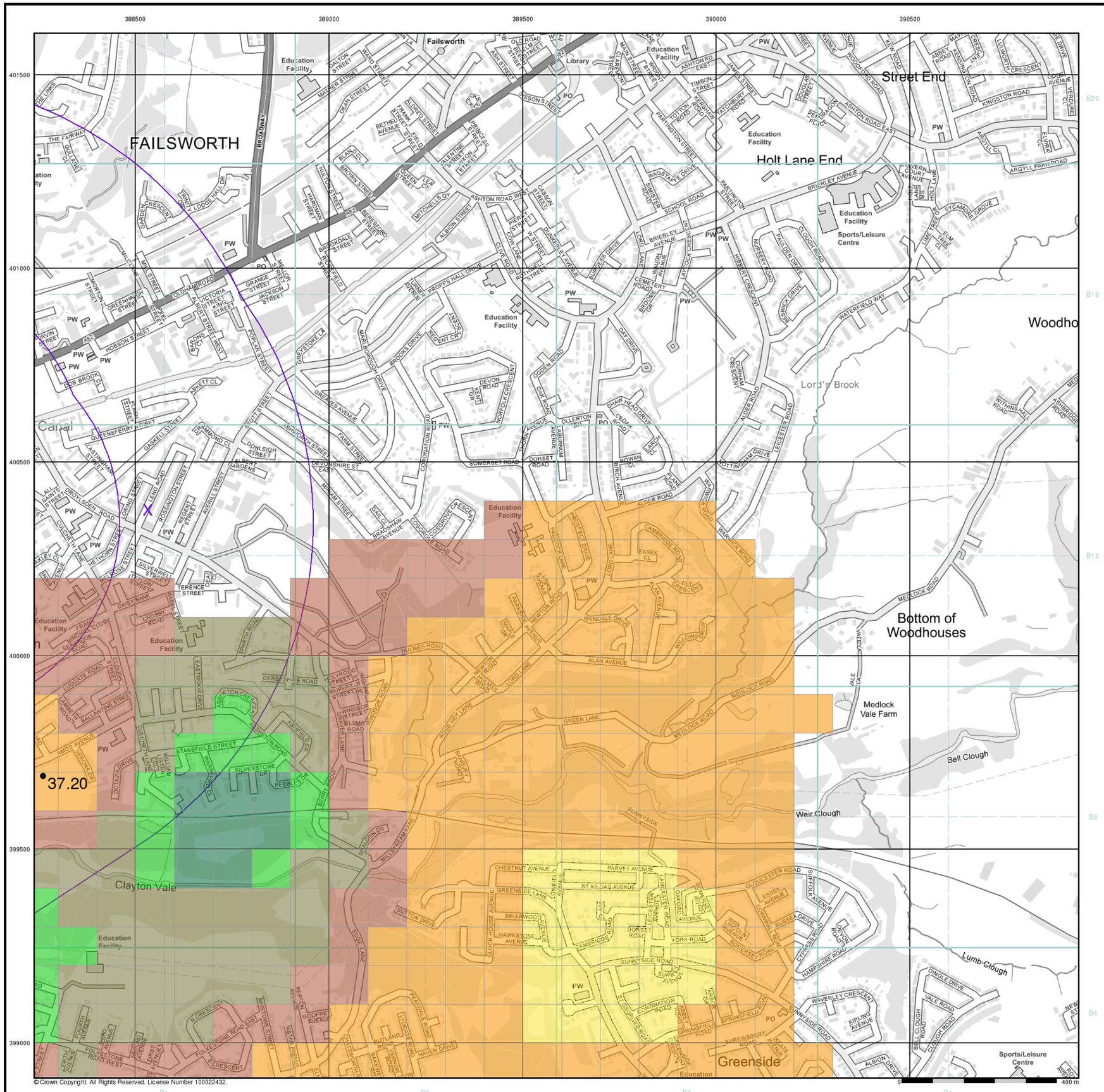
Web: www.envirocheck.co.uk



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General

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

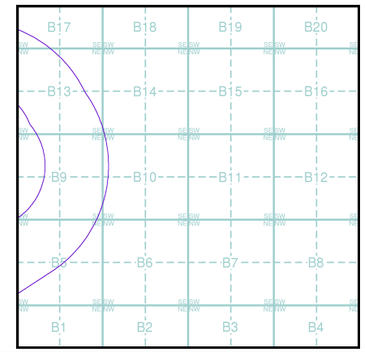
Urban Soil Chemistry Nickel

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 B



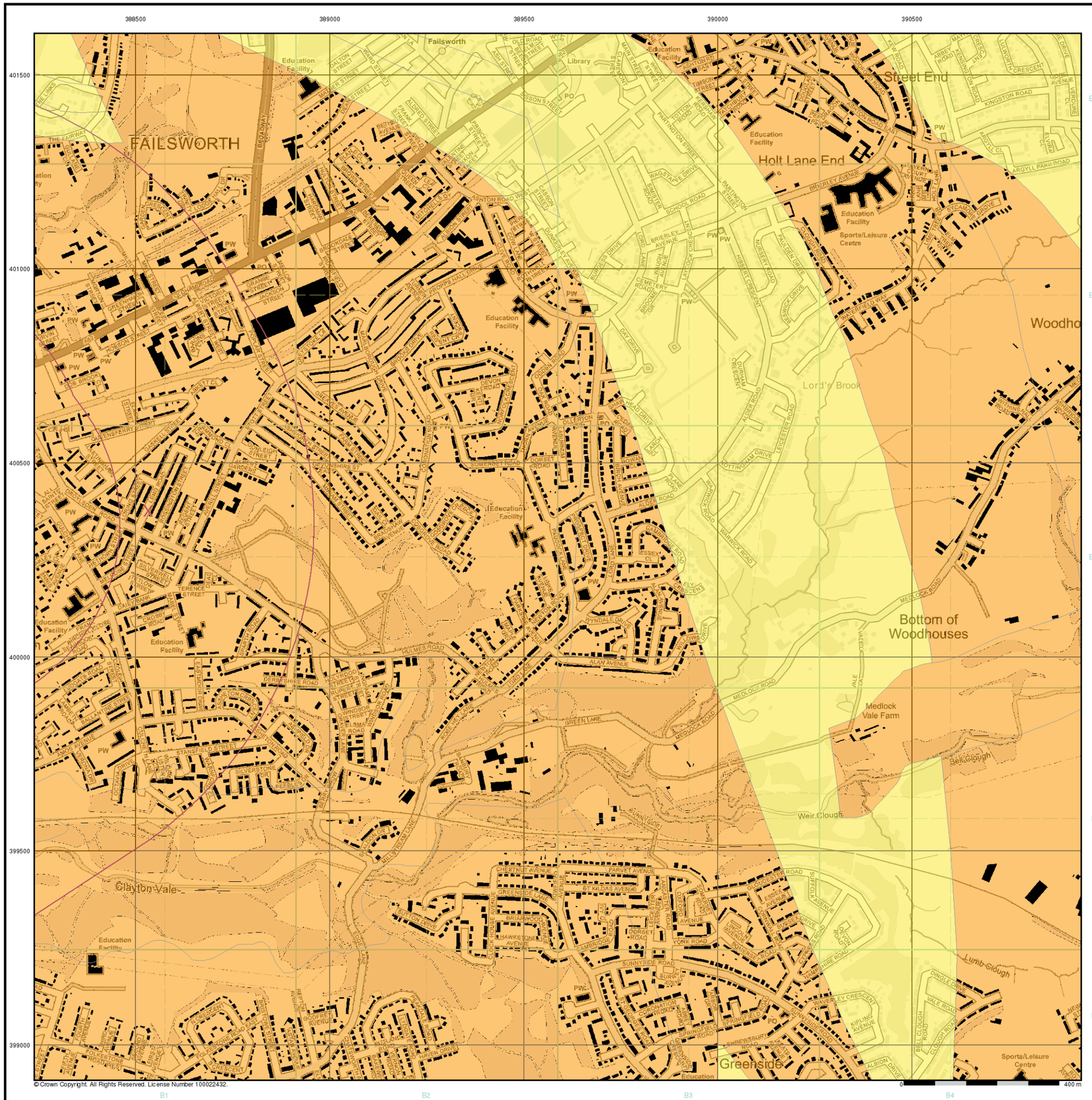
Order Details

Order Details:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search buffer (m):	1000

Site Details

Site at 387600, 400310

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



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General

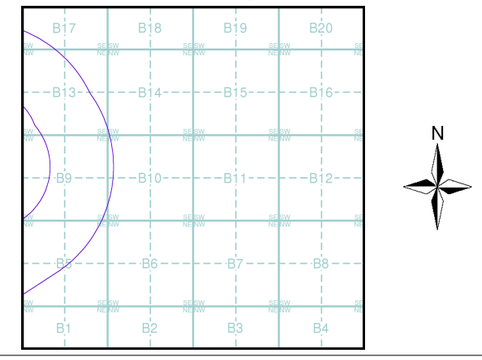
Specified Site | Specified Buffer(s) | X Bearing Reference Point

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 B



Order Details

Order Details:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search buffer (m):	1000

Site Details

Site at 387600, 400310

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

Envirocheck® Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:
267713911_1_1

Customer Reference:
Ten Acres

National Grid Reference:
387320, 400240

Slice:
A

Site Area (Ha):
18.51

Search Buffer (m):
1000

Site Details:

Site at 387600, 400310

Client Details:

Mr H Pars
Wardell Armstrong LLP
Unit 4, Newton Business Centre
Thorncliffe Park
Chapletown
Sheffield
S35 2PH

Contents

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	4
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	11
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	18
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
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The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Report Version v53.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1	2		1	5
Coal Mining Affected Areas	pg 2	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 2	Yes	n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential Mining Areas	pg 2		1		4
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)	pg 4	3	9	n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)	pg 5	6	10	n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)	pg 6	13	8	n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)	pg 8	19	7	n/a	n/a
Subterranean Features (100m)				n/a	n/a
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Air Shafts					
Disturbed Ground					
General Quarrying					
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Mineral Railway	pg 11		1	4	1
Mining & quarrying general					
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits	pg 11		1	2	7
Former Marshes	pg 12			1	
Potentially Infilled Land (Non-Water)	pg 12	2	1	2	10
Potentially Infilled Land (Water)	pg 12	3	19	32	52
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 18	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 18	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 18	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 18	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 18	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 18	Yes	Yes	n/a	n/a
Salt Mining Related Features					

Summary

Report Version v53.0

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**BGS Recorded Mineral Sites** Site Name: Mitchell Street Brickworks Location: Newton Heath, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15091 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12NW (E)	0	1	387725 400380
2	**BGS Recorded Mineral Sites** Site Name: Newton Brick Works Location: Newton, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95120 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian Geology: Manchester Marls Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A11SE (SW)	0	1	387280 400195
3	**BGS Recorded Mineral Sites** Site Name: Cheetham Fold Clay Pit Location: Cheetham Fold, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95124 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SE (E)	454	1	388174 399945
4	**BGS Recorded Mineral Sites** Site Name: Philips Park Brick Works Location: Clayton, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95126 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	A7SE (S)	565	1	387359 399474
5	**BGS Recorded Mineral Sites** Site Name: Philips Park Brick Works Location: Clayton, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95125 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	A7SW (SW)	665	1	386930 399504
6	**BGS Recorded Mineral Sites** Site Name: Williams Road Sand Pit Location: Failsworth, Oldham, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15099 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	808	1	388230 401215

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**BGS Recorded Mineral Sites** Site Name: Moston Brickworks Location: Moston, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 15085 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	A15NW (NW)	859	1	386960 401105
8	**BGS Recorded Mineral Sites** Site Name: Miles Platting Brick Works Location: Miles Platting, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95121 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	A6SE (SW)	933	1	386605 399404
	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.	A11SE (NW)	0	2	387318 400243
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A11SE (NW)	0	3	387318 400243
	Non Coal Mining Areas of Great Britain No Hazard				
9	**Potential Mining Areas** Name: Bradford Ceased Operation: 1935 Commodity: Coal; Parket Reference: 11471 Alternate Name/Mine: Not Supplied Custodian: Not Supplied	A7NE (S)	215	4	387266 399883
10	**Potential Mining Areas** Name: Bradford and Clayton Ceased Operation: 1891 Commodity: Coal; Four Foot Reference: 2655 Alternate Name/Mine: Forge Custodian: Not Supplied	A6SE (SW)	716	4	386860 399484
11	**Potential Mining Areas** Name: Manchester Ceased Operation: Not Supplied Commodity: Coal Reference: Not Supplied Alternate Name/Mine: Not Supplied Custodian: Not Supplied	A6SE (SW)	716	4	386860 399484
12	**Potential Mining Areas** Name: Gleden Ceased Operation: Not Supplied Commodity: Coal Reference: Not Supplied Alternate Name/Mine: Not Supplied Custodian: Not Supplied	A6SW (SW)	983	4	386458 399488

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Potential Mining Areas** Name: Moston Ceased Operation: 1915 Commodity: Coal; Foxholes Reference: 6592 Alternate Name/Mine: Nos. 3, 4 Custodian: Not Supplied	A20SW (N)	995	4	387682 401488

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**Extractive Industries or Potential Excavations from 1855-1909** Use: Rochdale Canal First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11NE (NE)	0	-	387469 400412
15	**Extractive Industries or Potential Excavations from 1855-1909** Use: Brick Works First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11SE (SW)	0	-	387282 400201
16	**Extractive Industries or Potential Excavations from 1855-1909** Use: Reservoir First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11NE (NE)	0	-	387491 400391
17	**Extractive Industries or Potential Excavations from 1855-1909** Use: Rochdale Canal First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11NE (N)	1	-	387342 400337
18	**Extractive Industries or Potential Excavations from 1855-1909** Use: Rochdale Canal First Map Published Date: 1893 Last Map Published Date: Not Applicable	A12NW (NE)	1	-	387685 400476
19	**Extractive Industries or Potential Excavations from 1855-1909** Use: Rochdale Canal First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11NE (NW)	3	-	387285 400287
20	**Extractive Industries or Potential Excavations from 1855-1909** Use: Lock First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11NE (NE)	4	-	387447 400402
21	**Extractive Industries or Potential Excavations from 1855-1909** Use: Lock First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11NE (N)	4	-	387322 400322
22	**Extractive Industries or Potential Excavations from 1855-1909** Use: Lock First Map Published Date: 1893 Last Map Published Date: Not Applicable	A12NW (NE)	5	-	387659 400471
23	**Extractive Industries or Potential Excavations from 1855-1909** Use: Lock First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11SW (W)	7	-	387212 400240
24	**Extractive Industries or Potential Excavations from 1855-1909** Use: Rochdale Canal First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11SW (W)	9	-	387190 400223

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Extractive Industries or Potential Excavations from 1855-1909** Use: Lock First Map Published Date: 1893 Last Map Published Date: Not Applicable	A11SW (SW)	84	-	387091 400146
26	**Extractive Industries or Potential Excavations from 1893-1915** Use: Unspecified Pit First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11SE (NW)	0	-	387318 400243
27	**Extractive Industries or Potential Excavations from 1893-1915** Use: Unspecified Pit First Map Published Date: 1908 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387680 400344
28	**Extractive Industries or Potential Excavations from 1893-1915** Use: Brick Works First Map Published Date: 1908 Last Map Published Date: Not Applicable	A12NW (NE)	0	-	387608 400397
29	**Extractive Industries or Potential Excavations from 1893-1915** Use: Reservoir First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11NE (NE)	0	-	387485 400380
30	**Extractive Industries or Potential Excavations from 1893-1915** Use: Brick Works First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11SE (NW)	0	-	387318 400243
31	**Extractive Industries or Potential Excavations from 1893-1915** Use: Rochdale Canal First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11NE (NE)	0	-	387470 400413
32	**Extractive Industries or Potential Excavations from 1893-1915** Use: Rochdale Canal First Map Published Date: 1908 Last Map Published Date: Not Applicable	A12NW (NE)	1	-	387686 400476
33	**Extractive Industries or Potential Excavations from 1893-1915** Use: Rochdale Canal First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11NE (N)	1	-	387342 400337
34	**Extractive Industries or Potential Excavations from 1893-1915** Use: Rochdale Canal First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11NE (NW)	2	-	387284 400287
35	**Extractive Industries or Potential Excavations from 1893-1915** Use: Lock First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11NE (N)	3	-	387323 400322

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	**Extractive Industries or Potential Excavations from 1893-1915** Use: Lock First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11NE (NE)	4	-	387448 400403
37	**Extractive Industries or Potential Excavations from 1893-1915** Use: Lock First Map Published Date: 1908 Last Map Published Date: Not Applicable	A12NW (NE)	5	-	387659 400471
38	**Extractive Industries or Potential Excavations from 1893-1915** Use: Lock First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11SW (W)	6	-	387213 400240
39	**Extractive Industries or Potential Excavations from 1893-1915** Use: Rochdale Canal First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11SW (W)	9	-	387191 400220
40	**Extractive Industries or Potential Excavations from 1893-1915** Use: Unspecified Pit First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11SE (SE)	28	-	387537 400035
41	**Extractive Industries or Potential Excavations from 1893-1915** Use: Lock First Map Published Date: 1908 Last Map Published Date: Not Applicable	A11SW (SW)	82	-	387093 400146
42	**Extractive Industries or Potential Excavations from 1906-1937** Use: Reservoir First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11NE (NE)	0	-	387485 400379
43	**Extractive Industries or Potential Excavations from 1906-1937** Use: Rochdale Canal First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11NE (N)	0	-	387342 400335
44	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Deposited Material First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11SE (S)	0	-	387307 400212
45	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Deposited Material First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387697 400286
46	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Deposited Material First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387655 400319

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Deposited Material First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387711 400385
48	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Pits First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387614 400266
49	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Pit First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11SE (NW)	0	-	387318 400243
50	**Extractive Industries or Potential Excavations from 1906-1937** Use: Brick Works First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11SE (NW)	0	-	387318 400243
51	**Extractive Industries or Potential Excavations from 1906-1937** Use: Unspecified Pit First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387570 400303
52	**Extractive Industries or Potential Excavations from 1906-1937** Use: Brick Works First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (E)	0	-	387597 400294
53	**Extractive Industries or Potential Excavations from 1906-1937** Use: Rochdale Canal First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (NE)	0	-	387685 400473
54	**Extractive Industries or Potential Excavations from 1906-1937** Use: Rochdale Canal First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11NE (NE)	0	-	387470 400410
55	**Extractive Industries or Potential Excavations from 1906-1937** Use: Rochdale Canal First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11NE (NW)	1	-	387285 400286
56	**Extractive Industries or Potential Excavations from 1906-1937** Use: Lock First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11NE (N)	2	-	387322 400319
57	**Extractive Industries or Potential Excavations from 1906-1937** Use: Lock First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11NE (NE)	2	-	387447 400400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	**Extractive Industries or Potential Excavations from 1906-1937** Use: Lock First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NW (NE)	2	-	387658 400469
59	**Extractive Industries or Potential Excavations from 1906-1937** Use: Lock First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11SW (W)	5	-	387212 400235
60	**Extractive Industries or Potential Excavations from 1906-1937** Use: Rochdale Canal First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11SW (W)	8	-	387190 400222
61	**Extractive Industries or Potential Excavations from 1906-1937** Use: Railway Cutting First Map Published Date: 1922 Last Map Published Date: Not Applicable	A12NE (E)	28	-	387940 400301
62	**Extractive Industries or Potential Excavations from 1906-1937** Use: Lock First Map Published Date: 1922 Last Map Published Date: Not Applicable	A11SW (SW)	85	-	387091 400145
63	**Extractive Industries or Potential Excavations from 1950-1980** Use: Pond First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387677 400385
64	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12SW (E)	0	-	387605 400209
65	**Extractive Industries or Potential Excavations from 1950-1980** Use: Refuse Heap First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387777 400286
66	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12SW (E)	0	-	387651 400243
67	**Extractive Industries or Potential Excavations from 1950-1980** Use: Brick Works First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387844 400392
68	**Extractive Industries or Potential Excavations from 1950-1980** Use: Reservoir (Disused) First Map Published Date: 1951 Last Map Published Date: 1951	A11NE (NE)	0	-	387490 400392

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**Extractive Industries or Potential Excavations from 1950-1980** Use: Reservoir First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387848 400331
70	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Pit First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387817 400309
71	**Extractive Industries or Potential Excavations from 1950-1980** Use: Reservoir First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387822 400310
72	**Extractive Industries or Potential Excavations from 1950-1980** Use: Refuse Heap First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387730 400359
73	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387663 400371
74	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387690 400265
75	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387630 400336
76	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (NE)	0	-	387577 400359
77	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (NE)	0	-	387637 400415
78	**Extractive Industries or Potential Excavations from 1950-1980** Use: Pond First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387649 400304
79	**Extractive Industries or Potential Excavations from 1950-1980** Use: Pond First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387694 400336

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	**Extractive Industries or Potential Excavations from 1950-1980** Use: Pond First Map Published Date: 1951 Last Map Published Date: 1951	A12SW (E)	0	-	387689 400208
81	**Extractive Industries or Potential Excavations from 1950-1980** Use: Unspecified Deposited Material First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (E)	0	-	387636 400264
82	**Extractive Industries or Potential Excavations from 1950-1980** Use: Clay Pit First Map Published Date: 1951 Last Map Published Date: 1951	A11SE (E)	0	-	387524 400247
83	**Extractive Industries or Potential Excavations from 1950-1980** Use: Rochdale Canal First Map Published Date: 1949 Last Map Published Date: 1954	A11NE (NW)	3	-	387284 400288
84	**Extractive Industries or Potential Excavations from 1950-1980** Use: Lock First Map Published Date: 1951 Last Map Published Date: 1951	A11NE (NE)	6	-	387447 400404
85	**Extractive Industries or Potential Excavations from 1950-1980** Use: Lock First Map Published Date: 1951 Last Map Published Date: 1951	A11NE (N)	6	-	387324 400326
86	**Extractive Industries or Potential Excavations from 1950-1980** Use: Lock First Map Published Date: 1951 Last Map Published Date: 1951	A11SW (W)	7	-	387212 400238
87	**Extractive Industries or Potential Excavations from 1950-1980** Use: Lock First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (NE)	7	-	387659 400474
88	**Extractive Industries or Potential Excavations from 1950-1980** Use: Resr First Map Published Date: 1951 Last Map Published Date: 1951	A12NW (NE)	23	-	387774 400499
89	**Extractive Industries or Potential Excavations from 1950-1980** Use: Lock First Map Published Date: 1951 Last Map Published Date: 1951	A11SW (SW)	87	-	387089 400144

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1923	A8SW (SE)	640	-	387852 399507
91	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	A8SW (SE)	680	-	387820 399438
92	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	A8NE (SE)	684	-	388114 399630
93	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	A16NE (NE)	721	-	388166 401150
94	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1923	A8SW (SE)	740	-	387807 399363
95	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	A8SE (SE)	772	-	388046 399482
96	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	A8SE (SE)	837	-	387974 399352
97	**Mineral Railway** Use: Not Supplied Date of Mapping: 1909 - 1923	A11SW (SW)	246	-	387045 399933
98	**Mineral Railway** Use: Not Supplied Date of Mapping: 1956	A11SW (SW)	262	-	387032 399924
99	**Mineral Railway** Use: Not Supplied Date of Mapping: 1909 - 1956	A7NW (SW)	408	-	387096 399711
100	**Mineral Railway** Use: Not Supplied Date of Mapping: 1909 - 1956	A7NW (SW)	410	-	387061 399724
101	**Mineral Railway** Use: Not Supplied Date of Mapping: 1909 - 1956	A7NW (SW)	417	-	387002 399747
102	**Mineral Railway** Use: Not Supplied Date of Mapping: 1909 - 1956	A8SW (SE)	615	-	387831 399523
103	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909	A11SW (SW)	235	-	387006 400004
104	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909	A12SE (E)	460	-	388175 399939
105	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909	A16SE (NE)	461	-	388065 400909
106	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1894	A7SW (S)	598	-	387223 399486
107	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1894	A8NE (SE)	644	-	388117 399681
108	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909	A8SW (SE)	678	-	387824 399444
109	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1894	A7SW (S)	690	-	387145 399413
110	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909	A8SW (SE)	734	-	387803 399368

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909 - 1923	A16NE (NE)	768	-	388181 401194
112	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909	A14SW (NW)	889	-	386404 400646
113	**Former Marshes** Use: Former Marsh Date of Mapping: 1848	A12SE (E)	419	-	388116 399949
114	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A11SE (NW)	0	-	387318 400243
115	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A11SE (E)	0	-	387524 400246
116	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A11SW (SW)	235	-	387006 400004
117	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12SE (E)	460	-	388175 399939
118	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A16SE (NE)	461	-	388065 400909
119	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7SW (S)	503	-	387171 399577
120	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7SW (SW)	598	-	386991 399549
121	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8NE (SE)	644	-	388117 399681
122	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8SW (SE)	678	-	387824 399444
123	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6NE (SW)	705	-	386646 399700
124	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8SW (SE)	734	-	387803 399368
125	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A16NE (NE)	768	-	388181 401194
126	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6SE (SW)	778	-	386714 399514
127	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14SW (NW)	889	-	386404 400646
128	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A19SW (N)	981	-	387202 401355
129	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A11NE (NE)	0	-	387515 400407
130	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (E)	0	-	387629 400132
131	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A11NE (E)	0	-	387521 400272

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
132	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A11SE (SE)	17	-	387405 400105
133	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A11SE (SE)	19	-	387467 400012
134	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (E)	42	-	387698 400120
135	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12NW (NE)	56	-	387726 400530
136	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A12SW (SE)	64	-	387680 400088
137	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11SW (SW)	65	-	387154 400090
138	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A12SW (SE)	86	-	387673 400055
139	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15SE (N)	87	-	387441 400637
140	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A11SE (S)	159	-	387298 399954
141	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A11SE (S)	172	-	387298 399940
142	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11NW (W)	189	-	387007 400290
143	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11NW (W)	191	-	387037 400327
144	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (SE)	222	-	387721 399927
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	225	-	387671 399874
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	233	-	388045 400649
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A16SE (NE)	236	-	388082 400600
148	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	237	-	387662 399866
149	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7NE (S)	240	-	387476 399787
150	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A12SW (SE)	241	-	387874 400004
151	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11SW (SW)	273	-	387014 399929
152	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7NW (SW)	289	-	387011 399908

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A16SE (NE)	294	-	388138 400617
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NE (S)	299	-	387331 399767
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (S)	309	-	387201 399790
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	310	-	386855 400162
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	318	-	388034 400765
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A11SW (SW)	323	-	386892 400013
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16SE (NE)	329	-	388015 400787
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (SW)	346	-	387088 399782
161	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7NW (S)	348	-	387142 399760
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (SW)	349	-	386954 399883
163	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	350	-	387795 399822
164	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SW (NE)	352	-	387653 400821
165	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A8NW (SE)	370	-	387689 399723
166	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A12SE (E)	371	-	388214 400077
167	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A7NW (S)	372	-	387204 399727
168	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	375	-	388058 400817
169	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	387	-	386782 400238
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	388	-	387860 399819
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NE (S)	393	-	387313 399669
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16SE (NE)	411	-	388133 400809
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	414	-	387584 399626

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7NE (S)	426	-	387492 399601
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A11NW (NW)	428	-	386980 400589
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A6NE (SW)	449	-	386829 399884
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7SE (S)	454	-	387412 399577
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NE (SE)	456	-	387928 399782
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16SE (NE)	459	-	388143 400862
180	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A16SE (NE)	459	-	388057 400911
181	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	469	-	386722 400032
182	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (S)	493	-	387174 399607
183	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SE)	504	-	387732 399591
184	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (SW)	508	-	387017 399635
185	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15SW (N)	559	-	387188 400892
186	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SE (W)	563	-	386611 400088
187	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A8SW (SE)	567	-	387671 399493
188	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NE (SE)	569	-	387907 399626
189	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A7SW (S)	582	-	387040 399547
190	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A15NE (N)	584	-	387269 400966
191	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NE (SE)	595	-	388110 399734
192	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NE (SE)	627	-	388176 399740
193	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A8SW (SE)	633	-	387891 399544
194	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10SW (W)	636	-	386542 400057

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
195	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NE (N)	645	-	387362 401056
196	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A15NW (N)	648	-	387154 400974
197	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NE (SW)	653	-	386616 399831
198	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A6NE (SW)	659	-	386658 399762
199	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A16NE (NE)	673	-	387973 401158
200	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6SE (SW)	675	-	386814 399565
201	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A15NW (N)	676	-	387101 400976
202	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16NW (NE)	682	-	387752 401162
203	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7SW (S)	686	-	387005 399449
204	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A8SW (SE)	704	-	387765 399384
205	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A16NE (NE)	704	-	388038 401195
206	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NW (N)	711	-	387109 401021
207	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A15NW (NW)	721	-	386990 400968
208	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16NE (NE)	722	-	388176 401146
209	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A6SE (SW)	732	-	386848 399472
210	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NW (N)	735	-	387209 401095
211	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NE (SW)	748	-	386570 399733
212	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A16NE (NE)	757	-	388203 401172
213	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10NW (W)	772	-	386412 400362
214	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A15NW (NW)	777	-	386910 400979
215	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NW (SW)	794	-	386440 399863

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
216	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10NW (W)	794	-	386392 400368
217	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A20SE (NE)	797	-	387909 401287
218	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A3NE (S)	803	-	387408 399227
219	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A15NE (N)	815	-	387328 401223
220	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A3NE (S)	819	-	387382 399213
221	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A6SE (SW)	820	-	386786 399408
222	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A3NE (S)	822	-	387456 399204
223	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A4NW (S)	835	-	387627 399205
224	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A6NW (SW)	865	-	386389 399804
225	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A3NE (S)	894	-	387403 399136
226	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14NE (NW)	899	-	386768 401025
227	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (N)	922	-	387166 401279
228	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8SE (SE)	937	-	388220 399383
229	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A10NW (W)	952	-	386263 400492
230	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A4NW (S)	955	-	387667 399089
231	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A4NW (SE)	981	-	387847 399117
232	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A14SW (W)	983	-	386304 400661
233	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SE (N)	989	-	387340 401407
234	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19SW (N)	991	-	387054 401309

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
235	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
236	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
237	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
238	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A11SE (NE)	0	1	387331 400251
239	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	42	1	387318 400000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	387293 400280
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387301 400000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
240	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
241	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
242	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
243	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000
244	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	387318 400243
245	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	27	1	387318 400000

Historical Map List

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Lancashire And Furness	104_04	1893
Lancashire And Furness	104_04	1893
Lancashire And Furness	104_04	1908
Lancashire And Furness	104_04	1908
Lancashire And Furness	104_04	1931
Lancashire And Furness	104_04	1931
Ordnance Survey Plan	SD8700	1951
Ordnance Survey Plan	SD8700	1951

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Lancashire And Furness	096_00	1848
Lancashire And Furness	104_00	1848
Cheshire	003A_00	1882
Lancashire And Furness	096_SE	1894
Lancashire And Furness	104_NE	1894
Cheshire	003A_SE	1899
Lancashire And Furness	104_NE	1909
Lancashire And Furness	096_SE	1910
Cheshire	003A_SE	1911
Lancashire And Furness	104_NE	1923
Cheshire	003A_SE	1938
Lancashire And Furness	096_SE	1938
Ordnance Survey Plan	SD80SE	1956
Ordnance Survey Plan	SJ89NE	1956
1:10,000	**Mapsheet**	**Published Date**
Ordnance Survey Plan	SD80SE	1990
Ordnance Survey Plan	SJ89NE	1993

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	October 2020	Bi-Annually
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural Cavities Stantec UK Ltd	October 2020	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	**Version**	**Update Cycle**
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	**Version**	**Update Cycle**
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Brine Subsidence Solution Area Johnson Poole & Bloomer	January 2015	Annual Rolling Update

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
British Geological Survey	British Geological Survey, Natural Environment Research Council
The Coal Authority	The Coal Authority
Ove Arup	ARUP
Stantec UK Ltd	Stantec
Wardell Armstrong	wardell armstrong, your earth our world
Johnson Poole & Bloomer	JPB

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	**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
3	**Ove Arup & Partners** Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
4	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9960 Fax: 0844 844 9951 Email: customerservice@promap.co.uk Website: www.landmarkinfo.co.uk
-	**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

Envirocheck® Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:
267713911_1_1

Customer Reference:
Ten Acres

National Grid Reference:
388530, 400380

Slice:
B

Site Area (Ha):
18.51

Search Buffer (m):
1000

Site Details:

Site at 387600, 400310

Client Details:

Mr H Pars
Wardell Armstrong LLP
Unit 4, Newton Business Centre
Thorncliffe Park
Chapletown
Sheffield
S35 2PH

Contents

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	-
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	2
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	5
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
Historical Map List	6
The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Report Version v53.0

wardell armstrong

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites					
Coal Mining Affected Areas	pg 1	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 1	Yes	n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential Mining Areas					
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)				n/a	n/a
Subterranean Features (100m)				n/a	n/a
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CBSCB Compensation District			n/a	n/a	n/a
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Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Salt Mining Related Features					

Summary

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Mining and Natural Cavities Data

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.	B9NW (NW)	0	1	388532 400376
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	B9NW (NW)	0	2	388532 400376
	Non Coal Mining Areas of Great Britain No Hazard				

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B5NW (S)	684	-	388260 399689
2	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B13NW (N)	721	-	388349 401154
3	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B5SW (S)	772	-	388536 399573
4	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B13NW (N)	835	-	388373 401159
5	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B5SW (S)	837	-	388358 399416
6	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B13SE (N)	869	-	388692 400813
7	**Heap, unknown constituents** Use: Not Supplied Date of Mapping: 1956	B13NW (N)	991	-	388550 401214
8	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1894 - 1909	B13NW (N)	461	-	388309 400969
9	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1894	B5NW (S)	644	-	388336 399723
10	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1909 - 1923	B13NW (N)	768	-	388348 401182
11	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1956	B5NE (S)	986	-	388662 399648
12	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	B13NW (N)	461	-	388309 400969
13	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	B5NW (S)	644	-	388336 399723
14	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	B13NW (N)	768	-	388348 401182
15	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	B5NE (S)	986	-	388662 399648
16	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B9SW (SW)	454	-	388318 400069
17	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B9SW (SW)	464	-	388344 400089
18	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B13SW (NW)	474	-	388346 400620
19	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B9SW (SW)	540	-	388348 399973
20	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B9SW (S)	574	-	388393 399972
21	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13SW (N)	631	-	388377 400891

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5NW (SW)	652	-	388238 399750
23	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5NW (SW)	653	-	388282 399779
24	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B13NW (N)	673	-	388308 401119
25	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B9SE (SE)	716	-	388658 400195
26	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B13NW (N)	722	-	388376 401156
27	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B5NW (S)	731	-	388482 399836
28	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5NW (S)	766	-	388386 399711
29	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B13NW (N)	835	-	388378 401156
30	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5NE (S)	845	-	388609 399788
31	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B13SE (N)	852	-	388686 400789
32	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B9NE (E)	853	-	388808 400430
33	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5NE (S)	861	-	388656 399799
34	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B5SW (S)	879	-	388345 399533
35	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5SW (S)	881	-	388316 399522
36	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B5NE (S)	899	-	388609 399726
37	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B13NW (N)	903	-	388451 401185
38	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13SE (NE)	903	-	388774 400733
39	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B9SE (SE)	920	-	388869 400192
40	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13NE (N)	933	-	388606 401069
41	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	B5SW (S)	937	-	388258 399424
42	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B9NE (E)	943	-	388902 400361

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	B5SW (S)	964	-	388348 399450
44	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B13SE (NE)	974	-	388827 400790
45	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B13NW (N)	975	-	388496 401241
46	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	B5SW (S)	986	-	388536 399548
47	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	B10NW (E)	988	-	388934 400499
48	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	B13NE (N)	995	-	388695 401052

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
49	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	3	388532 400376
50	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	3	388532 400000
51	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	(W)	0	3	387949 400346
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	3	388532 400376
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	3	388532 400000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	3	388532 400376
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	3	388532 400000
52	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	3	388532 400376
53	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	3	388532 400000
54	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	3	388532 400376
55	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	3	388532 400000
56	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	0	3	388532 400376
57	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (S)	27	3	388532 400000

Historical Map List

No Historical Land Use information available.

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Lancashire And Furness	096_00	1848
Lancashire And Furness	097_00	1848
Lancashire And Furness	104_00	1848
Lancashire And Furness	105_00	1848
Cheshire	003A_00	1882
Lancashire And Furness	096_SE	1894
Lancashire And Furness	097_SW	1894
Lancashire And Furness	104_NE	1894
Lancashire And Furness	105_NW	1895
Cheshire	003A_SE	1899
Lancashire And Furness	104_NE	1909
Lancashire And Furness	096_SE	1910
Lancashire And Furness	097_SW	1910
Lancashire And Furness	105_NW	1910
Cheshire	003A_SE	1911
Lancashire And Furness	105_NW	1922
Lancashire And Furness	104_NE	1923
Cheshire	003A_SE	1938
Lancashire And Furness	096_SE	1938
Lancashire And Furness	097_SW	1938
Ordnance Survey Plan	SJ99NW	1954
Ordnance Survey Plan	SD80SE	1956
Ordnance Survey Plan	SD90SW	1956
Ordnance Survey Plan	SJ89NE	1956
1:10,000	**Mapsheet**	**Published Date**
Ordnance Survey Plan	SD80SE	1990
Ordnance Survey Plan	SD90SW	1990
Ordnance Survey Plan	SJ99NW	1991
Ordnance Survey Plan	SJ89NE	1993

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	October 2020	Bi-Annually
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural Cavities Stantec UK Ltd	October 2020	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	**Version**	**Update Cycle**
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	**Version**	**Update Cycle**
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Brine Subsidence Solution Area Johnson Poole & Bloomer	January 2015	Annual Rolling Update

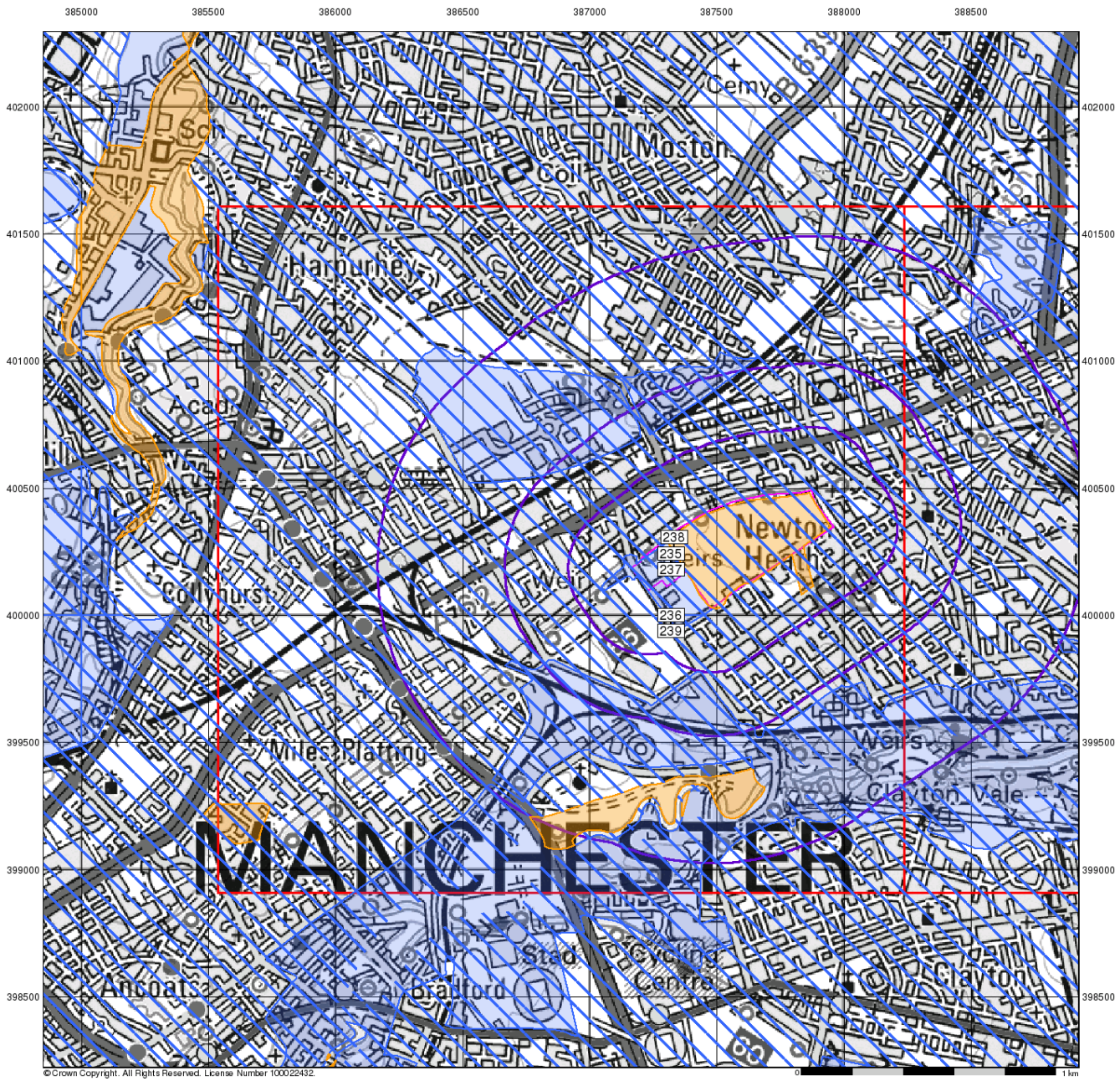
Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	
The Coal Authority	
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	
Johnson Poole & Bloomer	

Useful Contacts

Contact	Name and Address	Contact Details
1	**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
2	**Ove Arup & Partners** Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
3	**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
-	**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



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Ground Stability Data (1:50,000)

General

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

Potential for Compressible Ground Stability Hazards

High | Low
Moderate | Very Low

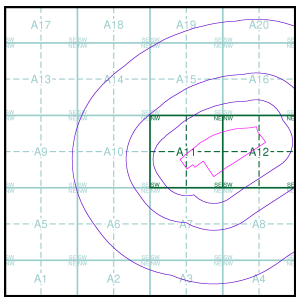
Potential for Collapsible Ground Stability Hazards

High | Low
Moderate | Very Low

Brine Pumping and Salt Mining

	Point	Polygon
Brine Pumping Related Feature	▲	▨
Salt Mining Related Feature	▲	▨

Mining and Ground Stability - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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

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Ground Stability Data (1:50,000)

General

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

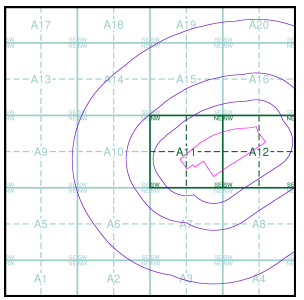
Potential for Landslide Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Ground Dissolution Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice A



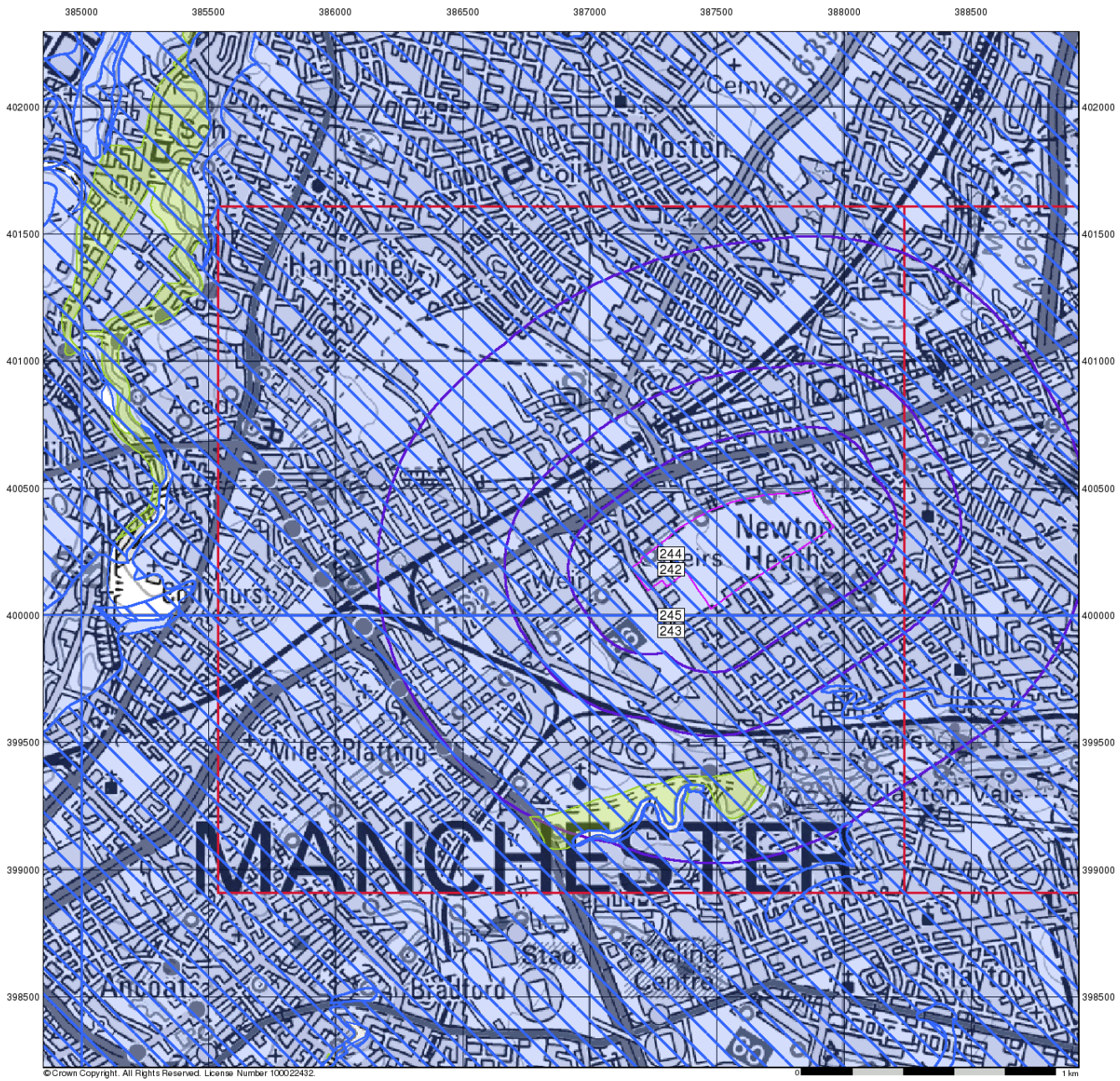
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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



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Ground Stability Data (1:50,000)

General

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

Slice | Map ID

Potential for Running Sand Ground Stability Hazards

High | Low

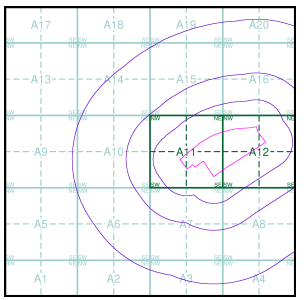
Moderate | Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

High | Low

Moderate | Very Low

Mining and Ground Stability - Slice A



Order Details

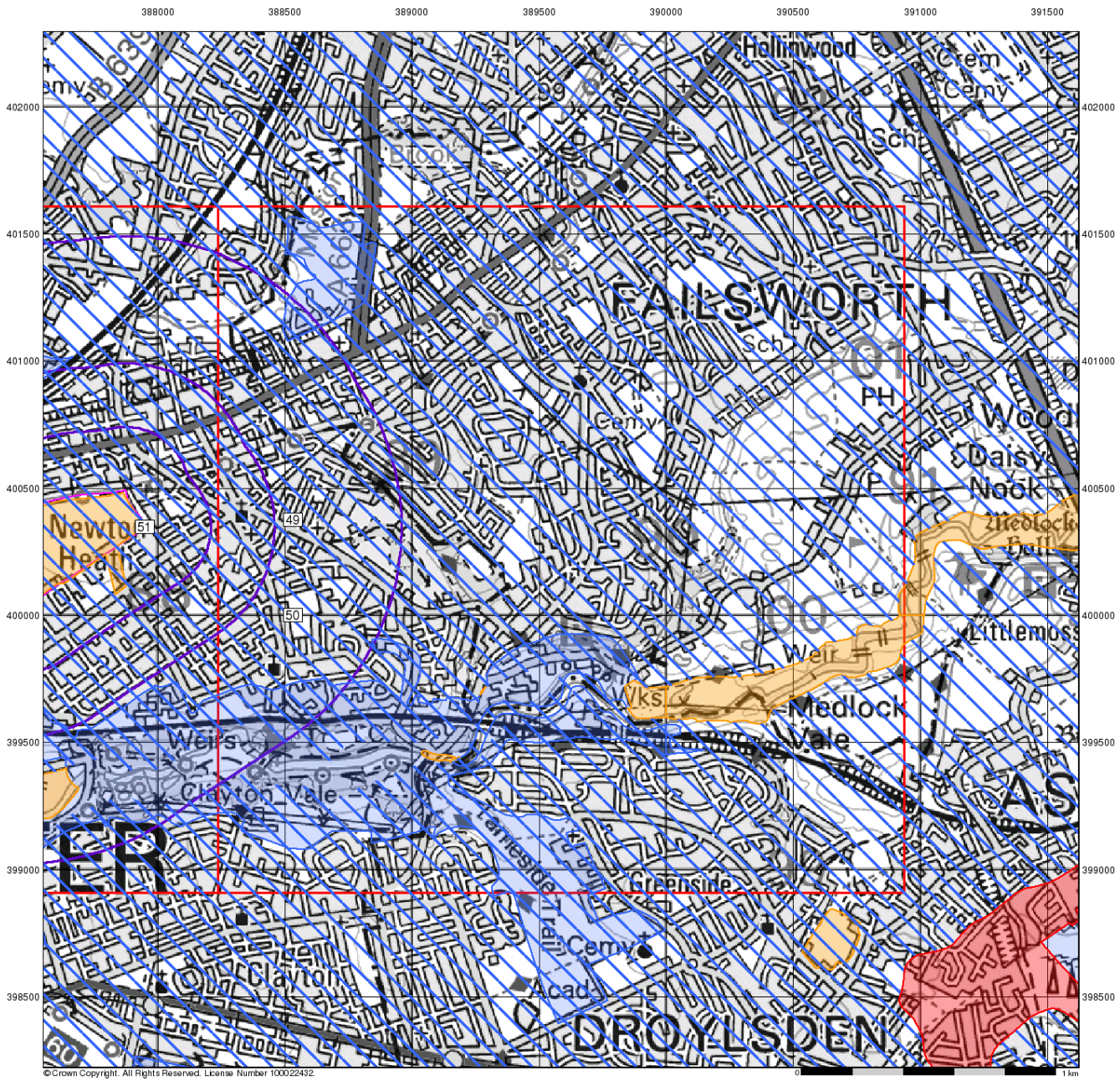
Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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



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Ground Stability Data (1:50,000)

General

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

Potential for Compressible Ground Stability Hazards

High | Low | Moderate | Very Low

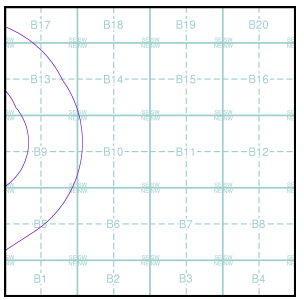
Potential for Collapsible Ground Stability Hazards

High | Low | Moderate | Very Low

Brine Pumping and Salt Mining

	Point	Polygon
Brine Pumping Related Feature	▲	▨
Salt Mining Related Feature	▲	▨

Mining and Ground Stability - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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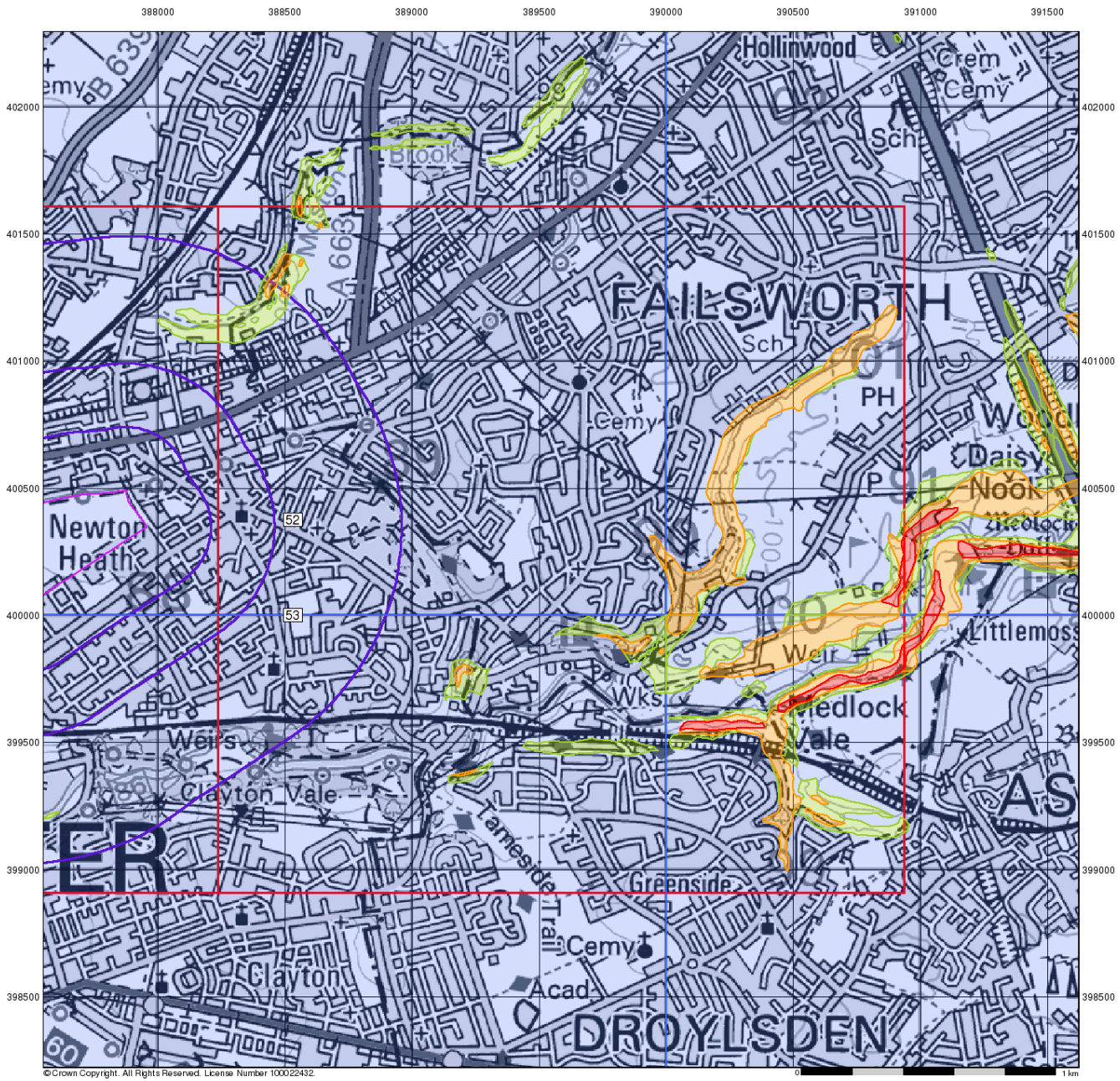
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Ground Stability Data (1:50,000)

General

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

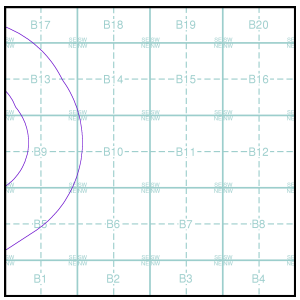
Potential for Landslide Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Ground Dissolution Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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Tel: 0844 844 9952
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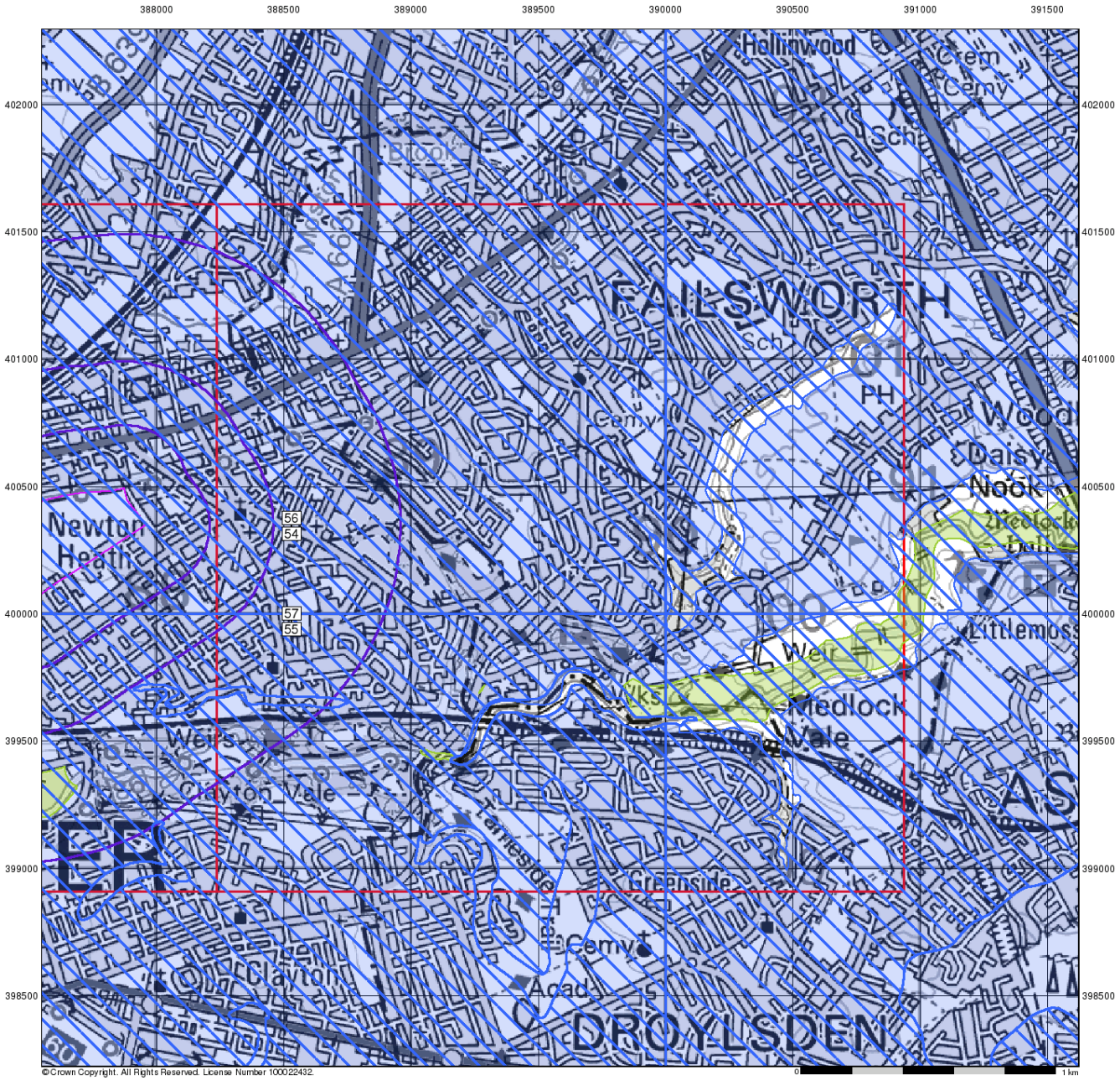

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Ground Stability Data (1:50,000)

General

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

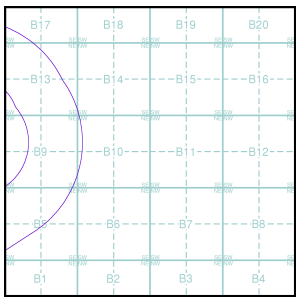
Potential for Running Sand Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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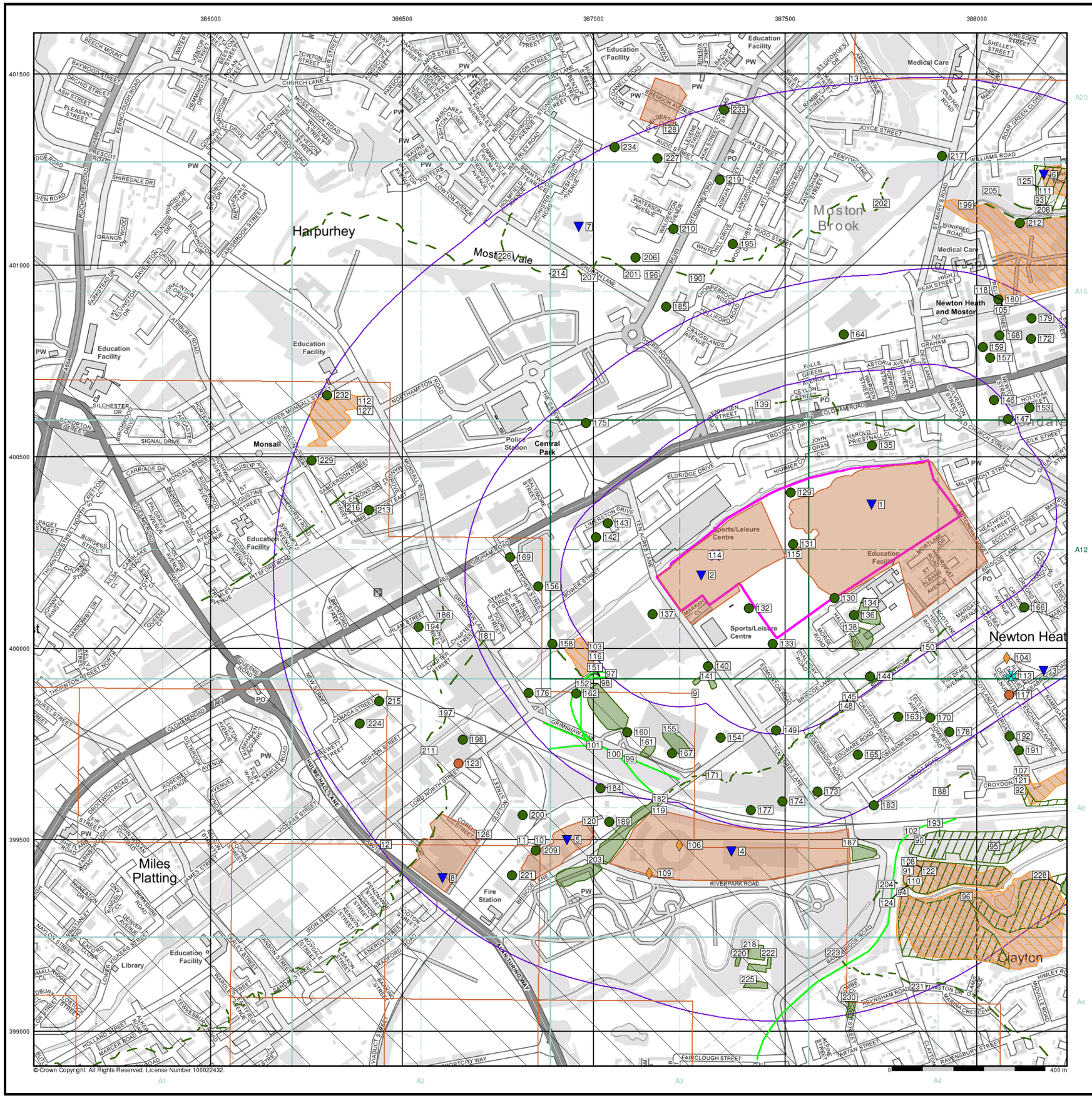
Web: www.envirocheck.co.uk



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Historical Land Use Information (1:10,000)

General

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

Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts	◆		
Disturbed Ground	◆		
General Quarrying	◆		
Heap, unknown constituents	◆		
Mineral Railway	◆		
Mining and Quarrying General	◆		
Mining of Coal & Lignite	◆		
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits	◆		

Historical Land Use

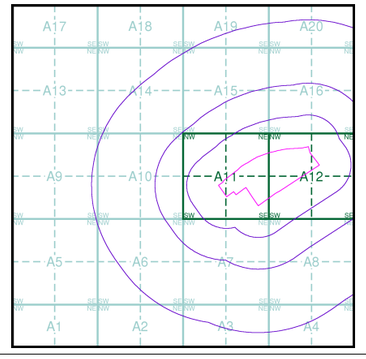
	Point	Line	Polygon
Potentially Infilled Land (Non-Water)	●		
Potentially Infilled Land (Water)	●		
Former Marsh	✠		

Mining Data

Potential Mining Area

BGS Recorded Mineral Site

Mining and Ground Stability - Slice A



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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

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Historical Land Use Information (1:10,000)

General

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

Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts	◆	—	▨
Disturbed Ground	◆	—	▨
General Quarrying	◆	—	▨
Heap, unknown constituents	◆	—	▨
Mineral Railway	◆	—	▨
Mining and Quarrying General	◆	—	▨
Mining of Coal & Lignite	◆	—	▨
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits	◆	—	▨

Historical Land Use

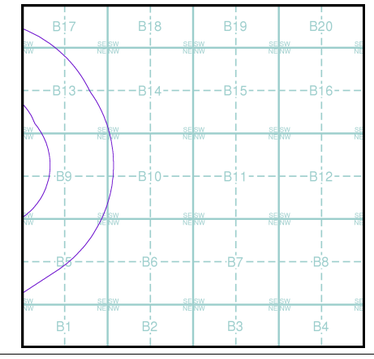
	Point	Line	Polygon
Potentially Infilled Land (Non-Water)	●	- - -	■
Potentially Infilled Land (Water)	●	- - -	■
Former Marsh	✠		

Mining Data

Potential Mining Area

BGS Recorded Mineral Site

Mining and Ground Stability - Slice B



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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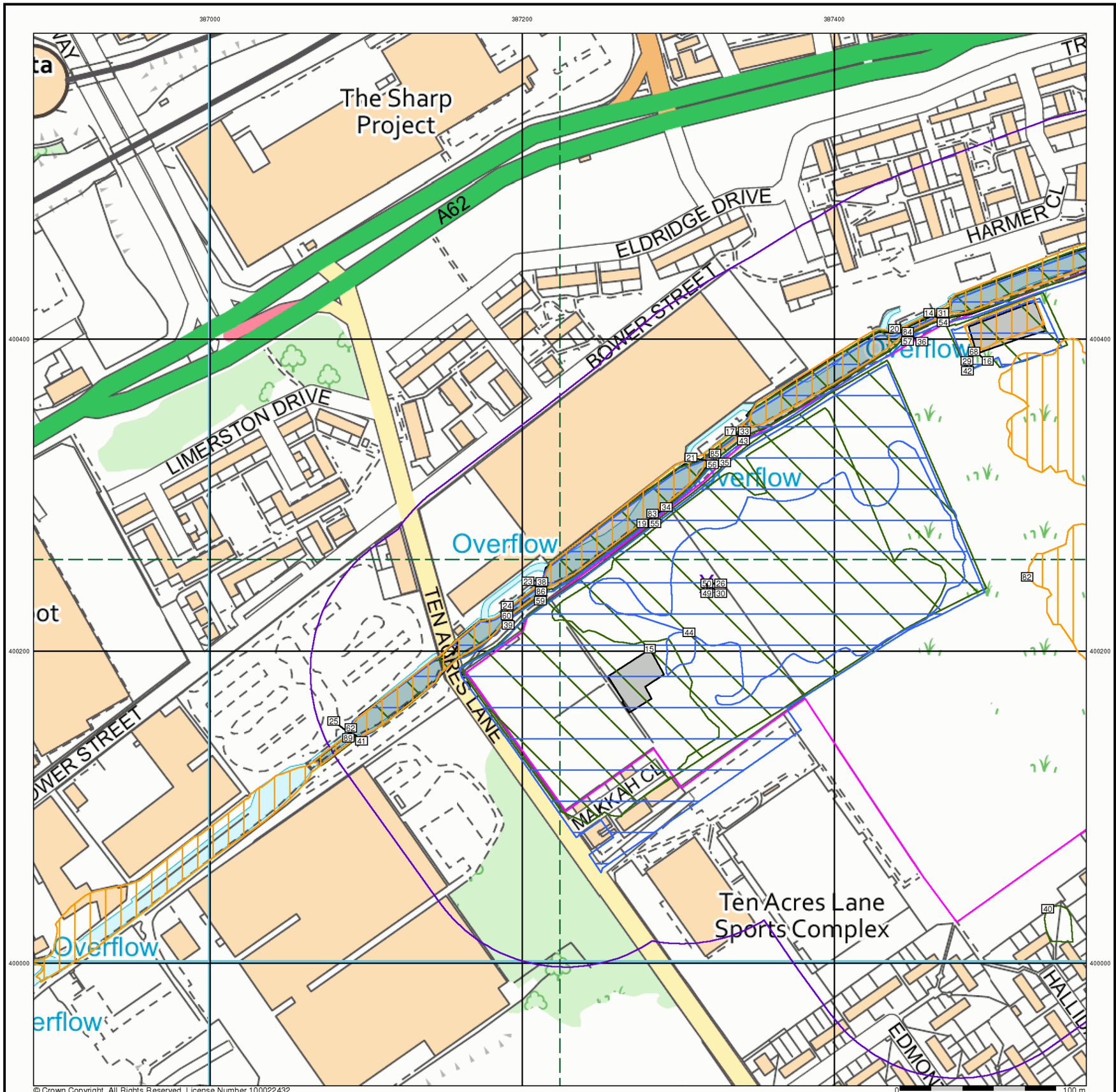
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Historical Land Use Information (1:2,500)

General

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

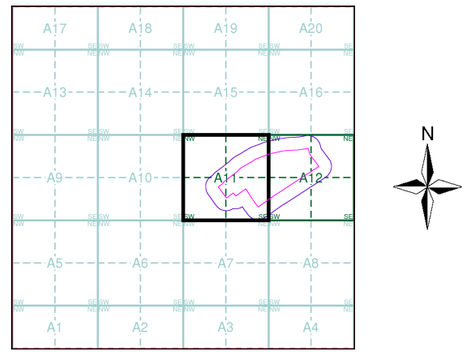
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	▭
Extractive Industries Activity from 1893 - 1915	▲	—	▭
Extractive Industries Activity from 1906 - 1937	▲	—	▭
Extractive Industries Activity from 1924 - 1949	▲	—	▭
Extractive Industries Activity from 1950 - 1980	▲	—	▭

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	▭

Mining and Ground Stability - Segment A11



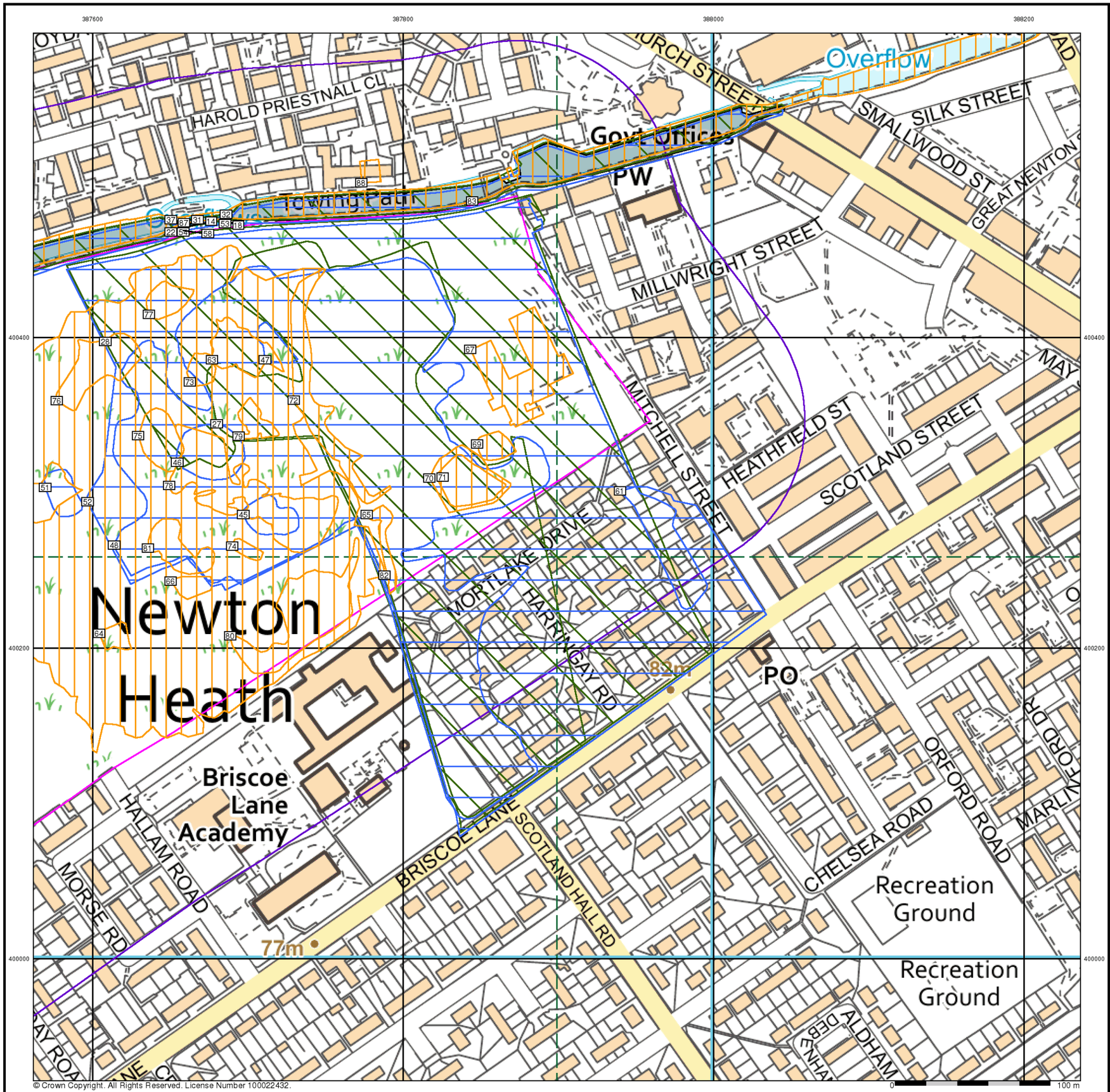
Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Plot Buffer (m):	100

Site Details

Site at 387600, 400310

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



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wardell armstrong

Historical Land Use Information (1:2,500)

General

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

Several of Type at Location

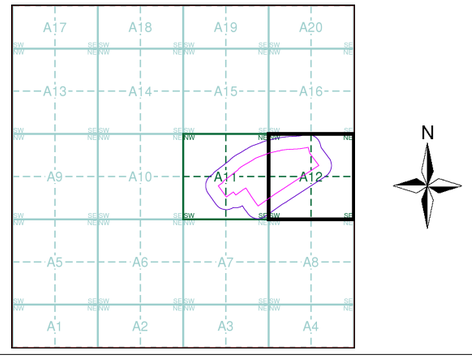
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	▭
Extractive Industries Activity from 1893 - 1915	▲	—	▨
Extractive Industries Activity from 1906 - 1937	▲	—	▦
Extractive Industries Activity from 1924 - 1949	▲	—	▨
Extractive Industries Activity from 1950 - 1980	▲	—	▥

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	▭

Mining and Ground Stability - Segment A12



Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387320, 400240
Slice:	A
Site Area (Ha):	18.51
Plot Buffer (m):	100

Site Details

Site at 387600, 400310

Landmark INFORMATION GROUP

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

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

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

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian

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
	HTS	Holt Town Sandstone Bed	Sandstone	Not Supplied - Westphalian
	HA	Halesowen Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	GML	Great Mine Limestone	Limestone	Not Supplied - Westphalian
	NHSS	Newton Heath Sandstone	Sandstone	Not Supplied - Westphalian
	PUCM	Pennine Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	OPS	Openshaw Sandstone	Sandstone	Not Supplied - Westphalian
	WDR	Worsley Delf Rock	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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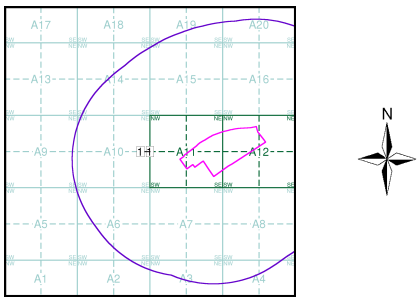
Geology 1:50,000 Maps

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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Customer Reference:	Ten Acres
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Site Area (Ha):	18.51
Search Buffer (m):	1000

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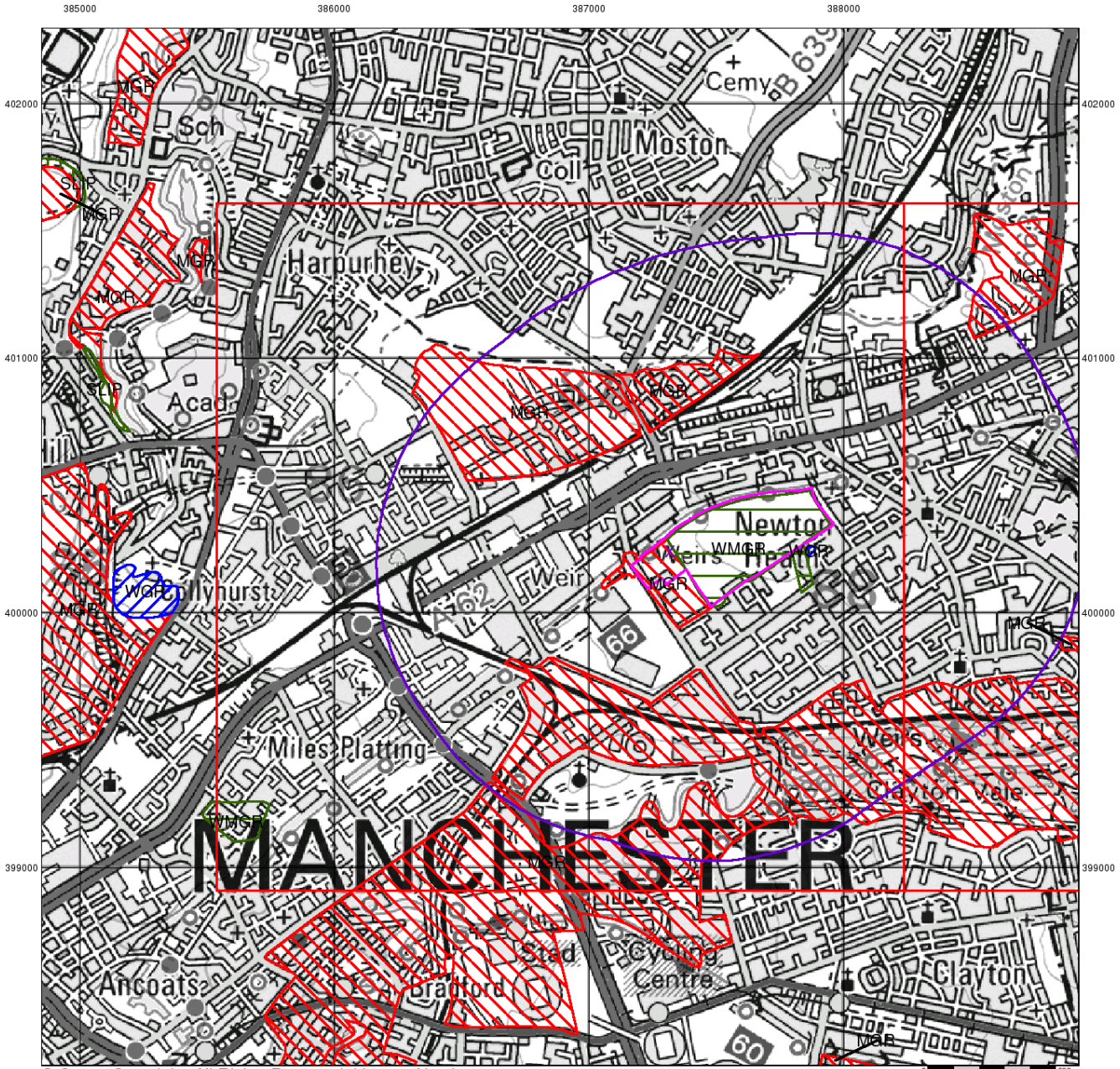

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Artificial Ground and Landslip

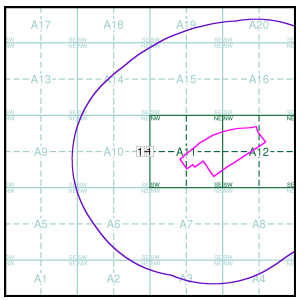
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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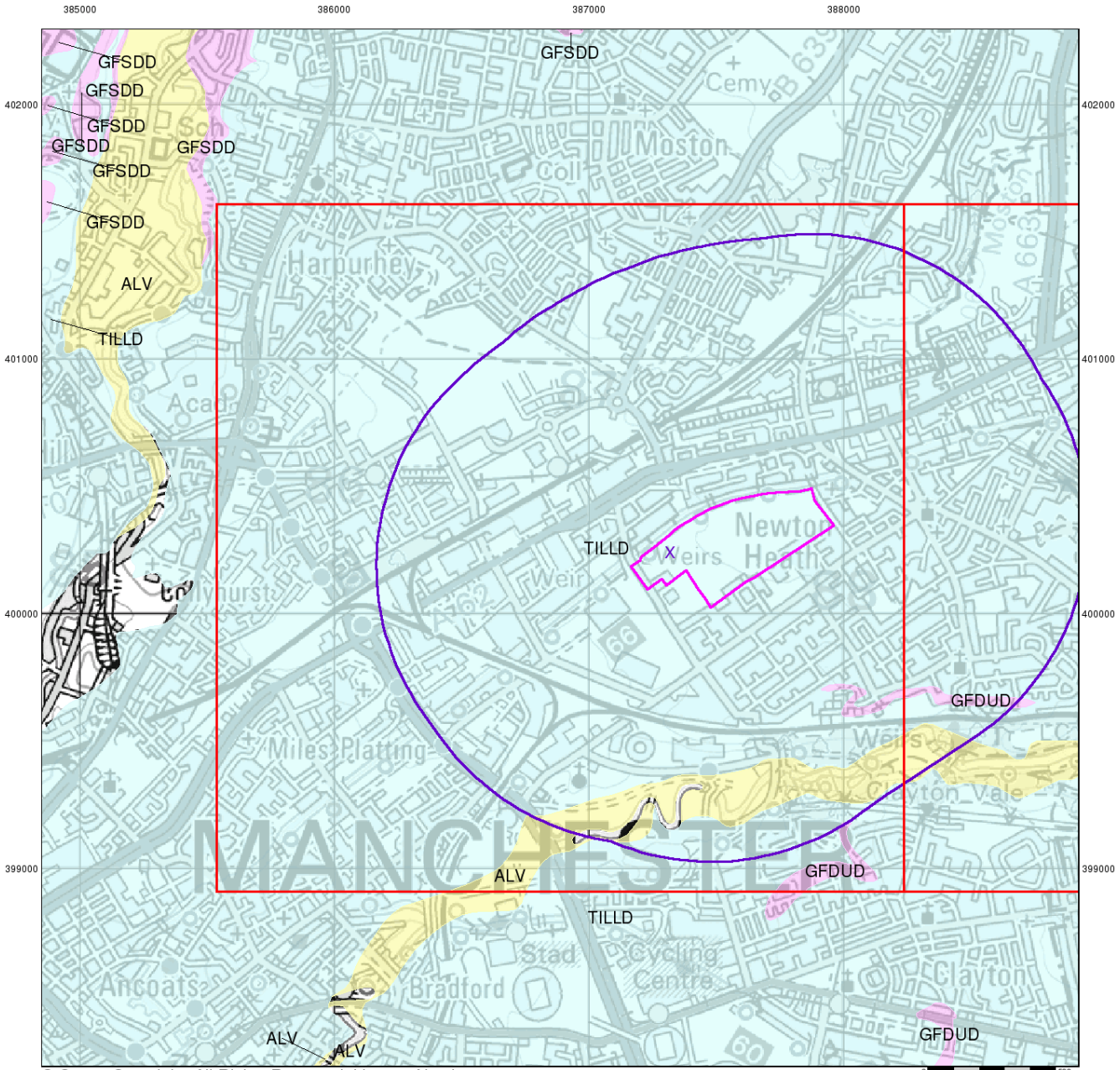

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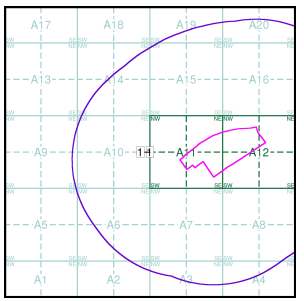
Superficial Geology

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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Site Details:

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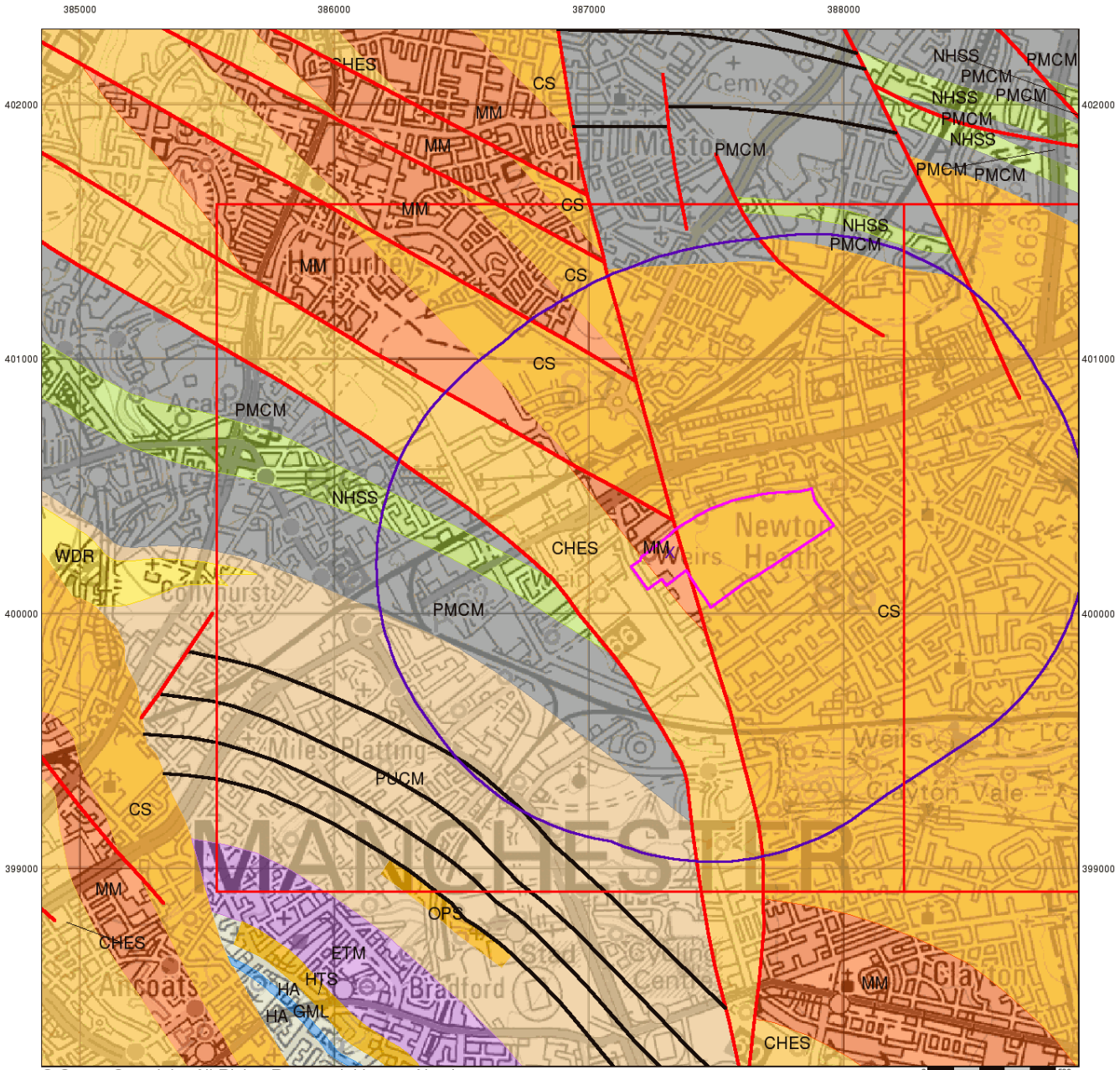

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Bedrock and Faults

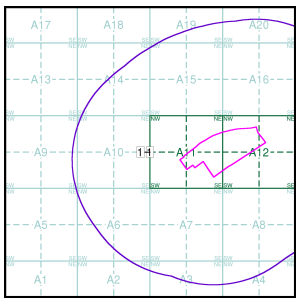
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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



Order Details:

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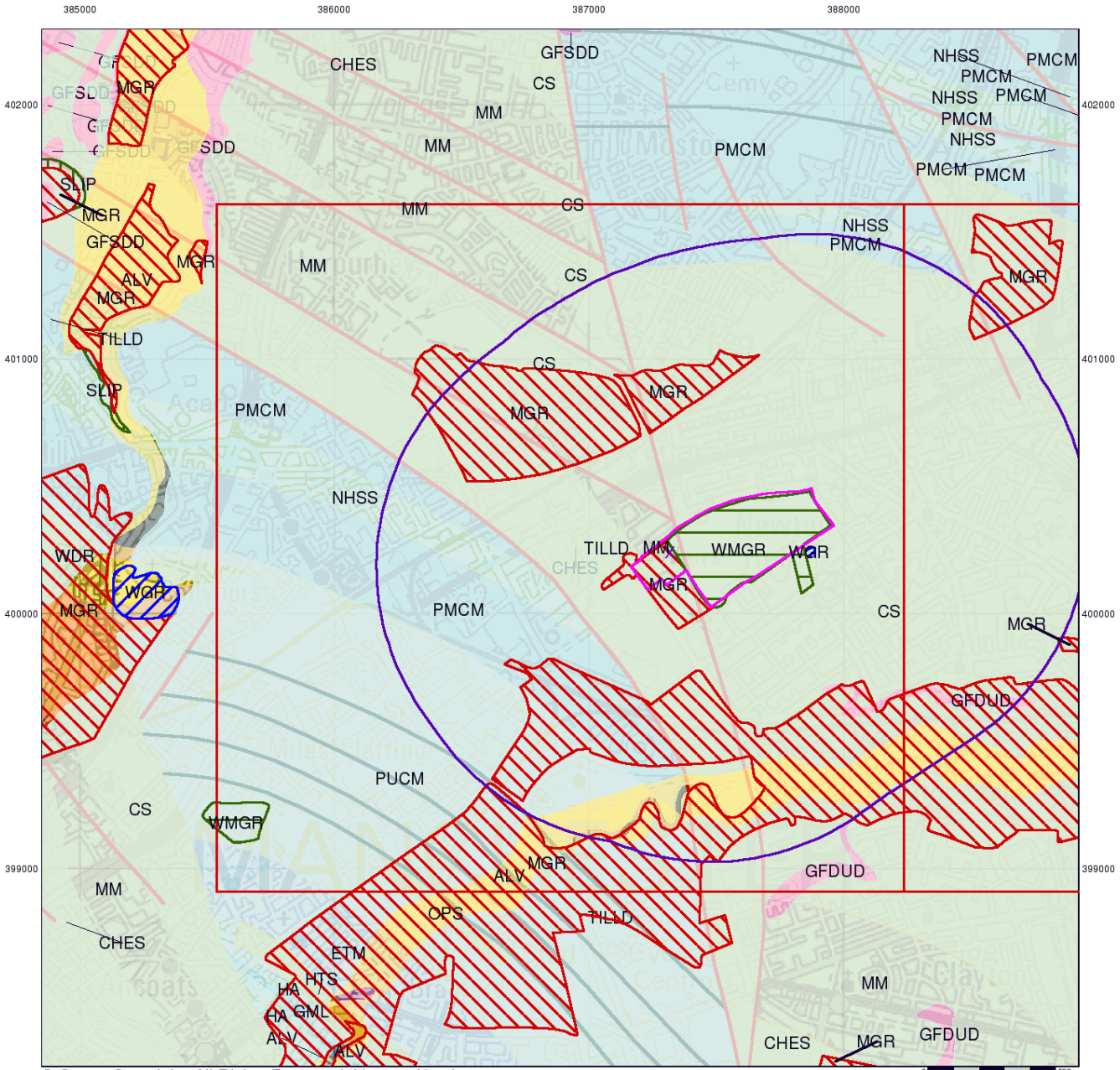
Search Buffer (m):	1000

Site Details:

Site at 387600, 400310



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Combined Surface Geology

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

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

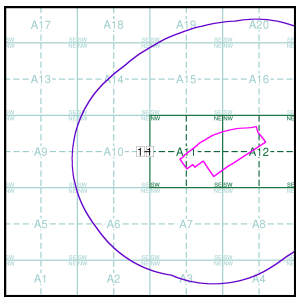
Additional Information

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

Contact

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

Combined Geology Map - Slice A



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Geology 1:50,000 Maps Legends

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Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
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		Rock Segments		

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Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
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	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	PEAT	Peat	Peat	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
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Geology 1:50,000 Maps

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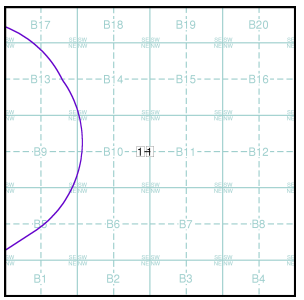
Geology 1:50,000 Maps Coverage

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 B



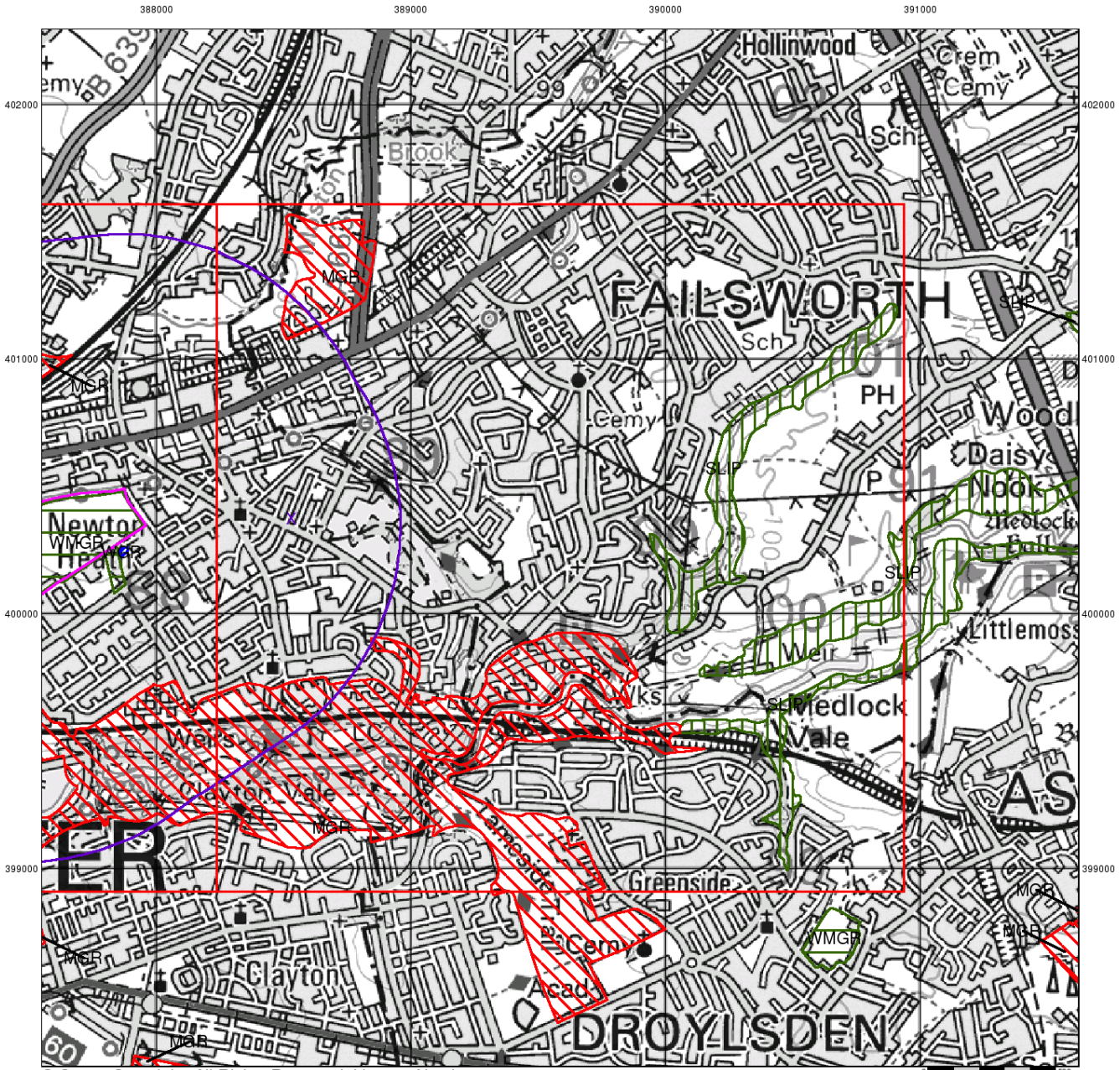
Order Details:

Order Number:	267713911_1_1
Customer Reference:	Ten Acres
National Grid Reference:	388530, 400380
Slice:	B
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details:

Site at 387600, 400310

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



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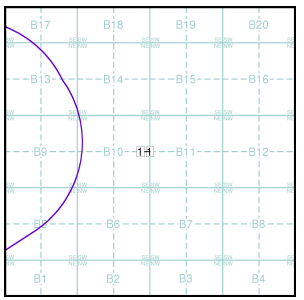
Artificial Ground and Landslip Map - Slice B



Order Details:

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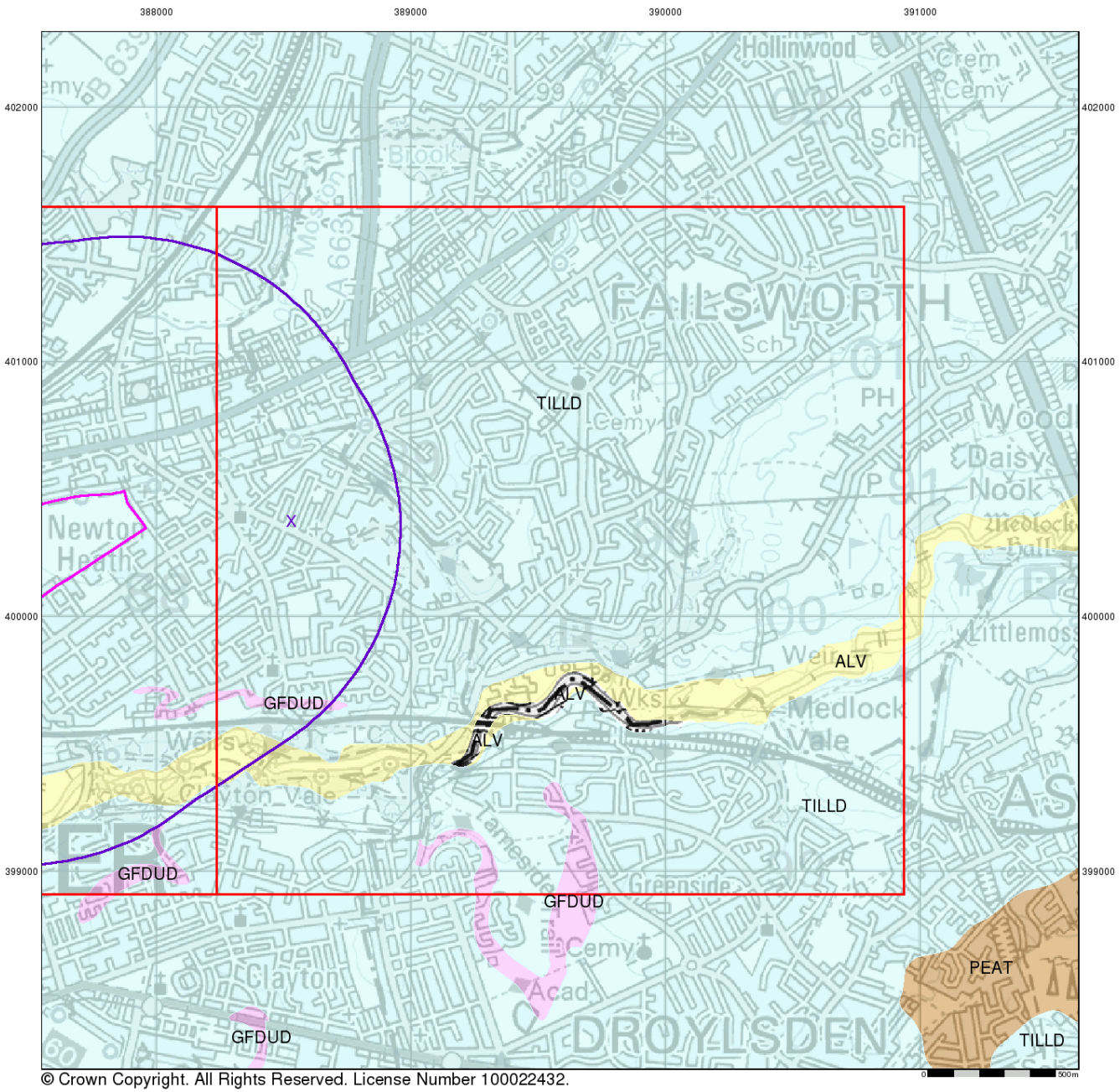

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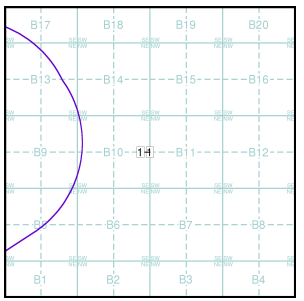

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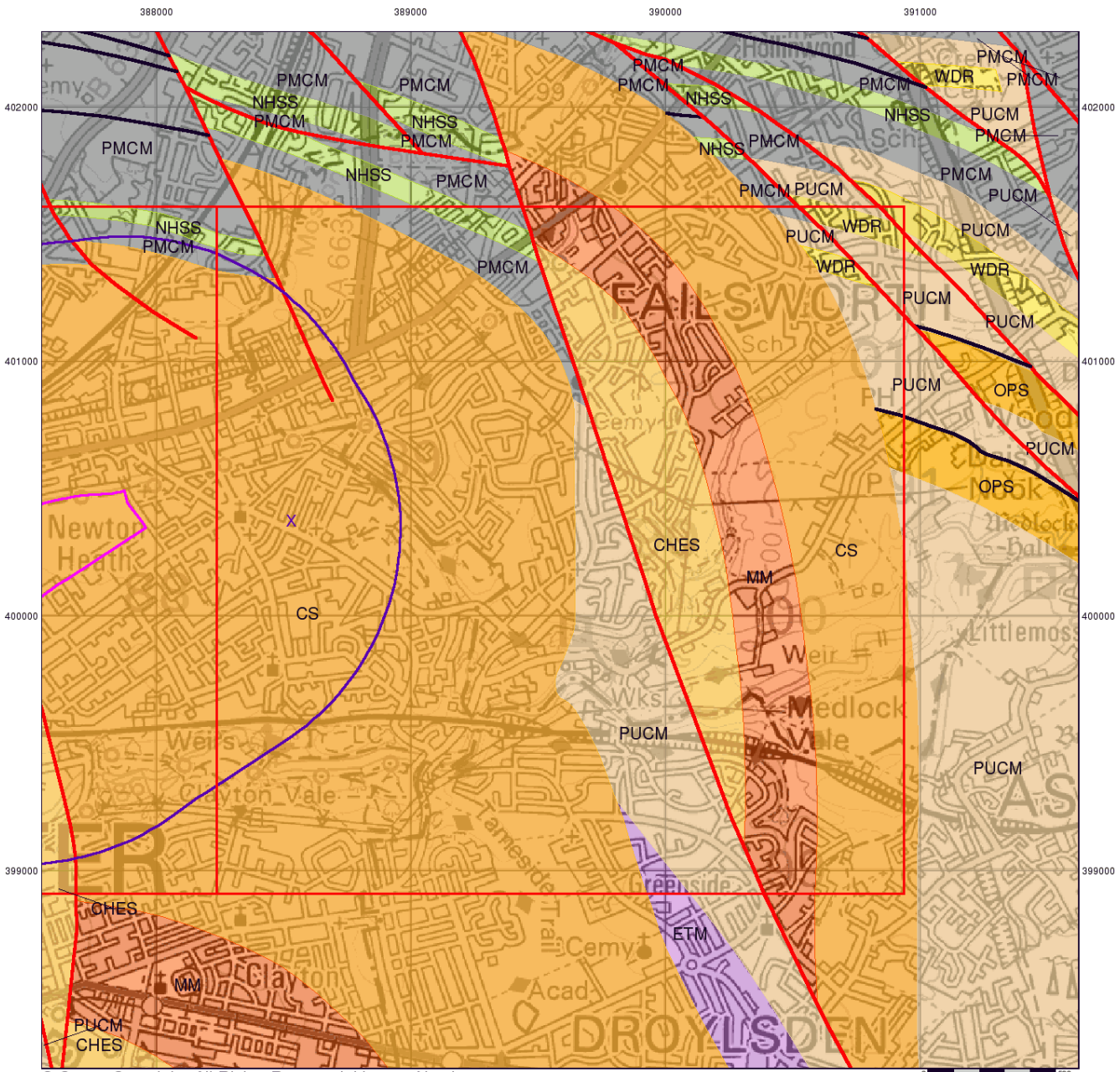

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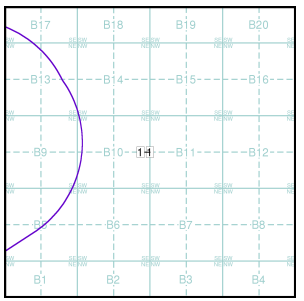
Bedrock and Faults Map - Slice B



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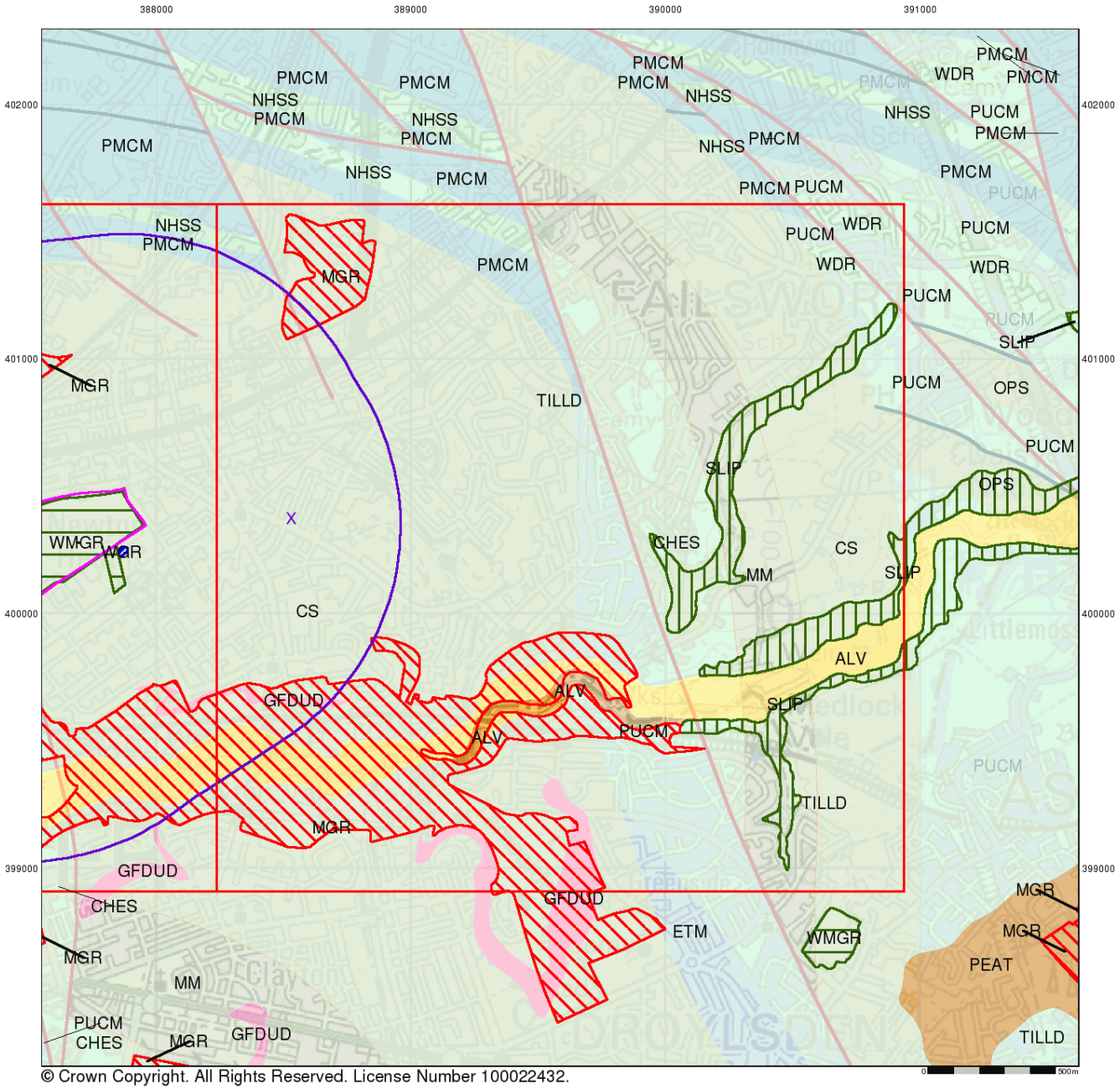

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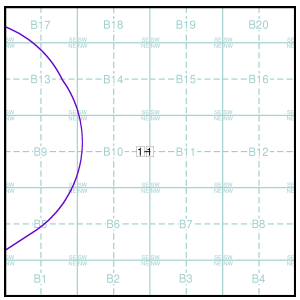
website: www.bgs.ac.uk

Combined Geology Map - Slice B



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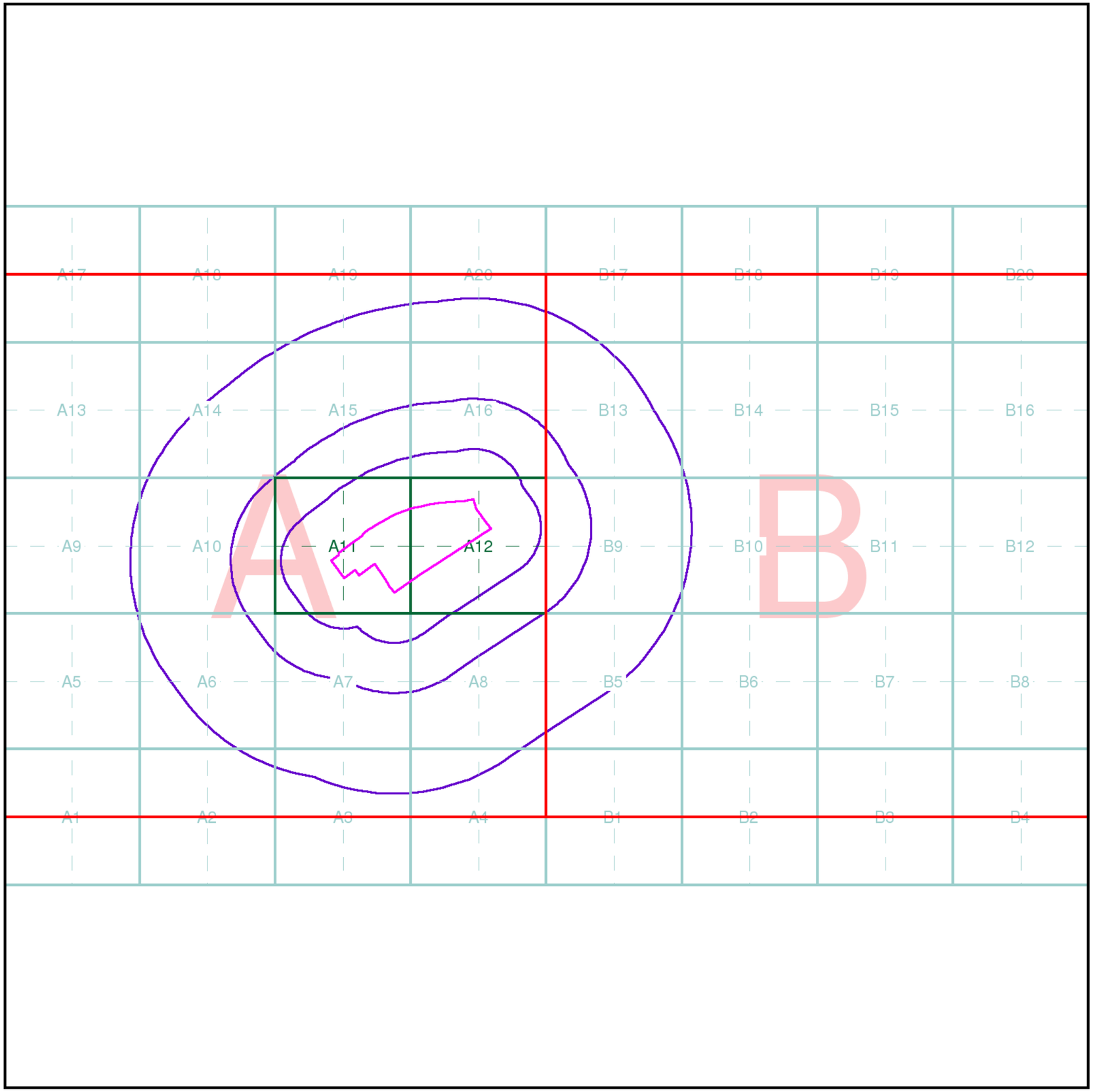

Index Map

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:

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr H Pars , Wardell Armstrong LLP, Unit 4, Newton Business Centre, Thorncliffe Park, Chapletown, Sheffield, S35 2PH

Order Details

Order Number:	267713911_1_1
Customer Ref:	Ten Acres
National Grid Reference:	387570, 400280
Site Area (Ha):	18.51
Search Buffer (m):	1000

Site Details

Site at 387600, 400310

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http://www.landmarkinfo.co.uk/Terms/Show/515

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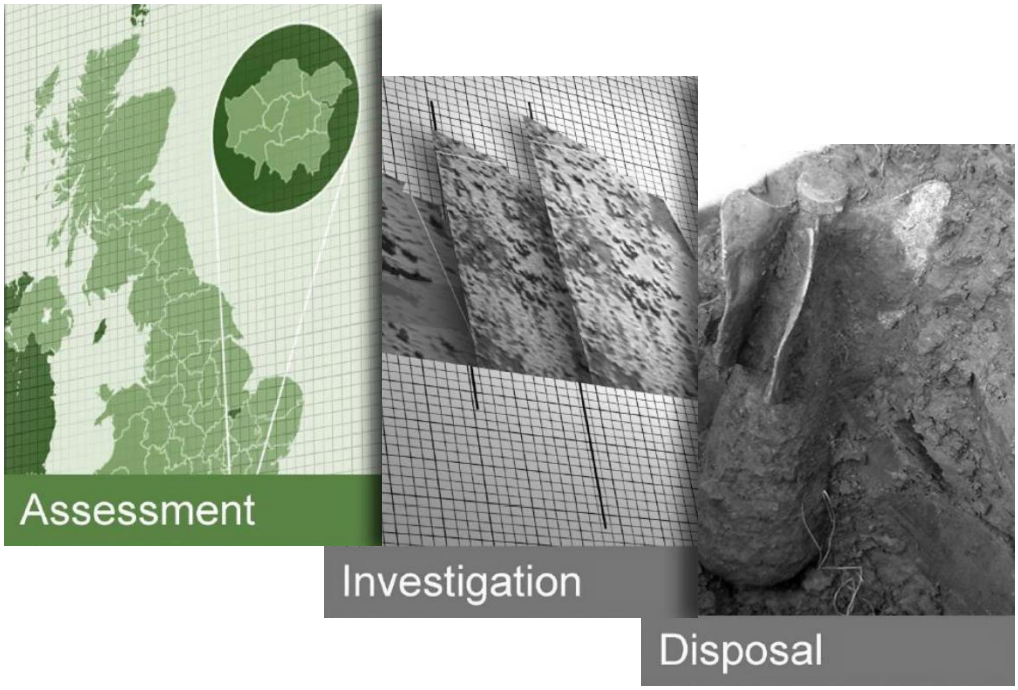
APPENDIX C

Zetica UXO Risk Map



Ten Acres Lane, Newton Heath - UXO Desk Study & Risk Assessment

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Document Title	**UXO Desk Study & Risk Assessment**
Document Ref.	**P10144-20-R1**
Revision	**A**
Project Location	**Ten Acres Lane, Newton Heath**
Client	**Wardell Armstrong**
Date	**8th October 2020**

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UXO DESK STUDY & RISK ASSESSMENT

EXECUTIVE SUMMARY

Key findings: No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

Key actions: Proceed with works.

UXO Hazard Assessment

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figure, reproduced as Figure 4 in the main report.

The UXO hazard zone plan of the Site is also given in the accompanying P10144-20-R1-MAP01-A.

Figure	UXO hazard zone plan of the Site

Source: OpenStreetMap *Not to Scale*

Legend	Very Low	Low	Moderate
	High	Very High	Site boundary

The main findings of the report are summarised below.

- No records of bombing or military activity on the Site during World War One (WWI) have been found.
- During World War Two (WWII) the main strategic targets in the vicinity of the Site including aircraft manufacturing works, transport infrastructure, public utilities, the Salford Docks and the Manchester Ship Canal.

- No records have been found indicating that the Site was bombed during WWII. Records indicate that the nearest High Explosive (HE) bomb fell approximately 0.2km north of the Site.
- No records of military activity on the Site post-WWII have been found.

Data Confidence Level

The findings of this report were based on good corroborative evidence of the military activity and bombing on the Site.

Proposed Works

It is understood that initial works on the Site will involve ground excavation including excavations and boreholes to depths of up to 30m below ground level (bgl).

Future works may include bulk excavation of parts of the Site.

Risk Assessment

The Table below, reproduced as Table 4 in the main report, provides a UXO risk assessment for the proposed works on the Site.

Further details on the methodology for the risk assessment are provided in Section 7.2 of the main report.

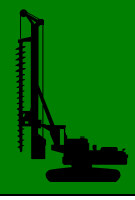
Table UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Shallow Excavations	1	1	1	1	5	5	**Low**
	Deep Excavations	1	1	1	1	5	5	**Low**
	Boreholes	1	1	1	1	4	4	**Low**
Other UXO	Shallow Excavations	1	1	1	1	4	4	**Low**
	Deep Excavations	1	1	1	1	4	4	**Low**
	Boreholes	1	1	1	1	3	3	**Low**
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								
Shallow Excavations defined as <1.0m below ground level (bgl.)								

Risk Mitigation Plan

The Table below, reproduced as Table 5 in the main report, summarises the UXO risk for proposed works on the Site and recommended actions.

Table	Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		**Proceed with works** – if additional comfort is required to address the residual UXO hazard, a formal UXO awareness briefing can be provided.
Boreholes		**Proceed with works**

In summary, no additional measures are considered essential to reduce the UXO risk on the Site to As Low As is Reasonably Practicable (ALARP).

What Do I Do Next?

If you have any comments or require further assistance, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

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Table 2 Estimated average maximum bomb penetration depths (central and southeast)

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Table 4 UXO risk assessment for the Site

Table 5 Summary of UXO risk and mitigation recommendations

Accompanying GIS Data

P10144-20-R1-MAP01-A (UXO Desk Study)

ABBREVIATIONS

AA	Anti-Aircraft
AAP	Aircraft Acceptance Park
ALARP	As Low As Reasonably Practicable
ARP	Air Raid Precaution
AXO	Abandoned Explosive Ordnance
BD	Bomb Disposal
BDO	Bomb Disposal Officer
BDU	Bomb Disposal Unit
CMD	Conventional Munitions Disposal
DCLG	Department of Communities and Local Government
EO	Explosive Ordnance
EOC	Explosive Ordnance Clearance
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESA	Explosive Substances and Articles
FFE	Free From Explosives
HAA	Heavy Anti-Aircraft
HE	High Explosive
HSE	Health and Safety Executive
IB	Incendiary Bomb
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
JSEODOC	Joint Services EOD Operations Centre
LAA	Light Anti-Aircraft
MoD	Ministry of Defence
OB	Oil Bomb
PM	Parachute Mine
PUCA	Pick Up and Carry Away
RAF	Royal Air Force
TEP	Time Expired Pyrotechnics
UXAA	Unexploded Anti-Aircraft
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
WWI	World War One
WWII	World War Two

UXO DESK STUDY & RISK ASSESSMENT

Please read: Zetica has colour coded each paragraph. Paragraphs with black text on a white background are paragraphs that provide site-specific information or information specifically researched as part of this project.

Boxed paragraphs in a dark green text with a green background are paragraphs providing general information and, where appropriate, links to online resources giving further detail. These are all available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

1 INTRODUCTION

1.1 Project Outline

Zetica Ltd was commissioned by Wardell Armstrong to carry out a detailed Unexploded Ordnance (UXO) Desk Study and Risk Assessment for an area of approximately 18.8 hectares (ha) off Ten Acres Lane, Newton Heath, Manchester (the 'Site').

The aim of this report is to gain a fair and representative view of the UXO hazard for the Site and its immediate surrounding area in accordance with the Construction Industry Research and Information Association (CIRIA) C681 'Unexploded Ordnance (UXO), a Guide for the Construction Industry'.

Where appropriate, this hazard assessment includes:

- Likelihood of ordnance being present.
- Type of ordnance (size, filling, fuze mechanisms).
- Quantity of ordnance.
- Potential for live ordnance.
- Probable location.
- Ordnance condition.

It should be noted that some military activity providing a source of UXO hazard may not be recorded and therefore there cannot be any guarantee that all UXO hazards affecting the Site have been identified in this report.

1.2 Sources of Information

Zetica Ltd researched the military history of the Site and its surrounding area using a range of information sources. The main sources of information are detailed in the following sections and referenced at the end of this report.

1.2.1 Zetica Ltd Defence Related Site Records

Zetica Ltd's in-house records were consulted, including reference books and archived materials from past work in the region. Relevant documents have been cited within the bibliography of this report.

1.2.2 Zetica Ltd Bombing Density Records and Maps

Reference has been made to the Zetica Ltd bomb risk maps located on Zetica's website (http://zeticauxo.com/downloads-and-resources/risk-maps/)

1.2.3 Ministry of Defence and Government Records

Government departments and units within the Ministry of Defence (MoD) were approached for information of past and present military activity in the area. These included the Department of Communities and Local Government (DCLG) records of abandoned bombs.

1.2.4 Other Historical Records, Maps and Drawings

Numerous reference documents including historical maps, aerial photographs and drawings have been consulted from sources such as the National Archives, the US National Archives & Records Administration (NARA), the Imperial War Museum (IWM), Historic England and the Defence of Britain Project.

The British Geological Survey (BGS) was consulted for borehole information.

1.2.5 Local Authority Records

Information was obtained from Manchester City Council.

1.2.6 Local Record Offices and Libraries

The Greater Manchester County Record Office, Manchester Central Library Archive and Manchester University have been consulted for records.

1.2.7 Local Historical and Other Groups

Local history groups and archaeological bodies were consulted, including the Greater Manchester Historic Environmental Record (HER).

1.3 Data Confidence Level

In general, there is a high level of confidence in the researched information sources used for this report. Exceptions to this are specifically detailed in the text of the report.

It should be noted that it has not been possible to obtain detailed historical aerial photography for the Site, as the Historic England archive is shut due to the Covid-19 outbreak. Readily available aerial photography has been used where possible.

2 THE SITE

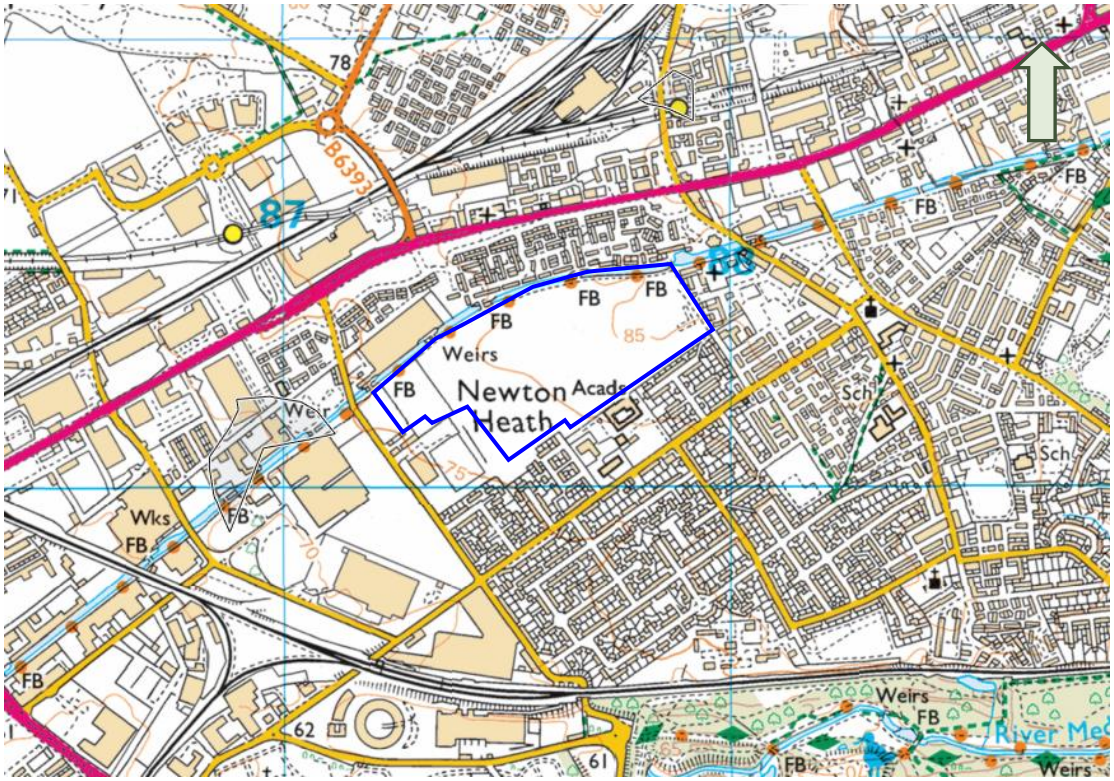
2.1 Site Location

The Site is centred on Ordnance Survey National Grid Reference (OSNGR) SD 876003. It is located approximately 3.6km northeast of central Manchester.

The Site comprises open land. It is bounded to the north by the Manchester Canal, to the east by Mitchell Street, to the south by residential buildings and to the east by Ten Acres Lane and sports facilities.

Figure 1 is a Site location map and Plate 1 is a recent aerial photograph of the Site.

Figure 1	Site location map



Source: © Crown Copyright 2020. Reproduced by permission of Ordnance Survey *Not to Scale*

Legend	Site boundary

Plate 1	Recent aerial photograph of the Site

Source: Google Earth *Not to Scale*

Legend	Site boundary

3 MILITARY ACTIVITY

The following sections outline the recorded military activity in the vicinity of the Site. The potential UXO hazard from WWI and WWII bombing is detailed in Section 4.

Each sub-section provides hyperlinks to further information on potential sources of UXO hazard. These are also available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

3.1 Defences

For further information on military defences, and the potential UXO hazards associated with them, follow the links below:

- Anti-Aircraft Guns
- Anti-Invasion Defences
- Barrage Balloons
- Bombing Decoys
- Home Guard
- Mined Locations
- Mortar & Gun Emplacements
- Pillboxes

No military defences have been identified on the Site. The nearest are described below.

3.1.1 Anti-Aircraft Guns

During WWI there were 9No. Anti-Aircraft (AA) batteries within 10km of the Site. The nearest was located at Newton Heath (SJ 877996), approximately 0.6km south of the Site. It was armed with 1No. 18 pounder (pdr) gun.

During WWII there were 27No. Heavy AA (HAA) and ZAA batteries within 10km of the Site. The nearest was located at Brookdale (SD 890015), approximately 1.5km northeast of the Site.

The nearest recorded WWII AA shell incidents to the Site are described below.

14th March 1941

1No. AA shell fell on 83 Droylsden Road, approximately 0.4km east of the Site.

1No. AA shell fell on 96 Church Street, approximately 0.3km east of the Site.

Potential UXO Hazard

Given the number of HAA gun batteries in the surrounding area during WWII, the potential for a UXAA shell to have fallen on the Site unnoticed, whilst unlikely, cannot be totally discounted.

3.1.2 Bombing Decoys

The nearest recorded bombing decoy was located at Reddish (SJ 912939), approximately 7.1km south of the Site.

Bombing decoys are not considered to provide a source of UXO hazard to the Site.

3.2 Military Airfields

For further information on military airfields, and the potential UXO hazards associated with them, follow the links below:

- Military Airfields

No records of any military airfields on or in close proximity to the Site have been found.

The nearest recorded military airfield during WWI was Royal Air Force (RAF) Alexandra Park, approximately 6km southwest of the Site. This functioned as an Aircraft Acceptance Park (AAP), used for assembly, test flying, and delivery of aircraft from the nearby aircraft factories.

During WWII, the nearest military airfield was RAF Barton, approximately 13.1km west of the Site. Its primary function was to accept and repair damaged aircraft. Post-WWII, the airfield was used as a flight school.

Military airfields are not considered to provide a source of UXO hazard to the Site.

3.3 Aircraft Crashes

For further information on military aircraft crashes, and the potential UXO hazards associated with them, follow the links below:

- Aircraft Crashes

No records of any aircraft crashes on or in close proximity to the Site have been found.

3.4 Explosives Factories, Munitions Depots and Disposal Areas

For further information on explosives factories, munitions depots and disposal areas, and the potential UXO hazards associated with them, follow the links below:

- Explosives Factories
- Munitions Depots
- Munitions Disposal Areas

No records of any explosives factories, munitions depots or munitions disposal areas on the Site have been found.

3.4.1 Park Engineering Works

In 1900, the Mather & Platt works moved their Iron foundry operations to the Newton Heath Park Engineering Works, approximately 0.1km southwest of the Site. They were previously located at the Salford Iron Works, approximately 4.2km west of the Site.

The Site was occupied at this time by the Newton Heath Brick Works, which would remain operational on the Site until the 1950s.

During WWI, part of the Newton Heath Park Engineering Works was leased to Avro for the manufacture of aircraft and in 1915 the works were taken over by the government for the production of munitions.

During the 1920s, Avro remained at the factory producing the Avian, Cadet, Tutor and Anson aircraft and used the airfield at Alexandra Park (see section 3.2) for final assembly and test flights.

Avro left the factory in 1938 but Newton Heath Park Engineering Works were again used for aircraft production during WWII, specialising in the development and manufacturing of parts for the Lancaster Bomber (see Figure 2).

After the war the factory returned to engineering production and was finally closed in July 2013.

The Park Engineering works is not considered to provide a significant source of UXO hazard to the Site.

3.5 Firing Ranges and Military Training Areas

For further information on firing ranges and military training areas, and the potential UXO hazards associated with them, follow the links below:

- Artillery Ranges
- Bombing Ranges
- Military Training Areas
- Small Arms Ranges

No records of any firing ranges or military training areas on or in close proximity to the Site have been found.

3.6 Other Military Establishments

No other military establishments have been identified on or in close proximity to the Site.

4 BOMBING

4.1 WWI Bombing

For further information on WWI bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.1. Alternatively, use the following link.

- WWI Bombing

No records have been found indicating that the Site was bombed during WWI.

4.2 WWII Bombing

For further information on WWII bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.2. Alternatively, use the following link.

- WWII Bombing

No records have been found indicating that the Site was bombed during WWII. Details of WWII bombing in the vicinity of the Site are provided in the following sections.

4.2.1 Bombing in Manchester

Manchester's industrial conurbations and port made it a principal target for enemy bombers. The Luftwaffe possessed detailed target photographs of many industrial complexes from as early as 1937.

Air raids on Manchester began in August 1940 and continued until 1945. The heaviest raids on the city occurred between the 22nd and 24th December 1940, the 'Manchester Blitz', during which more than 400No. HE bombs and thousands of IBs were dropped.

More than 1,710No. HE bombs and 115No. PMs fell across the Manchester region during WWII. Bombing was concentrated on the city centre and in West Manchester, where the Salford Docks and major industrial works at Trafford Park attracted heavy raids.

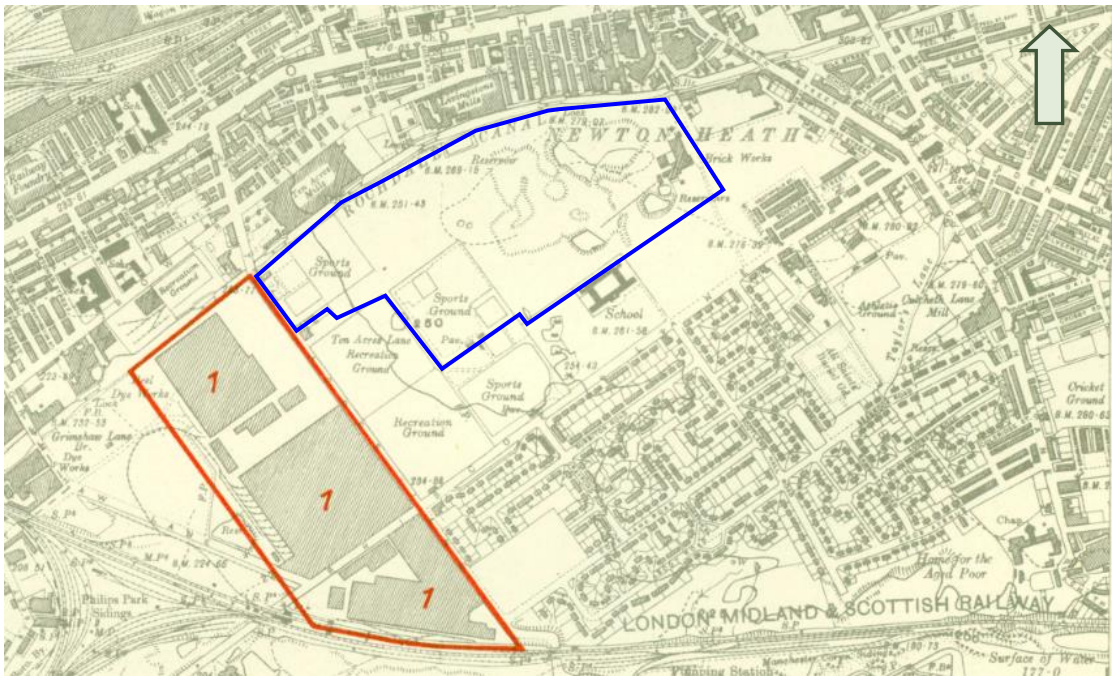
Bombing densities generally decreased away from the city centre, approximately 3.5km west-southwest of the Site, and far less damage was sustained by properties in these outlying areas.

4.2.2 Strategic Targets

The Site was located in an area which contained numerous potential strategic targets, including aircraft manufacturing works, transport infrastructure, public utilities and the Manchester Ship Canal.

Figure 2 is a Luftwaffe target map of the Avro works (1), dating from October 1940 (see section 3.4.1).

Figure 2	Luftwaffe target map of the Avro works, October 1940



Source: NARA *Not to Scale*

Legend	Site boundary

4.2.3 Bombing Densities and Incidents

Table 1 gives details of the overall bombing statistics recorded for the Local Authority Districts of the Site and surrounding districts. These were categorised as Rural Districts (RD), Urban Districts (UD), Municipal or Metropolitan Boroughs (MB) and County Boroughs (CB). WWII bomb density levels are defined below:

<5 bombs per 405ha is a Very Low regional bombing density.

5-15 bombs per 405ha is Low.

15-50 bombs per 405ha is Moderate.

50-250 bombs per 405ha is High.

>250 bombs per 405ha is Very High.

Table 1 Bombing statistics

Area	Bombs Recorded				
	High Explosive	Parachute Mines	Other	Total	Bombs per 405ha (1,000 acres)
Manchester CB	**712**	**18**	**7**	**737**	**27.0**
Stretford MB	456	64	0	520	147.3
Salford CB	406	29	16	451	86.7
Middleton MB	37	0	0	37	7.2
Chadderton UD	11	1	0	12	4.0
Failsworth UD	2	2	0	4	3.7

Note that Table 1 excludes the figures for Incendiary Bombs (IBs). Discrepancies between this list and other records, such as bomb clearance records, demonstrate that this data is likely to under-represent actual bombing.

Details of the nearest recorded bombing incidents to the Site are given in the following section.

1st June 1941

3No. HE bombs fell in a line from the allotment gardens on Ceylon Street to Vine Street, between 0.2km northwest and 0.3km north of the Site.

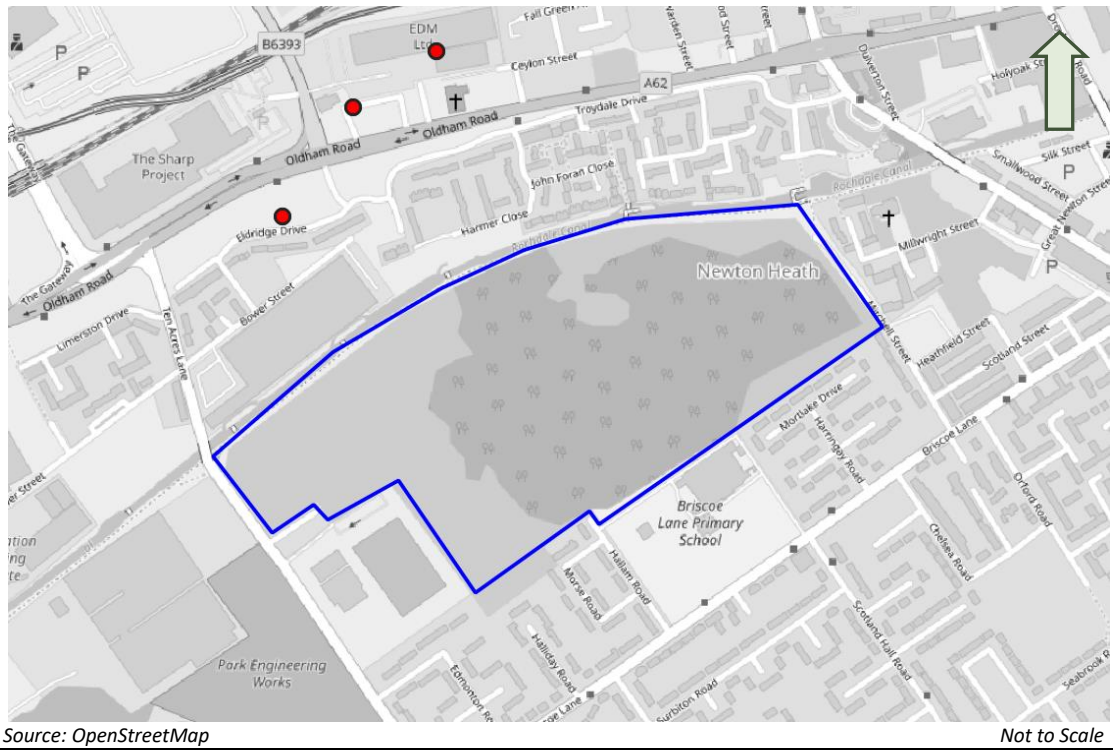
It should be noted that during WWII, many Unexploded Bombs (UXBs) were mapped and subsequently removed as and when conditions and demands on Bomb Disposal teams allowed. Their removal was not always accurately recorded and sometimes records were later destroyed. In practice, most UXB were probably removed and only a much smaller number were actually registered as officially abandoned bombs.

Figure 3 is a map showing the approximate location of recorded bomb impacts in the immediate vicinity of the Site. IBs shown are indicative of larger numbers of similar devices that fell within the given area.

The map has been compiled from a number of different sources, including air raid incident reports, historical aerial photographs and bomb census maps.

The bomb map is also given in the accompanying P10144-20-R1-MAP01-A.

Figure 3	Compiled bomb impact map for the vicinity of the Site



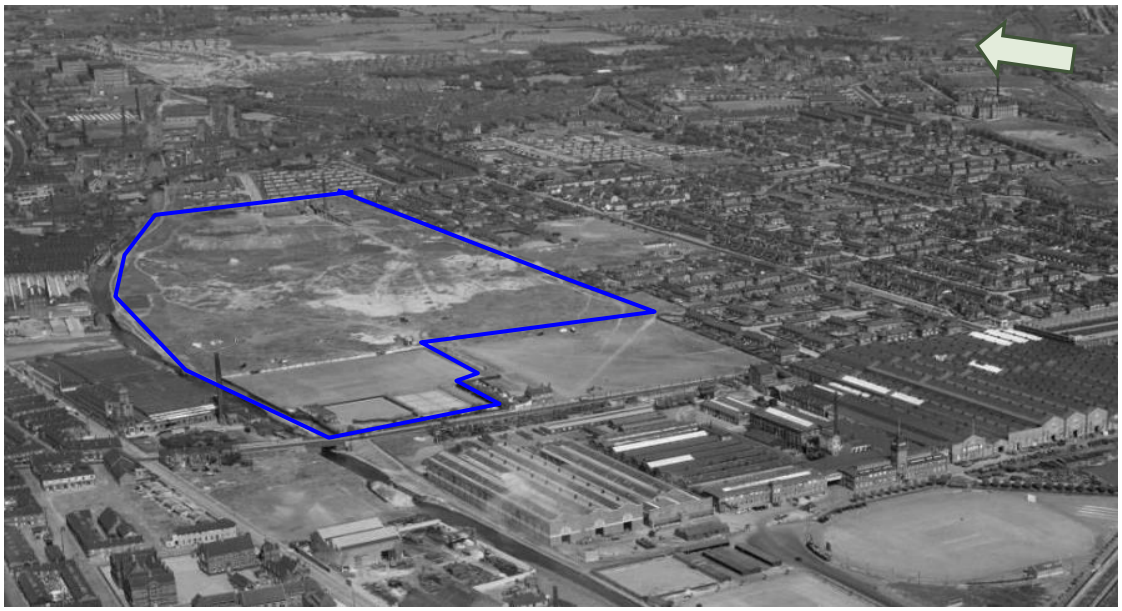
Source: OpenStreetMap *Not to Scale*

Legend	Site boundary	HE bomb

Plate 2 is an aerial photograph dated the 3rd July 1953. No bomb damage has been identified on the Site.

The Park Engineering works can be seen to the southwest of the Site.

Plate 2	Aerial photograph, 3rd July 1953



Source: BritainfromAbove *Not to Scale*

Legend	Site boundary

Potential UXO Hazard

No records have been found indicating that the Site was bombed and no bomb damage has been identified on the Site on historical aerial photography.

WWII bombing is not considered to provide a source of UXO hazard to the Site.

4.2.4 Geology and Bomb Penetration Depths

It is important to consider the geological materials present at the time that a bomb was dropped in order to establish its maximum penetration depth.

At the time of writing, no Site-specific ground investigation data was available.

British Geological Survey (BGS) 1:50,000 Sheet 85 Manchester (Solid & Drift) and BGS borehole records from nearby investigations have been consulted to get an indicative overview of the Site geology.

The geology of the Site is understood to consist of up to 15m of Made Ground and landfill materials dating from post-WWII, over glacial till overlying Permian bedrocks of the Collyhurst Sandstone Formation, faulted against the Manchester Marls Formation in the extreme west.

Table 2 provides an estimate of average maximum bomb penetration depths for the central and south-eastern part of the Site assuming WWII ground conditions of 5m of firm to stiff clay overlying loose sand and weathered sandstone at the top of the Permian bedrock.

Table 2	Estimated average maximum bomb penetration depths (central and southeast)	
Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	5.0m
	250kg	6.5m
	500kg	8.5m

Table 3 provides an estimate of average maximum bomb penetration depths for the western part of the Site assuming WWII ground conditions of 10m of firm to stiff clay and 10m of stiff to very stiff clay overlying weathered sandstone and mudstone at the top of the Permian bedrock.

Table 3	Estimated average maximum bomb penetration depths (west)	
Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	5.5m
	250kg	8.0m
	500kg	12.0m

These calculations can be refined on receipt of Site-specific information.

The estimated bomb penetration depths given in Table 2 are from the WWII ground level and are based on the following assumptions:

a) High level release of the bomb resulting in an impact velocity of 260m/s (>5,000m altitude).

b) A strike angle of 10 to 15 degrees to the vertical.

c) That the bomb is stable, both in flight and on penetration.

d) That no retarding units are fitted to the bomb.

e) That the soil type is homogenous.

A high altitude release of a bomb will result in ground entry at between 10° and 15° to the vertical with the bomb travelling on this trajectory until momentum is nearly lost. The bomb will then turn abruptly to the horizontal before coming to rest. The distance between the centre of the entry hole and the centre of the bomb at rest is known as the 'offset'. A marked lateral movement from the original line of entry is common.

Low-level attacks may have an impact angle of 45° or more, which will frequently lead to a much greater amount of offset movement during soil penetration.

The average offset is one third of the penetration depth, i.e. an offset of 2m may be expected for a 50kg bomb in dry silts and clays. If hard standings or Made Ground were present during WWII, bomb penetration depths would have been significantly reduced but offset distances may have been up to four times greater.

5 EXPLOSIVE ORDNANCE CLEARANCE ACTIVITIES

Official UK bombing statistics have been compiled from both British and German sources. There were differences in the way the figures were originally reported and collated which has led to discrepancies in the summary data.

Based on data from 1939 to 1945, War Office statistics indicate that 200,195No. HE bombs exploded within Great Britain. Additionally, 25,195No. HE bombs (representing 11%) were recorded as UXBs. However, records from the Royal Engineers who were responsible for bomb disposal at the time indicate that as of 27th February 1946 upwards of 45,000No. UXBs were disposed of.

On average 8.5% of UXBs later self-exploded. In some cases the bombs had delayed action fuzes or were never intended to explode, their purpose being to cause inconvenience and fear. Given the discrepancy in records and the fact that UXBs are still being found unexpectedly, it is clear that the original figures are understated and provide only an approximation of the number of potential UXBs in the UK.

War Office statistics also show that between October 1940 and May 1941 most of the UXBs (93%) were either 50kg or 250kg. It should be noted that details of the recovery and the size of the UXB were not always accurately reported.

The larger WWII UXBs are often difficult to recover due to both penetration depths and the presence of two or more fuzes, combined with more sensitive fillings of explosive mixtures including Amatol and Trialen.

5.1 Abandoned Bombs

For further information on abandoned bombs, and the potential UXO hazard associated with them, follow the link below:

- Abandoned Bombs

No records have been found indicating that any officially abandoned bombs are located on the Site.

5.2 EOC Tasks

Zetica holds the following record of post-WWII EOC tasks having taken place in the vicinity of the Site.

2nd October 2020

1No. inert shell was discovered by a magnet fisherman in the Rochdale Canal, off Grimshaw Lane, approximately 0.4km west of the Site. It was removed by a Bomb Disposal Unit (BDU).

6 UXO HAZARD ASSESSMENT

6.1 UXO Hazard Level

The definitions for the levels of UXO hazard are provided below.

Definitions of UXO Hazard Level for a Site	
Hazard Level	**Definition**
Very Low	There is positive evidence that UXO is not present, e.g. through physical constraints or removal.
Low	There is no positive evidence that UXO is present, but its occurrence cannot be totally discounted.
Moderate	There is positive evidence that ordnance was present or that other uncharted ordnance may be present as UXO.
High	There is positive evidence that UXO is present.
Very High	As high, but requires immediate or special attention due to the potential hazard.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in Figure 4.

The UXO hazard zone plan of the Site is also given in the accompanying P10144-20-R1-MAP01-A.

Figure 4 UXO hazard zone plan of the Site

Source: OpenStreetMap *Not to Scale*

Legend					
	Very Low		Low		Moderate
	High		Very High		Site boundary

7 UXO RISK ASSESSMENT

7.1 Proposed Works

It is understood that initial works on the Site will involve ground excavation including excavations and boreholes to depths of up to 30m bgl.

Future works may include bulk excavation of parts of the Site.

7.2 Risk Assessment Methodology

A UXO risk assessment has been undertaken for the proposed works, taking into consideration the identified UXO hazard.

Firstly, the probability of encountering UXO (PE) has been considered and rated for the different construction techniques, as detailed below.

Probability of Encounter (PE)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Secondly, the probability of detonating a UXO (PD) has been considered and rated for the different construction techniques, as detailed below.

Probability of Detonation (PD)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Next, the probability of encountering and detonating the UXO (PE x PD) have been used to generate an overall likelihood rating (P).

P = PE x PD	LIKELIHOOD of Encounter and Detonation	Rating
21 to 25	Frequent, highly likely, almost certain.	5
16 to 20	Probable, more likely to happen than not.	4
6 to 15	Occasional, increased chance or probability.	3
2 to 5	Remote, unlikely to happen but could.	2
1	Improbable, highly unlikely.	1
0	Impossible	0
P ranges from 25, a certainty of UXO being encountered and detonated on the Site by engineering activity, to 0, a certainty that UXO does not occur on the Site and will not be detonated by engineering activity.		

The likelihood of encountering and detonating UXO during site works is multiplied by the severity of such an event occurring (P x S), in order to provide a risk level using the following matrix.

Severity (S)	Rating
Multiple fatalities	5
Major injury, long term health issues, single fatality.	4
Minor injury, short term health issues, no fatalities.	3
First aid case but no lost time or ill health.	2
Minor injuries, no first aid.	1
No injuries.	0

UXO Risk Matrix							
	SEVERITY (S)						
LIKELIHOOD (P)		5	4	3	2	1	0
	5	25	20	15	10	5	0
	4	20	16	12	8	4	0
	3	15	12	9	6	3	0
	2	10	8	6	4	2	0
	1	5	4	3	2	1	0
	0	0	0	0	0	0	0

7.3 UXO Risk Level

The UXO risk assessment for proposed works on the Site is given in Table 4.

Table 4 UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Shallow Excavations	1	1	1	1	5	5	Low
	Deep Excavations	1	1	1	1	5	5	Low
	Boreholes	1	1	1	1	4	4	Low
Other UXO	Shallow Excavations	1	1	1	1	4	4	Low
	Deep Excavations	1	1	1	1	4	4	Low
	Boreholes	1	1	1	1	3	3	Low
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								
Shallow Excavations defined as <1.0m below ground level (bgl.)								

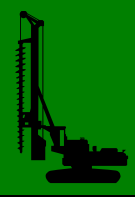
8 RISK MITIGATION PLAN

Key findings: No significant sources of UXO hazard have been identified.

Key actions: Proceed with works.

8.1 UXO Risk Summary

Table 5 summarises the UXO risk for proposed works on the Site and recommended actions.

Table 5	Summary of UXO risk and mitigation recommendations	
Proposed Works	**UXO Risk**	**Recommended Mitigation**
Excavations		**Proceed with works** – if additional comfort is required to address the residual UXO hazard, a formal UXO awareness briefing can be provided.
Boreholes		**Proceed with works**

In summary, no additional measures are considered essential to reduce the UXO risk on the Site to As Low As is Reasonably Practicable (ALARP).

8.2 Risk Mitigation Techniques

Should you wish to provide staff involved in excavations with increased awareness regarding the potential (albeit low) for UXO encounter, this can be done through a formal briefing.

8.2.1 UXO Awareness Briefing

Typically ~1hour in duration, these briefings will be expected to provide site workers with:-

- Background to the potential UXO hazards that could be encountered.
- Awareness of how the UXO hazard could present a risk.
- Knowledge of what to do in the event that a suspect item is encountered.

The briefing is to be provided along with back-up materials such as UXO awareness posters, emergency contact numbers and other background information to assist site workers in becoming familiar with what potential UXO can look like.

The materials can also be used by key staff to pass on the relevant points of the induction to others who visit or work on the Site.

By providing the UXO awareness briefing, it ensures that in the unlikely event that UXO is encountered:-

- All site staff take appropriate action.
- A support mechanism and points of contact are established.
- The likelihood of harm to people or property is reduced.
- Significant delays to site work are prevented.

8.3 What Do I Do Next?

If you have any comments or require further assistance, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

APPENDICES

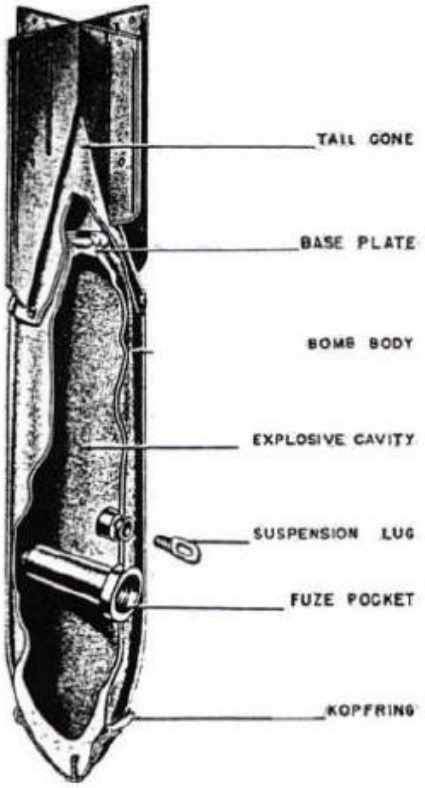
Appendix 1 Anticipated Ordnance Types

The probability of encountering UXO on the Site is considered to be low. As with any similar site in the UK, there is always a background risk of finding ordnance and potential types to be encountered are detailed below. For a more comprehensive set of ordnance data sheets, see http://zeticauxo.com/downloads-and-resources/ordnance-data-sheets/.

Information Data Sheet

Category Bomb (Luftwaffe)
Type Sprengbombe-Cylindrisch (SC) 50kg

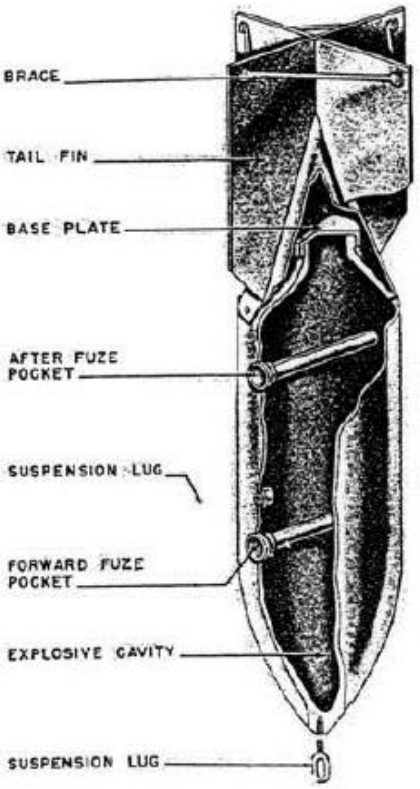
Variants	8
Body Dimensions	762 x 200mm (30" x 7.9")
Weight	55kg (122lbs)
Charge Weight	25kg (54lbs)
Fuze	Single electric impact fuze. Some have short time delay
Composition	Sheet steel
Description	Thick nose welded to a steel body. Nose may be attached to Kopfring (a triangular section steel ring) or spike. Suspension bolt in eye/body and sheet metal tail attached to body with rivets/screws. Originally painted green-grey with a yellow stripe on the tail. Cast TNT, Amatol or Trialen filling.
Function	Designed to maximise shock waves through air, water and earth and for general demolition. Used against easily damageable targets, including roads, aircraft hangars, rolling stock and small buildings. Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) were used against rail lines and country roads, with Kopfring used against naval targets.



Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 250kg

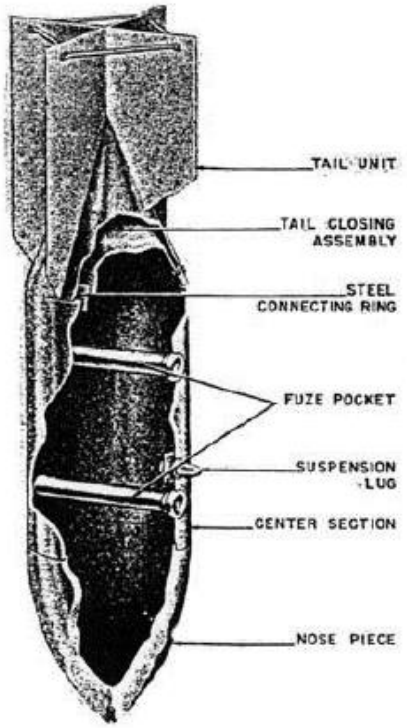
Variants	8
Body Dimensions	1194mm x 368mm (47" x 14.5")
Weight	249-264 kg (548-582lbs)
Charge Weight	130-145 kg (287-320lbs)
Fuze	Electric impact fuze/electric clockwork time fuse & electric anti-disturbance fuze
Composition	Sheet steel with stays
Description	Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring) or spike. Sheet metal tail attached to body with rivets/ screws. Suspension eye bolt in the nose/body. Originally painted green-grey with a yellow stripe on the tail. TNT; amatol; TNT and aluminium powder, naphthalene, ammonium nitrate and wax/ wood meal filling.
Function	Designed to maximise shock waves through air, water and earth and general demolition. Used against railway installations, large buildings, ammunition depots and below-ground installations (to 8m). Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) used against rail lines and country roads.



Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 500kg

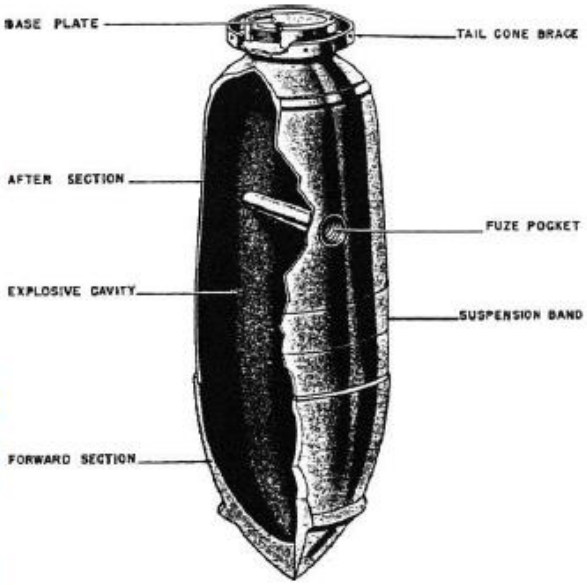
Variants	-
Body Dimensions	1414–1486mm x 470mm (55.7-58.5" x 18.5")
Weight	500kg (1,100lbs)
Charge Weight	220kg (484lbs)
Fuze	Electric impact fuze/electric clockwork time fuse & electric anti-disturbance fuze.
Composition	Sheet steel with stays or drum
Description	Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring). Tail either steel sheet or drum-shaped. Suspension band. Originally painted green-grey/ buff (some later versions sky blue) with yellow stripe on tail. Filled with amatol, TNT or trialen.
Function	Designed to maximise shock waves through air, water and earth and for general demolition. Used against railway property, large buildings, shipping and below-ground installations.

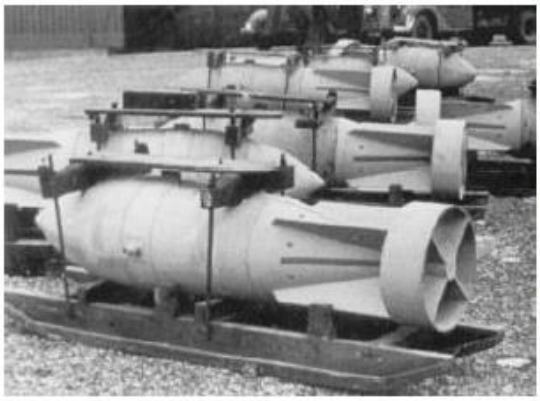


Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 1,000kg (HERMANN)

Variants	3
Body Dimensions	1742-1905mm x 648–660mm (68.6-75" x 25.5-26")
Weight	1,000-1,088kg (2,204-2,398lbs)
Charge Weight	529-619kg (1,166-1,364lbs)
Fuze	Electric impact fuze/ electric clockwork time fuze & electric anti-disturbance fuze
Composition	Magnesium alloy with drum
Description	Thick nose welded to steel body. Nose attached to Kopfring (triangular section steel ring). Drum-shaped tail made of magnesium alloy. Suspension band. Originally painted sky-blue. Filled with amatol, TNT/aluminium/wood meal or trialen.
Function	Designed to maximise shock waves through air, water and earth and for general demolition.

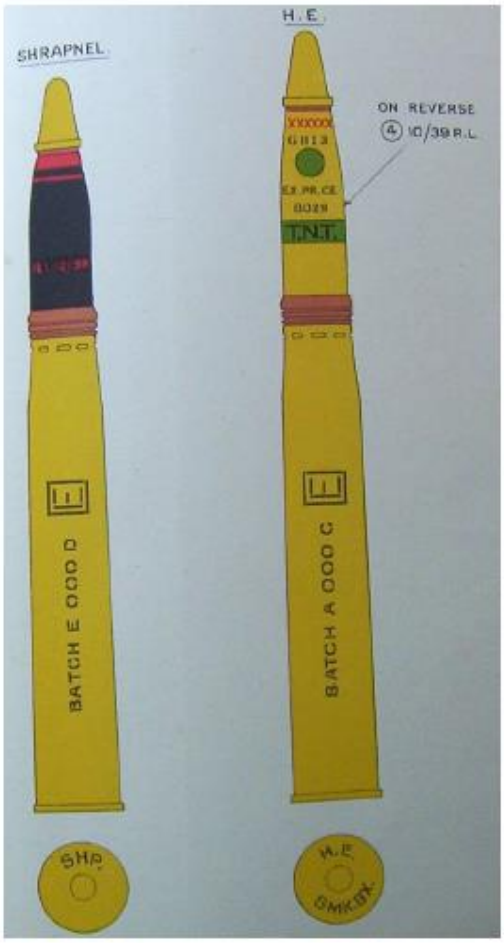




Information Data Sheet

Category Projectile
Type 3.7" Anti-Aircraft Shell

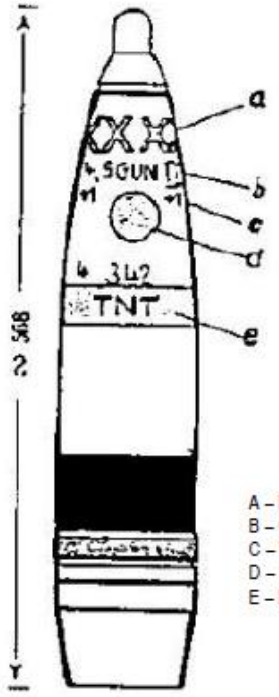
Variants	6
Body Dimensions	94mm x 360mm (3.7 x 14.7")
Weight	12.7kg (28lb)
Fuze	Mechanical time fuze
Composition	Cast steel
Description	Brass cartridge case. Square-based shell with tapered nose, filled with Amatol, TNT or RDX/TNT. MK6 had forward centring bands and a wider driving band.
Function	Used as a defence against enemy aircraft, fired from fixed batteries and mobile mountings. Could fire approximately 20 rounds per minute with a maximum ceiling of 41,000ft and horizontal range of 20,600 yards.



Information Data Sheet

Category Projectile
Type 4.5" Shell (Mark II – Anti-Aircraft)

Variants	-
Body Dimensions	114mm x 566mm (4.5" x 21.9")
Weight	24.9kg (55lb)
Fuze	Mechanical time fuze
Composition	Cast steel
Description	Square-based, tapered-nosed shell filled with TNT or Amatol. Steel casing, rotating band of either copper or gilding metal located 3.5" in front of the base end with single groove.
Function	Used as field artillery and adapted for use in anti-aircraft defence from fixed batteries. Rate of fire of 8 rounds per minute, maximum ceiling of 44,000ft and horizontal range of 22,800 yards.



A – Missile Identification
B – Gun and Bullet Type
C – Weight
D – Smoke pot
E – Explosives Ring

Appendix 2 Sources of UXO Hazard

The sections below provide background information on the potential sources of UXO hazard (albeit low) affecting the Site. For a more comprehensive set of UXO information sheets, see http://zeticauxo.com/downloads-and-resources/uxo-information-sheets/.

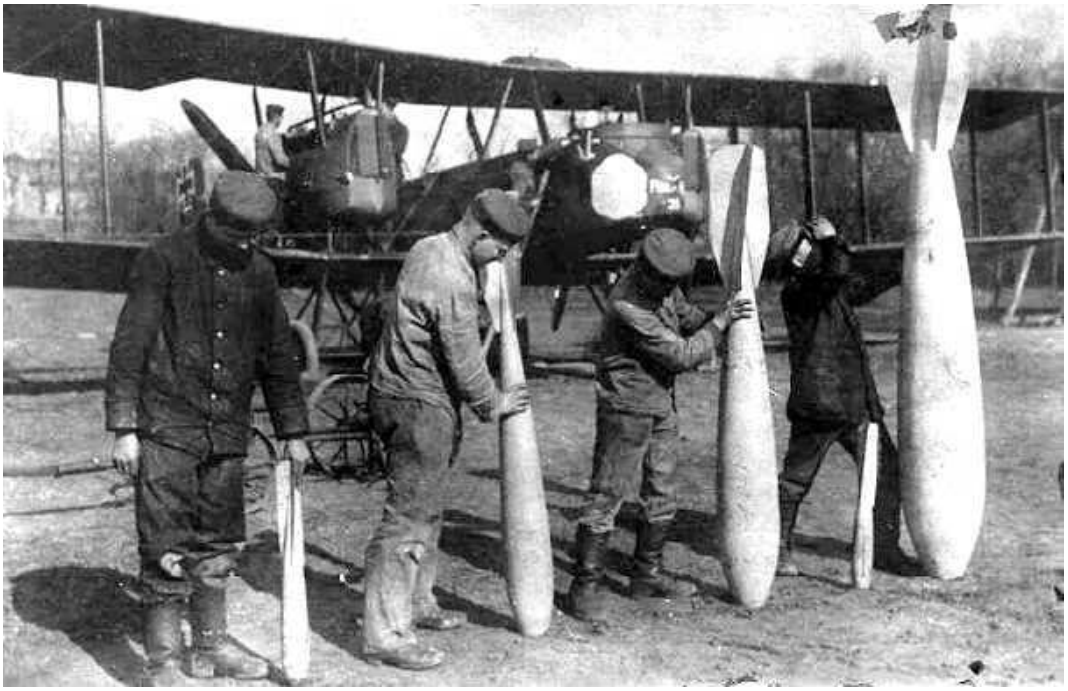
Appendix 2.1 WWI Bombing

It is not generally realised that during World War One (WWI) significant bombing took place across some areas of the UK. An estimated 9,000No. German bombs were dropped on Britain during the course of 51No. airship and 52No. aircraft raids. It was the first time that strategic aerial bombardment had been used. More than 1,400No. people were killed during these raids.

Most air raids were carried out on London and Southeast England. Areas along the East Coast were also targeted regularly due to their proximity to the European continent. Bombing raids further inland were rare and West England and Wales were out of reach for German aircraft of the time.

Aerial bombing during WWI initially relied on visual aiming, with bombsights not developed until later in the war. The inaccuracy inherent in this method meant that bombs often fell some way from their intended targets.

The first recorded raid against England occurred on the 21st December 1914 when 2No. high explosive bombs fell near the Admiralty Pier at Dover. Zeppelin raids intensified during 1915 and 1916, with aircraft raids becoming more frequent after 1917. The last raid of WWI took place on the 19th May 1918, when 38 Gotha and 3 Giant aircraft bombed London and surrounding districts, dropping a total of more than 2,500lbs of bombs.



The potential of coming across an Unexploded Bomb (UXB) from WWI is far less likely than a WWII UXB given the lower bombing densities during raids in the Great War.

Some areas which were subjected to sustained bombing raids, such as parts of London and coastal towns, recorded a higher number of UXB. In these areas, where there has been no significant development for the last century, the potential of a UXB remaining from WWI cannot be totally discounted.

Appendix 2.2 WWII Bombing

Bombing raids began in the summer of 1940 and continued until the end of WWII. Bombing densities generally increased towards major cities or strategic targets such as docks, harbours, industrial premises, power stations and airfields. In addition to London, industrial cities and ports, including Birmingham, Coventry, Southampton, Liverpool, Hull and Glasgow, were heavily targeted, as well as seaside towns such as Eastbourne and cathedral cities such as Canterbury.

The German bombing campaign saw the extensive use of both High Explosive (HE) bombs and Incendiary Bombs (IBs). The most common HE bombs were the 50kg and 250kg bombs, although 500kg were also used to a lesser extent. More rarely 1,000kg, 1,400kg and 1,800kg bombs were dropped.

The HE bombs tended to contain about half of their weight in explosives and were fitted with one or sometimes two fuzes. Not all HE bombs were intended to explode on impact. Some contained timing mechanisms where detonation could occur more than 70 hours after impact.

Incendiary devices ranged from small 1kg thermite filled, magnesium bodied Incendiary Bombs (IBs) to a 250kg 'Oil Bomb' (OB) and a 500kg 'C300' IB. In some cases the IBs were fitted with a bursting charge. This exploded after the bomb had been alight for a few minutes causing burning debris to be scattered over a greater area. The C300 bombs were similar in appearance to 500kg HE bombs, although their design was sufficiently different to warrant a specially trained unit of the Royal Engineers to deal with their disposal.

Anti-Personnel (AP) bombs and Parachute Mines (PMs) were also deployed. 2No. types of anti-personnel bombs were in common use, the 2kg and the 12kg bomb. The 2kg bomb could inflict injury across an area up to 150m away from the impact. PMs (which were up to 4m in length) could be detonated either magnetically or by noise/vibration.

Anti-shipping parachute mines were commonly dropped over navigable rivers, dockland areas and coastlines. The Royal Navy was responsible for ensuring that the bombs were made safe. Removal and disposal was still the responsibility of the Bomb Disposal Unit of the Royal Engineers.

In 1944, the Germans introduced new weapons; the V1, a 'flying bomb' and guided missile, and the V2, a ballistic missile rocket that travelled at such speed that no one could see or hear its approach. London was the main target for these attacks.

WWII bomb targeting was inaccurate, especially in the first year of the war. A typical bomb load of 50kg HE bombs mixed with IBs which was aimed at a specific location might not just miss the intended target but fall some considerable distance away.

It is understood that the local Civil Defence authorities in urban areas had a comprehensive system for reporting bomb incidents and dealing with any Unexploded Bombs (UXB) or other UXO. In more rural areas, fewer bombing raids occurred. It is known that Air Raid Precaution (ARP) records under-represent the number and frequency of bombs falling in rural and coastal areas. Bombs were either released over targets or as part of 'tip and run' raids where bomber crews would drop their bombs to avoid anti-aircraft fire or Allied fighter aircraft on the route to and from other strategic targets. Bombs dropped as a result of poor targeting or 'tip and run' raids on rural and coastal areas often went unrecorded or entered as 'fell in open country' or 'fell in the sea'. The Luftwaffe are thought to have dropped approximately 75,000 tons of bombs on Britain throughout the Second World War and an estimated 11% of all bombs dropped during the war failed to detonate.

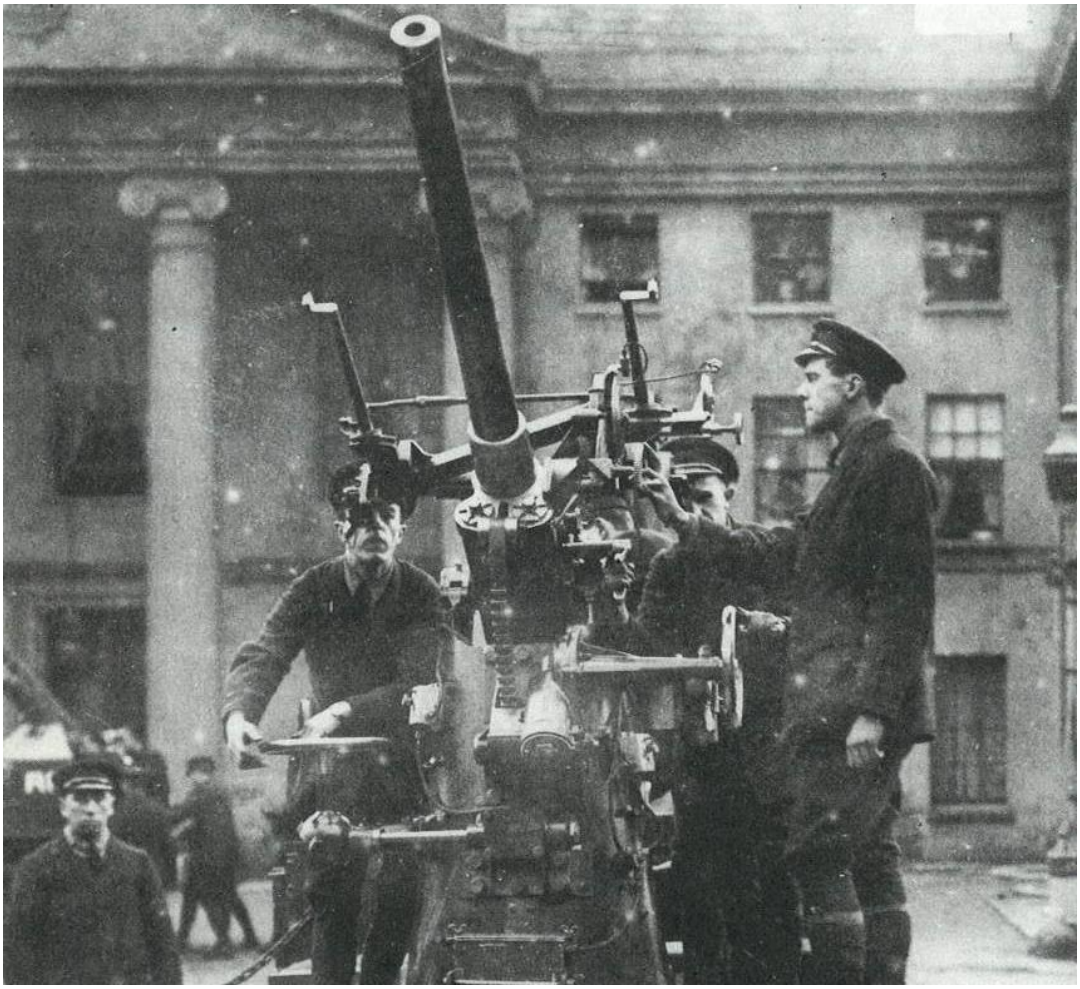
The potential for a UXB hazard to exist on a site depends on a variety of factors. Were there strategic targets in the surrounding area? Was the site bombed? Could a UXB impact have been missed? Even in rural areas, the potential for UXB cannot be totally discounted and therefore it is essential that detailed local bombing records are obtained when assessing the UXB hazard on any site.

Appendix 2.3 Anti-Aircraft Guns

As aerial bombardment first began during WWI, Anti-Aircraft (AA) gun batteries were established were gradually established throughout much of England to counter German bombing raids. By June 1916, there were approximately 271No. AA guns and 258No. searchlight installations defending London alone.

Common AA defences during WWI included 3-inch, 75 millimetre, 6-pounder and 1-pounder guns. Many of these guns were mobile, being mounted on lorry chassis. They were driven about following the course of an airship and fired from any area of open land.

During WWI, Unexploded AA (UXAA) shells, could land up to 13km from the firing point, although more typically fell within 10km.



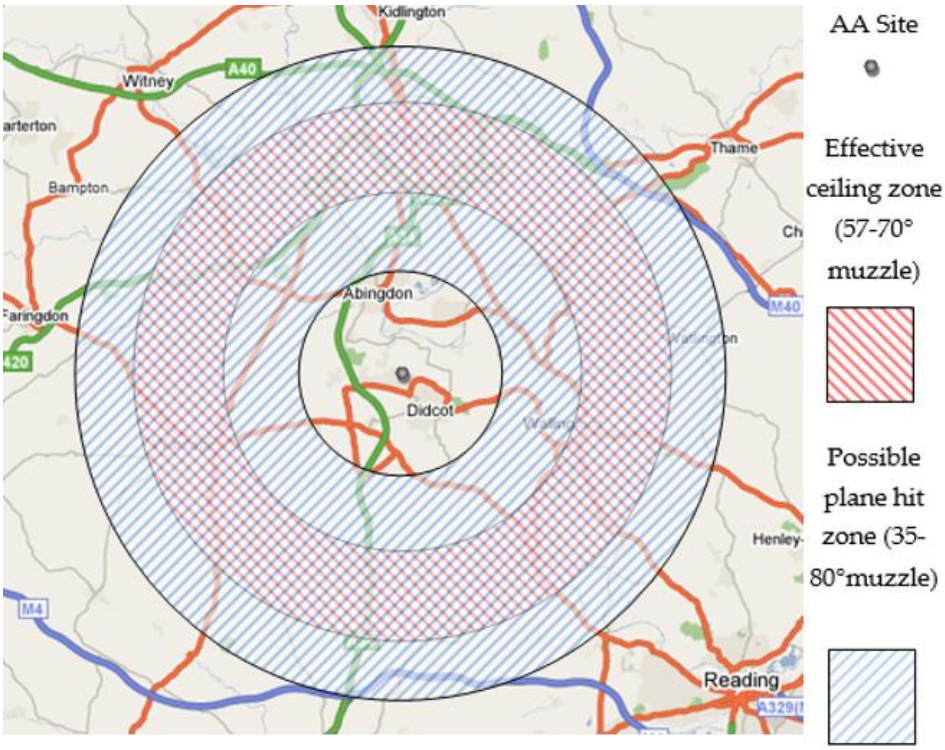
AA gun batteries were used extensively during WWII to counter the threat posed by enemy aircraft. In many instances, AA shells caused damage to Allied territory and in some areas caused significant numbers of civilian fatalities.

During WWII, AA shells could land up to 27km from the firing point, although more typically fell within 15km. These could be distributed over a wide area.

3No. types of AA batteries existed:

- **Heavy Anti-Aircraft (HAA)** batteries of large guns (typically 3.7", 4.5" and 5.25" calibre) designed to engage high flying bomber aircraft. These tended to be relatively permanent gun emplacements.
- **Light Anti-Aircraft (LAA)** weaponry, designed to counter low flying aircraft. These were often mobile and were moved periodically to new locations around strategic targets such as airfields. They typically fired 40mm shells and machine gun ammunition.
- **Rocket batteries (ZAA)** firing 3" or 3.7" AA rockets with a maximum altitude of 5,800m and a ground range of 9km were typically permanent emplacements.

Unexploded AA (UXAA) shells were a common occurrence during WWII. As the figure below demonstrates, shells were unlikely to fall in the immediate vicinity of a gun battery but in the surrounding area. This would be dependent upon the angle of fire and the flight height of the attacking aircraft.



AA batteries were deliberately targeted by the Luftwaffe and therefore areas surrounding a gun battery may have a greater risk of UXB being present.

Munitions stores were also established around AA batteries. These stored the shells for the batteries and small arms ammunition for troops manning the position. Such stores were typically removed at the end of WWII, although some disposal may have occurred in the immediate vicinity of the gun battery.

Appendix 3 Recent UXO Finds

UXO finds in the UK are a regular occurrence, although they almost never result in an accidental detonation.

It is still important to note that explosives rarely lose effectiveness with age. In some instances, mechanisms such as fuzes and gaines can become more sensitive and more prone to detonation, regardless of whether the device has been submersed in water or embedded in silt, clay or similar materials.

The effects of an accidental UXO detonation are usually extremely fast, often catastrophic and invariably traumatic to any personnel involved. Such occurrences are largely restricted to current theatres of war and overseas minefields, with occasional events in mainland Europe.

The sections below provide a brief summary of recent significant UXO finds in the UK. To keep up to date with the latest UXO finds, visit http://zeticauxo.com/news/.

On the 4th September 2017, 1No. 50kg UXB was found in a ragstone quarry at Kings Hill near West Malling in Kent. It was destroyed in situ in a controlled explosion by an EOD team.

On the 11th February 2018, 1No. 500kg UXB was found in King George V Dock in London, resulting in the temporary closure of the adjacent London City Airport. The UXB was freed from a silt bed and towed along the River Thames to Shoeburyness where it was destroyed in a controlled explosion.

On the 26th February 2018, an EOD team destroyed numerous items of ordnance including shells and 20mm ammunition which had been exposed by storms on Selsey beach. A similar operation was required after more UXO finds on the beach in April 2018.

On the 31st March 2018, 2No. 870lb British PMs were found in waters off Guernsey. They were destroyed in controlled explosions.

On the 20th May 2018, a 1,000kg German sea mine washed ashore at Elmer beach near Bognor Regis, West Sussex. A 1 mile exclusion zone was enforced before an EOD team towed the device out to sea for a controlled explosion.

On the 24th May 2018, numerous ordnance-related items were found on a proposed residential development in Burntwood, Staffordshire.

On the 10th July 2018, a suspected 1,000kg German UXB was found by scuba divers near Teignmouth Pier in Devon. The UXB was towed out into open sea by a RN EOD team for a controlled explosion.

On the 30th August 2018, a 2,000lb German PM was trawled up by a fishing vessel off Mersea in Essex. The PM was moved to an area of open sea where it was destroyed in a controlled explosion by a RN EOD team.

On the 29th November 2018 a large naval projectile was found at Wembury Point, Plymouth. It was destroyed in a controlled explosion.

During January and February 2019 a military EOD was called out to deal with several items of UXO washed up at Medmerry Beach in Selsey. The site of a former gunnery range, it followed on from several similar incidents in 2018.

On the 21st January 2019 a suspected 1,000lb torpedo was brought into Brixham Harbour by a fishing trawler. It was towed back out to sea and destroyed by a Naval EOD team.

On the 6th February 2019 3No. WWII projectiles were found on Chalkwell Beach near Southend-on-Sea, Essex. They were destroyed in a controlled explosion.

On the 19th February 2019 6No. projectiles were found on the beach at Lilstock, Somerset.

On the 14th March 2019 an unexploded pipe mine was found at the former RAF Manston airfield near Ramsgate, Kent. It was destroyed in a controlled explosion.

On the 21st March 2019 2No. unexploded shells were found on a building site in Brighton. They were removed by an EOD team.

On the 25th March 2019 an unexploded shell was found in Stechford, Birmingham. It was removed to a field and destroyed in a controlled explosion.

On the 22nd May 2019 70No. Self-Igniting Phosphorus (SIP) grenades were found during development works at Tongland Dam in Dumfries & Galloway, Scotland. They were destroyed in a controlled explosion.

On the 23rd May 2019 a 250kg German UXB was found by workers on a building site at Kingston University in London (see plate below). The UXB could not be safely removed and was consequently destroyed in situ by an EOD team.

On the 27th May 2019 24No. SIP grenades were found in a field near Sibton in Suffolk. An EOD team constructed a 2ft deep trench into which the grenades were placed before being destroyed in a controlled explosion.

On the 7th June 2019 a 50kg German fragmentation UXB was found at a building site in Kings Hill at the former RAF West Malling airfield. It was destroyed in a controlled explosion by an EOD team the following day. On the 26th September 2019 another 50kg German UXB was found at Kings Hill and was destroyed in a controlled explosion the next day.

On the 20th September 2019 a suspected 250kg German UXB was found on a construction site in Bordon, Hampshire. It was destroyed in a controlled explosion by an EOD team.

In September 2019 a German PM was found by divers off Southend-on-Sea, Essex. It was towed out to open water off Shoeburyness by a Royal Navy EOD team and destroyed in a controlled explosion.

On the 3rd February 2020, a 500kg German UXB was found on a building site in Soho, London. It was removed by an EOD team.

Appendix 4 Glossary and Definitions

Abandoned Explosive Ordnance (AXO)	Abandoned Explosive Ordnance is explosive ordnance that has not been used during an armed conflict, that has been left behind or disposed of by a party to an armed conflict, and which is no longer under control of that party. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.
Close Combat Munitions	Items of ordnance thrown, propelled or placed during land warfare, to include grenades, mortars, projectiles, rockets and land mines.
Demil	Derived from the term 'Demilitarisation', it refers to the break down and the recycling or disposal of ordnance components.
Detonation	The high-speed chemical breakdown of an energetic material producing heat, pressure, flame and a shock wave.
Device	This term is used for any component, sub-assembly or completed ordnance, which may or may not have an explosive risk. It can apply to detonators, primers, gaines, fuzes, shells or bombs.
Explosive	The term explosive refers to compounds forming energetic materials that under certain conditions chemically react, rapidly producing gas, heat and pressure. Obviously, these are extremely dangerous and should only be handled by qualified professionals.
Explosive Ordnance (EO)	Explosive Ordnance is all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads, guided and ballistic missiles, artillery, mortar, rocket, small arms ammunition, mines, torpedoes, depth charges, pyrotechnics, cluster bombs & dispensers, cartridge & propellant actuated devices, electro-explosive devices, clandestine & improvised explosive devices, and all similar or related items or components explosive in nature.
Explosive Ordnance Clearance (EOC)	Explosive Ordnance Clearance is a term used to describe the operation of ordnance detection, investigation, identification and removal, with EOD being a separate operation.
Explosive Ordnance Disposal (EOD)	Explosive Ordnance Disposal is the detection, identification, on-site evaluation, rendering safe, recovery and final disposal of unexploded explosive ordnance.
Explosive Ordnance Reconnaissance (EOR)	Explosive Ordnance Reconnaissance is the detection, identification and on-site evaluation of unexploded explosive ordnance before Explosive Ordnance Disposal.
Explosive Remnants of War (ERW)	Explosive Remnants of War are Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO), excluding landmines.

Explosive Substances and Articles (ESA)	Explosive substances are solid or liquid substances (or a mixture of substances), which are either: • capable by chemical reaction in itself of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. • designed to produce an effect by heat, light, sound, gas or smoke, or a combination of these as a result of a non-detonative, self-sustaining, exothermic reaction. Explosive article is an article containing one or more explosive substances.
Fuze	A fuze is the part of an explosive device that initiates the main explosive charge to function. In common usage, the word fuze is used indiscriminately, but when being specific (and in particular in a military context), fuze is used to mean a more complicated device, such as a device within military ordnance.
Gaine	Small explosive charge that is sometimes placed between the detonator and the main charge to ensure ignition.
Geophysical survey	A geophysical survey is essentially a range of methods that can be used to detect objects or identify ground conditions without the need for intrusive methods (such as excavation or drilling). This is particularly suited to ordnance as disturbance of ordnance items is to be avoided where ever possible.
Gold line	This is the estimated limit of blast damage from an explosive storage magazine. It usually means that development within this zone is restricted.
High Explosive	Secondary explosives (commonly known as High Explosives (HE)) make up the main charge or filling of an ordnance device. They are usually less sensitive than primary explosives. Examples of secondary explosives are: Nitro glycerine (NG), Trinitrotoluene (TNT), AMATOL (Ammonia nitrate + TNT), Gunpowder (GP), and Cyclotrimethylenetrinitramine (RDX).
Munition	Munition is the complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in military operations, including demolitions. This includes those munitions that have been suitably modified for use in training, ceremonial or non-operational purposes. These fall into three distinct categories:- • inert - contain no explosives whatsoever. • live - contain explosives and have not been fired. • blind - have fired but failed to function as intended.

Primary Explosive	Primary explosives are usually extremely sensitive to friction, heat, and pressure. These are used to initiate less sensitive explosives. Examples of primary explosives are: Lead Azide, Lead Styphnate, and Mercury Fulminate. Primary explosive are commonly found in detonators.
Propellants	Propellants provide ordnance with the ability to travel in a controlled manner and deliver the ordnance to a predetermined target. Propellants burn rapidly producing gas, pressure and flame. Although usually in solid form they can be produced in liquid form. Examples of propellants are: Ballistite often found in a flake form and Cordite used in small arms ammunition.
Pyrotechnic	A pyrotechnic is an explosive article or substance designed to produce an effect by heat, light, sound, gas or smoke, or a combination of any of these, as a result of non-detonative, self-sustaining, exothermic chemical reactions.
Small Arms Ammunition (SAA)	SAA includes projectiles around 12mm or less in calibre and no longer than approximately 100mm. They are fired from a variety of weapons, including rifles, pistols, shotguns and machine guns.
Unexploded Anti-Aircraft (UXAA) Shell	UXAA shells are army ordnance commonly containing HE, though they can also contain pyrotechnic compounds that produce smoke. Most commonly, these were 3.7” and 4.5” HE shells, although they ranged from 2” to 5.25” calibre.
Unexploded Bomb (UXB)	UXB is a common term for unexploded air-dropped munitions.
Unexploded Ordnance (UXO)	UXO is explosive ordnance that has been either primed, fuzed, armed or prepared for use and has been subsequently fired, dropped, launched, projected or placed in such a manner as to present a hazard to operations, persons or objects and remains unexploded either by malfunction or design.
V1	The Vergeltungswaffe-1, V-1, also designated Fieseler Fi 103/FZG-76, known colloquially in English as the Flying Bomb, Buzz Bomb or Doodlebug, was the first guided missile used in WWII and the forerunner of today's cruise missile.
V2	The Vergeltungswaffe 2 (V-2) (‘Reprisal Weapon 2’) was the first ballistic missile. It was used by the German Army primarily against Belgian and British targets during the later stages of WWII. The V-2 was the first man-made object launched into space, during test flights that reached an altitude of 189km (117 miles) in 1944.

Appendix 5 Bibliography

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Established for over 29 years, Zetica's services include

- ☑ Desk studies
- ☑ Unexploded ordnance risk assessments and risk mitigation
- ☑ Utility services detection
- ☑ Environmental and engineering geophysical surveys
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- ☑ Pipeline & cable route surveys
- ☑ Intrusive ground investigations

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APPENDIX D

Exploratory Hole Logs

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP101/RH109
Sheet 1 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 29/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387806.00 N400346.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.78m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	43.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					
				0.40	85.38		Recovered as very loose, dark grey, slightly clayey to clayey GRAVEL with occasional roots and rootlets. Gravel is subangular to subrounded of fine to coarse mudstone (40%), siltstone (30%), red brick (15%), slate (10%) and mixed lithologies (5%). TOPSOIL FILL	
	1.00 – 2.00 1.00	B SPT	N=3 (1,1/0,1,1,1)				Recovered as 70% loose, dark grey, slightly clayey to clayey GRAVEL; 15% cobble sized fragments of mudstone and siltstone; 10% cobble sized red brick fragments; and 5% cobble sized coal fragments. Gravel is subangular to subrounded of fine to coarse mudstone (40%), siltstone (30%), red brick (15%), slate (10%) and mixed lithologies (5%). MADE GROUND – SUSPECTED COLLIERY SPOIL	1
	1.50	PID	0.30ppmv	1.40	84.38		Recovered as stiff, friable, dark grey and black in places, very gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mudstone, siltstone, red brick, and coal. MADE GROUND – SUSPECTED COLLIERY SPOIL	
	2.20	SPT	N=8 (1,2/3,2,1,2)					2
				2.45	83.33		Recovered as 90% cobble sized inclusions of very soft to stiff, light grey, gravelly CLAY; and 10% boulder sized concrete fragments. Gravel is angular to subangular of fine to coarse mudstone, siltstone, sandstone, and coal. MADE GROUND – SUSPECTED COLLIERY SPOIL	
	3.00	SPT	N=20 (2,8/4,5,5,6)					3
	4.00 – 5.00 4.00	ES SPT	N=12 (3,3/4,3,2,3)					4
	4.50	PID	0.70ppmv	4.45	81.33		Recovered as 60% cobble to boulder size inclusions of very stiff, greyish brown to black, slightly gravelly CLAY; 25% cobble sized mudstone and siltstone fragments; and 15% cobble to boulder sized pockets of weathered reddish brown, subangular to subrounded fine to coarse GRAVEL of mudstone, siltstone and occasional coal. Gravel within clay is subangular to subrounded of fine mixed lithologies. MADE GROUND – SUSPECTED COLLIERY SPOIL	
	5.00 – 6.00 5.00 – 6.00 5.20	B ES SPT	N=14 (1,2/3,3,3,5)	5.20	80.58		Stiff to very stiff, brown, slightly gravelly CLAY. Gravel is subangular to rounded of fine to coarse gritstone, sandstone, mudstone, crystalline rocks, pebbles, slate, marl, shale, coal and mixed natural lithologies. COHESIVE GLACIAL TILL	5
	6.50 6.50	SPT PID	N=13 (0,2/2,2,4,5) 0.20ppmv					6
								7
	8.00 – 8.45	UT		8.00	77.78		Firm to stiff, wet, brown, slightly gravelly, clayey SAND. Gravel is subangular to rounded of fine to coarse quartz, shale, mudstone, rounded pebbles and mixed natural lithologies. Sand is fine to medium. GRANULAR GLACIAL TILL	8
	9.50	SPT	N=8 (1,1/1,2,2,3)					9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 14.45m	200mm 150mm	7.00m 12.00m	200mm 150mm									0.00m 18.00m 0.00m 40.00m	18.00m 22.00m 40.00m 42.50m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 14.45m and then rotary open hole follow on through a bentonite seal from 14.45m to 43m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP101/RH109
Sheet 2 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 29/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387806.00 N400346.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.78m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	43.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					
	10.00 – 11.00	ES					Firm to stiff, wet, brown, slightly gravelly, clayey SAND. Gravel is subangular to rounded of fine to coarse quartz, shale, mudstone, rounded pebbles and mixed natural lithologies. Sand is fine to medium. GRANULAR GLACIAL TILL	10
	10.50	PID	0.00ppmv					
	11.00 – 12.00 11.00	B SPT	N=15 (1,2/3,3,4,5)					11
	12.50	SPT	N=29 (4,2/3,7,9,10)					12
	14.00	SPT	N=37 (4,4/8,8,9,12)					13
				14.45	71.33		Driller notes SAND. GRANULAR GLACIAL TILL	14
								15
								16
								17
								18
								19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 14.45m	200mm 150mm	7.00m 12.00m	200mm 150mm									0.00m 18.00m 0.00m 40.00m	18.00m 22.00m 40.00m 42.50m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 14.45m and then rotary open hole follow on through a bentonite seal from 14.45m to 43m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP101/RH109
Sheet 3 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 29/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387806.00 N400346.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.78m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	43.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					
							Driller notes SAND. GRANULAR GLACIAL TILL	
				20.00	65.78		Driller notes CLAY. COHESIVE GLACIAL TILL	20
								21
								22
								23
				24.00	61.78		Driller notes boulder CLAY. COHESIVE GLACIAL TILL	24
								25
								26
								27
								28
								29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 14.45m	200mm 150mm	7.00m 12.00m	200mm 150mm									0.00m 18.00m 0.00m 40.00m	18.00m 22.00m 40.00m 42.50m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 14.45m and then rotary open hole follow on through a bentonite seal from 14.45m to 43m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP101/RH109
Sheet 4 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 29/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387806.00 N400346.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.78m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	43.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					
							Driller notes boulder CLAY. COHESIVE GLACIAL TILL	
				30.00	55.78			30
							Driller notes soft CLAY. COHESIVE GLACIAL TILL	
								31
								32
								33
								34
								35
								36
								37
				38.00	47.78			38
							Driller notes boulder CLAY. COHESIVE GLACIAL TILL	
								39

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 14.45m	200mm 150mm	7.00m 12.00m	200mm 150mm									0.00m 18.00m 0.00m 40.00m	18.00m 22.00m 40.00m 42.50m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 14.45m and then rotary open hole follow on through a bentonite seal from 14.45m to 43m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP101/RH109
Sheet 5 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 29/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387806.00 N400346.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.78m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	43.00m

Install. / Backfill	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
							Driller notes boulder CLAY. COHESIVE GLACIAL TILL	
				40.00	45.78		Driller notes SAND. POSSIBLE COLLYHURST SANDSTONE FORMATION	40
								41
								42
				43.00	42.78		End of Borehole at 43.00m	43
								44
								45
								46
								47
								48

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 14.45m	200mm 150mm	7.00m 12.00m	200mm 150mm									0.00m 18.00m 0.00m 40.00m	18.00m 22.00m 40.00m 42.50m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 14.45m and then rotary open hole follow on through a bentonite seal from 14.45m to 43m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP102/RH110
Sheet 1 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 02/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387560.73 N400386.17
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 84.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	67%	41.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					0.10	83.90		Driller notes TOPSOIL. TOPSOIL FILL	
		1.00 – 2.00 1.00 – 2.00 1.00	B B SPT	N=8 (1,1/2,2,2,2)				Recovered as 70% loose, greyish brown, very sandy, clayey GRAVEL; 10% cobble sized inclusions of soft, brown and grey mottled, slightly sandy CLAY; 10% cobble sized red brick and concrete fragments; 5% twigs; and 5% plastic sheeting. Gravel is subangular to subrounded of fine to coarse red brick (35%); concrete (25%); coal (20%); sandstone (10%); and glass (10%). MADE GROUND - PREDOMINANTLY GRANULAR	1
		2.00	SPT	N=1 (1,1/0,0,0,1)					2
		2.50	ES		2.50	81.50		Recovered as firm, brown, slightly sandy, gravelly CLAY. Gravel is angular to subrounded of fine to coarse red brick, concrete, sandstone and suspected clinker. MADE GROUND - PREDOMINANTLY COHESIVE	
		3.00	SPT	N=13 (2,4/0,0,8,5)	3.00	81.00			3
					3.40	80.60		Medium dense, light pink, gravelly, slightly clayey, fine to coarse SAND. Gravel is subangular to subrounded of fine to medium mudstone, siltstone, sandstone and quartz. GRANULAR GLACIAL TILL	
	▽	4.00	SPT	N=0 (0,0/0,0,0,0)				Very soft to soft, slightly sandy, slightly gravelly CLAY with occasional plant remains and rootlets. Gravel is subangular to subrounded of fine to medium mudstone, sandstone, siltstone, coal and crystalline rocks. Sand is fine to medium. COHESIVE GLACIAL TILL	4
								4.00m - 5.00m : Becoming stiff. Sand becoming fine. Gravel becoming subrounded to wellrounded.	
		5.00 – 6.00 5.00 – 6.00 5.00	B B SPT	N=5 (0,1/1,1,2,1)				*5.00m - 5.45m : Becoming soft. No sand. Silty laminations.*	5
		6.00 – 7.00 6.00 – 7.00	B B					*6.00m - 7.30m : Becoming very soft.*	6
		6.50	SPT	N=17 (2,2/3,3,5,6)					7
					7.30	76.70		Medium dense, brown sandy, slightly clayey, subangular to well rounded, fine to coarse GRAVEL of mixed natural lithologies. GRANULAR GLACIAL TILL	
					7.90	76.10		Driller notes firm, reddish brown, sandy, gravelly CLAY. COHESIVE GLACIAL TILL	8
		8.20	SPT	N=21 (2,4/6,5,5,5)					
	▽								9
		9.20	SPT	N=18 (1,2/3,3,6,6)	9.10	74.90		Driller notes medium dense, reddish brown, coarse SAND with occasional laminations of clay and occasional gravels. GRANULAR GLACIAL TILL	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.50m 41.00m	200mm 150mm	3.00m 41.00m	200mm 150mm									0.00m 35.00m	35.00m 39.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised until 7.9m (8 inch until 3m 6 inch until 7.9) and then rotary open hole follow on through a bentonite seal from 7.9 to 41m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP102/RH110
Sheet 2 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 02/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387560.73 N400386.17
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 84.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	67%	41.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		11.00	SPT	N=17 (3,4/4,4,4,5)				Driller notes medium dense, reddish brown, coarse SAND with occasional laminations of clay and occasional gravels. GRANULAR GLACIAL TILL	10
		12.20	SPT	N=20 (3,3/4,5,6,5)					11
		13.30	SPT	N=22 (1,2/4,6,6,6)					12
					13.75	70.25		Driller notes brown CLAY. COHESIVE GLACIAL TILL	13
									14
									15
									16
									17
					18.00	66.00		Driller notes GRAVELS. GRANULAR GLACIAL TILL	18
									19
					19.50	64.50		Driller notes gravelly CLAY. COHESIVE GLACIAL TILL	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.50m 41.00m	200mm 150mm	3.00m 41.00m	200mm 150mm									0.00m 35.00m	35.00m 39.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised until 7.9m (8 inch until 3m 6 inch until 7.9) and then rotary open hole follow on through a bentonite seal from 7.9 to 41m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP102/RH110
Sheet 3 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 02/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387560.73 N400386.17
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 84.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	67%	41.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
								Driller notes gravelly CLAY. COHESIVE GLACIAL TILL	20
					21.00	63.00		Driller notes SAND. GRANULAR GLACIAL TILL	21
									22
					23.00	61.00		Driller notes boulder CLAY. COHESIVE GLACIAL TILL	23
		24.00 – 25.50	C						24
									25
		25.50 – 27.00	C		25.50	58.50		Stiff to very stiff, brown, slightly gravelly, slightly sandy CLAY with possible medium cobble content. Cobbles are subrounded mixed natural lithologies. Gravel is fine to coarse, subangular to subrounded of gritstone, sandstone, crystalline rocks, and mixed natural lithologies. Sand is fine. COHESIVE GLACIAL TILL	26
					26.40	57.60		Soft, wet, brown, slightly sandy, slightly gravelly CLAY with possible medium cobble content. Cobbles are subrounded mixed natural lithologies. Gravel is fine to coarse, subangular to subrounded of gritstone, sandstone, crystalline rocks, and mixed natural lithologies. Sand is fine. COHESIVE GLACIAL TILL	27
					27.00	57.00		*26.70m - 27.00m : No core recovery.* Driller notes boulder CLAY. COHESIVE GLACIAL TILL	28
									29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.50m 41.00m	200mm 150mm	3.00m 41.00m	200mm 150mm									0.00m 35.00m	35.00m 39.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised until 7.9m (8 inch until 3m 6 inch until 7.9) and then rotary open hole follow on through a bentonite seal from 7.9 to 41m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP102/RH110
Sheet 4 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 02/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387560.73 N400386.17
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 84.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	67%	41.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
								Driller notes boulder CLAY. COHESIVE GLACIAL TILL	30
									31
									32
									33
									34
									35
		36.00 – 38.00	D		36.00	48.00		Recovered as damp, brown, slightly gravelly SAND. Gravel is subangular to subrounded of fine to coarse quartz, crystalline rocks and red sandstone. POSSIBLE COLLYHURST SANDSTONE FORMATION *36.00m - 38.00m : Driller notes soft clay lamination. Drillers' description.*	36
									37
									38
									39

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.50m 41.00m	200mm 150mm	3.00m 41.00m	200mm 150mm									0.00m 35.00m	35.00m 39.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised until 7.9m (8 inch until 3m 6 inch until 7.9) and then rotary open hole follow on through a bentonite seal from 7.9 to 41m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP102/RH110
Sheet 5 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 27/10/2020 - 02/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387560.73 N400386.17
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 84.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	67%	41.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
								Recovered as damp, brown, slightly gravelly SAND. Gravel is subangular to subrounded of fine to coarse quartz, crystalline rocks and red sandstone. POSSIBLE COLLYHURST SANDSTONE FORMATION	40
					41.00	43.00		End of Borehole at 41.00m	41
									42
									43
									44
									45
									46
									47
									48

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.50m 41.00m	200mm 150mm	3.00m 41.00m	200mm 150mm									0.00m 35.00m	35.00m 39.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised until 7.9m (8 inch until 3m 6 inch until 7.9) and then rotary open hole follow on through a bentonite seal from 7.9 to 41m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP103
Sheet 1 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 22/10/2020 - 27/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387694.00 N400344.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.85m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	15.00m

Install. / Backfill	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
	0.50	PID	0.50ppmv	0.40	85.45		Recovered as 70% loose, brown, slightly clayey, sandy GRAVEL; 15% whole and half red brick; 10% cobble sized wood fragments; and 5% roots and rootlets. Gravel is angular to subangular of fine to coarse red brick (70%), suspected clinker (15%), slate (5%) and mixed lithologies (10%). Slight hydrocarbon odour. MADE GROUND - PREDOMINANTLY GRANULAR	
	1.20	SPT	N=4 (1,0/0,1,1,2)				Recovered as 35% loose, dark brown, slightly clayey, sandy GRAVEL; 25% whole and half red brick; 20% cobble sized timber fragments; 10% plastic sheeting; and 10% cobble sized metal fragments. Gravel is subangular to subrounded of fine to coarse red brick (60%), suspected clinker (15%), wood (10%), glass (5%) and mixed lithologies (10%). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
	1.50	PID	3.50ppmv					
	2.00 – 3.00	ES						2
	2.20	SPT	N=8 (1,1/1,1,2,4)	2.20	83.65		Recovered as 95% medium dense, brown, stained black in places, sandy, slightly clayey GRAVEL; and 5% cobble sized timber fragments. Gravel is subangular to subrounded of fine to coarse medium grained sandstone (40%), red brick (30%), green crystalline rock (10%) and gravel sized inclusions of soft, dark brown, slightly sandy CLAY (10%), concrete (5%) and glass (5%). MADE GROUND - PREDOMINANTLY COHESIVE	
	2.50	PID	1.70ppmv					
	3.00	SPT	N=17 (2,2/2,4,5,6)					3
	3.50	PID	1.00ppmv	3.45	82.40		Recovered as 45% medium dense, brown, slightly sandy, slightly clayey GRAVEL; 20% cobble sized red brick; fragments; 20% cobble sized timber fragments; and 15% cobble sized inclusions of soft, brown, stained black, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium red brick (20%), sandstone (10%), concrete (10%), glass (5%), plastic (5%), wood fragments (5%) and mixed lithologies (45%). Sand is fine to medium. MADE GROUND - PREDOMINANTLY GRANULAR	
	4.00 – 5.00	ES						4
				4.20	81.65		Recovered as 80% cobble sized inclusions of soft, friable, black, slightly gravelly CLAY; 5% fabric; 5% metal, 5% plastic sheeting; and 5% wood fragments. Gravel is subangular to subrounded of fine to medium concrete, wood fragments, mudstone, sandstone, and mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
				4.65	81.20			
	5.00	SPT	N=4 (2,2/1,1,1,1)				Recovered as 45% loose, brown, stained black, slightly sandy, slightly clayey GRAVEL; 10% cobble sized fragments of light brown, medium grained sandstone and concrete; 10% plastic (bottles); 10% cobble sized timber fragments; 15% cobble sized red brick fragments; 5% cobble sized inclusions of very soft, brown, stained black, slightly sandy CLAY; and 5% fabric. Gravel is angular to subrounded of fine to coarse red brick (20%), wood (15%), ceramic (5%), glass (5%), plastic (5%), and mixed lithologies (50%). Hydrocarbon odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	5
	5.50	PID	4.30ppmv					
				5.80	80.05		*5.60m - 7.00m : Hydrocarbon odour.*	6
	6.50	SPT	N=5 (1,0/0,1,2,2)				Recovered as 35% medium dense, multicoloured, slightly sandy GRAVEL; 30% cobble sized red brick fragments; 15% cobble sized timber fragments; 10% cobble sized inclusions of soft, brown, stained black, slightly gravelly CLAY; 5% fabric; 2.5% plastic; and 2.5% cobble sized crystalline rock fragments. Gravel is subangular to subrounded of fine to coarse red brick (30%), crystalline rocks (30%), ceramic (5%), glass (5%) and mixed lithologies (30%). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	7
							6.50m - 6.95m : No recovery from SPT.	
	8.00 – 9.00	B					Recovered as medium dense, damp, brown, fine to medium, slightly gravelly, slightly clayey SAND. Gravel is subangular to subrounded of fine to coarse red mudstone, crystalline rocks, sandstone, and hard, black glassy rock. GRANULAR GLACIAL TILL	8
	8.00	SPT	N=32 (1,2/3,6,10,13)	8.20	77.65			
	8.50	PID	0.50ppmv				*8.20m : Driller notes sandstone boulder. Drillers' description.*	
							8.45m - 9.00m : Moderate cobble content. Cobbles are subangular to subrounded of brown, medium grained sandstone.	
	9.00 – 10.00	ES						9
	9.50	SPT	N=8 (1,1/1,2,2,3)				Firm, soft where wet, brown, slightly gravelly, sandy CLAY with possible medium cobble content. Cobbles are subrounded of sandstone. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Sand is fine to medium. COHESIVE GLACIAL TILL	
	9.50	PID	0.20ppmv	9.70	76.15			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
15.00m	200mm	8.20m 15.00m	200mm 150mm	8.00m	9.00m	01:20						0.00m 2.00m 0.00m 8.20m	2.00m 6.00m 8.20m 10.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 8.2m, where a bentonite seal was placed then 6 inch casing until 15m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP103
Sheet 2 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 22/10/2020 - 27/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387694.00 N400344.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.85m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	15.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					
				10.50	75.35		Firm, soft where wet, brown, slightly gravelly, sandy CLAY with possible medium cobble content. Cobbles are subrounded of sandstone. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Sand is fine to medium. COHESIVE GLACIAL TILL	10
	11.00 – 12.00 11.00 – 12.00 11.00	B B SPT	N=15 (1,2/3,3,4,5)				Soft, wet, brown, slightly sandy, slightly gravelly CLAY with possible medium cobble content. Cobbles are subrounded of sandstone. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Sand is fine. COHESIVE GLACIAL TILL *11.00m - 12.00m : Becomes firm.*	11
	12.50	SPT	N=29 (4,2/3,7,9,10)				*12.00m - 14.00m : Wet and very soft.*	12
	14.00	SPT	N=37 (4,4/8,8,9,12)					13
	14.50	PID	0.20ppmv					14
				15.00	70.85		End of Borehole at 15.00m	15
								16
								17
								18
								19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
15.00m	200mm	8.20m 15.00m	200mm 150mm	8.00m	9.00m	01:20						0.00m 2.00m 0.00m 8.20m	2.00m 6.00m 8.20m 10.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 8.2m, where a bentonite seal was placed then 6 inch casing until 15m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP103
Sheet 3 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 22/10/2020 - 27/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387694.00 N400344.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.85m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	15.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					

20
21
22
23
24
25
26
27
28
29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
15.00m	200mm	8.20m 15.00m	200mm 150mm	8.00m	9.00m	01:20						0.00m 2.00m 0.00m 8.20m	2.00m 6.00m 8.20m 10.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 8.2m, where a bentonite seal was placed then 6 inch casing until 15m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP103
Sheet 4 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 22/10/2020 - 27/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387694.00 N400344.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 85.85m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	15.00m

Install. / Backfill	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
	Depth (m)	Type	Results					

30
31
32
33
34
35
36
37
38
39

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
15.00m	200mm	8.20m 15.00m	200mm 150mm	8.00m	9.00m	01:20						0.00m 2.00m 0.00m 8.20m	2.00m 6.00m 8.20m 10.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 8.2m, where a bentonite seal was placed then 6 inch casing until 15m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP104
Sheet 1 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 12/10/2020 - 13/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387561.89 N400245.14
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 83.40m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	13.30m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.50	ES					Recovered as 70% loose, brown, very clayey, very sandy/ ashy GRAVEL; 20% cobble sized red brick and concrete fragments; and 5% cobble sized inclusions of firm, greenish grey and brown mottled CLAY with rootlets; 5% cobble sized slate fragments. Gravel is angular to subangular of fine to coarse brick (70%), suspected slag (20%), and concrete (10%). Strong chemical odour. MADE GROUND - PREDOMINANTLY GRANULAR	1
		1.20	SPT	N=9 (3,4/4,3,1,1)					
					1.60	81.80		Recovered as dark grey, mottled light brown. slightly sandy, slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to coarse brick (40%), sandstone (20%), timber (20%), mudstone (10%), and concrete (10%). Slight odour. MADE GROUND - PREDOMINANTLY COHESIVE	
		2.00	SPT	N=30 (2,3/5,1,10,14)	2.05	81.35			2
		2.70						Recovered as loose, light pink, gravelly, fine to medium SAND. Gravel is subangular to subrounded of fine to coarse sandstone, red brick and mudstone. MADE GROUND - PREDOMINANTLY GRANULAR	
		2.70	ES						
		3.00	SPT	N=4 (4,2/1,1,1,1)	3.00	80.40		Recovered as 80% dense, dark grey, stained black, very gravelly, clayey SAND; and 20% carpet fragments. Gravel is angular to subangular of fine to coarse sandstone (60%), brick (20%), and glass (20%). Strong odour. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	3
								3.50m : Rare plastic sheeting and timber fragments (15cm), and occasional metal (35cm).	
		4.00	SPT	N=39 (4,6/8,11,7,13)					4
					4.60	78.80		Recovered as 65% very dense, dark grey, sandy/ashy, slightly clayey GRAVEL; 25% whole and half red brick; 5% plastic (sheets and bags); and 5% cobble sized metal fragments. Gravel is angular to subangular of fine to coarse brick (60%), concrete (15%), glass (15%), suspected slag (5%) and mudstone (5%). Odour. MADE GROUND - PREDOMINANTLY GRANULAR	
		5.00	SPT	N=50 (4,5/5,11,13,21)				*5.00m : A single concrete cobble (25cm).*	5
								5.00m - 6.00m : Rare cobble sized inclusions of firm, brown, black and grey mottled, silty CLAY with rootlets.	
		6.00	SPT	N=28 (1,4/6,5,9,8)	6.00	77.40			6
					6.45	76.95		Recovered as dense, black, gravelly, slightly clayey, fine to medium SAND. Gravel is angular to subangular of red brick. Slight odour. MADE GROUND - PREDOMINANTLY GRANULAR	
		7.00	SPT	N=10 (1,1/1,3,3,3)	7.00	76.40		Recovered as 65% cobble sized red brick fragments; 20% medium dense, reddish brown, gravelly, slightly clayey SAND; 10% cobble sized metal fragments; and 5% cobble sized timber fragments. Gravel is angular to subangular of red brick (80%) and concrete (20%). Odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	7
		7.30							
		7.30	ES					Recovered as 55% medium dense, dark grey to black, very sandy, clayey GRAVEL; 15% cobble sized suspected slag fragments; 15% whole and half red brick; 5% cobble sized timber fragments; 5% cobble sized metal fragments; and 5% plastic cup fragments. Gravel is angular to subangular of fine to coarse red brick, concrete, suspected slag and glass. Strong odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	8
		8.65	SPT	N=16 (2,7/5,5,2,4)					
		9.10	SPT	N=13 (7,4/2,2,7,2)					9
								9.40m : Metal obstruction	
					9.60	73.80		Firm, light brown, slightly gravelly CLAY possibly with occasional silt laminations. Gravel is subangular to subrounded of fine mixed natural lithologies. COHESIVE GLACIAL TILL	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.30m	200mm	11.00m	200mm	4.45m 5.40m 9.50m	4.60m 5.70m 9.80m	01:00 01:00 01:00									

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP104
Sheet 2 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 12/10/2020 - 13/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387561.89 N400245.14
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 83.40m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	13.30m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		10.00	SPT	N=25 (3,4/4,6,6,9)				Firm, light brown, slightly gravelly CLAY possibly with occasional silt laminations. Gravel is subangular to subrounded of fine mixed natural lithologies. COHESIVE GLACIAL TILL	10
		11.00 – 11.45	UT						11
		11.45 – 11.65	UT					*11.45m - 11.50m : Becoming stiff and thinly laminated with occasional silty partings.* *11.50m : A single subrounded cobble of sandstone (15cm).* *11.50m - 12.45m : Becoming slightly sandy with cobble sized pockets of soft, brown, sandy CLAY. Gravel is fine to coarse.*	12
		12.85	SPT	N=16 (2,3/2,4,4,6)					13
					13.30	70.10		End of Borehole at 13.30m	14
									15
									16
									17
									18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
13.30m	200mm	11.00m	200mm	4.45m 5.40m 9.50m	4.60m 5.70m 9.80m	01:00 01:00 01:00									

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP105
Sheet 1 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 05/10/2020 - 06/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387418.00 N400264.00
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 80.36m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	10.65m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					0.05	80.31		Recovered as firm, dark brown, slightly sandy, slightly gravelly CLAY with abundant roots and rootlets. Gravel is subangular to subrounded of fine to coarse mixed lithologies. TOPSOIL FILL	
		0.50	ES						
		0.50	PID	0.10ppmv					
		1.20	SPT	N=3 (1,1/1,1,1,0)	1.20	79.16		Recovered as 60% loose, damp, gravelly, clayey SAND/ ASH; 30% cobble sized red brick and sandstone fragments; 5% cobble sized glass and plastic fragments; and 5% cobble sized timber fragments. Gravel is angular to subrounded of fine to coarse red brick, glass, mudstone and suspected clinker. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
		1.50	ES						
		1.50	PID	0.80ppmv	1.65	78.71		Recovered as 60% cobble sized inclusions of firm to stiff, brown, slightly sandy, slightly gravelly CLAY; and 40% loose, angular to subrounded fine to coarse GRAVEL of red brick and mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
		1.65 – 2.00	B						
		2.00 – 3.00	B		2.00	78.36			2
		2.00	SPT	N=4 (1,1/1,1,1,1)					
		2.50	ES						
		2.50	PID	0.20ppmv					
	▽	3.00	SPT	N=6 (1,1/1,1,2,2)				Recovered as 35% loose, dark brown and black stained, slightly gravelly, very clayey GRAVEL; 30% gravel to cobble sized inclusions of soft to firm, brown, slightly sandy, slightly gravelly CLAY; 20% cobble sized timber fragments; 10% cobble sized suspected slag fragments; and 5% cobble sized glass fragments. Gravel is subangular to subrounded of fine to coarse red brick, timber and chalk/lime. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	3
					3.15	77.21			
		3.45 – 4.00	B						
								Recovered as 60% hard, friable, whitish grey possible CHALK; and 40% loose, white and black, slightly sandy, slightly clayey, subangular to subrounded, fine to coarse GRAVEL of mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
		4.00 – 4.45	UT						4
		4.00 – 5.00	B						
								Soft to firm, brown, slightly sandy, slightly gravelly CLAY possibly with occasional silt lenses. Sand is fine. Gravel is angular to subrounded of fine to medium mudstone, red sandstone and red marl. COHESIVE GLACIAL TILL	
		4.45 – 4.65	UT						
		4.50	ES						
		4.50	PID	0.10ppmv					
	Water Added = 2l	5.00 – 5.45	D						5
		5.00 – 6.00	B						
		5.00	SPT	N=13 (2,2/3,3,3,4)					
		6.00 – 6.45	UT						6
		6.00 – 7.00	B						
		6.45 – 6.65	UT						
		7.00	SPT	N=14 (1,2/2,4,4,4)					7
		7.45 – 7.90	D		7.50	72.86			
								Soft, grey, slightly sandy, silty CLAY. COHESIVE GLACIAL TILL	
		8.00 – 8.45	UT						8
		9.00	SPT	N=18 (2,2/3,4,5,6)					9
					9.30	71.06		Firm to stiff, brown, slightly sandy, slightly gravelly CLAY possibly with thin laminations of SILT. Gravel is angular to rounded of fine to medium mudstone, red sandstone, crystalline rocks, limestone and gritstone. COHESIVE GLACIAL TILL	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
10.65m	200mm	5.85m	200mm	3.80m	4.00m	01:00									

Remarks

Dimensions given in length x width.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP105
Sheet 2 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 05/10/2020 - 06/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387418.00 N400264.00
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 80.36m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	10.65m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		10.00 – 10.45	UT					Firm to stiff, brown, slightly sandy, slightly gravelly CLAY possibly with thin laminations of SILT. Gravel is angular to rounded of fine to medium mudstone, red sandstone, crystalline rocks, limestone and gritstone. COHESIVE GLACIAL TILL	10
		10.45 – 10.65	UT		10.65	69.71		End of Borehole at 10.65m	11
									12
									13
									14
									15
									16
									17
									18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
10.65m	200mm	5.85m	200mm	3.80m	4.00m	01:00									

Remarks

Dimensions given in length x width.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP106
Sheet 1 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 06/10/2020 - 07/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387366.52 N400246.25
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 78.79m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	11.50m

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	78.59		Recovered as very soft, black, silty CLAY with frequent roots and rootlets. TOPSOIL FILL	
		0.50	ES					Recovered as 80% very soft, white and black, slightly sandy, very gravelly CLAY; and 20% cobble sized suspected slag and clinker fragments. Gravel is subangular to subrounded of fine to coarse suspected slag and clinker, chalk and mixed lithologies. Slight sweet odour. MADE GROUND - PREDOMINANTLY COHESIVE	1
		1.20	SPT	N=7 (1,1/1,1,1,4)					
					1.40	77.39		Recovered as 70% very loose, black, subangular to subrounded GRAVEL of suspected clinker (95%) and chalk (5%); 10% cobbles sized fragments of suspected clinker and slag; 10% cobble sized inclusions of very soft, white, slightly gravelly CLAY; 5% cobble sized inclusions of very soft, light orangish brown, slightly sandy, gravelly CLAY; 2.5% cobble sized timber fragments; and 2.5% cobble sized plastic fragments. Gravel is subangular to angular of fine to medium clinker and chalk. MADE GROUND - SUSPECTED COMBUSTION WASTE	
		1.65 – 2.00	B						
		1.80	ES						
		2.00 – 3.00	B						2
		2.00	SPT	N=3 (1,1/1,1,1,0)					
	▽	3.00 – 4.00	B		3.00	75.79		Recovered as 70% soft, light brown, stained black, slightly sandy, gravelly CLAY; and 30% timber planks and fragments. Gravel is subangular to subrounded of fine to coarse timber fragments, suspected clinker and plastic. Hydrocarbon odour. MADE GROUND - PREDOMINANTLY COHESIVE	3
		3.00	SPT	N=4 (1,1/1,1,1,1)					
		3.50	ES						
		4.00	SPT	N=5 (1,2/1,1,1,2)	4.00	74.79		Recovered as 40% loose, wet, brown, clayey GRAVEL; 30% cobble sized timber fragments, 10% cobbles sized suspected clinker and slag fragments; 10% fabrics; and 10% cobble sized plastic fragments. Gravel is subangular to subrounded of fine to coarse mixed lithologies. Hydrocarbon odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	4
					4.65	74.14		Soft, grey, slightly sandy, silty CLAY. COHESIVE GLACIAL TILL	
		5.00 – 6.00	B						5
		5.00	SPT	N=10 (1,1/1,1,2,6)					
					5.65	73.14		Soft to firm, slightly sandy, slightly gravelly CLAY. Sand is fine. Gravel is angular to subrounded of fine to medium black mudstone, quartz, shale, red coarse grained sandstone and crystalline rocks. COHESIVE GLACIAL TILL	
		6.00 – 6.45	UT						6
		6.00 – 7.00	B						
		7.00	SPT	N=15 (2,2/3,3,4,5)					7
		8.00 – 8.45	UT					*8.00m : Becomes stiff.*	8
		8.00 – 9.00	B						
		8.45 – 8.65	UT						
		9.00	SPT	N=28 (2,3/5,6,8,9)				*9.00m - 10.00m : Silty.*	9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
11.50m	200mm	5.40m	200mm	3.80m	4.00m	01:00									

Remarks

Dimensions given in length x width.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP106
Sheet 2 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 06/10/2020 - 07/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387366.52 N400246.25
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 78.79m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	11.50m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		10.00 – 10.45	UT					Soft to firm, slightly sandy, slightly gravelly CLAY. Sand is fine. Gravel is angular to subrounded of fine to medium black mudstone, quartz, shale, red coarse grained sandstone and crystalline rocks. COHESIVE GLACIAL TILL	10
		10.45 – 10.65	UT					*10.45m : Becomes very stiff.*	
		11.00	SPT	N=35 (3,5/6,8,10,11)					11
					11.50	67.29		End of Borehole at 11.50m	
									12
									13
									14
									15
									16
									17
									18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
11.50m	200mm	5.40m	200mm	3.80m	4.00m	01:00									

Remarks

Dimensions given in length x width.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP107
Sheet 1 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 12/10/2020 - 13/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387529.06 N400306.76
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 83.70m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	12.45m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.00 – 1.00	B					Firm, dark brown, slightly sandy, slightly gravelly CLAY with frequent roots and rootlets. Gravel is angular to well rounded of fine to coarse red brick (60%), concrete (20%), ceramic (5%), quartz (5%), and suspected clinker (5%). Sand is fine to medium. TOPSOIL FILL	
		0.00 – 1.00	B		0.30	83.40			
		0.50	ES						
		1.00	SPT	N=1 (1,1/0,0,0,1)				Recovered as 45% loose, dark brown, very sandy, very clayey GRAVEL; 15% whole and half bricks; 10% cobble sized inclusions of soft, organic, grey and brown mottled, sandy CLAY; 10% carpet; 10% cobble sized plastic fragments; 5% tinfoil; and 5% cobble sized tarmacadam fragments. Gravel is subangular of fine to coarse brick (50%), concrete (15%), wood chips (15%), suspected clinker (7.5%), glass (7.5%), slate (2.5%), quartz (2.5%), suspected slag (2.5%) and sandstone (2.5%). Organic odour.	1
		2.00 – 3.00	B					MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
		2.00	SPT	N=3 (2,2/2,0,0,1)				*2.00m : Rare carpet.*	2
		3.00							
		3.00	ES						3
		3.00 – 3.45	D					*3.20m - 3.30m : Black, slight gravelly, silty CLAY. Gravel is subangular to angular of coal and brick.*	
		3.00	SPT	N=9 (2,1/2,2,3,2)				*3.30m - 4.10m : Occasional subangular cobbles of concrete and brick, fine gravel to cobble sized timber fragments, plastic sheeting. Rare metal fragments, hardboard, and carpet fragments.*	
		4.00	SPT	N=12 (4,3/6,2,2,2)	4.10	79.60		Recovered as 55% medium dense, dark grey, sandy, clayey GRAVEL; 15% cobble sized wood and timber fragments; 10% cobble sized metal fragments; 10% cobble sized inclusions of soft, brown CLAY; 5% plastic sheeting; and 5% roots and rootlets. Gravel is angular to subangular of fine to coarse concrete, brick, glass and ceramics.	4
		4.50						MADE GROUND - PREDOMINANTLY GRANULAR	
		4.50	ES						
		5.00 – 5.45	D		5.00	78.70			5
		5.00	SPT	N=17 (2,1/6,6,2,3)				Recovered as medium dense, black, slightly silty, fine to medium SAND. Gravel is angular to subangular of fine to coarse red brick (10%), concrete (10%), yellowish brown sandstone (5%), mudstone (5%), glass (5%), slate (5%), plastic (5%), metal (2.5%), wood (2.5%), and mixed lithologies (50%). Slight odour.	
								MADE GROUND - PREDOMINANTLY GRANULAR	6
								5.20m : Becoming slightly silty, very sandy GRAVEL with occasional cobbles of brick, clinker, and concrete and rare cobble sized fragments of timber.	
		6.50	SPT	N=17 (7,14/7,4,3,3)				*6.00m : Rare cobbles and plastic sheeting.*	
								7.00m : Becoming very gravelly SAND.	7
		8.00	SPT	N=50 (13,7/20,30,0,0)				*8.00m : Occasional cobbles of brick.*	8
									9
		9.30	SPT	N=13 (3,3/3,3,3,4)	9.30	74.40		Firm, laminated, light brown, slightly gravelly CLAY with occasional rootlets. Gravel is subangular of fine siltstone. Lamination are thin, closely spaced and of firm, brown silt. COHESIVE GLACIAL TILL	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
12.45m	200mm	9.00m	200mm									0.00m 5.00m	5.00m 9.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP107
Sheet 2 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 12/10/2020 - 13/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387529.06 N400306.76
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 83.70m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	12.45m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		11.00 – 11.45	UT					Firm, laminated, light brown, slightly gravelly CLAY with occasional rootlets. Gravel is subangular of fine siltstone. Lamination are thin, closely spaced and of firm, brown silt. COHESIVE GLACIAL TILL	10
								11.00m - 12.45m : Becoming stiff and gravel is subangular to wellrounded of fine to medium mixed natural lithologies.	11
		12.00	SPT	N=28 (2,4/4,4,10,10)					12
					12.45	71.25		End of Borehole at 12.45m	13
									14
									15
									16
									17
									18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
12.45m	200mm	9.00m	200mm									0.00m 5.00m	5.00m 9.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP108
Sheet 1 of 3

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 05/10/2020 - 07/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387309.99 N400245.27
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 77.93m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	20.40m

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	77.83		Recovered as very loose, soft, brown, slightly gravelly, sandy CLAY with frequent rootlets. Gravel is subangular to rounded of fine to coarse mixed lithologies. TOPSOIL FILL	
		0.50 0.50	ES PID	 0.10ppmv				Recovered as 70% wet, black, sandy, slightly clayey GRAVEL; 10% cobble sized inclusions of soft, light brown, slightly gravelly CLAY; 10% cobbles sized suspected clinker and slag fragments; 5% whole and half red brick; and 5% rootlets. Gravel is angular to subrounded of fine to coarse suspected clinker and slag. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
		1.20	SPT	N=3 (1,1/0,1,1,1)					
		1.50 1.50	ES PID	 0.50ppmv					
		2.20	SPT	N=1 (2,1/0,1,0,0)	2.20	75.73			2
		2.40 2.40	ES PID	 0.30ppmv				Recovered as 40% loose, wet, dark brown, sandy, slightly clayey GRAVEL; 30% cobble sized fragments of red brick; 10% cobble sized inclusions of soft, light brown, slightly gravelly CLAY; 10% cobbles sized slate, red brick, suspected clinker and sandstone fragments; 2.5% cobble sized glass fragments; 2.5% cobble sized timber fragments; 2.5% cobble sized metal fragments; and 2.5% cobble sized ceramic fragments. Gravel is subrounded to angular of fine to medium red brick, glass, coal, suspected clinker, mudstone and mixed lithologies. Slight hydrocarbon odour. MADE GROUND - SUSPECTED COMBUSTION WASTE	
		3.20	SPT	N=4 (2,1/0,1,1,2)					3
		4.20	SPT	N=4 (1,1/0,2,1,1)	4.20	73.73			4
		5.00 5.00 – 5.45 5.00 5.10	ES D SPT PID	 N=27 (2,4/5,5,6,11) 0.10ppmv	5.00	72.93		Recovered as 50% loose, wet, dark greyish brown, sandy GRAVEL; 30% very soft, wet, brown, very clayey GRAVEL; and 20% cobbles sized concrete paving fragments. Gravel is subrounded to angular of fine to coarse concrete (20%), red brick (15%), glass (10%), suspected clinker (5%), coal (5%), plastic (5%) and mixed lithologies (45%). Slight hydrocarbon odour. MADE GROUND - PREDOMINANTLY GRANULAR	5
		6.00 – 6.45 6.00 – 6.45	UT UT	 				Firm, brown, slightly gravelly CLAY. Gravel is subrounded to subangular of fine to medium mudstone, shale and crystalline rocks. COHESIVE GLACIAL TILL *5.40m - 5.45m : Recovered as soft, light brown, very sandy CLAY. Sand is medium.*	6
		6.45 – 6.90	D						
		7.00	SPT	N=21 (5,4/4,5,6,6)					7
					7.20	70.73		Stiff, wet, brown, slightly sandy, slightly gravelly to gravelly in places CLAY. Gravel is angular to rounded of fine to coarse sandstone, gritstone and mudstone. COHESIVE GLACIAL TILL	
		8.00 – 8.45 8.00 – 8.45	UT UT	 				*8.00m - 9.00m : Occasional cobbles of rounded to subrounded sandstone.*	8
		9.00 – 9.45 9.00	D SPT	 N=39 (6,8/8,9,10,12)					9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
20.40m	200mm	18.00m	200mm	13.00m 14.00m	14.00m 18.00m	00:45 05:00						0.00m 2.20m	2.20m 5.00m	PLAIN SLOTTED	63mm 63mm

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP108
Sheet 2 of 3

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 05/10/2020 - 07/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387309.99 N400245.27
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 77.93m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	20.40m

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		10.00 – 10.45	UT					Stiff, wet, brown, slightly sandy, slightly gravelly to gravelly in places CLAY. Gravel is angular to rounded of fine to coarse sandstone, gritstone and mudstone. COHESIVE GLACIAL TILL	10
		10.00 – 10.45	UT					*10.00m : Becomes very stiff.*	
		11.50	SPT	N=16 (1,2/3,3,4,6)				*11.50m - 12.70m : Occasional laminations of SILT.*	11
					12.70	65.23		Stiff, brown, slightly sandy, silty CLAY. COHESIVE GLACIAL TILL	12
		13.00	SPT	N=20 (3,3/4,4,6,6)	13.00	64.93		Stiff, wet, brown, slightly sandy, gravelly CLAY with possible medium cobble content. Cobbles are angular to subrounded of crystalline rocks and sandstone. Gravel is subangular of fine mixed natural lithologies. COHESIVE GLACIAL TILL	13
					14.00	63.93		Very soft, wet, brown, slightly gravelly, silty CLAY. Gravel is subangular to subrounded of fine to medium mixed natural lithologies. COHESIVE GLACIAL TILL	14
		14.50 – 14.95	UT		14.50	63.43		Stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse mixed natural lithologies. COHESIVE GLACIAL TILL	
		14.50 – 14.95	UT						15
		16.00	SPT	N=9 (1,0/1,0,3,5)	16.00	61.93		Firm, brown, very sandy CLAY. COHESIVE GLACIAL TILL	16
					16.40	61.53		Stiff, soft where wet, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse red sandstone, grey sandstone, quartz and mudstone. COHESIVE GLACIAL TILL	
		17.00	SPT	N=41 (5,7/7,10,12,12)	17.00	60.93		*16.40m - 17.00m : Occasional cobbles of sandstone.* Soft, very wet, brown, slightly sandy, slightly gravelly CLAY. Sand is fine. Gravel is angular to rounded of fine to coarse mixed natural lithologies. COHESIVE GLACIAL TILL	17
		18.00 – 18.45	UT						18
		18.00 – 18.45	UT						
		19.00 – 20.00	B						19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
20.40m	200mm	18.00m	200mm	13.00m 14.00m	14.00m 18.00m	00:45 05:00						0.00m 2.20m	2.20m 5.00m	PLAIN SLOTTED	63mm 63mm

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP108
Sheet 3 of 3

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 05/10/2020 - 07/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387309.99 N400245.27
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 77.93m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	20.40m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					20.40	57.53		Soft, very wet, brown, slightly sandy, slightly gravelly CLAY. Sand is fine. Gravel is angular to rounded of fine to coarse mixed natural lithologies. COHESIVE GLACIAL TILL	20
								End of Borehole at 20.40m	21
									22
									23
									24
									25
									26
									27
									28
									29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
20.40m	200mm	18.00m	200mm	13.00m 14.00m	14.00m 18.00m	00:45 05:00						0.00m 2.20m	2.20m 5.00m	PLAIN SLOTTED	63mm 63mm

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP109
Sheet 1 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 14/10/2020 - 16/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387572.00 N400193.00
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 82.60m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	14.80m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.55	82.05		Recovered as 90% brown, very gravelly, slightly clayey, fine to coarse SAND; 5% roots and rootlets; and 5% plastic (bags and sheeting). Gravel is angular to subangular of fine to coarse brick (60%), concrete (15%), glazed ceramic (5%), plastic (5%), glass (5%), slate (5%), and sandstone (5%). MADE GROUND - PREDOMINANTLY GRANULAR	
		1.00	ES					Recovered as 70% cobble sized inclusions of stiff, brown, slightly gravelly CLAY; 10% cobble sized red brick fragments; 10% cobble sized inclusions of soft, black, slightly sandy, slightly gravelly CLAY; 2.5% cobble sized glazed ceramic fragments, 2.5% rags and sponge; 2.5% wooden chips; and 2.5% roots and rootlets. Gravel is subrounded to well rounded of fine to medium mixed lithologies. Strong organic odour. MADE GROUND - PREDOMINANTLY COHESIVE	1
		1.20	SPT	N=34 (2,5/1,2,5,26)					
					1.85	80.75			
		2.00	SPT	N=10 (2,5/4,4,1,1)					2
	▽							Recovered as 90% soft to firm, dark grey to black, slightly sandy, gravelly CLAY; and 10% cobble sized plastic fragments. Gravel is angular to subangular of fine to coarse brick (70%), concrete (20%) and slate (10%). Organic odour. MADE GROUND - PREDOMINANTLY COHESIVE	
		3.00 – 3.50	ES		3.00	79.60		Recovered as loose, brown, very clayey, angular to subangular, fine to coarse GRAVEL of red brick (55%), concrete (15%), mudstone (10%), sandstone (10%), timber (5%) and glass (5%). Decaying vegetation odour. MADE GROUND - PREDOMINANTLY GRANULAR	3
		3.00	SPT	N=4 (1,1/1,1,1,1)					
					3.65	78.95		Recovered as 55% loose, wet, brown, slightly sandy, slightly clayey GRAVEL; 20% cobble sized red brick fragments; 5% cobble sized flagstone fragments; 5% wooden peg fragments; 5% red bottle tops; 5% cobble sized metal fragments; and 5% plastic (sheeting and bags). Gravel is angular of fine to coarse brick (40%), concrete (40%), and glass (20%). Strong solvent odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		4.00	SPT	N=39 (2,2/5,14,11,9)	4.00	78.60			4
		5.00	SPT	N=10 (2,2/3,3,2,2)	5.00	77.60		Recovered as 90% cobble sized red brick and concrete fragments; 5% brown, slightly clayey, gravelly, fine to coarse SAND; and 5% cobble sized timber fragments. Gravel is subangular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	5
		6.00	SPT	N=14 (5,6/4,3,3,4)	6.00	76.60		Recovered as 75% dark grey, very sandy, slightly clayey GRAVEL; 10% cobble sized timber fragments; 10% cobbles sized red brick and concrete fragments; 5% plastic fragments (pipes, glasses frame); and 5% plastic bags. Sand is fine to coarse. Gravel is angular to subangular of fine to coarse brick (50%), concrete (20%), glass (10%), ceramic (10%), sandstone (5%), and slate (5%). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	6
		7.00	SPT	N=37 (7,12/10,16,8,3)				Recovered as 60% cobbles sized red brick and concrete fragments; 10% medium dense, dark grey, very sandy, slightly clayey GRAVEL; 10% cobble sized timber fragments; 10% cobble sized metal fragments; 5% fabrics; and 5% glass. Gravel is angular to subangular of fine to coarse brick (50%), concrete (20%), glass (10%), ceramic (10%), sandstone (5%), and slate (5%). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	7
		7.50 7.50	ES						
		8.00	SPT	N=14 (3,2/4,4,3,3)	8.00	74.60		Recovered as 90% glass and metal fragments (bottles and lids); and 10% black, gravelly, fine to coarse SAND. Gravel is fine to medium of brick and concrete. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	8
		9.00	SPT	N=10 (2,1/1,2,3,4)	9.00	73.60		Recovered as 75% medium dense, dark grey, very sandy, slightly clayey GRAVEL; 15% cobble sized red brick fragments; 10% cobble sized fragments of sandstone; 5% cobble sized metal fragments; and 5% cobble sized timber fragments. Gravel is angular to subrounded of fine to coarse brick (50%), concrete (30%), slate (10%), glass (5%), and sandstone (5%). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
14.80m	200mm	14.10m 14.80m	200mm 150mm									0.00m 9.00m	9.00m 13.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 14.1m, where a bentonite seal was placed then 6 inch casing until 14.8m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP109
Sheet 2 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 14/10/2020 - 16/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387572.00 N400193.00
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 82.60m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	14.80m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		10.00	SPT	N=34 (9,14/10,12,8,4)				Recovered as 75% medium dense, dark grey, very sandy, slightly clayey GRAVEL; 15% cobble sized red brick fragments; 10% cobble sized fragments of sandstone; 5% cobble sized metal fragments; and 5% cobble sized timber fragments. Gravel is angular to subrounded of fine to coarse brick (50%), concrete (30%), slate (10%), glass (5%), and sandstone (5%). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	10
		11.00	SPT	N=15 (2,3/2,4,3,6)				*11.00m - 13.80m : Frequent timber fragments (35cm) and strong odour.*	11
		12.00	SPT	N=13 (2,2/2,3,4,4)					12
		13.00	SPT	N=6 (1,1/3,1,1,1)					13
		14.00	SPT	N=40 (4,7/9,11,11,9)	13.85	68.75		Stiff, brown, slightly gravelly CLAY. Gravel is subrounded of fine mixed natural lithologies. COHESIVE GLACIAL TILL	14
					14.10	68.50		Brown, fine to medium SAND. GRANULAR GLACIAL TILL	
					14.80	67.80		End of Borehole at 14.80m	15
									16
									17
									18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
14.80m	200mm	14.10m 14.80m	200mm 150mm									0.00m 9.00m	9.00m 13.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 14.1m, where a bentonite seal was placed then 6 inch casing until 14.8m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP110
Sheet 1 of 1

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387426.48 N400217.34
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 80.41m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
LT	JC	MP	67%	8.50m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	80.21		Firm, dark brown, slightly sandy, silty CLAY. TOPSOIL FILL	
		0.60	ES					Recovered as dark grey, gravelly, very clayey, fine to coarse SAND. Gravel is subangular to subrounded of fine to coarse brick, concrete and sandstone. MADE GROUND - PREDOMINANTLY GRANULAR	
		0.60	PID	0.10ppmv	0.80	79.61		Recovered as very soft, white, gravelly CLAY. Gravel is subangular of fine to coarse weathered chalk. MADE GROUND - PREDOMINANTLY COHESIVE	1
		1.50	SPT	N=1 (1,0/0,0,0,1)	1.50	78.91		Driller notes black ashy GRAVEL of brick with occasional brick cobbles. MADE GROUND - PREDOMINANTLY GRANULAR	2
	▽	2.50	SPT	N=4 (1,2/1,0,2,1)	2.50	77.91		Recovered as 85% grey and brown sandy, very clayey GRAVEL; 15% cobble sized inclusions of firm, brown CLAY. Gravel is angular to subangular of fine to coarse mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	3
		3.50	SPT	N=13 (1,2/4,3,3,3)					
	▽				4.00	76.41		Stiff, brown, gleyed grey, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologies. COHESIVE GLACIAL TILL	4
		4.50 – 4.95	D						
		4.50 – 5.50	B						5
		4.50	SPT	N=10 (2,3/3,2,2,3)					
	▽	5.50 – 5.95	UT					*5.50m - 5.70m : Driller notes thin lamination of SAND.*	6
		7.00 – 7.45	D						
		7.00 – 8.50	B						7
		7.00 – 8.50	B						
		7.00	SPT	N=10 (1,2/2,3,3,2)					
		8.00 – 8.45	UT						8
					8.50	71.91		End of Borehole at 8.50m	9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
1.20m 8.50m	300mm 200mm	7.00m	200mm									0.00m 1.00m	1.00m 4.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP112/RH103
Sheet 1 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387644.00 N400248.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 83.90m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	31.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	83.80		Recovered as brown, organic, slightly sandy, gravelly CLAY with occasional roots and rootlets. TOPSOIL FILL	
		1.00	SPT	N=11 (3,3/3,3,3,2)				Recovered as 75% firm, brown and grey mottled, slightly sandy, gravelly CLAY; 10% cobble sized fragments of red brick; 5% cobble sized metal fragments; 5% cobble sized aminated hardboard fragments; 5% cobble sized timber fragments; and 5% roots and rootlets. Gravel is angular to subrounded of fine to coarse brick (60%), concrete (5%), ceramic (5%), glass (5%), sandstone (5%) and mudstone (5%). MADE GROUND - PREDOMINANTLY COHESIVE	1
		1.50	ES						
		2.00	SPT	N=8 (1,1/1,2,2,3)	2.00	81.90		Recovered as medium dense, brown, clayey, very sandy angular to subrounded of fine to coarse GRAVEL of timber (45%), red brick (30%), glass (10%), concrete (5%) and ceramic (5%). MADE GROUND - PREDOMINANTLY GRANULAR	2
		3.00	SPT	N=20 (3,4/3,3,5,9)	3.00	80.90		Recovered as 75% dark brown, stained black, gravelly, fine to coarse SAND; 20% cobble sized inclusions of firm, brown and grey mottled, slightly gravelly CLAY; and 5% rootlets. Gravel is angular to subangular of fine to medium brick (80%), ceramic, glass, and sandstone (20%). Hydrocarbon odour. MADE GROUND - PREDOMINANTLY GRANULAR	3
		3.50	ES						
		4.00	SPT	N=5 (1,2/2,1,1,1)	4.00	79.90		Recovered as 60% cobble to boulder sized inclusions of stiff, brown mottled grey in places, slightly gravelly CLAY; 15% plastic sheeting, 15% cobble sized red brick and concrete fragments; and 10% cobble sized timber fragments. Gravel is subangular to subrounded of fine to medium mixed lithologies. Very strong odour. MADE GROUND - PREDOMINANTLY COHESIVE	4
		5.00	SPT	N=12 (1,1/2,2,4,4)	5.00	78.90		Recovered as firm, brown, slightly gravelly CLAY with occasional rootlets. Gravel is subangular to well rounded of fine to medium mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	5
					5.45	78.45		*5.40m - 5.45m : Brown, fine to medium SAND.* Recovered as 80% grey, sandy, slightly clayey GRAVEL; 10% cobble sized timber fragments; 5% cobble sized metal fragments, 5% plastic. Gravel is subangular to subrounded of fine to coarse glass, brick, and concrete. Hydrocarbon odour. MADE GROUND - PREDOMINANTLY GRANULAR	6
		6.50	SPT	N=11 (1,2/2,2,3,4)					
					6.80	77.10		Firm, brown, slightly sandy, slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. COHESIVE GLACIAL TILL	7
					7.60	76.30		Medium dense, light brown, gravelly, fine to medium SAND possibly with occasional cobble sized pockets of sand. Gravel is subrounded of fine to coarse sandstone, mudstone, and siltstone. GRANULAR GLACIAL TILL	8
		8.00							
		8.00	ES						
		8.00	SPT	N=15 (4,4/3,3,5,4)				*8.45m - 9.30m : Occasional cobble sized pockets of black sand.*	9
					9.30	74.60		Soft, brown, slightly sandy, slightly gravelly CLAY possibly with occasional laminations of fine sand. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Sand is fine to medium. COHESIVE GLACIAL TILL	
		9.50	SPT	N=19 (3,2/4,4,5,6)					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 15.80m	200mm 150mm	7.00m 15.80m	200mm 150mm									0.00m 8.00m 0.00m 27.00m	8.00m 9.00m 27.00m 30.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 15.8m and then rotary open hole follow on through a bentonite seal from 15.8m to 31m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP112/RH103
Sheet 2 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387644.00 N400248.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 83.90m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	31.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Soft, brown, slightly sandy, slightly gravelly CLAY possibly with occasional laminations of fine sand. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Sand is fine to medium. COHESIVE GLACIAL TILL	10
								10.20m : Becoming firm, brown, slightly sandy, slightly gravelly CLAY.	
		11.00 – 12.00 11.00	B SPT	N=19 (2,2/4,4,5,6)	11.00	72.90		Stiff, brown, slightly gravelly CLAY. Gravel is subangular to well rounded of fine to medium mixed natural lithologies. COHESIVE GLACIAL TILL	11
									12
		12.50 – 12.95	UT						
		12.85 – 13.30	UT		12.85	71.05		Very stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to well rounded of fine to medium mixed natural lithologies. COHESIVE GLACIAL TILL	13
								13.00m - 15.80m : Becoming soft with coarse gravel sized pockets of fine sand.	14
									15
					15.80	68.10		Driller notes sandy CLAY. COHESIVE GLACIAL TILL	16
									17
					18.00	65.90		Driller notes wet SAND. GRANULAR GLACIAL TILL	18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 15.80m	200mm 150mm	7.00m 15.80m	200mm 150mm									0.00m 8.00m 0.00m 27.00m	8.00m 9.00m 27.00m 30.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 15.8m and then rotary open hole follow on through a bentonite seal from 15.8m to 31m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP112/RH103
Sheet 3 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387644.00 N400248.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 83.90m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	31.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
								Driller notes wet SAND. GRANULAR GLACIAL TILL	20
					20.50	63.40			
					20.70	63.20		Driller notes BOULDER. GRANULAR GLACIAL TILL	
								Driller notes wet SAND. GRANULAR GLACIAL TILL	21
									22
									23
									24
									25
									26
		26.50 – 28.50	D						27
					28.00	55.90		Very stiff to hard, friable, thinly laminated, brown, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium mixed natural lithologies. COHESIVE GLACIAL TILL	28
		28.50 – 30.50	C						29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 15.80m	200mm 150mm	7.00m 15.80m	200mm 150mm									0.00m 8.00m 0.00m 27.00m	8.00m 9.00m 27.00m 30.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 15.8m and then rotary open hole follow on through a bentonite seal from 15.8m to 31m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP112/RH103
Sheet 4 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387644.00 N400248.00
Project No. : LD10162.	Drilling Equipment: Dando 2500 & Comacchio 205	Level : 83.90m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG	JC	MP	67%	31.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Sample and In Situ Testing: Type	Sample and In Situ Testing: Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					29.50	54.40		Very stiff to hard, friable, thinly laminated, brown, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium mixed natural lithologies. COHESIVE GLACIAL TILL	
					30.37	53.53		Firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is subrounded to subangular of fine to coarse gritstone and crystalline rocks. Sand is fine. COHESIVE GLACIAL TILL	30
					31.00	52.90		Very stiff to hard, friable, thinly laminated, brown, slightly gravelly CLAY with possible medium cobble content. Cobbles are subangular to subrounded of mixed natural lithologies. Gravel is subangular to rounded of fine to coarse grey siltstone, gritstone, quartz, and crystalline rocks. COHESIVE GLACIAL TILL	31
								End of Borehole at 31.00m	32
									33
									34
									35
									36
									37
									38
									39

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
7.00m 15.80m	200mm 150mm	7.00m 15.80m	200mm 150mm									0.00m 8.00m 0.00m 27.00m	8.00m 9.00m 27.00m 30.00m	PLAIN SLOTTED PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 15.8m and then rotary open hole follow on through a bentonite seal from 15.8m to 31m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP113
Sheet 1 of 1

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 08/10/2020 - 09/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387534.31 N400109.85
Project No. : LD10162.	Drilling Equipment: Dando 2500	Level : 81.20m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
LT	JC	MP	67%	8.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	81.10		Recovered as firm, dark brown, slightly sandy, silty CLAY. TOPSOIL FILL	
					0.40	80.80		Recovered as 70% whole and half red bricks ; and 30% cobble sized inclusions of brown and orange, slightly sandy, gravelly CLAY. Gravel is subangular to subrounded of fine to coarse red brick. MADE GROUND - PREDOMINANTLY COHESIVE	
	▽	0.50	ES		0.60	80.60			
		0.50	PID	0.10ppmv					
		0.80							
		0.80	ES					Recovered as dark grey, sandy CLAY. Gravel is subangular of fine to coarse coal, suspected clinker and glass. MADE GROUND - PREDOMINANTLY COHESIVE	1
		0.80	PID	0.80ppmv					
		1.20	SPT	N=13 (3,3/4,2,2,5)	1.20	80.00			
								Soft to firm, slightly sandy, slightly gravelly CLAY possibly with occasional silt and fine sand lenses. Gravel is subangular to subrounded of fine to coarse mixed lithologies. COHESIVE GLACIAL TILL	
		2.00	SPT	N=18 (1,2/3,7,5,3)				*0.95m : Slight seepage.*	2
					2.20	79.00			
					2.40	78.80		Medium dense, brown, silty, very clayey, fine to medium SAND. GRANULAR GLACIAL TILL	
	▽				2.60	78.60			
								Firm to stiff, brown mottled grey, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium sandstone, mudstone and coal. COHESIVE GLACIAL TILL	
		3.00 – 3.45	UT						3
								Driller notes medium dense, orangish brown coarse SAND. GRANULAR GLACIAL TILL	
	▼	3.45 – 3.65	UT						
								Driller notes brown, sandy, silty CLAY with occasional sandy, gravelly lenses. COHESIVE GLACIAL TILL	
		4.00	SPT	N=15 (1,2/3,3,4,5)					4
		5.00 – 5.45	UT						5
		5.45 – 6.00	B						
		5.45 – 6.00	B						6
		6.45 – 7.00	B						
		6.45 – 7.00	B						
		7.00 – 7.45	UT						7
					8.00	73.20		End of Borehole at 8.00m	8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
8.00m	200mm	1.20m 8.00m	200mm 150mm									0.00m 1.30m	1.30m 3.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion clean drilling method utilised. 8 inch casing used until 1.2m, where a bentonite seal was placed then 6 inch casing until 8m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP114/RH108
Sheet 1 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 29/10/2020 - 04/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387847.93 N400452.83
Project No. : LD10162.	Drilling Equipment: Dando 2500+Comacchio 205	Level : 85.45m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	28.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.00 – 1.00							
		0.00 – 1.00	ES					Recovered as soft, grey, slightly sandy, slightly gravelly CLAY with occasional roots and rootlets. Gravel is subangular to subrounded of fine to coarse red brick (20%), timber (20%), ceramic (10%), glass (5%), and mixed natural lithologies (55%). Sand is fine to medium. TOPSOIL FILL	
		0.50	PID	0.10ppmv					
		1.00	SPT	N=3 (0,0/1,0,1,1)					1
					1.10	84.35		Soft, brown, mottled light grey, slightly gravelly CLAY. Gravel is angular of fine shale. COHESIVE GLACIAL TILL	
					1.30	84.15		Firm to stiff, soft where wet, brown, mottled grey and orangish brown, slightly sandy, slightly gravelly CLAY with occasional silt lenses. Sand is fine. Gravel is subangular to rounded of fine to coarse pebbles, crystalline rocks, sandstone, siltstone, and red sandstone. COHESIVE GLACIAL TILL	
		2.00 – 3.00	B						2
		2.00	SPT	N=7 (1,1/2,1,1,3)					
		3.00	SPT	N=18 (2,3/3,4,5,6)				*3.00m - 3.45m : Occasional plant remains.*	3
		4.00	SPT	N=8 (1,1/2,2,2,2)					4
		5.00 – 6.00							
		5.00 – 6.00	ES						5
		5.00	SPT	N=9 (1,1/2,2,2,3)					
		5.50	PID	0.00ppmv					
		6.00 – 7.00	B						6
		6.60	SPT	N=44 (3,4/4,9,13,18)	6.60	78.85		Dense, wet, brown, fine to coarse, slightly gravelly, clayey SAND. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. GRANULAR GLACIAL TILL	7
		8.00 – 9.00	ES		8.00	77.45		Medium dense, damp, brown, fine to coarse, slightly gravelly SAND. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. GRANULAR GLACIAL TILL	8
		8.00	SPT	N=10 (1,2/2,2,2,4)					
		8.50	PID	0.20ppmv					
		9.00 – 10.00	B						9
		9.50	SPT	N=50 (3,10/15,25,10,0)				*9.50m - 10.00m : Occasional medium gravel sized inclusions of soft, brown CLAY.*	
					9.80	75.65			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
10.50m	200mm	11.00m	200mm									0.00m 26.00m	26.00m 27.80m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 10.95m and then rotary open hole follow on through a bentonite seal from 10.95m to 28m.

Log printed on 16/04/2021 at 18:04

Cable Percussive Borehole Log

BOREHOLE REFERENCE
CP114/RH108
Sheet 2 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 29/10/2020 - 04/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387847.93 N400452.83
Project No. : LD10162.	Drilling Equipment: Dando 2500+Comacchio 205	Level : 85.45m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	67%	28.00m

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Sample and In Situ Testing: Type	Sample and In Situ Testing: Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					10.95	74.50		Very dense, damp, orangish brown, fine to coarse SAND. GRANULAR GLACIAL TILL	10
								See Next Page for Geological Information	11
									12
									13
									14
								See Next Page for Geological Information	15
									16
									17
								See Next Page for Geological Information	18
									19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
10.50m	200mm	11.00m	200mm									0.00m 26.00m	26.00m 27.80m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 10.95m and then rotary open hole follow on through a bentonite seal from 10.95m to 28m.

Log printed on 16/04/2021 at 18:04

Rotary Cored Borehole Log

BOREHOLE REFERENCE
CP114/RH108
Sheet 3 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 29/10/2020 - 04/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387847.93 N400452.83
Project No. : LD10162.	Drilling Equipment: Dando 2500+Comacchio 205	Level : 85.45m AoD / Final Depth: 28.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	Scale
											See Previous Page for Geological Information	10
											Driller notes SAND. GRANULAR GLACIAL TILL	11
												12
												13
												14
								15.00	70.45		Driller notes GRAVEL. GRANULAR GLACIAL TILL	15
												16
												17
								18.00	67.45		Driller notes consolidated CLAY. COHESIVE GLACIAL TILL	18
												19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
10.50m	200mm	11.00m	200mm															0.00m 26.00m	26.00m 27.80m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 10.95m and then rotary open hole follow on through a bentonite seal from 10.95m to 28m.

Log printed on 16/04/2021 at 18:04

Rotary Cored Borehole Log

BOREHOLE REFERENCE
CP114/RH108
Sheet 4 of 4

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 29/10/2020 - 04/11/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387847.93 N400452.83
Project No. : LD10162.	Drilling Equipment: Dando 2500+Comacchio 205	Level : 85.45m AoD / Final Depth: 28.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	Scale
											Driller notes consolidated CLAY. COHESIVE GLACIAL TILL	20
												21
								22.00	63.45		Driller notes boulder CLAY. COHESIVE GLACIAL TILL	22
												23
												24
												25
								26.00	59.45		Driller notes SANDSTONE. Recovered as damp, reddish brown, slightly gravelly, fine to coarse SAND. Possibly extremely weak, reddish brown, fine to coarse grained SANDSTONE with occasional pebbles. POSSIBLE COLLYHURST SANDSTONE FORMATION	26
												27
								28.00	57.45		End of Borehole at 28.00m	28
												29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
10.50m	200mm	11.00m	200mm															0.00m 26.00m	26.00m 27.80m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Cable percussion method utilised until 10.95m and then rotary open hole follow on through a bentonite seal from 10.95m to 28m.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH101
Sheet 1 of 3

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 14/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387208.10 N400184.69	
Project No. : LD10162.	Drilling Equipment: Comacchio 205	Level : 76.77m AoD	Final Depth: 21.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
									Driller notes oily GRAVEL with cobbles of brick and concrete. MADE GROUND - PREDOMINANTLY GRANULAR	
						6.00	70.77		Driller notes brown, sandy CLAY. COHESIVE GLACIAL TILL	
	▽					7.50	69.27		Driller notes wet SAND. GRANULAR GLACIAL TILL	

1 2 3 4 5 6 7 8 9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 17.00m	17.00m 20.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH101
Sheet 2 of 3

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 14/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387208.10 N400184.69	
Project No. : LD10162.	Drilling Equipment: Comacchio 205	Level : 76.77m AoD	Final Depth: 21.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
									Driller notes wet SAND. GRANULAR GLACIAL TILL	10
										11
						12.00	64.77		Driller notes brown CLAY. COHESIVE GLACIAL TILL	12
										13
										14
						15.00	61.77		Driller notes MUDSTONE. POSSIBLE MANCHESTER MARLS FORMATION	15
										16
										17
						18.00	58.77		Driller notes MUDSTONE. POSSIBLE MANCHESTER MARLS FORMATION	18
										19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 17.00m	17.00m 20.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH101
Sheet 3 of 3

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 14/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387208.10 N400184.69	
Project No. : LD10162.	Drilling Equipment: Comacchio 205	Level : 76.77m AoD	Final Depth: 21.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
									Driller notes MUDSTONE. POSSIBLE MANCHESTER MARLS FORMATION	20
						21.00	55.77		End of Borehole at 21.00m	21
										22
										23
										24
										25
										26
										27
										28
										29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 17.00m	17.00m 20.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH102
Sheet 1 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 15/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387499.89 N400233.25	
Project No. : LD10162.	Drilling Equipment: Comacchio 205	Level : 82.60m AoD	Final Depth: 19.50m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
	JC	MP		

Install. / Backfill	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	Scale
											Driller notes gravelly soil with cobble of bricks and concrete. MADE GROUND - PREDOMINANTLY GRANULAR	1 2 3 4 5 6 7 8 9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 12.00m	12.00m 13.50m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH102
Sheet 2 of 2

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 15/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387499.89 N400233.25	
Project No. : LD10162.	Drilling Equipment: Comacchio 205	Level : 82.60m AoD	Final Depth: 19.50m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
	JC	MP		

Depth (m)	Level (m)	Stratum Description
		Driller notes gravelly soil with cobble of bricks and concrete. MADE GROUND - PREDOMINANTLY GRANULAR
12.00	70.60	Driller notes GRAVELS. GRANULAR GLACIAL TILL
13.50	69.10	Driller notes gravelly CLAY. COHESIVE GLACIAL TILL
14.50	68.10	Driller notes brown CLAY. COHESIVE GLACIAL TILL
19.50	63.10	End of Borehole at 19.50m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 12.00m	12.00m 13.50m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH106
Sheet 1 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 26/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387492.00 N400076.00	
Project No. : LD10162.	Drilling Equipment: Commachio 205	Level : 79.56m AoD	Final Depth: 45.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Sample and In Situ Testing: Type	Sample and In Situ Testing: Results	Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
									Driller notes CLAY. COHESIVE GLACIAL TILL	
						7.50	72.06		Driller notes GRAVEL. GRANULAR GLACIAL TILL	
						9.00	70.56		Driller notes CLAY. COHESIVE GLACIAL TILL	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 44.50m	44.50m 45.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH106
Sheet 2 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 26/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387492.00 N400076.00	
Project No. : LD10162.	Drilling Equipment: Commachio 205	Level : 79.56m AoD	Final Depth: 45.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Sample and In Situ Testing: Type	Sample and In Situ Testing: Results	Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
									Driller notes CLAY. COHESIVE GLACIAL TILL	10 11 12 13 14 15 16 17 18 19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 44.50m	44.50m 45.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH106
Sheet 3 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 26/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387492.00 N400076.00	
Project No. : LD10162.	Drilling Equipment: Commachio 205	Level : 79.56m AoD	Final Depth: 45.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results						
									Driller notes CLAY. COHESIVE GLACIAL TILL	20
										21
		22.00 – 22.80	C			22.00	57.56		Stiff to very stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to rounded of fine to coarse quartz, mudstone, shale, and sandstone. COHESIVE GLACIAL TILL	22
		22.80 – 24.50	C			22.80	56.76		Stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to rounded of fine to medium mudstone, sandstone, quartz and black igneous rock. COHESIVE GLACIAL TILL	23
									23.50m - 25.50m : Becomes very stiff.	24
		24.50 – 25.50	C							25
						25.50	54.06		Driller notes CLAY. COHESIVE GLACIAL TILL	26
										27
										28
										29

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 44.50m	44.50m 45.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH106
Sheet 4 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 26/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387492.00 N400076.00	
Project No. : LD10162.	Drilling Equipment: Commachio 205	Level : 79.56m AoD	Final Depth: 45.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
									Driller notes CLAY. COHESIVE GLACIAL TILL	30
		30.50 – 32.50	C			30.50	49.06		Firm to stiff, brown, clayey SILT. COHESIVE GLACIAL TILL	
						30.90	48.66		Brown, very clayey, medium SAND. GRANULAR GLACIAL TILL	31
						31.30	48.26		Driller notes sandy CLAY. COHESIVE GLACIAL TILL	
										32
										33
		33.50 – 35.50	C							
										34
										35
										36
										37
										38
										39

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 44.50m	44.50m 45.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Rotary Open Hole Borehole Log

BOREHOLE REFERENCE
RH106
Sheet 5 of 5

Project Name: Ten Acres Lane	Client: Your Housing Group	Date: 26/10/2020	
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387492.00 N400076.00	
Project No. : LD10162.	Drilling Equipment: Commachio 205	Level : 79.56m AoD	Final Depth: 45.00m

Logged By	Checked By	Approved By	Bit Type	Core Barrel
ZH	JC	MP		

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Flush	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results						
		40.00 – 41.50	C						Driller notes sandy CLAY. COHESIVE GLACIAL TILL	40
		41.50 – 43.00	C							41
		43.00 – 44.50	C							42
						43.00	36.56		Medium strong to strong, subrounded to rounded COBBLES of coarse grained gritstone, greenish grey fine grained sandstone, yellowish brown medium to coarse grained sandstone, and reddish brown fine grained sandstone. GRANULAR GLACIAL TILL	43
										44
						44.50	35.06		Driller notes SANDSTONE. Recovered as damp, reddish brown, slightly gravelly, fine to coarse SAND. Possibly weak, reddish brown, fine to coarse grained SANDSTONE with occasional pebbles. POSSIBLE COLLYHURST SANDSTONE FORMATION	45
						45.00	34.56		End of Borehole at 45.00m	
										46
										47
										48

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush						Installation			
Base	Diameter	Base	Diameter	Top	Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Type	Colour	Min (%)	Max (%)	Top	Base	Pipe Type	Diameter
																		0.00m 44.50m	44.50m 45.00m	PLAIN SLOTTED	

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 18:04

Trial Pit Log

TRIAL PIT REFERENCE
TP101
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387604.00 N400160.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.40m x 1.30m — Final Depth: 3.20m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 81.96m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Dark brown, silty, very clayey, fine SAND. TOPSOIL FILL	
					0.20	81.76			
		0.50	ES					Recovered as 60% cobble sized red brick fragments (some cemented together); 30% brown, gravelly, clayey, fine to coarse SAND; 5% plastic material including sheeting; 5% timber beams (up to 2m long). Gravel is subangular to subrounded fine to coarse brick and concrete. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
					1.00	80.96		Recovered as 60% grey, very sandy, very clayey GRAVEL; 25% whole and half red bricks and cobble sized concrete paving slab fragments; 5% cobble to boulder sized suspected slag fragments; 5% metal and plastic pipes; 5% cloth and other plastic items including rubbish bags. Gravel is angular to subangular of fine to coarse brick, concrete and mixed lithologies MADE GROUND - SUSPECTED HOUSEHOLD WASTE	1
		1.50	ES					*1.00m : 1 No. Concrete block (1.0m x 0.6m x 0.5m).*	
	▽							*1.90m : Fast ingress of water with strong odour of white spirit and rotten egg.*	2
								2.20m : Plastic items include tubes, polystyrene boxes, and food wrappers.	
					3.20	78.76		Base of Excavation at 3.20m	3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Terminated due to water in excavation.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP102
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387592.30 N400197.24
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 5.20m x 1.70m — Final Depth: 3.30m
Logged By: LT	Checked By: JC	Approved By: MP — Level: 82.60m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	82.40		Firm, dark brown, slightly sandy, silty CLAY. Sand is fine. TOPSOIL FILL	
		0.50	ES					Recovered as 80% firm, brown, slightly sandy, gravelly CLAY; 10% whole and half red bricks; 10% cobble sized concrete slabs fragments. Gravel is subangular to subrounded of fine to coarse of mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
					1.00	81.60		Recovered as 45% light brown, very sandy, very clayey GRAVEL; 35% cobble sized fragments of red brick; 10% metal sheets, bars and tools, 5% plastic bags, pipes and cables; 5% timber pieces (up to 2m length). Gravel is angular to subangular of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
		1.60	ES						
	▽								2
					2.50	80.10		*2.40m : Vitreous sheen on water surface with strong rotten egg odour and weak white spirit odour.* Recovered as 40% whole and half red bricks; 20% metal sheets, bars and tools; 20% timber pieces (up to 2m length); 10% plastic bags, pipes and cables; 5% light brown, very sandy, very clayey GRAVEL; and 5% wooden boards. Gravel is angular to subangular of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	3
					3.30	79.30		Base of Excavation at 3.30m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Terminated due to multiple collapses of the excavation walls.
Unstable from 1.5m.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP103
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387898.72 N400401.14
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.70m x 3.00m — Final Depth: 5.30m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 84.72m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.15	84.56		Recovered as soft, dark brown, slightly sandy, slightly gravelly CLAY with abundant roots and rootlets. Gravel is angular to subrounded of fine to coarse red brick and plastic. Sand is fine. TOPSOIL FILL	
		0.60 – 1.80 0.60	B HSV	67kPa				Recovered as 45% cobble to boulder sized inclusions of soft to stiff, light brown mottled orangish brown and light grey, slightly sandy, slightly gravelly CLAY; 40% whole and half red brick; 10% roots and rootlets; and 5% plastic and rubber fragments. Gravel is angular to rounded of fine to coarse red brick, mudstone, crystalline rocks and rounded pebbles. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
▽					0.95	83.76		*0.50m - 0.96m : In the northern side of the excavation clay comes in at 0.5m. In the southwestern side of the excavation clay comes in at 0.96m.*	1
								Firm to stiff, light brown mottled light grey and orangish brown in places, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse gritstone, white sandstone, mudstone, coal, red sandstone and crystalline rocks. Sand is fine. COHESIVE GLACIAL TILL	
								0.96m : Fast ingress of water from rounded brick structure, in the southwestern side of the excavation.	
		1.80	HSV	68kPa					2
									3
▽									
									4
		4.50 – 5.30 4.60	B HSV	110kPa				*4.50m - 5.30m : Become very stiff to hard and no longer mottled orangish brown and light grey.*	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP103
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387898.72 N400401.14
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.70m x 3.00m; Final Depth: 5.30m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 84.72m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					5.30	79.42		Firm to stiff, light brown mottled light grey and orangish brown in places, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse gritstone, white sandstone, mudstone, coal, red sandstone and crystalline rocks. Sand is fine. COHESIVE GLACIAL TILL	6
								Base of Excavation at 5.30m	7
									8
									9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP104
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 09/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387525.00 N400404.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.30m x 1.30m; Final Depth: 3.50m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 83.88m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.30	83.58		Recovered as 60% cobble to boulder sized inclusions of soft, brown, slightly sandy, gravelly CLAY; 10% cobble sized red brick and concrete fragments; 10% cobble sized ceramic fragments; 10% tree roots; and 10% other materials including glass, timber and plastic. Gravel is angular to subrounded fine to coarse red brick, slate, concrete, sandstone and mixed lithologies. TOPSOIL FILL
								Recovered as 40% cobble to boulder sized fragments of red brick, concrete and paving slabs; 20% brown, sandy, angular to rounded, fine to coarse GRAVEL of mixed lithologies; 15% cobble sized inclusions of stiff, brown CLAY; 10% wooden fencing; 10% metal pipes; 5% other materials including fabric, glass and nails. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE
	▽				1.20	82.68		Recovered as 40% cobble to boulder sized inclusions of soft, wet, grey, gravelly CLAY; 20% cobble sized timber fragments; 10% cobble sized metal fragments; 10% cobble sized red brick and concrete fragments; 10% cobble sized inclusions of damp, light grey, slightly clayey, fine to coarse SAND; 10% cobble to boulder sized inclusions of soft, orangish brown, slightly gravelly CLAY. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE
		1.80						*1.20m : Water seeping from southern edge of pit.*
		1.80	ES					*1.80m - 2.20m : Collapse of eastern face of the excavation.*
	▽				2.10	81.78		Wet, light brown, slightly clayey, fine to medium SAND. GRANULAR GLACIAL TILL
								2.10m : Rapid ingress of water from NNW corner of the excavation.
					2.90	80.98		Firm, brown, slightly sandy CLAY. COHESIVE GLACIAL TILL
					3.50	80.38		Base of Excavation at 3.50m

Scale: 1, 2, 3, 4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable at 3.5m bgl.					

General Remarks

Terminated due to instability. Unstable from 3.5m.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP105
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387476.10 N400327.90
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.20m x 1.20m — Final Depth: 3.00m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 83.01m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.00 – 0.60	ES					Recovered as 40% soft, orangish brown, slightly sandy, gravelly CLAY; 30% whole and half red bricks; 10% cobble and boulder sized concrete, paving slab and chimney pot fragments; 10% metal bars and ceramic bowls; 5% plastic pipes and black bin bags; and 5% roots and rootlets. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
		0.60	ES		0.60	82.41		*0.50m - 2.00m : Collapse of the eastern face of the excavation.*	
					0.90	82.11		Recovered as 40% firm, dark grey, slightly sandy, gravelly CLAY; 20% whole and half red bricks; 10% boulders sized concrete fragments (0.49m x 0.2m x 0.3m); 10% plastic cement bags, pipes and wrappers; 10% metal pieces including old engine parts, drinks cans, hooks; 10% timber including laths and fencing panels. Gravel is subangular to rounded fine to coarse red brick, suspected clinker and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
					1.20	81.81			
					1.40	81.61		Recovered as 50% reddish brown, sandy GRAVEL; 20% whole and half red bricks, 15% plastic fragments including crates; 10% metal bars; and 5% wooden fencing fragments. Gravel is angular to subangular of fine to coarse mudstone, suspected clinker and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								Recovered as 60% damp, light brown, fine to coarse SAND; 20% cobbles sized sandstone and concrete fragments; 20% gravel to boulder sized inclusions of soft, orangish brown, slightly gravelly CLAY. Gravel is subrounded of fine to coarse mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	2
								Brown, fine to coarse SAND. GRANULAR GLACIAL TILL	
					3.00	80.01		Base of Excavation at 3.00m	3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP106
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 12/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387566.00 N400320.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.90m x 1.30m — Final Depth: 3.60m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 84.40m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	84.20		Firm, dark brown, slightly sandy, slightly gravelly CLAY with abundant roots and rootlets. Gravel is subangular to subrounded fine to medium red brick and mixed lithologies. TOPSOIL FILL	
					0.40	84.00		Recovered as 90% boulder sized concrete fragments (2.0m x 0.5m x 0.2m); and 10% light greyish brown, sandy, clayey, angular to rounded fine to coarse GRAVEL of red brick and mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	
					0.80	83.60		Recovered as 25% light greyish brown, sandy, clayey GRAVEL; 20% whole and half red brick and cobble to boulder sized tarmac and concrete fragments; 15% wooden fencing fragments; 15% plastic sheeting, bags, pipes; 10% pieces of corrugated metal sheet and metal pipes. Gravel is angular to rounded of fine to coarse concrete, red brick and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
		1.30	ES					Recovered as 25% light greyish brown, slightly sandy slightly clayey GRAVEL; 20% whole and half red bricks; 20% cobbles sized fragments of concrete, reinforced concrete, orange sandstone and ceramic; 10% wooden fencing/posts; 10% plastic bags and sheeting; 5% sponge and polystyrene; 5% glass bottles; and 5% metal pipes and bars. Gravel is angular to subrounded of fine to coarse mixed lithologies MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
									3
					3.60	80.80		Base of Excavation at 3.60m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Terminated due to space constraints.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP107
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 09/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387524.00 N400340.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.10m x 1.40m; Final Depth: 4.70m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 83.91m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	83.71		Recovered as 40% tree roots; 30% stiff, orangish brown CLAY; 30% cobble sized red brick and concrete fragments. TOPSOIL FILL	
					0.70	83.21		Recovered as 50% cobble to boulder sized fragments of red brick, concrete and paving slabs; 20% brown, slightly sandy, slightly clayey GRAVEL; 10% plastic sheeting; 10% metal including paint cans and tins; 5% fabric materials; 5% cobble sized ceramic fragments. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								0.50m - 1.70m : Multiple collapses of excavation. Recovered as 25% cobbles to boulder sized fragments of red brick and concrete, 20% cobble sized metal fragments (including pipe; 3m long x 50mm diameter); 20% cobble sized ceramic fragments; 20% miscellaneous objects including shoes, polystyrene, plastic sheeting, fabric, foam; and 5% dark brown, slightly clayey, angular to subrounded, fine to coarse GRAVEL of mixed lithologies. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	1
					1.70	82.21		Recovered as 70% firm, dark brown CLAY; 20% miscellaneous items including glass, plastic, red brick and concrete; 10% cobble to boulder sized timber fragments (including large pieces in-situ). MADE GROUND - PREDOMINANTLY COHESIVE	2
					3.20	80.71		Recovered as 70% damp, black, gravelly, slightly clayey, fine to coarse SAND; 20% cobble to boulder sized fragments of red brick, concrete, plastic and metal; 10% miscellaneous items including metal rods and plastic sheeting. Gravel is subangular to subrounded of fine to coarse concrete, slate, suspected slag, suspected clinker and mixed lithologies. Slight odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	3
					4.00	79.91		Recovered as 40% boulders sized concrete fragments; 30% timber fragments (up to 1.2m in length); 20% wet, black, slightly sandy, slightly clayey GRAVEL of red brick, ceramic and mixed lithologies. Black staining noted. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	4
					4.70	79.21		Base of Excavation at 4.70m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP108
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 07/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E897373.10 N400339.60
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.80m x 1.40m — Final Depth: 3.50m
Logged By: LT	Checked By: JC	Approved By: MP — Level: 79.50m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	79.30		Firm, dark brown, slightly sandy, silty CLAY with frequent rootlets. TOPSOIL FILL	
		1.00	ES					Recovered as 80% firm, dark brown, slightly sandy, slightly gravelly CLAY; 15% whole and half red bricks and cobble sized concrete fragments; 5% cobble sized ceramic fragments. Gravel is subangular of fine to coarse red brick and coal. MADE GROUND - PREDOMINANTLY COHESIVE	1
		1.20	HSV	29kPa					
		1.20	HSV	40kPa					
		1.20	HSV	56kPa					
					1.50	78.00		Recovered as 80% soft, dark grey, slightly gravelly, silty CLAY; 10% cobble sized timber fragments; 5% metal tins; 5% whole and half red bricks. Gravel is subangular of fine to coarse coal. Slight hydrocarbon odour. MADE GROUND - PREDOMINANTLY COHESIVE	
		2.00	ES					*1.50m : Slight seepage of water on southern face of the excavation.*	2
	▽	2.20	HSV	10kPa					
		2.20	HSV	12kPa				*2.20m : Water ingress from northern face of the excavation. Strong hydrocarbon (tar) odour.*	
		2.20	HSV	24kPa					
		2.30	ES						3
		3.20	HSV	100kPa					
		3.20	HSV	120kPa					
		3.20	HSV	120kPa					
					3.50	76.00		Base of Excavation at 3.50m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP109
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387416.00 N400271.00
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.90m x 3.10m — Final Depth: 1.20m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 80.06m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	79.86		Brown, slightly gravelly, slightly clayey SAND with abundant rootlets. Gravel is angular to subangular of fine to medium mixed lithologies. TOPSOIL FILL	
					0.60	79.46		Recovered as 50% black, slightly sandy, slightly clayey GRAVEL; 20% boulders sized orangish brown sandstone fragments fused with thin plastic sheet; 10% whole and half red brick; 10% plastic; and 10% cobble sized hard, white, suspected chalk fragments. Gravel is angular to subrounded of suspected clinker, red brick and suspected white chalk. MADE GROUND - SUSPECTED COMBUSTION WASTE	
					0.80	79.26		Recovered as 70% soft, white, slightly sandy, slightly gravelly CLAY; and 30% cobble sized inclusions of hard, white, suspected chalk. Gravel is subangular to subrounded of fine to medium suspected chalk. MADE GROUND - PREDOMINANTLY COHESIVE	1
		1.10 1.10	ES PID	0.00ppmv	1.20	78.86		Recovered as 30% light grey, slightly sandy, slightly clayey, angular to rounded, fine to coarse GRAVEL of suspected clinker; 30% light grey, slightly sandy, slightly clayey GRAVEL; 20% cobble to boulder sized inclusions of firm, brown, slightly sandy, slightly gravelly CLAY; and 20% cobble to boulder sized red brick and concrete fragments. Gravel is subangular to subrounded of fine to coarse metal (30%), plastic (20%), wood (10%), and mixed lithologies (40%). MADE GROUND - SUSPECTED COMBUSTION WASTE	2
								Base of Excavation at 1.20m	3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP110
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 19/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387503.81 N400237.16
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.80m x 2.80m — Final Depth: 3.80m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 82.83m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.00	82.83		Black, silty, clayey fine to medium SAND with frequent rootlets. TOPSOIL FILL *0.00m - 1.20m : Collapse of northern wall.*	
		0.60 – 2.20	ES		0.60	82.23		Recovered as 30% reinforced concrete pillars (2.0m x 0.2m x 0.2m) and slabs (1.2m x 0.6m x 0.2m); 15% whole and half red brick; 15% cobble sized inclusions of dark brown, slightly gravelly, sandy CLAY; 10% roots and rootlets; 5% cobble sized plastic fragments; 5% rubber soles; 5% cobble sized ceramic fragments; 5% cobble sized glass fragments; 5% cobbles sized metal fragments; 5% cobbles sized grey pumice fragments. Sand is fine to medium. Gravel is subangular to subrounded of fine to coarse red brick, concrete, timber and suspected clinker. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *0.80m : Slight putrid odour.*	1
		1.20	PID	1.80ppmv	1.00	81.83		Recovered as 20% metal (old fridge and cooker, wire, fencing, tinfoil); 20% plastic (strips, wrappers, toys, sheeting, bags); 15% wood (fence posts and fragments); 15% loose, brown, slightly sandy, clayey GRAVEL; 10% cobble to boulders sized black, tarmacadam fragments; 5% rubber (piping); 5% fabric; 5% roots and rootlets; and 5% cobbles to boulder sized concrete fragments. Gravel is angular to subrounded of fine to coarse red brick, concrete, glass, wood, tarmac, slate and sandstone. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	2
					2.20	80.63		Recovered as 20% metal (pipes, sheets, bars); 15% wooden planks; 15% tyres; 10% sandstone boulders (1.2m x 0.6m x 0.7m); 10% whole and half red brick; 10% cobbles to boulder sized concrete fragments; 10% tree fragments (branches and twigs); 10% wet, stained black, slightly sandy, very clayey GRAVEL; 5% glass bottles; and 5% polystyrene. Gravel is subangular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *2.20m : Singular metal drum-like object, stained black with hydrocarbon odour.* *2.20m - 2.22m : Hard digging; layer of red bricks.* *2.20m - 3.80m : All stained black with oily sheen. Multiple collapses of excavation walls.* *3.10m : Fast ingress of water. Water is dark grey with oily sheen and brown froffy scum. Hydrocarbon odour.* *3.50m - 3.55m : Increase in paving slabs.* *3.60m - 3.65m : Increase in metal sheets.*	3
	▼	3.10 – 3.40	ES						
		3.30	PID	13.80ppmv					
					3.80	79.03		Base of Excavation at 3.80m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to multiple collapses of excavation walls.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP111
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387581.00 N400151.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.80m x 1.60m — Final Depth: 3.10m
Logged By: LT	Checked By: JC	Approved By: MP — Level: 81.91m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.15	81.76		Firm, dark brown, slightly sandy silty CLAY. TOPSOIL FILL	
		0.60	ES					Recovered as 80% whole and half red bricks, cobble sized breeze blocks and concrete; 15% brown, sandy clayey, angular to subangular, fine to coarse GRAVEL of concrete and red brick; 5% cobble sized timber fragments. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *0.40m - 4.10m : Unstable.*	1
		1.50	ES					*1.60m : 2 No. 2m long pieces of reinforced concrete.* *1.70m : 2 No. 2m long pieces of reinforced concrete with re-bar.*	
	▽				1.90	80.01		*1.80m : 1 No. metal box (1m x 2m x 1m), broken with white spirit odour.* Recovered as 50% boulder sized concrete and slag fragments; 25% cobble to boulder sized inclusions of brown, slightly gravelly sandy CLAY; 10% timbers beams (up to 1m length); 10% whole and half red brick and cobble sized paving slab fragments; 5% polystyrene and plastic sheeting. Gravel is subangular of fine to coarse red brick. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *1.90m - 3.10m : Hard digging.* *2.30m : Ingress of water with strong odour of rotten egg.*	2
					3.10	78.81		Base of Excavation at 3.10m	3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable from 0.4m bgl.					

General Remarks

Terminated due to multiple collapses of excavation walls.
Unstable from 2.5m bgl.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP112
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387604.00 N400190.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 5.10m x 1.70m — Final Depth: 4.30m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 82.32m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	82.12		Firm, dark brown, slightly sandy, silty CLAY with frequent rootlets. Sand is fine. TOPSOIL FILL	
		0.50	ES					Firm, brown, slightly sandy, slightly gravelly CLAY with frequent roots. Gravel is subangular to subrounded fine to coarse of mixed lithology. Sand is fine to coarse. TOPSOIL FILL	
					0.65	81.67		Recovered as 40% brown, very gravelly, clayey SAND; 10% whole and half red house bricks; 10% glass window fragments and bottles; 10% plastic and metal pipes ; 10% sheet metal and pipes; 10% concrete blocks; 5% plastic bags and tubs; 5% wooden timbers (up to 2m in length). Gravel is subangular to subrounded fine to coarse brick and concrete. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
		1.80	ES						2
	▼				2.60	79.72		Recovered as 35% whole and broken red house bricks; 10% glass window fragments and bottles; 10% plastic and metal pipes; 10% sheet metal and pipes; 5% concrete blocks; 5% plastic bags and tubs; 5% wooden timbers (up to 2m in length) in a matrix of 20% brown, clayey SAND. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	3
								2.70m : Water strike with strong rotten egg and slight white spirit odour. Vitreous sheen on surface.	
								3.10m - 4.30m : Frequent large boulders of concrete.	4
					4.30	78.02		Base of Excavation at 4.30m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Terminated due to multiple collapses of excavation walls.
Unstable from 2.5m bgl.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP113
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 13/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387649.80 N400236.30
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.40m x 1.50m — Final Depth: 4.00m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 83.90m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	83.70		Very soft, dark brown, slightly sandy, sightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded of fine to coarse of mixed lithologies. TOPSOIL FILL	
		0.40	ES					Recovered as 45% brown, slightly sandy, slightly clayey GRAVEL; 15% wet, brown, slightly sandy, slightly gravelly CLAY; 15% plastic (including wrapping, bags and panels); 15% whole and half brick; 5% boulders sized concrete fragments; and 5% boulders sized red brick wall fragments. Gravel is angular to subrounded fine to coarse red brick, glass, wood, metal and sandstone. Rotten egg odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								0.40m : Concrete obstruction in SW face of the excavation.	1
					1.40	82.50		Recovered as 80% orange, medium to coarse SAND; 10% whole and half red brick; 10% boulders sized sandstone fragments.	
					1.60	82.30		MADE GROUND - PREDOMINANTLY GRANULAR Recovered as 25% plastic drums (0.7m x 0.4m), bags of 'sternite' (chemical product), pipes, wrapping; 15% dark brown, slightly sandy, clayey GRAVEL; 15% whole and half red brick; 10% cobbles sized sandstone fragments (stained black); 10% cobble sized timber fragments; 10% metal bars and rods; 5% pieces of fabric; 5% glass bottles; 5% polystyrene. Gravel is subangular to subrounded of fine to coarse red brick, glass, wood, concrete and sandstone. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
									3
		3.60 – 4.00	B		3.60	80.30		Stiff to very stiff, slightly sandy, slightly gravelly CLAY with medium cobble content. Cobbles are subrounded of mixed natural lithologies. Gravel is angular to subrounded of fine to medium mixed natural lithologies. COHESIVE GLACIAL TILL	
		3.70	HSV	120kPa					
		3.70	HSV	90kPa					
		3.70	HSV	98kPa					
					4.00	79.90		Base of Excavation at 4.00m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP114
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387695.68 N400262.66
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.10m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 84.50m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 55% boulder sized concrete fragments (0.9mx2.3x1.2m); 20% cobble to boulder sized inclusions of very soft, dark brown, slightly gravelly, silty CLAY; 10% cobble sized red brick, concrete, slate and sandstone fragments; 10% roots and rootlets; 5% plastic, string and cobble sized suspected slag and timber fragments. Gravel is subangular to subrounded of fine to coarse suspected slag, red brick, timber and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		0.65 – 0.70	ES						
		0.90	PID	0.50ppmv	0.90	83.60		Recovered as 50% cobble to boulder sized red brick wall and concrete fragments; 15% metal (wires); 15% plastic (including bottles, plastic sheeting, rubber and HDPE fragments); 10% cobble sized inclusions of firm, brown, slightly gravelly CLAY; 10% cobble sized inclusions of firm, brown, slightly sandy, very gravelly CLAY; 5% cobble sized glass fragments; 5% timber planks. Gravel is subangular to subrounded of fine of coarse red brick, ceramic, glass, timber, suspected slag and sandstone MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								0.90m : Foul odour.	
					1.80	82.70		Recovered as 40% cobble sized fragments of red brick; 30% cobble sized fragments of purple slate; 15% cobble to boulder sized pockets of brown, silty slightly clayey GRAVEL; 5% plastic (sheeting); 5% timber (planks); and 5% ceramic. Gravel is angular to subrounded of fine to coarse red brick, purple slate, glass, wood and ceramic. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
					2.10	82.40		*1.80m - 2.20m : Hard digging.*	
								Recovered as 20% whole and half red bricks; 20% cobble to boulder sized inclusions of stiff to very stiff, brown, slightly gravelly CLAY; 20% brown, slightly clayey, silty, subangular to subrounded, fine to coarse GRAVEL of red brick, ceramic, glass, timber and mixed lithologies; 10% timber planks; 10% plastic (bottles, bags, sheeting and HDPE fragments); 5% cobble sized slate fragments; 5% paper; 5% cobble sized glass fragments; 5% cobble sized ceramic fragments; 5% cobbles to boulder sized concrete fragments. Gravel is angular to rounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
					2.80	81.70			3
		3.35 – 3.40	ES					Recovered as 35% cobbles to boulder sized sandstone fragments; 10% soft brown CLAY; 30% orangish brown, black and white in places, fine to coarse SAND; 10% white, coarse SAND; 5% cobble sized slate fragments; 5% timber planks; and 5% plastic (sheets). MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		3.40			3.40	81.10			
		3.55 – 3.60	ES						
		3.60	HSV	38kPa					
		3.60	HSV	45kPa					
		3.60	HSV	52kPa					
		3.60	PID	0.40ppmv					
								Soft to firm, brown, stained black, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse mixed lithologies. COHESIVE GLACIAL TILL	
								3.40m : Hydrocarbon odour.	4

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Stable	None	

Pumping Data

Date	Rate	Remarks

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP114
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387695.68 N400262.66
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.10m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 84.50m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					5.10	79.40		Soft to firm, brown, stained black, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse mixed lithologies. COHESIVE GLACIAL TILL Base of Excavation at 5.10m	6, 7, 8, 9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP115
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 13/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387680.00 N400222.00
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.80m x 2.70m — Final Depth: 5.20m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 83.20m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.40 0.40 0.40	ES PID	0.20ppmv				Recovered as 40% brown, slightly sandy, very clayey GRAVEL; 15% roots and rootlets; 15% cobble sized red brick fragments; 10% plastic sheeting; 10% cobble sized timber fragments; and 10% fabric. Gravel is subangular to subrounded of fine to coarse red brick and slate. MADE GROUND - PREDOMINANTLY GRANULAR	
					0.80	82.40		Recovered as 30% copper wires with rubber covering (20mm diameter); 30% whole and half red bricks; 10% cobble sized slate and sandstone fragments; 10% loose, brown, slightly sandy, slightly clayey GRAVEL; 5% cobble sized timber fragments; 5% cobble sized glass fragments; 5% cobble sized ceramic fragments; and 5% roots. Gravel is subangular to subrounded of fine to coarse glass, ceramic, red brick and concrete. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1 2
					2.20	81.00		Recovered as 20% brown, slightly sandy GRAVEL; 15% cobble to boulder sized metal fragments (corrugated pipes up to 2m length); 15% whole and half red bricks; 10% boulders sized red brick wall, concrete and sandstone fragments; 10% cobble sized timber fragments; 10% fabric (cloths and clothing); 10% plastic (sheeting and containers); 5% cobble sized ceramic fragments; 5% cobble sized polystyrene and glass fragments. Gravel is angular to rounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
		3.20	HSV	74kPa	3.00	80.20		Firm to stiff, brown, mottled grey, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to rounded of mixed natural lithologies. COHESIVE GLACIAL TILL	3 4
		4.80	B						

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP115
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 13/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387680.00 N400222.00
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 2.70m / 3.80m — Final Depth: 5.20m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 83.20m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					5.20	78.00		Firm to stiff, brown, mottled grey, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to rounded of mixed natural lithologies. COHESIVE GLACIAL TILL	6
								Base of Excavation at 5.20m	7
									8
									9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP116
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 13/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387661.00 N400258.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.30m x 1.30m / Final Depth: 4.90m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 84.30m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 40% soft, reddish brown, sandy CLAY; 30% multicoloured, subangular to rounded GRAVEL of mixed natural lithologies; 20% cobbles of mixed natural lithologies; 10% boulders sized crystalline rock fragments. Sand is fine to medium. MADE GROUND - PREDOMINANTLY GRANULAR	
					0.35	83.95		Recovered as 40% soft, brown, slightly sandy, gravelly CLAY; 20% boulders sized red brick wall fragments; 15% multicoloured, subangular to subrounded, fine to coarse GRAVEL of coal, red brick, wood, ceramic, sandstone, mudstone and mixed lithologies; 5% plastic sheeting and wrapping; 5% metal objects; 5% cobble sized inclusions of soft to firm, brown, mottled light grey, slightly sandy, slightly gravelly CLAY; 5% glass fragments and bottles; 5% fabric; 5% polystyrene. Gravel is angular to subrounded of fine to medium siltstone and mixed lithologies. Sand is fine to medium. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								0.35m - 0.45m : 3 No large boulders (3m x 2.5m x 0.25m), (3.5m x 2.5m x 0.7m), (1.5m x 1m x 0.4m).	
					1.60	82.70		Recovered as 20% metal objects including frames, chains and pipes; 15% brown, slightly sandy slightly clayey GRAVEL; Sand is fine to medium; 15% whole and half red brick; 15% plastic sheeting, wrapping and containers; 15% boulder sized concrete red brick fragments; 10% cobble sized timber fragments; 5% cobble sized glass fragments and 5% cobble sized ceramic fragments. Gravel is angular to rounded of fine to coarse slate, timber, coal, red brick, concrete, ceramic and sandstone. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
					2.00	82.30		Recovered as 15% brown, slightly sandy, slightly clayey GRAVEL; 15% tyres; 15% boulder sized concrete fragments (1m x 0.2m x 0.5m); 15% metal objects including car parts, bars and pipes; 10% plastic sheeting, crates and wrapping; 10% cobbles and boulder sized sandstone fragments; 10% wooden planks and fragments; 10% cobble sized glass and ceramic fragments. Gravel is angular to rounded of fine to coarse slate, wood, coal, red brick, concrete, ceramic and sandstone. Sand is fine to medium. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
		2.20 2.20	ES						
									3
	▽	4.70 4.70 4.70 4.80 4.80	HSV HSV HSV B B	110kPa 90kPa 98kPa	4.70 4.90	79.60 79.40		Stiff to very stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to medium of mixed lithologies. Sand is fine to medium. COHESIVE GLACIAL TILL	4
								4.70m : Slight water ingress from base of made ground.	
								Base of Excavation at 4.90m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP117
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387808.49 N400448.33
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 4.30m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.46m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	85.26		Recovered as 55% cobble to boulder sized inclusions of soft to stiff, dark brown, slightly sandy, gravelly CLAY; 10% tree roots; 10% whole and half red brick; 10% plastics (sheeting and bags); 10% cobble sized timber fragments; and 5% boulder sized fragments of concrete (0.5mx0.4mx0.3m). Gravel is angular to rounded of fine to coarse red brick, crystalline rock, wire, wood and mixed lithologies. TOPSOIL FILL	
					0.60	84.86		Recovered as 60% cobble to boulder sized inclusions of very soft to soft, brown, slightly sandy, slightly gravelly CLAY; 15% roots; 10% rounded cobbles of mixed natural lithologies; 5% whole and half red brick; 5% laminate flooring; and 5% cobble sized ceramic fragments. Gravel is angular to rounded of fine to coarse ceramic, red sandstone, crystalline rocks, rounded pebbles and mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
					0.90	84.56		Recovered as 65% multicoloured, sandy GRAVEL; 20% whole and half red brick; 10% cobble sized inclusions of firm, brown CLAY; and 5% roots and rootlets. Gravel is angular to subrounded of fine to coarse red mudstone, red brick and shale. MADE GROUND – SUSPECTED COLLIERY SPOIL	1
▽		1.70 – 1.75 1.70	ES PID	0.40ppmv				Recovered as 55% cobble to boulder sized inclusions of soft to very soft, wet, reddish brown, stained black, slightly sandy, gravelly CLAY; 15% cobble sized timber fragments; 15% whole and half red brick; 10% roots and rootlets; and 5% cobble sized glass fragments. Gravel is angular to subrounded of fine to coarse glass, wood suspected clinker, red brick, concrete and ceramics. Hydrocarbon odour MADE GROUND - PREDOMINANTLY COHESIVE *1.70m : Hydrocarbon odour.*	2
▽		3.60	PID	5.00ppmv					3
					4.10	81.36		Recovered 40% cobble and boulder size inclusions of soft to firm, wet, black and dark grey CLAY; 15% cobble sized metal fragments; 10% glass fragments (bottles); 10% cobble sized timber fragments; 10% whole and half red brick; 10% straw; and 5% cobble sized plastic fragments. Very strong hydrocarbon odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *4.10m : Fast ingress of water from the western face of the excavation. Hydrocarbon odour.*	4
		4.20 4.20 – 4.25	ES		4.30	81.16		Base of Excavation at 4.30m	

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Unstable	None	

Pumping Data

Date	Rate	Remarks

General Remarks

Terminated due to multiple collapse and water ingress.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Resting water level.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP118
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387737.04 N400362.57
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 4.50m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 85.85m AoD	Orientation: °	

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.30	85.55		Recovered as 45% cobble to boulder sized inclusions of dark brown, slightly sandy, slightly gravelly CLAY; 25% boulder sized PVC door fragments; 20% rootlets and roots (up to 60mm diameter); 5% plastic bin bags; 5% whole and half red brick. Gravel is angular of fine to coarse red brick, shale and mixed lithologies. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
		0.50 – 0.55 0.50	ES PID	 0.20ppmv	0.50	85.35		Recovered as 45% multicoloured, slightly sandy GRAVEL; 35% whole and half red bricks; and 20% cobble sized ceramic fragments. Gravel is angular to subangular red brick, ceramic, glass, plastic and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *0.30m : Two large boulders (1.2m x 0.2m x 0.7m).*	
								Recovered as 25% black and green, sandy, slightly clayey GRAVEL; 35% cobble sized fragments of sandstone, red brick and light/bright crystalline rock; 5% cobble sized metal fragments; 5% plastic cups; 5% cobble sized ceramic pipe fragments; 5% cobble sized glass fragments; 5% white fabric; 5% cobble sized timber fragments; and 10% cobble size inclusions of stiff, brown, slightly sandy CLAY. Gravel is subangular to subrounded of fine to coarse concrete, red brick, mudstone, glass, ceramics and mixed lithologies.	1
					1.60	84.25		MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		1.80 1.80 1.80 1.80	 ES PID PID	 0.60ppmv 0.60ppmv				Recovered as 50% cobbles to boulder sized inclusions of firm, greenish grey and orangish brown, stained dark grey and black, slightly sandy slightly gravelly CLAY; 25% cobble sized inclusions of dark brown CLAY; 10% whole and half red brick; 5% cobble sized hard white and black fragments; 5% cobble size fragments of light weight weak and friable white material; 5% cobble size fragments of angular black friable material with fabric welded to it. Gravel is angular to rounded of fine to coarse red brick, black crystalline rock and mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE *2.40m : Hydrocarbon odour.*	2
					3.00	82.85		Recovered as 40% reddish brown, very gravelly, slightly clayey, fine to coarse SAND; 30% whole and half red bricks; 10% cobble sized inclusions of soft, orangish brown CLAY; 10% boulder sized fragments of timber and red brick wall; 5% plastic; 5% cobble sized fragments of sandstone. Gravel is angular to subrounded of fine to coarse red brick, ceramic and shale. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	3
					4.00	81.85		Recovered as 50% reddish brown, very gravelly, slightly clayey, fine to coarse SAND and GRAVEL; 20% whole and half red brick; 15% boulder sized fragments of concrete and red brick wall; 10% cobble sized inclusions of soft, orangish brown CLAY; 5% cobble sized brown sandstone fragments; and 5% plastic. Gravel is angular to subrounded of fine to coarse red brick, ceramic and shale. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	4
					4.50	81.35		Base of Excavation at 4.50m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Terminated due to hard digging and lack of room for spoil.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP119
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 12/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387612.00 N400342.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.90m x 2.80m; Final Depth: 4.00m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 84.88m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	84.68		Firm, dark brown, slightly sandy, slightly gravelly CLAY with abundant roots and rootlets. Gravel is subangular to subrounded of fine mixed lithologies. TOPSOIL FILL	
					0.90	83.98		Recovered as 40% whole and half red brick; 30% cobble to boulder sized inclusions of very soft, brown, slightly sandy, gravelly CLAY; 10% boulder sized fragments of red brick wall, concrete (1.1m x 0.4m x 0.1m), and ceramic; 5% plastic (bags, bucket handles, wrappers, wipes); 5% fabric (carpet and clothes); 5% tree roots; and 5% painted wooden flooring. Gravel is angular to subrounded of fine to coarse ceramics, red brick, plastic, wood and round pebbles. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
					1.20	83.68		Recovered as 60% cobble to boulder sized inclusions of very soft to firm, friable, brown to dark brown, slightly sandy, gravelly CLAY; 30% whole and half red brick; and 10% plastic (foam, warpers). Gravel is subrounded to subangular of fine to coarse ceramics, red brick and purple slate. Sand is fine to medium. MADE GROUND - PREDOMINANTLY COHESIVE	1
	▽				1.40	83.48		Recovered as 30% whole and half red brick; 25% boulder sized concrete fragments; 25% cobble to boulder sized inclusions of firm, friable, brown, slightly gravelly, sandy CLAY; and 20% timber planks. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		1.70 1.70	ES					Recovered as 60% black, slightly gravelly, clayey SAND; 10% cobble sized timber fragments; 10% boulder sized fragments of orangish brown sandstone, red brick wall and concrete; 10% rubber and plastic (tubing, bags, sheeting); and 10% cobble sized inclusions of very soft, black, slightly sandy CLAY. Gravel is angular to subrounded of fine to coarse black glassy rock (40%), ceramic (10%), red brick (5%) and mixed lithologies (45%). Slight organic and hydrocarbon odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
								1.40m : Slow ingress of water from the top of the concrete obstruction.	
								1.40m - 1.43m : Concrete obstruction in the northern side of the excavation.	3
					4.00	80.88		Base of Excavation at 4.00m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP120
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 12/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387647.40 N40371.10
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.30m x 1.50m / Final Depth: 4.50m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 85.35m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.20 – 0.30 0.20 – 0.30	B B		0.20	85.15		Recovered as firm, dark brown, slightly sandy, slightly gravelly CLAY with frequent roots and rootlets. Gravel is angular to subangular fine to coarse ceramic, red brick, purple slate and mixed lithologies. Sand is fine to medium. TOPSOIL FILL	
					0.65	84.70		Recovered as 50% cobble to boulder sized inclusions of soft, brown, slightly sandy, slightly gravelly CLAY; 20% multicoloured, slightly sandy, very clayey, angular to subrounded, fine to coarse GRAVEL of red brick, ceramic, timber, slate, glass and mixed lithologies; 10% glass fragments and bottles; 10% whole and half red brick; 5% plastic sheeting; 5% tree roots. Gravel is angular to rounded of fine to coarse mixed natural lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
								Recovered as cobble to boulder sized concrete fragments. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								1.35m : In N,E and W edge of pit beneath concrete; Recovered as: 50% loose brown slightly clayey subangular slightly clayey GRAVEL of mixed lithologies including ceramic, metal, slag, clinker, slate, red brick and glass; 20% cobbles and boulders of red brick and concrete; 10% pieces of wood and timber; 10% plastic sheeting and wrapping; 10% metal rope, wire and pipes.	2
		3.10 3.10	ES		3.10	82.25		Recovered as 60% cobble to boulder sized inclusions of soft, wet, dark grey, stained black, slightly sandy, gravelly CLAY; 10% cobble sized fragments of suspected slag; 5% fabrics including clothing; 5% cardboard; 5% wooden planks; 5% plastic sheeting; 5% cobble sized glass fragments; 5% cobble sized ceramic fragments. Gravel is angular to subrounded of fine to coarse sandstone, suspected slag, red brick, slate, suspected clinker and mixed lithologies. Strong hydrocarbon odour. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	3
					3.40	81.95		Recovered as 25% wooden planks; 20% brown, slightly sandy slightly clayey GRAVEL; 20% cobble sized red brick and concrete fragments; 10% glass bottles and fragments; 10% plastic sheeting; 10% metal sheets and pipes; and 5% fabric material. Gravel is angular to subrounded of fine to coarse red brick, concrete, sandstone and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	4
					4.30	81.05		Recovered as cobbles and boulder sized fragments of strong, light pinkish brown, coarse grained SANDSTONE. Difficult to excavate. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
					4.50	80.85		Base of Excavation at 4.50m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Terminated due to obstruction.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP121
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 12/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387570.70 N400435.70
Project No. : LD10162	Excavator:	Dimensions : 4.10m x 1.30m — Final Depth: 3.30m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 83.72m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.30	83.42		Recovered as 60% brown, slightly sandy, clayey GRAVEL; 20% cobble sized ceramic fragments; 10% cobble sized timber fragments; 10% whole and half red brick fragments. Gravel is angular to subangular of fine to coarse mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	
					1.00	82.72		Recovered as 50% whole and half red brick; 20% reddish brown, sandy GRAVEL; 20% cobble to boulder sized concrete fragments (up to 1.4m x 0.3m x 0.2m) 5% metal bars; 5% cobble sized suspected slag fragments. Gravel is angular to subrounded of fine to coarse glass, timber, sandstone, red brick and concrete. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE. *0.80m : Boulder sized plastic sheeting.*	1
		2.00	B					Firm to stiff, light brown, mottled orangish brown, slightly sandy, slightly gravelly CLAY with medium cobble content. Cobbles are rounded of mixed lithologies. Gravel is angular to subrounded of fine to coarse of mixed lithologies. COHESIVE GLACIAL TILL	2
		2.20 2.20	ES						
					3.10	80.62		Stiff, grey and brown, sightly sandy, gravelly CLAY. Gravel is angular to subrounded of fine to coarse mixed lithologies. COHESIVE GLACIAL TILL	3
					3.30	80.42		Base of Excavation at 3.30m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP122
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 07/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387424.70 N400355.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.60m x 1.30m — Final Depth: 2.60m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 80.10m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as firm, dark brown, slightly sandy, silty CLAY. TOPSOIL FILL	
					0.25	79.85		Stiff, light brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mudstone, sandstone and coal. COHESIVE GLACIAL TILL	
		0.50	HSV	74kPa					
		0.50	HSV	80kPa					
		0.50	HSV	82kPa					
								0.80m - 2.60m : Reddish brown gleyed grey.	
		1.00	ES						1
		1.40	HSV	80kPa					
		1.40	HSV	80kPa					
		1.40	HSV	92kPa					
		1.70	HSV	72kPa					
		1.70	HSV	92kPa					
		1.70	HSV	98kPa					
		2.00	ES						2
		2.50	HSV	120kPa					
		2.50	HSV	120kPa					
		2.50	HSV	120kPa	2.60	77.50		Base of Excavation at 2.60m	3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP123
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 05/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387288.34 N400213.30
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.90m x 1.40m — Final Depth: 3.80m
Logged By: JC	Checked By: JC	Approved By: MP — Level: 77.54m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.30	77.24		Recovered as dark grey, slightly clayey, silty, fine to medium SAND with frequent rootlets. TOPSOIL FILL	
		0.80	ES					Recovered as 80% dark grey to black, very sandy/ashy GRAVEL; 15% cobble to boulder sized suspected slag fragments; 5% cobble to boulder sized paving slab fragments. Gravel is angular to rounded of fine to coarse suspected clinker and suspected slag. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
					1.10	76.44		Recovered as 80% dark grey to black, very sandy/ashy GRAVEL; 10% boulder sized suspected slag fragments; 10% cobble to boulder sized inclusions of firm to stiff, brown, slightly sandy CLAY with red dye surround. Gravel is angular to rounded of fine to coarse suspected slag, suspected clinker and glass. MADE GROUND - SUSPECTED COMBUSTION WASTE *1.40m - 1.80m : Frequent cobble sized inclusions of firm light brown, greyish brown and reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to medium of mixed natural lithologies.*	
		1.30	ES						
					1.80	75.74			
	▽	1.90	ES						
					2.00	75.54		Recovered as 70% wet, red, clayey GRAVEL; 10% cobble sized fragments of red brick; 10% cobble sized suspected slag fragments; 10% cobble to boulder sized paving slab fragments. Gravel is angular to rounded of fine to coarse suspected slag and suspected clinker. MADE GROUND - SUSPECTED COMBUSTION WASTE *1.80m : Large boulder sized pocket of wet red die (wet, reddish brown clayey gravel).* *1.90m : Red dye.*	2
					2.30	75.24		Recovered as wet, red, clayey, angular to rounded, fine to coarse GRAVEL of suspected slag and suspected clinker. MADE GROUND - SUSPECTED COMBUSTION WASTE *2.00m : North eastern face of the excavation. Excavation full of water.*	
								Recovered as 70% wet, sandy GRAVEL; 15% whole and half red brick; 10% boulder sized inclusions of firm to stiff, brown, slightly sandy, slightly gravelly CLAY; 5% cobble to boulder sized paving slab fragments. Gravel is angular to rounded of medium to coarse suspected clinker and suspected slag. MADE GROUND - SUSPECTED COMBUSTION WASTE *2.60m : Leather shoe.* *2.80m : Oil stain on water.* *3.00m : Heavy oil staining on water, and areas of oil upwelling.*	3
					3.80	73.74		Base of Excavation at 3.80m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Terminated due to collapse and water in excavation.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP124
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387212.28 N400174.38
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.20m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 76.87m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.25 – 1.45	B		0.21	76.66		Recovered as very soft to soft, brown, slightly gravelly, sandy CLAY with abundant roots and rootlets. Gravel is subangular of fine to medium mixed lithologies. TOPSOIL FILL	
								Recovered as 60% black, sandy GRAVEL; 15% cobble sized suspected clinker fragments; 10% cobble sized slate fragments; 5% cobble sized timber fragments; 5% cobble sized ceramic fragments; and 5% cobble sized glass fragments. Gravel is angular to subrounded of fine to coarse suspected slag and suspected clinker. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
					1.50	75.37		Recovered as 50% wet, brown, sandy, very clayey GRAVEL; 15% cobble sized suspected slag and clinker fragments; 10% cobble to boulder sized ceramic fragments; 10% cobble sized slate fragments; 10% cobble sized fragments of red brick; 5% cobble sized glass fragments. Gravel is subangular to subrounded of fine to coarse suspected clinker, red brick, glass and timber. MADE GROUND - SUSPECTED COMBUSTION WASTE	2
	▽							*2.25m : Hard digging.* *2.30m - 2.60m : Multiple collapse of walls due to water ingress.*	
					2.60	74.27		Recovered as 70% soft, brown, mottled grey and orangish brown, slightly sandy, slightly gravelly CLAY; 20% cobble sized fragments of red brick; 10% cobble sized glass and ceramic fragments. Gravel is angular to subrounded of fine to coarse black, conchoidal, shiny rock; red sandstone and grit stone. MADE GROUND - PREDOMINANTLY COHESIVE	3
	▽							*2.60m : Fast ingress of water from all sides of the ecavation.* *3.00m : Water is a brown clayey colour with no odour.*	
								3.80m : Becoming very stiff.	4
		4.90	HSV	115kPa					
		4.90	HSV	135kPa					

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to water ingress.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Ingress from base of the pit at 2.3m.
Water resting at 3.6m.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP124
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387212.28 N400174.38
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.20m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 76.87m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		4.90	HSV	140kPa	5.20	71.67		Recovered as 70% soft, brown, mottled grey and orangish brown, slightly sandy, slightly gravelly CLAY; 20% cobble sized fragments of red brick; 10% cobble sized glass and ceramic fragments. Gravel is angular to subrounded of fine to coarse black, conchoidal, shiny rock; red sandstone and grit stone. MADE GROUND - PREDOMINANTLY COHESIVE Base of Excavation at 5.20m	6 7 8 9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to water ingress.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Ingress from base of the pit at 2.3m.
Water resting at 3.6m.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP125
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387233.36 N400187.66
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.80m x 2.90m / Final Depth: 4.00m
Logged By: ZH / Checked By: JC	Approved By: MP / Level: 76.85m AoD	Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	76.65		Recovered as 60% firm, dark brownish grey, slightly gravelly CLAY; 20% roots and rootlets; 10% fabric (rugs); 5% cobble sized ceramic fragments; 2.5% cobble sized plastic fragments; and 2.5% cobble sized glass fragments. Gravel is subangular to subrounded of suspected clinker, sandstone, red brick, mudstone, glass, wood and plastic. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
					0.40	76.45		Recovered as 40% black, subangular to subrounded, fine to coarse GRAVEL of suspected clinker; 25% cobble sized sandstone fragments; 20% cobble sized inclusions of soft, yellowish brown CLAY; 10% whole and half red brick; and 5% cobble sized ceramic fragments. MADE GROUND - SUSPECTED COMBUSTION WASTE	
					1.20	75.65		Recovered as 55% black, sandy, subangular to subrounded, fine to coarse GRAVEL of suspected clinker; 10% firm, dark brown, slightly gravelly, sandy, organic CLAY; 10% cobble sized metal fragments; 5% cobble sized glass fragments; 5% roots and rootlets; 5% whole and half red brick; 5% cobble sized inclusions of soft, yellowish brown CLAY; 2.5% plastic (sheeting); and 2.5% cobble sized ceramic fragments. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
					1.40	75.45		Recovered as stiff, dark brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded, fine to coarse mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
					1.70	75.15		Recovered as 50% cobble sized fragments of red brick; and 40% red, sandy, angular to subrounded, fine to coarse GRAVEL of red brick. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
		2.30 – 2.50	ES					Recovered as 40% cobble sized fragments of red brick; 35% brown, slightly sandy GRAVEL; 20% cobbles sized fragments of suspected clinker and slag; and 5% cobble sized plastic fragments. Gravel is angular to subrounded, fine to coarse red brick, coal, mudstone and shale. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		2.40	PID	0.30ppmv				*1.70m : Hard digging.*	
								1.70m - 2.40m : Multiple collapses of excavation walls.	
								1.80m : Slight seepage from southern face of the excavation.	
								1.90m : Very hard digging.	
								2.00m : Seepage increased to fast from the base of excavation.	3
		3.20 – 3.50	ES		3.20	73.65		*2.30m : Seepage of black fluid from the northern face of the excavation. Hydrocarbon odour and brown foamy scum.*	
		3.30	PID	0.30ppmv				Firm to stiff, slightly sandy to sandy in places, slightly gravelly CLAY. Sand is fine. Gravel is fine to medium of shale, red mudstone and red sandstone. Hydrocarbon odour. COHESIVE GLACIAL TILL	
					4.00	72.85		Base of Excavation at 4.00m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to water ingress.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP126
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387457.60 N400129.30
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.90m x 1.40m — Final Depth: 3.60m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 79.92m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	79.72		Recovered as firm, dark brown, slightly sandy, silty CLAY. TOPSOIL FILL	
		0.50	ES					Recovered as: 80% dark grey, sandy clayey GRAVEL; 10% cobbles to boulder sized slag fragments; 5% cobble sized glass and ceramic fragments; 5% cobble sized timber and metal fragments. Gravel is angular to subangular of fine to coarse suspected slag, suspected clinker and red brick. MADE GROUND - SUSPECTED COMBUSTION WASTE	
					0.70	79.22		Firm, brown and orangish brown, slightly sandy CLAY. COHESIVE GLACIAL TILL	
		0.90 0.90 0.90	HSV HSV HSV	68kPa 72kPa 78kPa					1
					1.10	78.82		Stiff, orangish and grey, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse sandstone and mudstone. COHESIVE GLACIAL TILL	
		1.50	ES						
	▽							*1.80m - 2.40m : Occasional grey sand laminations.*	
		1.90 – 2.10	B					*1.80m - 3.60m : Water seepage.*	2
		2.20 2.20 2.20	HSV HSV HSV	78kPa 82kPa 94kPa					
		2.60 2.60 2.60 2.70	HSV HSV HSV ES	82kPa 84kPa 90kPa				*2.70m - 3.60m : Brown gleyed grey.*	3
					3.60	76.32		Base of Excavation at 3.60m	
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP127
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387369.17 N400198.81
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.70m x 3.00m / Final Depth: 4.80m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 78.63m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.30	78.33		Recovered as 80% soft, dark greyish brown, slightly sandy, slightly gravelly CLAY; 10% cobble sized concrete and ceramic fragments; and 10% roots and rootlets. Sand is fine. Gravel is subrounded to subangular of fine to medium mudstone, coal, shale, red brick, concrete and suspected clinker. TOPSOIL FILL	
					0.70	77.93		Recovered as 70% light greyish brown, slightly sandy, slightly clayey GRAVEL; 20% cobble sized inclusions of stiff, grey and orangish brown mottled, gravelly CLAY; and 10% roots and rootlets. Gravel is angular to subrounded of red brick, glass, wood, plastic, sandstone, concrete and gritstone. MADE GROUND - PREDOMINANTLY GRANULAR	
					1.00	77.63		Recovered as 45% dark brown, slightly sandy, clayey GRAVEL; 20% cobble sized fragments of red brick; 15% cobble sized inclusions of stiff, grey and orangish brown mottled, gravelly CLAY; 10% cobbles to boulder sized concrete fragments; 10% roots and rootlets. Gravel is subangular to subrounded of fine to coarse red brick, glass, coal, suspected clinker and sandstone. MADE GROUND - PREDOMINANTLY GRANULAR	1
		1.20 1.20 1.20	ES PID	0.30ppmv				Recovered as 80% cobbles to boulder sized inclusions of firm, light grey and orangish brown mottled, slightly sandy, slightly gravelly CLAY; 10% cobble sized fragments of red brick; and 10% wet, black, very soft, very gravelly CLAY. Sand is fine. Gravel is fine to coarse of red brick, weathered sandstone, suspected slag, weathered mudstone and crystalline rocks. Hydrocarbon odour. MADE GROUND - PREDOMINANTLY COHESIVE	2
								2.50m : Slight ingress of water from the eastern face of the excavation. Water is dark grey to black in colour.	
					2.90	75.73			
		3.00	HSV	3kPa	2.92	75.71		Recovered as soft, wet, light brown, very sandy CLAY. MADE GROUND - PREDOMINANTLY COHESIVE	3
								2.91m : Ingress of water increases.	
					3.20	75.43		Recovered as very soft, light brown, slightly sandy to very sandy in places, slightly gravelly CLAY. Sand is fine. Gravel is subangular to rounded of fine to coarse pebbles, red sandstone and gritstone. MADE GROUND - PREDOMINANTLY COHESIVE	
								Recovered as 80% very soft, light brown, stained black, slightly sandy to very sandy in places, slightly gravelly CLAY; 10% cobble sized fragments of red brick; and 10% cobble sized fragments of glass, plastic and ceramic. Sand is fine. Gravel is subangular to rounded of fine to coarse pebbles, red sandstone and gritstone. MADE GROUND - PREDOMINANTLY COHESIVE	4
		4.30 – 4.80 4.35 4.35 4.50	B ES PID HSV	 0.30ppmv 97kPa	4.30	74.33		Stiff to very stiff, brown, slightly sandy in places, slightly gravelly CLAY. Sand is fine. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. COHESIVE GLACIAL TILL	
					4.80	73.83		Base of Excavation at 4.80m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP128
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387810.54 N400261.16
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 4.00m x 3.00m / Final Depth: 5.10m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 82.58m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.40 – 1.00	B		0.40	82.18		Recovered as 40% dark brown, slightly sandy, clayey GRAVEL; 20% roots and rootlets; 15% cobble sized inclusions of soft, dark brown, slightly gravelly, sandy CLAY; 10% cobble sized fragments of red brick and sandstone; 5% cobble sized fabric cuts; 5% cobble sized timber fragments; and 5% cobble sized plastic fragments. Gravel is angular to subrounded of fine to medium mudstone, red brick and coal. MADE GROUND - PREDOMINANTLY GRANULAR	
	▽							*0.00m - 0.70m : Slight seepage from the south eastern face of the excavation.*	
					1.00	81.58		Recovered as 65% black, angular to subangular, fine to coarse GRAVEL of suspected clinker; 20% cobble sized fragments of suspected clinker; 10% cobble sized fragments of sandstone and red brick; and 5% cobble sized timber fragments. Sand is fine. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
								Recovered as 90% cobble sized inclusions of soft to firm, slightly gravelly, sandy CLAY; and 10% cobble to boulder fragments of red brick and concrete. Gravel is angular to rounded of fine to coarse mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	2
		3.60 3.60 3.60 3.60	B ES PID	0.10ppmv	3.40	79.18		Recovered as 75% wet, white and black, slightly clayey, sandy GRAVEL; 15% cobble and boulder sized inclusions of hard, friable, weathered to soft, light whitish brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded of fine to coarse weathered chalk material. MADE GROUND - SUSPECTED COMBUSTION WASTE	3
	▽							*4.80m : Slow ingress of water from the base of the excavation.*	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP128
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387810.54 N400261.16
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 4.00m x 3.00m / Final Depth: 5.10m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 82.58m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					5.10	77.48		Recovered as 75% wet, white and black, slightly clayey, sandy GRAVEL; 15% cobble and boulder sized inclusions of hard, friable, weathered to soft, light whitish brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded of fine to coarse weathered chalk material. MADE GROUND - SUSPECTED COMBUSTION WASTE Base of Excavation at 5.10m	6 7 8 9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP129
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387883.02 N400311.01
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 4.00m x 1.20m — Final Depth: 4.00m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 83.35m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.20 – 3.50	B		0.20	83.15		Recovered as firm, dark brown, slightly sandy, gravelly CLAY with frequent roots and rootlets. Gravel is angular to subrounded of fine to coarse of glass, plastics, sandstone and suspected clinker. Sand is fine to medium. TOPSOIL FILL	
								Recovered as 75% black, slightly sandy GRAVEL; 15% cobble sized fragments of suspected slag and clinker; 5% glass; and 5% metal. Gravel is angular to subrounded of fine to coarse suspected clinker and slag. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
									2
									3
	▼							*3.60m : Moderate ingress of water.*	
					3.95	79.40		Soft, wet, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to medium mixed lithologies. Sand is fine. COHESIVE GLACIAL TILL	4
					4.00	79.35		Base of Excavation at 4.00m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to multiple collapses and ingress of water.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP12A
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 27/06/2019
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387440.76 N400298.59
Project No. : LD10162	Excavator: 22 tonne Komatsu PC210	Dimensions : 6.00m x 1.60m / Final Depth: 1.90m
Logged By: JC / Checked By / Approved By / Level: 81.00m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	80.90		Dark brown, gravelly, very clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to medium suspected clinker (40%), suspected slag (30%), red brick (20%) and mixed lithologies (10%). TOPSOIL FILL	
								Recovered as 80% black, mottled orangish brown and white in places, very sandy/ashy GRAVEL; and 20% cobble sized suspected slag/obsidian fragments. Gravel is angular to rounded of fine to coarse suspected slag (60%) and clinker (40%). MADE GROUND - SUSPECTED COMBUSTION WASTE	1
								1.30m - 1.80m : A single large boulder sized inclusion (1.2m x 0.5m x 0.5m) of cobble sized slate fragments encountered within the eastern face of the excavation.	
					1.80	79.20			
					1.90	79.10		Stiff, friable, dark brown and light grey mottled, slightly sandy to sandy CLAY with occasional cobble sized inclusions of damp, light brown clayey medium sand. COHESIVE GLACIAL TILL	2
								Base of Excavation at 1.90m	3
									4

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

General Remarks

This trial pit log describes the north section of TP12.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP12B
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 26/06/2019
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387440.76 N400298.59
Project No. : LD10162	Excavator: 22 tonne Komatsu PC210	Dimensions : 6.00m x 1.60m / Final Depth: 1.90m
Logged By: JC / Checked By / Approved By / Level: 81.00m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	80.90		Recovered dark brown, gravelly, very clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to medium suspected clinker (40%), suspected slag (30%), red brick (20%) and mixed lithologies (10%). TOPSOIL FILL	
								Recovered as 80% black, mottled orangish brown and white in places, very sandy/ashy GRAVEL; and 20% cobble sized suspected slag/obsidian fragments. Gravel is angular to rounded of fine to coarse suspected slag (60%) and clinker (40%). MADE GROUND - SUSPECTED COMBUSTION WASTE	
					1.00	80.00		Stiff, friable, dark brown and light grey mottled, slightly sandy to sandy CLAY with occasional cobble sized inclusions of damp, light brown clayey medium sand. COHESIVE GLACIAL TILL	1
					1.90	79.10		Base of Excavation at 1.90m	2
									3
									4

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Small collapse in eastern face of the northern section of the excavation between 1.30 and 1.80m.	None	

Pumping Data

Date	Rate	Remarks

General Remarks

This trial pit log describes the southern section of TP12.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP130
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387830.94 N400405.79
Project No. : LD10162	Excavator:	Dimensions : 4.00m × 1.80m — Final Depth: 1.30m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.46m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.30 0.30 – 0.40 0.30	ES PID	0.10ppmv	0.15	85.31		Recovered as 50% cobble sized inclusions of stiff, dark brown, slightly sandy, slightly gravelly CLAY; 20% tree roots and rootlets; 15% cobble sized fragments of red brick; 10% cobble sized pockets of orangish brown, gravelly, coarse SAND; 5% plastic wraps. Gravel is subangular to subrounded of glass, red brick, ceramic and mixed lithologies. Sand is fine to medium. TOPSOIL FILL	
								Recovered as 20% cobble sized fragments of red brick; 20% plastic (wrappers, NPK fertiliser bags); 20% dark brown, sandy, slightly clayey GRAVEL; 15% cobble to boulder sized fragments of concrete (blocks, corners with ceramic tiles from mantle); 15% cobble sized metal fragments; 5% roots; 5% cobble sized bundles of coil. Gravel is angular to subrounded of fine to coarse ceramic, plastic, glass, red brick, concrete and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
					1.30	84.16		Base of Excavation at 1.30m	2
									3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP131
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387814.82 N400410.94
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.00m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.35m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.35	85.00		Recovered as 70% light grey, fine to coarse GRAVEL; 25% cobble sized fragments aggregate; 5% cobble sized fragments of ceramic and red brick. Gravel is angular to subrounded of fine to coarse aggregate, red brick, ceramic and mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	
								Recovered as 50% reddish brown, sandy GRAVEL; 25% cobble sized fragments of black, pyritic blocky, shiny MUDSTONE; 20% cobble sized fragments of red brick; 5% cobble sized sandstone fragments. Gravel is angular to subrounded of fine to coarse mudstone, concrete, red brick, suspected clinker and mixed lithologies. MADE GROUND – SUSPECTED COLLIERY SPOIL	1
					1.45	83.90		Recovered as stiff, grey, slightly sandy, gravelly CLAY. Gravel is fine to coarse of subangular to subrounded red brick and sandstone. MADE GROUND - PREDOMINANTLY COHESIVE	
					1.50	83.85		Recovered as 70% reddish brown, sandy GRAVEL; and 30% cobble sized fragments of reddish brown to black, burnt in places, blocky, thinly bedded mudstone, shale and coal. Gravel is angular to subangular of fine to coarse mudstone, shale and coal. MADE GROUND – SUSPECTED COLLIERY SPOIL	
		2.00 – 5.00	B					*2.00m : Frequent suspected slag and clinker, where the pit appears to split into two sections.*	2
		2.50 – 2.55	ES						
									3
									4
					5.00	80.35			

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	none				

General Remarks

Terminated due to maximum reach of machinery achieved.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP131
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387814.82 N400410.94
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.00m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.35m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Base of Excavation at 5.00m	6 7 8 9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	none				

General Remarks

Terminated due to maximum reach of machinery achieved.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP132
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 19/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387844.63 N400373.29
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.10m x 3.20m; Final Depth: 4.10m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 85.83m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	85.63		Recovered as 55% cobble to boulder sized inclusions of soft, dark brown, slightly sandy, gravelly CLAY; 30% root and rootlets; 10% cobble sized fragments of red brick; and 5% boulder sized concrete fragments. Gravel is subangular to subrounded of fine to coarse mixed lithologies. Sand is fine to medium. TOPSOIL FILL	
		0.30 0.30	ES PID	0.40ppmv					
					0.70	85.13		Recovered as 40% brown, slightly sandy, very clayey GRAVEL; 20% cobble to boulder sized pockets of damp, orangish brown, gravelly SAND; 15% cobble to boulder sized inclusions of stiff, brown, slightly sandy, slightly gravelly CLAY; 10% cobble sized fragments of red brick; 10% cobble sized sandstone fragments; and 5% cobble sized concrete fragments. Sand is fine to medium. Gravel is subangular to subrounded of fine to coarse red brick, concrete, sandstone, shells and mudstone. MADE GROUND - PREDOMINANTLY GRANULAR	
					0.90	84.93		Recovered as 50% red, subangular to subrounded, fine to coarse, slightly sandy GRAVEL of red brick; 40% cobble sized fragments of red brick; and 10% cobble sized inclusions of stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								Recovered as 60% grey, slightly sandy GRAVEL; 25% cobble sized fragments of mudstone and siltstone; 10% boulder sized fragments of siltstone and mudstone; and 5% cobble sized fragments of red brick. Gravel is angular to subangular of fine to coarse mudstone siltstone, coal and shale. MADE GROUND – SUSPECTED COLLIERY SPOIL	
					2.30	83.53		Recovered as 50% dark grey to reddish brown, slightly sandy GRAVEL; 15% cobble sized fragments of siltstone and mudstone; 15% cobble sized fragments of red brick; 15% cobble sized inclusions of soft, brown, mottled orangish brown, slightly sandy, slightly gravelly CLAY; and 5% boulder sized fragments of mudstone and siltstone. Gravel is subangular to subrounded of fine to coarse mudstone, siltstone, coal and sandstone MADE GROUND – SUSPECTED COLLIERY SPOIL	2
		2.60 2.60	ES PID	0.40ppmv	2.60	83.23		*2.30m - 2.60m : Collapse of northwestern face of the excavation.*	
								Recovered as 50% cobble sized inclusions of firm, light brown, mottled orangish brown and light grey, slightly gravelly CLAY; 15% cobble sized fragments of siltstone and mudstone; 15% whole and half red brick; 15% cobble sized inclusions of soft, brown, mottled orangish brown, slightly sandy, slightly gravelly CLAY; and 5% boulder sized fragments of mudstone and siltstone. Gravel is subrounded to subangular of fine to coarse metal (melted soldering iron), red brick, coal, gritstone and siltstone. MADE GROUND – SUSPECTED COLLIERY SPOIL	3
		3.80 – 4.10 3.80	B HSV	140kPa				*3.50m : Hard digging.*	
					4.10	81.73		Base of Excavation at 4.10m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to hard digging.
Strata all dipping approximately 20 degrees north west.
HSV test max is 140, therefore the HSV result is 140+.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP133
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 19/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387781.34 N400390.45
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.00m x 2.00m; Final Depth: 5.30m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 86.08m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.25	85.83		Recovered as 30% dark brown, slightly gravelly, very clayey SAND; 25% roots and rootlets; 20% boulder sized concrete fragments (1.10m x 1.66m x 0.16m); 10% cobble sized fragments of red brick; 10% cobble sized plastic fragments; and 5% cobble sized ceramic fragments. Gravel is angular to subrounded of fine to coarse concrete, red brick, ceramic and mudstone. TOPSOIL FILL	
		0.50 – 0.70	ES		0.50	85.58		Recovered as 50% light brown, very sandy GRAVEL; 15% cobble sized fragments of red brick; 15% cobble sized plastic fragments; 10% cobble sized ceramic fragments; 5% cobble sized inclusions of stiff, friable, greyish brown, slightly sandy, gravelly CLAY; and 5% roots and rootlets. Gravel is subangular to subrounded of fine to coarse concrete, red brick and sandstone. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
		0.60	PID	0.20ppmv				Recovered as 55% dark brownish grey to black GRAVEL; 20% cobble to boulder sized fragments of mudstone, siltstone and shale; 15% cobble sized inclusions of stiff, friable, grey, mottled orangish brown, grey, silty CLAY; 5% cobble sized fragments of red brick; and 5% roots and rootlets. Gravel is angular to subrounded of fine to coarse of mudstone, siltstone, sandstone and coal. MADE GROUND – SUSPECTED COLLIERY SPOIL	
								0.50m - 4.20m : Multiple collapses if excavation walls.	2
		2.40 – 3.20	B						3
									4
					4.20	81.88		Recovered as 65% damp, weathered, slightly clayey GRAVEL; 20% cobble sized fragments of siltstone, mudstone and shale; 10% boulder sized blocky siltstone fragments; and 5% cobble sized fragments of red brick. Gravel is subangular to subrounded of medium to coarse suspected slag, siltstone, mudstone and shale. MADE GROUND – SUSPECTED COLLIERY SPOIL	

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Stable	None	

Pumping Data

Date	Rate	Remarks

General Remarks

Terminated due to maximum reach of the machine.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP133
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 19/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387781.34 N400390.45
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.00m x 2.00m / Final Depth: 5.30m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 86.08m AoD	Orientation: °	

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					5.30	80.78		Recovered as 65% damp, weathered, slightly clayey GRAVEL; 20% cobble sized fragments of siltstone, mudstone and shale; 10% boulder sized blocky siltstone fragments; and 5% cobble sized fragments of red brick. Gravel is subangular to subrounded of medium to coarse suspected slag, siltstone, mudstone and shale. MADE GROUND – SUSPECTED COLLIERY SPOIL	6
								Base of Excavation at 5.30m	7
									8
									9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP134
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 16/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387900.85 N400365.09
Project No. : LD10162	Excavator: Hitatchi 123 12T	Dimensions : 3.80m x 1.10m — Final Depth: 4.80m
Logged By: ZH	Checked By: JC	Approved By: MP	Level: 84.61m AoD	Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.20 0.20	PID	0.20ppmv	0.20	84.41		Recovered as large boulder sized fragments of whitish brown CONCRETE. CONCRETE	
					0.65	83.96		Recovered as 20% cobble sized fragments of red brick; 20% greyish brown and black in places, slightly sandy, clayey GRAVEL; 15% cobble sized inclusions of soft to stiff, brown mottled light grey and orangish brown in places, slightly sandy, gravelly CLAY; 10% cobble sized fragments of weathered mudstone and coal; 10% fabric (shoes); 5% metal bars; and 5% plastic bags. Gravel is angular to subrounded of fine to coarse red brick, wood, concrete, coal, glass, mudstone, and sandstone. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		0.75 – 3.50	ES		0.75	83.86		Recovered as 80% yellowish brown, coarse SAND; and 20% cobble sized inclusions of soft, yellowish brown, sandy CLAY. MADE GROUND - PREDOMINANTLY GRANULAR	1
		1.20	HSV	49kPa				Recovered as 85% cobble to boulder sized inclusions of firm, reddish brown, slightly sandy, slightly gravelly CLAY; and 15% cobble sized fragments of red brick. Gravel is subangular to subrounded of fine to coarse coal, red brick and weathered mudstone. Sand is fine to medium. MADE GROUND - PREDOMINANTLY COHESIVE	2
					3.50	81.11		Damp, light brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded of fine mixed natural lithologies. GRANULAR GLACIAL TILL	3
					3.60	81.01		Very stiff, brown, slightly sandy, slightly gravelly CLAY with medium cobble content. Cobbles are rounded of a mixed natural lithologies. Gravel is angular to rounded of fine to coarse mixed natural lithologies. Sand is fine. COHESIVE GLACIAL TILL	4
		4.20	HSV	110kPa					
					4.80	79.81		Base of Excavation at 4.80m	

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Stable	None	

Pumping Data

Date	Rate	Remarks

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP135
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387857.79 N400361.01
Project No. : LD10162	Excavator:	Dimensions : 4.00m × 1.80m — Final Depth: 1.25m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.12m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.20 – 0.25	ES		0.25	84.87		Recovered as 60% cobble to boulder sized inclusions of soft to firm, dark brown, slightly sandy, slightly gravelly CLAY; 30% abundant rootlets and roots (up to 5cm diameter); and 10% cobble sized fragments of mudstone and red brick. Gravel is subangular to subrounded of fine to coarse red brick, concrete and mixed lithologies. TOPSOIL FILL	
		1.20	PID	0.20ppmv	1.20	83.92		Recovered as 40% reddish brown, slightly sandy, clayey GRAVEL; 20% cobble sized fragments of red brick; 10% cobble size fragments of concrete; 5% cobbles sized fragments of sandstone; 10% cobble to boulder size inclusions of firm, orangish brown, mottled light grey and dark grey in places, gravelly CLAY; 5% tree roots and rootlets; 5% plastic (sheeting and fragments); 5% wire; 5% cobble sized fragments of slate. Gravel is angular to rounded of fine to coarse red brick, concrete, slate, glass, wood, mudstone and siltstone. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
					1.25	83.87		Hard CONCRETE obstruction across entire excavation - could not dig through. CONCRETE	
								Base of Excavation at 1.25m	2
									3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	none				

General Remarks

Terminated due to concrete obstruction along the entire base of the excavation.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP136
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 07/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387510.10 N400123.70
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.90m x 1.40m — Final Depth: 3.70m
Logged By: JC	Checked By: JC	Approved By: MP — Level: 81.01m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	80.81		Recovered as soft, dark brown, slightly gravelly, sandy/ ashy CLAY with frequent rootlets. Gravel is angular to subrounded fine to medium glass (10%), ceramic (10%) and mixed lithologies (80%). TOPSOIL FILL	
					0.50	80.51		Recovered as 80% dark greyish brown, very sandy/ashy, very clayey GRAVEL; 10% cobble sized timber fragments; 10% cobble sized fragments of red brick. Gravel is angular to subrounded of fine to medium suspected slag (20%), suspected clinker (20%), timber (20%), glass (10%) and mixed lithologies (30%). MADE GROUND - SUSPECTED COMBUSTION WASTE	
		0.80	ES					Firm to stiff, light brown and orangish brown mottled, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to medium mixed lithologies. COHESIVE GLACIAL TILL	
		0.80	HSV	66kPa					
		0.80	HSV	70kPa					
		0.80	HSV	74kPa	1.00	80.01			1
								Stiff to very stiff, fissured, brown, mottled grey, slightly sandy, slightly gravelly CLAY. Gravel is subrounded of fine to medium mixed lithologies. Fissures are randomly orientated, extremely close to closely spaced, undulating to stepped smooth, partially open and infilled with firm grey clay. COHESIVE GLACIAL TILL	
		1.60	HSV	102kPa					
		1.60	HSV	82kPa					
		1.60	HSV	88kPa					
					2.00	79.01			2
		2.10	ES					Dark greyish brown, slightly gravelly, medium SAND. Gravel is subangular to rounded fine to medium coal and mixed lithologies. GRANULAR GLACIAL TILL	
		2.30	B					*2.00m : Boulder sized sand pocket in centre of the excavation.*	
		2.30	B					*2.10m : Running sand in southern face of the excavation.*	
					2.70	78.31		Firm, dark brown CLAY with closely spaced thin beds of firm dark brown silty clay with rare plant remains. COHESIVE GLACIAL TILL	
		2.90	HSV	60kPa				*2.80m : Running sand in southern face of the excavation.*	
		2.90	HSV	66kPa					
		2.90	HSV	68kPa					3
		3.50	HSV	70kPa					
		3.50	HSV	74kPa					
		3.50	HSV	86kPa					
					3.70	77.31		Base of Excavation at 3.70m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP137
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 06/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387341.40 N400286.70
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 3.90m x 1.30m — Final Depth: 3.70m
Logged By: JC	Checked By: JC	Approved By: MP — Level: 79.06m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	78.86		Recovered as brown, slightly clayey, gravelly, silty coarse SAND with frequent rootlets. Gravel is angular to subrounded fine to medium suspected slag and suspected clinker. TOPSOIL FILL	
		0.60	B					Recovered as brown and grey, very sandy/ashy, angular to rounded, fine to coarse GRAVEL of suspected slag (40%), suspected clinker (40%), glass (10%) and brick (10%). MADE GROUND - SUSPECTED COMBUSTION WASTE	
					0.80	78.26		Recovered as 40% brown and grey, very sandy/ashy GRAVEL; 30% cobble to boulder sized inclusions of grey, clayey, gravelly SAND/ASH; 20% boulder sized inclusions of firm, brown, mottled light brown, slightly sandy, slightly gravelly CLAY; 10% cobble sized inclusions of soft to hard mortar/paste. Gravel is angular to rounded of fine to coarse, suspected slag (40%), clinker (40%), glass (10%) and brick (10%). MADE GROUND - SUSPECTED COMBUSTION WASTE	1
		1.20 1.20	ES ES						
					1.50	77.56		Recovered as 40% brown and grey, very sandy GRAVEL; 30% cobble to boulder sized inclusions of dark reddish brown, very sandy/ashy GRAVEL; and 30% cobble to boulder sized inclusions of very soft to firm, white paste. Gravel is angular to rounded of fine to coarse suspected slag (30%), suspected clinker (30%), glass (10%), red brick (10%), slate (10%) and acetate fragments (10%). MADE GROUND - SUSPECTED COMBUSTION WASTE	
					2.00	77.06		Recovered as 40% grey, gravelly, slightly clayey SAND/ ASH; 30% cobble to boulder sized inclusions of soft to firm, white paste; 10% cobble sized timber fragments; 10% cobble sized slate fragments; 10% boulder sized inclusions of firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded of fine to coarse suspected slag (35%), suspected clinker (35%), acetate fragments (20%) and timber (10%) Putrid odour. MADE GROUND - SUSPECTED COMBUSTION WASTE	2
					2.60	76.46		Recovered as 70% grey, gravelly, slightly clayey SAND/ ASH; 30% cobble sized slate fragments; and 10% boulder sized inclusions of firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse suspected slag (35%), suspected clinker (35%), acetate fragments (20%) and timber (10%). Putrid odour. MADE GROUND - SUSPECTED COMBUSTION WASTE	
	▽				3.00	76.06		Recovered as 60% wet, dark grey, sandy, clayey GRAVEL; 20% boulder sized inclusions of firm, brown, slightly sandy, slightly gravelly CLAY; 10% cobble sized timber fragments; and 10% cobble sized slate fragments. Gravel is angular to subrounded fine to coarse suspected slag (35%), suspected clinker (35%), acetate fragments (20%), timber (10%). MADE GROUND - SUSPECTED COMBUSTION WASTE	3
					3.70	75.36		*3.00m - 3.70m : Multiple collapses of the sides of the excavation.*	
								Base of Excavation at 3.70m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable from 3.0m					

General Remarks

Terminated due to instability.

Dimensions given in length x width x depth.

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP138
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 09/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387512.92 N400282.26
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.70m x 1.30m — Final Depth: 3.50m
Logged By: ZH	Checked By: JC	Approved By: MP	Level: 83.30m AoD	Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.30	83.00		Recovered as 75% roots and rootlets (up to 20mm diameter); and 25% brown, slightly gravelly, slightly clayey, fine to medium SAND. Gravel is fine to coarse of mixed lithologies. TOPSOIL FILL	
					0.80	82.50		Recovered as 40% brown, slightly sandy, clayey GRAVEL; 15% cobble sized fragments of red brick; 15% boulder sized red brick and concrete fragments; 10% wooden flooring; 10% roots; and 10% glass fragments (bottles and reinforced window). Gravel is fine to coarse angular to rounded pebbles, red brick, ceramic, glass and nails. Sand is fine to medium. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
		1.60						Recovered as 30% wooden floor joists with nails; 20% cobble sized fragments of red brick; 10% boulder sized sandstone fragments; 10% metal fragments (temporary bus stop sign); 10% plastic (sheeting, wrappers, bags); 10% dark brown, slightly sandy, very clayey GRAVEL; and 10% cobbles sized fragments of ceramic and mudstone. Gravel is angular subrounded fine to coarse glass, ceramic, red brick and mudstone. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
					2.10	81.20		Recovered as 55% plastic bags; 20% painted timber floor boards; 10% cobble sized timber fragments; 10% cobble sized fragments of red brick; 5% brown, angular to subangular, fine to coarse slightly sandy slightly clayey GRAVEL of mixed lithologies. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	2
					2.70	80.60		Recovered as 25% brown, slightly sandy, slightly clayey GRAVEL; 30% plastic (piping, bottles, containers, bags); 15% cobble sized fragments of red brick; 10% glass (windows, bottles); 10% foam; and 10% fabric (insulation)). Gravel is angular to subrounded fine to coarse red brick, glass and timber. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
	▽	3.30	ES		3.00	80.30			3
		3.30	PID	0.10ppmv	3.20	80.10		Recovered as 30% plastic sheeting; 20% wooden fencing/ floor boards; 20% boulder sized concrete fragments (1.5m x 0.5m x 0.3m); 20% metal (corrugated, bars); and 10% brown, slightly sandy, slightly clayey, angular to subrounded, fine to coarse GRAVEL of red brick, glass and wood. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
					3.50	79.80		Recovered as 45% very soft, wet, dark greyish brown, slightly sandy, very gravelly CLAY; 20% cobble sized inclusions of soft to firm, brown, slightly sandy CLAY; 10% wooden fence fragments; 10% cobble sized glass fragments; 10% fabric; 5% cobble sized metal fragments. Gravel is angular to subrounded of fine to coarse of mixed lithologies. Sand is fine. Slight odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	4
								3.20m : Slow ingress of water from the base of the excavation.	
								Base of Excavation at 3.50m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Terminated due to multiple collapses of the excavation walls.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP139
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 05/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387266.18 N400178.30
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.10m x 1.40m; Final Depth: 3.50m
Logged By: JC	Checked By: JC	Approved By: MP
Level: 77.16m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as brown, slightly gravelly, silty clayey, fine to medium SAND with frequent rootlets. Gravel is angular to rounded of mixed lithologies. TOPSOIL FILL	
					0.30	76.86			
		0.50	ES					Recovered as 80% black, very sandy/ashy GRAVEL; and 20% cobble sized fragments of red brick. Gravel is angular to rounded of fine to coarse suspected slag (40%), suspected clinker (40%) and mixed lithologies (20%). MADE GROUND - SUSPECTED COMBUSTION WASTE	
								0.80m : Brick obstruction in western face of the excavation.	
					1.00	76.16			1
								Recovered as 50% black very sandy/ashy GRAVEL; 30% boulder sized inclusions of brown, silty SAND with frequent rootlets; and 20% whole and half red bricks. Gravel is angular to rounded of fine to coarse suspected slag (40%), clinker (40%) and mixed lithologies (20%); MADE GROUND - SUSPECTED COMBUSTION WASTE	
					1.40	75.76			
		1.50	ES					Recovered as soft to hard, white, suspected mortar paste. MADE GROUND - PREDOMINANTLY COHESIVE	
					1.60	75.56			
								Recovered as black, very sandy/ashy angular to rounded, fine to coarse GRAVEL of suspected slag (40%), clinker (40%) and mixed lithologies (20%). MADE GROUND - SUSPECTED COMBUSTION WASTE	2
	▽				2.20	74.96			
					2.30	74.86		Recovered as firm, black, slightly sandy CLAY with rare plant remains. Very strong hydrocarbon odour. MADE GROUND - PREDOMINANTLY COHESIVE	
		2.40	ES						
					2.50	74.66		Recovered as wet, black, very clayey GRAVEL of suspected slag and suspected clinker. Very strong hydrocarbon odour and heavy iridescent oil staining. MADE GROUND - SUSPECTED COMBUSTION WASTE	
								Recovered as 80% wet, clayey GRAVEL; and 20% cobble sized inclusions of firm, light brown, mottled grey, silty CLAY. Gravel is angular to subrounded of medium to coarse suspected slag (40%), suspected clinker (40%), red brick (10%) and timber (10%). Strong hydrocarbon odour and staining. MADE GROUND - SUSPECTED COMBUSTION WASTE	3
					3.20	73.96		Firm, fissured, light grey and brown, silty CLAY. Fissures are randomly orientated, extremely close to close spaced, undulating to stepped smooth, tight to party open and infilled with firm, grey clay. COHESIVE GLACIAL TILL	
					3.50	73.66		Base of Excavation at 3.50m	
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP140
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 09/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387538.92 N400291.54
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 2.40m x 1.40m / Final Depth: 3.70m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 83.80m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.30	83.50		Recovered as 65% brown, slightly sandy, very clayey GRAVEL; 15% cobble sized fragments of red brick; 10% roots and rootlets; 5% cobble sized plastic fragments; and 5% cloth fragments. Gravel is subangular to subrounded of fine to coarse red brick, red mudstone, purple slate and siltstone. MADE GROUND - PREDOMINANTLY GRANULAR	
		0.50 – 1.60	ES		0.50	83.30		Recovered as 90% damp, brown, slightly gravelly SAND; and 10% cobble sized inclusions of soft to firm, grey CLAY. Gravel is angular to subrounded of medium to coarse purple slate, red ceramic and glass. Sand is fine to coarse. MADE GROUND - PREDOMINANTLY GRANULAR	
		1.00	PID	0.10ppmv				Recovered as 40% brown, slightly sandy, very clayey GRAVEL; 20% plastic (sheeting, wrappers, pipe); 10% cobble sized fragments of red brick and concrete; 10% boulder sized concrete fragments; 10% metal (bucket, poles, bars, strips); and 10% fabric (carpet, clothing). Gravel is angular to subrounded of fine to coarse red brick, glass, small nails, burnt wood, mudstone and purple slate. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								1.70m : A single large concrete boulder (1.3m x 1.2m x 0.5m).	
								1.90m : A single tyre.	
					2.00	81.80		Recovered as 35% brown, sandy, slightly clayey GRAVEL; 15% wooden fencing; 15% cobble sized red brick and suspected slag fragments; 10% cobbles to boulder sized concrete paving fragments (up to 0.9m length). Gravel is subangular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
	▽							*3.40m : Slow ingress of water from the base of the excavation. The water is clear with no odour.*	3
					3.60	80.20		Recovered as 30% wooden fencing; 25% wet, dark grey to black, slightly sandy, very clayey GRAVEL;15% whole and half red brick; 10% boulder sized concrete paving fragments; 10% metal (cans, sheeting, rods); 5% cardboard; 5% plastic (blinds). Gravel is subangular to subrounded of fine to coarse mixed lithologies. Hydrocarbon odour. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
					3.70	80.10		*3.60m : Water is dark grey with an oily sheen, hydrocarbon odour with a foam layer.*	4
								Base of Excavation at 3.70m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Terminated due to water in pit.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP141
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 07/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387412.40 N400312.10
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.10m x 1.60m — Final Depth: 2.60m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 80.44m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.25	80.19		Recovered as dark brown, silty, very clayey, fine SAND with frequent rootlets. TOPSOIL FILL	
		0.50	ES					Recovered as 80% dark grey, gravelly, clayey SAND/ASH; and 20% cobble to boulder sized suspected slag fragments. Gravel is subangular of fine to coarse suspected slag, suspected clinker and concrete. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
		1.50	ES						
					1.80	78.64		Stiff, friable, greyish brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse sandstone. COHESIVE GLACIAL TILL	2
		2.10	HSV	120kPa					
		2.10	HSV	120kPa					
		2.10	HSV	120kPa					
		2.50	ES						3
					2.60	77.84		Base of Excavation at 2.60m	4

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Stable		

Pumping Data

Date	Rate	Remarks

General Remarks

Achieved target depth.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP142
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 13/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387672.00 N400190.00
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.80m x 2.90m — Final Depth: 3.80m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 82.50m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.40	82.10		Recovered as 70% firm, dark brown, slightly sandy, slightly gravelly CLAY; 20% roots and rootlets; and 10% cobble sized fragments of red brick. Gravel is angular to subrounded of fine to coarse red brick, ceramic, glass, purple slate and pebbles. TOPSOIL FILL	
					0.80	81.70		Recovered as 55% cobble sized fragments of red brick; 20% dark brown, slightly sandy, slightly clayey GRAVEL; 15% cobble to boulder sized concrete fragments; and 10% plastic, glass and fabric fragments. Gravel is subangular to subrounded of fine to coarse red brick, ceramic and mixed lithologies. Organic odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								Recovered as 20% plastic sheeting; 20% damp, brown, sandy, clayey GRAVEL; 10% boulder sized concrete fragments; 10% cobble sized metal fragments; 5% fabric; 5% glass; 5% whole and half red brick; 5% cobble sized ceramic fragments; 5% sponge; and 5% cobble sized fragments of orangish brown, stained black, coarse grained sandstone. Gravel is subangular to subrounded of fine to coarse red brick, wood, plastic and glass. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								1.20m : Singular pram (1.5m x 0.5m x 0.2m).	
								1.90m : Single large boulder (1.8m x 0.7m x 0.4m).	2
	▽	2.70 2.70 2.70	ES PID	0.00ppmv	2.70	79.80		*2.60m : Hard digging due to thin layer of red brick and concrete cobbles.* Soft to stiff, wet, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to rounded of fine to coarse pebbles, gritstone and red sandstone. COHESIVE GLACIAL TILL *2.70m : Slow ingress of water.* *2.70m - 3.80m : Occasional very sandy lenses.* *3.00m : Fast ingress of water.*	3
					3.80	78.70		Base of Excavation at 3.80m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to multiple collapses of the excavation walls.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP143
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387771.85 N400434.42
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.40m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.42m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	85.32		Recovered as very soft, dark brown, slightly gravelly, sandy CLAY with frequent roots and rootlets and occasional cobble sized fragments of red brick. Gravel is angular to subrounded of fine to coarse red brick, timber and mixed lithologies. TOPSOIL FILL	
					0.70	84.72		Recovered as 40% brown, slightly sandy, very clayey GRAVEL; 20% cobble to boulder sized inclusions of firm, brown, slightly sandy, slightly gravelly CLAY; 15% plastic (large plastic tubes 5cm in diameter, plastic cards, needles, gloves); 10% whole and half red bricks; 5% cobble sized fragments of hard, black, rough stone; 5% cobble to boulder sized fragments of concrete; 5% glass fragments; and 5% tree roots. Gravel is angular to rounded of fine to coarse red brick, concrete, slate, sandstone, grit stone, shale, timber and mixed lithologies. Sand is fine. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	1
					1.15	84.27		*0.21m : Singular pipe with tap.*	
								Recovered as 60% reddish brown, sandy GRAVEL; 25% whole and half red brick; 10% cobble sized inclusions of stiff, brown, slightly sandy, slightly gravelly CLAY; and 5% roots. Gravel is subrounded to subangular of fine to coarse red brick, timber, concrete, aggregate and mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR *0.90m : Hard digging.* *0.90m - 1.00m : Large hard yellow plastic object in the southern end of excavation.*	
								Recovered as 55% grey (sometimes multicoloured), angular to subrounded, fine to coarse GRAVEL of red brick, shale, coal, mudstone, siltstone, suspected clinker; 20% cobble to boulder size inclusions of stiff to very stiff, grey mottled orangish brown, very gravelly, subrounded to subangular CLAY; 10% whole and half red brick; 10% cobble sized fragments of concrete; and 5% tree roots. Gravel is angular to subrounded of fine to coarse coal, shale, ironstone, siltstone and mixed lithologies. MADE GROUND – SUSPECTED COLLIERY SPOIL	2
		2.90 – 5.40 2.90 – 5.40	B B		2.90	82.52		Recovered as 60% reddish brown, sandy angular to subangular GRAVEL; 40% cobbles to boulder sized boulders brownish grey, weathered red or orangish brown, siltstone. Gravel is angular of fine to coarse red brick, weathered siltstone and slate. MADE GROUND – SUSPECTED COLLIERY SPOIL	3
									4

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Stable	None	

Pumping Data

Date	Rate	Remarks

General Remarks

Terminated due to maximum reach of the machine.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP143
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 15/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387771.85 N400434.42
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 5.40m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.42m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					5.40	80.02		Recovered as 60% reddish brown, sandy angular to subangular GRAVEL; 40% cobbles to boulder sized boulders brownish grey, weathered red or orangish brown, siltstone. Gravel is angular of fine to coarse red brick, weathered siltstone and slate. MADE GROUND – SUSPECTED COLLIERY SPOIL	6
								Base of Excavation at 5.40m	7
									8
									9

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to maximum reach of the machine.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP144
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 07/10/2020
Location: Newton Heath, Manchester	Contractor: Hurts Plant Hire	Co-ords: E387482.60 N400181.10
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.70m x 1.70m — Final Depth: 3.10m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 81.59m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.15	81.44		Recovered as firm, dark brown, slightly sandy, silty CLAY. Sand is fine. TOPSOIL FILL	
		0.40	ES					Recovered as 50% dark grey, gravelly, clayey, fine SAND; 25% cobble sized fragments of red brick; 15% cobble to boulders sized concrete fragments; 10% cobble sized timber, plastic and metal fragments. Gravel is subangular fine to coarse suspected clinker, suspected slag and red brick. Slight eggy odour. MADE GROUND - SUSPECTED COMBUSTION WASTE	1
								1.30m : Broken metal box (0.6m x 0.8m x 0.6m) filled with roof slates and timbers. Slight eggy and white spirit odour. *1.40m : Sides collapsing.*	
	▽				1.80	79.79		Recovered as 40% cobble sized fragments of red brick; 15% cobble sized timber fragments; 10% cobble sized roof slate and felt fragments; 10% metal including pipes, cables and empty metal drums; 10% plastic sheeting; 5% cloth material; 5% plastic wheels, mats and drums; 5% cobble to boulder sized concrete fragments. MADE GROUND - SUSPECTED HOUSEHOLD WASTE *1.80m - 2.90m : Northern side of pit: Stiff brown slightly gravelly slightly sandy CLAY.* *1.90m : Moderate ingress of water causing instability of sides. Creosote and white spirit odour with vitreous sheen.*	2
					2.90	78.69		Firm, brown, silty CLAY. COHESIVE GLACIAL TILL	3
					3.10	78.49		Base of Excavation at 3.10m	4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable from 1.3m bgl.					

General Remarks

Unstable from 1.3m bgl.
Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP146
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 13/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387642.07 N400312.31
Project No. : LD10162	Excavator:	Dimensions : 4.00m x 1.80m — Final Depth: 4.50m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.11m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.40	84.71		Recovered as 30% cobble to boulder sized inclusions of very soft, dark brown, slightly sandy, gravelly CLAY; 15% roots and rootlets; 10% whole and half red brick; 5% cobble sized concrete fragments; 5% timber fragments (up to 15cm in length, 2cm wide); 30% cobble to boulder size inclusions of firm, brown, mottled orange and grey sightly gravelly CLAY; and 5% plastic. Gravel is fine to course, subangular to subrounded, fine to coarse of mixed lithologies (slate, sandstones and other) and red brick.	
					0.60	84.51		MADE GROUND - PREDOMINANTLY COHESIVE	
		0.80 0.80	ES PID	0.20ppmv				Recovered as 25% brown, stained black, very sandy GRAVEL; 20% cobble sized fragments of suspected clinker; 15% cobble sized fragments of red brick; 15% boulder sized fragments of red brick wall and sandstone; 15% cobble sized inclusions of firm, brown, slightly gravelly CLAY; 5% cobble sized timber fragments; 5% cobble sized ceramic fragments. Gravel is subangular to subrounded of fine to coarse sandstone, red brick, ceramic, concrete and mixed lithologies.	1
								MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								Recovered as 30% black, slightly gravelly SAND; 20% boulders sized fragments of reinforced concrete (rebar 10mm diameter); 10% whole and half red brick; 15% cobble sized yellowish brown, stained black sandstone fragments; 20% cobble sized inclusions of firm, brown, gravelly CLAY; and 5% cobble sized timber fragments. Gravel is angular to subrounded of fine to medium of red bric, concrete and mixed lithologies.	
					1.90	83.21		MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
					2.20	82.91		Recovered as 60% cobble sized fragments of red brick; 30% cobble to boulder sized concrete fragments; and 10% reddish brown, angular to subangular, fine to coarse GRAVEL of red brick and concrete.	
								MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								1.90m - 2.20m : Very hard digging.	
								Recovered as 35% damp, black, very gravelly SAND; 10% cobble sized plastic fragments (hard plastic lining, sheeting, wrapping, polystyrene); 10% cobble sized fragments of siltstone and slate; 10% cobble sized inclusions of soft brown, mottled grey and orange CLAY; 10% cobble sized ceramic fragments; 10% cobbles to boulder sized fragments of suspected slag; 5% fabric (cloth/ clothing); 5% cobble sized fragments of glass and bottles; 5% cobble sized timber fragments. Gravel is angular to subangular of fine to coarse mixed lithologies.	3
								MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
								4.20m - 4.30m : Slightly stagnant odour.	4
		4.30 4.30 4.30	ES PID	1.10ppmv					
					4.50	80.61		Base of Excavation at 4.50m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Terminated due to concrete obstruction.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP145
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 14/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire Ltd	Co-ords: E387858.14 N400301.89
Project No. : LD10162	Excavator: Hitatchi 12T	Dimensions : 3.70m x 2.80m — Final Depth: 4.10m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 83.18m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	82.98		Recovered as 50% dark brown, slightly sandy, clayey GRAVEL; 15% cobble sized fragments of red brick; 15% cobble sized inclusions of firm, brown, slightly sandy, slightly gravelly CLAY; 10% laminate flooring; 10% fabric (clothing); and 5% metal (nails). Gravel is angular to subrounded of fine to coarse red brick, glass, plastic, wood and sandstone. MADE GROUND - SUSPECTED HOUSEHOLD WASTE	
					0.80	82.38		Recovered as 35% damp, brown, gravelly, slightly clayey SAND; 20% cobble to boulder sized inclusions of stiff, slightly sandy, slightly gravelly CLAY; 10% cobbles to boulders sized fragments of sandstone and concrete; 10% cobble sized fragments of red brick; 10% cobble sized ceramic fragments; 5% roots and rootlets; 5% metal (wires); 5% glass. Gravel is subangular to subrounded of mixed lithologies. Sand is fine to medium. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
								Recovered as 45% cobble to boulder sized inclusions of stiff, brown, slightly gravelly, sandy CLAY; 20% cobble sized timber fragments; 20% cobble sized fragments of cement brick and red brick; 10% metal (large metal pipe); 5% cobble sized slate fragments. Gravel is angular to rounded of fine to coarse concrete, pebbles, gritstone and sandstone. Hydrocarbon odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *0.80m - 2.80m : Large collapse of north eastern face of the excavation.*	
▽		2.20 2.20 2.30	ES PID	0.60ppmv	2.30	80.88			2
					2.60	80.58		Recovered as 40% black sludge; 30% glass (bottles); and 30% cobble sized inclusions of soft, white, gravelly CLAY. Gravel is subangular of fine to coarse lime/chalk. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *2.30m : Slight to moderate seepage of water from the base and south western face of the excavation.* *2.30m - 4.10m : Water is dark grey to black, shiny/ oily with a hydrocarbon odour.*	3
▽		3.80 3.80 3.80 3.90 3.90	ES W ES PID	2.10ppmv				Recovered as 20% boulder sized inclusions of stiff, brown CLAY; 20% cobble to boulder sized pockets of black, very clayey GRAVEL; 15% cobbles and boulder sized pockets of brown, fine to medium SAND; 15% cobble sized fragments of red brick; 10% wood (fragments and planks); 10% metal (pipes and bars); 5% cobble sized sandstone fragments; and 5% glass (bottles). Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *2.60m - 4.10m : Wet and stained black.* *3.80m : Fast ingress of water from the northwestern wall.*	4
					4.10	79.08		Base of Excavation at 4.10m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Terminated due to multiple collapses of excavation walls.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP147
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 12/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387673.10 N400332.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.30m x 1.30m — Final Depth: 4.30m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.28m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 75% cobble to boulder sized inclusions of soft to firm, brown, slightly sandy, gravelly CLAY; 5% roots and rootlets; 5% rounded cobbles; 5% plastic sheeting; 5% various metal objects. Gravel is subangular to subrounded of fine to coarse red brick, siltstone, slate, metal, ceramic and mixed lithologies. MADE GROUND - PREDOMINANTLY COHESIVE	
					0.70	84.58		Recovered as 80% cobble sized fragments of red brick; 10% concrete boulder fragments; 10% cobble to boulder sized inclusions of firm, slightly sandy, gravelly CLAY. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
					1.20	84.08		Recovered as 40% multicoloured, slightly sandy slightly clayey GRAVEL; 15% cobble sized fragments of red brick; 15% wooden planks; 10% boulders sized sandstone fragments; 10% cobble sized ceramic fragments; 10% metal bars. Gravel is subangular of fine to coarse red brick, mudstone and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	2
								2.20m : Red brick wall (1.6m x 0.4m x 0.6m). *2.30m : A singlular 0.5m diameter x1.0m long ceramic pipe.*	
								2.90m - 3.10m : Layer of plastic sheeting.	
					3.00	82.28		Recovered as 50% cobble to boulder sized inclusions of firm, brown, slightly sandy, gravelly CLAY; 15% cobble sized fragments of red brick; 10% plastic sheeting; 10% boulder sized concrete fragments; 10% cobble sized inclusions of firm, greenish brown, sandy CLAY; 5% glass fragments. Gravel is subangular to subrounded of fine to coarse of red brick, concrete, sandstone and ceramics. Slight hydrocarbon odour. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE *3.30m : Singular metal spring.*	3
		3.30	ES						4
					4.30	80.98		Base of Excavation at 4.30m	

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP148
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 07/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387486.40 N400150.80
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.10m x 1.40m — Final Depth: 3.20m
Logged By: JC	Checked By: JC	Approved By: MP — Level: 81.17m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	80.97		Recovered as soft, dark brown, slightly sandy, silty CLAY with frequent rootlets and occasional gravel. Gravel is subangular to subrounded fine to medium red brick and mixed lithologies. TOPSOIL FILL	
		0.40	ES		0.50	80.67		Recovered as 90% black, very sandy/ash GRAVEL; and 10% whole bricks. Gravel is angular to rounded, fine to medium GRAVEL of suspected slag (40%), suspected clinker (40%), timber (10%) and red brick (10%). MADE GROUND - SUSPECTED COMBUSTION WASTE	
		1.00	ES					Firm, light brown mottled light grey, slightly sandy, slightly gravelly CLAY. Gravel is subrounded to well rounded fine to medium of mixed lithologies COHESIVE GLACIAL TILL	1
		1.10	HSV	62kPa					
		1.10	HSV	70kPa					
		1.10	HSV	72kPa					
					1.40	79.77		Firm to stiff, fissured, brown, slightly sandy, slightly gravelly CLAY. Gravel is subrounded fine to medium coal, mudstone, sandstone and mixed lithologies. Fissures are randomly orientated, extremely closely spaced, undulating to stepped smooth, partially open and infilled with firm grey silty clay. COHESIVE GLACIAL TILL	
		1.60	B						
		1.60	B						
		1.70	HSV	70kPa					
		1.70	HSV	72kPa	1.80	79.37			
		1.70	HSV	82kPa				Stiff, dark brown mottled grey CLAY with rare gravel. Gravel is subangular to well rounded fine to medium of mixed lithologies. COHESIVE GLACIAL TILL	2
	▽							*2.20m - 2.50m : Boulder sized pocket of wet dark grey silty fine sand in eastern edge of pit.*	
		2.30	HSV	74kPa				*2.30m : Slight ingress of water from eastern edge of pit, with running sands falling into pit.*	
		2.30	HSV	88kPa					
		2.30	HSV	90kPa					
					3.00	78.17		Firm to stiff, dark brown CLAY. COHESIVE GLACIAL TILL	3
		3.20	HSV	50kPa	3.20	77.97		Base of Excavation at 3.20m	
		3.20	HSV	52kPa					
		3.20	HSV	62kPa					4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable					

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP149
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 08/10/2020
Location: Newton Heath, Manchester	Contractor: Hurt Plant Hire	Co-ords: E387404.10 N400162.80
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.30m x 1.40m — Final Depth: 3.30m
Logged By: LT	Checked By: JC	Approved By: MP
Level: 79.36m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.15	79.20		Recovered as firm, dark greyish brown, slightly sandy, silty CLAY. TOPSOIL FILL	
		0.50	ES					Recovered as 60% grey and orangish brown, slightly sandy, clayey GRAVEL; 20% cobble to boulder sized suspected slag fragments; 10% cobbles sized timber fragments; 10% cobble sized fragments of red brick. Gravel is subangular to subrounded of fine to coarse suspected clinker and suspected slag. MADE GROUND - SUSPECTED COMBUSTION WASTE. *0.50m : Water seepage from eastern face.*	
					1.00	78.36		Soft to firm, grey and light brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded fine to coarse sandstone, mudstone and coal. COHESIVE GLACIAL TILL	1
		1.20	HSV	22kPa					
		1.20	HSV	26kPa					
		1.20	HSV	28kPa					
		1.40	HSV	62kPa					
		1.40	HSV	70kPa				*1.40m - 1.50m : Orange and grey, firm to stiff.*	
		1.40	HSV	72kPa	1.50	77.86		Grey and brown, gravelly, silty, very clayey, fine to coarse SAND. Gravel is subangular to subrounded of fine to coarse mudstone and sandstone. GRANULAR GLACIAL TILL	
		1.60	ES						2
		2.50	HSV	62kPa					
		2.50	HSV	76kPa					
		2.50	HSV	78kPa					
		2.70	ES						
		2.90	HSV	82kPa					3
		2.90	HSV	84kPa					
		2.90	HSV	88kPa					
		3.00	HSV	100kPa					
		3.00	HSV	108kPa					
		3.00	HSV	112kPa					
		3.30	HSV	110kPa	3.30	76.06		Base of Excavation at 3.30m	
		3.30	HSV	120kPa					
		3.30	HSV	120kPa					4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Achieved target depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
TP150
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 12/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387646.00 N400422.00
Project No. : LD10162	Excavator: Hitachi 12T	Dimensions : 4.40m x 1.40m / Final Depth: 4.30m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 85.73m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.20	85.53		Recovered as very soft, wet, dark brown, slightly sandy, slightly gravelly CLAY with frequent rootlets. TOPSOIL FILL	
					0.50	85.23		Recovered as 40% cobble to boulder sized inclusions of soft, dark brown, slightly gravelly slightly sandy CLAY; 15% plastic bags filled with orangish brown, fine to coarse sand; 15% cobble sized fragments of red brick; 10% boulder sized concrete fragments; 10% tree roots; 10% black wire. Gravel is angular to subrounded of fine to coarse red brick, glass, ceramic, suspected slag and mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
					1.70	84.03		Recovered as 50% dark brown, black and reddish brown slightly gravelly slightly clayey SAND; 15% boulder sized fragments of orangish brown sandstone; 10% cobble sized fragments of red brick; 10% cobble sized, greenish grey, suspected slag fragments; 10% pieces of metal; and 5% plastic items. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	1
		2.20	ES						
		2.20						Recovered as 60% damp, black and dark grey, very gravelly, slightly clayey SAND; 15% cobble sized inclusions of firm, brown and grey, sandy CLAY; 15% cobble sized orangish sandstone fragments; 10% cobble sized fragments of greenish black, crystalline suspected slag. Gravel is angular to subrounded of fine to coarse mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	2
					4.30	81.43		Base of Excavation at 4.30m	3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

General Remarks

Terminated due to collapse.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS101
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387525.00 N400419.00
Project No. : LD10162	Drilling Equipment:	Level : 83.57m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as soft, dark grey, mottled orange brown, slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded of fine to coarse red brick, plastic, suspected clinker, sandstone and mixed lithologies. TF	
					0.35	83.22			
		0.50 – 0.60	ES					Recovered as stiff, orangish brown and light grey mottled, slightly gravelly CLAY with occasional rootlets. Gravel is subangular to subrounded of fine to coarse coal, sandstone, grit stone, mudstone and crystalline rock. CMG	
		0.50	PID	0.00ppmv					
		0.70	HSV	80kPa					
		0.70	HSV	85kPa					
		0.70	HSV	88kPa					
		1.00	SPT	N=20 (4,4/4,5,5,6)					1
					1.10	82.47		Minimal recovery. Recovered material comprises stiff to very stiff, brown, slightly sandy, gravelly CLAY. Gravel is subangular to subrounded of fine to coarse red mottled and grey mudstone, sandstones, gritstone and coal. CMG	
		1.40	HSV	110kPa					
		1.40	HSV	80kPa					
		1.40	HSV	95kPa					
		2.00	SPT	N=37 (5,7/9,8,9,11)	2.00	81.57		Firm, slightly wet, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologies. Sand is fine to medium. CGT	2
					2.65	80.92		Brown (occasionally multicoloured) SAND. GGT	
		3.00	SPT	N=9 (3,4/3,2,2,2)	3.00	80.57		Soft, brown, slightly sandy, silty CLAY. Sand is fine. CGT	3
		3.00	PID	0.00ppmv					
		3.40 – 3.42	ES		3.42	80.15		Partial recovery. Recovered material comprises dark brown, slightly gravelly, slightly clayey SAND. Gravel is subangular to subrounded of fine to medium mixed lithologies. GGT	
		4.00	SPT	N=17 (2,3/4,4,4,5)					4

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS101
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387525.00 N400419.00
Project No. : LD10162	Drilling Equipment:	Level : 83.57m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=17 (3,3/3,4,5,5)	5.00	78.57		Partial recovery. Recovered material comprises dark brown, slightly gravelly, slightly clayey SAND. Gravel is subangular to subrounded of fine to medium mixed lithologies. GGT End of Borehole at 5.00m	5 6 7 8 9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS102
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387864.77 N400331.94
Project No. : LD10162	Drilling Equipment: WS rig	Level : 84.70m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as brown, very sandy/ashy, very clayey, angular to subrounded, fine to coarse GRAVEL of red brick and sandstone. GMG	
					0.60	84.10		Recovered as firm, dark brown, slightly gravelly sandy CLAY. Gravel is angular to subrounded of fine to medium red brick, concrete and mixed lithologies. CMG	
		1.00	SPT	N=3 (1,1/1,1,0,1)	1.00	83.70		Recovered as firm, brown and grey mottled, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded of fine to coarse mixed lithologies. Slight hydrocarbon odour. CMG	1
					1.80	82.90		Recovered as reddish brown, angular, fine to coarse GRAVEL of red brick. Possible smashed brick. GMG	
		2.00	SPT	N=1 (1,1/1,0,0,0)	2.00	82.70		Firm to stiff, brown and grey mottled, slightly gravelly, silty CLAY. Gravel is subangular to subrounded of fine to medium mixed lithologies. CGT	2
					2.10	82.60		Soft, wet, black CLAY. Strong hydrocarbon odour. CGT	
		2.50	PID	1.00ppmv					
		2.80 2.80 – 2.90	ES		2.90	81.80		Firm to stiff, brown and grey mottled, slightly gravelly, silty CLAY. Gravel is subangular to subrounded fine to medium mixed lithologies. CGT	
		3.00	SPT	N=23 (3,4/5,5,6,7)					3
					3.50	81.20		Partial recovery. Recovered material comprises soft, wet, black CLAY. Strong hydrocarbon odour. CGT	
		4.00	SPT	N=20 (2,3/4,4,6,6)					4
					4.40	80.30		Minimal recovery. Recovered material comprises soft, wet, black CLAY. CGT	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS102
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387864.77 N400331.94
Project No. : LD10162	Drilling Equipment: WS rig	Level : 84.70m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=11 (4,4/2,3,3,3)	5.00	79.70		Minimal recovery. Recovered material comprises soft, wet, black CLAY. CGT	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS103
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387291.28 N400150.68
Project No. : LD10162	Drilling Equipment: WS rig	Level : 77.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.15	76.84		Soft, dark brown, slightly gravelly, sandy CLAY with abundant roots and rootlets. Sand is fine to medium. Gravel is subangular to subrounded of fine to medium red mudstone and black shale. TF	
					0.40	76.60		Black, sandy, subangular to subrounded, fine to coarse GRAVEL of suspected clinker and slag. CW	
					0.55	76.44		Recovered as 80% gravel to cobble sized fragments of medium strong, orangish brown, fine to coarse grained sandstone, and 20% dark brown, stained black in places, sandy, slightly clayey, subangular to subrounded, fine to coarse GRAVEL of suspected clinker, red brick, brown coarse grained sandstone and orangish brown, fine to coarse sandstone. Hydrocarbon odour.	
		0.85 – 0.87	ES		0.85	76.14		GMG	
		1.00	SPT	N=5 (2,2/2,1,1,1)	1.00	76.00		*0.41m - 0.43m : Singular cobble sized fragment of suspected slag.*	1
					1.30	75.69		Recovered as 80% gravel to cobble sized fragments of red brick; 10% gravel to cobble sized inclusions of soft to firm, black, slightly sandy, very gravelly CLAY; and 10% black, sandy, subangular to subrounded, fine to coarse GRAVEL of suspected clinker and red brick. GMG	
					1.50	75.50		Minimal recovery. Recovered material comprises 50% purplish red to black, slightly sandy, subangular to subrounded, fine to coarse GRAVEL of suspected slag; 40% gravel sized inclusions of firm, purplish red CLAY; and 10% gravel sized inclusions of soft, white CLAY. CW	
		2.00	SPT	N=0 (0,1/0,0,0,0)				Recovered as 70% wet, black, sandy, slightly clayey GRAVEL; 20% cobble sized fragments of suspected clinker and 10% gravel sized inclusions of soft brown CLAY. Gravel is subangular to subrounded of fine to coarse suspected clinker and slag (90%), ceramics (5%) and mixed lithologies (5%). Hydrocarbon odour. CW	2
								Very soft, wet, brown, slightly sandy, gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded of fine to coarse suspected clinker and slag, timber and mixed lithologies. Slight hydrocarbon odour. GMG	
					2.90	74.10		Minimal recovery. Recovered material comprises dark brown, stained black in places, slightly sandy, subangular to subrounded, fine to coarse GRAVEL of suspected slag, suspected clinker, red mudstone, gritstone, shell and concrete. Hydrocarbon odour. CW	
		3.00	SPT	N=0 (1,0/0,0,0,0)	3.00	74.00		Soft, wet, brown, slightly gravelly, sandy CLAY. Sand is fine to medium. Gravel is subangular to subrounded of fine to medium suspected clinker, mudstone and pebbles. GMG	3
		3.40 – 3.45 3.41 – 3.45	ES		3.40	73.60		Dark brown, stained black in places, slightly sandy, subangular to subrounded, fine to coarse GRAVEL of suspected slag, suspected clinker, red mudstone, grit stone, shell, concrete. Hydrocarbon odour. CW	
								Firm to stiff, wet, brown, stained dark grey, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Hydrocarbon odour.	
		4.00	SPT	N=31 (4,6/7,7,8,9)				CGT	4
								3.72m - 5.00m : No longer wet and stiff.	
								4.00m - 4.50m : Gravel lens, possibly material dropped down from above.	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS103
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387291.28 N400150.68
Project No. : LD10162	Drilling Equipment: WS rig	Level : 77.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=50 (4,6/7,11,20,12)	5.00	72.00		Firm to stiff, wet, brown, stained dark grey, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed natural lithologies. Hydrocarbon odour. CGT End of Borehole at 5.00m	5 6 7 8 9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS104
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387725.75 N400184.91
Project No. : LD10162	Drilling Equipment:	Level : 81.09m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	80.99		Recovered as 70% soft, organic, dark brown, slightly gravelly, sandy CLAY; 30% roots and rootlets (up to 5cm diameter). Sand is fine to medium. Gravel is angular to subrounded of fine to coarse pebbles, glass, red brick, gritstone and quartz. TF	
					0.35	80.74		Recovered as 25% wood fragments (tree branches, fence fragments); 25% soft, orangish brown, slightly sandy, slightly gravelly CLAY; 20% paper; 15% dark brown, slightly gravelly fine to medium SAND; 10% cobble sized glass fragments; 5% plastic (wrappers); 5% roots and rootlets. Gravel is subangular to subrounded of fine to coarse gritstone, suspected slag, wood, paper, red brick, plastic and grey fabric. Sand is fine to medium. DW	
		1.00	SPT	N=12 (4,4/3,4,3,2)				Partial recovery. Recovered material comprises 65% multicoloured GRAVEL; 20% dark brown, fine to medium SAND; 15% cobble sized red brick fragments. Gravel is subangular to subrounded of fine to coarse red brick (55%), slate (30%), mudstone (10%) and sandstone (5%). GMG	1
					1.20	79.89		Recovered as soft, dark brown and dark grey in places, slightly sandy, very gravelly CLAY. Gravel is subangular of fine to coarse orangish brown sandstone (20%), red brick (15%), glass (15%), wood (15%), grey gritstone (15%), coarse grained sandstone (10%) and mixed lithologies (10%). Sand is fine to medium. CMG	
					1.70	79.39			
					1.85	79.24		Recovered as subangular to subrounded, fine to coarse GRAVEL of greyish green sandstone. GMG	
		2.00	SPT	N=4 (2,1/1,1,1,1)	2.00	79.09		Recovered as soft, dark brown stained black in places, slightly sandy, gravelly CLAY. Sand is fine. Gravel is subangular to subrounded of fine to coarse mixed lithologies (75%), mudstone (15%) and suspected clinker (10%). CMG	2
					2.60	78.49		Recovered as very soft, wet, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded of fine to coarse shell, coal, crystalline rocks, siltstone, sandstone and red brick. CMG	
		3.00	SPT	N=5 (1,2/1,1,1,2)				Recovered as brown, slightly sandy, slightly clayey, angular to subrounded, fine to coarse GRAVEL of glass (20%), orangish brown, coarse grained sandstone (10%), red brick (10%), greenish grey, fine grained sandstone (10%) and concrete (5%). GMG	3
								3.31m - 3.33m : No longer sandy but becoming silty.	
								3.54m - 3.60m : Slightly sandy lens.	
					3.80	77.29		Recovered as soft, brown, slightly sandy, slightly gravelly, CLAY. Gravel is subangular to subrounded of fine to coarse glass (10%), wood (10%) and mixed natural lithologies (80%). CMG	
		4.00	SPT	N=8 (2,1/2,2,2,2)	4.00	77.09		Recovered as brown, slightly sandy, subangular to subrounded, fine to coarse GRAVEL of red brick, timber fragments and rounded pebbles of mixed lithologies. GMG	4
					4.35	76.74		Minimal recovery. Recovered material comprises soft, brown, slightly sandy (in places), slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse glass (10%), wood (10%), red brick (10%), suspected clinker (5%) and mixed natural lithologies (65%). Sand is fine to medium. CMG	
		4.72 – 5.00	ES					*4.72m - 5.00m : Stained dark grey and black with a slight hydrocarbon odour.*	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS104
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387725.75 N400184.91
Project No. : LD10162	Drilling Equipment:	Level : 81.09m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00 5.00	SPT PID	N=10 (2,2/3,2,2,3) 0.10ppmv	5.00	76.09		Minimal recovery. Recovered material comprises soft, brown, slightly sandy (in places), slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse glass (10%), wood (10%), red brick (10%), suspected clinker (5%) and mixed natural lithologies (65%). Sand is fine to medium. CMG End of Borehole at 5.00m	5 6 7 8 9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS105
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387629.00 N400147.00
Project No. : LD10162	Drilling Equipment: WS rig	Level : 81.34m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 80% brown, slightly sandy, clayey GRAVEL; 15% roots and rootlets; 5% cobble sized timber fragments. Gravel is subrounded to subangular of fine to coarse red brick, suspected clinker, timber, sandstone, gritstone and glass GMG	
					0.35	80.99			
					0.50	80.84		Stiff, black, mottled grey and light grey in places, gravelly CLAY. Gravel is angular to subrounded of fine to coarse quartz, timber, red brick, plastic sheeting, ceramic and sandstone. Acrid odour. CMG	
					0.60	80.74			
					0.80	80.54		Recovered as a single cobble sized timber fragment. GMG	
		1.00	SPT	N=4 (2,1/2,2,0,0)	1.00	80.34		Recovered as 45% black, very clayey SAND; 25% cobble sized concrete fragments; 25% cobble sized red brick fragments; 5% cobble sized timber fragments. Slight hydrocarbon odour. GMG	1
								Soft, brown, mottled light grey and stained black in places, slightly gravelly, sandy CLAY. Sand is fine to medium. Gravel is subangular to subrounded of fine to medium crystalline rock, mudstone and mixed lithologies CMG	
								Minimal recovery. Recovered material comprises 80% very soft, wet, black, slightly sandy, slightly gravelly CLAY; 10% cobble sized timber fragments; 10% cobble sized plastic fragments. Gravel is fine to medium of mixed lithologies. Slight hydrocarbon odour with oil staining. CMG	
		2.00	SPT	N=18 (1,0/2,6,4,6)	2.00	79.34		Minimal recovery. Recovered material comprises wet, black, slightly gravelly, slightly clayey, fine to medium SAND. Gravel is fine of mixed lithologies. Slight hydrocarbon odour with oil staining. GMG	2
					2.35	78.99		Recovered as 70% wet, black, sandy, slightly clayey GRAVEL; 20% plastic (bags and sheeting); 10% cobble sized timber fragments. Gravel is subangular to subrounded of fine to coarse red brick, concrete, suspected clinker/slag, sandstone, mudstone and an unknown hard, white substance white and hard substance. Oil staining. GMG	
		2.50 2.50 – 2.60	ES						
		3.00	SPT	N=7 (0,1/2,1,2,2)					3
								3.40m - 3.60m : Sand lens.	
		4.00	SPT	N=6 (2,2/2,1,1,2)				*4.00m - 4.40m : Oil stained and hydrocarbon odour.*	4
					4.45	76.89		Recovered as 60% soft, brown, slightly gravelly, sandy CLAY; 20% cobble sized red brick fragments; 10% cobble sized timber fragments; 10% cobble sized plastic fragments. Sand is fine to medium. Gravel is angular to subrounded of fine to coarse timber, glass, red brick, white sandstone, purple slate, mudstone and gritstone. Hydrocarbon odour. CMG	
		4.60 – 4.70	ES						

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS105
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387629.00 N400147.00
Project No. : LD10162	Drilling Equipment: WS rig	Level : 81.34m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=6 (1,1/1,1,2,2)	5.00	76.34		Recovered as 60% soft, brown, slightly gravelly, sandy CLAY; 20% cobble sized red brick fragments; 10% cobble sized timber fragments; 10% cobble sized plastic fragments. Sand is fine to medium. Gravel is angular to subrounded of fine to coarse timber, glass, red brick, white sandstone, purple slate, mudstone and gritstone. Hydrocarbon odour. CMG	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS106
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387526.00 N400076.00
Project No. : LD10162	Drilling Equipment:	Level : 79.70m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	79.60		Soft, brown, slightly sandy, CLAY with frequent roots and rootlets. Sand is fine. TF	
					0.50	79.20		Damp, organic, brown, slightly gravelly, fine to coarse SAND with coarse gravel size inclusions of firm, brown, slightly gravelly, clay. Gravel is subangular to subrounded of fine to coarse gritstone, grey sandstone, mudstone and mixed lithologies. GGT	
								Soft to firm, brown, slightly gravelly CLAY. Gravel is subangular to rounded of fine to coarse mixed lithologies. CGT	
					0.90	78.80		Minimal recovery. Recovered material comprises wet, brown, clayey, fine to medium SAND. GGT	
		1.00	SPT	N=5 (0,0/1,1,1,2)					1
					1.55	78.15		Partial recovery. Recovered material comprises soft to firm, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologies. CGT	
		2.00	SPT	N=5 (1,1/1,1,1,2)	2.00	77.70		Wet, brown, slightly gravelly, slightly clayey to clayey, fine to coarse SAND. Gravel is subangular to subrounded of fine to coarse mixed lithologies. GGT	2
		2.72 – 2.78 2.72	ES PID	0.00ppmv	2.70 2.80	77.00 76.90		Wet, brownish grey, slightly gravelly, very sandy CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologiesSlight odour. CGT	
		3.00	SPT	N=15 (2,2/3,3,4,5)				Multicoloured, gravelly, fine to coarse SAND. Gravel is subangular to subrounded of fine to coarse sandstone, crystalline rock and mudstone. GGT	3
					3.70	76.00		Partial recovery. Recovered material comprises multicoloured, slightly gravelly, slightly clayey, fine to coarse SAND. Gravel is subangular to rounded of fine to coarse mixed lithologies. GGT	
		4.00 4.00	SPT PID	N=13 (2,2/2,3,4,4) 0.10ppmv					4

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS106
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387526.00 N400076.00
Project No. : LD10162	Drilling Equipment:	Level : 79.70m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=13 (1,2/3,3,3,4)	5.00	74.70		Partial recovery. Recovered material comprises multicoloured, slightly gravelly, slightly clayey, fine to coarse SAND. Gravel is subangular to rounded of fine to coarse mixed lithologies. GGT End of Borehole at 5.00m	5 6 7 8 9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS107
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387855.53 N400468.07
Project No. : LD10162	Drilling Equipment: WS rig	Level : 85.68m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
								Recovered as soft, dark brown, sandy CLAY with abundant tree roots (10mm diameter) and rootlets. TF	
					0.20	85.48			
					0.30	85.38		Recovered as brown and dark reddish brown, sandy, clayey, angular, fine to coarse GRAVEL of red brick. GMG	
								Recovered as stiff, brown, slightly gravelly SILT. Gravel is angular to rounded of fine to medium red brick, coal and sandstone. CMG	
					0.70	84.98		Minimal recovery. Recovered material comprises soft, dark brown, orange brown and grey mottled, slightly gravelly, silty CLAY. Gravel is angular to subrounded of fine to medium red brick and mixed lithologies. CMG	
		1.00	SPT	N=3 (0,0/1,0,1,1)					1
					1.20	84.48		Recovered as very soft, dark brown, gravelly CLAY. Gravel is angular to subrounded of fine to medium red brick. Slight hydrocarbon staining and odour. CMG	
		1.40 1.40 – 1.50 1.40	ES PID	1.50ppmv					
					1.70	83.98		Recovered as firm, light green mottled grey CLAY. CMG	
		2.00	SPT	N=16 (1,2/3,4,4,5)	2.00	83.68		Minimal recovery. Recovered material comprises wet, slightly gravelly, fine to medium SAND. Gravel is angular of fine red brick. GMG	2
					2.80	82.88		Partial recovery. Recovered material comprises firm to stiff, dark brown mottled grey, slightly gravelly, silty CLAY. Gravel is angular to subrounded of fine to medium mixed lithologies. CGT	
		3.00	SPT	N=36 (4,6/7,7,10,12)					3
					3.80	81.89		Recovery is of stronger materials, weaker materials not recovered. Recovered material comprises firm to stiff, brown, slightly gravelly, silty CLAY. Gravel is angular to subrounded of fine mudstone and mixed lithologies. CGT	
		4.00	SPT	N=31 (4,6/6,7,8,10)					4
					4.20	81.48		Firm to stiff, wet, brown, slightly gravelly, silty CLAY. Gravel is angular to subrounded of fine mudstone and mixed lithologies. CGT	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS107
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387855.53 N400468.07
Project No. : LD10162	Drilling Equipment: WS rig	Level : 85.68m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=21 (3,3/4,5,6,6)	5.00	80.68		Firm to stiff, wet, brown, slightly gravelly, silty CLAY. Gravel is angular to subrounded of fine mudstone and mixed lithologies. CGT	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS108
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387829.99 N400456.96
Project No. : LD10162	Drilling Equipment: WS RIG	Level : 85.28m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
								Recovered as soft, dark brown, slightly sandy, slightly gravelly CLAY with tree roots and rootlets. Gravel is angular to subrounded of fine to coarse mixed lithologies. TF	
					0.30	84.98		Recovered as dark brown, clayey, very gravelly, medium SAND. Gravel is angular of fine to coarse red brick. GMG	
					0.70	84.58		Recovered as black, clayey, gravelly SAND/ASH. Gravel is angular to rounded of fine coal. CW	
		0.80 – 0.90 0.80	ES PID	5.40ppmv	0.90	84.38		Recovered as cobble sized fragments of brick. Possible smashed brick. GMG	
		1.00	SPT	N=4 (0,0/1,1,1,1)	1.00	84.28		Recovered as soft, slightly gravelly, sandy CLAY. Gravel is angular of fine to coarse red brick, concrete and mixed lithologies. CMG	1
					1.40	83.88		Recovered as firm, dark brown, mottled grey, slightly gravelly, silty CLAY with occasional roots (10mm diameter). Gravel is angular to subrounded of fine to medium red brick and mixed lithologies. CMG	
		2.00	SPT	N=12 (1,2/2,2,4,4)					2
					2.30	82.98		Firm, dark brown mottled grey, slightly sandy, gravelly CLAY. Gravel is subangular to subrounded of fine mixed lithologies. CGT	
					2.60	82.68		Stiff, dark brown mottled grey, slightly sandy, gravelly CLAY. Gravel is subangular to subrounded of fine mixed lithologies. CGT	
		3.00	SPT	N=15 (1,3/2,4,4,5)	3.00	82.28		Soft, wet, dark brown mottled light orange brown, sandy CLAY. CGT	3
					3.40	81.89		Stiff, dark brown mottled, slightly silty, slightly gravelly CLAY. Gravel is angular to rounded of fine to medium mixed lithologies. CGT	
		4.00	SPT	N=31 (5,6/6,7,9,9)	4.00	81.28		Soft to firm, wet, greenish brown, slightly gravelly, sandy CLAY. Gravel is angular to subrounded of fine to medium mixed lithologies. CGT	4
					4.60	80.68		Stiff, dark brown mottled, slightly gravelly, silty CLAY. Gravel is angular to rounded of fine to medium mixed lithologies. CGT	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS108
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387829.99 N400456.96
Project No. : LD10162	Drilling Equipment: WS RIG	Level : 85.28m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=39 (6,8/8,9,10,12)	5.00	80.28		Stiff, dark brown mottled, slightly gravelly, silty CLAY. Gravel is angular to rounded of fine to medium mixed lithologies. CGT	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS109
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387283.25 N400277.24
Project No. : LD10162	Drilling Equipment:	Level : 77.95m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.10	77.85		Firm, brown, gravelly CLAY with occasional rootlets. Gravel is angular to subrounded of fine to coarse suspected clinker (20%), mudstone (20%), red brick (10%) and mixed lithologies. TF	
								Recovered as 90% brown and black, sandy, angular to subrounded GRAVEL of suspected slag and clinker; and 10% cobble sized fragments of suspected clinker. CW	
		0.90	PID	0.00ppmv					
		1.00	SPT	N=24 (1,2/8,6,4,6)					1
					1.20	76.75		Stiff, brown and grey mottled, stained black, slightly sandy/ ashy, slightly gravelly CLAY. Gravel is subangular to rounded of fine to coarse red brick (25%), suspected clinker (20%), timber (10%) and mixed lithologies (45%). CMG	
								1.36m - 1.48m : Singular cobble sized fragment of red brick.	
					1.70	76.25		Partial recovery. Recovered material comprises black, subangular to subrounded, fine to coarse GRAVEL of suspected clinker. CW	
		2.00	SPT	N=11 (1,1/2,2,3,4)	2.00	75.95		Stiff, brown, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologies. CMG	2
					2.20	75.75		*2.00m - 2.21m : Hydrocarbon odour.*	
		2.35	PID	0.80ppmv				Black, sandy, subangular, fine to coarse GRAVEL of mixed lithologies. Hydrocarbon staining. GMG	
					2.45	75.50		*2.40m - 2.45m : Strong hydrocarbon odour.*	
		2.60 – 2.70	ES		2.65	75.30		Stiff, brown, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologies. CMG	
								Brown, stained black in places, sandy, slightly clayey, subangular to rounded, fine to coarse GRAVEL of suspected clinker (20%), metal (10%), timber (10%) and mixed lithologies (60%). CW	
		3.00	SPT	N=32 (5,6/6,7,9,10)					3
		3.40	PID	0.70ppmv	3.40	74.55		Stiff, wet, brown, heavily stained black, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse mixed lithologies. CMG	
		3.65 – 3.75	ES		3.70	74.25		Wet, black, slightly sandy, subangular to subrounded, fine to coarse GRAVEL of mixed lithologies. Hydrocarbon odour. GMG	
		4.00	SPT	N=17 (4,5/5,4,4,4)					4

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS109
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 28/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387283.25 N400277.24
Project No. : LD10162	Drilling Equipment:	Level : 77.95m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=15 (3,3/4,3,4,4)	5.00	72.95		Wet, black, slightly sandy, subangular to subrounded, fine to coarse GRAVEL of mixed lithologies. Hydrocarbon odour. GMG	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS111
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387430.53 N400122.02
Project No. : LD10162	Drilling Equipment: WS rig	Level : 79.20m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as orangish brown, sandy, angular to subangular, fine to coarse GRAVEL of suspected slag and clinker. CW	
					0.30	78.90			
		0.35 0.35 – 0.40	ES					Recovered as black, sandy/ashy, angular to subangular, fine to coarse GRAVEL of suspected clinker and slag. White spirit and hydrocarbon odour. CW	
					0.50	78.70			
					0.60	78.60		*0.30m - 0.35m : Cemented.*	
		0.80	HSV	48kPa				Soft, dark grey and light grey, slightly sandy, slightly gravelly CLAY. Gravel is subangular of fine to coarse red brick and concrete. Slight hydrocarbon odour. CMG	
		0.80	HSV	52kPa					
		0.80	HSV	56kPa					
		1.00	SPT	N=11 (1,2/2,2,3,4)				Firm to stiff, grey and yellowish brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to rounded of fine to medium mixed lithologies. CGT	1
								1.00m - 2.30m : Becoming firm reddish brown mottled grey with occasional grey fine to medium sand lenses (>1cm thick).	
		2.00	SPT	N=5 (1,1/0,1,2,2)					2
					2.30	76.90		Grey, clayey, fine to medium SAND. GGT	
								2.60m - 2.70m : Becoming very clayey.	
					2.70	76.50		Minimal recovery. Recovered material comprises soft, greyish brown, sandy CLAY. CGT	
		3.00	SPT	N=14 (2,2/3,3,4,4)					3
		4.00	SPT	N=16 (2,3/3,4,4,5)					4

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS111
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387430.53 N400122.02
Project No. : LD10162	Drilling Equipment: WS rig	Level : 79.20m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=16 (3,3/3,4,4,5)	5.00	74.20		Minimal recovery. Recovered material comprises soft, greyish brown, sandy CLAY. CGT	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS112
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387380.00 N400349.00
Project No. : LD10162	Drilling Equipment: WS rig	Level : 79.80m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	4.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.90						MADE GROUND: Recovered as grey and orangish brown, slightly sandy, angular to subrounded, fine to coarse GRAVEL of suspected slag, suspected clinker, brick, concrete, sandstone. Sand is fine to coarse of ash. GMG	
		0.90 – 0.95	ES						
		1.00	SPT	N=8 (4,3/2,2,2,2)					1
		2.00	SPT	N=1 (1,0/0,1,0,0)	2.00	77.80		Soft, dark brown, sandy CLAY. Sand is fine. CGT	2
		2.90	HSV	102kPa	2.75	77.05		Firm occasionally stiff, reddish brown and grey, slightly gravelly, slightly sandy CLAY. Gravel is subangular to subrounded of fine to medium mixed natural lithologies including sandstone and mudstone. Sand is fine to coarse. CGT	
		2.90	HSV	110kPa					
		2.90	HSV	98kPa					3
		3.00	SPT	N=35 (5,5/7,8,9,11)					
		3.80	HSV	110kPa					
		3.80	HSV	112kPa					
		3.80	HSV	120kPa					
		4.00	SPT	N=20 (3,3/3,5,6,6)	4.00	75.80		End of Borehole at 4.00m	4

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS113
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron UK	Co-ords: E387912.00 N400392.00
Project No. : LD10162	Drilling Equipment:	Level : 85.00m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
ZH	JC	MP	65%	4.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
					0.15	84.85		Recovered as 50% roots and rootlets; 25% soft, brown, slightly sandy CLAY; 10% glass fragments; 5% plastic (wrapper); 5% ceramic; 5% wood fragments (twigs and branches). Sand is fine to medium. TF	
					0.60	84.40		Recovered as 70% compact dark brown and grey, slightly clayey, sandy, fine to coarse GRAVEL of red brick, suspected clinker/ slag and mudstone; 20% cobble sized fragments of red brick, suspected clinker/ slag and mudstone. Sand is fine to medium. CW	
		0.85 0.85 – 0.90 1.00	ES SPT	N=12 (1,2/2,3,3,4)				Recovered as 70% soft to firm, brown mottled light grey and orange brown, slightly sandy, silty CLAY; 20% old roots and rootlets and 10% subrounded cobbles of sandstone. CMG	1
					1.80	83.20		Recovered as stiff, brown mottled light grey and pink, slightly gravelly CLAY. Gravel is subangular to subrounded of fine to coarse red mudstone/ marl, gritstone, red sandstone) CMG	
		2.00	SPT	N=22 (5,5/5,5,6,6)					2
		2.50	HSV	95kPa					
		2.75	HSV	65kPa					
		3.00 3.00	HSV SPT	130kPa N=24 (5,6/5,5,6,8)					3
								3.40m - 3.60m : Soft wet very sandy CLAY.	
		3.50	HSV	70kPa					
		3.75	HSV	75kPa					
		4.00 4.00	HSV SPT	50kPa N=31 (4,4/6,9,9,7)	4.00	81.00		End of Borehole at 4.00m	4

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS119
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387933.06 N400343.71
Project No. : LD10162	Drilling Equipment: WS rig	Level : 84.66m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as firm to stiff, dark brown to brown, slightly gravelly, sandy CLAY with occasional tree roots (10mm) and rootlets. Gravel is angular to rounded of fine to medium red brick. TF	
					0.40	84.26		*0.20m - 0.25m : Some cobble sized fragments of brick.*	
								Recovered as dark reddish brown to black, very sandy/ ashy, angular to rounded, fine to coarse GRAVEL of red brick, suspected slag and suspected clinker. CW	
		1.00	SPT	N=3 (2,2/2,1,0,0)					1
		1.50							
		1.50	ES						
		1.50	PID	8.40ppmv					
					1.90	82.76			
		2.00	SPT	N=20 (2,3/4,4,6,6)				Recovered as stiff to very stiff, dark brown mottled grey, slightly gravelly, silty CLAY. Gravel is subangular to subrounded of fine to medium mixed lithologies. CMG	2
		3.00	SPT	N=29 (4,5/6,6,8,9)	3.00	81.66		Minimal recovery. Recovered material comprises wet, very sandy, angular to subrounded, fine to coarse GRAVEL of red brick, concrete and mixed lithologies. GMG	3
					3.90	80.76			
		4.00	SPT	N=24 (3,4/4,6,7,7)	4.00	80.66		Stiff to very stiff, dark brown mottled grey, slightly gravelly, silty CLAY. Gravel is subangular to subrounded of fine to medium mixed lithologies. CGT	4
								Wet, sandy, subrounded, fine to medium GRAVEL of mixed lithologies. GGT	
					4.90	79.76			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS119
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 23/10/2020
Location: Newton Heath, Manchester	Contractor:	Co-ords: E387933.06 N400343.71
Project No. : LD10162	Drilling Equipment: WS rig	Level : 84.66m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
JC	JC	MP	65%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
		5.00	SPT	N=31 (5,6/7,8,8,8)	5.00	79.66		Minimal recovery. Recovered material comprises wet, brown, clayey SAND. GGT	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS120
Sheet 1 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 20/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387816.31 N400271.84
Project No. : LD10162	Drilling Equipment:	Level : 82.42m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as soft, brown, slightly sandy, slightly gravelly CLAY with frequent rootlets. Gravel is angular to subrounded of fine to coarse brick, concrete, suspected slag, and sandstone. TF	
					0.30	82.12		Recovered as dark grey to black, gravelly, clayey, fine to medium SAND. Gravel is angular to subrounded of fine to coarse of red brick, timber, coal, glass and sandstone. GMG	
					0.50	81.92		*0.48m - 0.95m : A single iron nail (4cm in length).* Recovered as firm, grey, gravelly CLAY. Gravel is subangular of fine to coarse siltstone, mudstone and ironstone. CMG	
					0.95	81.47		Recovery is of stronger materials, weaker materials not recovered. Recovered material comprises stiff, brown, slightly sandy, slightly gravelly CLAY with occasional coarse gravel sized pockets of soft, sandy clay. Gravel is angular to subrounded of fine to coarse brick, coal, sandstone, mudstone and suspected clinker. Sand is fine to medium. CMG	1
								1.60m : Becoming soft.	
								1.90m - 1.95m : Band of slightly clayey, very sandy, angular to subangular GRAVEL of brick.	2
								2.80m : Becoming firm.	3
					3.80	78.62		Recovered as soft, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded of fine to coarse suspected slag, red brick, suspected clinker, coal and crystalline rocks. Sand is fine to medium. CMG	
								3.90m - 4.20m : Sandy. *4.00m : A single cobble of iron stone.*	4
					4.20	78.22		Recovered as 40% subangular to subrounded, fine to medium GRAVEL of suspected clinker, mudstone and coal with frequent gravel sized inclusions of soft, white clay, soft, brown, slightly sandy, slightly gravelly CLAY and black, clayey, fine to medium SAND. Gravel is angular to rounded of fine to coarse suspected slag, red brick, suspected clinker, coal and crystalline rocks. GMG	
					4.50	77.92		Recovered as greyish white, slightly clayey, sandy, angular to subangular, fine to coarse GRAVEL of possible chalk/ lime (90%), brick (5%) and suspected clinker (5%). GMG	
					4.90	77.52			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Windowless Sample Borehole Log

BOREHOLE REFERENCE
WS120
Sheet 2 of 2

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 20/10/2020
Location: Newton Heath, Manchester	Contractor: Geotron	Co-ords: E387816.31 N400271.84
Project No. : LD10162	Drilling Equipment:	Level : 82.42m AoD

Logged By	Checked By	Approved By	SPT Energy Ratio	Final Depth
EG & ZH	JC	MP	%	5.00

Install. / Backfill	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Scale
		Depth (m)	Type	Results					
					5.00	77.42		Firm, light orangish brown, slightly sandy, gravelly CLAY. Gravel is subangular of fine to coarse light orangish brown mudstone/marl. CGT	5
								End of Borehole at 5.00m	6
									7
									8
									9

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Installation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Top	Base	Inclination	Orientation	Top	Base	Pipe Type	Diameter
												0.00m 1.00m	1.00m 2.00m	PLAIN SLOTTED	

Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 17/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
SA01
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 19/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387446.00 N400136.00
Project No. : LD10162	Excavator: Hydundai 123 12T	Dimensions : 0.70m x 2.20m / Final Depth: 1.60m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 79.90m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 70% soft, organic, very dark brownish grey to black, slightly gravelly, sandy CLAY; 15% roots and rootlets; 10% cobbles of ceramic and mudstone; 5% coarse gravel of suspected slag. Gravel is angular to subangular of red brick, sandstone, and suspected slag. TOPSOIL FILL	
					0.45	79.45			
					0.50	79.40		Recovered as soft to firm, very dark grey to black, slightly gravelly, very sandy CLAY. Gravel is subangular to subrounded of red brick and suspected clinker. Hydrocarbon odour. MADE GROUND - PREDOMINANTLY COHESIVE	
								Recovered as soft to firm, light grey, slightly gravelly, very sandy CLAY. Gravel is subangular to subrounded of fine to coarse suspected clinker and red brick. Slight hydrocarbon odour. MADE GROUND - PREDOMINANTLY COHESIVE	1
					1.10	78.80		Stiff, light orangish brown and light grey mottled, very sandy CLAY with occasional sand lenses. COHESIVE GLACIAL TILL	
					1.60	78.30		Base of Excavation at 1.60m	2
									3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
SA02
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 19/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387793.00 N400416.00
Project No. : LD10162	Excavator: Hyundai 123 12T	Dimensions : 2.70m x 0.90m — Final Depth: 1.70m
Logged By: ZH	Checked By: JC	Approved By: MP
Level: 85.70m AoD		Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 50% firm, dark brown, slightly gravelly, sandy CLAY; 30% roots and rootlets; and 20% subangular cobbles of red brick. Sand is fine to medium. Gravel is angular to subrounded of fine to coarse glass, concrete, fabric, plastic, and mixed lithologies. TOPSOIL FILL	
					0.65	85.05		Recovered as 90% dark grey to black, slightly clayey, slightly sandy GRAVEL; 10% cobbles of mudstone and siltstone. Gravel is angular to subrounded of fine to coarse mudstone, slate, coal, and siltstone. MADE GROUND - PREDOMINANTLY GRANULAR	1
					1.70	84.00		Base of Excavation at 1.70m	2
									3
									4

Trench Support and Comment

Pit Stability	Shoring Used	Remarks
Stable	None	

Pumping Data

Date	Rate	Remarks

General Remarks

Dimensions given in length x width x depth.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
SA03
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 20/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387879.00 N400423.00
Project No. : LD10162	Excavator: Hyundai 123 12T	Dimensions : 2.80m x 0.80m — Final Depth: 1.83m
Logged By: ZH	Checked By: JC	Approved By: MP	Level: 85.00m AoD	Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
		0.60	HSV	45kPa	0.60	84.40		Recovered as 30% cobble sized inclusions of very soft to firm, brown mottled orange, stained dark grey, slightly sandy in places, slightly gravelly CLAY; 20% subangular boulders of concrete (1.3m x 0.6m x 0.3m); 15% cobbles of red brick; 15% roots and rootlets (7cm diameter); 10% cobbles of concrete; 5% plastic (fragments and sheeting); and 5% fabric. Gravel is angular to rounded of fine to coarse wood, plastic, glass, red brick, concrete, gritstone, siltstone, and crystalline rocks. MADE GROUND - SUSPECTED MIXED CONSTRUCTION / DEMOLITION WASTE	
	▽	1.20	HSV	66kPa				Recovered as stiff, brown, slightly sandy in places, slightly gravelly CLAY with occasional rounded and subrounded boulders of crystalline rocks and sandstones. Gravel is subrounded of fine to coarse sandstone, gritstone, red sandstone, red marl, and crystalline rocks. COHESIVE GLACIAL TILL *1.00m : Slight seepage of water from the northern wall of the excavation.*	1
		1.80	HSV	64kPa	1.83	83.17		Base of Excavation at 1.83m	2
									3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Unstable	None				

General Remarks

Slight collapse of northern face of the excavation whilst filling the excavation with water.
Large collapse from 0.3m to 1.82m.
collapse from 0.6m of northern face of the excavation.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.
Dimensions given in length x width x depth.

Moderate

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
SA04
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 20/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387838.00 N400421.00
Project No. : LD10162	Excavator: Hyundai 123 12T	Dimensions : 3.00m x 0.80m / Final Depth: 2.00m
Logged By: ZH / Checked By: JC	Approved By: MP / Level: 85.50m AoD	Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 50% light orangish brown, slightly gravelly, very clayey SAND; 25% subangular cobbles of concrete and sandstone bricks; 10% roots and rootlets; and 5% plastic. Gravel is subangular to subrounded of fine to coarse red brick, suspected clinker, concrete, and mixed lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	
					1.00	84.50		Recovered as 70% loose, reddish brown and dark grey to black, sandy GRAVEL; 15% coarse gravel to cobble sized inclusions of firm, brown, slightly gravelly CLAY; 10% subangular cobbles of red brick; and 5% subangular cobbles of concrete and sandstone. Gravel is subangular to subrounded of fine to coarse purple slate, red brick, clinker, slag, and sandstone. Gravel within clay inclusions if fine to coarse of mixed natural lithologies. MADE GROUND - PREDOMINANTLY GRANULAR	1
					2.00	83.50		Base of Excavation at 2.00m	2
									3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Soak away not undertaken due to nature of material.
Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

Trial Pit Log

TRIAL PIT REFERENCE
SA05
Sheet 1 of 1

Project Name: Ten Acres Lane, Newton Heath	Client: Your Housing Group	Date: 20/10/2020
Location: Newton Heath, Manchester	Contractor: John Cooper	Co-ords: E387811.00 N400436.00
Project No. : LD10162	Excavator: Hyundai 123 12T	Dimensions : 3.00m x 0.70m — Final Depth: 2.00m
Logged By: ZH	Checked By: JC	Approved By: MP — Level: 85.50m AoD — Orientation: °

Backfill	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	Scale
								Recovered as 60% brown, clayey, gravelly SAND; 20% cobbles of red brick; and 20% roots and rootlets. Gravel is angular to subrounded of fine to coarse red brick, concrete, and mudstone. TOPSOIL FILL	
					0.50	85.00		Recovered as 60% dark grey, clayey GRAVEL; 20% cobble sized inclusions of stiff, grey, mottled light grey and orangish brown, slightly sandy, gravelly CLAY; 15% cobble sized fragments of mudstone and siltstone; and 5% whole and half red brick. Gravel is subrounded to angular of fine to coarse mudstone, siltstone, shale, purple slate, coal, and red brick. Sand is fine to medium. MADE GROUND – SUSPECTED COLLIERY SPOIL	1
					2.00	83.50		Base of Excavation at 2.00m	2
									3
									4

Trench Support and Comment			Pumping Data		
Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
Stable	None				

General Remarks

Logging has been undertaken to provide an approximate volumetric percentage of the various constituents present.

Log printed on 16/04/2021 at 20:04

ARCHWAY
ENGINEERING (U.K) LTD

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR2462
Test Date:	16/09/2020
Report Date:	16/09/2020
File Name:	AR2462.spt
Test Operator:	JL

Instrumented Rod Data

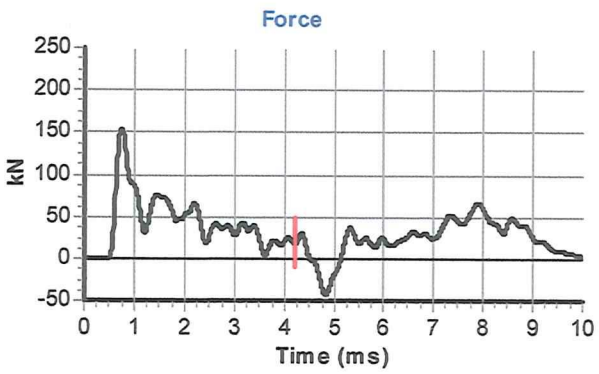
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.3
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

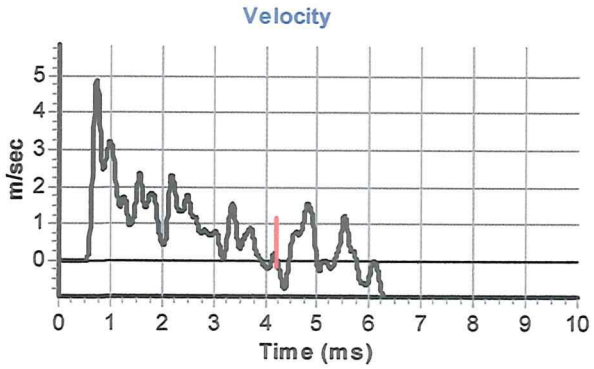
SPT Hammer Information

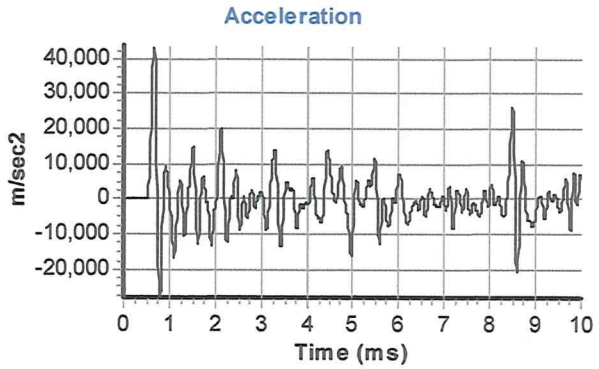
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

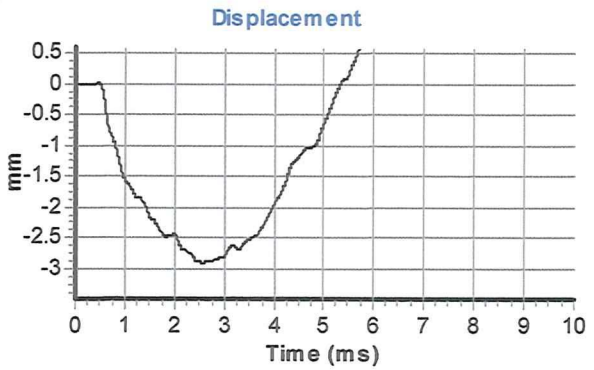
Comments / Location

GEOTRON









Calculations

Area of Rod A (mm2):	944
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	317

Energy Ratio E_r (%): **67**

Signed: J.LOCK

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:	AR95
Test Date:	07/08/2020
Report Date:	07/08/2020
File Name:	AR95.spt
Test Operator:	CM

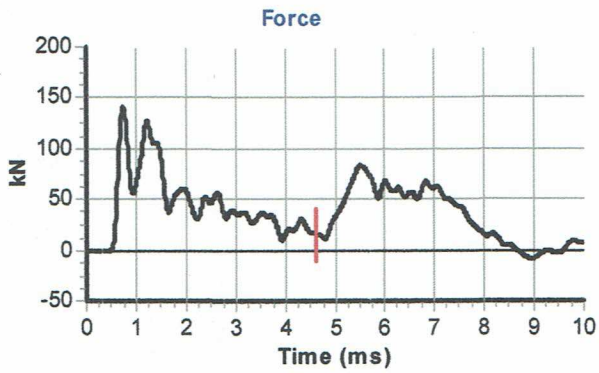
Instrumented Rod Data

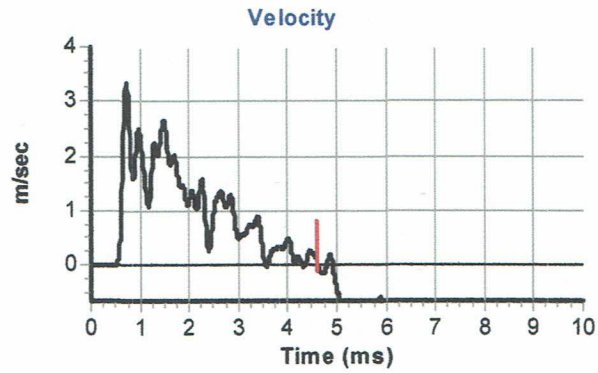
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

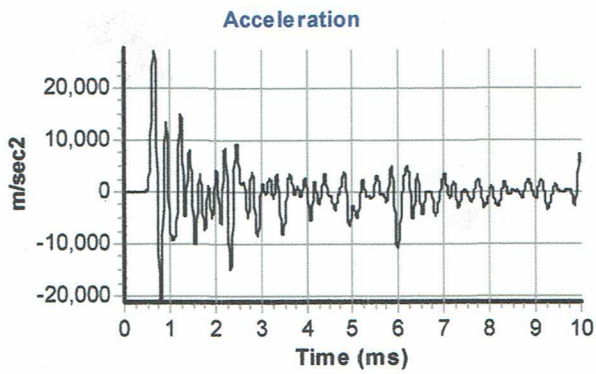
SPT Hammer Information

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

Comments / Location
GEOTRON UK/71750







Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	316

Energy Ratio E_r (%): **67**

Signed: C.McCLUSKEY
Title: FITTER

The recommended calibration interval is 12 months

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

SPT Hammer Ref:	DART387
Test Date:	28/04/2020
Report Date:	28/04/2020
File Name:	DART387.spt
Test Operator:	CM

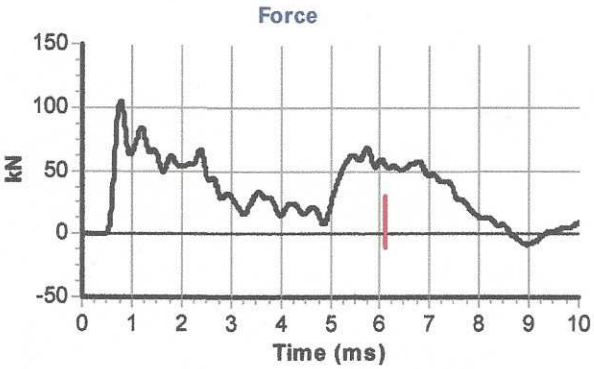
Instrumented Rod Data

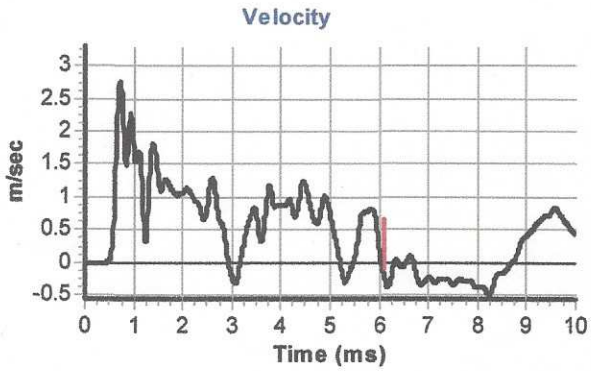
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.0
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7080
Accelerometer No.2:	11609

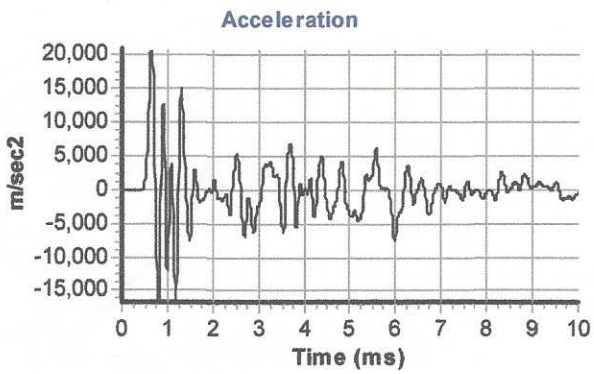
SPT Hammer Information

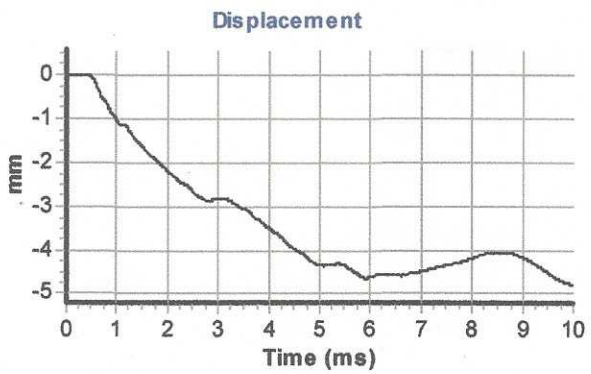
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location
EXPLORATION/









Calculations

Area of Rod A (mm2):	905
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	308

Energy Ratio E_r (%): **65**

Signed: C.McCLUSKEY
Title: FITTER

The recommended calibration interval is 12 months

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APPENDIX E

Chemical / Environmental Laboratory Results

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
Sir Henry Doulton House
Forge Lane
Etruria
Stoke on Trent
Staffordshire
ST1 5BD

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	05 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201014-61
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	574266

This report has been revised and directly supersedes 572741 in its entirety.

We received 48 samples on Tuesday October 13, 2020 and 23 of these samples were scheduled for analysis which was completed on Thursday November 05, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23029038	CP105	ES1	0.50 - 0.50	07/10/2020
23029045	CP105	ES2	1.50 - 1.50	07/10/2020
23029054	CP105	ES3	2.50 - 2.50	07/10/2020
23029058	CP105	ES4	4.50 - 4.50	07/10/2020
23029066	CP106	ES1	0.50 - 0.50	06/10/2020
23029073	CP106	ES2	1.80 - 1.80	06/10/2020
23029078	CP106	ES3	3.50 - 3.50	06/10/2020
23029083	CP106	ES4	4.50 - 4.50	06/10/2020
23029173	CP108	ES1	0.50 - 0.50	05/10/2020
23029176	CP108	ES2	1.50 - 1.50	05/10/2020
23029179	CP108	ES3	2.40 - 2.40	05/10/2020
23029103	TP101	ES1	0.50 - 0.50	08/10/2020
23029162	TP101	ES2	1.50 - 1.50	08/10/2020
23029293	TP102	ES1	0.50 - 0.50	08/10/2020
23029301	TP102	ES2	1.60 - 1.60	08/10/2020
23029026	TP105	ES1	0.00 - 0.60	08/10/2020
23029089	TP108	ES1	1.00 - 1.00	07/10/2020
23029097	TP108	ES2	2.00 - 2.00	07/10/2020
23029109	TP108	ES3	2.30 - 2.30	07/10/2020
23029311	TP111	ES1	0.60 - 0.60	07/10/2020
23029318	TP111	ES2	1.50 - 1.50	07/10/2020
23029227	TP112	ES1	0.50 - 0.50	08/10/2020
23029287	TP112	ES2	1.80 - 1.80	08/10/2020
23029135	TP122	ES1	1.00 - 1.00	07/10/2020
23029140	TP122	ES2	2.00 - 2.00	07/10/2020
23029248	TP123	ES1	0.80 - 0.80	05/10/2020
23029258	TP123	ES2	1.30 - 1.30	05/10/2020
23029261	TP123	ES3	1.90 - 1.90	05/10/2020
23029265	TP123	ES1	3.00 - 3.00	05/10/2020
23029157	TP126	ES1	0.50 - 0.50	07/10/2020
23029167	TP126	ES2	1.50 - 1.50	07/10/2020
23029170	TP126	ES3	2.70 - 2.70	07/10/2020
23029204	TP136	ES1	0.80 - 0.80	07/10/2020
23029213	TP136	ES2	2.10 - 2.10	07/10/2020
23029183	TP137	ES1	1.20 - 1.20	06/10/2020
23029189	TP137	ES2	2.50 - 2.50	06/10/2020
23029271	TP139	ES1	0.50 - 0.50	05/10/2020
23029278	TP139	ES2	1.50 - 1.50	05/10/2020
23029282	TP139	ES3	2.40 - 2.40	05/10/2020
23029118	TP141	ES1	0.50 - 0.50	07/10/2020
23029127	TP141	ES2	1.50 - 1.50	07/10/2020
23029132	TP141	ES3	2.50 - 2.50	07/10/2020
23029192	TP144	ES1	0.40 - 0.40	07/10/2020
23029237	TP148	ES1	0.40 - 0.40	07/10/2020
23029243	TP148	ES2	1.00 - 1.00	07/10/2020
23029143	TP149	ES1	0.50 - 0.50	07/10/2020
23029150	TP149	ES2	1.60 - 1.60	07/10/2020
23029154	TP149	ES3	2.70 - 2.70	07/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23029073		23029173		23029176	23029103			23029301			23029026			23029109		23029318	
Customer Sample Reference			CP106		CP108		CP108	TP101			TP102			TP105			TP108		TP111	
AGS Reference			ES2		ES1		ES2	ES1			ES2			ES1			ES3		ES2	
Depth (m)			1.80 - 1.80		0.50 - 0.50		1.50 - 1.50	0.50 - 0.50			1.60 - 1.60			0.00 - 0.60			2.30 - 2.30		1.50 - 1.50	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 4					X													
Anions by Kone (soil)	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
Anions by Kone (w)	All	NDPs: 0 Tests: 4					X													
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 19	X		X			X			X			X			X			X	
Asbestos Quantification - Full	All	NDPs: 1 Tests: 3									X									
Boron Water Soluble	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
CEN Readings	All	NDPs: 0 Tests: 4					X													
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 23	X		X		X		X			X			X			X			X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 4					X													
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 4					X													
Easily Liberated Sulphide	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
EPH CWG GC (S)	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 19		X		X				X			X			X			X		
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 4					X													

| | | |

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23029073		23029173		23029176	23029103		23029301		23029026			23029109		23029318			
Customer Sample Reference			CP106		CP108		CP108	TP101		TP102		TP105			TP108		TP111			
AGS Reference			ES2		ES1		ES2	ES1		ES2		ES1			ES3		ES2			
Depth (m)			1.80 - 1.80		0.50 - 0.50		1.50 - 1.50	0.50 - 0.50		1.60 - 1.60		0.00 - 0.60			2.30 - 2.30		1.50 - 1.50			
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Mercury Dissolved	All	NDPs: 0 Tests: 4					X														
Metals in solid samples by OES	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
PAH by GCMS	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
PAH in waters by GC-MS (diss.filt)	All	NDPs: 0 Tests: 4					X														
PCBs by GCMS	All	NDPs: 0 Tests: 5	X															X			X
pH	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
pH Value	All	NDPs: 0 Tests: 4					X														
Phenols by HPLC (S)	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 4					X														
Sample description	All	NDPs: 0 Tests: 22	X		X		X		X			X			X			X			X
Sulphide	All	NDPs: 0 Tests: 4					X														
Total Organic Carbon	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
Total Sulphate	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
TPH CWG GC (S)	All	NDPs: 0 Tests: 19	X		X				X			X			X			X			X
VOC MS (S)	All	NDPs: 0 Tests: 19		X		X				X			X			X			X		

23029282	TP139	ES3	2.40 - 2.40	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
23029278	TP139	ES2	1.50 - 1.50	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
23029183	TP137	ES1	1.20 - 1.20	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
23029204	TP136	ES1	0.80 - 0.80	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
23029157	TP126	ES1	0.50 - 0.50	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
				1kg Cardboard Container	S																		
23029261	TP123	ES3	1.90 - 1.90	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X		X	X		X		X			X	X	X		
23029258	TP123	ES2	1.30 - 1.30	250g Amber Jar (ALE210)	S	X			X			X		X		X	X						
23029248	TP123	ES1	0.80 - 0.80	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
23029135	TP122	ES1	1.00 - 1.00	60g VOC (ALE215)	S																		X
				250g Amber Jar (ALE210)	S		X	X			X		X		X			X	X	X		
23029287	TP112	ES2	1.80 - 1.80	250g Amber Jar (ALE210)	S					X						X							
				1kg Cardboard Container	S	X			X			X		X			X						
23029318	TP111	ES2	1.50 - 1.50	60g VOC (ALE215)	S																		X

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23029118			23029192			23029237			23029143		23029150
Customer Sample Reference			TP141			TP144			TP148			TP149		TP149
AGS Reference			ES1			ES1			ES1			ES1		ES2
Depth (m)			0.50 - 0.50			0.40 - 0.40			0.40 - 0.40			0.50 - 0.50		1.60 - 1.60
Container			1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)		1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S		S	S	S	S	S
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 4							X							
Anions by Kone (soil)	All	NDPs: 0 Tests: 19		X			X						X		X	
Anions by Kone (w)	All	NDPs: 0 Tests: 4							X							
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 19	X			X						X			X	
Asbestos Quantification - Full	All	NDPs: 1 Tests: 3										X				
Boron Water Soluble	All	NDPs: 0 Tests: 19		X			X						X		X	
CEN Readings	All	NDPs: 0 Tests: 4							X							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 23		X			X		X				X		X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 4							X							
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 4							X							
Easily Liberated Sulphide	All	NDPs: 0 Tests: 19		X			X						X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 19		X			X						X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 19			X			X						X		X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 19		X			X						X		X	
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 4							X							

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23029118			23029192			23029237		23029143			23029150
Customer Sample Reference			TP141			TP144			TP148		TP149			TP149
AGS Reference			ES1			ES1			ES1		ES1			ES2
Depth (m)			0.50 - 0.50			0.40 - 0.40			0.40 - 0.40		0.50 - 0.50			1.60 - 1.60
Container			1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S
Mercury Dissolved	All	NDPs: 0 Tests: 4							X						
Metals in solid samples by OES	All	NDPs: 0 Tests: 19		X			X					X		X	
PAH by GCMS	All	NDPs: 0 Tests: 19		X			X					X		X	
PAH in waters by GC-MS (diss.filt)	All	NDPs: 0 Tests: 4							X						
pH	All	NDPs: 0 Tests: 19		X			X					X		X	
pH Value	All	NDPs: 0 Tests: 4							X						
Phenols by HPLC (S)	All	NDPs: 0 Tests: 19		X			X					X		X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 4							X						
Sample description	All	NDPs: 0 Tests: 22		X						X		X		X	
Sulphide	All	NDPs: 0 Tests: 4							X						
Total Organic Carbon	All	NDPs: 0 Tests: 19		X			X					X		X	
Total Sulphate	All	NDPs: 0 Tests: 19		X			X					X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 19		X			X					X		X	
VOC MS (S)	All	NDPs: 0 Tests: 19			X			X					X		X

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23029073	CP106	1.80 - 1.80	Dark Brown	Loamy Sand	Stones	Vegetation
23029173	CP108	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	None
23029176	CP108	1.50 - 1.50	Dark Brown	Loamy Sand	Stones	None
23029103	TP101	0.50 - 0.50	Dark Brown	Loamy Sand	Vegetation	Crushed Brick
23029301	TP102	1.60 - 1.60	Dark Brown	Loamy Sand	Vegetation	Brick
23029026	TP105	0.00 - 0.60	Beige	Sandy Clay Loam	Stones	Brick
23029109	TP108	2.30 - 2.30	Dark Brown	Silt Loam	Stones	Vegetation
23029318	TP111	1.50 - 1.50	Dark Brown	Loamy Sand	Vegetation	Crushed Brick
23029287	TP112	1.80 - 1.80	Dark Brown	Loamy Sand	Stones	Brick
23029135	TP122	1.00 - 1.00	Dark Brown	Clay	Vegetation	None
23029248	TP123	0.80 - 0.80	Black	Sand	Stones	None
23029258	TP123	1.30 - 1.30	Dark Brown	Sandy Clay	Stones	Vegetation
23029261	TP123	1.90 - 1.90	Red	Sand	Stones	None
23029157	TP126	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	None
23029204	TP136	0.80 - 0.80	Dark Brown	Sand	None	None
23029183	TP137	1.20 - 1.20	Grey	Loamy Sand	Stones	N/A
23029278	TP139	1.50 - 1.50	Dark Brown	Loamy Sand	Stones	None
23029282	TP139	2.40 - 2.40	Black	Loamy Sand	Stones	Oil/Petroleum
23029118	TP141	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Brick
23029192	TP144	0.40 - 0.40	Dark Brown	Sandy Loam	Metal	Crushed Brick
23029237	TP148	0.40 - 0.40	Dark Brown	Sandy Loam	Stones	Crushed Brick
23029143	TP149	0.50 - 0.50	Dark Brown	Sand	Stones	None
23029150	TP149	1.60 - 1.60	Dark Brown	Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP106	CP108	CP108	TP101	TP102	TP105
			Depth (m)	1.80 - 1.80	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.00 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	05/10/2020	08/10/2020	08/10/2020	08/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029073	23029173	23029176	23029103	23029301	23029026
			AGS Reference	ES2	ES1	ES2	ES1	ES2	ES1
Moisture Content Ratio (% of as received sample)	%	PM024		23	18	21	21	19	20
Phenol	<0.01 mg/kg	TM062 (S)		0.013 @ M	<0.01 @ M		<0.01 M	0.0124 @ M	<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)		0.026 @ M	<0.01 @ M		0.0127 M	0.0372 @ M	<0.01 @ M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M	<0.015 @ M		<0.015 M	0.0248 @ M	<0.015 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M	<0.035 @ M		<0.035 M	0.0744 @ M	<0.035 @ M
Soil Organic Matter (SOM)	<0.35 %	TM132		71.7 #	25.9 #		19 #	16.9 #	3.28 #
pH	1 pH Units	TM133		11.9 M	7.19 M		8.09 M	8.15 M	8.47 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		26 #	<0.6 #		<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		<1 @ M	<1 @ M		<1 M	<1 M	<1 M
PCB congener 28	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 52	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 101	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 118	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 138	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 153	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 180	<0.003 mg/kg	TM168		<0.003 M					
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168		<0.021					
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	<15 @ M		<15 @ M	<15 @ M	<15 @ M
Arsenic	<0.6 mg/kg	TM181		21.9 M	62.9 M		32.1 M	31.2 M	12.3 M
Cadmium	<0.02 mg/kg	TM181		1.08 M	0.86 M		1.3 M	1.17 M	0.0389 M
Chromium	<0.9 mg/kg	TM181		214 M	12.8 M		28.8 M	52 M	14.7 M
Copper	<1.4 mg/kg	TM181		541 M	1470 M		166 M	9990 M	27.1 M
Lead	<0.7 mg/kg	TM181		1220 M	226 M		270 M	470 M	107 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<1.4 M		0.415 M	1.4 M	0.223 M
Nickel	<0.2 mg/kg	TM181		24.4 M	66.4 M		45.3 M	51.6 M	15.9 M
Selenium	<1 mg/kg	TM181		<1 #	<10 #		<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		215 M	695 M		294 M	7290 M	113 M
Sulphate, Total	<48 mg/kg	TM221		1590 M	1720 M		499 M	816 M	<48 M
Boron, water soluble	<1 mg/kg	TM222		<1 M	<1 M		<1 M	<1 M	<1 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0738 M	0.225 M		0.0263 M	0.0601 M	0.0217 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304						0.279 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304						<0.001 #	
Additional Asbestos Components (Using TM048)		TM304						None #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP106	CP108	CP108	TP101	TP102	TP105
			Depth (m)	1.80 - 1.80	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.00 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	05/10/2020	08/10/2020	08/10/2020	08/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029073	23029173	23029176	23029103	23029301	23029026
			AGS Reference	ES2	ES1	ES2	ES1	ES2	ES1
Analysts Comments		TM304						N/C	
Asbestos Quantification - Total - %	<0.001 %	TM304						0.279 #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP108	TP111	TP112	TP122	TP123	TP123
			Depth (m)	2.30 - 2.30	1.50 - 1.50	1.80 - 1.80	1.00 - 1.00	0.80 - 0.80	1.30 - 1.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/10/2020	07/10/2020	08/10/2020	07/10/2020	05/10/2020	05/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029109	23029318	23029287	23029135	23029248	23029258
			AGS Reference	ES3	ES2	ES2	ES1	ES1	ES2
Moisture Content Ratio (% of as received sample)	%	PM024		42	19	15	16	14	18
Phenol	<0.01 mg/kg	TM062 (S)		0.0172 @ M	<0.01 M		0.0236 @ M	<0.01 @ M	
Cresols	<0.01 mg/kg	TM062 (S)		0.12 @ M	0.0124 M		<0.01 @ M	<0.01 @ M	
Xylenols	<0.015 mg/kg	TM062 (S)		0.155 @ M	<0.015 M		<0.015 @ M	<0.015 @ M	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		0.292 @ M	<0.035 M		<0.035 @ M	<0.035 @ M	
Soil Organic Matter (SOM)	<0.35 %	TM132		32.8 #	6.41 #		1.03 #	81.4 #	
pH	1 pH Units	TM133		7.45 M	7.72 M		8.11 M	5.72 M	
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #		<0.6 #	<0.6 #	
Cyanide, Total	<1 mg/kg	TM153		499 M	<1 M		<1 M	19.2 @ M	
PCB congener 28	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	<0.003 M			
PCB congener 52	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	<0.003 M			
PCB congener 101	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	0.0237 M			
PCB congener 118	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	0.0127 M			
PCB congener 138	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	0.0101 M			
PCB congener 153	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	0.00859 M			
PCB congener 180	<0.003 mg/kg	TM168		<0.03 M	<0.15 M	<0.003 M			
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168		<0.21	<1.05	0.0551			
Sulphide, Easily liberated	<15 mg/kg	TM180		1850 @ M	<15 @ M		<15 @ M	<15 @ M	
Arsenic	<0.6 mg/kg	TM181		199 M	23.3 M		7.93 M	16.1 M	
Cadmium	<0.02 mg/kg	TM181		5.44 M	0.647 M		0.185 M	<0.02 M	
Chromium	<0.9 mg/kg	TM181		43.2 M	13.9 M		30.5 M	<0.9 M	
Copper	<1.4 mg/kg	TM181		716 M	130 M		22.6 M	60.7 M	
Lead	<0.7 mg/kg	TM181		1130 M	236 M		6.45 M	31.4 M	
Mercury	<0.14 mg/kg	TM181		3.81 M	0.367 M		<0.14 M	<0.14 M	
Nickel	<0.2 mg/kg	TM181		46.5 M	18.3 M		36.5 M	28.4 M	
Selenium	<1 mg/kg	TM181		<1 #	<1 #		<1 #	<1 #	
Zinc	<1.9 mg/kg	TM181		3270 M	305 M		58.1 M	24.1 M	
Sulphate, Total	<48 mg/kg	TM221		1500 M	4990 M		<48 M	636 M	
Boron, water soluble	<1 mg/kg	TM222		1.85 M	<1 M		<1 M	<1 M	
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0554 M	1.44 M		0.0491 M	0.0292 M	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP123	TP126	TP136	TP137	TP139	TP139
			Depth (m)	1.90 - 1.90	0.50 - 0.50	0.80 - 0.80	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/10/2020	07/10/2020	07/10/2020	06/10/2020	05/10/2020	05/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029261	23029157	23029204	23029183	23029278	23029282
			AGS Reference	ES3	ES1	ES1	ES1	ES2	ES3
Moisture Content Ratio (% of as received sample)	%	PM024		39	19	18	35	26	42
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M	0.0124 M	<0.01 @ M	<0.01 @ M	0.459 @ M	<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 @ M	0.0372 M	<0.01 @ M	<0.01 @ M	0.0945 @ M	0.709 @ M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M	0.0372 M	<0.015 @ M	<0.015 @ M	<0.015 @ M	1.37 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M	0.0868 M	<0.035 @ M	<0.035 @ M	0.554 @ M	2.08 @ M
Soil Organic Matter (SOM)	<0.35 %	TM132		74.8 #	44 #	<0.35 #	22.8 #	15.3 #	82.9 #
pH	1 pH Units	TM133		7.71 M	7.99 M	5.63 M	8.38 M	12.8 M	7.48 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		68.8 @ M	<1 M	<1 M	<1 M	4.32 @ M	162 @ M
PCB congener 28	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 52	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 101	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 118	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 138	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 153	<0.003 mg/kg	TM168		<0.003 M					
PCB congener 180	<0.003 mg/kg	TM168		<0.003 M					
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168		<0.021					
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	<15 @ M	<15 @ M	<15 @ M	23.6 @ M	1270 @ M
Arsenic	<0.6 mg/kg	TM181		80.9 M	1930 M	3.75 M	34 M	43.3 M	332 M
Cadmium	<0.02 mg/kg	TM181		2.91 M	0.353 M	0.0576 M	0.468 M	0.247 M	1.78 M
Chromium	<0.9 mg/kg	TM181		50.8 M	<9 M	3.7 M	13 M	13.3 M	24 M
Copper	<1.4 mg/kg	TM181		141 M	274 M	8.34 M	125 M	45.5 M	194 M
Lead	<0.7 mg/kg	TM181		208 M	879 M	4.98 M	96.5 M	3220 M	284 M
Mercury	<0.14 mg/kg	TM181		<1.4 M	<1.4 M	<0.14 M	0.22 M	0.251 M	13.1 M
Nickel	<0.2 mg/kg	TM181		121 M	41.1 M	6.08 M	35.8 M	20.8 M	101 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<1 #	<1 #	<1 #	<10 #
Zinc	<1.9 mg/kg	TM181		153 M	332 M	21.7 M	163 M	42.1 M	953 M
Sulphate, Total	<48 mg/kg	TM221		15200 M	1920 M	<48 M	1980 M	5060 M	8490 M
Boron, water soluble	<1 mg/kg	TM222		<1 M	<1 M	<1 M	<1 M	<1 M	1.34 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0865 M	0.178 M	0.0229 M	0.056 M	0.0244 M	1.46 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304			<0.001 #				
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304			<0.001 #				
Additional Asbestos Components (Using TM048)		TM304			None #				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP123	TP126	TP136	TP137	TP139	TP139
			Depth (m)	1.90 - 1.90	0.50 - 0.50	0.80 - 0.80	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/10/2020	07/10/2020	07/10/2020	06/10/2020	05/10/2020	05/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029261	23029157	23029204	23029183	23029278	23029282
			AGS Reference	ES3	ES1	ES1	ES1	ES2	ES3
Analysts Comments		TM304			N/C				
Asbestos Quantification - Total - %	<0.001 %	TM304			<0.001 #				

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP141	TP144	TP148	TP149	TP149
			Depth (m)	0.50 - 0.50	0.40 - 0.40	0.40 - 0.40	0.50 - 0.50	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/10/2020	07/10/2020	07/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029118	23029192	23029237	23029143	23029150
			AGS Reference	ES1	ES1	ES1	ES1	ES2
Moisture Content Ratio (% of as received sample)	%	PM024		12	14	35	21	15
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M	<0.01 @ M		<0.01 @ M	<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 @ M	<0.01 @ M		<0.01 @ M	<0.01 @ M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M	<0.015 @ M		<0.015 @ M	<0.015 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M	<0.035 @ M		<0.035 @ M	<0.035 @ M
Soil Organic Matter (SOM)	<0.35 %	TM132		24 #	9.22 #		16.5 #	0.788 #
pH	1 pH Units	TM133		7.75 M	8.2 M		7.97 M	7.79 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	5.23 #		<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		1.12 M	<1 M		<1 M	<1 M
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	<15 @ M		<15 @ M	<15 @ M
Arsenic	<0.6 mg/kg	TM181		34.2 M	36.3 M		99.7 M	9.99 M
Cadmium	<0.02 mg/kg	TM181		1.91 M	0.715 M		0.577 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		41.3 M	61 M		22.6 M	<9 M
Copper	<1.4 mg/kg	TM181		824 M	137 M		227 M	19 M
Lead	<0.7 mg/kg	TM181		931 M	622 M		510 M	19.6 M
Mercury	<0.14 mg/kg	TM181		<1.4 M	6.76 M		<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		175 M	29.7 M		160 M	22.9 M
Selenium	<1 mg/kg	TM181		<10 #	<1 #		<10 #	<10 #
Zinc	<1.9 mg/kg	TM181		249 M	341 M		390 M	60.3 M
Sulphate, Total	<48 mg/kg	TM221		1030 M	336 M		384 M	<48 M
Boron, water soluble	<1 mg/kg	TM222		<1 M	<1 M		<1 M	<1 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0534 M	0.0162 M		0.0298 M	0.0116 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304					<0.001 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304					<0.001 #	
Additional Asbestos Components (Using TM048)		TM304					None #	
Analysts Comments		TM304					N/C	
Asbestos Quantification - Total - %	<0.001 %	TM304					<0.001 #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP106	CP108	TP101	TP102	TP105	TP108
			Depth (m)	1.80 - 1.80	0.50 - 0.50	0.50 - 0.50	1.60 - 1.60	0.00 - 0.60	2.30 - 2.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	08/10/2020	08/10/2020	08/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029073	23029173	23029103	23029301	23029026	23029109
			AGS Reference	ES2	ES1	ES1	ES2	ES1	ES3
Naphthalene-d8 % recovery**	%	TM218		86.7	86.3	90.4	79.5	84.5	87.2
Acenaphthene-d10 % recovery**	%	TM218		80	82.4	83.2	76.5	79.7	82.8
Phenanthrene-d10 % recovery**	%	TM218		85.1	87.6	90.7	82.7	88.6	91.6
Chrysene-d12 % recovery**	%	TM218		91.1	95.8	87.3	89.5	98.2	96.6
Perylene-d12 % recovery**	%	TM218		78	84	81.8	82.4	87.4	97
Naphthalene	<0.009 mg/kg	TM218		0.089 @ M	0.604 @ M	0.6 M	0.54 M	0.0292 M	1.65 M
Acenaphthylene	<0.012 mg/kg	TM218		0.0197 @ M	0.176 @ M	0.136 M	0.653 M	0.0187 M	1.13 M
Acenaphthene	<0.008 mg/kg	TM218		0.1 @ M	0.222 @ M	0.587 M	0.964 M	0.055 M	12.8 M
Fluorene	<0.01 mg/kg	TM218		0.0682 @ M	0.318 @ M	0.871 M	1.14 M	0.0448 M	12.2 M
Phenanthrene	<0.015 mg/kg	TM218		0.915 @ M	2.82 @ M	5.88 M	10 M	0.726 M	57.1 M
Anthracene	<0.016 mg/kg	TM218		0.202 @ M	0.707 @ M	1.2 M	2.44 M	0.19 M	12.1 M
Fluoranthene	<0.017 mg/kg	TM218		1.28 @ M	4.17 @ M	5.63 M	13.9 M	1.59 M	86.8 M
Pyrene	<0.015 mg/kg	TM218		1.18 @ M	3.97 @ M	5.15 M	14 M	1.39 M	68.5 M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.677 @ M	2.14 @ M	2.37 M	6.58 M	0.878 M	22.2 M
Chrysene	<0.01 mg/kg	TM218		0.748 @ M	1.93 @ M	2.37 M	5.96 M	0.699 M	22.7 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.862 @ M	2.71 @ M	2.92 M	9.73 M	1.2 M	21.2 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.296 @ M	1 @ M	0.906 M	3.19 M	0.423 M	6.88 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.634 @ M	2.14 @ M	2.22 M	6.92 M	0.849 M	16.4 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.412 @ M	1.66 @ M	1.57 M	4.9 M	0.614 M	9.8 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		0.0802 @ M	0.297 @ M	0.256 M	0.963 M	0.0934 M	1.66 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.444 @ M	1.53 @ M	1.45 M	4.38 M	0.515 M	9.26 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		8	26.4	34.1	86.3	9.31	362

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP111	TP122	TP123	TP123	TP126	TP136
			Depth (m)	1.50 - 1.50	1.00 - 1.00	0.80 - 0.80	1.90 - 1.90	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/10/2020	07/10/2020	05/10/2020	05/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029318	23029135	23029248	23029261	23029157	23029204
			AGS Reference	ES2	ES1	ES1	ES3	ES1	ES1
Naphthalene-d8 % recovery**	%	TM218		90.5	98.4	79.8	85.1	70	88
Acenaphthene-d10 % recovery**	%	TM218		82.5	91.5	75	81.3	63	82.7
Phenanthrene-d10 % recovery**	%	TM218		88	101	71.2	88.7	71	92.9
Chrysene-d12 % recovery**	%	TM218		98	113	68.9	92.6	71	100
Perylene-d12 % recovery**	%	TM218		88.5	112	52.7	78.1	66	91.3
Naphthalene	<0.009 mg/kg	TM218		0.722 M	<0.009 M	0.186 @ M	0.0401 @ M	5.1 @ M	<0.009 @ M
Acenaphthylene	<0.012 mg/kg	TM218		<0.6 M	<0.012 M	0.424 @ M	0.15 @ M	<1.2 @ M	<0.012 @ M
Acenaphthene	<0.008 mg/kg	TM218		<0.4 M	<0.008 M	0.18 @ M	<0.008 @ M	8.71 @ M	<0.008 @ M
Fluorene	<0.01 mg/kg	TM218		<0.5 M	<0.01 M	0.22 @ M	<0.01 @ M	8.55 @ M	<0.01 @ M
Phenanthrene	<0.015 mg/kg	TM218		2.34 M	<0.015 M	3.31 @ M	0.218 @ M	58.1 @ M	<0.015 @ M
Anthracene	<0.016 mg/kg	TM218		<0.8 M	<0.016 M	0.969 @ M	0.0829 @ M	14 @ M	<0.016 @ M
Fluoranthene	<0.017 mg/kg	TM218		2.24 M	<0.017 M	5.94 @ M	0.453 @ M	65.4 @ M	<0.017 @ M
Pyrene	<0.015 mg/kg	TM218		2.09 M	0.0184 M	6.08 @ M	0.425 @ M	59.7 @ M	<0.015 @ M
Benz(a)anthracene	<0.014 mg/kg	TM218		1.23 M	<0.014 M	5.39 @ M	0.268 @ M	24 @ M	<0.014 @ M
Chrysene	<0.01 mg/kg	TM218		1.47 M	<0.01 M	5.21 @ M	0.26 @ M	21.9 @ M	<0.01 @ M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		1.62 M	<0.015 M	5.34 @ M	0.508 @ M	18.9 @ M	<0.015 @ M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		<0.7 M	<0.014 M	2.89 @ M	0.159 @ M	5.19 @ M	<0.014 @ M
Benzo(a)pyrene	<0.015 mg/kg	TM218		1.07 M	<0.015 M	6.05 @ M	0.258 @ M	21.9 @ M	<0.015 @ M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		<0.9 M	<0.018 M	3.47 @ M	0.325 @ M	13.7 @ M	<0.018 @ M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		<1.15 M	<0.023 M	0.815 @ M	0.0532 @ M	<2.3 @ M	<0.023 @ M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		<1.2 M	<0.024 M	3.44 @ M	0.297 @ M	14.3 @ M	<0.024 @ M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		12.8	<0.118	49.9	3.49	339	<0.118

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP137	TP139	TP139	TP141	TP144	TP149
			Depth (m)	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40	0.50 - 0.50	0.40 - 0.40	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	05/10/2020	07/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029183	23029278	23029282	23029118	23029192	23029143
			AGS Reference	ES1	ES2	ES3	ES1	ES1	ES1
Naphthalene-d8 % recovery**	%	TM218		84.6	86.1	81	89.6	90.8	80.5
Acenaphthene-d10 % recovery**	%	TM218		78.7	82.1	412	86.2	84.3	75.6
Phenanthrene-d10 % recovery**	%	TM218		86	89.1	75	89.4	95.1	82.4
Chrysene-d12 % recovery**	%	TM218		94	102	61	90.2	92.4	92.7
Perylene-d12 % recovery**	%	TM218		79.8	96.1	42	82.3	87	81.7
Naphthalene	<0.009 mg/kg	TM218		0.0524 @ M	0.0292 @ M	13100 @ M	0.186 M	0.503 @ M	0.372 @ M
Acenaphthylene	<0.012 mg/kg	TM218		0.0294 @ M	0.142 @ M	315 @ M	0.0912 M	0.24 @ M	0.0863 @ M
Acenaphthene	<0.008 mg/kg	TM218		0.0757 @ M	0.0529 @ M	153 @ M	1.29 M	2.1 @ M	2.43 @ M
Fluorene	<0.01 mg/kg	TM218		0.0649 @ M	0.0517 @ M	656 @ M	0.965 M	1.53 @ M	1.72 @ M
Phenanthrene	<0.015 mg/kg	TM218		0.95 @ M	0.462 @ M	1320 @ M	12.8 M	15.4 @ M	15.9 @ M
Anthracene	<0.016 mg/kg	TM218		0.223 @ M	0.117 @ M	419 @ M	2.64 M	3.92 @ M	3.77 @ M
Fluoranthene	<0.017 mg/kg	TM218		1.24 @ M	0.828 @ M	450 @ M	15.8 M	21.8 @ M	23.4 @ M
Pyrene	<0.015 mg/kg	TM218		1.17 @ M	0.805 @ M	574 @ M	13.6 M	19.2 @ M	19.9 @ M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.617 @ M	0.516 @ M	237 @ M	6.99 M	8.91 @ M	9.02 @ M
Chrysene	<0.01 mg/kg	TM218		0.648 @ M	0.514 @ M	187 @ M	7.34 M	8.27 @ M	9.42 @ M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.888 @ M	0.8 @ M	113 @ M	9.08 M	11.3 @ M	11.8 @ M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.265 @ M	0.243 @ M	45.2 @ M	3.3 M	3.63 @ M	5.22 @ M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.636 @ M	0.608 @ M	154 @ M	7.04 M	8.15 @ M	8.57 @ M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.482 @ M	0.562 @ M	61.7 @ M	4.67 M	5.99 @ M	6.07 @ M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		0.074 @ M	0.101 @ M	15.4 @ M	0.911 M	0.924 @ M	0.995 @ M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.466 @ M	0.507 @ M	54.5 @ M	4.8 M	5.1 @ M	5.47 @ M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		7.88	6.34	17800	91.5	117	124

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref. TP149
			Depth (m) 1.60 - 1.60
			Sample Type Soil/Solid (S)
			Date Sampled 07/10/2020
			Sample Time .
			Date Received 13/10/2020
			SDG Ref 201014-61
			Lab Sample No.(s) 23029150
			AGS Reference ES2
Naphthalene-d8 % recovery**	%	TM218	85.4
Acenaphthene-d10 % recovery**	%	TM218	80
Phenanthrene-d10 % recovery**	%	TM218	89.2
Chrysene-d12 % recovery**	%	TM218	94.8
Perylene-d12 % recovery**	%	TM218	83.4
Naphthalene	<0.009 mg/kg	TM218	0.011 @ M
Acenaphthylene	<0.012 mg/kg	TM218	<0.012 @ M
Acenaphthene	<0.008 mg/kg	TM218	0.104 @ M
Fluorene	<0.01 mg/kg	TM218	0.0927 @ M
Phenanthrene	<0.015 mg/kg	TM218	0.59 @ M
Anthracene	<0.016 mg/kg	TM218	0.177 @ M
Fluoranthene	<0.017 mg/kg	TM218	0.55 @ M
Pyrene	<0.015 mg/kg	TM218	0.461 @ M
Benz(a)anthracene	<0.014 mg/kg	TM218	0.193 @ M
Chrysene	<0.01 mg/kg	TM218	0.189 @ M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218	0.241 @ M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218	0.0577 @ M
Benzo(a)pyrene	<0.015 mg/kg	TM218	0.169 @ M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218	0.111 @ M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218	<0.023 @ M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218	0.1 @ M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218	3.05

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP106	CP108	TP101	TP102	TP105	TP108
			Depth (m)	1.80 - 1.80	0.50 - 0.50	0.50 - 0.50	1.60 - 1.60	0.00 - 0.60	2.30 - 2.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	08/10/2020	08/10/2020	08/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029073	23029173	23029103	23029301	23029026	23029109
			AGS Reference	ES2	ES1	ES1	ES2	ES1	ES3
GRO Surrogate % recovery**	%	TM089		75.2	53 4 @	92.6	43.2 4	84.9	38.9 4 @
Aliphatics >C5-C6	<0.01 mg/kg	TM089		0.0169	0.0207 4 @	<0.01	0.0112 4	<0.01	0.115 4 @
Aliphatics >C6-C8	<0.01 mg/kg	TM089		0.0507	0.189 4 @	0.033	0.0285 4	<0.01	0.537 4 @
Aliphatics >C8-C10	<0.01 mg/kg	TM089		0.039	0.173 4 @	0.0546	0.0322 4	<0.01	0.568 4 @
Aliphatics >C10-C12	<1 mg/kg	TM414		<1	3.04	<1	1.05	<1	3.35
Aliphatics >C12-C16	<1 mg/kg	TM414		<1	3.49	<1	2.41	<1	11.7
Aliphatics >C16-C21	<1 mg/kg	TM414		14.1	5.32	1.84	5.31	<1	27.3
Aliphatics >C21-C35	<1 mg/kg	TM414		45.9	34.6	13.2	50.1	4.12	1320
Aliphatics >C35-C44	<1 mg/kg	TM414		<1	3.83	2.75	8.08	<1	1640
Total Aliphatics >C10-C44	<5 mg/kg	TM414		60.7	50.3	18	67	<5	3000
Total Aliphatics & Aromatics >C10-C44	<10 mg/kg	TM414		262	157	90.6	778	30.6	3740
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01	<0.01 4 @	<0.01	<0.01 4	<0.01	<0.01 4 @
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01	0.0195 4 @	<0.01	<0.01 4	<0.01	<0.01 4 @
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		0.026	0.116 4 @	0.0368	0.0211 4	<0.01	0.378 4 @
Aromatics > EC10-EC12	<1 mg/kg	TM414		<1	<1	<1	8.28	<1	4.15
Aromatics > EC12-EC16	<1 mg/kg	TM414		<1	6.51	<1	18	<1	66.6
Aromatics > EC16-EC21	<1 mg/kg	TM414		12.1	26.3	8.61	106	5.13	382
Aromatics > EC21-EC35	<1 mg/kg	TM414		179	65.9	57.7	375	19.1	282
Aromatics >EC35-EC44	<1 mg/kg	TM414		9.25	7.8	5.84	203	1.61	11.7
Aromatics > EC40-EC44	<1 mg/kg	TM414		2.09	<1	1.43	84.3	<1	1.45
Total Aromatics > EC10-EC44	<5 mg/kg	TM414		201	107	72.6	711	26	746
Total Aliphatics & Aromatics >C5-C44	<10 mg/kg	TM414		262	158	90.7	778	26	3740
Total Aliphatics >C5-C10	<0.05 mg/kg	TM089		0.107	0.383 4 @	0.0876	0.0719 4	<0.05	1.22 4 @
Total Aromatics >EC5-EC10	<0.05 mg/kg	TM089		<0.05	0.135 4 @	<0.05	<0.05 4	<0.05	0.378 4 @
GRO >C5-C10	<0.02 mg/kg	TM089		0.107	0.519 4 @	0.0876	0.0719 4	<0.02	1.6 4 @

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP111	TP122	TP123	TP123	TP126	TP136
			Depth (m)	1.50 - 1.50	1.00 - 1.00	0.80 - 0.80	1.90 - 1.90	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/10/2020	07/10/2020	05/10/2020	05/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029318	23029135	23029248	23029261	23029157	23029204
			AGS Reference	ES2	ES1	ES1	ES3	ES1	ES1
GRO Surrogate % recovery**	%	TM089		47.3 4	86.1	70.5 @	120 @	70.5	94.8
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01 4	<0.01	<0.01 @	0.0131 @	0.0174	<0.01
Aliphatics >C6-C8	<0.01 mg/kg	TM089		0.0174 4	<0.01	<0.01 @	0.0574 @	0.0434	<0.01
Aliphatics >C8-C10	<0.01 mg/kg	TM089		0.0124 4	<0.01	<0.01 @	0.0656 @	0.185	<0.01
Aliphatics >C10-C12	<1 mg/kg	TM414		<1	<1	<1	<1	<5	<1
Aliphatics >C12-C16	<1 mg/kg	TM414		<1	<1	3.95	<1	11	<1
Aliphatics >C16-C21	<1 mg/kg	TM414		1.41	<1	21.3	<1	12.1	<1
Aliphatics >C21-C35	<1 mg/kg	TM414		13.3	<1	22	18.9	20	<1
Aliphatics >C35-C44	<1 mg/kg	TM414		1.49	<1	1.92	12.7	<5	<1
Total Aliphatics >C10-C44	<5 mg/kg	TM414		16.4	<5	49.2	32.8	49.2	<5
Total Aliphatics & Aromatics >C10-C44	<10 mg/kg	TM414		91.2	<10	187	82.9	4360	<10
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01 4	<0.01	<0.01 @	<0.01 @	<0.01	<0.01
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01 4	<0.01	<0.01 @	<0.01 @	<0.01	<0.01
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		<0.01 4	<0.01	<0.01 @	0.0443 @	0.123	<0.01
Aromatics > EC10-EC12	<1 mg/kg	TM414		<1	<1	<1	5.66	52.7	<1
Aromatics > EC12-EC16	<1 mg/kg	TM414		2.48	<1	1.28	1.38	325	<1
Aromatics > EC16-EC21	<1 mg/kg	TM414		13	<1	17.5	<1	1380	<1
Aromatics > EC21-EC35	<1 mg/kg	TM414		39.1	1.52	101	40.4	2210	<1
Aromatics >EC35-EC44	<1 mg/kg	TM414		19.6	<1	16.9	1.22	336	<1
Aromatics > EC40-EC44	<1 mg/kg	TM414		3.01	<1	1.93	<1	34.6	<1
Total Aromatics > EC10-EC44	<5 mg/kg	TM414		74.8	<5	137	50	4310	<5
Total Aliphatics & Aromatics >C5-C44	<10 mg/kg	TM414		91.2	<10	187	83.1	4360	<10
Total Aliphatics >C5-C10	<0.05 mg/kg	TM089		<0.05 4	<0.05	<0.05 @	0.136 @	0.246	<0.05
Total Aromatics >EC5-EC10	<0.05 mg/kg	TM089		<0.05 4	<0.05	<0.05 @	<0.05 @	0.123	<0.05
GRO >C5-C10	<0.02 mg/kg	TM089		<0.02 4	<0.02	<0.02 @	0.136 @	0.368	<0.02

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP137	TP139	TP139	TP141	TP144	TP149
			Depth (m)	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40	0.50 - 0.50	0.40 - 0.40	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	05/10/2020	07/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029183	23029278	23029282	23029118	23029192	23029143
			AGS Reference	ES1	ES2	ES3	ES1	ES1	ES1
GRO Surrogate % recovery**	%	TM089		82.4	83.5	84.3 3 @	56.7 4 @	91.1	76 @
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01	0.0189	1.45 3 @	<0.01 4 @	<0.01	<0.01 @
Aliphatics >C6-C8	<0.01 mg/kg	TM089		<0.01	0.0446	5.49 3 @	0.0125 4 @	0.0281	<0.01 @
Aliphatics >C8-C10	<0.01 mg/kg	TM089		<0.01	0.0608	703 3 @	0.0148 4 @	0.0398	<0.01 @
Aliphatics >C10-C12	<1 mg/kg	TM414		<1	<1	126	<1	<1	<1
Aliphatics >C12-C16	<1 mg/kg	TM414		<1	<1	180	1.27	1.21	6.32
Aliphatics >C16-C21	<1 mg/kg	TM414		2.18	<1	38.3	6.77	1.69	7.09
Aliphatics >C21-C35	<1 mg/kg	TM414		9.19	1.51	18.8	52.2	11.5	27.4
Aliphatics >C35-C44	<1 mg/kg	TM414		<1	<1	<10	19	2.89	4.48
Total Aliphatics >C10-C44	<5 mg/kg	TM414		12	<5	363	79.6	17.6	45.8
Total Aliphatics & Aromatics >C10-C44	<10 mg/kg	TM414		380	72.7	16200	286	407	887
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01	<0.01	6.32 3 @	<0.01 4 @	<0.01	<0.01 @
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01	<0.01	8.23 3 @	<0.01 4 @	<0.01	<0.01 @
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		<0.01	0.0405	469 3 @	0.0103 4 @	0.0269	<0.01 @
Aromatics > EC10-EC12	<1 mg/kg	TM414		3.62	1.8	6110	<1	<1	<1
Aromatics > EC12-EC16	<1 mg/kg	TM414		29.7	3.34	5210	9.67	15	31.6
Aromatics > EC16-EC21	<1 mg/kg	TM414		112	16.1	2160	49.7	104	235
Aromatics > EC21-EC35	<1 mg/kg	TM414		194	41.8	2220	138	234	513
Aromatics >EC35-EC44	<1 mg/kg	TM414		29.6	7.55	90.9	8.68	36.4	61.3
Aromatics > EC40-EC44	<1 mg/kg	TM414		3.05	<1	<10	<1	4.6	8.22
Total Aromatics > EC10-EC44	<5 mg/kg	TM414		368	70.6	15800	206	390	841
Total Aliphatics & Aromatics >C5-C44	<10 mg/kg	TM414		380	70.7	17400	286	407	887
Total Aliphatics >C5-C10	<0.05 mg/kg	TM089		<0.05	0.124	710 3 @	<0.05 4 @	0.0679	<0.05 @
Total Aromatics >EC5-EC10	<0.05 mg/kg	TM089		<0.05	<0.05	483 3 @	<0.05 4 @	<0.05	<0.05 @
GRO >C5-C10	<0.02 mg/kg	TM089		<0.02	0.124	1190 3 @	<0.02 4 @	0.0679	<0.02 @

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	TP149
Depth (m)	1.60 - 1.60
Sample Type	Soil/Solid (S)
Date Sampled	07/10/2020
Sample Time	.
Date Received	13/10/2020
SDG Ref	201014-61
Lab Sample No.(s)	23029150
AGS Reference	ES2

Component	LOD/Units	Method	
GRO Surrogate % recovery**	%	TM089	93.9 @
Aliphatics >C5-C6	<0.01 mg/kg	TM089	<0.01 @
Aliphatics >C6-C8	<0.01 mg/kg	TM089	0.0118 @
Aliphatics >C8-C10	<0.01 mg/kg	TM089	<0.01 @
Aliphatics >C10-C12	<1 mg/kg	TM414	<1
Aliphatics >C12-C16	<1 mg/kg	TM414	<1
Aliphatics >C16-C21	<1 mg/kg	TM414	<1
Aliphatics >C21-C35	<1 mg/kg	TM414	<1
Aliphatics >C35-C44	<1 mg/kg	TM414	<1
Total Aliphatics >C10-C44	<5 mg/kg	TM414	<5
Total Aliphatics & Aromatics >C10-C44	<10 mg/kg	TM414	<10
Aromatics >EC5-EC7	<0.01 mg/kg	TM089	<0.01 @
Aromatics >EC7-EC8	<0.01 mg/kg	TM089	<0.01 @
Aromatics >EC8-EC10	<0.01 mg/kg	TM089	<0.01 @
Aromatics > EC10-EC12	<1 mg/kg	TM414	<1
Aromatics > EC12-EC16	<1 mg/kg	TM414	<1
Aromatics > EC16-EC21	<1 mg/kg	TM414	<1
Aromatics > EC21-EC35	<1 mg/kg	TM414	<1
Aromatics >EC35-EC44	<1 mg/kg	TM414	<1
Aromatics > EC40-EC44	<1 mg/kg	TM414	<1
Total Aromatics > EC10-EC44	<5 mg/kg	TM414	<5
Total Aliphatics & Aromatics >C5-C44	<10 mg/kg	TM414	<10
Total Aliphatics >C5-C10	<0.05 mg/kg	TM089	<0.05 @
Total Aromatics >EC5-EC10	<0.05 mg/kg	TM089	<0.05 @
GRO >C5-C10	<0.02 mg/kg	TM089	<0.02 @

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP106	CP108	TP101	TP102	TP105	TP108
			Depth (m)	1.80 - 1.80	0.50 - 0.50	0.50 - 0.50	1.60 - 1.60	0.00 - 0.60	2.30 - 2.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	08/10/2020	08/10/2020	08/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029073	23029173	23029103	23029301	23029026	23029109
			AGS Reference	ES2	ES1	ES1	ES2	ES1	ES3
Dibromofluoromethane**	%	TM116		110	106 @	114	115	119	117
Toluene-d8**	%	TM116		92.3	93.2 @	94.4	91.5	101	84.3
4-Bromofluorobenzene**	%	TM116		72.5	84.7 @	83.6	80.6	83.9	72.9
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116		<0.01 M	<0.2 @ M	<0.2 M	<0.2 M	<0.01 M	<0.2 M
Benzene	<0.009 mg/kg	TM116		<0.009 M	<0.18 @ M	<0.18 M	<0.18 M	<0.009 M	<0.18 M
Toluene	<0.007 mg/kg	TM116		<0.007 M	<0.14 @ M	<0.14 M	<0.14 M	<0.007 M	<0.14 M
Ethylbenzene	<0.004 mg/kg	TM116		<0.004 M	<0.08 @ M	<0.08 M	<0.08 M	<0.004 M	<0.08 M
p/m-Xylene	<0.01 mg/kg	TM116		<0.01 #	<0.2 @ #	<0.2 #	<0.2 #	<0.01 #	<0.2 #
o-Xylene	<0.01 mg/kg	TM116		<0.01 M	<0.2 @ M	<0.2 M	<0.2 M	<0.01 M	<0.2 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.4 @	<0.4	<0.4	<0.02	<0.4
Sum of BTEX	<0.04 mg/kg	TM116		<0.04	<0.8 @	<0.8	<0.8	<0.04	<0.8

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP111	TP122	TP123	TP123	TP126	TP136
			Depth (m)	1.50 - 1.50	1.00 - 1.00	0.80 - 0.80	1.90 - 1.90	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/10/2020	07/10/2020	05/10/2020	05/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029318	23029135	23029248	23029261	23029157	23029204
			AGS Reference	ES2	ES1	ES1	ES3	ES1	ES1
Dibromofluoromethane**	%	TM116		110	106	119 @	127	107	113
Toluene-d8**	%	TM116		94.5	95.7	94.2 @	102	94.4	101
4-Bromofluorobenzene**	%	TM116		87.9	95.4	81.6 @	72.1	88.1	92.8
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116		<0.2 M	<0.2 M	<0.1 @ M	<0.01 M	<0.2 M	<0.01 M
Benzene	<0.009 mg/kg	TM116		<0.18 M	<0.18 M	<0.09 @ M	<0.009 M	<0.18 M	<0.009 M
Toluene	<0.007 mg/kg	TM116		<0.14 M	<0.14 M	<0.07 @ M	<0.007 M	<0.14 M	<0.007 M
Ethylbenzene	<0.004 mg/kg	TM116		<0.08 M	<0.08 M	<0.04 @ M	<0.004 M	<0.08 M	<0.004 M
p/m-Xylene	<0.01 mg/kg	TM116		<0.2 #	<0.2 #	<0.1 @ #	<0.01 #	<0.2 #	<0.01 #
o-Xylene	<0.01 mg/kg	TM116		<0.2 M	<0.2 M	<0.1 @ M	<0.01 M	<0.2 M	<0.01 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.2 @	<0.02	<0.4	<0.02
Sum of BTEX	<0.04 mg/kg	TM116		<0.8	<0.8	<0.4 @	<0.04	<0.8	<0.04

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP137	TP139	TP139	TP141	TP144	TP149
			Depth (m)	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40	0.50 - 0.50	0.40 - 0.40	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/10/2020	05/10/2020	05/10/2020	07/10/2020	07/10/2020	07/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			SDG Ref	201014-61	201014-61	201014-61	201014-61	201014-61	201014-61
			Lab Sample No.(s)	23029183	23029278	23029282	23029118	23029192	23029143
			AGS Reference	ES1	ES2	ES3	ES1	ES1	ES1
Dibromofluoromethane**	%	TM116		124	16.8 @	113 @	108	114	113
Toluene-d8**	%	TM116		100	92.9 @	87.5 @	94.8	95.1	93.3
4-Bromofluorobenzene**	%	TM116		82	69.4 @	76.1 @	92.7	84.1	85.5
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116		<0.01 M	<0.01 @ M	<0.2 @ M	<0.2 M	<0.2 M	<0.2 M
Benzene	<0.009 mg/kg	TM116		<0.009 M	<0.009 @ M	2.74 @ M	<0.18 M	<0.18 M	<0.18 M
Toluene	<0.007 mg/kg	TM116		<0.007 M	<0.007 @ M	3.28 @ M	<0.14 M	<0.14 M	<0.14 M
Ethylbenzene	<0.004 mg/kg	TM116		<0.004 M	<0.004 @ M	31.1 @ M	<0.08 M	<0.08 M	<0.08 M
p/m-Xylene	<0.01 mg/kg	TM116		<0.01 #	<0.01 @ #	219 @ #	<0.2 #	<0.2 #	<0.2 #
o-Xylene	<0.01 mg/kg	TM116		<0.01 M	<0.01 @ M	114 @ M	<0.2 M	<0.2 M	<0.2 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.02 @	333 @	<0.4	<0.4	<0.4
Sum of BTEX	<0.04 mg/kg	TM116		<0.04	<0.04 @	374 @	<0.8	<0.8	<0.8

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	TP149
Depth (m)	1.60 - 1.60
Sample Type	Soil/Solid (S)
Date Sampled	07/10/2020
Sample Time	.
Date Received	13/10/2020
SDG Ref	201014-61
Lab Sample No.(s)	23029150
AGS Reference	ES2

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM116	135
Toluene-d8**	%	TM116	101
4-Bromofluorobenzene**	%	TM116	82.2
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116	<0.01 M
Benzene	<0.009 mg/kg	TM116	<0.009 M
Toluene	<0.007 mg/kg	TM116	<0.007 M
Ethylbenzene	<0.004 mg/kg	TM116	<0.004 M
p/m-Xylene	<0.01 mg/kg	TM116	<0.01 #
o-Xylene	<0.01 mg/kg	TM116	<0.01 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116	<0.02
Sum of BTEX	<0.04 mg/kg	TM116	<0.04

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP106ES2 1.80 - 1.80 SOLID 06/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029073 TM048	22/10/2020	Barbara Urbanek-Walsh	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP108ES1 0.50 - 0.50 SOLID 05/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029173 TM048	22/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP101ES1 0.50 - 0.50 SOLID 08/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029103 TM048	22/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP102ES2 1.60 - 1.60 SOLID 08/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029301 TM048	22/10/2020	Marcin Magdziarek	Soil containing material typical of asbestos paper	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP105ES1 0.00 - 0.60 SOLID 08/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029026 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP108ES3 2.30 - 2.30 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029109 TM048	22/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP111ES2 1.50 - 1.50 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029318 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP122ES1 1.00 - 1.00 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029135 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP123ES1 0.80 - 0.80 SOLID 05/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029248 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP123ES3 1.90 - 1.90 SOLID 05/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029261 TM048	22/10/2020	James Richards	Fibre bundle in soil	Not Detected (#)	Trace (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP126ES1 0.50 - 0.50 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029157 TM048	22/10/20	Eva Guerra	fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP136ES1 0.80 - 0.80 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029204 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP137ES1 1.20 - 1.20 SOLID 06/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029183 TM048	22/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP139ES2 1.50 - 1.50 SOLID 05/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029278 TM048	22/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP139ES3 2.40 - 2.40 SOLID 05/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029282 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP141ES1 0.50 - 0.50 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029118 TM048	22/10/20	Eva Guerra	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP144ES1 0.40 - 0.40 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029192 TM048	22/10/20	Eva Guerra	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP149ES1 0.50 - 0.50 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029143 TM048	22/10/2020	Barbara Urbanek-Walsh	Loose fibres in soil.	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP149ES2 1.60 - 1.60 SOLID 07/10/2020 00:00:00 13/10/2020 05:00:00 201014-61 23029150 TM048	22/10/2020	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	TP102ES2	None (#)	N/C	0.2785 (#)	<0.001 (#)	0.2785 (#)
Depth (m)	1.60 - 1.60					
Sample Type	SOLID					
Date Sampled	08/10/2020 00:00:00					
Date Received	13/10/2020 05:00:00					
SDG	201014-61					
Original Sample	23029301					
Method Number	TM304					
Cust. Sample Ref.	TP126ES1	None (#)	N/C	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.50 - 0.50					
Sample Type	SOLID					
Date Sampled	07/10/2020 00:00:00					
Date Received	13/10/2020 05:00:00					
SDG	201014-61					
Original Sample	23029157					
Method Number	TM304					
Cust. Sample Ref.	TP149ES1	None (#)	N/C	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.50 - 0.50					
Sample Type	SOLID					
Date Sampled	07/10/2020 00:00:00					
Date Received	13/10/2020 05:00:00					
SDG	201014-61					
Original Sample	23029143					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.115	**Natural Moisture Content (%)**	28.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	77.9
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029176
Sampled Date	05-Oct-2020
Customer Sample Ref.	CP108 ES2
Depth (m)	1.50 - 1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Low Level Hexavalent Chromium	0.0534	<0.003	0.534	<0.03	-	-	-
Sulphate (soluble)	114	<2	1140	<20	-	-	-
Sulphide	0.0354	<0.01	0.354	<0.1	-	-	-
Dissolved Organic Carbon	205	<6	2050	<60	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	0.0000262	<0.00001	0.000262	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.0000135	<0.000005	0.000135	<0.00005	-	-	-
Arsenic	0.00176	<0.0005	0.0176	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000241	<0.000005	0.000241	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.00000669	<0.000005	0.0000669	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.0212	<0.01	0.212	<0.1	-	-	-
Phenanthrene (diss.filt)	0.0000239	<0.000005	0.000239	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	100	<2	1000	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	0.0000058	<0.000005	0.000058	<0.00005	-	-	-
Chrysene (diss.filt)	0.0000164	<0.000005	0.000164	<0.00005	-	-	-
Pyrene (diss.filt)	0.0000199	<0.000005	0.000199	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-
Benzo(a)anthracene (diss.filt)	0.0000163	<0.000005	0.000163	<0.00005	-	-	-
Chromium	0.0503	<0.001	0.503	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	0.0000214	<0.000005	0.000214	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	0.0000054	<0.000005	0.000054	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	0.0000164	<0.000002	0.000164	<0.00002	-	-	-
Copper	0.0358	<0.0003	0.358	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	0.0000301	<0.000005	0.000301	<0.00005	-	-	-
Lead	0.000335	<0.0002	0.00335	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	0.0000403	<0.000005	0.000403	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	0.0000352	<0.000005	0.000352	<0.00005	-	-	-

Leach Test Information

Date Prepared	17-Oct-2020
pH (pH Units)	7.74
Conductivity (µS/cm)	440.00
Temperature (°C)	18.10
Volume Leachant (Litres)	0.875

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.115	**Natural Moisture Content (%)**	28.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	77.9
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029176
Sampled Date	05-Oct-2020
Customer Sample Ref.	CP108 ES2
Depth (m)	1.50 - 1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH 16 EPA Total by GCMS (diss.filt)	0.000302	<0.000082	0.00302	<0.00082	-	-	-
Nickel	0.00163	<0.0004	0.0163	<0.004	-	-	-
Selenium	0.00177	<0.001	0.0177	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	26.3	<0.2	263	<2	-	-	-

Leach Test Information

Date Prepared	17-Oct-2020
pH (pH Units)	7.74
Conductivity (µS/cm)	440.00
Temperature (°C)	18.10
Volume Leachant (Litres)	0.875

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

14:13:28 05/11/2020

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.129	**Natural Moisture Content (%)**	43.1
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	69.9
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029237
Sampled Date	07-Oct-2020
Customer Sample Ref.	TP148 ES1
Depth (m)	0.40 - 0.40

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Low Level Hexavalent Chromium	<0.003	<0.003	<0.03	<0.03	-	-	-
Sulphate (soluble)	9.3	<2	93	<20	-	-	-
Sulphide	0.012	<0.01	0.12	<0.1	-	-	-
Dissolved Organic Carbon	4.85	<3	48.5	<30	-	-	-
Mercury Dissolved (CVAF)	0.0000222	<0.00001	0.000222	<0.0001	-	-	-
Naphthalene (diss.filt)	0.0000138	<0.00001	0.000138	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.0000202	<0.000005	0.000202	<0.00005	-	-	-
Arsenic	0.00227	<0.0005	0.0227	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	0.0000069	<0.000005	0.000069	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000222	<0.000005	0.000222	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.00000719	<0.000005	0.0000719	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.0685	<0.01	0.685	<0.1	-	-	-
Phenanthrene (diss.filt)	0.0000282	<0.000005	0.000282	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	34	<2	340	<20	-	-	-
Cadmium	0.000349	<0.00008	0.00349	<0.0008	-	-	-
Fluorene (diss.filt)	0.00000724	<0.000005	0.0000724	<0.00005	-	-	-
Chrysene (diss.filt)	0.0000182	<0.000005	0.000182	<0.00005	-	-	-
Pyrene (diss.filt)	0.000022	<0.000005	0.00022	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-
Benzo(a)anthracene (diss.filt)	0.0000154	<0.000005	0.000154	<0.00005	-	-	-
Chromium	1.5	<0.00281	15	<0.0281	-	-	-
Benzo(b)fluoranthene (diss.filt)	0.0000358	<0.000005	0.000358	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	0.00000797	<0.000005	0.0000797	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	0.0000177	<0.000002	0.000177	<0.00002	-	-	-
Copper	0.0112	<0.0003	0.112	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	0.0000127	<0.000005	0.000127	<0.00005	-	-	-
Lead	0.108	<0.0002	1.08	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	0.0000435	<0.000005	0.000435	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	0.0000267	<0.000005	0.000267	<0.00005	-	-	-

Leach Test Information

Date Prepared	19-Oct-2020
pH (pH Units)	7.96
Conductivity (µS/cm)	91.90
Temperature (°C)	18.30
Volume Leachant (Litres)	0.861

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.129	**Natural Moisture Content (%)**	43.1
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	69.9
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029237
Sampled Date	07-Oct-2020
Customer Sample Ref.	TP148 ES1
Depth (m)	0.40 - 0.40

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH 16 EPA Total by GCMS (diss.filt)	0.000306	<0.000082	0.00306	<0.00082	-	-	-
Nickel	0.00191	<0.0004	0.0191	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	16	<0.2	160	<2	-	-	-

Leach Test Information

Date Prepared	19-Oct-2020
pH (pH Units)	7.96
Conductivity (µS/cm)	91.90
Temperature (°C)	18.30
Volume Leachant (Litres)	0.861

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

14:13:28 05/11/2020

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.111	**Natural Moisture Content (%)**	23.5
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	80.9
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029258
Sampled Date	05-Oct-2020
Customer Sample Ref.	TP123 ES2
Depth (m)	1.30 - 1.30

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Low Level Hexavalent Chromium	0.00496	<0.003	0.0496	<0.03	-	-	-
Sulphate (soluble)	2.2	<2	22	<20	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Dissolved Organic Carbon	<3	<3	<30	<30	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total Cyanide (W)	0.07	<0.05	0.7	<0.5	-	-	-
Acenaphthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Arsenic	0.000533	<0.0005	0.00533	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000106	<0.000005	0.000106	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.0599	<0.01	0.599	<0.1	-	-	-
Phenanthrene (diss.filt)	0.00000786	<0.000005	0.0000786	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	19	<2	190	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chrysene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Pyrene (diss.filt)	0.00000687	<0.000005	0.0000687	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-
Benzo(a)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chromium	0.00428	<0.001	0.0428	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Copper	0.000938	<0.0003	0.00938	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	<0.0002	<0.0002	<0.002	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	20-Oct-2020
pH (pH Units)	8.03
Conductivity (µS/cm)	42.60
Temperature (°C)	15.30
Volume Leachant (Litres)	0.879

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.111	**Natural Moisture Content (%)**	23.5
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	80.9
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029258
Sampled Date	05-Oct-2020
Customer Sample Ref.	TP123 ES2
Depth (m)	1.30 - 1.30

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH 16 EPA Total by GCMS (diss.filt)	<0.000082	<0.000082	<0.00082	<0.00082	-	-	-
Nickel	0.0011	<0.0004	0.011	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	4.93	<0.2	49.3	<2	-	-	-

Leach Test Information

Date Prepared	20-Oct-2020
pH (pH Units)	8.03
Conductivity (µS/cm)	42.60
Temperature (°C)	15.30
Volume Leachant (Litres)	0.879

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

14:13:28 05/11/2020

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.105	**Natural Moisture Content (%)**	15.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	86.3
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029287
Sampled Date	08-Oct-2020
Customer Sample Ref.	TP112 ES2
Depth (m)	1.80 - 1.80

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Low Level Hexavalent Chromium	<0.003	<0.003	<0.03	<0.03	-	-	-
Sulphate (soluble)	279	<2	2790	<20	-	-	-
Sulphide	0.102	<0.01	1.02	<0.1	-	-	-
Dissolved Organic Carbon	6.36	<3	63.6	<30	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	0.0000316	<0.00001	0.000316	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.00031	<0.000005	0.0031	<0.00005	-	-	-
Arsenic	0.00332	<0.0005	0.0332	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	0.000322	<0.000005	0.00322	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000501	<0.000005	0.000501	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.000025	<0.000005	0.00025	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.272	<0.01	2.72	<0.1	-	-	-
Phenanthrene (diss.filt)	0.0000201	<0.000005	0.000201	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	115	<2	1150	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	0.0000111	<0.000005	0.000111	<0.00005	-	-	-
Chrysene (diss.filt)	0.0000348	<0.000005	0.000348	<0.00005	-	-	-
Pyrene (diss.filt)	0.0000391	<0.000005	0.000391	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-
Benzo(a)anthracene (diss.filt)	0.0000221	<0.000005	0.000221	<0.00005	-	-	-
Chromium	0.00305	<0.001	0.0305	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	0.0000312	<0.000005	0.000312	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	0.0000398	<0.000002	0.000398	<0.00002	-	-	-
Copper	0.00328	<0.0003	0.0328	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	0.0000672	<0.000005	0.000672	<0.00005	-	-	-
Lead	0.000584	<0.0002	0.00584	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	0.000106	<0.000005	0.00106	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	0.0000858	<0.000005	0.000858	<0.00005	-	-	-

Leach Test Information

Date Prepared	17-Oct-2020
pH (pH Units)	6.78
Conductivity (µS/cm)	713.00
Temperature (°C)	20.20
Volume Leachant (Litres)	0.885

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.105	**Natural Moisture Content (%)**	15.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	86.3
Particle Size <4mm	>95%		

Case	
SDG	201014-61
Lab Sample Number(s)	23029287
Sampled Date	08-Oct-2020
Customer Sample Ref.	TP112 ES2
Depth (m)	1.80 - 1.80

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH 16 EPA Total by GCMS (diss.filt)	0.0012	<0.000082	0.012	<0.00082	-	-	-
Nickel	0.00876	<0.0004	0.0876	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	154	<0.2	1540	<2	-	-	-

Leach Test Information

Date Prepared	17-Oct-2020
pH (pH Units)	6.78
Conductivity (µS/cm)	713.00
Temperature (°C)	20.20
Volume Leachant (Litres)	0.885

Mcerts Certification does not apply to leachates

05/11/2020 14:13:51

14:13:28 05/11/2020

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Notification of NDPs (No determination possible)

Date Received : 14/10/2020 10:58:38

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
23029261	TP123 ES3	1.90 - 1.90	Asbestos Quantification - Full	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM243		Mixed Anions In Soils By Kone
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM331		Low Level Hexavalent Chromium
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Test Completion Dates

Lab Sample No(s)	23029073	23029173	23029176	23029103	23029301	23029026	23029109	23029318	23029287	23029135
Customer Sample Ref.	CP106	CP108	CP108	TP101	TP102	TP105	TP108	TP111	TP112	TP122
AGS Ref.	ES2	ES1	ES2	ES1	ES2	ES1	ES3	ES2	ES2	ES1
Depth	1.80 - 1.80	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.00 - 0.60	2.30 - 2.30	1.50 - 1.50	1.80 - 1.80	1.00 - 1.00
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3			21-Oct-2020						21-Oct-2020	
Anions by Kone (soil)	22-Oct-2020	21-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	22-Oct-2020	21-Oct-2020		21-Oct-2020
Anions by Kone (w)			21-Oct-2020						21-Oct-2020	
Asbestos ID in Solid Samples	22-Oct-2020	22-Oct-2020		22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020		22-Oct-2020
Asbestos Quantification - Full					05-Nov-2020					
Boron Water Soluble	22-Oct-2020	21-Oct-2020		20-Oct-2020	20-Oct-2020	20-Oct-2020	22-Oct-2020	20-Oct-2020		21-Oct-2020
CEN 10:1 Leachate (1 Stage)			20-Oct-2020						17-Oct-2020	
CEN Readings			21-Oct-2020						21-Oct-2020	
Cyanide Comp/Free/Total/Thiocyanate	21-Oct-2020	21-Oct-2020	22-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	22-Oct-2020	20-Oct-2020	22-Oct-2020	21-Oct-2020
Dissolved Metals by ICP-MS			21-Oct-2020						22-Oct-2020	
Dissolved Organic/Inorganic Carbon			23-Oct-2020						21-Oct-2020	
Easily Liberated Sulphide	21-Oct-2020	21-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	22-Oct-2020	21-Oct-2020		21-Oct-2020
EPH CWG GC (S)	21-Oct-2020	20-Oct-2020		20-Oct-2020	20-Oct-2020	20-Oct-2020	22-Oct-2020	20-Oct-2020		21-Oct-2020
GRO by GC-FID (S)	21-Oct-2020	21-Oct-2020		19-Oct-2020	21-Oct-2020	19-Oct-2020	21-Oct-2020	21-Oct-2020		21-Oct-2020
Hexavalent Chromium (s)	21-Oct-2020	21-Oct-2020		20-Oct-2020	20-Oct-2020	20-Oct-2020	22-Oct-2020	20-Oct-2020		21-Oct-2020
Low Level Hexavalent Chromium (w)			21-Oct-2020						21-Oct-2020	
Mercury Dissolved			21-Oct-2020						21-Oct-2020	
Metals in solid samples by OES	23-Oct-2020	22-Oct-2020		20-Oct-2020	23-Oct-2020	21-Oct-2020	22-Oct-2020	20-Oct-2020		22-Oct-2020
Moisture at 105C			17-Oct-2020						17-Oct-2020	
PAH by GCMS	21-Oct-2020	22-Oct-2020		22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020		23-Oct-2020
PAH in waters by GC-MS (diss.filt)			22-Oct-2020						22-Oct-2020	
PCBs by GCMS	22-Oct-2020						22-Oct-2020	21-Oct-2020	21-Oct-2020	
pH	21-Oct-2020	21-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020	21-Oct-2020		20-Oct-2020
pH Value			21-Oct-2020						21-Oct-2020	
Phenols by HPLC (S)	21-Oct-2020	20-Oct-2020		20-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	20-Oct-2020		21-Oct-2020
Phenols by HPLC (W)			22-Oct-2020						21-Oct-2020	
Sample description	20-Oct-2020	16-Oct-2020	16-Oct-2020	17-Oct-2020	17-Oct-2020	16-Oct-2020	19-Oct-2020	17-Oct-2020	17-Oct-2020	19-Oct-2020
Sulphide			21-Oct-2020						21-Oct-2020	
Total Organic Carbon	26-Oct-2020	22-Oct-2020		22-Oct-2020	22-Oct-2020	22-Oct-2020	23-Oct-2020	22-Oct-2020		23-Oct-2020
Total Sulphate	22-Oct-2020	22-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	22-Oct-2020	21-Oct-2020		22-Oct-2020
TPH CWG GC (S)	21-Oct-2020	21-Oct-2020		20-Oct-2020	21-Oct-2020	20-Oct-2020	22-Oct-2020	21-Oct-2020		21-Oct-2020
VOC MS (S)	21-Oct-2020	21-Oct-2020		19-Oct-2020	19-Oct-2020	21-Oct-2020	21-Oct-2020	19-Oct-2020		21-Oct-2020

Lab Sample No(s)	23029248	23029258	23029261	23029157	23029204	23029183	23029278	23029282	23029118	23029192
Customer Sample Ref.	TP123	TP123	TP123	TP126	TP136	TP137	TP139	TP139	TP141	TP144
AGS Ref.	ES1	ES2	ES3	ES1	ES1	ES1	ES2	ES3	ES1	ES1
Depth	0.80 - 0.80	1.30 - 1.30	1.90 - 1.90	0.50 - 0.50	0.80 - 0.80	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40	0.50 - 0.50	0.40 - 0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3		22-Oct-2020								
Anions by Kone (soil)	21-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020
Anions by Kone (w)		22-Oct-2020								
Asbestos ID in Solid Samples	22-Oct-2020		22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020
Asbestos Quantification - Full				05-Nov-2020						
Boron Water Soluble	20-Oct-2020		21-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	21-Oct-2020	20-Oct-2020	21-Oct-2020	20-Oct-2020
CEN 10:1 Leachate (1 Stage)		20-Oct-2020								
CEN Readings		21-Oct-2020								
Cyanide Comp/Free/Total/Thiocyanate	20-Oct-2020	23-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020	20-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020
Dissolved Metals by ICP-MS		22-Oct-2020								
Dissolved Organic/Inorganic Carbon		23-Oct-2020								
Easily Liberated Sulphide	21-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020	21-Oct-2020
EPH CWG GC (S)	20-Oct-2020		21-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	21-Oct-2020	20-Oct-2020
GRO by GC-FID (S)	21-Oct-2020		21-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	19-Oct-2020
Hexavalent Chromium (s)	20-Oct-2020		21-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	21-Oct-2020	20-Oct-2020	22-Oct-2020	20-Oct-2020
Low Level Hexavalent Chromium (w)		22-Oct-2020								
Mercury Dissolved		22-Oct-2020								
Metals in solid samples by OES	21-Oct-2020		22-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020	22-Oct-2020	21-Oct-2020	22-Oct-2020	21-Oct-2020
Moisture at 105C		20-Oct-2020								
PAH by GCMS	25-Oct-2020		22-Oct-2020	24-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	25-Oct-2020	23-Oct-2020	22-Oct-2020
PAH in waters by GC-MS (diss.filt)		22-Oct-2020								
PCBs by GCMS			27-Oct-2020							
pH	21-Oct-2020		21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020	21-Oct-2020
pH Value		22-Oct-2020								
Phenols by HPLC (S)	22-Oct-2020		22-Oct-2020	20-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	21-Oct-2020	22-Oct-2020
Phenols by HPLC (W)		22-Oct-2020								
Sample description	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	19-Oct-2020	16-Oct-2020
Sulphide		22-Oct-2020								
Total Organic Carbon	22-Oct-2020		23-Oct-2020	22-Oct-2020	22-Oct-2020	22-Oct-2020	23-Oct-2020	23-Oct-2020	22-Oct-2020	22-Oct-2020
Total Sulphate	21-Oct-2020		22-Oct-2020	21-Oct-2020	20-Oct-2020	21-Oct-2020	22-Oct-2020	21-Oct-2020	22-Oct-2020	20-Oct-2020
TPH CWG GC (S)	21-Oct-2020		21-Oct-2020	20-Oct-2020	20-Oct-2020	20-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020
VOC MS (S)	19-Oct-2020		20-Oct-2020	20-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	21-Oct-2020	20-Oct-2020	19-Oct-2020

CERTIFICATE OF ANALYSIS

SDG:	201014-61	**Client Reference:**	LD10162	**Report Number:**	574266
Location:	Ten Acres Lane	**Order Number:**	LD1659	**Superseded Report:**	572741

Lab Sample No(s)	23029237	23029143	23029150
Customer Sample Ref.	TP148	TP149	TP149
AGS Ref.	ES1	ES1	ES2
Depth	0.40 - 0.40	0.50 - 0.50	1.60 - 1.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3	21-Oct-2020		
Anions by Kone (soil)		21-Oct-2020	21-Oct-2020
Anions by Kone (w)	21-Oct-2020		
Asbestos ID in Solid Samples		22-Oct-2020	22-Oct-2020
Asbestos Quantification - Full		05-Nov-2020	
Boron Water Soluble		21-Oct-2020	21-Oct-2020
CEN 10:1 Leachate (1 Stage)	20-Oct-2020		
CEN Readings	21-Oct-2020		
Cyanide Comp/Free/Total/Thiocyanate	22-Oct-2020	21-Oct-2020	21-Oct-2020
Dissolved Metals by ICP-MS	21-Oct-2020		
Dissolved Organic/Inorganic Carbon	22-Oct-2020		
Easily Liberated Sulphide		21-Oct-2020	21-Oct-2020
EPH CWG GC (S)		20-Oct-2020	20-Oct-2020
GRO by GC-FID (S)		21-Oct-2020	21-Oct-2020
Hexavalent Chromium (s)		21-Oct-2020	21-Oct-2020
Low Level Hexavalent Chromium (w)	21-Oct-2020		
Mercury Dissolved	21-Oct-2020		
Metals in solid samples by OES		22-Oct-2020	22-Oct-2020
Moisture at 105C	19-Oct-2020		
PAH by GCMS		22-Oct-2020	22-Oct-2020
PAH in waters by GC-MS (diss.filt)	22-Oct-2020		
pH		21-Oct-2020	21-Oct-2020
pH Value	21-Oct-2020		
Phenols by HPLC (S)		22-Oct-2020	22-Oct-2020
Phenols by HPLC (W)	22-Oct-2020		
Sample description	16-Oct-2020	16-Oct-2020	16-Oct-2020
Sulphide	21-Oct-2020		
Total Organic Carbon		23-Oct-2020	22-Oct-2020
Total Sulphate		22-Oct-2020	22-Oct-2020
TPH CWG GC (S)		21-Oct-2020	21-Oct-2020
VOC MS (S)		21-Oct-2020	20-Oct-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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ST1 5BD

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	24 October 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201015-136
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	572485

We received 7 samples on Wednesday October 14, 2020 and 3 of these samples were scheduled for analysis which was completed on Saturday October 24, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23041441	CP110		0.60 - 0.60	08/10/2020
23041445	CP113		0.50 - 0.50	08/10/2020
23041449	CP113		0.80 - 0.80	08/10/2020
23041422	TP104		1.80 - 1.80	09/10/2020
23041413	TP109		1.10 - 1.10	09/10/2020
23041433	TP138		1.60 - 1.60	09/10/2020
23041437	TP138		3.30 - 3.30	09/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23041449			23041422			23041433	
Customer Sample Reference			CP113			TP104			TP138	
AGS Reference										
Depth (m)			0.80 - 0.80			1.80 - 1.80			1.60 - 1.60	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S
Anions by Kone (soil)	All	NDPs: 0 Tests: 3	X			X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3	X		X			X		
Boron Water Soluble	All	NDPs: 0 Tests: 3	X			X			X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3	X			X			X	
Easily Liberated Sulphide	All	NDPs: 0 Tests: 3	X			X			X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 3	X			X			X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 3		X			X			X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 3	X			X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 3	X			X			X	
PAH by GCMS	All	NDPs: 0 Tests: 3	X			X			X	
pH	All	NDPs: 0 Tests: 3	X			X			X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 3	X			X			X	
Sample description	All	NDPs: 0 Tests: 1	X							
Total Organic Carbon	All	NDPs: 0 Tests: 3	X			X			X	
Total Sulphate	All	NDPs: 0 Tests: 3	X			X			X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23041449		23041422		23041433			
Customer Sample Reference			CP113		TP104		TP138			
AGS Reference										
Depth (m)			0.80 - 0.80		1.80 - 1.80		1.60 - 1.60			
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S
TPH CWG GC (S)	All	NDPs: 0 Tests: 3	X			X			X	
VOC MS (S)	All	NDPs: 0 Tests: 3		X			X			X

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23041449	CP113	0.80 - 0.80	Dark Brown	Sandy Clay Loam	None	None
23041422	TP104	1.80 - 1.80	Dark Brown	Sandy Loam	Vegetation	Brick
23041433	TP138	1.60 - 1.60	Dark Brown	Sandy Loam	Vegetation	Brick

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP104	TP138			
			Depth (m)	0.80 - 0.80	1.80 - 1.80	1.60 - 1.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	08/10/2020	09/10/2020	09/10/2020			
			Sample Time	.	.	.			
			Date Received	14/10/2020	14/10/2020	14/10/2020			
			SDG Ref	201015-136	201015-136	201015-136			
			Lab Sample No.(s)	23041449	23041422	23041433			
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		17	16	18			
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M	<0.01 @ M	<0.01 @ M			
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 @ M	0.0714 @ M	<0.01 @ M			
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M	<0.015 @ M	<0.015 @ M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M	0.0714 @ M	<0.035 @ M			
Soil Organic Matter (SOM)	<0.35 %	TM132		0.748 #	8.76 #	5.05 #			
pH	1 pH Units	TM133		7.35 M	8.2 M	8.39 M			
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	1.63 #			
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M			
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	<15 @ M	<15 @ M			
Arsenic	<0.6 mg/kg	TM181		4.56 M	18.1 M	10.3 M			
Cadmium	<0.02 mg/kg	TM181		<0.02 M	0.408 M	0.415 M			
Chromium	<0.9 mg/kg	TM181		10.5 M	27.3 M	11.1 M			
Copper	<1.4 mg/kg	TM181		6.9 M	100 M	44.5 M			
Lead	<0.7 mg/kg	TM181		13.1 M	123 M	471 M			
Mercury	<0.14 mg/kg	TM181		<0.14 M	0.178 M	0.356 M			
Nickel	<0.2 mg/kg	TM181		7.73 M	29.9 M	22.4 M			
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #			
Zinc	<1.9 mg/kg	TM181		32.8 M	162 M	194 M			
Sulphate, Total	<48 mg/kg	TM221		<48 M	821 M	1070 M			
Boron, water soluble	<1 mg/kg	TM222		<1 M	1.29 M	<1 M			
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0225 M	0.116 M	0.0275 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP104	TP138			
			Depth (m)	0.80 - 0.80	1.80 - 1.80	1.60 - 1.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	08/10/2020	09/10/2020	09/10/2020			
			Sample Time	.	.	.			
			Date Received	14/10/2020	14/10/2020	14/10/2020			
			SDG Ref	201015-136	201015-136	201015-136			
			Lab Sample No.(s)	23041449	23041422	23041433			
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		93.5	84	85.8			
Acenaphthene-d10 % recovery**	%	TM218		84.1	78.3	80.6			
Phenanthrene-d10 % recovery**	%	TM218		91.6	87	85.6			
Chrysene-d12 % recovery**	%	TM218		98.8	87.8	92.7			
Perylene-d12 % recovery**	%	TM218		93.1	84	84.2			
Naphthalene	<0.009 mg/kg	TM218		<0.009 M	3.14 M	0.0632 M			
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M	0.148 M	0.0172 M			
Acenaphthene	<0.008 mg/kg	TM218		<0.008 M	7.93 M	0.0843 M			
Fluorene	<0.01 mg/kg	TM218		<0.01 M	6.32 M	0.0521 M			
Phenanthrene	<0.015 mg/kg	TM218		<0.015 M	45.4 M	0.679 M			
Anthracene	<0.016 mg/kg	TM218		<0.016 M	11.7 M	0.154 M			
Fluoranthene	<0.017 mg/kg	TM218		<0.017 M	51.9 M	1.13 M			
Pyrene	<0.015 mg/kg	TM218		<0.015 M	43.8 M	1.04 M			
Benz(a)anthracene	<0.014 mg/kg	TM218		<0.014 M	18.7 M	0.604 M			
Chrysene	<0.01 mg/kg	TM218		<0.01 M	18.4 M	0.594 M			
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		<0.015 M	22.1 M	0.894 M			
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		<0.014 M	7 M	0.322 M			
Benzo(a)pyrene	<0.015 mg/kg	TM218		<0.015 M	16.3 M	0.655 M			
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		<0.018 M	10.2 M	0.596 M			
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		<0.023 M	1.92 M	0.103 M			
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		<0.024 M	10 M	0.522 M			
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		<0.118	275	7.52			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP104	TP138
			Depth (m)	0.80 - 0.80	1.80 - 1.80	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	08/10/2020	09/10/2020	09/10/2020
			Sample Time	.	.	.
			Date Received	14/10/2020	14/10/2020	14/10/2020
			SDG Ref	201015-136	201015-136	201015-136
			Lab Sample No.(s)	23041449	23041422	23041433
			AGS Reference			
GRO Surrogate % recovery**	%	TM089		99.3 @	79.3	77.1
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01 @	0.0107	<0.01
Aliphatics >C6-C8	<0.01 mg/kg	TM089		<0.01 @	0.0476	<0.01
Aliphatics >C8-C10	<0.01 mg/kg	TM089		<0.01 @	0.0762	<0.01
Aliphatics >C10-C12	<1 mg/kg	TM414		<1	2.29	<1
Aliphatics >C12-C16	<1 mg/kg	TM414		<1	14.1	<1
Aliphatics >C16-C21	<1 mg/kg	TM414		<1	23.1	4.16
Aliphatics >C21-C35	<1 mg/kg	TM414		<1	55.9	22.8
Aliphatics >C35-C44	<1 mg/kg	TM414		<1	17.1	3.53
Total Aliphatics >C10-C44	<5 mg/kg	TM414		<5	112	31
Total Aliphatics & Aromatics >C10-C44	<10 mg/kg	TM414		<10	657	74.7
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01 @	<0.01	<0.01
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01 @	<0.01	<0.01
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		<0.01 @	0.05	<0.01
Aromatics > EC10-EC12	<1 mg/kg	TM414		<1	3.84	<1
Aromatics > EC12-EC16	<1 mg/kg	TM414		<1	40.2	1.35
Aromatics > EC16-EC21	<1 mg/kg	TM414		<1	142	5.99
Aromatics > EC21-EC35	<1 mg/kg	TM414		<1	324	31.8
Aromatics >EC35-EC44	<1 mg/kg	TM414		<1	34.4	4.44
Aromatics > EC40-EC44	<1 mg/kg	TM414		<1	7.07	<1
Total Aromatics > EC10-EC44	<5 mg/kg	TM414		<5	544	43.7
Total Aliphatics & Aromatics >C5-C44	<10 mg/kg	TM414		<10	657	74.7
Total Aliphatics >C5-C10	<0.05 mg/kg	TM089		<0.05 @	0.134	<0.05
Total Aromatics >EC5-EC10	<0.05 mg/kg	TM089		<0.05 @	<0.05	<0.05
GRO >C5-C10	<0.02 mg/kg	TM089		<0.02 @	0.134	<0.02

Validated

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP104	TP138			
			Depth (m)	0.80 - 0.80	1.80 - 1.80	1.60 - 1.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	08/10/2020	09/10/2020	09/10/2020			
			Sample Time	.	.	.			
			Date Received	14/10/2020	14/10/2020	14/10/2020			
			SDG Ref	201015-136	201015-136	201015-136			
			Lab Sample No.(s)	23041449	23041422	23041433			
			AGS Reference						
Dibromofluoromethane**	%	TM116		123	117	109			
Toluene-d8**	%	TM116		97.9	87.9	96			
4-Bromofluorobenzene**	%	TM116		97.4	72.4	90			
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116		<0.01 M	<0.01 M	<0.1 M			
Benzene	<0.009 mg/kg	TM116		<0.009 M	<0.009 M	<0.09 M			
Toluene	<0.007 mg/kg	TM116		<0.007 M	<0.007 M	<0.07 M			
Ethylbenzene	<0.004 mg/kg	TM116		<0.004 M	<0.004 M	<0.04 M			
p/m-Xylene	<0.01 mg/kg	TM116		<0.01 #	<0.01 #	<0.1 #			
o-Xylene	<0.01 mg/kg	TM116		<0.01 M	<0.01 M	<0.1 M			
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.02	<0.2			
Sum of BTEX	<0.04 mg/kg	TM116		<0.04	<0.04	<0.4			

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP113 0.80 - 0.80 SOLID 08/10/2020 00:00:00 14/10/2020 05:00:00 201015-136 23041449 TM048	23/10/2020	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP104 1.80 - 1.80 SOLID 09/10/2020 00:00:00 14/10/2020 05:00:00 201015-136 23041422 TM048	23/10/2020	Barbara Urbanek-Walsh	Loose fibres in soil.	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP138 1.60 - 1.60 SOLID 09/10/2020 00:00:00 14/10/2020 05:00:00 201015-136 23041433 TM048	23/10/2020	Barbara Urbanek-Walsh	Soil containing ACM debris.	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM243		Mixed Anions In Soils By Kone
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201015-136	**Client Reference:**	LD10162	**Report Number:**	572485
Location:	Ten Acres Lane	**Order Number:**	LD1664	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23041449	23041422	23041433
Customer Sample Ref.	CP113	TP104	TP138
AGS Ref.			
Depth	0.80 - 0.80	1.80 - 1.80	1.60 - 1.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	22-Oct-2020	22-Oct-2020	22-Oct-2020
Asbestos ID in Solid Samples	23-Oct-2020	23-Oct-2020	23-Oct-2020
Boron Water Soluble	22-Oct-2020	22-Oct-2020	22-Oct-2020
Cyanide Comp/Free/Total/Thiocyanate	22-Oct-2020	22-Oct-2020	22-Oct-2020
Easily Liberated Sulphide	21-Oct-2020	21-Oct-2020	22-Oct-2020
EPH CWG GC (S)	22-Oct-2020	22-Oct-2020	22-Oct-2020
GRO by GC-FID (S)	22-Oct-2020	22-Oct-2020	22-Oct-2020
Hexavalent Chromium (s)	22-Oct-2020	22-Oct-2020	22-Oct-2020
Metals in solid samples by OES	23-Oct-2020	23-Oct-2020	23-Oct-2020
PAH by GCMS	24-Oct-2020	24-Oct-2020	22-Oct-2020
pH	22-Oct-2020	21-Oct-2020	22-Oct-2020
Phenols by HPLC (S)	23-Oct-2020	23-Oct-2020	23-Oct-2020
Sample description	20-Oct-2020	21-Oct-2020	21-Oct-2020
Total Organic Carbon	23-Oct-2020	23-Oct-2020	23-Oct-2020
Total Sulphate	22-Oct-2020	22-Oct-2020	22-Oct-2020
TPH CWG GC (S)	22-Oct-2020	22-Oct-2020	22-Oct-2020
VOC MS (S)	21-Oct-2020	21-Oct-2020	21-Oct-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	29 October 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201020-9
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	573181

This report has been revised and directly supersedes 573154 in its entirety.

We received 13 samples on Wednesday October 14, 2020 and 7 of these samples were scheduled for analysis which was completed on Thursday October 29, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23067137	CP104	ES02		12/10/2020
23067134	CP104	ES01	0.50 - 0.50	12/10/2020
23067092	CP104		1.50 - 1.50	12/10/2020
23067095	CP104		2.70 - 2.70	12/10/2020
23067122	CP107		0.50 - 0.50	12/10/2020
23067127	CP107		3.00 - 3.00	12/10/2020
23067131	CP107		4.50 - 4.50	12/10/2020
23067109	TP106		1.30 - 1.30	12/10/2020
23067118	TP119		1.70 - 1.70	12/10/2020
23067113	TP120		3.10 - 3.10	12/10/2020
23067088	TP121		2.20 - 2.20	12/10/2020
23067098	TP147		3.30 - 3.30	12/10/2020
23067103	TP150		2.20 - 2.20	12/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23067095	23067127	23067131	23067118	23067113	23067088		23067103						
Customer Sample Reference			CP104	CP107	CP107	TP119	TP120	TP121		TP150						
AGS Reference																
Depth (m)			2.70 - 2.70	3.00 - 3.00	4.50 - 4.50	1.70 - 1.70	3.10 - 3.10	2.20 - 2.20		2.20 - 2.20						
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2			X				X							
Anions by Kone (soil)	All	NDPs: 0 Tests: 5	X				X		X			X			X	
Anions by Kone (w)	All	NDPs: 0 Tests: 2			X				X							
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 5	X				X				X			X		
Asbestos Quantification - Full	All	NDPs: 1 Tests: 0				N										
Boron Water Soluble	All	NDPs: 0 Tests: 5	X				X					X			X	
CEN Readings	All	NDPs: 0 Tests: 2			X				X							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7	X		X		X		X			X			X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2			X				X							
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2			X				X							
Easily Liberated Sulphide	All	NDPs: 0 Tests: 5	X				X					X			X	
EPH CWG (Aliphatic) Filtered GC (W)	All	NDPs: 0 Tests: 2			X				X							
EPH CWG (Aromatic) Filtered GC (W)	All	NDPs: 0 Tests: 2			X				X							
EPH CWG GC (S)	All	NDPs: 0 Tests: 5	X				X					X			X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 5		X		X				X			X			X

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23067095	23067127	23067131	23067118	23067113	23067088							23067103	
Customer Sample Reference			CP104	CP107	CP107	TP119	TP120	TP121							TP150	
AGS Reference																
Depth (m)			2.70 - 2.70	3.00 - 3.00	4.50 - 4.50	1.70 - 1.70	3.10 - 3.10	2.20 - 2.20							2.20 - 2.20	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2			X						X							
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 5	X				X		X					X			X	
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2			X						X							
Mercury Dissolved	All	NDPs: 0 Tests: 2			X						X							
Metals in solid samples by OES	All	NDPs: 0 Tests: 5	X				X		X					X			X	
PAH by GCMS	All	NDPs: 0 Tests: 5	X				X		X					X			X	
PAH in waters by GC-MS (diss.filt)	All	NDPs: 0 Tests: 2			X						X							
PCBs by GCMS	All	NDPs: 0 Tests: 3					X		X								X	
pH	All	NDPs: 0 Tests: 5	X				X		X					X			X	
pH Value	All	NDPs: 0 Tests: 2			X						X							
Phenols by HPLC (S)	All	NDPs: 0 Tests: 5	X				X		X					X			X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2			X						X							
Sample description	All	NDPs: 0 Tests: 7	X			X	X		X			X		X			X	
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 3	X				X		X									
Sulphide	All	NDPs: 0 Tests: 2			X						X							

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23067095	23067127	23067131	23067118	23067113	23067088								23067103	
Customer Sample Reference			CP104	CP107	CP107	TP119	TP120	TP121								TP150	
AGS Reference																	
Depth (m)			2.70 - 2.70	3.00 - 3.00	4.50 - 4.50	1.70 - 1.70	3.10 - 3.10	2.20 - 2.20								2.20 - 2.20	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg Cardboard Container	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Total Organic Carbon	All	NDPs: 0 Tests: 5	X			X	X		X					X			X	
Total Sulphate	All	NDPs: 0 Tests: 5	X			X	X		X					X			X	
TPH CWG Filtered (W)	All	NDPs: 0 Tests: 2			X						X							
TPH CWG GC (S)	All	NDPs: 0 Tests: 5	X			X	X		X					X			X	
VOC MS (S)	All	NDPs: 0 Tests: 5		X				X		X					X			X

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23067095	CP104	2.70 - 2.70	Dark Brown	Loamy Sand	Stones	None
23067127	CP107	3.00 - 3.00	Dark Brown	Loamy Sand	Vegetation	Stones
23067131	CP107	4.50 - 4.50	Dark Brown	Sand	Stones	Brick
23067118	TP119	1.70 - 1.70	Dark Brown	Sandy Loam	Stones	Oil/Petroleum
23067113	TP120	3.10 - 3.10	Dark Brown	Loamy Sand	Vegetation	Stones
23067088	TP121	2.20 - 2.20	Dark Brown	Clay	None	None
23067103	TP150	2.20 - 2.20	Dark Brown	Loamy Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	CP107	TP119	TP120	TP121
			Depth (m)	2.70 - 2.70	3.00 - 3.00	4.50 - 4.50	1.70 - 1.70	3.10 - 3.10	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			SDG Ref	201020-9	201020-9	201020-9	201020-9	201020-9	201020-9
			Lab Sample No.(s)	23067095	23067127	23067131	23067118	23067113	23067088
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		16	18	18	11	12	15
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M		0.0122 @ M	0.0336 @ M		<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 @ M		0.0366 @ M	0.056 @ M		<0.01 @ M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M		0.183 @ M	<0.015 @ M		<0.015 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M		0.232 @ M	0.0896 @ M		<0.035 @ M
Soil Organic Matter (SOM)	<0.35 %	TM132		1.49 #		3.78 #	7.53 #		1.13 #
pH	1 pH Units	TM133		8.28 M		7.81 M	7.89 M		7.75 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #		<0.6 #	<0.6 #		<0.6 #
Cyanide, Total	<1 mg/kg	TM153		<1 @ M		<1 @ M	5.7 @ M		<1 @ M
PCB congener 28	<3 µg/kg	TM168				<30 M	64.8 M		
PCB congener 52	<3 µg/kg	TM168				<30 M	24.7 M		
PCB congener 101	<3 µg/kg	TM168				<30 M	26.5 M		
PCB congener 118	<3 µg/kg	TM168				<30 M	16.8 M		
PCB congener 138	<3 µg/kg	TM168				<30 M	17.1 M		
PCB congener 153	<3 µg/kg	TM168				<30 M	<15 M		
PCB congener 180	<3 µg/kg	TM168				<30 M	<15 M		
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168				<210	150		
Sulphide, Easily liberated	<15 mg/kg	TM180		195 @ M		200 @ M	91.6 @ M		<15 @ M
Arsenic	<0.6 mg/kg	TM181		10.8 M		8.2 M	20.8 M		8.52 M
Cadmium	<0.02 mg/kg	TM181		0.299 M		0.407 M	3.21 M		0.0607 M
Chromium	<0.9 mg/kg	TM181		12.9 M		13.5 M	32.4 M		25.3 M
Copper	<1.4 mg/kg	TM181		56 M		76.6 M	162 M		22.6 M
Lead	<0.7 mg/kg	TM181		113 M		589 M	352 M		12.7 M
Mercury	<0.14 mg/kg	TM181		<0.14 M		0.144 M	0.329 M		<0.14 M
Nickel	<0.2 mg/kg	TM181		15.9 M		19.2 M	35.8 M		45.4 M
Selenium	<1 mg/kg	TM181		<1 #		<1 #	<1 #		<1 #
Zinc	<1.9 mg/kg	TM181		188 M		474 M	873 M		60.8 M
Sulphate, Total	<48 mg/kg	TM221		1150 M		12300 M	1020 M		<48 M
Boron, water soluble	<1 mg/kg	TM222		<1 M		<1 M	<1 M		<1 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.128 M		1.5 M	0.0837 M		0.0493 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	TP150
Depth (m)	2.20 - 2.20
Sample Type	Soil/Solid (S)
Date Sampled	12/10/2020
Sample Time	.
Date Received	14/10/2020
SDG Ref	201020-9
Lab Sample No.(s)	23067103
AGS Reference	

Component	LOD/Units	Method	
Moisture Content Ratio (% of as received sample)	%	PM024	27
Phenol	<0.01 mg/kg	TM062 (S)	<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)	<0.01 @ M
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035 @ M
Soil Organic Matter (SOM)	<0.35 %	TM132	3.34 #
pH	1 pH Units	TM133	7.12 M
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6 #
Cyanide, Total	<1 mg/kg	TM153	<1 @ M
PCB congener 28	<3 µg/kg	TM168	<3 M
PCB congener 52	<3 µg/kg	TM168	11.7 M
PCB congener 101	<3 µg/kg	TM168	19.7 M
PCB congener 118	<3 µg/kg	TM168	10.3 M
PCB congener 138	<3 µg/kg	TM168	14.8 M
PCB congener 153	<3 µg/kg	TM168	9.46 M
PCB congener 180	<3 µg/kg	TM168	<3 M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168	65.9
Sulphide, Easily liberated	<15 mg/kg	TM180	2610 @ M
Arsenic	<0.6 mg/kg	TM181	20.6 M
Cadmium	<0.02 mg/kg	TM181	<0.2 M
Chromium	<0.9 mg/kg	TM181	70.9 M
Copper	<1.4 mg/kg	TM181	1250 M
Lead	<0.7 mg/kg	TM181	133 M
Mercury	<0.14 mg/kg	TM181	<1.4 M
Nickel	<0.2 mg/kg	TM181	87.3 M
Selenium	<1 mg/kg	TM181	31.1 #
Zinc	<1.9 mg/kg	TM181	463 M
Sulphate, Total	<48 mg/kg	TM221	3330 M
Boron, water soluble	<1 mg/kg	TM222	1.42 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243	0.417 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119	TP121	TP150
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70	2.20 - 2.20	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020
			Sample Time	.	.	.	.	.
			Date Received	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			SDG Ref	201020-9	201020-9	201020-9	201020-9	201020-9
			Lab Sample No.(s)	23067095	23067131	23067118	23067088	23067103
			AGS Reference					
Naphthalene-d8 % recovery**	%	TM218		97.2	97.1	92.2	95.8	86.8
Acenaphthene-d10 % recovery**	%	TM218		87.1	90.3	83.9	87.1	84.4
Phenanthrene-d10 % recovery**	%	TM218		95.9	96.5	88.1	94.6	79.2
Chrysene-d12 % recovery**	%	TM218		108	96.1	81.4	95.8	61.9
Perylene-d12 % recovery**	%	TM218		102	92.9	72.3	82.6	50.6
Naphthalene	<9 µg/kg	TM218		113 M	556 @ M	343 @ M	<9 M	173 @ M
Acenaphthylene	<12 µg/kg	TM218		29 M	<120 @ M	95.5 @ M	<12 M	<12 @ M
Acenaphthene	<8 µg/kg	TM218		230 M	905 @ M	459 @ M	<8 M	25 @ M
Fluorene	<10 µg/kg	TM218		194 M	798 @ M	456 @ M	<10 M	20.8 @ M
Phenanthrene	<15 µg/kg	TM218		1190 M	6560 @ M	4110 @ M	20.8 M	101 @ M
Anthracene	<16 µg/kg	TM218		330 M	1750 @ M	1110 @ M	<16 M	<16 @ M
Fluoranthene	<17 µg/kg	TM218		1470 M	7570 @ M	7710 @ M	34.1 M	91.9 @ M
Pyrene	<15 µg/kg	TM218		1400 M	6350 @ M	7360 @ M	33.8 M	88.2 @ M
Benz(a)anthracene	<14 µg/kg	TM218		635 M	2770 @ M	3520 @ M	20.1 M	39.1 @ M
Chrysene	<10 µg/kg	TM218		541 M	2320 @ M	3290 @ M	16.8 M	39.1 @ M
Benzo(b)fluoranthene	<15 µg/kg	TM218		723 M	3130 @ M	4840 @ M	20.6 M	71.1 @ M
Benzo(k)fluoranthene	<14 µg/kg	TM218		212 M	1130 @ M	1650 @ M	<14 M	22.9 @ M
Benzo(a)pyrene	<15 µg/kg	TM218		583 M	2440 @ M	3060 @ M	<15 M	29.6 @ M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		356 M	1590 @ M	2110 @ M	<18 M	<18 @ M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		70.5 M	<230 @ M	330 @ M	<23 M	<23 @ M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		365 M	1480 @ M	1790 @ M	<24 M	<24 @ M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		8440	39300	42200	146	702

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119			
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	12/10/2020	12/10/2020	12/10/2020			
			Sample Time	.	.	.			
			Date Received	14/10/2020	14/10/2020	14/10/2020			
			SDG Ref	201020-9	201020-9	201020-9			
			Lab Sample No.(s)	23067095	23067131	23067118			
			AGS Reference						
Phenol	<100 µg/kg	TM157		<100	<200	499			
Pentachlorophenol	<100 µg/kg	TM157		<100	<200	<200			
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157		<100	<200	<200			
Nitrobenzene	<100 µg/kg	TM157		<100	<200	<200			
Isophorone	<100 µg/kg	TM157		<100	<200	<200			
Hexachloroethane	<100 µg/kg	TM157		<100	<200	<200			
Hexachlorocyclopentadiene	<100 µg/kg	TM157		<100	<200	<400			
Hexachlorobutadiene	<100 µg/kg	TM157		<100	<200	<200			
Hexachlorobenzene	<100 µg/kg	TM157		<100	<200	<200			
n-Dioctyl phthalate	<100 µg/kg	TM157		<100	284	<200			
Dimethyl phthalate	<100 µg/kg	TM157		<100	<200	<200			
Diethyl phthalate	<100 µg/kg	TM157		<100	<200	<200			
n-Dibutyl phthalate	<100 µg/kg	TM157		<100	256	265			
Dibenzofuran	<100 µg/kg	TM157		144	376	245			
Carbazole	<100 µg/kg	TM157		<100	376	416			
Butylbenzyl phthalate	<100 µg/kg	TM157		<100	102000	<200			
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157		<100	37300	1830			
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157		<100	<200	<200			
bis(2-Chloroethyl)ether	<100 µg/kg	TM157		<100	<200	<200			
Azobenzene	<100 µg/kg	TM157		<100	<200	<200			
4-Nitrophenol	<100 µg/kg	TM157		<100	<200	<200			
4-Nitroaniline	<100 µg/kg	TM157		<100	<200	<200			
4-Methylphenol	<100 µg/kg	TM157		<100	<200	<200			
4-Chlorophenylphenylether	<100 µg/kg	TM157		<100	<200	<200			
4-Chloroaniline	<100 µg/kg	TM157		<100	<200	<200			
4-Chloro-3-methylphenol	<100 µg/kg	TM157		<100	<200	<200			
4-Bromophenylphenylether	<100 µg/kg	TM157		<100	<200	<200			
3-Nitroaniline	<100 µg/kg	TM157		<100	<200	<200			
2-Nitrophenol	<100 µg/kg	TM157		<100	<200	<200			
2-Nitroaniline	<100 µg/kg	TM157		<100	<200	<200			
2-Methylphenol	<100 µg/kg	TM157		<100	<200	<200			
1,2,4-Trichlorobenzene	<100 µg/kg	TM157		<100	<200	<200			
2-Chlorophenol	<100 µg/kg	TM157		<100	<200	<200			

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119			
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	12/10/2020	12/10/2020	12/10/2020			
			Sample Time	.	.	.			
			Date Received	14/10/2020	14/10/2020	14/10/2020			
			SDG Ref	201020-9	201020-9	201020-9			
			Lab Sample No.(s)	23067095	23067131	23067118			
			AGS Reference						
2,6-Dinitrotoluene	<100 µg/kg	TM157		<100	<200	<200			
2,4-Dinitrotoluene	<100 µg/kg	TM157		<100	<200	<200			
2,4-Dimethylphenol	<100 µg/kg	TM157		<100	<200	<200			
2,4-Dichlorophenol	<100 µg/kg	TM157		<100	<200	<200			
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<100	<200	<200			
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<100	<200	<200			
1,4-Dichlorobenzene	<100 µg/kg	TM157		<100	<200	<200			
1,3-Dichlorobenzene	<100 µg/kg	TM157		<100	<200	<200			
1,2-Dichlorobenzene	<100 µg/kg	TM157		<100	<200	<200			
2-Chloronaphthalene	<100 µg/kg	TM157		<100	<200	<200			
2-Methylnaphthalene	<100 µg/kg	TM157		<100	<200	228			
Acenaphthylene	<100 µg/kg	TM157		<100	<200	<200			
Acenaphthene	<100 µg/kg	TM157		264	426	411			
Anthracene	<100 µg/kg	TM157		348	1230	1180			
Benzo(a)anthracene	<100 µg/kg	TM157		708	2060	3270			
Benzo(b)fluoranthene	<100 µg/kg	TM157		552	1590	3300			
Benzo(k)fluoranthene	<100 µg/kg	TM157		588	1430	2280			
Benzo(a)pyrene	<100 µg/kg	TM157		600	1790	2980			
Benzo(g,h,i)perylene	<100 µg/kg	TM157		384	894	1920			
Chrysene	<100 µg/kg	TM157		780	1830	3110			
Fluoranthene	<100 µg/kg	TM157		1750	5330	8170			
Fluorene	<100 µg/kg	TM157		192	576	377			
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		264	1510	2780			
Phenanthrene	<100 µg/kg	TM157		1450	4930	4420			
Pyrene	<100 µg/kg	TM157		1720	4260	6930			
Naphthalene	<100 µg/kg	TM157		192	<200	244			
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		<100	<200	326			
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157		<100	<200	<200			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119	TP121	TP150	
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70	2.20 - 2.20	2.20 - 2.20	
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	
			Date Sampled	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020	
			Sample Time	.	.	.	.	.	
			Date Received	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020	
			SDG Ref	201020-9	201020-9	201020-9	201020-9	201020-9	
			Lab Sample No.(s)	23067095	23067131	23067118	23067088	23067103	
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		92.5	80.7	72.9	101	68.3	4
Aliphatics >C5-C6	<10 µg/kg	TM089		30	36.6	29.1	<10	41.1	4
Aliphatics >C6-C8	<10 µg/kg	TM089		76.8	101	57.1	<10	101	4
Aliphatics >C8-C10	<10 µg/kg	TM089		355	195	149	<10	114	4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	18000	<1000	11500	
Aliphatics >C12-C16	<1000 µg/kg	TM414		6830	3140	263000	<1000	28200	
Aliphatics >C16-C21	<1000 µg/kg	TM414		53700	4300	773000	<1000	31000	
Aliphatics >C21-C35	<1000 µg/kg	TM414		211000	29000	902000	2850	120000	
Aliphatics >C35-C44	<1000 µg/kg	TM414		29200	2130	194000	<1000	24900	
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		301000	38700	2150000	<5000	216000	
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		343000	362000	2680000	<10000	321000	
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	4
Aromatics >EC8-EC10	<10 µg/kg	TM089		236	129	99.7	<10	75.4	4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	19900	<1000	9720	
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	7020	88800	<1000	15200	
Aromatics > EC16-EC21	<1000 µg/kg	TM414		8980	76700	91400	<1000	6820	
Aromatics > EC21-EC35	<1000 µg/kg	TM414		29200	203000	322000	<1000	71800	
Aromatics >EC35-EC44	<1000 µg/kg	TM414		2950	36600	5720	<1000	1080	
Aromatics > EC40-EC44	<1000 µg/kg	TM414		1530	3740	<1000	<1000	<1000	
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		42100	323000	528000	<5000	105000	
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		344000	362000	2680000	<10000	321000	
Total Aliphatics >C5-C10	<50 µg/kg	TM089		462	333	235	<50	256	4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		236	129	99.7	<50	75.4	4
GRO >C5-C10	<20 µg/kg	TM089		698	462	335	<20	332	4

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119	TP121	TP150
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70	2.20 - 2.20	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020
			Sample Time	.	.	.	.	.
			Date Received	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			SDG Ref	201020-9	201020-9	201020-9	201020-9	201020-9
			Lab Sample No.(s)	23067095	23067131	23067118	23067088	23067103
			AGS Reference					
Dibromofluoromethane**	%	TM116		102	111	111	105	112
Toluene-d8**	%	TM116		90.4	90.2	96	94.9	96.8
4-Bromofluorobenzene**	%	TM116		70.3	70.3	85.7	70.1	90.5
Dichlorodifluoromethane	<6 µg/kg	TM116		<6 M	<6 M	<120 M		
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<140 #		
Vinyl Chloride	<6 µg/kg	TM116		<6 M	<6 M	<120 M		
Bromomethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Chloroethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<120 M		
1,1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<200 #		
Carbon Disulphide	<7 µg/kg	TM116		<7 M	18.4 M	<140 M		
Dichloromethane	<10 µg/kg	TM116		26.9 #	<10 #	<200 #		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 M	<10 M	<200 M	<10 M	<200 M
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
1,1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<160 M		
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<6 M	<6 M	<120 M		
2,2-Dichloropropane	<10 µg/kg	TM116		<10	<10	<200		
Bromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<160 M		
1,1,1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<140 M		
1,1-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Carbontetrachloride	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
1,2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<100 M		
Benzene	<9 µg/kg	TM116		<9 M	<9 M	<180 M	<9 M	<180 M
Trichloroethene	<9 µg/kg	TM116		<9 #	<9 #	<180 #		
1,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<180 M		
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<140 M		
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Toluene	<7 µg/kg	TM116		<7 M	<7 M	<140 M	<7 M	<140 M
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<10	<10	<200		
1,1,2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
1,3-Dichloropropane	<7 µg/kg	TM116		<7 M	<7 M	<140 M		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119	TP121	TP150
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70	2.20 - 2.20	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020
			Sample Time	.	.	.	.	.
			Date Received	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			SDG Ref	201020-9	201020-9	201020-9	201020-9	201020-9
			Lab Sample No.(s)	23067095	23067131	23067118	23067088	23067103
			AGS Reference					
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<5 M	<100 M		
Dibromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
1,2-Dibromoethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<100 M		
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Ethylbenzene	<4 µg/kg	TM116		<4 M	<4 M	<80 M	<4 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<10 #	<10 #	<200 #	<10 #	<200 #
o-Xylene	<10 µg/kg	TM116		<10 M	<10 M	<200 M	<10 M	<200 M
Styrene	<10 µg/kg	TM116		<10 #	<10 #	<200 #		
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Isopropylbenzene	<5 µg/kg	TM116		<5 #	<5 #	<100 #		
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<10 #	<10 #	<200 #		
1,2,3-Trichloropropane	<16 µg/kg	TM116		<16 M	<16 M	<320 M		
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
Propylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<180 M		
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<8 M	<8 M	<160 M		
4-Chlorotoluene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
tert-Butylbenzene	<14 µg/kg	TM116		<14 M	<14 M	<280 M		
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		15.8 #	<9 #	<180 #		
sec-Butylbenzene	<10 µg/kg	TM116		<10	<10	<200		
4-Isopropyltoluene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
1,3-Dichlorobenzene	<8 µg/kg	TM116		<8 M	<8 M	<160 M		
1,4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<100 M		
n-Butylbenzene	<11 µg/kg	TM116		<11	<11	<220		
1,2-Dichlorobenzene	<10 µg/kg	TM116		<10 M	<10 M	<200 M		
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<280 M		
Tert-amyl methyl ether	<10 µg/kg	TM116		<10 #	<10 #	<200 #		
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<20	<20	<400		
Hexachlorobutadiene	<20 µg/kg	TM116		<20	<20	<400		
Naphthalene	<13 µg/kg	TM116		473 M	<13 M	<260 M		
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<20 #	<20 #	<400 #		
1,3,5-Trichlorobenzene	<20 µg/kg	TM116		<20	<20	<400		

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	CP107	TP119	TP121	TP150
			Depth (m)	2.70 - 2.70	4.50 - 4.50	1.70 - 1.70	2.20 - 2.20	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020
			Sample Time	.	.	.	.	.
			Date Received	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			SDG Ref	201020-9	201020-9	201020-9	201020-9	201020-9
			Lab Sample No.(s)	23067095	23067131	23067118	23067088	23067103
			AGS Reference					
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.02	<0.4	<0.02	<0.4
Sum of BTEX	<40 µg/kg	TM116		<40	<40	<800	<40	<800

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP104 2.70 - 2.70 SOLID 12/10/2020 00:00:00 14/10/2020 05:00:00 201020-9 23067095 TM048	27/10/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP107 4.50 - 4.50 SOLID 12/10/2020 00:00:00 14/10/2020 05:00:00 201020-9 23067131 TM048	27/10/2020	Marcin Magdziarek	Soil containing ACM debris	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP119 1.70 - 1.70 SOLID 12/10/2020 00:00:00 14/10/2020 05:00:00 201020-9 23067118 TM048	27/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP121 2.20 - 2.20 SOLID 12/10/2020 00:00:00 14/10/2020 05:00:00 201020-9 23067088 TM048	27/10/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP150 2.20 - 2.20 SOLID 12/10/2020 00:00:00 14/10/2020 05:00:00 201020-9 23067103 TM048	27/10/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.110	**Natural Moisture Content (%)**	21.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	82.1
Particle Size <4mm	>95%		

Case	
SDG	201020-9
Lab Sample Number(s)	23067113
Sampled Date	12-Oct-2020
Customer Sample Ref.	TP120
Depth (m)	3.10 - 3.10

Eluate Analysis	**C_2** Conc^n in 10:1 eluate (mg/l)		**A_2** 10:1 conc^n leached (mg/kg)				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Low Level Hexavalent Chromium	<0.003	<0.003	<0.03	<0.03	-	-	-
Sulphate (soluble)	60.3	<2	603	<20	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Dissolved Organic Carbon	<3	<3	<30	<30	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	0.0000135	<0.00001	0.000135	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.0000225	<0.000005	0.000225	<0.00005	-	-	-
Arsenic	0.000978	<0.0005	0.00978	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000408	<0.000005	0.000408	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.00000837	<0.000005	0.0000837	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.113	<0.01	1.13	<0.1	-	-	-
Phenanthrene (diss.filt)	0.0000388	<0.000005	0.000388	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	65	<2	650	<20	-	-	-
Cadmium	0.000112	<0.00008	0.00112	<0.0008	-	-	-
Fluorene (diss.filt)	0.0000077	<0.000005	0.000077	<0.00005	-	-	-
Chrysene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Pyrene (diss.filt)	0.0000352	<0.000005	0.000352	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-

Leach Test Information

Date Prepared	22-Oct-2020
pH (pH Units)	8.49
Conductivity (µS/cm)	221.00
Temperature (°C)	6.20
Volume Leachant (Litres)	0.880

Mcerts Certification does not apply to leachates

29/10/2020 11:09:43

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.110	**Natural Moisture Content (%)**	21.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	82.1
Particle Size <4mm	>95%		

Case	
SDG	201020-9
Lab Sample Number(s)	23067113
Sampled Date	12-Oct-2020
Customer Sample Ref.	TP120
Depth (m)	3.10 - 3.10

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Benzo(a)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chromium	0.00482	<0.001	0.0482	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Copper	0.00451	<0.0003	0.0451	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	0.00164	<0.0002	0.0164	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PAH 16 EPA Total by GCMS (diss.filt)	0.000167	<0.000082	0.00167	<0.00082	-	-	-
Nickel	0.00551	<0.0004	0.0551	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	45.8	<0.2	458	<2	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	<0.011	<0.011	<0.11	<0.11	-	-	-
Sum of BTEX by GC	<0.028	<0.028	<0.28	<0.28	-	-	-

Leach Test Information

Date Prepared	22-Oct-2020
pH (pH Units)	8.49
Conductivity (µS/cm)	221.00
Temperature (°C)	6.20
Volume Leachant (Litres)	0.880

Mcerts Certification does not apply to leachates

29/10/2020 11:09:43

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.107	**Natural Moisture Content (%)**	19.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	83.9
Particle Size <4mm	>95%		

Case	
SDG	201020-9
Lab Sample Number(s)	23067127
Sampled Date	12-Oct-2020
Customer Sample Ref.	CP107
Depth (m)	3.00 - 3.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	0.013	<0.01	0.13	<0.1	-	-	-
Aromatics >EC16-EC21	0.036	<0.01	0.36	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC35	0.036	<0.01	0.36	<0.1	-	-	-
Total Aromatics >EC12-EC35	0.049	<0.01	0.49	<0.1	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	0.049	<0.01	0.49	<0.1	-	-	-
Low Level Hexavalent Chromium	<0.015	<0.015	<0.15	<0.15	-	-	-
Sulphate (soluble)	26.9	<2	269	<20	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Dissolved Organic Carbon	3.76	<3	37.6	<30	-	-	-
Mercury Dissolved (CVAF)	0.0000234	<0.00001	0.000234	<0.0001	-	-	-
Naphthalene (diss.filt)	0.000089	<0.00001	0.00089	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.00236	<0.000005	0.0236	<0.00005	-	-	-
Arsenic	0.00105	<0.0005	0.0105	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	0.00239	<0.000005	0.0239	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.00163	<0.000005	0.0163	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.00118	<0.000005	0.0118	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.021	<0.01	0.21	<0.1	-	-	-
Phenanthrene (diss.filt)	0.00527	<0.000005	0.0527	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	75	<2	750	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	0.00148	<0.000005	0.0148	<0.00005	-	-	-
Chrysene (diss.filt)	0.0000766	<0.000005	0.000766	<0.00005	-	-	-
Pyrene (diss.filt)	0.0011	<0.000005	0.011	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-

Leach Test Information

Date Prepared	22-Oct-2020
pH (pH Units)	8.33
Conductivity (µS/cm)	183.00
Temperature (°C)	19.00
Volume Leachant (Litres)	0.883

Mcerts Certification does not apply to leachates

29/10/2020 11:09:43

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.107	**Natural Moisture Content (%)**	19.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	83.9
Particle Size <4mm	>95%		

Case	
SDG	201020-9
Lab Sample Number(s)	23067127
Sampled Date	12-Oct-2020
Customer Sample Ref.	CP107
Depth (m)	3.00 - 3.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Benzo(a)anthracene (diss.filt)	0.0000458	<0.000005	0.000458	<0.00005	-	-	-
Chromium	0.0179	<0.001	0.179	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	0.0000455	<0.000005	0.000455	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	0.0000228	<0.000005	0.000228	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	0.0000288	<0.000002	0.000288	<0.00002	-	-	-
Copper	0.00794	<0.0003	0.0794	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	0.0332	<0.0002	0.332	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	0.0000184	<0.000005	0.000184	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PAH 16 EPA Total by GCMS (diss.filt)	0.0157	<0.000082	0.157	<0.00082	-	-	-
Nickel	0.00124	<0.0004	0.0124	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	41.4	<0.2	414	<2	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	<0.011	<0.011	<0.11	<0.11	-	-	-
Sum of BTEX by GC	<0.028	<0.028	<0.28	<0.28	-	-	-

Leach Test Information

Date Prepared	22-Oct-2020
pH (pH Units)	8.33
Conductivity (µS/cm)	183.00
Temperature (°C)	19.00
Volume Leachant (Litres)	0.883

Mcerts Certification does not apply to leachates

29/10/2020 11:09:43

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Notification of NDPs (No determination possible)

Date Received : 20/10/2020 07:13:27

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
23067131	CP107	4.50 - 4.50	Asbestos Quantification - Full	Insufficient Sample

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM243		Mixed Anions In Soils By Kone
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM331		Low Level Hexavalent Chromium
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201020-9	**Client Reference:**	LD10162	**Report Number:**	573181
Location:	Ten Acres Lane	**Order Number:**	LD1668	**Superseded Report:**	573154

Test Completion Dates

Lab Sample No(s)	23067095	23067127	23067131	23067118	23067113	23067088	23067103
Customer Sample Ref.	CP104	CP107	CP107	TP119	TP120	TP121	TP150
AGS Ref.							
Depth	2.70 - 2.70	3.00 - 3.00	4.50 - 4.50	1.70 - 1.70	3.10 - 3.10	2.20 - 2.20	2.20 - 2.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3		26-Oct-2020			26-Oct-2020		
Anions by Kone (soil)	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
Anions by Kone (w)		26-Oct-2020			26-Oct-2020		
Asbestos ID in Solid Samples	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
Boron Water Soluble	26-Oct-2020		26-Oct-2020	26-Oct-2020		26-Oct-2020	26-Oct-2020
CEN 10:1 Leachate (1 Stage)		24-Oct-2020			24-Oct-2020		
CEN Readings		25-Oct-2020			25-Oct-2020		
Cyanide Comp/Free/Total/Thiocyanate	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020
Dissolved Metals by ICP-MS		27-Oct-2020			27-Oct-2020		
Dissolved Organic/Inorganic Carbon		27-Oct-2020			26-Oct-2020		
Easily Liberated Sulphide	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
EPH CWG (Aliphatic) Filtered GC (W)		27-Oct-2020			27-Oct-2020		
EPH CWG (Aromatic) Filtered GC (W)		27-Oct-2020			27-Oct-2020		
EPH CWG GC (S)	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	29-Oct-2020
GRO by GC-FID (S)	25-Oct-2020		25-Oct-2020	25-Oct-2020		25-Oct-2020	25-Oct-2020
GRO by GC-FID (W)		26-Oct-2020			26-Oct-2020		
Hexavalent Chromium (s)	26-Oct-2020		26-Oct-2020	26-Oct-2020		26-Oct-2020	26-Oct-2020
Low Level Hexavalent Chromium (w)		26-Oct-2020			26-Oct-2020		
Mercury Dissolved		27-Oct-2020			27-Oct-2020		
Metals in solid samples by OES	26-Oct-2020		27-Oct-2020	27-Oct-2020		26-Oct-2020	27-Oct-2020
Moisture at 105C		22-Oct-2020			22-Oct-2020		
PAH by GCMS	25-Oct-2020		26-Oct-2020	26-Oct-2020		25-Oct-2020	27-Oct-2020
PAH in waters by GC-MS (diss.filt)		26-Oct-2020			26-Oct-2020		
PCBs by GCMS			27-Oct-2020	27-Oct-2020			27-Oct-2020
pH	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
pH Value		27-Oct-2020			27-Oct-2020		
Phenols by HPLC (S)	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
Phenols by HPLC (W)		27-Oct-2020			26-Oct-2020		
Sample description	23-Oct-2020	22-Oct-2020	23-Oct-2020	23-Oct-2020	22-Oct-2020	23-Oct-2020	23-Oct-2020
Semi Volatile Organic Compounds	26-Oct-2020		27-Oct-2020	26-Oct-2020			
Sulphide		27-Oct-2020			27-Oct-2020		
Total Organic Carbon	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
Total Sulphate	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	27-Oct-2020
TPH CWG Filtered (W)		27-Oct-2020			27-Oct-2020		
TPH CWG GC (S)	27-Oct-2020		27-Oct-2020	27-Oct-2020		27-Oct-2020	29-Oct-2020
VOC MS (S)	24-Oct-2020		25-Oct-2020	24-Oct-2020		24-Oct-2020	25-Oct-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	27 October 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201020-14
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	572888

We received 10 samples on Thursday October 15, 2020 and 5 of these samples were scheduled for analysis which was completed on Tuesday October 27, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23067328	CP104		7.30 - 7.30	13/10/2020
23067321	NO ID		1.50 - 1.50	05/10/2020
23067326	TP109		1.30 - 1.30	09/10/2020
23067333	TP113		0.40 - 0.40	13/10/2020
23067357	TP115		0.40 - 0.40	13/10/2020
23067353	TP116		2.20 - 2.20	13/10/2020
23067323	TP140		0.50 - 1.60	09/10/2020
23067337	TP142		2.70 - 2.70	13/10/2020
23067343	TP146		0.80 - 0.80	13/10/2020
23067349	TP146		4.30 - 4.30	13/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23067328		23067357		23067353		23067337		23067349	
Customer Sample Reference			CP104		TP115		TP116		TP142		TP146	
AGS Reference												
Depth (m)			7.30 - 7.30		0.40 - 0.40		2.20 - 2.20		2.70 - 2.70		4.30 - 4.30	
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 1											X	
Anions by Kone (soil)	All	NDPs: 0 Tests: 4		X			X			X				
Anions by Kone (w)	All	NDPs: 0 Tests: 1											X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 4	X			X			X					
Boron Water Soluble	All	NDPs: 0 Tests: 4		X			X			X				
CEN Readings	All	NDPs: 0 Tests: 1											X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 5		X			X			X			X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1											X	
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1											X	
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4		X			X			X				
EPH CWG (Aliphatic) Filtered GC (W)	All	NDPs: 0 Tests: 1											X	
EPH CWG (Aromatic) Filtered GC (W)	All	NDPs: 0 Tests: 1											X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X				
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4			X			X			X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1											X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | |

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23067328		23067357		23067353		23067337		23067349				
Customer Sample Reference			CP104		TP115		TP116		TP142		TP146				
AGS Reference															
Depth (m)			7.30 - 7.30		0.40 - 0.40		2.20 - 2.20		2.70 - 2.70		4.30 - 4.30				
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S
Total Sulphate	All	NDPs: 0 Tests: 4		X			X			X			X			
TPH CWG Filtered (W)	All	NDPs: 0 Tests: 1													X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X			
VOC MS (S)	All	NDPs: 0 Tests: 4			X			X			X			X		

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23067328	CP104	7.30 - 7.30	Dark Brown	Sand	Stones	Oil/Petroleum
23067357	TP115	0.40 - 0.40	Dark Brown	Sandy Loam	Stones	Brick
23067353	TP116	2.20 - 2.20	Dark Brown	Sandy Silt Loam	Stones	None
23067337	TP142	2.70 - 2.70	Dark Brown	Silty Clay	Stones	None
23067349	TP146	4.30 - 4.30	Black	Loamy Sand	Vegetation	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	TP115	TP116	TP142	TP146
			Depth (m)	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70	4.30 - 4.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
			Sample Time	.	.	.	.	.
			Date Received	15/10/2020	15/10/2020	15/10/2020	15/10/2020	15/10/2020
			SDG Ref	201020-14	201020-14	201020-14	201020-14	201020-14
			Lab Sample No.(s)	23067328	23067357	23067353	23067337	23067349
			AGS Reference					
Moisture Content Ratio (% of as received sample)	%	PM024		14	17	18	21	15
Phenol	<0.01 mg/kg	TM062 (S)		0.0234 M	<0.01 M	<0.01 M	<0.01 @ M	
Cresols	<0.01 mg/kg	TM062 (S)		0.0351 M	<0.01 M	<0.01 M	<0.01 @ M	
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 @ M	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		0.0585 M	<0.035 M	<0.035 M	<0.035 @ M	
Soil Organic Matter (SOM)	<0.35 %	TM132		2.09 #	5.74 #	2.9 #	3.64 #	
pH	1 pH Units	TM133		9.86 M	8.38 M	8.38 M	7.94 M	
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	
PCB congener 28	<3 µg/kg	TM168		83.4 M	<15 M			
PCB congener 52	<3 µg/kg	TM168		92.4 M	<15 M			
PCB congener 101	<3 µg/kg	TM168		170 M	<15 M			
PCB congener 118	<3 µg/kg	TM168		109 M	<15 M			
PCB congener 138	<3 µg/kg	TM168		88.7 M	<15 M			
PCB congener 153	<3 µg/kg	TM168		58.2 M	<15 M			
PCB congener 180	<3 µg/kg	TM168		14.2 M	<15 M			
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168		616	<105			
Sulphide, Easily liberated	<15 mg/kg	TM180		388 @ M	<15 @ M	19.5 @ M	<15 @ M	
Arsenic	<0.6 mg/kg	TM181		32 M	12.8 M	14 M	11.9 M	
Cadmium	<0.02 mg/kg	TM181		1.19 M	0.95 M	0.155 M	0.222 M	
Chromium	<0.9 mg/kg	TM181		99.4 M	24.9 M	25.2 M	23.4 M	
Copper	<1.4 mg/kg	TM181		510 M	61.3 M	600 M	37.2 M	
Lead	<0.7 mg/kg	TM181		165 M	245 M	32.7 M	77 M	
Mercury	<0.14 mg/kg	TM181		<1.4 M	<0.14 M	<0.14 M	<0.14 M	
Nickel	<0.2 mg/kg	TM181		145 M	24.5 M	32.3 M	30 M	
Selenium	<1 mg/kg	TM181		<10 #	<1 #	<1 #	<1 #	
Zinc	<1.9 mg/kg	TM181		316 M	218 M	74.1 M	77.3 M	
Sulphate, Total	<48 mg/kg	TM221		1320 M	634 M	158 M	188 M	
Boron, water soluble	<1 mg/kg	TM222		15.2 M	<1 M	1.81 M	6.21 M	
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0779 M	0.0154 M	0.0348 M	0.0863 M	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	TP115	TP116	TP142		
			Depth (m)	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	13/10/2020	13/10/2020	13/10/2020	13/10/2020		
			Sample Time	.	.	.	.		
			Date Received	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			SDG Ref	201020-14	201020-14	201020-14	201020-14		
			Lab Sample No.(s)	23067328	23067357	23067353	23067337		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		80.4	95.1	94.1	95		
Acenaphthene-d10 % recovery**	%	TM218		83	87.1	83.7	84.2		
Phenanthrene-d10 % recovery**	%	TM218		81.6	96	87.3	89.8		
Chrysene-d12 % recovery**	%	TM218		63.6	92.9	92.3	94.5		
Perylene-d12 % recovery**	%	TM218		51.2	85.2	84.6	88		
Naphthalene	<9 µg/kg	TM218		84.7 @ M	971 M	22.2 M	<9 M		
Acenaphthylene	<12 µg/kg	TM218		<12 @ M	205 M	15.9 M	<12 M		
Acenaphthene	<8 µg/kg	TM218		76.1 @ M	800 M	16.5 M	24.1 M		
Fluorene	<10 µg/kg	TM218		71.8 @ M	782 M	13.6 M	16.9 M		
Phenanthrene	<15 µg/kg	TM218		368 @ M	7300 M	86.5 M	179 M		
Anthracene	<16 µg/kg	TM218		81.3 @ M	1430 M	40.8 M	41.5 M		
Fluoranthene	<17 µg/kg	TM218		441 @ M	8010 M	140 M	229 M		
Pyrene	<15 µg/kg	TM218		388 @ M	7030 M	147 M	203 M		
Benz(a)anthracene	<14 µg/kg	TM218		158 @ M	3190 M	59.9 M	93.4 M		
Chrysene	<10 µg/kg	TM218		190 @ M	2970 M	48 M	95 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		273 @ M	3250 M	64 M	78 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		68.2 @ M	1180 M	20.1 M	38.4 M		
Benzo(a)pyrene	<15 µg/kg	TM218		117 @ M	2570 M	63.4 M	83.8 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		70.9 @ M	1530 M	49.7 M	57.4 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 @ M	266 M	<23 M	<23 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		77.2 @ M	1400 M	58.8 M	56.3 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		2460	42900	846	1200		

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	CP104
Depth (m)	7.30 - 7.30
Sample Type	Soil/Solid (S)
Date Sampled	13/10/2020
Sample Time	.
Date Received	15/10/2020
SDG Ref	201020-14
Lab Sample No.(s)	23067328
AGS Reference	

Component	LOD/Units	Method	
Phenol	<100 µg/kg	TM157	<100
Pentachlorophenol	<100 µg/kg	TM157	<100
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<100
Nitrobenzene	<100 µg/kg	TM157	<100
Isophorone	<100 µg/kg	TM157	<100
Hexachloroethane	<100 µg/kg	TM157	<100
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<100
Hexachlorobutadiene	<100 µg/kg	TM157	<100
Hexachlorobenzene	<100 µg/kg	TM157	<100
n-Dioctyl phthalate	<100 µg/kg	TM157	<100
Dimethyl phthalate	<100 µg/kg	TM157	<100
Diethyl phthalate	<100 µg/kg	TM157	<100
n-Dibutyl phthalate	<100 µg/kg	TM157	<100
Dibenzofuran	<100 µg/kg	TM157	<100
Carbazole	<100 µg/kg	TM157	<100
Butylbenzyl phthalate	<100 µg/kg	TM157	<100
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	164
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<100
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<100
Azobenzene	<100 µg/kg	TM157	<100
4-Nitrophenol	<100 µg/kg	TM157	<100
4-Nitroaniline	<100 µg/kg	TM157	<100
4-Methylphenol	<100 µg/kg	TM157	<100
4-Chlorophenylphenylether	<100 µg/kg	TM157	<100
4-Chloroaniline	<100 µg/kg	TM157	<100
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<100
4-Bromophenylphenylether	<100 µg/kg	TM157	<100
3-Nitroaniline	<100 µg/kg	TM157	<100
2-Nitrophenol	<100 µg/kg	TM157	<100
2-Nitroaniline	<100 µg/kg	TM157	<100
2-Methylphenol	<100 µg/kg	TM157	<100
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<100
2-Chlorophenol	<100 µg/kg	TM157	<100

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.			CP104
Depth (m)			7.30 - 7.30
Sample Type			Soil/Solid (S)
Date Sampled			13/10/2020
Sample Time			.
Date Received			15/10/2020
SDG Ref			201020-14
Lab Sample No.(s)			23067328
AGS Reference			
Component	**LOD/Units**	**Method**	
2,6-Dinitrotoluene	<100 µg/kg	TM157	<100
2,4-Dinitrotoluene	<100 µg/kg	TM157	<100
2,4-Dimethylphenol	<100 µg/kg	TM157	<100
2,4-Dichlorophenol	<100 µg/kg	TM157	<100
2,4,6-Trichlorophenol	<100 µg/kg	TM157	<100
2,4,5-Trichlorophenol	<100 µg/kg	TM157	<100
1,4-Dichlorobenzene	<100 µg/kg	TM157	<100
1,3-Dichlorobenzene	<100 µg/kg	TM157	<100
1,2-Dichlorobenzene	<100 µg/kg	TM157	<100
2-Chloronaphthalene	<100 µg/kg	TM157	<100
2-Methylnaphthalene	<100 µg/kg	TM157	<100
Acenaphthylene	<100 µg/kg	TM157	<100
Acenaphthene	<100 µg/kg	TM157	<100
Anthracene	<100 µg/kg	TM157	<100
Benzo(a)anthracene	<100 µg/kg	TM157	<100
Benzo(b)fluoranthene	<100 µg/kg	TM157	176
Benzo(k)fluoranthene	<100 µg/kg	TM157	<100
Benzo(a)pyrene	<100 µg/kg	TM157	<100
Benzo(g,h,i)perylene	<100 µg/kg	TM157	<100
Chrysene	<100 µg/kg	TM157	<100
Fluoranthene	<100 µg/kg	TM157	257
Fluorene	<100 µg/kg	TM157	<100
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157	<100
Phenanthrene	<100 µg/kg	TM157	222
Pyrene	<100 µg/kg	TM157	269
Naphthalene	<100 µg/kg	TM157	<100
Dibenzo(a,h)anthracene	<100 µg/kg	TM157	<100
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157	<100

Validated

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	TP115	TP116	TP142		
			Depth (m)	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	13/10/2020	13/10/2020	13/10/2020	13/10/2020		
			Sample Time	.	.	.	.		
			Date Received	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			SDG Ref	201020-14	201020-14	201020-14	201020-14		
			Lab Sample No.(s)	23067328	23067357	23067353	23067337		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		99.6	84.7	73.3	106		
Aliphatics >C5-C6	<10 µg/kg	TM089		46.8	10.9	35.4	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		122	15.7	68.3	<10		
Aliphatics >C8-C10	<10 µg/kg	TM089		414	25.4	165	<10		
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	5640	<1000		
Aliphatics >C12-C16	<1000 µg/kg	TM414		7190	<1000	129000	<1000		
Aliphatics >C16-C21	<1000 µg/kg	TM414		22800	2850	111000	<1000		
Aliphatics >C21-C35	<1000 µg/kg	TM414		140000	11300	74000	<1000		
Aliphatics >C35-C44	<1000 µg/kg	TM414		32700	1490	47300	<1000		
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		204000	16400	367000	<5000		
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		321000	163000	461000	<10000		
Aromatics >EC5-EC7	<10 µg/kg	TM089		18.7	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		14	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		276	16.9	110	<10		
Aromatics > EC10-EC12	<1000 µg/kg	TM414		9410	<1000	<1000	<1000		
Aromatics > EC12-EC16	<1000 µg/kg	TM414		9750	4730	35900	<1000		
Aromatics > EC16-EC21	<1000 µg/kg	TM414		7680	36000	14100	<1000		
Aromatics > EC21-EC35	<1000 µg/kg	TM414		89000	95500	41800	2890		
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	10500	2260	<1000		
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	1610	1150	<1000		
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		117000	147000	94600	<5000		
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		322000	163000	462000	<10000		
Total Aliphatics >C5-C10	<50 µg/kg	TM089		583	52	268	<50		
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		309	<50	110	<50		
GRO >C5-C10	<20 µg/kg	TM089		892	52	378	<20		

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	TP115	TP116	TP142		
			Depth (m)	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	13/10/2020	13/10/2020	13/10/2020	13/10/2020		
			Sample Time	.	.	.	.		
			Date Received	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			SDG Ref	201020-14	201020-14	201020-14	201020-14		
			Lab Sample No.(s)	23067328	23067357	23067353	23067337		
			AGS Reference						
Dibromofluoromethane**	%	TM116		108	110	108	102		
Toluene-d8**	%	TM116		97.9	98.3	99.2	96.6		
4-Bromofluorobenzene**	%	TM116		93.2	96.5	97.1	73.9		
Dichlorodifluoromethane	<6 µg/kg	TM116		<120 M					
Chloromethane	<7 µg/kg	TM116		<140 #					
Vinyl Chloride	<6 µg/kg	TM116		<120 M					
Bromomethane	<10 µg/kg	TM116		<200 M					
Chloroethane	<10 µg/kg	TM116		<200 M					
Trichlorofluorormethane	<6 µg/kg	TM116		<120 M					
1,1-Dichloroethene	<10 µg/kg	TM116		<200 #					
Carbon Disulphide	<7 µg/kg	TM116		<140 M					
Dichloromethane	<10 µg/kg	TM116		<200 #					
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<10 M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<200 M					
1,1-Dichloroethane	<8 µg/kg	TM116		<160 M					
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<120 M					
2,2-Dichloropropane	<10 µg/kg	TM116		<200					
Bromochloromethane	<10 µg/kg	TM116		<200 M					
Chloroform	<8 µg/kg	TM116		<160 M					
1,1,1-Trichloroethane	<7 µg/kg	TM116		<140 M					
1,1-Dichloropropene	<10 µg/kg	TM116		<200 M					
Carbontetrachloride	<10 µg/kg	TM116		<200 M					
1,2-Dichloroethane	<5 µg/kg	TM116		<100 M					
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<9 M		
Trichloroethene	<9 µg/kg	TM116		<180 #					
1,2-Dichloropropane	<10 µg/kg	TM116		<200 M					
Dibromomethane	<9 µg/kg	TM116		<180 M					
Bromodichloromethane	<7 µg/kg	TM116		<140 M					
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<200 M					
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<7 M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<200					
1,1,2-Trichloroethane	<10 µg/kg	TM116		<200 M					
1,3-Dichloropropane	<7 µg/kg	TM116		<140 M					

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	TP115	TP116	TP142		
			Depth (m)	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	13/10/2020	13/10/2020	13/10/2020	13/10/2020		
			Sample Time	.	.	.	.		
			Date Received	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			SDG Ref	201020-14	201020-14	201020-14	201020-14		
			Lab Sample No.(s)	23067328	23067357	23067353	23067337		
			AGS Reference						
Tetrachloroethene	<5 µg/kg	TM116		<100 M					
Dibromochloromethane	<10 µg/kg	TM116		<200 M					
1,2-Dibromoethane	<10 µg/kg	TM116		<200 M					
Chlorobenzene	<5 µg/kg	TM116		<100 M					
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<200 M					
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<4 M		
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<10 #		
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<10 M		
Styrene	<10 µg/kg	TM116		<200 #					
Bromoform	<10 µg/kg	TM116		<200 M					
Isopropylbenzene	<5 µg/kg	TM116		<100 #					
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<200 #					
1,2,3-Trichloropropane	<16 µg/kg	TM116		<320 M					
Bromobenzene	<10 µg/kg	TM116		<200 M					
Propylbenzene	<10 µg/kg	TM116		<200 M					
2-Chlorotoluene	<9 µg/kg	TM116		<180 M					
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<160 M					
4-Chlorotoluene	<10 µg/kg	TM116		<200 M					
tert-Butylbenzene	<14 µg/kg	TM116		<280 M					
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<180 #					
sec-Butylbenzene	<10 µg/kg	TM116		<200					
4-Isopropyltoluene	<10 µg/kg	TM116		<200 M					
1,3-Dichlorobenzene	<8 µg/kg	TM116		<160 M					
1,4-Dichlorobenzene	<5 µg/kg	TM116		<100 M					
n-Butylbenzene	<11 µg/kg	TM116		<220					
1,2-Dichlorobenzene	<10 µg/kg	TM116		<200 M					
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<280 M					
Tert-amyl methyl ether	<10 µg/kg	TM116		<200 #					
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<400					
Hexachlorobutadiene	<20 µg/kg	TM116		<400					
Naphthalene	<13 µg/kg	TM116		<260 M					
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<400 #					
1,3,5-Trichlorobenzene	<20 µg/kg	TM116		<400					

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP104	TP115	TP116	TP142		
			Depth (m)	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	13/10/2020	13/10/2020	13/10/2020	13/10/2020		
			Sample Time	.	.	.	.		
			Date Received	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			SDG Ref	201020-14	201020-14	201020-14	201020-14		
			Lab Sample No.(s)	23067328	23067357	23067353	23067337		
			AGS Reference						
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.02		
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<40		

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP104 7.30 - 7.30 SOLID 13/10/2020 00:00:00 15/10/2020 05:00:00 201020-14 23067328 TM048	27/10/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP115 0.40 - 0.40 SOLID 13/10/2020 00:00:00 15/10/2020 05:00:00 201020-14 23067357 TM048	27/10/2020	Barbara Urbanek-Walsh	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP116 2.20 - 2.20 SOLID 13/10/2020 00:00:00 15/10/2020 05:00:00 201020-14 23067353 TM048	27/10/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP142 2.70 - 2.70 SOLID 13/10/2020 00:00:00 15/10/2020 05:00:00 201020-14 23067337 TM048	27/10/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.099	**Natural Moisture Content (%)**	10.5
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	90.5
Particle Size <4mm	>95%		

Case	
SDG	201020-14
Lab Sample Number(s)	23067349
Sampled Date	13-Oct-2020
Customer Sample Ref.	TP146
Depth (m)	4.30 - 4.30

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	0.012	<0.01	0.12	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	0.012	<0.01	0.12	<0.1	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	0.065	<0.01	0.65	<0.1	-	-	-
Low Level Hexavalent Chromium	<0.003	<0.003	<0.03	<0.03	-	-	-
Sulphate (soluble)	112	<2	1120	<20	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Dissolved Organic Carbon	5.91	<3	59.1	<30	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.0000828	<0.000005	0.000828	<0.00005	-	-	-
Arsenic	0.00153	<0.0005	0.0153	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	0.0000941	<0.000005	0.000941	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000232	<0.000005	0.000232	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.00000861	<0.000005	0.0000861	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.319	<0.01	3.19	<0.1	-	-	-
Phenanthrene (diss.filt)	0.00005	<0.000005	0.0005	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	80	<2	800	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	0.0000302	<0.000005	0.000302	<0.00005	-	-	-
Chrysene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Pyrene (diss.filt)	0.000019	<0.000005	0.00019	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-

Leach Test Information

Date Prepared	22-Oct-2020
pH (pH Units)	8.19
Conductivity (µS/cm)	324.00
Temperature (°C)	16.40
Volume Leachant (Litres)	0.891

Mcerts Certification does not apply to leachates

27/10/2020 17:14:10

17:13:44 27/10/2020

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.099	**Natural Moisture Content (%)**	10.5
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	90.5
Particle Size <4mm	>95%		

Case	
SDG	201020-14
Lab Sample Number(s)	23067349
Sampled Date	13-Oct-2020
Customer Sample Ref.	TP146
Depth (m)	4.30 - 4.30

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Benzo(a)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chromium	0.00448	<0.001	0.0448	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Copper	0.00487	<0.0003	0.0487	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	0.00139	<0.0002	0.0139	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PAH 16 EPA Total by GCMS (diss.filt)	0.000308	<0.000082	0.00308	<0.00082	-	-	-
Nickel	0.00245	<0.0004	0.0245	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	70.3	<0.2	703	<2	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	0.053	<0.05	0.53	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	0.02	<0.01	0.2	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	0.013	<0.01	0.13	<0.1	-	-	-
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	<0.011	<0.011	<0.11	<0.11	-	-	-
Sum of BTEX by GC	<0.028	<0.028	<0.28	<0.28	-	-	-

Leach Test Information

Date Prepared	22-Oct-2020
pH (pH Units)	8.19
Conductivity (µS/cm)	324.00
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Mcerts Certification does not apply to leachates

27/10/2020 17:14:10

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM243		Mixed Anions In Soils By Kone
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM331		Low Level Hexavalent Chromium
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201020-14	**Client Reference:**	LD10162	**Report Number:**	572888
Location:	Ten Acres Lane	**Order Number:**	LD1669	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23067328	23067357	23067353	23067337	23067349
Customer Sample Ref.	CP104	TP115	TP116	TP142	TP146
AGS Ref.					
Depth	7.30 - 7.30	0.40 - 0.40	2.20 - 2.20	2.70 - 2.70	4.30 - 4.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3					26-Oct-2020
Anions by Kone (soil)	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
Anions by Kone (w)					26-Oct-2020
Asbestos ID in Solid Samples	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
Boron Water Soluble	26-Oct-2020	26-Oct-2020	26-Oct-2020	26-Oct-2020	
CEN 10:1 Leachate (1 Stage)					24-Oct-2020
CEN Readings					25-Oct-2020
Cyanide Comp/Free/Total/Thiocyanate	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020
Dissolved Metals by ICP-MS					27-Oct-2020
Dissolved Organic/Inorganic Carbon					26-Oct-2020
Easily Liberated Sulphide	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
EPH CWG (Aliphatic) Filtered GC (W)					27-Oct-2020
EPH CWG (Aromatic) Filtered GC (W)					27-Oct-2020
EPH CWG GC (S)	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
GRO by GC-FID (S)	25-Oct-2020	25-Oct-2020	25-Oct-2020	25-Oct-2020	
GRO by GC-FID (W)					26-Oct-2020
Hexavalent Chromium (s)	26-Oct-2020	26-Oct-2020	26-Oct-2020	26-Oct-2020	
Low Level Hexavalent Chromium (w)					26-Oct-2020
Mercury Dissolved					27-Oct-2020
Metals in solid samples by OES	27-Oct-2020	26-Oct-2020	27-Oct-2020	26-Oct-2020	
Moisture at 105C					22-Oct-2020
PAH by GCMS	27-Oct-2020	26-Oct-2020	24-Oct-2020	24-Oct-2020	
PAH in waters by GC-MS (diss.filt)					26-Oct-2020
PCBs by GCMS	27-Oct-2020	27-Oct-2020			
pH	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
pH Value					27-Oct-2020
Phenols by HPLC (S)	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
Phenols by HPLC (W)					27-Oct-2020
Sample description	23-Oct-2020	23-Oct-2020	23-Oct-2020	23-Oct-2020	22-Oct-2020
Semi Volatile Organic Compounds	26-Oct-2020				
Sulphide					27-Oct-2020
Total Organic Carbon	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
Total Sulphate	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
TPH CWG Filtered (W)					27-Oct-2020
TPH CWG GC (S)	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	
VOC MS (S)	24-Oct-2020	24-Oct-2020	24-Oct-2020	24-Oct-2020	

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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Hawarden
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Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	12 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201023-143
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	575474

This report has been revised and directly supersedes 575469 in its entirety.

We received 10 samples on Friday October 16, 2020 and 5 of these samples were scheduled for analysis which was completed on Thursday November 12, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23103778	CP109		1.00 - 1.00	14/10/2020
23103782	CP109		3.50 - 3.50	14/10/2020
23103788	CP109		7.50 - 7.50	14/10/2020
23103810	TP114		0.70 - 0.70	14/10/2020
23103816	TP114		3.40 - 3.40	14/10/2020
23103806	TP128		3.60 - 3.60	14/10/2020
23103843	TP131		2.50 - 2.50	14/10/2020
23103796	TP145		2.30 - 2.30	14/10/2020
23103823	TP145		3.80 - 3.80	14/10/2020
23103831	TP145		3.80 - 3.80	14/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23103788			23103816			23103806			23103796		23103823	
Customer Sample Reference			CP109			TP114			TP128			TP145		TP145	
AGS Reference															
Depth (m)			7.50 - 7.50			3.40 - 3.40			3.60 - 3.60			2.30 - 2.30		3.80 - 3.80	
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 1										X				
Anions by Kone (soil)	All	NDPs: 0 Tests: 4		X			X			X					X	
Anions by Kone (w)	All	NDPs: 0 Tests: 1										X				
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 4	X			X			X					X		
Asbestos Quantification - Full	All	NDPs: 0 Tests: 1	X													
Boron Water Soluble	All	NDPs: 0 Tests: 4		X			X			X					X	
CEN Readings	All	NDPs: 0 Tests: 1										X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 5		X			X			X		X			X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1										X				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1										X				
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4		X			X			X					X	
EPH CWG (Aliphatic) Filtered GC (W)	All	NDPs: 0 Tests: 1										X				
EPH CWG (Aromatic) Filtered GC (W)	All	NDPs: 0 Tests: 1										X				
EPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X					X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4			X			X			X					X

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23103788			23103816			23103806			23103796			23103823	
Customer Sample Reference			CP109			TP114			TP128			TP145			TP145	
AGS Reference																
Depth (m)			7.50 - 7.50			3.40 - 3.40			3.60 - 3.60			2.30 - 2.30			3.80 - 3.80	
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1										X				
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 4		X			X			X					X	
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 1										X				
Mercury Dissolved	All	NDPs: 0 Tests: 1										X				
Metals in solid samples by OES	All	NDPs: 0 Tests: 4		X			X			X					X	
PAH by GCMS	All	NDPs: 0 Tests: 4		X			X			X					X	
PAH in waters by GC-MS (diss.filt)	All	NDPs: 0 Tests: 1										X				
PCBs by GCMS	All	NDPs: 0 Tests: 3					X			X					X	
pH	All	NDPs: 0 Tests: 4		X			X			X					X	
pH Value	All	NDPs: 0 Tests: 1										X				
Phenols by HPLC (S)	All	NDPs: 0 Tests: 4		X			X			X					X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1										X				
Sample description	All	NDPs: 0 Tests: 5		X			X			X			X		X	
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2		X											X	
Sulphide	All	NDPs: 0 Tests: 1										X				

16:56:42 12/11/2020

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23103788			23103816			23103806			23103796			23103823						
Customer Sample Reference			CP109			TP114			TP128			TP145			TP145						
AGS Reference																					
Depth (m)			7.50 - 7.50			3.40 - 3.40			3.60 - 3.60			2.30 - 2.30			3.80 - 3.80						
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)				
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S				
Total Organic Carbon	All	NDPs: 0 Tests: 4		X			X			X						X					
Total Sulphate	All	NDPs: 0 Tests: 4		X			X			X						X					
TPH CWG Filtered (W)	All	NDPs: 0 Tests: 1										X									
TPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X						X					

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23103788	CP109	7.50 - 7.50	Dark Brown	Sand	Stones	Brick
23103816	TP114	3.40 - 3.40	Black	Loamy Sand	Stones	Vegetation
23103806	TP128	3.60 - 3.60	Grey	Loamy Sand	Stones	Vegetation
23103796	TP145	2.30 - 2.30	Dark Brown	Silty Clay Loam	Stones	Oil/Petroleum
23103823	TP145	3.80 - 3.80	Black	Silt Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP109	TP114	TP128	TP145	TP145
			Depth (m)	7.50 - 7.50	3.40 - 3.40	3.60 - 3.60	2.30 - 2.30	3.80 - 3.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			Sample Time	.	.	.	.	.
			Date Received	16/10/2020	16/10/2020	16/10/2020	16/10/2020	16/10/2020
			SDG Ref	201023-143	201023-143	201023-143	201023-143	201023-143
			Lab Sample No.(s)	23103788	23103816	23103806	23103796	23103823
			AGS Reference					
Moisture Content Ratio (% of as received sample)	%	PM024		13	20	28	35	32
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M	<0.01 @ M	<0.01 @ M		<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)		0.0345 @ M	0.0375 @ M	<0.01 @ M		<0.01 @ M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M	0.0625 @ M	<0.015 @ M		<0.015 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M	0.1 @ M	<0.035 @ M		<0.035 @ M
Soil Organic Matter (SOM)	<0.35 %	TM132		0.759 #	11.5 #	7.69 #		19.8 #
pH	1 pH Units	TM133		9.27 M	6.19 M	7.23 M		7.5 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<1.2 #	<0.6 #		<0.6 #
Cyanide, Total	<1 mg/kg	TM153		<1 @ M	79.5 @ M	<1 @ M		<1 @ M
PCB congener 28	<3 µg/kg	TM168			<3 M	<3 M		<60 M
PCB congener 52	<3 µg/kg	TM168			<3 M	<3 M		<60 M
PCB congener 101	<3 µg/kg	TM168			<3 M	<3 M		<60 M
PCB congener 118	<3 µg/kg	TM168			<3 M	<3 M		<60 M
PCB congener 138	<3 µg/kg	TM168			<3 M	<3 M		<60 M
PCB congener 153	<3 µg/kg	TM168			<3 M	<3 M		<60 M
PCB congener 180	<3 µg/kg	TM168			<3 M	<3 M		<60 M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168			<21	<21		<420
Sulphide, Easily liberated	<15 mg/kg	TM180		41.8 @ M	332 @ M	<15 @ M		51.2 @ M
Arsenic	<0.6 mg/kg	TM181		22 M	45.4 M	309 M		72.5 M
Cadmium	<0.02 mg/kg	TM181		<0.2 M	0.574 M	0.069 M		0.692 M
Chromium	<0.9 mg/kg	TM181		585 M	884 M	36 M		28.4 M
Copper	<1.4 mg/kg	TM181		423 M	105 M	38.4 M		271 M
Lead	<0.7 mg/kg	TM181		30.1 M	28700 M	341 M		227 M
Mercury	<0.14 mg/kg	TM181		<1.4 M	0.344 M	1.12 M		0.457 M
Nickel	<0.2 mg/kg	TM181		535 M	65.8 M	5.68 M		46.4 M
Selenium	<1 mg/kg	TM181		<10 #	<1 #	16.9 #		<1 #
Zinc	<1.9 mg/kg	TM181		283 M	384 M	79.4 M		338 M
Sulphate, Total	<48 mg/kg	TM221		6110 M	3510 M	19800 M		1140 M
Boron, water soluble	<1 mg/kg	TM222		15.3 M	5.75 M	1.73 M		2.74 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0683 M	0.329 M	0.0985 M		0.048 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		5.11 #				
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #				
Additional Asbestos Components (Using TM048)		TM304		None #				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP109	TP114	TP128	TP145	TP145
			Depth (m)	7.50 - 7.50	3.40 - 3.40	3.60 - 3.60	2.30 - 2.30	3.80 - 3.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	14/10/2020	14/10/2020	14/10/2020	14/10/2020	14/10/2020
			Sample Time	.	.	.	.	.
			Date Received	16/10/2020	16/10/2020	16/10/2020	16/10/2020	16/10/2020
			SDG Ref	201023-143	201023-143	201023-143	201023-143	201023-143
			Lab Sample No.(s)	23103788	23103816	23103806	23103796	23103823
			AGS Reference					
Analysts Comments		TM304		N/C				
Asbestos Quantification - Total - %	<0.001 %	TM304		5.11 #				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP109	TP114	TP128	TP145		
			Depth (m)	7.50 - 7.50	3.40 - 3.40	3.60 - 3.60	3.80 - 3.80		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	14/10/2020	14/10/2020	14/10/2020	14/10/2020		
			Sample Time	.	.	.	.		
			Date Received	16/10/2020	16/10/2020	16/10/2020	16/10/2020		
			SDG Ref	201023-143	201023-143	201023-143	201023-143		
			Lab Sample No.(s)	23103788	23103816	23103806	23103823		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		88.9	89.6	91	79.1		
Acenaphthene-d10 % recovery**	%	TM218		87.6	94.5	95.3	87.7		
Phenanthrene-d10 % recovery**	%	TM218		90.2	100	96.5	90.5		
Chrysene-d12 % recovery**	%	TM218		85	88.8	87	84.5		
Perylene-d12 % recovery**	%	TM218		73.4	80	81.4	76.7		
Naphthalene	<9 µg/kg	TM218		38.2 @ M	63.9 @ M	<9 @ M	602 @ M		
Acenaphthylene	<12 µg/kg	TM218		<12 @ M	16.5 @ M	<12 @ M	218 @ M		
Acenaphthene	<8 µg/kg	TM218		53 @ M	74 @ M	<8 @ M	1230 @ M		
Fluorene	<10 µg/kg	TM218		32.9 @ M	66 @ M	<10 @ M	956 @ M		
Phenanthrene	<15 µg/kg	TM218		158 @ M	685 @ M	34.3 @ M	3660 @ M		
Anthracene	<16 µg/kg	TM218		47.7 @ M	175 @ M	<16 @ M	1770 @ M		
Fluoranthene	<17 µg/kg	TM218		171 @ M	1110 @ M	73.9 @ M	13900 @ M		
Pyrene	<15 µg/kg	TM218		145 @ M	1020 @ M	57.4 @ M	13000 @ M		
Benz(a)anthracene	<14 µg/kg	TM218		58.9 @ M	507 @ M	55 @ M	3470 @ M		
Chrysene	<10 µg/kg	TM218		49.1 @ M	541 @ M	65.3 @ M	4550 @ M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		31.8 @ M	698 @ M	95.4 @ M	7520 @ M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		17.9 @ M	229 @ M	29.6 @ M	<70 @ M		
Benzo(a)pyrene	<15 µg/kg	TM218		42.1 @ M	493 @ M	34 @ M	3570 @ M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		26.8 @ M	327 @ M	42.4 @ M	2820 @ M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 @ M	54.4 @ M	<23 @ M	422 @ M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		29 @ M	313 @ M	38.6 @ M	2760 @ M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		901	6370	526	60400		

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP109	TP145				
			Depth (m)	7.50 - 7.50	3.80 - 3.80				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	14/10/2020	14/10/2020				
			Sample Time	.	.				
			Date Received	16/10/2020	16/10/2020				
			SDG Ref	201023-143	201023-143				
			Lab Sample No.(s)	23103788	23103823				
			AGS Reference						
Phenol	<100 µg/kg	TM157		<100	<500				
Pentachlorophenol	<100 µg/kg	TM157		<100	<500				
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157		<100	<500				
Nitrobenzene	<100 µg/kg	TM157		<100	<500				
Isophorone	<100 µg/kg	TM157		<100	<500				
Hexachloroethane	<100 µg/kg	TM157		<100	<500				
Hexachlorocyclopentadiene	<100 µg/kg	TM157		<100	<500				
Hexachlorobutadiene	<100 µg/kg	TM157		<100	<500				
Hexachlorobenzene	<100 µg/kg	TM157		<100	<500				
n-Dioctyl phthalate	<100 µg/kg	TM157		<100	<500				
Dimethyl phthalate	<100 µg/kg	TM157		<100	<500				
Diethyl phthalate	<100 µg/kg	TM157		<100	<500				
n-Dibutyl phthalate	<100 µg/kg	TM157		<100	<500				
Dibenzofuran	<100 µg/kg	TM157		<100	<500				
Carbazole	<100 µg/kg	TM157		<100	<500				
Butylbenzyl phthalate	<100 µg/kg	TM157		<100	<500				
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157		<100	<500				
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157		<100	<500				
bis(2-Chloroethyl)ether	<100 µg/kg	TM157		<100	<500				
Azobenzene	<100 µg/kg	TM157		<100	<500				
4-Nitrophenol	<100 µg/kg	TM157		<100	<500				
4-Nitroaniline	<100 µg/kg	TM157		<100	<500				
4-Methylphenol	<100 µg/kg	TM157		<100	<500				
4-Chlorophenylphenylether	<100 µg/kg	TM157		<100	<500				
4-Chloroaniline	<100 µg/kg	TM157		<100	<500				
4-Chloro-3-methylphenol	<100 µg/kg	TM157		<100	<500				
4-Bromophenylphenylether	<100 µg/kg	TM157		<100	<500				
3-Nitroaniline	<100 µg/kg	TM157		<100	<500				
2-Nitrophenol	<100 µg/kg	TM157		<200	<1000				
2-Nitroaniline	<100 µg/kg	TM157		<200	<1000				
2-Methylphenol	<100 µg/kg	TM157		<100	<500				
1,2,4-Trichlorobenzene	<100 µg/kg	TM157		<100	<500				
2-Chlorophenol	<100 µg/kg	TM157		<100	<500				

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP109	TP145				
			Depth (m)	7.50 - 7.50	3.80 - 3.80				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	14/10/2020	14/10/2020				
			Sample Time	.	.				
			Date Received	16/10/2020	16/10/2020				
			SDG Ref	201023-143	201023-143				
			Lab Sample No.(s)	23103788	23103823				
			AGS Reference						
2,6-Dinitrotoluene	<100 µg/kg	TM157		<100	<500				
2,4-Dinitrotoluene	<100 µg/kg	TM157		<100	<500				
2,4-Dimethylphenol	<100 µg/kg	TM157		<100	<500				
2,4-Dichlorophenol	<100 µg/kg	TM157		<100	<500				
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<100	<500				
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<100	<500				
1,4-Dichlorobenzene	<100 µg/kg	TM157		<100	<500				
1,3-Dichlorobenzene	<100 µg/kg	TM157		<100	<500				
1,2-Dichlorobenzene	<100 µg/kg	TM157		<100	<500				
2-Chloronaphthalene	<100 µg/kg	TM157		<100	<500				
2-Methylnaphthalene	<100 µg/kg	TM157		<100	<500				
Acenaphthylene	<100 µg/kg	TM157		<100	<500				
Acenaphthene	<100 µg/kg	TM157		<100	<500				
Anthracene	<100 µg/kg	TM157		<100	<500				
Benzo(a)anthracene	<100 µg/kg	TM157		<100	818				
Benzo(b)fluoranthene	<100 µg/kg	TM157		<100	774				
Benzo(k)fluoranthene	<100 µg/kg	TM157		<100	934				
Benzo(a)pyrene	<100 µg/kg	TM157		<100	<500				
Benzo(g,h,i)perylene	<100 µg/kg	TM157		<100	<500				
Chrysene	<100 µg/kg	TM157		115	1400				
Fluoranthene	<100 µg/kg	TM157		368	3150				
Fluorene	<100 µg/kg	TM157		<100	<500				
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		<100	<500				
Phenanthrene	<100 µg/kg	TM157		380	1280				
Pyrene	<100 µg/kg	TM157		311	2740				
Naphthalene	<100 µg/kg	TM157		127	<500				
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		<100	<500				
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157		<100	<500				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP109	TP114	TP128	TP145		
			Depth (m)	7.50 - 7.50	3.40 - 3.40	3.60 - 3.60	3.80 - 3.80		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	14/10/2020	14/10/2020	14/10/2020	14/10/2020		
			Sample Time	.	.	.	.		
			Date Received	16/10/2020	16/10/2020	16/10/2020	16/10/2020		
			SDG Ref	201023-143	201023-143	201023-143	201023-143		
			Lab Sample No.(s)	23103788	23103816	23103806	23103823		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		97.6 @	111	94.3	81.2		
Aliphatics >C5-C6	<10 µg/kg	TM089		24.2 @	40	<10	14.6		
Aliphatics >C6-C8	<10 µg/kg	TM089		65.6 @	67.5	<10	73		
Aliphatics >C8-C10	<10 µg/kg	TM089		117 @	65	<10	101		
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	1440		
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	45300		
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	4210	<1000	541000		
Aliphatics >C21-C35	<1000 µg/kg	TM414		80800	37500	14600	3590000		
Aliphatics >C35-C44	<1000 µg/kg	TM414		38300	8330	2450	1610000		
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		120000	51100	17800	5790000		
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		143000	110000	22700	7890000		
Aromatics >EC5-EC7	<10 µg/kg	TM089		13.8 @	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 @	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		78.2 @	43.8	<10	67.2		
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000		
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	27200		
Aromatics > EC16-EC21	<1000 µg/kg	TM414		1960	7550	<1000	88000		
Aromatics > EC21-EC35	<1000 µg/kg	TM414		18800	44600	3730	1980000		
Aromatics >EC35-EC44	<1000 µg/kg	TM414		2290	6730	<1000	3150		
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	2580	<1000	<1000		
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		23000	59300	<5000	2100000		
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		144000	111000	17800	7890000		
Total Aliphatics >C5-C10	<50 µg/kg	TM089		207 @	173	<50	188		
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		92 @	<50	<50	67.2		
GRO >C5-C10	<20 µg/kg	TM089		299 @	173	<20	256		

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	CP109 7.50 - 7.50 SOLID 14/10/2020 00:00:00 16/10/2020 05:00:00 201023-143 23103788 TM048	03/11/2020	James Richards	Fibre bundle and material typical of asbestos cement debris in soil	Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP114 3.40 - 3.40 SOLID 14/10/2020 00:00:00 16/10/2020 05:00:00 201023-143 23103816 TM048	03/11/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP128 3.60 - 3.60 SOLID 14/10/2020 00:00:00 16/10/2020 05:00:00 201023-143 23103806 TM048	03/11/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP145 3.80 - 3.80 SOLID 14/10/2020 00:00:00 16/10/2020 05:00:00 201023-143 23103823 TM048	03/11/20	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	CP109	None (#)	N/C	5.1096 (#)	<0.001 (#)	5.1102 (#)
Depth (m)	7.50 - 7.50					
Sample Type	SOLID					
Date Sampled	14/10/2020 00:00:00					
Date Receieved	16/10/2020 05:00:00					
SDG	201023-143					
Original Sample	23103788					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.127	**Natural Moisture Content (%)**	40.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	71
Particle Size <4mm	>95%		

Case	
SDG	201023-143
Lab Sample Number(s)	23103796
Sampled Date	14-Oct-2020
Customer Sample Ref.	TP145
Depth (m)	2.30 - 2.30

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Low Level Hexavalent Chromium	<0.003	<0.003	<0.03	<0.03	-	-	-
Sulphate (soluble)	54.4	<2	544	<20	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Dissolved Organic Carbon	5.34	<3	53.4	<30	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	0.0000253	<0.00001	0.000253	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.000222	<0.000005	0.00222	<0.00005	-	-	-
Arsenic	0.0734	<0.0005	0.734	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	0.000226	<0.000005	0.00226	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.00015	<0.000005	0.0015	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	0.0000154	<0.000005	0.000154	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.0427	<0.01	0.427	<0.1	-	-	-
Phenanthrene (diss.filt)	0.0000381	<0.000005	0.000381	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	49.5	<2	495	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	0.0000399	<0.000005	0.000399	<0.00005	-	-	-
Chrysene (diss.filt)	0.00000786	<0.000005	0.0000786	<0.00005	-	-	-
Pyrene (diss.filt)	0.000115	<0.000005	0.00115	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-

Leach Test Information

Date Prepared	31-Oct-2020
pH (pH Units)	8.07
Conductivity (µS/cm)	218.00
Temperature (°C)	20.90
Volume Leachant (Litres)	0.863

Mcerts Certification does not apply to leachates

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CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.127	**Natural Moisture Content (%)**	40.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	71
Particle Size <4mm	>95%		

Case	
SDG	201023-143
Lab Sample Number(s)	23103796
Sampled Date	14-Oct-2020
Customer Sample Ref.	TP145
Depth (m)	2.30 - 2.30

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Benzo(a)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chromium	<0.001	<0.001	<0.01	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Copper	0.00071	<0.0003	0.0071	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	<0.0002	<0.0002	<0.002	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PAH 16 EPA Total by GCMS (diss.filt)	0.00084	<0.000082	0.0084	<0.00082	-	-	-
Nickel	0.00106	<0.0004	0.0106	<0.004	-	-	-
Selenium	0.00114	<0.001	0.0114	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	40	<0.2	400	<2	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	<0.011	<0.011	<0.11	<0.11	-	-	-
Sum of BTEX by GC	<0.028	<0.028	<0.28	<0.28	-	-	-

Leach Test Information

Date Prepared	31-Oct-2020
pH (pH Units)	8.07
Conductivity (µS/cm)	218.00
Temperature (°C)	20.90
Volume Leachant (Litres)	0.863

Mcerts Certification does not apply to leachates

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Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM243		Mixed Anions In Soils By Kone
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM331		Low Level Hexavalent Chromium
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201023-143	**Client Reference:**	LD10162	**Report Number:**	575474
Location:	Ten Acres Lane	**Order Number:**	LD1674	**Superseded Report:**	575469

Test Completion Dates

Lab Sample No(s)	23103788	23103816	23103806	23103796	23103823
Customer Sample Ref.	CP109	TP114	TP128	TP145	TP145
AGS Ref.					
Depth	7.50 - 7.50	3.40 - 3.40	3.60 - 3.60	2.30 - 2.30	3.80 - 3.80
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3				03-Nov-2020	
Anions by Kone (soil)	04-Nov-2020	04-Nov-2020	04-Nov-2020		04-Nov-2020
Anions by Kone (w)				03-Nov-2020	
Asbestos ID in Solid Samples	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
Asbestos Quantification - Full	12-Nov-2020				
Boron Water Soluble	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
CEN 10:1 Leachate (1 Stage)				31-Oct-2020	
CEN Readings				03-Nov-2020	
Cyanide Comp/Free/Total/Thiocyanate	03-Nov-2020	04-Nov-2020	03-Nov-2020	05-Nov-2020	03-Nov-2020
Dissolved Metals by ICP-MS				04-Nov-2020	
Dissolved Organic/Inorganic Carbon				05-Nov-2020	
Easily Liberated Sulphide	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
EPH CWG (Aliphatic) Filtered GC (W)				04-Nov-2020	
EPH CWG (Aromatic) Filtered GC (W)				04-Nov-2020	
EPH CWG GC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
GRO by GC-FID (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020		02-Nov-2020
GRO by GC-FID (W)				02-Nov-2020	
Hexavalent Chromium (s)	04-Nov-2020	04-Nov-2020	04-Nov-2020		04-Nov-2020
Low Level Hexavalent Chromium (w)				03-Nov-2020	
Mercury Dissolved				03-Nov-2020	
Metals in solid samples by OES	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
Moisture at 105C				31-Oct-2020	
PAH by GCMS	01-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
PAH in waters by GC-MS (diss.filt)				03-Nov-2020	
PCBs by GCMS		04-Nov-2020	04-Nov-2020		04-Nov-2020
pH	02-Nov-2020	02-Nov-2020	03-Nov-2020		02-Nov-2020
pH Value				03-Nov-2020	
Phenols by HPLC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
Phenols by HPLC (W)				04-Nov-2020	
Sample description	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020
Semi Volatile Organic Compounds	03-Nov-2020				03-Nov-2020
Sulphide				04-Nov-2020	
Total Organic Carbon	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
Total Sulphate	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020
TPH CWG Filtered (W)				04-Nov-2020	
TPH CWG GC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020		03-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
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Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	05 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201024-94
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	574318

We received 7 samples on Tuesday October 20, 2020 and 3 of these samples were scheduled for analysis which was completed on Thursday November 05, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23110937	CP112		8.00 - 8.00	16/10/2020
23110963	TP125		2.30 - 2.30	16/10/2020
23110967	TP125		3.20 - 3.20	16/10/2020
23110944	TP127		1.20 - 1.20	16/10/2020
23110952	TP127		4.35 - 4.35	16/10/2020
23110971	TP127		4.40	16/10/2020
23110957	TP135		0.75 - 0.75	16/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)				23110937			23110963			23110944	
Customer Sample Reference				CP112			TP125			TP127	
AGS Reference											
Depth (m)				8.00 - 8.00			2.30 - 2.30			1.20 - 1.20	
Container				1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type				S	S	S	S	S	S	S	S	S
Anions by Kone (soil)	All	NDPs: 0 Tests: 3			X			X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3		X			X			X		
Boron Water Soluble	All	NDPs: 0 Tests: 3			X			X			X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3			X			X			X	
Easily Liberated Sulphide	All	NDPs: 0 Tests: 3			X			X			X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 3			X			X			X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 3				X			X			X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 3			X			X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 3			X			X			X	
PAH by GCMS	All	NDPs: 0 Tests: 3			X			X			X	
PCBs by GCMS	All	NDPs: 0 Tests: 2						X			X	
pH	All	NDPs: 0 Tests: 3			X			X			X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 3			X			X			X	
Sample description	All	NDPs: 0 Tests: 3			X			X			X	
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2						X			X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23110937			23110963			23110944		
Customer Sample Reference			CP112			TP125			TP127		
AGS Reference											
Depth (m)			8.00 - 8.00			2.30 - 2.30			1.20 - 1.20		
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S
Total Organic Carbon	All	NDPs: 0 Tests: 3		X			X			X	
Total Sulphate	All	NDPs: 0 Tests: 3		X			X			X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 3		X			X			X	
VOC MS (S)	All	NDPs: 0 Tests: 3			X			X			X

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23110937	CP112	8.00 - 8.00	Dark Brown	Sand	Stones	Vegetation
23110963	TP125	2.30 - 2.30	Dark Brown	Loamy Sand	Stones	Vegetation
23110944	TP127	1.20 - 1.20	Black	Loamy Sand	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP112	TP125	TP127			
			Depth (m)	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	16/10/2020	16/10/2020	16/10/2020			
			Sample Time	.	.	.			
			Date Received	20/10/2020	20/10/2020	20/10/2020			
			SDG Ref	201024-94	201024-94	201024-94			
			Lab Sample No.(s)	23110937	23110963	23110944			
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		9.6	16	18			
Phenol	<0.01 mg/kg	TM062 (S)		9.53 @ M	<0.01 @ M	<0.01 @ M			
Cresols	<0.01 mg/kg	TM062 (S)		<0.05 @ M	<0.01 @ M	<0.01 @ M			
Xylenols	<0.015 mg/kg	TM062 (S)		0.3 @ M	<0.015 @ M	<0.015 @ M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		9.83 @ M	<0.035 @ M	<0.035 @ M			
Soil Organic Matter (SOM)	<0.35 %	TM132		0.96 #	4.26 #	22.6 #			
pH	1 pH Units	TM133		8.48 M	7.62 M	6.13 M			
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #			
Cyanide, Total	<1 mg/kg	TM153		<1 @ M	<1 @ M	<1 @ M			
PCB congener 28	<3 µg/kg	TM168			<3 M	<3 M			
PCB congener 52	<3 µg/kg	TM168			<3 M	<3 M			
PCB congener 101	<3 µg/kg	TM168			<3 M	<3 M			
PCB congener 118	<3 µg/kg	TM168			<3 M	<3 M			
PCB congener 138	<3 µg/kg	TM168			<3 M	<3 M			
PCB congener 153	<3 µg/kg	TM168			<3 M	<3 M			
PCB congener 180	<3 µg/kg	TM168			<3 M	<3 M			
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168			<21	<21			
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	<15 @ M	<15 @ M			
Arsenic	<0.6 mg/kg	TM181		24.7 M	29.1 M	26.1 M			
Cadmium	<0.02 mg/kg	TM181		0.0928 M	0.242 M	0.667 M			
Chromium	<0.9 mg/kg	TM181		3.6 M	15.5 M	17 M			
Copper	<1.4 mg/kg	TM181		9.55 M	102 M	325 M			
Lead	<0.7 mg/kg	TM181		33.9 M	139 M	322 M			
Mercury	<0.14 mg/kg	TM181		<0.14 M	0.21 M	0.511 M			
Nickel	<0.2 mg/kg	TM181		9.21 M	42.8 M	28.9 M			
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #			
Zinc	<1.9 mg/kg	TM181		49.4 M	179 M	142 M			
Sulphate, Total	<48 mg/kg	TM221		456 M	440 M	683 M			
Boron, water soluble	<1 mg/kg	TM222		5.18 M	<1 M	1.99 M			
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.173 M	0.121 M	0.0795 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP112	TP125	TP127			
			Depth (m)	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	16/10/2020	16/10/2020	16/10/2020			
			Sample Time	.	.	.			
			Date Received	20/10/2020	20/10/2020	20/10/2020			
			SDG Ref	201024-94	201024-94	201024-94			
			Lab Sample No.(s)	23110937	23110963	23110944			
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		91.7	78.6	73.2			
Acenaphthene-d10 % recovery**	%	TM218		99.5	79.5	78.2			
Phenanthrene-d10 % recovery**	%	TM218		107	81.6	83.4			
Chrysene-d12 % recovery**	%	TM218		104	83.2	81.4			
Perylene-d12 % recovery**	%	TM218		87.5	80.6	78.3			
Naphthalene	<9 µg/kg	TM218		27 @ M	16.4 @ M	276 @ M			
Acenaphthylene	<12 µg/kg	TM218		<12 @ M	18.9 @ M	79.3 @ M			
Acenaphthene	<8 µg/kg	TM218		38.7 @ M	25.4 @ M	439 @ M			
Fluorene	<10 µg/kg	TM218		43.9 @ M	17.8 @ M	365 @ M			
Phenanthrene	<15 µg/kg	TM218		280 @ M	272 @ M	2920 @ M			
Anthracene	<16 µg/kg	TM218		64.2 @ M	51.9 @ M	685 @ M			
Fluoranthene	<17 µg/kg	TM218		315 @ M	557 @ M	4250 @ M			
Pyrene	<15 µg/kg	TM218		302 @ M	462 @ M	4170 @ M			
Benz(a)anthracene	<14 µg/kg	TM218		142 @ M	202 @ M	2070 @ M			
Chrysene	<10 µg/kg	TM218		148 @ M	284 @ M	2010 @ M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		148 @ M	442 @ M	2440 @ M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		44 @ M	121 @ M	949 @ M			
Benzo(a)pyrene	<15 µg/kg	TM218		106 @ M	195 @ M	2020 @ M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		53.3 @ M	217 @ M	1460 @ M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 @ M	35.5 @ M	275 @ M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		63.6 @ M	195 @ M	1280 @ M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		1780	3110	25700			

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP125	TP127				
			Depth (m)	2.30 - 2.30	1.20 - 1.20				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	16/10/2020	16/10/2020				
			Sample Time	.	.				
			Date Received	20/10/2020	20/10/2020				
			SDG Ref	201024-94	201024-94				
			Lab Sample No.(s)	23110963	23110944				
			AGS Reference						
Phenol	<100 µg/kg	TM157		<100	<100				
Pentachlorophenol	<100 µg/kg	TM157		<100	<100				
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157		<100	<100				
Nitrobenzene	<100 µg/kg	TM157		<100	<100				
Isophorone	<100 µg/kg	TM157		<100	<100				
Hexachloroethane	<100 µg/kg	TM157		<100	<100				
Hexachlorocyclopentadiene	<100 µg/kg	TM157		<200	<200				
Hexachlorobutadiene	<100 µg/kg	TM157		<100	<100				
Hexachlorobenzene	<100 µg/kg	TM157		<100	<100				
n-Dioctyl phthalate	<100 µg/kg	TM157		<100	<100				
Dimethyl phthalate	<100 µg/kg	TM157		<100	<100				
Diethyl phthalate	<100 µg/kg	TM157		<100	<100				
n-Dibutyl phthalate	<100 µg/kg	TM157		<100	<100				
Dibenzofuran	<100 µg/kg	TM157		<100	497				
Carbazole	<100 µg/kg	TM157		<100	222				
Butylbenzyl phthalate	<100 µg/kg	TM157		<100	<100				
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157		<100	<100				
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157		<100	<100				
bis(2-Chloroethyl)ether	<100 µg/kg	TM157		<100	<100				
Azobenzene	<100 µg/kg	TM157		<100	<100				
4-Nitrophenol	<100 µg/kg	TM157		<100	<100				
4-Nitroaniline	<100 µg/kg	TM157		<100	<100				
4-Methylphenol	<100 µg/kg	TM157		<100	<100				
4-Chlorophenylphenylether	<100 µg/kg	TM157		<100	<100				
4-Chloroaniline	<100 µg/kg	TM157		<100	<100				
4-Chloro-3-methylphenol	<100 µg/kg	TM157		<100	<100				
4-Bromophenylphenylether	<100 µg/kg	TM157		<100	<100				
3-Nitroaniline	<100 µg/kg	TM157		<100	<100				
2-Nitrophenol	<100 µg/kg	TM157		<100	<100				
2-Nitroaniline	<100 µg/kg	TM157		<100	<100				
2-Methylphenol	<100 µg/kg	TM157		<100	<100				
1,2,4-Trichlorobenzene	<100 µg/kg	TM157		<100	<100				
2-Chlorophenol	<100 µg/kg	TM157		<100	<100				

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP125	TP127				
			Depth (m)	2.30 - 2.30	1.20 - 1.20				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	16/10/2020	16/10/2020				
			Sample Time	.	.				
			Date Received	20/10/2020	20/10/2020				
			SDG Ref	201024-94	201024-94				
			Lab Sample No.(s)	23110963	23110944				
			AGS Reference						
2,6-Dinitrotoluene	<100 µg/kg	TM157		<100	<100				
2,4-Dinitrotoluene	<100 µg/kg	TM157		<100	<100				
2,4-Dimethylphenol	<100 µg/kg	TM157		<100	<100				
2,4-Dichlorophenol	<100 µg/kg	TM157		<100	<100				
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<100	<100				
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<100	<100				
1,4-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
1,3-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
1,2-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
2-Chloronaphthalene	<100 µg/kg	TM157		<100	<100				
2-Methylnaphthalene	<100 µg/kg	TM157		<100	467				
Acenaphthylene	<100 µg/kg	TM157		<100	<100				
Acenaphthene	<100 µg/kg	TM157		<100	981				
Anthracene	<100 µg/kg	TM157		<100	934				
Benzo(a)anthracene	<100 µg/kg	TM157		279	2060				
Benzo(b)fluoranthene	<100 µg/kg	TM157		463	2140				
Benzo(k)fluoranthene	<100 µg/kg	TM157		365	1730				
Benzo(a)pyrene	<100 µg/kg	TM157		237	1950				
Benzo(g,h,i)perylene	<100 µg/kg	TM157		175	1180				
Chrysene	<100 µg/kg	TM157		398	2230				
Fluoranthene	<100 µg/kg	TM157		938	4840				
Fluorene	<100 µg/kg	TM157		<100	741				
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		197	1330				
Phenanthrene	<100 µg/kg	TM157		541	4560				
Pyrene	<100 µg/kg	TM157		787	4320				
Naphthalene	<100 µg/kg	TM157		<100	595				
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		<100	136				
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157		<100	<100				

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP112	TP125	TP127			
			Depth (m)	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	16/10/2020	16/10/2020	16/10/2020			
			Sample Time	.	.	.			
			Date Received	20/10/2020	20/10/2020	20/10/2020			
			SDG Ref	201024-94	201024-94	201024-94			
			Lab Sample No.(s)	23110937	23110963	23110944			
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		105	96.2	88.4			
Aliphatics >C5-C6	<10 µg/kg	TM089		18.9	<10	<10			
Aliphatics >C6-C8	<10 µg/kg	TM089		42.2	<10	<10			
Aliphatics >C8-C10	<10 µg/kg	TM089		393	<10	11.1			
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000			
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	1330			
Aliphatics >C16-C21	<1000 µg/kg	TM414		1810	<1000	2190			
Aliphatics >C21-C35	<1000 µg/kg	TM414		5600	<1000	28300			
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000	2440			
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		8760	<5000	34400			
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		12600	10200	165000			
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC8-EC10	<10 µg/kg	TM089		262	<10	<10			
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000			
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	7340			
Aromatics > EC16-EC21	<1000 µg/kg	TM414		1170	2520	33700			
Aromatics > EC21-EC35	<1000 µg/kg	TM414		1540	5440	79900			
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	9670			
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	1970			
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		<5000	9050	131000			
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		<10000	<10000	165000			
Total Aliphatics >C5-C10	<50 µg/kg	TM089		454	<50	<50			
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		262	<50	<50			
GRO >C5-C10	<20 µg/kg	TM089		716	<20	<20			

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP112	TP125	TP127			
			Depth (m)	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	16/10/2020	16/10/2020	16/10/2020			
			Sample Time	.	.	.			
			Date Received	20/10/2020	20/10/2020	20/10/2020			
			SDG Ref	201024-94	201024-94	201024-94			
			Lab Sample No.(s)	23110937	23110963	23110944			
			AGS Reference						
Dibromofluoromethane**	%	TM116		112	110	114			
Toluene-d8**	%	TM116		100	100	100			
4-Bromofluorobenzene**	%	TM116		91.9	85.9	86.6			
Dichlorodifluoromethane	<6 µg/kg	TM116			<120 M	<120 M			
Chloromethane	<7 µg/kg	TM116			<140 #	<140 #			
Vinyl Chloride	<6 µg/kg	TM116			<120 M	<120 M			
Bromomethane	<10 µg/kg	TM116			<200 M	<200 M			
Chloroethane	<10 µg/kg	TM116			<200 M	<200 M			
Trichlorofluorormethane	<6 µg/kg	TM116			<120 M	<120 M			
1,1-Dichloroethene	<10 µg/kg	TM116			<200 #	<200 #			
Carbon Disulphide	<7 µg/kg	TM116			<140 M	<140 M			
Dichloromethane	<10 µg/kg	TM116			<200 #	<200 #			
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M			
trans-1,2-Dichloroethene	<10 µg/kg	TM116			<200 M	<200 M			
1,1-Dichloroethane	<8 µg/kg	TM116			<160 M	<160 M			
cis-1,2-Dichloroethene	<6 µg/kg	TM116			<120 M	<120 M			
2,2-Dichloropropane	<10 µg/kg	TM116			<200	<200			
Bromochloromethane	<10 µg/kg	TM116			<200 M	<200 M			
Chloroform	<8 µg/kg	TM116			<160 M	<160 M			
1,1,1-Trichloroethane	<7 µg/kg	TM116			<140 M	<140 M			
1,1-Dichloropropene	<10 µg/kg	TM116			<200 M	<200 M			
Carbontetrachloride	<10 µg/kg	TM116			<200 M	<200 M			
1,2-Dichloroethane	<5 µg/kg	TM116			<100 M	<100 M			
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M			
Trichloroethene	<9 µg/kg	TM116			<180 #	<180 #			
1,2-Dichloropropane	<10 µg/kg	TM116			<200 M	<200 M			
Dibromomethane	<9 µg/kg	TM116			<180 M	<180 M			
Bromodichloromethane	<7 µg/kg	TM116			<140 M	<140 M			
cis-1,3-Dichloropropene	<10 µg/kg	TM116			<200 M	<200 M			
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M			
trans-1,3-Dichloropropene	<10 µg/kg	TM116			<200	<200			
1,1,2-Trichloroethane	<10 µg/kg	TM116			<200 M	<200 M			
1,3-Dichloropropane	<7 µg/kg	TM116			<140 M	<140 M			

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP112	TP125	TP127			
			Depth (m)	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	16/10/2020	16/10/2020	16/10/2020			
			Sample Time	.	.	.			
			Date Received	20/10/2020	20/10/2020	20/10/2020			
			SDG Ref	201024-94	201024-94	201024-94			
			Lab Sample No.(s)	23110937	23110963	23110944			
			AGS Reference						
Tetrachloroethene	<5 µg/kg	TM116			<100 M	<100 M			
Dibromochloromethane	<10 µg/kg	TM116			<200 M	<200 M			
1,2-Dibromoethane	<10 µg/kg	TM116			<200 M	<200 M			
Chlorobenzene	<5 µg/kg	TM116			<100 M	<100 M			
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116			<200 M	<200 M			
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M			
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #			
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M			
Styrene	<10 µg/kg	TM116			<200 #	<200 #			
Bromoform	<10 µg/kg	TM116			<200 M	<200 M			
Isopropylbenzene	<5 µg/kg	TM116			<100 #	<100 #			
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116			<200 #	<200 #			
1,2,3-Trichloropropane	<16 µg/kg	TM116			<320 M	<320 M			
Bromobenzene	<10 µg/kg	TM116			<200 M	<200 M			
Propylbenzene	<10 µg/kg	TM116			<200 M	<200 M			
2-Chlorotoluene	<9 µg/kg	TM116			<180 M	<180 M			
1,3,5-Trimethylbenzene	<8 µg/kg	TM116			<160 M	<160 M			
4-Chlorotoluene	<10 µg/kg	TM116			<200 M	<200 M			
tert-Butylbenzene	<14 µg/kg	TM116			<280 M	<280 M			
1,2,4-Trimethylbenzene	<9 µg/kg	TM116			<180 #	<180 #			
sec-Butylbenzene	<10 µg/kg	TM116			<200	<200			
4-Isopropyltoluene	<10 µg/kg	TM116			<200 M	<200 M			
1,3-Dichlorobenzene	<8 µg/kg	TM116			<160 M	<160 M			
1,4-Dichlorobenzene	<5 µg/kg	TM116			<100 M	<100 M			
n-Butylbenzene	<11 µg/kg	TM116			<220	<220			
1,2-Dichlorobenzene	<10 µg/kg	TM116			<200 M	<200 M			
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116			<280 M	<280 M			
Tert-amyl methyl ether	<10 µg/kg	TM116			<200 #	<200 #			
1,2,4-Trichlorobenzene	<20 µg/kg	TM116			<400	<400			
Hexachlorobutadiene	<20 µg/kg	TM116			<400	<400			
Naphthalene	<13 µg/kg	TM116			<260 M	<260 M			
1,2,3-Trichlorobenzene	<20 µg/kg	TM116			<400 #	<400 #			
1,3,5-Trichlorobenzene	<20 µg/kg	TM116			<400	<400			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP112	TP125	TP127			
			Depth (m)	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	16/10/2020	16/10/2020	16/10/2020			
			Sample Time	.	.	.			
			Date Received	20/10/2020	20/10/2020	20/10/2020			
			SDG Ref	201024-94	201024-94	201024-94			
			Lab Sample No.(s)	23110937	23110963	23110944			
			AGS Reference						
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4			
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800			

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	CP112 8.00 - 8.00 SOLID 16/10/2020 00:00:00 20/10/2020 09:00:00 201024-94 23110937 TM048	04/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP125 2.30 - 2.30 SOLID 16/10/2020 00:00:00 20/10/2020 09:00:00 201024-94 23110963 TM048	04/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP127 1.20 - 1.20 SOLID 16/10/2020 00:00:00 20/10/2020 09:00:00 201024-94 23110944 TM048	04/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM243		Mixed Anions In Soils By Kone
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201024-94	**Client Reference:**	LD10162	**Report Number:**	574318
Location:	Ten Acres Lane	**Order Number:**	LD1676	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23110937	23110963	23110944
Customer Sample Ref.	CP112	TP125	TP127
AGS Ref.			
Depth	8.00 - 8.00	2.30 - 2.30	1.20 - 1.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	04-Nov-2020	05-Nov-2020	05-Nov-2020
Asbestos ID in Solid Samples	04-Nov-2020	04-Nov-2020	04-Nov-2020
Boron Water Soluble	03-Nov-2020	04-Nov-2020	03-Nov-2020
Cyanide Comp/Free/Total/Thiocyanate	04-Nov-2020	04-Nov-2020	04-Nov-2020
Easily Liberated Sulphide	04-Nov-2020	03-Nov-2020	03-Nov-2020
EPH CWG GC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020
GRO by GC-FID (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020
Hexavalent Chromium (s)	04-Nov-2020	04-Nov-2020	04-Nov-2020
Metals in solid samples by OES	03-Nov-2020	03-Nov-2020	03-Nov-2020
PAH by GCMS	02-Nov-2020	04-Nov-2020	04-Nov-2020
PCBs by GCMS		04-Nov-2020	04-Nov-2020
pH	03-Nov-2020	04-Nov-2020	03-Nov-2020
Phenols by HPLC (S)	05-Nov-2020	05-Nov-2020	05-Nov-2020
Sample description	30-Oct-2020	31-Oct-2020	30-Oct-2020
Semi Volatile Organic Compounds		03-Nov-2020	03-Nov-2020
Total Organic Carbon	03-Nov-2020	03-Nov-2020	03-Nov-2020
Total Sulphate	03-Nov-2020	03-Nov-2020	03-Nov-2020
TPH CWG GC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020
VOC MS (S)	02-Nov-2020	03-Nov-2020	02-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Hawarden
Deeside
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Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	05 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201026-6
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	574319

We received 9 samples on Monday October 26, 2020 and 4 of these samples were scheduled for analysis which was completed on Thursday November 05, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23114666	CP112		1.50 - 1.50	15/10/2020
23114670	CP112		3.00 - 3.00	15/10/2020
23114633	TP117		1.70 - 1.70	15/10/2020
23114642	TP117		1.80 - 1.80	15/10/2020
23114638	TP117		4.20 - 4.20	15/10/2020
23114658	TP118		0.50 - 0.50	15/10/2020
23114653	TP118		1.80 - 1.80	15/10/2020
23114662	TP130		0.30 - 0.30	15/10/2020
23114649	TP134		0.20 - 0.20	15/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23114638			23114653			23114662			23114649		
Customer Sample Reference			TP117			TP118			TP130			TP134		
AGS Reference														
Depth (m)			4.20 - 4.20			1.80 - 1.80			0.30 - 0.30			0.20 - 0.20		
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
Anions by Kone (soil)	All	NDPs: 0 Tests: 4		X			X			X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 4	X			X			X			X		
Boron Water Soluble	All	NDPs: 0 Tests: 4		X			X			X			X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 4		X			X			X			X	
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4		X			X			X			X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4			X			X			X			X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 4		X			X			X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 4		X			X			X			X	
PAH by GCMS	All	NDPs: 0 Tests: 4		X			X			X			X	
PCBs by GCMS	All	NDPs: 0 Tests: 2		X			X							
pH	All	NDPs: 0 Tests: 4		X			X			X			X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 4		X			X			X			X	
Sample description	All	NDPs: 0 Tests: 4		X			X			X			X	
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 1		X										

Validated

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23114638			23114653			23114662			23114649			
Customer Sample Reference			TP117			TP118			TP130			TP134			
AGS Reference															
Depth (m)			4.20 - 4.20			1.80 - 1.80			0.30 - 0.30			0.20 - 0.20			
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	
Total Organic Carbon	All	NDPs: 0 Tests: 4		X			X			X			X		
Total Sulphate	All	NDPs: 0 Tests: 4		X			X			X			X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		
VOC MS (S)	All	NDPs: 0 Tests: 4			X			X			X			X	

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23114638	TP117	4.20 - 4.20	Black	Loamy Sand	Vegetation	Stones
23114653	TP118	1.80 - 1.80	Dark Brown	Sandy Silt Loam	None	Stones
23114662	TP130	0.30 - 0.30	Dark Brown	Loamy Sand	Vegetation	Stones
23114649	TP134	0.20 - 0.20	Dark Brown	Sandy Clay Loam	Vegetation	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP117	TP118	TP130	TP134		
			Depth (m)	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			Sample Time	.	.	.	.		
			Date Received	26/10/2020	26/10/2020	26/10/2020	26/10/2020		
			SDG Ref	201026-6	201026-6	201026-6	201026-6		
			Lab Sample No.(s)	23114638	23114653	23114662	23114649		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		40	18	11	23		
Phenol	<0.01 mg/kg	TM062 (S)		1.37 @ M	<0.01 @ M	<0.01 @ M	<0.01 @ M		
Cresols	<0.01 mg/kg	TM062 (S)		6.16 @ M	<0.01 @ M	<0.01 @ M	<0.01 @ M		
Xylenols	<0.015 mg/kg	TM062 (S)		3.22 @ M	<0.015 @ M	<0.015 @ M	<0.015 @ M		
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		10.8 @ M	<0.035 @ M	<0.035 @ M	<0.035 @ M		
Soil Organic Matter (SOM)	<0.35 %	TM132		46.9 #	2.47 #	3.97 #	5.47 #		
pH	1 pH Units	TM133		6.94 M	7.59 M	8.1 M	8.58 M		
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #		
Cyanide, Total	<1 mg/kg	TM153		4.83 @ M	<1 @ M	<1 @ M	<1 @ M		
PCB congener 28	<3 µg/kg	TM168		<60 M	<3 M				
PCB congener 52	<3 µg/kg	TM168		<60 M	<3 M				
PCB congener 101	<3 µg/kg	TM168		<60 M	<3 M				
PCB congener 118	<3 µg/kg	TM168		<60 M	<3 M				
PCB congener 138	<3 µg/kg	TM168		<60 M	<3 M				
PCB congener 153	<3 µg/kg	TM168		<60 M	<3 M				
PCB congener 180	<3 µg/kg	TM168		<60 M	<3 M				
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168		<420	<21				
Sulphide, Easily liberated	<15 mg/kg	TM180		317 @ M	<15 @ M	<15 @ M	<15 @ M		
Arsenic	<0.6 mg/kg	TM181		35.3 M	16.7 M	13.8 M	16.2 M		
Cadmium	<0.02 mg/kg	TM181		0.383 M	0.0964 M	1.44 M	0.354 M		
Chromium	<0.9 mg/kg	TM181		11.1 M	18.3 M	16.1 M	19.9 M		
Copper	<1.4 mg/kg	TM181		143 M	36.3 M	83.5 M	101 M		
Lead	<0.7 mg/kg	TM181		283 M	35.9 M	193 M	204 M		
Mercury	<0.14 mg/kg	TM181		1.43 M	0.141 M	0.693 M	0.248 M		
Nickel	<0.2 mg/kg	TM181		28.1 M	30.5 M	27.2 M	39.5 M		
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #		
Zinc	<1.9 mg/kg	TM181		186 M	69.5 M	294 M	297 M		
Sulphate, Total	<48 mg/kg	TM221		1010 M	206 M	1260 M	257 M		
Boron, water soluble	<1 mg/kg	TM222		2.47 M	<1 M	<1 M	<1 M		
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.079 M	0.0563 M	0.451 M	0.0178 M		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP117	TP118	TP130	TP134		
			Depth (m)	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			Sample Time	.	.	.	.		
			Date Received	26/10/2020	26/10/2020	26/10/2020	26/10/2020		
			SDG Ref	201026-6	201026-6	201026-6	201026-6		
			Lab Sample No.(s)	23114638	23114653	23114662	23114649		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		111	88.6	85.7	84.3		
Acenaphthene-d10 % recovery**	%	TM218		118	87	86.8	87.1		
Phenanthrene-d10 % recovery**	%	TM218		99.8	86.5	91.4	85.7		
Chrysene-d12 % recovery**	%	TM218		89.6	83.1	94.1	90.9		
Perylene-d12 % recovery**	%	TM218		81	81.3	94.4	89.5		
Naphthalene	<9 µg/kg	TM218		279000 @ M	264 @ M	109 @ M	2300 @ M		
Acenaphthylene	<12 µg/kg	TM218		2780 @ M	94.9 @ M	52.8 @ M	232 @ M		
Acenaphthene	<8 µg/kg	TM218		341000 @ M	198 @ M	249 @ M	1420 @ M		
Fluorene	<10 µg/kg	TM218		322000 @ M	228 @ M	186 @ M	1200 @ M		
Phenanthrene	<15 µg/kg	TM218		1550000 @ M	1570 @ M	1920 @ M	10000 @ M		
Anthracene	<16 µg/kg	TM218		467000 @ M	333 @ M	411 @ M	2150 @ M		
Fluoranthene	<17 µg/kg	TM218		1290000 @ M	1710 @ M	3000 @ M	9640 @ M		
Pyrene	<15 µg/kg	TM218		1120000 @ M	1650 @ M	2800 @ M	9260 @ M		
Benz(a)anthracene	<14 µg/kg	TM218		432000 @ M	749 @ M	1330 @ M	4720 @ M		
Chrysene	<10 µg/kg	TM218		432000 @ M	726 @ M	1310 @ M	4550 @ M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		461000 @ M	931 @ M	1860 @ M	4990 @ M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		173000 @ M	351 @ M	594 @ M	2050 @ M		
Benzo(a)pyrene	<15 µg/kg	TM218		376000 @ M	692 @ M	1440 @ M	4290 @ M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		255000 @ M	446 @ M	1150 @ M	2920 @ M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		51600 @ M	67.7 @ M	202 @ M	541 @ M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		208000 @ M	442 @ M	1070 @ M	2550 @ M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		7770000	10400	17700	62900		

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	TP117
Depth (m)	4.20 - 4.20
Sample Type	Soil/Solid (S)
Date Sampled	15/10/2020
Sample Time	.
Date Received	26/10/2020
SDG Ref	201026-6
Lab Sample No.(s)	23114638
AGS Reference	

Component	LOD/Units	Method	
Phenol	<100 µg/kg	TM157	<2000
Pentachlorophenol	<100 µg/kg	TM157	<2000
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<2000
Nitrobenzene	<100 µg/kg	TM157	<2000
Isophorone	<100 µg/kg	TM157	<2000
Hexachloroethane	<100 µg/kg	TM157	<2000
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<4000
Hexachlorobutadiene	<100 µg/kg	TM157	<2000
Hexachlorobenzene	<100 µg/kg	TM157	<2000
n-Dioctyl phthalate	<100 µg/kg	TM157	<2000
Dimethyl phthalate	<100 µg/kg	TM157	<2000
Diethyl phthalate	<100 µg/kg	TM157	<2000
n-Dibutyl phthalate	<100 µg/kg	TM157	<2000
Dibenzofuran	<100 µg/kg	TM157	114000
Carbazole	<100 µg/kg	TM157	47300
Butylbenzyl phthalate	<100 µg/kg	TM157	<2000
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	<2000
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<2000
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<2000
Azobenzene	<100 µg/kg	TM157	<2000
4-Nitrophenol	<100 µg/kg	TM157	<2000
4-Nitroaniline	<100 µg/kg	TM157	<2000
4-Methylphenol	<100 µg/kg	TM157	<2000
4-Chlorophenylphenylether	<100 µg/kg	TM157	<2000
4-Chloroaniline	<100 µg/kg	TM157	<2000
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<2000
4-Bromophenylphenylether	<100 µg/kg	TM157	<2000
3-Nitroaniline	<100 µg/kg	TM157	<2000
2-Nitrophenol	<100 µg/kg	TM157	<2000
2-Nitroaniline	<100 µg/kg	TM157	<2000
2-Methylphenol	<100 µg/kg	TM157	<2000
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<2000
2-Chlorophenol	<100 µg/kg	TM157	<2000

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

		Customer Sample Ref.	TP117
		Depth (m)	4.20 - 4.20
		Sample Type	Soil/Solid (S)
		Date Sampled	15/10/2020
		Sample Time	.
		Date Received	26/10/2020
		SDG Ref	201026-6
		Lab Sample No.(s)	23114638
		AGS Reference	
Component	**LOD/Units**	**Method**	
2,6-Dinitrotoluene	<100 µg/kg	TM157	<2000
2,4-Dinitrotoluene	<100 µg/kg	TM157	<2000
2,4-Dimethylphenol	<100 µg/kg	TM157	<2000
2,4-Dichlorophenol	<100 µg/kg	TM157	<2000
2,4,6-Trichlorophenol	<100 µg/kg	TM157	<2000
2,4,5-Trichlorophenol	<100 µg/kg	TM157	<2000
1,4-Dichlorobenzene	<100 µg/kg	TM157	<2000
1,3-Dichlorobenzene	<100 µg/kg	TM157	<2000
1,2-Dichlorobenzene	<100 µg/kg	TM157	<2000
2-Chloronaphthalene	<100 µg/kg	TM157	<2000
2-Methylnaphthalene	<100 µg/kg	TM157	97400
Acenaphthylene	<100 µg/kg	TM157	<2000
Acenaphthene	<100 µg/kg	TM157	174000
Anthracene	<100 µg/kg	TM157	196000
Benzo(a)anthracene	<100 µg/kg	TM157	196000
Benzo(b)fluoranthene	<100 µg/kg	TM157	197000
Benzo(k)fluoranthene	<100 µg/kg	TM157	155000
Benzo(a)pyrene	<100 µg/kg	TM157	192000
Benzo(g,h,i)perylene	<100 µg/kg	TM157	111000
Chrysene	<100 µg/kg	TM157	196000
Fluoranthene	<100 µg/kg	TM157	621000
Fluorene	<100 µg/kg	TM157	152000
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157	133000
Phenanthrene	<100 µg/kg	TM157	725000
Pyrene	<100 µg/kg	TM157	513000
Naphthalene	<100 µg/kg	TM157	144000
Dibenzo(a,h)anthracene	<100 µg/kg	TM157	11300
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157	<2000

Validated

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP117	TP118	TP130	TP134		
			Depth (m)	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			Sample Time	.	.	.	.		
			Date Received	26/10/2020	26/10/2020	26/10/2020	26/10/2020		
			SDG Ref	201026-6	201026-6	201026-6	201026-6		
			Lab Sample No.(s)	23114638	23114653	23114662	23114649		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		93.3	71.1	93	92.7		
Aliphatics >C5-C6	<10 µg/kg	TM089		142	13.3	<10	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		853	30.3	<10	36.7		
Aliphatics >C8-C10	<10 µg/kg	TM089		5520	56.9	<10	49.8		
Aliphatics >C10-C12	<1000 µg/kg	TM414		20600	<1000	<1000	<1000		
Aliphatics >C12-C16	<1000 µg/kg	TM414		48100	<1000	<1000	1890		
Aliphatics >C16-C21	<1000 µg/kg	TM414		60000	<1000	2400	2270		
Aliphatics >C21-C35	<1000 µg/kg	TM414		388000	1750	14300	6620		
Aliphatics >C35-C44	<1000 µg/kg	TM414		129000	<1000	2340	<1000		
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		646000	<5000	19300	12200		
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		23800000	<10000	65500	568000		
Aromatics >EC5-EC7	<10 µg/kg	TM089		165	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		134	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		3680	38.7	<10	32.8		
Aromatics > EC10-EC12	<1000 µg/kg	TM414		459000	<1000	<1000	28800		
Aromatics > EC12-EC16	<1000 µg/kg	TM414		2610000	<1000	<1000	63700		
Aromatics > EC16-EC21	<1000 µg/kg	TM414		8780000	2320	7020	181000		
Aromatics > EC21-EC35	<1000 µg/kg	TM414		10200000	4040	34900	257000		
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1050000	<1000	3660	25500		
Aromatics > EC40-EC44	<1000 µg/kg	TM414		157000	<1000	<1000	2770		
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		23100000	7360	46200	556000		
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		23800000	<10000	65500	568000		
Total Aliphatics >C5-C10	<50 µg/kg	TM089		6510	100	<50	86.5		
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		3980	<50	<50	<50		
GRO >C5-C10	<20 µg/kg	TM089		10500	100	<20	86.5		

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP117	TP118	TP130	TP134		
			Depth (m)	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			Sample Time	.	.	.	.		
			Date Received	26/10/2020	26/10/2020	26/10/2020	26/10/2020		
			SDG Ref	201026-6	201026-6	201026-6	201026-6		
			Lab Sample No.(s)	23114638	23114653	23114662	23114649		
			AGS Reference						
Dibromofluoromethane**	%	TM116		118	113	113	113		
Toluene-d8**	%	TM116		98.4	100	101	101		
4-Bromofluorobenzene**	%	TM116		80.6	77.4	87.1	86.1		
Dichlorodifluoromethane	<6 µg/kg	TM116		<120 M					
Chloromethane	<7 µg/kg	TM116		<140 #					
Vinyl Chloride	<6 µg/kg	TM116		<120 M					
Bromomethane	<10 µg/kg	TM116		<200 M					
Chloroethane	<10 µg/kg	TM116		<200 M					
Trichlorofluorormethane	<6 µg/kg	TM116		<120 M					
1,1-Dichloroethene	<10 µg/kg	TM116		<200 #					
Carbon Disulphide	<7 µg/kg	TM116		<140 M					
Dichloromethane	<10 µg/kg	TM116		<200 #					
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<100 M	<100 M	<100 M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<200 M					
1,1-Dichloroethane	<8 µg/kg	TM116		<160 M					
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<120 M					
2,2-Dichloropropane	<10 µg/kg	TM116		<200					
Bromochloromethane	<10 µg/kg	TM116		<200 M					
Chloroform	<8 µg/kg	TM116		<160 M					
1,1,1-Trichloroethane	<7 µg/kg	TM116		<140 M					
1,1-Dichloropropene	<10 µg/kg	TM116		<200 M					
Carbontetrachloride	<10 µg/kg	TM116		<200 M					
1,2-Dichloroethane	<5 µg/kg	TM116		<100 M					
Benzene	<9 µg/kg	TM116		<180 M	<90 M	<90 M	<90 M		
Trichloroethene	<9 µg/kg	TM116		<180 #					
1,2-Dichloropropane	<10 µg/kg	TM116		<200 M					
Dibromomethane	<9 µg/kg	TM116		<180 M					
Bromodichloromethane	<7 µg/kg	TM116		<140 M					
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<200 M					
Toluene	<7 µg/kg	TM116		<140 M	<70 M	<70 M	<70 M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<200					
1,1,2-Trichloroethane	<10 µg/kg	TM116		<200 M					
1,3-Dichloropropane	<7 µg/kg	TM116		<140 M					

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP117	TP118	TP130	TP134		
			Depth (m)	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			Sample Time	.	.	.	.		
			Date Received	26/10/2020	26/10/2020	26/10/2020	26/10/2020		
			SDG Ref	201026-6	201026-6	201026-6	201026-6		
			Lab Sample No.(s)	23114638	23114653	23114662	23114649		
			AGS Reference						
Tetrachloroethene	<5 µg/kg	TM116		<100 M					
Dibromochloromethane	<10 µg/kg	TM116		<200 M					
1,2-Dibromoethane	<10 µg/kg	TM116		<200 M					
Chlorobenzene	<5 µg/kg	TM116		<100 M					
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<200 M					
Ethylbenzene	<4 µg/kg	TM116		360 M	<40 M	<40 M	<40 M		
p/m-Xylene	<10 µg/kg	TM116		<200 #	<100 #	<100 #	<100 #		
o-Xylene	<10 µg/kg	TM116		<200 M	<100 M	<100 M	<100 M		
Styrene	<10 µg/kg	TM116		<200 #					
Bromoform	<10 µg/kg	TM116		<200 M					
Isopropylbenzene	<5 µg/kg	TM116		<100 #					
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<200 #					
1,2,3-Trichloropropane	<16 µg/kg	TM116		<320 M					
Bromobenzene	<10 µg/kg	TM116		<200 M					
Propylbenzene	<10 µg/kg	TM116		<200 M					
2-Chlorotoluene	<9 µg/kg	TM116		<180 M					
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<160 M					
4-Chlorotoluene	<10 µg/kg	TM116		<200 M					
tert-Butylbenzene	<14 µg/kg	TM116		<280 M					
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		653 #					
sec-Butylbenzene	<10 µg/kg	TM116		<200					
4-Isopropyltoluene	<10 µg/kg	TM116		<200 M					
1,3-Dichlorobenzene	<8 µg/kg	TM116		<160 M					
1,4-Dichlorobenzene	<5 µg/kg	TM116		<100 M					
n-Butylbenzene	<11 µg/kg	TM116		<220					
1,2-Dichlorobenzene	<10 µg/kg	TM116		<200 M					
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<280 M					
Tert-amyl methyl ether	<10 µg/kg	TM116		<200 #					
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<400					
Hexachlorobutadiene	<20 µg/kg	TM116		<400					
Naphthalene	<13 µg/kg	TM116		83400 M					
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<400 #					
1,3,5-Trichlorobenzene	<20 µg/kg	TM116		<400					

Validated

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP117	TP118	TP130	TP134		
			Depth (m)	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	15/10/2020	15/10/2020	15/10/2020	15/10/2020		
			Sample Time	.	.	.	.		
			Date Received	26/10/2020	26/10/2020	26/10/2020	26/10/2020		
			SDG Ref	201026-6	201026-6	201026-6	201026-6		
			Lab Sample No.(s)	23114638	23114653	23114662	23114649		
			AGS Reference						
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.2	<0.2	<0.2		
Sum of BTEX	<40 µg/kg	TM116		<800	<400	<400	<400		

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP117 4.20 - 4.20 SOLID 15/10/2020 00:00:00 26/10/2020 09:00:00 201026-6 23114638 TM048	04/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP118 1.80 - 1.80 SOLID 15/10/2020 00:00:00 26/10/2020 09:00:00 201026-6 23114653 TM048	04/11/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP130 0.30 - 0.30 SOLID 15/10/2020 00:00:00 26/10/2020 09:00:00 201026-6 23114662 TM048	04/11/2020	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP134 0.20 - 0.20 SOLID 15/10/2020 00:00:00 26/10/2020 09:00:00 201026-6 23114649 TM048	04/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM243		Mixed Anions In Soils By Kone
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201026-6	**Client Reference:**	LD10162	**Report Number:**	574319
Location:	Ten Acres Lane	**Order Number:**	LD1675	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23114638	23114653	23114662	23114649
Customer Sample Ref.	TP117	TP118	TP130	TP134
AGS Ref.				
Depth	4.20 - 4.20	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	05-Nov-2020	05-Nov-2020	05-Nov-2020	05-Nov-2020
Asbestos ID in Solid Samples	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020
Boron Water Soluble	03-Nov-2020	04-Nov-2020	03-Nov-2020	04-Nov-2020
Cyanide Comp/Free/Total/Thiocyanate	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Easily Liberated Sulphide	03-Nov-2020	03-Nov-2020	04-Nov-2020	03-Nov-2020
EPH CWG GC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
GRO by GC-FID (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
Hexavalent Chromium (s)	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020
Metals in solid samples by OES	03-Nov-2020	04-Nov-2020	03-Nov-2020	04-Nov-2020
PAH by GCMS	04-Nov-2020	04-Nov-2020	03-Nov-2020	03-Nov-2020
PCBs by GCMS	04-Nov-2020	04-Nov-2020		
pH	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Phenols by HPLC (S)	04-Nov-2020	05-Nov-2020	04-Nov-2020	04-Nov-2020
Sample description	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020
Semi Volatile Organic Compounds	03-Nov-2020			
Total Organic Carbon	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Total Sulphate	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
TPH CWG GC (S)	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
VOC MS (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	09 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201027-76
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	574679

We received 4 samples on Tuesday October 27, 2020 and 3 of these samples were scheduled for analysis which was completed on Monday November 09, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23122295	WS102		2.80 - 2.80	23/10/2020
23122288	WS107		1.40 - 1.40	23/10/2020
23122291	WS108		0.80 - 0.80	23/10/2020
23122301	WS119		1.50 - 1.50	23/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)		23122295		23122288		23122301	
			Customer Sample Reference		WS102		WS107		WS119	
			AGS Reference							
			Depth (m)		2.80 - 2.80		1.40 - 1.40		1.50 - 1.50	
			Container		250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
			Sample Type		S	S	S	S	S	S
Anions by Kone (soil)	All	NDPs: 0 Tests: 3			X		X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3			X		X		X	
Boron Water Soluble	All	NDPs: 0 Tests: 3			X		X		X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3			X		X		X	
Easily Liberated Sulphide	All	NDPs: 0 Tests: 3			X		X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 3			X		X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 3				X		X		X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 3			X		X		X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 3			X		X		X	
PAH by GCMS	All	NDPs: 0 Tests: 3			X		X			X
PCBs by GCMS	All	NDPs: 0 Tests: 1			X					
pH	All	NDPs: 0 Tests: 3			X		X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 3			X		X		X	
Sample description	All	NDPs: 0 Tests: 3			X		X		X	
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 1			X					

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23122295		23122288		23122301	
Customer Sample Reference			WS102		WS107		WS119	
AGS Reference								
Depth (m)			2.80 - 2.80		1.40 - 1.40		1.50 - 1.50	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S
Total Organic Carbon	All	NDPs: 0 Tests: 3	X		X		X	
Total Sulphate	All	NDPs: 0 Tests: 3	X		X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 3	X		X		X	
VOC MS (S)	All	NDPs: 0 Tests: 3		X		X		X

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23122295	WS102	2.80 - 2.80	Black	Sludge	Oil/Petroleum	None
23122288	WS107	1.40 - 1.40	Dark Brown	Silt Loam	Stones	Oil/Petroleum
23122301	WS119	1.50 - 1.50	Dark Brown	Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS102	WS107	WS119			
			Depth (m)	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	23/10/2020	23/10/2020	23/10/2020			
			Sample Time	.	.	.			
			Date Received	27/10/2020	27/10/2020	27/10/2020			
			SDG Ref	201027-76	201027-76	201027-76			
			Lab Sample No.(s)	23122295	23122288	23122301			
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		42	37	17			
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 #	0.0159 M	<0.01 M			
Cresols	<0.01 mg/kg	TM062 (S)		0.0346 #	0.0159 M	<0.01 M			
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 #	<0.015 M	<0.015 M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 #	<0.035 M	<0.035 M			
Soil Organic Matter (SOM)	<0.35 %	TM132		15.5 #	16.4 #	31.2 #			
pH	1 pH Units	TM133		7.22 #	6.79 M	7.2 M			
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<6 #	<0.6 #			
Cyanide, Total	<1 mg/kg	TM153		3.1 #	<1 M	<1 M			
PCB congener 28	<3 µg/kg	TM168		<15 #					
PCB congener 52	<3 µg/kg	TM168		<15 #					
PCB congener 101	<3 µg/kg	TM168		<15 #					
PCB congener 118	<3 µg/kg	TM168		<15 #					
PCB congener 138	<3 µg/kg	TM168		<15 #					
PCB congener 153	<3 µg/kg	TM168		<15 #					
PCB congener 180	<3 µg/kg	TM168		<15 #					
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168		<105					
Sulphide, Easily liberated	<15 mg/kg	TM180		54.5 @ #	84.2 @ M	<15 @ M			
Arsenic	<0.6 mg/kg	TM181		55.9 #	44.7 M	24.7 M			
Cadmium	<0.02 mg/kg	TM181		0.845 #	0.394 M	0.558 M			
Chromium	<0.9 mg/kg	TM181		35.5 #	22.1 M	<0.9 M			
Copper	<1.4 mg/kg	TM181		207 #	89.3 M	117 M			
Lead	<0.7 mg/kg	TM181		291 #	186 M	6.38 M			
Mercury	<0.14 mg/kg	TM181		0.334 #	0.44 M	<0.14 M			
Nickel	<0.2 mg/kg	TM181		45.5 #	27.9 M	50.2 M			
Selenium	<1 mg/kg	TM181		2 #	<1 #	<1 #			
Zinc	<1.9 mg/kg	TM181		279 #	92.1 M	15.7 M			
Sulphate, Total	<48 mg/kg	TM221		916 #	910 M	497 M			
Boron, water soluble	<1 mg/kg	TM222		3.73 #	3.07 M	<1 M			
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0663 #	<0.004 M	0.0399 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS102	WS107	WS119			
			Depth (m)	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	23/10/2020	23/10/2020	23/10/2020			
			Sample Time	.	.	.			
			Date Received	27/10/2020	27/10/2020	27/10/2020			
			SDG Ref	201027-76	201027-76	201027-76			
			Lab Sample No.(s)	23122295	23122288	23122301			
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		78.4	86	76.6			
Acenaphthene-d10 % recovery**	%	TM218		79.3	82.4	76.1			
Phenanthrene-d10 % recovery**	%	TM218		82.5	85.6	65.9			
Chrysene-d12 % recovery**	%	TM218		85.6	91.1	55			
Perylene-d12 % recovery**	%	TM218		86.6	90.6	45.4			
Naphthalene	<9 µg/kg	TM218		3610 #	260 M	<9 M			
Acenaphthylene	<12 µg/kg	TM218		452 #	363 M	<12 M			
Acenaphthene	<8 µg/kg	TM218		7230 #	1200 M	<8 M			
Fluorene	<10 µg/kg	TM218		7840 #	871 M	<10 M			
Phenanthrene	<15 µg/kg	TM218		38100 #	3660 M	156 M			
Anthracene	<16 µg/kg	TM218		8050 #	599 M	51.6 M			
Fluoranthene	<17 µg/kg	TM218		29800 #	3650 M	320 M			
Pyrene	<15 µg/kg	TM218		24500 #	3570 M	294 M			
Benz(a)anthracene	<14 µg/kg	TM218		10000 #	1870 M	328 M			
Chrysene	<10 µg/kg	TM218		10500 #	1940 M	338 M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		11800 #	2430 M	537 M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		4160 #	911 M	209 M			
Benzo(a)pyrene	<15 µg/kg	TM218		9130 #	1750 M	444 M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		5720 #	1260 M	376 M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		776 #	163 M	54.4 M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		4990 #	1130 M	314 M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		177000	25600	3420			

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.			WS102
Depth (m)			2.80 - 2.80
Sample Type			Soil/Solid (S)
Date Sampled			23/10/2020
Sample Time			.
Date Received			27/10/2020
SDG Ref			201027-76
Lab Sample No.(s)			23122295
AGS Reference			
Component	**LOD/Units**	**Method**	
Phenol	<100 µg/kg	TM157	<200
Pentachlorophenol	<100 µg/kg	TM157	<200
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<200
Nitrobenzene	<100 µg/kg	TM157	<200
Isophorone	<100 µg/kg	TM157	<200
Hexachloroethane	<100 µg/kg	TM157	<200
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<1000
Hexachlorobutadiene	<100 µg/kg	TM157	<200
Hexachlorobenzene	<100 µg/kg	TM157	<200
n-Dioctyl phthalate	<100 µg/kg	TM157	<200
Dimethyl phthalate	<100 µg/kg	TM157	<200
Diethyl phthalate	<100 µg/kg	TM157	<200
n-Dibutyl phthalate	<100 µg/kg	TM157	<200
Dibenzofuran	<100 µg/kg	TM157	4130
Carbazole	<100 µg/kg	TM157	1720
Butylbenzyl phthalate	<100 µg/kg	TM157	<200
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	<200
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<200
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<200
Azobenzene	<100 µg/kg	TM157	<200
4-Nitrophenol	<100 µg/kg	TM157	<200
4-Nitroaniline	<100 µg/kg	TM157	<200
4-Methylphenol	<100 µg/kg	TM157	<200
4-Chlorophenylphenylether	<100 µg/kg	TM157	<200
4-Chloroaniline	<100 µg/kg	TM157	<200
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<200
4-Bromophenylphenylether	<100 µg/kg	TM157	<200
3-Nitroaniline	<100 µg/kg	TM157	<200
2-Nitrophenol	<100 µg/kg	TM157	<200
2-Nitroaniline	<100 µg/kg	TM157	<200
2-Methylphenol	<100 µg/kg	TM157	<200
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<200
2-Chlorophenol	<100 µg/kg	TM157	<200

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

		Customer Sample Ref.	WS102
		Depth (m)	2.80 - 2.80
		Sample Type	Soil/Solid (S)
		Date Sampled	23/10/2020
		Sample Time	.
		Date Received	27/10/2020
		SDG Ref	201027-76
		Lab Sample No.(s)	23122295
		AGS Reference	
Component	**LOD/Units**	**Method**	
2,6-Dinitrotoluene	<100 µg/kg	TM157	<200
2,4-Dinitrotoluene	<100 µg/kg	TM157	<200
2,4-Dimethylphenol	<100 µg/kg	TM157	<200
2,4-Dichlorophenol	<100 µg/kg	TM157	<200
2,4,6-Trichlorophenol	<100 µg/kg	TM157	<200
2,4,5-Trichlorophenol	<100 µg/kg	TM157	<200
1,4-Dichlorobenzene	<100 µg/kg	TM157	<200
1,3-Dichlorobenzene	<100 µg/kg	TM157	<200
1,2-Dichlorobenzene	<100 µg/kg	TM157	<200
2-Chloronaphthalene	<100 µg/kg	TM157	<200
2-Methylnaphthalene	<100 µg/kg	TM157	2080
Acenaphthylene	<100 µg/kg	TM157	561
Acenaphthene	<100 µg/kg	TM157	4960
Anthracene	<100 µg/kg	TM157	6480
Benzo(a)anthracene	<100 µg/kg	TM157	8580
Benzo(b)fluoranthene	<100 µg/kg	TM157	8300
Benzo(k)fluoranthene	<100 µg/kg	TM157	6750
Benzo(a)pyrene	<100 µg/kg	TM157	7440
Benzo(g,h,i)perylene	<100 µg/kg	TM157	4010
Chrysene	<100 µg/kg	TM157	8490
Fluoranthene	<100 µg/kg	TM157	28900
Fluorene	<100 µg/kg	TM157	5520
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157	4290
Phenanthrene	<100 µg/kg	TM157	32100
Pyrene	<100 µg/kg	TM157	21900
Naphthalene	<100 µg/kg	TM157	1600
Dibenzo(a,h)anthracene	<100 µg/kg	TM157	521
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157	<200

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS102	WS107	WS119			
			Depth (m)	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	23/10/2020	23/10/2020	23/10/2020			
			Sample Time	.	.	.			
			Date Received	27/10/2020	27/10/2020	27/10/2020			
			SDG Ref	201027-76	201027-76	201027-76			
			Lab Sample No.(s)	23122295	23122288	23122301			
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		83.6	91.6	90.8			
Aliphatics >C5-C6	<10 µg/kg	TM089		67.5	19.1	18.2			
Aliphatics >C6-C8	<10 µg/kg	TM089		223	44.5	23			
Aliphatics >C8-C10	<10 µg/kg	TM089		211	41.3	105			
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000			
Aliphatics >C12-C16	<1000 µg/kg	TM414		2370	<1000	<1000			
Aliphatics >C16-C21	<1000 µg/kg	TM414		7660	4730	<1000			
Aliphatics >C21-C35	<1000 µg/kg	TM414		146000	21000	<1000			
Aliphatics >C35-C44	<1000 µg/kg	TM414		74300	3630	<1000			
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		230000	29700	<5000			
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		697000	221000	<10000			
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC8-EC10	<10 µg/kg	TM089		140	27	70.2			
Aromatics > EC10-EC12	<1000 µg/kg	TM414		3780	<1000	<1000			
Aromatics > EC12-EC16	<1000 µg/kg	TM414		47100	10000	<1000			
Aromatics > EC16-EC21	<1000 µg/kg	TM414		176000	41100	<1000			
Aromatics > EC21-EC35	<1000 µg/kg	TM414		219000	128000	4560			
Aromatics >EC35-EC44	<1000 µg/kg	TM414		21200	11600	<1000			
Aromatics > EC40-EC44	<1000 µg/kg	TM414		3860	1470	<1000			
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		467000	191000	6400			
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		697000	221000	<10000			
Total Aliphatics >C5-C10	<50 µg/kg	TM089		502	105	146			
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		140	<50	70.2			
GRO >C5-C10	<20 µg/kg	TM089		642	105	217			

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS102	WS107	WS119			
			Depth (m)	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	23/10/2020	23/10/2020	23/10/2020			
			Sample Time	.	.	.			
			Date Received	27/10/2020	27/10/2020	27/10/2020			
			SDG Ref	201027-76	201027-76	201027-76			
			Lab Sample No.(s)	23122295	23122288	23122301			
			AGS Reference						
Dibromofluoromethane**	%	TM116		113	117	117			
Toluene-d8**	%	TM116		98.4	101	102			
4-Bromofluorobenzene**	%	TM116		82.9	95.5	99.6			
Dichlorodifluoromethane	<6 µg/kg	TM116		<120 #					
Chloromethane	<7 µg/kg	TM116		<140 #					
Vinyl Chloride	<6 µg/kg	TM116		<120 #					
Bromomethane	<10 µg/kg	TM116		<200 #					
Chloroethane	<10 µg/kg	TM116		<200 #					
Trichlorofluorormethane	<6 µg/kg	TM116		<120 #					
1,1-Dichloroethene	<10 µg/kg	TM116		<200 #					
Carbon Disulphide	<7 µg/kg	TM116		<140 #					
Dichloromethane	<10 µg/kg	TM116		<200 #					
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 #	<200 M	<200 M			
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<200 #					
1,1-Dichloroethane	<8 µg/kg	TM116		<160 #					
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<120 #					
2,2-Dichloropropane	<10 µg/kg	TM116		<200					
Bromochloromethane	<10 µg/kg	TM116		<200 #					
Chloroform	<8 µg/kg	TM116		<160 #					
1,1,1-Trichloroethane	<7 µg/kg	TM116		<140 #					
1,1-Dichloropropene	<10 µg/kg	TM116		<200 #					
Carbontetrachloride	<10 µg/kg	TM116		<200 #					
1,2-Dichloroethane	<5 µg/kg	TM116		<100 #					
Benzene	<9 µg/kg	TM116		<180 #	<180 M	<180 M			
Trichloroethene	<9 µg/kg	TM116		<180 #					
1,2-Dichloropropane	<10 µg/kg	TM116		<200 #					
Dibromomethane	<9 µg/kg	TM116		<180 #					
Bromodichloromethane	<7 µg/kg	TM116		<140 #					
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<200 #					
Toluene	<7 µg/kg	TM116		<140 #	<140 M	<140 M			
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<200					
1,1,2-Trichloroethane	<10 µg/kg	TM116		<200 #					
1,3-Dichloropropane	<7 µg/kg	TM116		<140 #					

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS102	WS107	WS119			
			Depth (m)	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	23/10/2020	23/10/2020	23/10/2020			
			Sample Time	.	.	.			
			Date Received	27/10/2020	27/10/2020	27/10/2020			
			SDG Ref	201027-76	201027-76	201027-76			
			Lab Sample No.(s)	23122295	23122288	23122301			
			AGS Reference						
Tetrachloroethene	<5 µg/kg	TM116		<100 #					
Dibromochloromethane	<10 µg/kg	TM116		<200 #					
1,2-Dibromoethane	<10 µg/kg	TM116		<200 #					
Chlorobenzene	<5 µg/kg	TM116		<100 #					
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<200 #					
Ethylbenzene	<4 µg/kg	TM116		<80 #	<80 M	<80 M			
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #			
o-Xylene	<10 µg/kg	TM116		<200 #	<200 M	<200 M			
Styrene	<10 µg/kg	TM116		<200 #					
Bromoform	<10 µg/kg	TM116		<200 #					
Isopropylbenzene	<5 µg/kg	TM116		<100 #					
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<200 #					
1,2,3-Trichloropropane	<16 µg/kg	TM116		<320 #					
Bromobenzene	<10 µg/kg	TM116		<200 #					
Propylbenzene	<10 µg/kg	TM116		<200 #					
2-Chlorotoluene	<9 µg/kg	TM116		<180 #					
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<160 #					
4-Chlorotoluene	<10 µg/kg	TM116		<200 #					
tert-Butylbenzene	<14 µg/kg	TM116		<280 #					
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<180 #					
sec-Butylbenzene	<10 µg/kg	TM116		<200					
4-Isopropyltoluene	<10 µg/kg	TM116		<200 #					
1,3-Dichlorobenzene	<8 µg/kg	TM116		<160 #					
1,4-Dichlorobenzene	<5 µg/kg	TM116		<100 #					
n-Butylbenzene	<11 µg/kg	TM116		<220					
1,2-Dichlorobenzene	<10 µg/kg	TM116		<200 #					
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<280 #					
Tert-amyl methyl ether	<10 µg/kg	TM116		<200 #					
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<400					
Hexachlorobutadiene	<20 µg/kg	TM116		<400					
Naphthalene	<13 µg/kg	TM116		<260 #					
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<400 #					
1,3,5-Trichlorobenzene	<20 µg/kg	TM116		<400					

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS102	WS107	WS119			
			Depth (m)	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	23/10/2020	23/10/2020	23/10/2020			
			Sample Time	.	.	.			
			Date Received	27/10/2020	27/10/2020	27/10/2020			
			SDG Ref	201027-76	201027-76	201027-76			
			Lab Sample No.(s)	23122295	23122288	23122301			
			AGS Reference						
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4			
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800			

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS102 2.80 - 2.80 SOLID 23/10/2020 00:00:00 27/10/2020 05:00:00 201027-76 23122295 TM048	05/11/20	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS107 1.40 - 1.40 SOLID 23/10/2020 00:00:00 27/10/2020 05:00:00 201027-76 23122288 TM048	05/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS119 1.50 - 1.50 SOLID 23/10/2020 00:00:00 27/10/2020 05:00:00 201027-76 23122301 TM048	05/11/2020	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM243		Mixed Anions In Soils By Kone
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201027-76	**Client Reference:**	LD10162	**Report Number:**	574679
Location:	Ten Acres Lane	**Order Number:**	LD1683	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23122295	23122288	23122301
Customer Sample Ref.	WS102	WS107	WS119
AGS Ref.			
Depth	2.80 - 2.80	1.40 - 1.40	1.50 - 1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	05-Nov-2020	05-Nov-2020	05-Nov-2020
Asbestos ID in Solid Samples	05-Nov-2020	05-Nov-2020	05-Nov-2020
Boron Water Soluble	05-Nov-2020	04-Nov-2020	04-Nov-2020
Cyanide Comp/Free/Total/Thiocyanate	05-Nov-2020	05-Nov-2020	05-Nov-2020
Easily Liberated Sulphide	04-Nov-2020	04-Nov-2020	04-Nov-2020
EPH CWG GC (S)	04-Nov-2020	04-Nov-2020	04-Nov-2020
GRO by GC-FID (S)	03-Nov-2020	03-Nov-2020	02-Nov-2020
Hexavalent Chromium (s)	05-Nov-2020	05-Nov-2020	05-Nov-2020
Metals in solid samples by OES	04-Nov-2020	05-Nov-2020	05-Nov-2020
PAH by GCMS	05-Nov-2020	04-Nov-2020	09-Nov-2020
PCBs by GCMS	05-Nov-2020		
pH	04-Nov-2020	04-Nov-2020	04-Nov-2020
Phenols by HPLC (S)	06-Nov-2020	06-Nov-2020	06-Nov-2020
Sample description	31-Oct-2020	31-Oct-2020	31-Oct-2020
Semi Volatile Organic Compounds	04-Nov-2020		
Total Organic Carbon	05-Nov-2020	04-Nov-2020	05-Nov-2020
Total Sulphate	04-Nov-2020	04-Nov-2020	04-Nov-2020
TPH CWG GC (S)	04-Nov-2020	04-Nov-2020	04-Nov-2020
VOC MS (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	12 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201027-83
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	575456

This report has been revised and directly supersedes 574099 in its entirety.

We received 7 samples on Tuesday October 27, 2020 and 5 of these samples were scheduled for analysis which was completed on Thursday November 12, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23123528	WS103 ES1		0.85 - 0.87	23/10/2020
23123532	WS103 ES2		3.41 - 3.45	23/10/2020
23123536	WS105 ES1		2.50 - 2.50	23/10/2020
23123539	WS105 ES2		4.60 - 4.60	23/10/2020
23123553	WS111 ES1		0.35 - 0.35	23/10/2020
23123548	WS112 ES1		0.90 - 0.90	23/10/2020
23123543	WS113 ES1		0.85 - 0.85	23/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23123532		23123536		23123553			23123548		23123543		
Customer Sample Reference			WS103 ES2		WS105 ES1		WS111 ES1			WS112 ES1		WS113 ES1		
AGS Reference														
Depth (m)			3.41 - 3.45		2.50 - 2.50		0.35 - 0.35			0.90 - 0.90		0.85 - 0.85		
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
Anions by Kone (soil)	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 5	X		X		X			X			X	
Asbestos Quantification - Full	All	NDPs: 0 Tests: 1								X				
Boron Water Soluble	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Easily Liberated Sulphide	All	NDPs: 0 Tests: 5	X		X			X			X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 5	X		X			X			X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 5		X		X			X			X		X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 5	X		X			X			X		X	
PAH by GCMS	All	NDPs: 0 Tests: 5	X		X			X			X		X	
PCBs by GCMS	All	NDPs: 0 Tests: 1			X									
pH	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Sample description	All	NDPs: 0 Tests: 5	X		X			X			X		X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23123532		23123536		23123553			23123548		23123543	
Customer Sample Reference			WS103 ES2		WS105 ES1		WS111 ES1			WS112 ES1		WS113 ES1	
AGS Reference													
Depth (m)			3.41 - 3.45		2.50 - 2.50		0.35 - 0.35			0.90 - 0.90		0.85 - 0.85	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2	X		X									
Total Organic Carbon	All	NDPs: 0 Tests: 5	X		X			X			X		X	
Total Sulphate	All	NDPs: 0 Tests: 5	X		X			X			X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 5	X		X			X			X		X	
VOC MS (S)	All	NDPs: 0 Tests: 5		X		X			X			X		X

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23123532	WS103 ES2	3.41 - 3.45	Dark Brown	Loamy Sand	N/A	Stones
23123536	WS105 ES1	2.50 - 2.50	Black	Sand	None	Stones
23123553	WS111 ES1	0.35 - 0.35	Black	Sand	None	Stones
23123548	WS112 ES1	0.90 - 0.90	Black	Sand	None	Stones
23123543	WS113 ES1	0.85 - 0.85	Cream	Clay	Vegetation	N/A

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
Moisture Content Ratio (% of as received sample)	%	PM024		25	14	8.7	17	21
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	0.0116 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		5.59 #	2.17 #	8.81 #	25.9 #	0.938 #
pH	1 pH Units	TM133		7.99 M	7.8 M	6.27 M	8.09 M	5.89 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		7.06 M	<1 M	<1 M	1.99 M	<1 M
PCB congener 28	<3 µg/kg	TM168			<15 M			
PCB congener 52	<3 µg/kg	TM168			<15 M			
PCB congener 101	<3 µg/kg	TM168			<15 M			
PCB congener 118	<3 µg/kg	TM168			<15 M			
PCB congener 138	<3 µg/kg	TM168			<15 M			
PCB congener 153	<3 µg/kg	TM168			<15 M			
PCB congener 180	<3 µg/kg	TM168			<15 M			
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168			<105			
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	306 @ M	<15 @ M	<15 @ M	<15 @ M
Arsenic	<0.6 mg/kg	TM181		21.2 M	7.25 M	60 M	40.9 M	9.79 M
Cadmium	<0.02 mg/kg	TM181		0.0571 M	0.295 M	<0.02 M	0.552 M	<0.02 M
Chromium	<0.9 mg/kg	TM181		15 M	9.53 M	48.8 M	9.11 M	19.5 M
Copper	<1.4 mg/kg	TM181		30.2 M	26 M	23.9 M	121 M	11.6 M
Lead	<0.7 mg/kg	TM181		37.6 M	62.9 M	56.6 M	229 M	15.5 M
Mercury	<0.14 mg/kg	TM181		0.24 M	0.326 M	0.254 M	0.716 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		26.3 M	131 M	44.3 M	36.4 M	20.5 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		59.8 M	438 M	36.3 M	444 M	32.2 M
Sulphate, Total	<48 mg/kg	TM221		626 M	5100 M	1830 M	716 M	665 M
Boron, water soluble	<1 mg/kg	TM222		1.67 M	8.54 M	1.97 M	<1 M	1.32 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.175 M	0.381 M	0.0497 M	0.0674 M	0.31 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304					0.109 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304					<0.001 #	
Additional Asbestos Components (Using TM048)		TM304					None #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
Analysts Comments		TM304					N/C	
Asbestos Quantification - Total - %	<0.001 %	TM304					0.109 #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
Naphthalene-d8 % recovery**	%	TM218		90.9	90.1	90	90.4	91
Acenaphthene-d10 % recovery**	%	TM218		93.2	96.8	93.4	95.2	91.8
Phenanthrene-d10 % recovery**	%	TM218		94.3	101	94.9	95.2	92.2
Chrysene-d12 % recovery**	%	TM218		83.1	101	78.3	75.8	80.3
Perylene-d12 % recovery**	%	TM218		81.6	92.3	77	72.8	80.4
Naphthalene	<9 µg/kg	TM218		26.6 M	62.7 M	2140 M	6040 M	<9 M
Acenaphthylene	<12 µg/kg	TM218		202 M	<60 M	318 M	1110 M	<12 M
Acenaphthene	<8 µg/kg	TM218		41.1 M	1700 M	4010 M	14600 M	<8 M
Fluorene	<10 µg/kg	TM218		206 M	1360 M	3140 M	12400 M	<10 M
Phenanthrene	<15 µg/kg	TM218		1380 M	16000 M	21100 M	84100 M	24.2 M
Anthracene	<16 µg/kg	TM218		558 M	4110 M	4480 M	17000 M	<16 M
Fluoranthene	<17 µg/kg	TM218		1670 M	18300 M	22100 M	108000 M	28.2 M
Pyrene	<15 µg/kg	TM218		1550 M	15800 M	21200 M	103000 M	27.7 M
Benz(a)anthracene	<14 µg/kg	TM218		1030 M	7700 M	9650 M	46800 M	<14 M
Chrysene	<10 µg/kg	TM218		858 M	6280 M	9690 M	45200 M	15.6 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		936 M	6760 M	10400 M	52800 M	23.3 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		320 M	2490 M	3370 M	17600 M	<14 M
Benzo(a)pyrene	<15 µg/kg	TM218		732 M	6220 M	7440 M	39200 M	<15 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		397 M	3510 M	4420 M	28100 M	<18 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		76.4 M	712 M	749 M	3990 M	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		360 M	3530 M	4370 M	23500 M	<24 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		10300	94500	129000	604000	119

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1				
			Depth (m)	3.41 - 3.45	2.50 - 2.50				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	23/10/2020	23/10/2020				
			Sample Time	.	.				
			Date Received	27/10/2020	27/10/2020				
			SDG Ref	201027-83	201027-83				
			Lab Sample No.(s)	23123532	23123536				
			AGS Reference						
Phenol	<100 µg/kg	TM157		<100	<100				
Pentachlorophenol	<100 µg/kg	TM157		<100	<100				
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157		<100	<100				
Nitrobenzene	<100 µg/kg	TM157		<100	<100				
Isophorone	<100 µg/kg	TM157		<100	<100				
Hexachloroethane	<100 µg/kg	TM157		<100	<100				
Hexachlorocyclopentadiene	<100 µg/kg	TM157		<100	<100				
Hexachlorobutadiene	<100 µg/kg	TM157		<100	<100				
Hexachlorobenzene	<100 µg/kg	TM157		<100	<100				
n-Dioctyl phthalate	<100 µg/kg	TM157		<100	<100				
Dimethyl phthalate	<100 µg/kg	TM157		<100	<100				
Diethyl phthalate	<100 µg/kg	TM157		<100	<100				
n-Dibutyl phthalate	<100 µg/kg	TM157		<100	<100				
Dibenzofuran	<100 µg/kg	TM157		<100	<100				
Carbazole	<100 µg/kg	TM157		<100	<100				
Butylbenzyl phthalate	<100 µg/kg	TM157		<100	<100				
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157		<100	769				
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157		<100	<100				
bis(2-Chloroethyl)ether	<100 µg/kg	TM157		<100	<100				
Azobenzene	<100 µg/kg	TM157		<100	<100				
4-Nitrophenol	<100 µg/kg	TM157		<100	<100				
4-Nitroaniline	<100 µg/kg	TM157		<100	<100				
4-Methylphenol	<100 µg/kg	TM157		<100	<100				
4-Chlorophenylphenylether	<100 µg/kg	TM157		<100	<100				
4-Chloroaniline	<100 µg/kg	TM157		<100	<100				
4-Chloro-3-methylphenol	<100 µg/kg	TM157		<100	<100				
4-Bromophenylphenylether	<100 µg/kg	TM157		<100	<100				
3-Nitroaniline	<100 µg/kg	TM157		<100	<100				
2-Nitrophenol	<100 µg/kg	TM157		<100	<100				
2-Nitroaniline	<100 µg/kg	TM157		<100	<100				
2-Methylphenol	<100 µg/kg	TM157		<100	<100				
1,2,4-Trichlorobenzene	<100 µg/kg	TM157		<100	<100				
2-Chlorophenol	<100 µg/kg	TM157		<100	<100				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
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aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
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*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1				
			Depth (m)	3.41 - 3.45	2.50 - 2.50				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	23/10/2020	23/10/2020				
			Sample Time	.	.				
			Date Received	27/10/2020	27/10/2020				
			SDG Ref	201027-83	201027-83				
			Lab Sample No.(s)	23123532	23123536				
			AGS Reference						
2,6-Dinitrotoluene	<100 µg/kg	TM157		<100	<100				
2,4-Dinitrotoluene	<100 µg/kg	TM157		<100	121				
2,4-Dimethylphenol	<100 µg/kg	TM157		<100	<100				
2,4-Dichlorophenol	<100 µg/kg	TM157		<100	<100				
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<100	<100				
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<100	<100				
1,4-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
1,3-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
1,2-Dichlorobenzene	<100 µg/kg	TM157		<100	<100				
2-Chloronaphthalene	<100 µg/kg	TM157		<100	<100				
2-Methylnaphthalene	<100 µg/kg	TM157		<100	<100				
Acenaphthylene	<100 µg/kg	TM157		687	<100				
Acenaphthene	<100 µg/kg	TM157		<100	127				
Anthracene	<100 µg/kg	TM157		774	208				
Benzo(a)anthracene	<100 µg/kg	TM157		1780	502				
Benzo(b)fluoranthene	<100 µg/kg	TM157		1380	545				
Benzo(k)fluoranthene	<100 µg/kg	TM157		1430	420				
Benzo(a)pyrene	<100 µg/kg	TM157		1430	402				
Benzo(g,h,i)perylene	<100 µg/kg	TM157		737	271				
Chrysene	<100 µg/kg	TM157		1680	501				
Fluoranthene	<100 µg/kg	TM157		3120	1410				
Fluorene	<100 µg/kg	TM157		266	136				
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		522	246				
Phenanthrene	<100 µg/kg	TM157		1980	989				
Pyrene	<100 µg/kg	TM157		2540	1220				
Naphthalene	<100 µg/kg	TM157		<100	<100				
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		<100	<100				
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157		<100	<100				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
GRO Surrogate % recovery**	%	TM089		84.8	106	78.5	78.9	113
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	111	177	60	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	157	251	175	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	485	136	196	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	14400	<1000	4260	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	221000	3720	7520	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	402000	2390	5590	<1000
Aliphatics >C21-C35	<1000 µg/kg	TM414		<1000	368000	9170	7650	<1000
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	98000	<1000	3810	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		<5000	1100000	16200	28800	<5000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		39100	1400000	65800	1590000	53300
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	324	90.9	131	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	1560	<1000	5660	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	93300	4280	78400	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		10600	113000	14300	449000	<1000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		25800	84000	29600	933000	3230
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	2350	<1000	99500	49200
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	13600	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		38000	294000	49500	1570000	52400
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		38000	1400000	66400	1600000	52400
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	753	564	431	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	324	90.9	131	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	1080	655	562	<20

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
Dibromofluoromethane**	%	TM116		111	121	110	117	112
Toluene-d8**	%	TM116		99.7	82.7	98.9	97.6	99.4
4-Bromofluorobenzene**	%	TM116		93	70.4	89.1	88.7	84.9
Dichlorodifluoromethane	<6 µg/kg	TM116		<120 M	20.9 M			
Chloromethane	<7 µg/kg	TM116		<140 #	<7 #			
Vinyl Chloride	<6 µg/kg	TM116		<120 M	<6 M			
Bromomethane	<10 µg/kg	TM116		<200 M	<10 M			
Chloroethane	<10 µg/kg	TM116		<200 M	<10 M			
Trichlorofluorormethane	<6 µg/kg	TM116		<120 M	<6 M			
1,1-Dichloroethene	<10 µg/kg	TM116		<200 #	<10 #			
Carbon Disulphide	<7 µg/kg	TM116		<140 M	13.8 M			
Dichloromethane	<10 µg/kg	TM116		<200 #	<10 #			
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<10 M	<200 M	<200 M	<10 M
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<200 M	<10 M			
1,1-Dichloroethane	<8 µg/kg	TM116		<160 M	<8 M			
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<120 M	<6 M			
2,2-Dichloropropane	<10 µg/kg	TM116		<200	<10			
Bromochloromethane	<10 µg/kg	TM116		<200 M	<10 M			
Chloroform	<8 µg/kg	TM116		<160 M	<8 M			
1,1,1-Trichloroethane	<7 µg/kg	TM116		<140 M	<7 M			
1,1-Dichloropropene	<10 µg/kg	TM116		<200 M	<10 M			
Carbontetrachloride	<10 µg/kg	TM116		<200 M	<10 M			
1,2-Dichloroethane	<5 µg/kg	TM116		<100 M	<5 M			
Benzene	<9 µg/kg	TM116		<180 M	<9 M	<180 M	<180 M	<9 M
Trichloroethene	<9 µg/kg	TM116		<180 #	<9 #			
1,2-Dichloropropane	<10 µg/kg	TM116		<200 M	<10 M			
Dibromomethane	<9 µg/kg	TM116		<180 M	<9 M			
Bromodichloromethane	<7 µg/kg	TM116		<140 M	<7 M			
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<200 M	<10 M			
Toluene	<7 µg/kg	TM116		<140 M	<7 M	<140 M	<140 M	<7 M
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<200	<10			
1,1,2-Trichloroethane	<10 µg/kg	TM116		<200 M	<10 M			
1,3-Dichloropropane	<7 µg/kg	TM116		<140 M	<7 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
Tetrachloroethene	<5 µg/kg	TM116		<100 M	<5 M			
Dibromochloromethane	<10 µg/kg	TM116		<200 M	<10 M			
1,2-Dibromoethane	<10 µg/kg	TM116		<200 M	<10 M			
Chlorobenzene	<5 µg/kg	TM116		<100 M	40.1 M			
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<200 M	<10 M			
Ethylbenzene	<4 µg/kg	TM116		<80 M	<4 M	<80 M	<80 M	<4 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<10 #	<200 #	<200 #	<10 #
o-Xylene	<10 µg/kg	TM116		<200 M	<10 M	<200 M	<200 M	<10 M
Styrene	<10 µg/kg	TM116		<200 #	<10 #			
Bromoform	<10 µg/kg	TM116		<200 M	<10 M			
Isopropylbenzene	<5 µg/kg	TM116		<100 #	<5 #			
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<200 #	<10 #			
1,2,3-Trichloropropane	<16 µg/kg	TM116		<320 M	<16 M			
Bromobenzene	<10 µg/kg	TM116		<200 M	<10 M			
Propylbenzene	<10 µg/kg	TM116		<200 M	<10 M			
2-Chlorotoluene	<9 µg/kg	TM116		<180 M	<9 M			
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<160 M	<8 M			
4-Chlorotoluene	<10 µg/kg	TM116		<200 M	<10 M			
tert-Butylbenzene	<14 µg/kg	TM116		<280 M	<14 M			
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<180 #	<9 #			
sec-Butylbenzene	<10 µg/kg	TM116		<200	<10			
4-Isopropyltoluene	<10 µg/kg	TM116		<200 M	<10 M			
1,3-Dichlorobenzene	<8 µg/kg	TM116		<160 M	<8 M			
1,4-Dichlorobenzene	<5 µg/kg	TM116		<100 M	<5 M			
n-Butylbenzene	<11 µg/kg	TM116		<220	<11			
1,2-Dichlorobenzene	<10 µg/kg	TM116		<200 M	29 M			
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<280 M	<14 M			
Tert-amyl methyl ether	<10 µg/kg	TM116		<200 #	<10 #			
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<400	<20			
Hexachlorobutadiene	<20 µg/kg	TM116		<400	<20			
Naphthalene	<13 µg/kg	TM116		<260 M	<13 M			
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<400 #	<20 #			
1,3,5-Trichlorobenzene	<20 µg/kg	TM116		<400	<20			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
			Depth (m)	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			Sample Time	.	.	.	.	.
			Date Received	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
			SDG Ref	201027-83	201027-83	201027-83	201027-83	201027-83
			Lab Sample No.(s)	23123532	23123536	23123553	23123548	23123543
			AGS Reference					
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.02	<0.4	<0.4	<0.02
Sum of BTEX	<40 µg/kg	TM116		<800	<40	<800	<800	<40

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS103 ES2 3.41 - 3.45 SOLID 23/10/2020 00:00:00 27/10/2020 09:00:00 201027-83 23123532 TM048	03/11/2020	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS105 ES1 2.50 - 2.50 SOLID 23/10/2020 00:00:00 27/10/2020 09:00:00 201027-83 23123536 TM048	03/11/2020	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS111 ES1 0.35 - 0.35 SOLID 23/10/2020 00:00:00 27/10/2020 09:00:00 201027-83 23123553 TM048	03/11/2020	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS112 ES1 0.90 - 0.90 SOLID 23/10/2020 00:00:00 27/10/2020 09:00:00 201027-83 23123548 TM048	03/11/2020	Paul Poynton	ACM debris in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS113 ES1 0.85 - 0.85 SOLID 23/10/2020 00:00:00 27/10/2020 09:00:00 201027-83 23123543 TM048	03/11/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦$@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	WS112 ES1	None (#)	N/C	0.1093 (#)	<0.001 (#)	0.1093 (#)
Depth (m)	0.90 - 0.90					
Sample Type	SOLID					
Date Sampled	23/10/2020 00:00:00					
Date Received	27/10/2020 09:00:00					
SDG	201027-83					
Original Sample	23123548					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM243		Mixed Anions In Soils By Kone
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201027-83	**Client Reference:**	LD10162	**Report Number:**	575456
Location:	Ten Acres Lane	**Order Number:**	LD1688	**Superseded Report:**	574099

Test Completion Dates

Lab Sample No(s)	23123532	23123536	23123553	23123548	23123543
Customer Sample Ref.	WS103 ES2	WS105 ES1	WS111 ES1	WS112 ES1	WS113 ES1
AGS Ref.					
Depth	3.41 - 3.45	2.50 - 2.50	0.35 - 0.35	0.90 - 0.90	0.85 - 0.85
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020
Asbestos ID in Solid Samples	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Asbestos Quantification - Full				12-Nov-2020	
Boron Water Soluble	03-Nov-2020	02-Nov-2020	03-Nov-2020	02-Nov-2020	03-Nov-2020
Cyanide Comp/Free/Total/Thiocyanate	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020
Easily Liberated Sulphide	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
EPH CWG GC (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
GRO by GC-FID (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
Hexavalent Chromium (s)	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Metals in solid samples by OES	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
PAH by GCMS	02-Nov-2020	01-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
PCBs by GCMS		04-Nov-2020			
pH	02-Nov-2020	03-Nov-2020	03-Nov-2020	29-Oct-2020	03-Nov-2020
Phenols by HPLC (S)	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020	03-Nov-2020
Sample description	29-Oct-2020	29-Oct-2020	29-Oct-2020	29-Oct-2020	29-Oct-2020
Semi Volatile Organic Compounds	02-Nov-2020	02-Nov-2020			
Total Organic Carbon	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Total Sulphate	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
TPH CWG GC (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
VOC MS (S)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Hawarden
Deeside
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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	19 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201030-141
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	576327

This report has been revised and directly supersedes 574926 in its entirety.

We received 11 samples on Wednesday October 28, 2020 and 6 of these samples were scheduled for analysis which was completed on Thursday November 19, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23147571	CP101	ES	4.00 - 5.00	28/10/2020
23147576	CP103	ES	2.00 - 3.00	26/10/2020
23147564	CP103	ES	4.00 - 5.00	26/10/2020
23147580	CP103	ES	9.00	27/10/2020
23147554	NO ID			
23147601	WS101	ES	0.50 - 0.60	28/10/2020
23147605	WS101	ES	3.40 - 3.42	28/10/2020
23147615	WS104	ES	4.72 - 5.00	28/10/2020
23147609	WS106	ES	2.72 - 2.78	28/10/2020
23147585	WS109	ES	2.60 - 2.70	28/10/2020
23147593	WS109	ES	3.65 - 3.75	28/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23147571		23147576		23147605	23147615		23147609		23147593	
Customer Sample Reference			CP101		CP103		WS101	WS104		WS106		WS109	
AGS Reference			ES		ES		ES	ES		ES		ES	
Depth (m)			4.00 - 5.00		2.00 - 3.00		3.40 - 3.42	4.72 - 5.00		2.72 - 2.78		3.65 - 3.75	
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2	X							X				
Anions by Kone (soil)	All	NDPs: 0 Tests: 4				X		X			X		X	
Anions by Kone (w)	All	NDPs: 0 Tests: 2	X							X				
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 4			X			X			X		X	
Asbestos Quantification - Full	All	NDPs: 0 Tests: 1			X									
Boron Water Soluble	All	NDPs: 0 Tests: 4				X		X			X		X	
CEN Readings	All	NDPs: 0 Tests: 2	X							X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6	X			X		X		X	X		X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2	X							X				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2	X							X				
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4				X		X			X		X	
EPH CWG (Aliphatic) Filtered GC (W)	All	NDPs: 0 Tests: 1								X				
EPH CWG (Aromatic) Filtered GC (W)	All	NDPs: 0 Tests: 1								X				
EPH CWG GC (S)	All	NDPs: 0 Tests: 4				X		X			X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4					X		X			X		X

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23147571		23147576		23147605	23147615	23147609		23147593		
Customer Sample Reference			CP101		CP103		WS101	WS104	WS106		WS109		
AGS Reference			ES		ES		ES	ES	ES		ES		
Depth (m)			4.00 - 5.00		2.00 - 3.00		3.40 - 3.42	4.72 - 5.00	2.72 - 2.78		3.65 - 3.75		
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1							X					
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 4				X		X			X		X	
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2	X						X					
Mercury Dissolved	All	NDPs: 0 Tests: 2	X						X					
Metals in solid samples by OES	All	NDPs: 0 Tests: 4				X		X			X		X	
PAH by GCMS	All	NDPs: 0 Tests: 4				X		X			X		X	
PAH in waters by GC-MS (diss.filt)	All	NDPs: 0 Tests: 2	X						X					
PCBs by GCMS	All	NDPs: 0 Tests: 2						X					X	
pH	All	NDPs: 0 Tests: 4				X		X			X		X	
pH Value	All	NDPs: 0 Tests: 2	X						X					
Phenols by HPLC (S)	All	NDPs: 0 Tests: 4				X		X			X		X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2	X						X					
Sample description	All	NDPs: 0 Tests: 6		X		X		X	X		X		X	
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 3				X				X			X	
Sulphide	All	NDPs: 0 Tests: 2	X						X					

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23147571		23147576		23147605	23147615	23147609		23147593		
Customer Sample Reference			CP101		CP103		WS101	WS104	WS106		WS109		
AGS Reference			ES		ES		ES	ES	ES		ES		
Depth (m)			4.00 - 5.00		2.00 - 3.00		3.40 - 3.42	4.72 - 5.00	2.72 - 2.78		3.65 - 3.75		
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S
Total Organic Carbon	All	NDPs: 0 Tests: 4				X		X			X		X	
Total Sulphate	All	NDPs: 0 Tests: 4				X		X			X		X	
TPH CWG Filtered (W)	All	NDPs: 0 Tests: 1								X				
TPH CWG GC (S)	All	NDPs: 0 Tests: 4				X		X			X		X	
VOC MS (S)	All	NDPs: 0 Tests: 4					X		X			X		X

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23147571	CP101	4.00 - 5.00	Black	Loamy Sand	Vegetation	Stones
23147576	CP103	2.00 - 3.00	Dark Brown	Loamy Sand	Vegetation	Stones
23147605	WS101	3.40 - 3.42	Light Brown	Silt Loam	None	Stones
23147615	WS104	4.72 - 5.00	Black	Loamy Sand	Vegetation	Stones
23147609	WS106	2.72 - 2.78	Dark Brown	Sandy Loam	Stones	None
23147593	WS109	3.65 - 3.75	Dark Brown	Loamy Sand	None	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101	CP103	WS101	WS104	WS106	WS109
			Depth (m)	4.00 - 5.00	2.00 - 3.00	3.40 - 3.42	4.72 - 5.00	2.72 - 2.78	3.65 - 3.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/10/2020	26/10/2020	28/10/2020	28/10/2020	28/10/2020	28/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	28/10/2020	28/10/2020	28/10/2020	28/10/2020	28/10/2020	28/10/2020
			SDG Ref	201030-141	201030-141	201030-141	201030-141	201030-141	201030-141
			Lab Sample No.(s)	23147571	23147576	23147605	23147615	23147609	23147593
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		20	18	18	19	8.6	19
Phenol	<0.01 mg/kg	TM062 (S)			<0.01 @ M	<0.01 M		<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)			<0.01 @ M	<0.01 M		<0.01 M	0.332 M
Xylenols	<0.015 mg/kg	TM062 (S)			<0.015 @ M	<0.015 M		<0.015 M	0.221 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)			<0.035 @ M	<0.035 M		<0.035 M	0.554 M
Soil Organic Matter (SOM)	<0.35 %	TM132			8.53 #	1.09 #		0.538 #	6.71 #
pH	1 pH Units	TM133			8.31 M	8.59 M		7.96 M	8.63 M
Chromium, Hexavalent	<0.6 mg/kg	TM151			<0.6 #	<0.6 #		<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153			<1 M	<1 M		<1 M	1.72 M
PCB congener 28	<3 µg/kg	TM168				<3 M			<30 M
PCB congener 52	<3 µg/kg	TM168				<3 M			<30 M
PCB congener 101	<3 µg/kg	TM168				<3 M			<30 M
PCB congener 118	<3 µg/kg	TM168				<3 M			<30 M
PCB congener 138	<3 µg/kg	TM168				<3 M			<30 M
PCB congener 153	<3 µg/kg	TM168				<3 M			<30 M
PCB congener 180	<3 µg/kg	TM168				<3 M			<30 M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168				<21			<210
Sulphide, Easily liberated	<15 mg/kg	TM180			52.9 @ M	<15 ♦ M		<15 ♦ M	176 ♦ M
Arsenic	<0.6 mg/kg	TM181			17.2 M	6.27 M		5.34 M	10.5 M
Cadmium	<0.02 mg/kg	TM181			0.742 M	<0.02 M		0.185 M	0.157 M
Chromium	<0.9 mg/kg	TM181			23.6 M	10.5 M		11.9 M	14.7 M
Copper	<1.4 mg/kg	TM181			57.5 M	15.1 M		13.1 M	37.6 M
Lead	<0.7 mg/kg	TM181			250 M	7.17 M		11.9 M	63.1 M
Mercury	<0.14 mg/kg	TM181			<0.14 M	<0.14 M		<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181			27.3 M	17.3 M		25.7 M	28.7 M
Selenium	<1 mg/kg	TM181			<1 #	<1 #		<1 #	<1 #
Zinc	<1.9 mg/kg	TM181			444 M	47.3 M		53 M	62.4 M
Sulphate, Total	<48 mg/kg	TM221			1560 M	248 M		<48 M	471 M
Boron, water soluble	<1 mg/kg	TM222			<1 M	<1 M		<1 M	<1 M
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243			0.324 M	0.0659 M		0.0119 M	0.0388 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304			0.0046 #				
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304			<0.001 #				
Additional Asbestos Components (Using TM048)		TM304			Amosite Detected #				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101	CP103	WS101	WS104	WS106	WS109
			Depth (m)	4.00 - 5.00	2.00 - 3.00	3.40 - 3.42	4.72 - 5.00	2.72 - 2.78	3.65 - 3.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/10/2020	26/10/2020	28/10/2020	28/10/2020	28/10/2020	28/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	28/10/2020	28/10/2020	28/10/2020	28/10/2020	28/10/2020	28/10/2020
			SDG Ref	201030-141	201030-141	201030-141	201030-141	201030-141	201030-141
			Lab Sample No.(s)	23147571	23147576	23147605	23147615	23147609	23147593
			AGS Reference	ES	ES	ES	ES	ES	ES
Analysts Comments		TM304		Loose fibres in soil.					
Asbestos Quantification - Total - %	<0.001 %	TM304		0.0046 #					

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP103	WS101	WS106	WS109		
			Depth (m)	2.00 - 3.00	3.40 - 3.42	2.72 - 2.78	3.65 - 3.75		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	26/10/2020	28/10/2020	28/10/2020	28/10/2020		
			Sample Time	.	.	.	.		
			Date Received	28/10/2020	28/10/2020	28/10/2020	28/10/2020		
			SDG Ref	201030-141	201030-141	201030-141	201030-141		
			Lab Sample No.(s)	23147576	23147605	23147609	23147593		
			AGS Reference	ES	ES	ES	ES		
Naphthalene-d8 % recovery**	%	TM218		81	80.6	94.8	79.4		
Acenaphthene-d10 % recovery**	%	TM218		79.6	76.9	91.1	82.6		
Phenanthrene-d10 % recovery**	%	TM218		83	77.9	93.3	88.2		
Chrysene-d12 % recovery**	%	TM218		102	70.4	84.1	84.6		
Perylene-d12 % recovery**	%	TM218		105	70.7	85.9	78.2		
Naphthalene	<9 µg/kg	TM218		214 M	<9 M	<9 M	22400 M		
Acenaphthylene	<12 µg/kg	TM218		900 M	<12 M	<12 M	820 M		
Acenaphthene	<8 µg/kg	TM218		2900 M	<8 M	<8 M	20500 M		
Fluorene	<10 µg/kg	TM218		2170 M	<10 M	<10 M	20000 M		
Phenanthrene	<15 µg/kg	TM218		11200 M	29.9 M	<15 M	98300 M		
Anthracene	<16 µg/kg	TM218		5360 M	<16 M	<16 M	24400 M		
Fluoranthene	<17 µg/kg	TM218		25200 M	<17 M	<17 M	79600 M		
Pyrene	<15 µg/kg	TM218		22100 M	21.6 M	<15 M	72100 M		
Benz(a)anthracene	<14 µg/kg	TM218		12400 M	<14 M	<14 M	25300 M		
Chrysene	<10 µg/kg	TM218		11000 M	<10 M	<10 M	22200 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		15700 M	<15 M	<15 M	18500 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		5620 M	<14 M	<14 M	8310 M		
Benzo(a)pyrene	<15 µg/kg	TM218		11300 M	<15 M	<15 M	21800 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		8930 M	<18 M	<18 M	13200 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		1450 M	<23 M	<23 M	1630 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		6640 M	<24 M	<24 M	12300 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		143000	<118	<118	461000		

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP103	WS106	WS109			
			Depth (m)	2.00 - 3.00	2.72 - 2.78	3.65 - 3.75			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	26/10/2020	28/10/2020	28/10/2020			
			Sample Time	.	.	.			
			Date Received	28/10/2020	28/10/2020	28/10/2020			
			SDG Ref	201030-141	201030-141	201030-141			
			Lab Sample No.(s)	23147576	23147609	23147593			
			AGS Reference	ES	ES	ES			
Phenol	<100 µg/kg	TM157		<200	<100	<500			
Pentachlorophenol	<100 µg/kg	TM157		<200	<100	<500			
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157		<200	<100	<500			
Nitrobenzene	<100 µg/kg	TM157		<200	<100	<500			
Isophorone	<100 µg/kg	TM157		<200	<100	<500			
Hexachloroethane	<100 µg/kg	TM157		<200	<100	<500			
Hexachlorocyclopentadiene	<100 µg/kg	TM157		<200	<100	<500			
Hexachlorobutadiene	<100 µg/kg	TM157		<200	<100	<500			
Hexachlorobenzene	<100 µg/kg	TM157		<200	<100	<500			
n-Dioctyl phthalate	<100 µg/kg	TM157		<200	<100	<500			
Dimethyl phthalate	<100 µg/kg	TM157		<200	<100	<500			
Diethyl phthalate	<100 µg/kg	TM157		<200	<100	<500			
n-Dibutyl phthalate	<100 µg/kg	TM157		<200	<100	<500			
Dibenzofuran	<100 µg/kg	TM157		268	<100	13200			
Carbazole	<100 µg/kg	TM157		<200	<100	6290			
Butylbenzyl phthalate	<100 µg/kg	TM157		<200	<100	<500			
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157		<200	<100	<500			
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157		<200	<100	<500			
bis(2-Chloroethyl)ether	<100 µg/kg	TM157		<200	<100	<500			
Azobenzene	<100 µg/kg	TM157		<200	<100	<500			
4-Nitrophenol	<100 µg/kg	TM157		<200	<100	<500			
4-Nitroaniline	<100 µg/kg	TM157		<200	<100	<500			
4-Methylphenol	<100 µg/kg	TM157		<200	<100	<500			
4-Chlorophenylphenylether	<100 µg/kg	TM157		<200	<100	<500			
4-Chloroaniline	<100 µg/kg	TM157		<200	<100	<500			
4-Chloro-3-methylphenol	<100 µg/kg	TM157		<200	<100	<500			
4-Bromophenylphenylether	<100 µg/kg	TM157		<200	<100	<500			
3-Nitroaniline	<100 µg/kg	TM157		<200	<100	<500			
2-Nitrophenol	<100 µg/kg	TM157		<200	<100	<500			
2-Nitroaniline	<100 µg/kg	TM157		<200	<100	<500			
2-Methylphenol	<100 µg/kg	TM157		<200	<100	<500			
1,2,4-Trichlorobenzene	<100 µg/kg	TM157		<200	<100	<500			
2-Chlorophenol	<100 µg/kg	TM157		<200	<100	<500			

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Semi Volatile Organic Compounds

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP103	WS106	WS109			
			Depth (m)	2.00 - 3.00	2.72 - 2.78	3.65 - 3.75			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	26/10/2020	28/10/2020	28/10/2020			
			Sample Time	.	.	.			
			Date Received	28/10/2020	28/10/2020	28/10/2020			
			SDG Ref	201030-141	201030-141	201030-141			
			Lab Sample No.(s)	23147576	23147609	23147593			
			AGS Reference	ES	ES	ES			
2,6-Dinitrotoluene	<100 µg/kg	TM157		<200	<100	<500			
2,4-Dinitrotoluene	<100 µg/kg	TM157		<200	<100	<500			
2,4-Dimethylphenol	<100 µg/kg	TM157		<200	<100	<500			
2,4-Dichlorophenol	<100 µg/kg	TM157		<200	<100	<500			
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<200	<100	<500			
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<200	<100	<500			
1,4-Dichlorobenzene	<100 µg/kg	TM157		<200	<100	<500			
1,3-Dichlorobenzene	<100 µg/kg	TM157		<200	<100	<500			
1,2-Dichlorobenzene	<100 µg/kg	TM157		<200	<100	<500			
2-Chloronaphthalene	<100 µg/kg	TM157		<200	<100	<500			
2-Methylnaphthalene	<100 µg/kg	TM157		<200	<100	5810			
Acenaphthylene	<100 µg/kg	TM157		<200	<100	1590			
Acenaphthene	<100 µg/kg	TM157		927	<100	21100			
Anthracene	<100 µg/kg	TM157		793	<100	24100			
Benzo(a)anthracene	<100 µg/kg	TM157		2510	<100	25800			
Benzo(b)fluoranthene	<100 µg/kg	TM157		2570	<100	23000			
Benzo(k)fluoranthene	<100 µg/kg	TM157		2270	<100	20400			
Benzo(a)pyrene	<100 µg/kg	TM157		2980	<100	29100			
Benzo(g,h,i)perylene	<100 µg/kg	TM157		1730	<100	16800			
Chrysene	<100 µg/kg	TM157		2560	<100	26300			
Fluoranthene	<100 µg/kg	TM157		5100	<100	84800			
Fluorene	<100 µg/kg	TM157		451	<100	19800			
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		2180	<100	18100			
Phenanthrene	<100 µg/kg	TM157		1430	<100	92300			
Pyrene	<100 µg/kg	TM157		4380	<100	66500			
Naphthalene	<100 µg/kg	TM157		<200	<100	15000			
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		293	<100	2940			
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157		<200	<100	<500			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	CP103	WS101	WS106	WS109		
Customer Sample Ref.								
Depth (m)			2.00 - 3.00	3.40 - 3.42	2.72 - 2.78	3.65 - 3.75		
Sample Type			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
Date Sampled			26/10/2020	28/10/2020	28/10/2020	28/10/2020		
Sample Time			.	.	.	.		
Date Received			28/10/2020	28/10/2020	28/10/2020	28/10/2020		
SDG Ref			201030-141	201030-141	201030-141	201030-141		
Lab Sample No.(s)			23147576	23147605	23147609	23147593		
AGS Reference			ES	ES	ES	ES		
GRO Surrogate % recovery**	%	TM089	107	82.9	128	91.6		
Aliphatics >C5-C6	<10 µg/kg	TM089	22	<10	<10	89.8		
Aliphatics >C6-C8	<10 µg/kg	TM089	53.7	<10	10.9	396		
Aliphatics >C8-C10	<10 µg/kg	TM089	686	<10	25.2	2850		
Aliphatics >C10-C12	<1000 µg/kg	TM414	<1000	<1000	<1000	1040		
Aliphatics >C12-C16	<1000 µg/kg	TM414	2610	<1000	<1000	2260		
Aliphatics >C16-C21	<1000 µg/kg	TM414	15800	<1000	<1000	2530		
Aliphatics >C21-C35	<1000 µg/kg	TM414	22200	<1000	<1000	3570		
Aliphatics >C35-C44	<1000 µg/kg	TM414	3110	<1000	<1000	<1000		
Total Aliphatics >C10-C44	<5000 µg/kg	TM414	43700	<5000	<5000	9920		
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414	225000	<10000	<10000	1440000		
Aromatics >EC5-EC7	<10 µg/kg	TM089	<10	<10	<10	49.2		
Aromatics >EC7-EC8	<10 µg/kg	TM089	<10	<10	<10	156		
Aromatics >EC8-EC10	<10 µg/kg	TM089	458	<10	16.4	1900		
Aromatics > EC10-EC12	<1000 µg/kg	TM414	<1000	<1000	<1000	23000		
Aromatics > EC12-EC16	<1000 µg/kg	TM414	12800	<1000	<1000	157000		
Aromatics > EC16-EC21	<1000 µg/kg	TM414	40100	<1000	<1000	513000		
Aromatics > EC21-EC35	<1000 µg/kg	TM414	116000	<1000	<1000	656000		
Aromatics >EC35-EC44	<1000 µg/kg	TM414	11700	<1000	<1000	84400		
Aromatics > EC40-EC44	<1000 µg/kg	TM414	2520	<1000	<1000	18600		
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414	181000	<5000	<5000	1430000		
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414	226000	<10000	<10000	1450000		
Total Aliphatics >C5-C10	<50 µg/kg	TM089	761	<50	<50	3340		
Total Aromatics >EC5-EC10	<50 µg/kg	TM089	458	<50	<50	2110		
GRO >C5-C10	<20 µg/kg	TM089	1220	<20	<20	5440		

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

VOC MS (S)

Results Legend

#	ISO17025 accredited.
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aq	Aqueous / settled sample.
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*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
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Component	LOD/Units	Method	Customer Sample Ref.	CP103	WS101	WS106	WS109		
			Depth (m)	2.00 - 3.00	3.40 - 3.42	2.72 - 2.78	3.65 - 3.75		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	26/10/2020	28/10/2020	28/10/2020	28/10/2020		
			Sample Time	.	.	.	.		
			Date Received	28/10/2020	28/10/2020	28/10/2020	28/10/2020		
			SDG Ref	201030-141	201030-141	201030-141	201030-141		
			Lab Sample No.(s)	23147576	23147605	23147609	23147593		
			AGS Reference	ES	ES	ES	ES		
Dibromofluoromethane**	%	TM116		118	109	110	122		
Toluene-d8**	%	TM116		96.2	89.7	93.2	96.9		
4-Bromofluorobenzene**	%	TM116		90.3	71.7	86	88.9		
Dichlorodifluoromethane	<6 µg/kg	TM116		<120 M		<6 M	<120 M		
Chloromethane	<7 µg/kg	TM116		<140 #		<7 #	<140 #		
Vinyl Chloride	<6 µg/kg	TM116		<120 M		<6 M	<120 M		
Bromomethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Chloroethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Trichlorofluorormethane	<6 µg/kg	TM116		<120 M		<6 M	<120 M		
1,1-Dichloroethene	<10 µg/kg	TM116		<200 #		<10 #	<200 #		
Carbon Disulphide	<7 µg/kg	TM116		<140 M		<7 M	<140 M		
Dichloromethane	<10 µg/kg	TM116		<200 #		<10 #	<200 #		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<10 M	<10 M	<200 M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
1,1-Dichloroethane	<8 µg/kg	TM116		<160 M		<8 M	<160 M		
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<120 M		<6 M	<120 M		
2,2-Dichloropropane	<10 µg/kg	TM116		<200		<10	<200		
Bromochloromethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Chloroform	<8 µg/kg	TM116		<160 M		<8 M	<160 M		
1,1,1-Trichloroethane	<7 µg/kg	TM116		<140 M		<7 M	<140 M		
1,1-Dichloropropene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Carbontetrachloride	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
1,2-Dichloroethane	<5 µg/kg	TM116		<100 M		<5 M	<100 M		
Benzene	<9 µg/kg	TM116		<180 M	<9 M	<9 M	<180 M		
Trichloroethene	<9 µg/kg	TM116		<180 #		<9 #	<180 #		
1,2-Dichloropropane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Dibromomethane	<9 µg/kg	TM116		<180 M		<9 M	<180 M		
Bromodichloromethane	<7 µg/kg	TM116		<140 M		<7 M	<140 M		
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Toluene	<7 µg/kg	TM116		<140 M	<7 M	<7 M	229 M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<200		<10	<200		
1,1,2-Trichloroethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
1,3-Dichloropropane	<7 µg/kg	TM116		<140 M		<7 M	<140 M		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

VOC MS (S)

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			Date Sampled	26/10/2020	28/10/2020	28/10/2020	28/10/2020		
			Sample Time	.	.	.	.		
			Date Received	28/10/2020	28/10/2020	28/10/2020	28/10/2020		
			SDG Ref	201030-141	201030-141	201030-141	201030-141		
			Lab Sample No.(s)	23147576	23147605	23147609	23147593		
			AGS Reference	ES	ES	ES	ES		
Tetrachloroethene	<5 µg/kg	TM116		<100 M		<5 M	<100 M		
Dibromochloromethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
1,2-Dibromoethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Chlorobenzene	<5 µg/kg	TM116		<100 M		<5 M	<100 M		
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Ethylbenzene	<4 µg/kg	TM116		<80 M	<4 M	<4 M	287 M		
p/m-Xylene	<10 µg/kg	TM116		<200 #	<10 #	<10 #	497 #		
o-Xylene	<10 µg/kg	TM116		<200 M	<10 M	<10 M	317 M		
Styrene	<10 µg/kg	TM116		<200 #		<10 #	<200 #		
Bromoform	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Isopropylbenzene	<5 µg/kg	TM116		<100 #		<5 #	<100 #		
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<200 #		<10 #	<200 #		
1,2,3-Trichloropropane	<16 µg/kg	TM116		<320 M		<16 M	<320 M		
Bromobenzene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
Propylbenzene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
2-Chlorotoluene	<9 µg/kg	TM116		<180 M		<9 M	<180 M		
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<160 M		<8 M	204 M		
4-Chlorotoluene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
tert-Butylbenzene	<14 µg/kg	TM116		<280 M		<14 M	<280 M		
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<180 #		<9 #	619 #		
sec-Butylbenzene	<10 µg/kg	TM116		<200		<10	<200		
4-Isopropyltoluene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
1,3-Dichlorobenzene	<8 µg/kg	TM116		<160 M		<8 M	<160 M		
1,4-Dichlorobenzene	<5 µg/kg	TM116		<100 M		<5 M	<100 M		
n-Butylbenzene	<11 µg/kg	TM116		<220		<11	<220		
1,2-Dichlorobenzene	<10 µg/kg	TM116		<200 M		<10 M	<200 M		
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<280 M		<14 M	<280 M		
Tert-amyl methyl ether	<10 µg/kg	TM116		<200 #		<10 #	<200 #		
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<400		<20	<400		
Hexachlorobutadiene	<20 µg/kg	TM116		<400		<20	<400		
Naphthalene	<13 µg/kg	TM116		<260 M		<13 M	102000 3 M		
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<400 #		<20 #	<400 #		
1,3,5-Trichlorobenzene	<20 µg/kg	TM116		<400		<20	<400		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP103	WS101	WS106	WS109		
			Depth (m)	2.00 - 3.00	3.40 - 3.42	2.72 - 2.78	3.65 - 3.75		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	26/10/2020	28/10/2020	28/10/2020	28/10/2020		
			Sample Time	.	.	.	.		
			Date Received	28/10/2020	28/10/2020	28/10/2020	28/10/2020		
			SDG Ref	201030-141	201030-141	201030-141	201030-141		
			Lab Sample No.(s)	23147576	23147605	23147609	23147593		
			AGS Reference	ES	ES	ES	ES		
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.02	<0.02	0.813		
Sum of BTEX	<40 µg/kg	TM116		<800	<40	<40	1330		

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	CP103ES 2.00 - 3.00 SOLID 26/10/2020 00:00:00 28/10/2020 05:00:00 201030-141 23147576 TM048	09/11/2020	James Richards	Fibre bundles and ACM debris in soil	Not Detected (#)	Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS101ES 3.40 - 3.42 SOLID 28/10/2020 00:00:00 28/10/2020 05:00:00 201030-141 23147605 TM048	09/11/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS106ES 2.72 - 2.78 SOLID 28/10/2020 00:00:00 28/10/2020 05:00:00 201030-141 23147609 TM048	09/11/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS109ES 3.65 - 3.75 SOLID 28/10/2020 00:00:00 28/10/2020 05:00:00 201030-141 23147593 TM048	09/11/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	CP103ES	Amosite Detected (#)	Loose fibres in soil.	0.0046 (#)	<0.001 (#)	0.0046 (#)
Depth (m)	2.00 - 3.00					
Sample Type	SOLID					
Date Sampled	26/10/2020 00:00:00					
Date Received	28/10/2020 05:00:00					
SDG	201030-141					
Original Sample	23147576					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.102	**Natural Moisture Content (%)**	14.1
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	87.6
Particle Size <4mm	>95%		

Case	
SDG	201030-141
Lab Sample Number(s)	23147571
Sampled Date	28-Oct-2020
Customer Sample Ref.	CP101 ESZ
Depth (m)	4.00 - 5.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Low Level Hexavalent Chromium	0.00303	<0.003	0.0303	<0.03	-	-	-
Sulphate (soluble)	30.8	<2	308	<20	-	-	-
Sulphide	0.0532	<0.01	0.532	<0.1	-	-	-
Dissolved Organic Carbon	19.4	<3	194	<30	-	-	-
Mercury Dissolved (CVAF)	0.0000194	<0.00001	0.000194	<0.0001	-	-	-
Naphthalene (diss.filt)	0.0000236	<0.00001	0.000236	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.000009	<0.000005	0.00009	<0.00005	-	-	-
Arsenic	0.009	<0.0005	0.09	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000141	<0.000005	0.000141	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.0684	<0.01	0.684	<0.1	-	-	-
Phenanthrene (diss.filt)	0.00000978	<0.000005	0.0000978	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	22	<2	220	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chrysene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Pyrene (diss.filt)	0.0000106	<0.000005	0.000106	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-
Benzo(a)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chromium	0.00418	<0.001	0.0418	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Copper	0.00295	<0.0003	0.0295	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	0.00432	<0.0002	0.0432	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	04-Nov-2020
pH (pH Units)	9.17
Conductivity (µS/cm)	104.00
Temperature (°C)	21.10
Volume Leachant (Litres)	0.888

Mcerts Certification does not apply to leachates

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CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.102	**Natural Moisture Content (%)**	14.1
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	87.6
Particle Size <4mm	>95%		

Case	
SDG	201030-141
Lab Sample Number(s)	23147571
Sampled Date	28-Oct-2020
Customer Sample Ref.	CP101 ESZ
Depth (m)	4.00 - 5.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH 16 EPA Total by GCMS (diss.filt)	<0.000082	<0.000082	<0.00082	<0.00082	-	-	-
Nickel	0.00173	<0.0004	0.0173	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	10.9	<0.2	109	<2	-	-	-

Leach Test Information

Date Prepared	04-Nov-2020
pH (pH Units)	9.17
Conductivity (µS/cm)	104.00
Temperature (°C)	21.10
Volume Leachant (Litres)	0.888

Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.111	**Natural Moisture Content (%)**	23.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	80.7
Particle Size <4mm	>95%		

Case	
SDG	201030-141
Lab Sample Number(s)	23147615
Sampled Date	28-Oct-2020
Customer Sample Ref.	WS104 ESZ
Depth (m)	4.72 - 5.00

Eluate Analysis	**C_2** Conc^n in 10:1 eluate (mg/l)		**A_2** 10:1 conc^n leached (mg/kg)				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Low Level Hexavalent Chromium	0.00424	<0.003	0.0424	<0.03	-	-	-
Sulphate (soluble)	30.3	<2	303	<20	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Dissolved Organic Carbon	7.34	<3	73.4	<30	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Naphthalene (diss.filt)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthene (diss.filt)	0.00000889	<0.000005	0.0000889	<0.00005	-	-	-
Arsenic	0.0028	<0.0005	0.028	<0.005	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Acenaphthylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Cresols by HPLC (W)	<0.006	<0.006	<0.06	<0.06	-	-	-
Fluoranthene (diss.filt)	0.0000134	<0.000005	0.000134	<0.00005	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Xylenols by HPLC (W)	<0.008	<0.008	<0.08	<0.08	-	-	-
Boron	0.125	<0.01	1.25	<0.1	-	-	-
Phenanthrene (diss.filt)	0.0000111	<0.000005	0.000111	<0.00005	-	-	-
Total Alkalinity Filtered as CaCO3	90	<2	900	<20	-	-	-
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	-	-	-
Fluorene (diss.filt)	0.00000508	<0.000005	0.0000508	<0.00005	-	-	-
Chrysene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Pyrene (diss.filt)	0.00000904	<0.000005	0.0000904	<0.00005	-	-	-
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	-	-	-

Leach Test Information

Date Prepared	04-Nov-2020
pH (pH Units)	7.82
Conductivity (µS/cm)	205.00
Temperature (°C)	20.70
Volume Leachant (Litres)	0.879

Mcerts Certification does not apply to leachates

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CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Ten Acres Lane
Mass Sample taken (kg)	0.111	**Natural Moisture Content (%)**	23.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	80.7
Particle Size <4mm	>95%		

Case	
SDG	201030-141
Lab Sample Number(s)	23147615
Sampled Date	28-Oct-2020
Customer Sample Ref.	WS104 ESZ
Depth (m)	4.72 - 5.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Benzo(a)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Chromium	0.00316	<0.001	0.0316	<0.01	-	-	-
Benzo(b)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(k)fluoranthene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Benzo(a)pyrene (diss.filt)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Copper	0.00227	<0.0003	0.0227	<0.003	-	-	-
Dibenzo(a,h)anthracene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Lead	0.000368	<0.0002	0.00368	<0.002	-	-	-
Benzo(g,h,i)perylene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Indeno(1,2,3-cd)pyrene (diss.filt)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PAH 16 EPA Total by GCMS (diss.filt)	<0.000082	<0.000082	<0.00082	<0.00082	-	-	-
Nickel	<0.0004	<0.0004	<0.004	<0.004	-	-	-
Selenium	<0.001	<0.001	<0.01	<0.01	-	-	-
Calcium (Dis.Filt) mg/l	33.6	<0.2	336	<2	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	<0.011	<0.011	<0.11	<0.11	-	-	-
Sum of BTEX by GC	<0.028	<0.028	<0.28	<0.28	-	-	-

Leach Test Information

Date Prepared	04-Nov-2020
pH (pH Units)	7.82
Conductivity (µS/cm)	205.00
Temperature (°C)	20.70
Volume Leachant (Litres)	0.879

Mcerts Certification does not apply to leachates

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Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM243		Mixed Anions In Soils By Kone
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM331		Low Level Hexavalent Chromium
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201030-141	**Client Reference:**	LD10162	**Report Number:**	576327
Location:	Ten Acres Lane	**Order Number:**	LD1689	**Superseded Report:**	574926

Test Completion Dates

Lab Sample No(s)	23147571	23147576	23147605	23147615	23147609	23147593
Customer Sample Ref.	CP101	CP103	WS101	WS104	WS106	WS109
AGS Ref.	ES	ES	ES	ES	ES	ES
Depth	4.00 - 5.00	2.00 - 3.00	3.40 - 3.42	4.72 - 5.00	2.72 - 2.78	3.65 - 3.75
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkalinity Filtered as CaCO3	06-Nov-2020			06-Nov-2020		
Anions by Kone (soil)		09-Nov-2020	09-Nov-2020		09-Nov-2020	09-Nov-2020
Anions by Kone (w)	09-Nov-2020			09-Nov-2020		
Asbestos ID in Solid Samples		09-Nov-2020	09-Nov-2020		09-Nov-2020	09-Nov-2020
Asbestos Quantification - Full		19-Nov-2020				
Boron Water Soluble		05-Nov-2020	05-Nov-2020		05-Nov-2020	09-Nov-2020
CEN 10:1 Leachate (1 Stage)	04-Nov-2020			04-Nov-2020		
CEN Readings	07-Nov-2020			07-Nov-2020		
Cyanide Comp/Free/Total/Thiocyanate	10-Nov-2020	06-Nov-2020	06-Nov-2020	10-Nov-2020	06-Nov-2020	06-Nov-2020
Dissolved Metals by ICP-MS	10-Nov-2020			10-Nov-2020		
Dissolved Organic/Inorganic Carbon	07-Nov-2020			07-Nov-2020		
Easily Liberated Sulphide		09-Nov-2020	09-Nov-2020		09-Nov-2020	09-Nov-2020
EPH CWG (Aliphatic) Filtered GC (W)				09-Nov-2020		
EPH CWG (Aromatic) Filtered GC (W)				09-Nov-2020		
EPH CWG GC (S)		06-Nov-2020	06-Nov-2020		06-Nov-2020	06-Nov-2020
GRO by GC-FID (S)		05-Nov-2020	04-Nov-2020		04-Nov-2020	05-Nov-2020
GRO by GC-FID (W)				09-Nov-2020		
Hexavalent Chromium (s)		09-Nov-2020	09-Nov-2020		10-Nov-2020	09-Nov-2020
Low Level Hexavalent Chromium (w)	09-Nov-2020			09-Nov-2020		
Mercury Dissolved	09-Nov-2020			06-Nov-2020		
Metals in solid samples by OES		06-Nov-2020	06-Nov-2020		06-Nov-2020	06-Nov-2020
Moisture at 105C	04-Nov-2020			04-Nov-2020		
PAH by GCMS		05-Nov-2020	06-Nov-2020		06-Nov-2020	06-Nov-2020
PAH in waters by GC-MS (diss.filt)	09-Nov-2020			09-Nov-2020		
PCBs by GCMS			06-Nov-2020			06-Nov-2020
pH		05-Nov-2020	05-Nov-2020		04-Nov-2020	04-Nov-2020
pH Value	09-Nov-2020			09-Nov-2020		
Phenols by HPLC (S)		10-Nov-2020	10-Nov-2020		10-Nov-2020	10-Nov-2020
Phenols by HPLC (W)	09-Nov-2020			10-Nov-2020		
Sample description	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Semi Volatile Organic Compounds		06-Nov-2020			06-Nov-2020	06-Nov-2020
Sulphide	09-Nov-2020			09-Nov-2020		
Total Organic Carbon		06-Nov-2020	09-Nov-2020		06-Nov-2020	09-Nov-2020
Total Sulphate		09-Nov-2020	05-Nov-2020		09-Nov-2020	09-Nov-2020
TPH CWG Filtered (W)				09-Nov-2020		
TPH CWG GC (S)		06-Nov-2020	06-Nov-2020		06-Nov-2020	06-Nov-2020
VOC MS (S)		04-Nov-2020	04-Nov-2020		04-Nov-2020	06-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	13 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201103-84
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	575502

We received 4 samples on Tuesday November 03, 2020 and 2 of these samples were scheduled for analysis which was completed on Friday November 13, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23170018	NO ID	A		
23170023	RH108		0.00 - 1.00	30/10/2020
23170030	RH108		5.00 - 6.00	30/10/2020
23170034	RH108		8.00 - 9.00	02/11/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)						23170023				23170030		
Customer Sample Reference						RH108				RH108		
AGS Reference												
Depth (m)						0.00 - 1.00				5.00 - 6.00		
Container						1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	
Sample Type						S	S	S	S	S	S	
Anions by Kone (soil)	All	NDPs: 0 Tests: 2					X			X		
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2				X			X			
Boron Water Soluble	All	NDPs: 0 Tests: 2					X			X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2					X			X		
Easily Liberated Sulphide	All	NDPs: 0 Tests: 2					X			X		
EPH CWG GC (S)	All	NDPs: 0 Tests: 2					X			X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2						X			X	
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 2					X			X		
Metals in solid samples by OES	All	NDPs: 0 Tests: 2					X			X		
PAH by GCMS	All	NDPs: 0 Tests: 2					X			X		
pH	All	NDPs: 0 Tests: 2					X			X		
Phenols by HPLC (S)	All	NDPs: 0 Tests: 2					X			X		
Sample description	All	NDPs: 0 Tests: 2					X			X		
Total Organic Carbon	All	NDPs: 0 Tests: 2					X			X		
Total Sulphate	All	NDPs: 0 Tests: 2					X			X		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)							23170023					23170030
Customer Sample Reference							RH108					RH108
AGS Reference												
Depth (m)							0.00 - 1.00					5.00 - 6.00
Container							1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type							S	S	S	S	S	S
TPH CWG GC (S)	All		NDPs: 0 Tests: 2					X			X	
VOC MS (S)	All		NDPs: 0 Tests: 2						X			X

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23170023	RH108	0.00 - 1.00	Dark Brown	Loamy Sand	Stones	Vegetation
23170030	RH108	5.00 - 6.00	Dark Brown	Silt Loam	None	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH108	RH108				
			Depth (m)	0.00 - 1.00	5.00 - 6.00				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	30/10/2020	30/10/2020				
			Sample Time	.	.				
			Date Received	03/11/2020	03/11/2020				
			SDG Ref	201103-84	201103-84				
			Lab Sample No.(s)	23170023	23170030				
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		14	10				
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M				
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M				
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M				
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M				
Soil Organic Matter (SOM)	<0.35 %	TM132		37.4 #	1.34 #				
pH	1 pH Units	TM133		8.65 M	8.41 M				
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #				
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M				
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 @ M	<15 @ M				
Arsenic	<0.6 mg/kg	TM181		18.1 M	6.97 M				
Cadmium	<0.02 mg/kg	TM181		0.379 M	0.128 M				
Chromium	<0.9 mg/kg	TM181		15.7 M	18.1 M				
Copper	<1.4 mg/kg	TM181		82.6 M	21.8 M				
Lead	<0.7 mg/kg	TM181		233 M	13.3 M				
Mercury	<0.14 mg/kg	TM181		0.368 M	<0.14 M				
Nickel	<0.2 mg/kg	TM181		30.1 M	32.4 M				
Selenium	<1 mg/kg	TM181		<1 #	<1 #				
Zinc	<1.9 mg/kg	TM181		233 M	63.5 M				
Sulphate, Total	<48 mg/kg	TM221		549 M	132 M				
Boron, water soluble	<1 mg/kg	TM222		<1 M	<1 M				
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243		0.0767 M	0.0827 M				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH108	RH108				
			Depth (m)	0.00 - 1.00	5.00 - 6.00				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	30/10/2020	30/10/2020				
			Sample Time	.	.				
			Date Received	03/11/2020	03/11/2020				
			SDG Ref	201103-84	201103-84				
			Lab Sample No.(s)	23170023	23170030				
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		84.1	79				
Acenaphthene-d10 % recovery**	%	TM218		91	84.1				
Phenanthrene-d10 % recovery**	%	TM218		94.7	85.4				
Chrysene-d12 % recovery**	%	TM218		89.5	82				
Perylene-d12 % recovery**	%	TM218		85.9	82.9				
Naphthalene	<9 µg/kg	TM218		318 M	33.5 M				
Acenaphthylene	<12 µg/kg	TM218		35 M	<12 M				
Acenaphthene	<8 µg/kg	TM218		283 M	46.1 M				
Fluorene	<10 µg/kg	TM218		231 M	33.8 M				
Phenanthrene	<15 µg/kg	TM218		1960 M	249 M				
Anthracene	<16 µg/kg	TM218		523 M	50.3 M				
Fluoranthene	<17 µg/kg	TM218		2470 M	240 M				
Pyrene	<15 µg/kg	TM218		2200 M	213 M				
Benz(a)anthracene	<14 µg/kg	TM218		1100 M	100 M				
Chrysene	<10 µg/kg	TM218		1070 M	93.8 M				
Benzo(b)fluoranthene	<15 µg/kg	TM218		1330 M	77.4 M				
Benzo(k)fluoranthene	<14 µg/kg	TM218		432 M	34.8 M				
Benzo(a)pyrene	<15 µg/kg	TM218		920 M	80.7 M				
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		679 M	50.1 M				
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		97.9 M	<23 M				
Benzo(g,h,i)perylene	<24 µg/kg	TM218		567 M	52.4 M				
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		14200	1360				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH108	RH108				
			Depth (m)	0.00 - 1.00	5.00 - 6.00				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	30/10/2020	30/10/2020				
			Sample Time	.	.				
			Date Received	03/11/2020	03/11/2020				
			SDG Ref	201103-84	201103-84				
			Lab Sample No.(s)	23170023	23170030				
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		47.4 4	109				
Aliphatics >C5-C6	<10 µg/kg	TM089		15.1 4	<10				
Aliphatics >C6-C8	<10 µg/kg	TM089		63.8 4	33.6				
Aliphatics >C8-C10	<10 µg/kg	TM089		45.2 4	43.7				
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000				
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000				
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	<1000				
Aliphatics >C21-C35	<1000 µg/kg	TM414		3440	1050				
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000				
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		5370	<5000				
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		33600	<10000				
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10				
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10				
Aromatics >EC8-EC10	<10 µg/kg	TM089		30.2 4	29.1				
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000				
Aromatics > EC12-EC16	<1000 µg/kg	TM414		2270	<1000				
Aromatics > EC16-EC21	<1000 µg/kg	TM414		7670	<1000				
Aromatics > EC21-EC35	<1000 µg/kg	TM414		16800	1660				
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000				
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000				
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		28200	<5000				
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		33700	<10000				
Total Aliphatics >C5-C10	<50 µg/kg	TM089		124 4	77.3				
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50				
GRO >C5-C10	<20 µg/kg	TM089		124 4	77.3				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH108	RH108				
			Depth (m)	0.00 - 1.00	5.00 - 6.00				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	30/10/2020	30/10/2020				
			Sample Time	.	.				
			Date Received	03/11/2020	03/11/2020				
			SDG Ref	201103-84	201103-84				
			Lab Sample No.(s)	23170023	23170030				
			AGS Reference						
Dibromofluoromethane**	%	TM116		116	110				
Toluene-d8**	%	TM116		95.5	89.8				
4-Bromofluorobenzene**	%	TM116		82.4	70.2				
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<10 M				
Benzene	<9 µg/kg	TM116		<180 M	<9 M				
Toluene	<7 µg/kg	TM116		<140 M	<7 M				
Ethylbenzene	<4 µg/kg	TM116		<80 M	<4 M				
p/m-Xylene	<10 µg/kg	TM116		<200 #	<10 #				
o-Xylene	<10 µg/kg	TM116		<200 M	<10 M				
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.02				
Sum of BTEX	<40 µg/kg	TM116		<800	<40				

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	RH108 0.00 - 1.00 SOLID 30/10/2020 00:00:00 03/11/2020 09:00:00 201103-84 23170023 TM048	11/11/2020	Barbara Urbanek-Walsh	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	RH108 5.00 - 6.00 SOLID 30/10/2020 00:00:00 03/11/2020 09:00:00 201103-84 23170030 TM048	12/11/2020	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM243		Mixed Anions In Soils By Kone
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201103-84	**Client Reference:**	LD10162	**Report Number:**	575502
Location:	Ten Acres Lane	**Order Number:**	LD1692	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23170023	23170030
Customer Sample Ref.	RH108	RH108
AGS Ref.		
Depth	0.00 - 1.00	5.00 - 6.00
Type	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	12-Nov-2020	12-Nov-2020
Asbestos ID in Solid Samples	11-Nov-2020	12-Nov-2020
Boron Water Soluble	10-Nov-2020	10-Nov-2020
Cyanide Comp/Free/Total/Thiocyanate	10-Nov-2020	10-Nov-2020
Easily Liberated Sulphide	11-Nov-2020	11-Nov-2020
EPH CWG GC (S)	09-Nov-2020	09-Nov-2020
GRO by GC-FID (S)	06-Nov-2020	06-Nov-2020
Hexavalent Chromium (s)	12-Nov-2020	12-Nov-2020
Metals in solid samples by OES	10-Nov-2020	10-Nov-2020
PAH by GCMS	09-Nov-2020	06-Nov-2020
pH	06-Nov-2020	06-Nov-2020
Phenols by HPLC (S)	12-Nov-2020	13-Nov-2020
Sample description	05-Nov-2020	05-Nov-2020
Total Organic Carbon	10-Nov-2020	10-Nov-2020
Total Sulphate	11-Nov-2020	11-Nov-2020
TPH CWG GC (S)	09-Nov-2020	09-Nov-2020
VOC MS (S)	06-Nov-2020	06-Nov-2020

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	18 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201106-125
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	576141

We received 12 samples on Friday November 06, 2020 and 12 of these samples were scheduled for analysis which was completed on Tuesday November 17, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23193673	CP108		0.50 - 0.50	04/11/2020
23193677	CP108		1.80 - 1.80	04/11/2020
23193681	TP108		2.30 - 2.30	04/11/2020
23193659	TP123		0.80 - 0.80	04/11/2020
23193666	TP123		2.40 - 2.40	04/11/2020
23193692	TP128		3.60 - 3.60	04/11/2020
23193637	TP137		1.20 - 1.20	04/11/2020
23193697	TP139		1.50 - 1.50	04/11/2020
23193651	TP139		2.40 - 2.40	04/11/2020
23193663	TP141		0.50 - 0.50	04/11/2020
23193695	TP145		2.30 - 2.30	04/11/2020
23193656	TP145		3.80 - 3.80	04/11/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23193673	23193677	23193681	23193659	23193666	23193692	23193637	23193697	23193651	23193663	23193695							
Customer Sample Reference			CP108	CP108	TP108	TP123	TP123	TP128	TP137	TP139	TP139	TP141	TP145							
AGS Reference																				
Depth (m)			0.50 - 0.50	1.80 - 1.80	2.30 - 2.30	0.80 - 0.80	2.40 - 2.40	3.60 - 3.60	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40	0.50 - 0.50	2.30 - 2.30							
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9	X		X		X	X		X		X		X				X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 9		X			X		X	X		X			X		X		X	X
PAH by GCMS	All	NDPs: 0 Tests: 10	X		X		X		X	X		X	X		X				X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 12	X		X	X	X		X	X		X	X		X		X		X	
Sample description	All	NDPs: 0 Tests: 10	X		X	X	X		X	X		X	X		X					
VOC MS (S)	All	NDPs: 0 Tests: 10		X			X		X	X		X		X		X		X		X

23193656	TP145		3.80 - 3.80	60g VOC (ALE215)	S				x										x
				250g Amber Jar (ALE210)	S		x				x		x		x				

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23193673	CP108	0.50 - 0.50	Dark Brown	Sandy Clay Loam	Stones	N/A
23193677	CP108	1.80 - 1.80	Dark Brown	Sandy Loam	Stones	Tar
23193681	TP108	2.30 - 2.30	Black	Silt Loam	None	None
23193659	TP123	0.80 - 0.80	Dark Brown	Loamy Sand	Stones	Vegetation
23193666	TP123	2.40 - 2.40	Dark Brown	Sand	Stones	None
23193692	TP128	3.60 - 3.60	Cream	Silt Loam	Vegetation	Stones
23193637	TP137	1.20 - 1.20	Dark Brown	Sandy Loam	Stones	Vegetation
23193651	TP139	2.40 - 2.40	Dark Brown	Sandy Clay	Stones	Tar
23193697	TP139	1.50 - 1.50	Dark Brown	Sand	Stones	N/A
23193663	TP141	0.50 - 0.50	Dark Brown	Clay Loam	Vegetation	Stones
23193656	TP145	3.80 - 3.80	Dark Brown	Clay Loam	None	Stones
23193695	TP145	2.30 - 2.30	Black	Loamy Sand	Vegetation	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP108	CP108	TP108	TP123	TP123	TP128
			Depth (m)	0.50 - 0.50	1.80 - 1.80	2.30 - 2.30	0.80 - 0.80	2.40 - 2.40	3.60 - 3.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020
			SDG Ref	201106-125	201106-125	201106-125	201106-125	201106-125	201106-125
			Lab Sample No.(s)	23193673	23193677	23193681	23193659	23193666	23193692
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		26	26	33	17	29	34
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		0.0135 M	<0.01 M	0.0447 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M		<1 M	45.1 M	<1 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP137	TP139	TP139	TP141	TP145	TP145
			Depth (m)	1.20 - 1.20	1.50 - 1.50	2.40 - 2.40	0.50 - 0.50	2.30 - 2.30	3.80 - 3.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020
			Sample Time	.	.	.	00:00:00	.	00:00:00
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020
			SDG Ref	201106-125	201106-125	201106-125	201106-125	201106-125	201106-125
			Lab Sample No.(s)	23193637	23193697	23193651	23193663	23193695	23193656
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		21	30	22	20	34	20
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	0.0125 M	0.0304 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	0.532 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	0.562 M	<0.035 M
Cyanide, Total	<1 mg/kg	TM153			51.9 M	<1 M		<1 M	<1 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

GRO by GC-FID (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP108	TP108	TP123	TP123	TP128	TP139
			Depth (m)	0.50 - 0.50	2.30 - 2.30	0.80 - 0.80	2.40 - 2.40	3.60 - 3.60	2.40 - 2.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020
			SDG Ref	201106-125	201106-125	201106-125	201106-125	201106-125	201106-125
			Lab Sample No.(s)	23193673	23193681	23193659	23193666	23193692	23193651
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		126	33.9 4	98.3	112 2	101	111
GRO TOT (Moisture Corrected)	<100 µg/kg	TM089		<100 M	1320 4	159 M	173 2 M	<100 M	<100 M
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	71.5 4	<10	<10 2	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		12.2	246 4	23	25.6 2	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		14.9	210 4	50.8	28.4 2	<10	<10
Aliphatics >C10-C12	<10 µg/kg	TM089		14.9	389 4	25.4	56.8 2	<10	<10
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10 4	<10	<10 2	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10 4	<10	<10 2	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	140 4	33.9	18.5 2	<10	<10
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	259 4	16.9	38.3 2	<10	<10
Total Aliphatics >C5-C12	<50 µg/kg	TM089		<50	916 4	99.2	111 2	<50	<50
Total Aromatics >EC5-EC12	<50 µg/kg	TM089		<50	399 4	50.8	56.8 2	<50	<50

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

GRO by GC-FID (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP141	TP145	TP145			
			Depth (m)	0.50 - 0.50	2.30 - 2.30	3.80 - 3.80			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	04/11/2020	04/11/2020	04/11/2020			
			Sample Time	00:00:00	.	00:00:00			
			Date Received	06/11/2020	06/11/2020	06/11/2020			
			SDG Ref	201106-125	201106-125	201106-125			
			Lab Sample No.(s)	23193663	23193695	23193656			
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		76.4	89	88.8			
GRO TOT (Moisture Corrected)	<100 µg/kg	TM089		1880 M	1150 M	907 M			
Aliphatics >C5-C6	<10 µg/kg	TM089		11.3	44.1	27.5			
Aliphatics >C6-C8	<10 µg/kg	TM089		58.8	210	67.5			
Aliphatics >C8-C10	<10 µg/kg	TM089		224	345	153			
Aliphatics >C10-C12	<10 µg/kg	TM089		855	192	334			
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/kg	TM089		10	<10	<10			
Aromatics >EC8-EC10	<10 µg/kg	TM089		149	230	101			
Aromatics >EC10-EC12	<10 µg/kg	TM089		570	128	223			
Total Aliphatics >C5-C12	<50 µg/kg	TM089		1150	790	581			
Total Aromatics >EC5-EC12	<50 µg/kg	TM089		729	357	324			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP108	CP108	TP123	TP123	TP128	TP137
			Depth (m)	0.50 - 0.50	1.80 - 1.80	0.80 - 0.80	2.40 - 2.40	3.60 - 3.60	1.20 - 1.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020
			SDG Ref	201106-125	201106-125	201106-125	201106-125	201106-125	201106-125
			Lab Sample No.(s)	23193673	23193677	23193659	23193666	23193692	23193637
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		80.3	79.1	79.4	74.6	75	82.4
Acenaphthene-d10 % recovery**	%	TM218		81.5	81.4	83.6	80.2	78.5	84.2
Phenanthrene-d10 % recovery**	%	TM218		81.6	84	82	76.4	78	82.7
Chrysene-d12 % recovery**	%	TM218		85.7	92	81.7	83.4	80.9	84.3
Perylene-d12 % recovery**	%	TM218		83.7	89.4	71.1	84	81.6	71.6
Naphthalene	<9 µg/kg	TM218		289 M	127 M	56.8 M	1250 M	313 M	29.7 M
Acenaphthylene	<12 µg/kg	TM218		66.2 M	131 M	381 M	1370 M	272 M	<12 M
Acenaphthene	<8 µg/kg	TM218		240 M	324 M	75.5 M	1870 M	103 M	191 M
Fluorene	<10 µg/kg	TM218		214 M	385 M	84.4 M	3770 M	244 M	188 M
Phenanthrene	<15 µg/kg	TM218		2460 M	3590 M	873 M	34100 M	1310 M	2330 M
Anthracene	<16 µg/kg	TM218		755 M	843 M	295 M	13500 M	367 M	613 M
Fluoranthene	<17 µg/kg	TM218		3230 M	5030 M	1500 M	43700 M	1440 M	2210 M
Pyrene	<15 µg/kg	TM218		3350 M	4900 M	1540 M	40000 M	1360 M	1860 M
Benz(a)anthracene	<14 µg/kg	TM218		2590 M	2540 M	1210 M	35000 M	656 M	1160 M
Chrysene	<10 µg/kg	TM218		2360 M	2530 M	1170 M	30600 M	691 M	1120 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		3280 M	1590 M	1320 M	26700 M	844 M	1160 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		1340 M	934 M	488 M	11200 M	290 M	394 M
Benzo(a)pyrene	<15 µg/kg	TM218		3650 M	2300 M	1210 M	35000 M	656 M	876 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		2380 M	1400 M	879 M	21400 M	497 M	498 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		391 M	272 M	234 M	4830 M	87.9 M	109 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		2140 M	1360 M	900 M	17900 M	543 M	503 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		28700	28300	12200	322000	9680	13200

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP139	TP139	TP145	TP145		
			Depth (m)	1.50 - 1.50	2.40 - 2.40	2.30 - 2.30	3.80 - 3.80		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020		
			Sample Time	.	.	.	00:00:00		
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020		
			SDG Ref	201106-125	201106-125	201106-125	201106-125		
			Lab Sample No.(s)	23193697	23193651	23193695	23193656		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		79.1	83.8	81.5	76.9		
Acenaphthene-d10 % recovery**	%	TM218		81	86.9	88.9	79.7		
Phenanthrene-d10 % recovery**	%	TM218		75.2	88.1	93.1	81.3		
Chrysene-d12 % recovery**	%	TM218		73.5	89.3	95	86.3		
Perylene-d12 % recovery**	%	TM218		70.2	83.4	86.8	88.4		
Naphthalene	<9 µg/kg	TM218		72.8 M	<9 M	259 M	672 M		
Acenaphthylene	<12 µg/kg	TM218		38.5 M	<12 M	<120 M	153 M		
Acenaphthene	<8 µg/kg	TM218		38.8 M	<8 M	878 M	2860 M		
Fluorene	<10 µg/kg	TM218		41 M	<10 M	791 M	2280 M		
Phenanthrene	<15 µg/kg	TM218		459 M	80.1 M	4560 M	16000 M		
Anthracene	<16 µg/kg	TM218		111 M	<16 M	1930 M	4120 M		
Fluoranthene	<17 µg/kg	TM218		722 M	99 M	19800 M	23000 M		
Pyrene	<15 µg/kg	TM218		696 M	135 M	19000 M	20800 M		
Benz(a)anthracene	<14 µg/kg	TM218		381 M	67.3 M	7420 M	9510 M		
Chrysene	<10 µg/kg	TM218		408 M	78.4 M	7050 M	9230 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		427 M	112 M	7740 M	10900 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		179 M	26.2 M	3100 M	3880 M		
Benzo(a)pyrene	<15 µg/kg	TM218		402 M	49.3 M	6980 M	9070 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		319 M	47.8 M	5130 M	5540 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		56.3 M	<23 M	826 M	973 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		315 M	53.9 M	5820 M	5270 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		4670	749	91200	124000		

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP108	TP108	TP123	TP123	TP128	TP139
			Depth (m)	0.50 - 0.50	2.30 - 2.30	0.80 - 0.80	2.40 - 2.40	3.60 - 3.60	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020	04/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020	06/11/2020
			SDG Ref	201106-125	201106-125	201106-125	201106-125	201106-125	201106-125
			Lab Sample No.(s)	23193673	23193681	23193659	23193666	23193692	23193697
			AGS Reference						
Toluene-d8**	%	TM116							99.6
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 2 M	<200 M	
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 2 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 2 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 2 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 2 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 2 M	<200 M	<200 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4 2	<0.4	
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800 2	<800	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP139	TP141	TP145	TP145
			Depth (m)	2.40 - 2.40	0.50 - 0.50	2.30 - 2.30	3.80 - 3.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/11/2020	04/11/2020	04/11/2020	04/11/2020
			Sample Time	.	00:00:00	.	00:00:00
			Date Received	06/11/2020	06/11/2020	06/11/2020	06/11/2020
			SDG Ref	201106-125	201106-125	201106-125	201106-125
			Lab Sample No.(s)	23193651	23193663	23193695	23193656
			AGS Reference				
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<9 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<7 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<4 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<10 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<10 M	<200 M	<200 M	<200 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<40	<800	<800	<800

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201106-125	**Client Reference:**	LD10162	**Report Number:**	576141
Location:	Ten Acres Lane	**Order Number:**	LD1706	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23193673	23193677	23193681	23193659	23193666	23193692	23193637	23193651	23193697	23193663
Customer Sample Ref.	CP108	CP108	TP108	TP123	TP123	TP128	TP137	TP139	TP139	TP141
AGS Ref.										
Depth	0.50 - 0.50	1.80 - 1.80	2.30 - 2.30	0.80 - 0.80	2.40 - 2.40	3.60 - 3.60	1.20 - 1.20	2.40 - 2.40	1.50 - 1.50	0.50 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Cyanide Comp/Free/Total/Thiocyanate	13-Nov-2020	13-Nov-2020		13-Nov-2020	13-Nov-2020	12-Nov-2020		13-Nov-2020	13-Nov-2020	
GRO by GC-FID (S)	13-Nov-2020		13-Nov-2020	13-Nov-2020	12-Nov-2020	13-Nov-2020		13-Nov-2020		11-Nov-2020
PAH by GCMS	12-Nov-2020	12-Nov-2020		12-Nov-2020	12-Nov-2020	12-Nov-2020	12-Nov-2020	12-Nov-2020	12-Nov-2020	
Phenols by HPLC (S)	17-Nov-2020	13-Nov-2020	16-Nov-2020	13-Nov-2020	17-Nov-2020	17-Nov-2020	17-Nov-2020	17-Nov-2020	17-Nov-2020	17-Nov-2020
Sample description	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020
VOC MS (S)	12-Nov-2020		12-Nov-2020	12-Nov-2020	13-Nov-2020	12-Nov-2020		12-Nov-2020	12-Nov-2020	12-Nov-2020

Lab Sample No(s)	23193656	23193695
Customer Sample Ref.	TP145	TP145
AGS Ref.		
Depth	3.80 - 3.80	2.30 - 2.30
Type	Soil/Solid (S)	Soil/Solid (S)
Cyanide Comp/Free/Total/Thiocyanate	12-Nov-2020	12-Nov-2020
GRO by GC-FID (S)	13-Nov-2020	11-Nov-2020
PAH by GCMS	12-Nov-2020	12-Nov-2020
Phenols by HPLC (S)	17-Nov-2020	17-Nov-2020
Sample description	10-Nov-2020	10-Nov-2020
VOC MS (S)	12-Nov-2020	12-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	18 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201107-75
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	575935

We received 11 samples on Saturday November 07, 2020 and 10 of these samples were scheduled for analysis which was completed on Wednesday November 18, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201107-75	**Client Reference:**	LD10162	**Report Number:**	575935
Location:	Ten Acres Lane	**Order Number:**		**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23200572	CP104		1.30 - 1.30	05/11/2020
23200610	CP113		0.80 - 0.80	05/11/2020
23200602	TP102		1.60 - 1.60	05/11/2020
23200596	TP114		3.40 - 3.40	05/11/2020
23200618	TP126		0.50 - 0.50	05/11/2020
23200615	TP136		0.80 - 0.80	05/11/2020
23200581	TP138		1.60 - 1.60	05/11/2020
23200577	TP144		0.40 - 0.40	05/11/2020
23200621	TP149		0.50 - 0.50	05/11/2020
23200628	TP149		1.60 - 1.60	05/11/2020
23200586	TP150		2.20 - 2.20	05/11/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201107-75	**Client Reference:**	LD10162	**Report Number:**	575935
Location:	Ten Acres Lane	**Order Number:**		**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23200610	23200602	23200596	23200618	23200615	23200581	23200577	23200621	23200628	23200586					
Customer Sample Reference			CP113	TP102	TP114	TP126	TP136	TP138	TP144	TP149	TP149	TP150					
AGS Reference																	
Depth (m)			0.80 - 0.80	1.60 - 1.60	3.40 - 3.40	0.50 - 0.50	0.80 - 0.80	1.60 - 1.60	0.40 - 0.40	0.50 - 0.50	1.60 - 1.60	2.20 - 2.20					
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1					X										
GRO by GC-FID (S)	All	NDPs: 0 Tests: 6		X		X		X				X		X		X	
PAH by GCMS	All	NDPs: 0 Tests: 6					X		X	X			X				
Phenols by HPLC (S)	All	NDPs: 0 Tests: 8	X		X		X			X	X	X	X		X		
Sample description	All	NDPs: 0 Tests: 10	X		X		X		X	X	X	X	X		X		X
VOC MS (S)	All	NDPs: 0 Tests: 6		X		X		X				X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	201107-75	**Client Reference:**	LD10162	**Report Number:**	575935
Location:	Ten Acres Lane	**Order Number:**		**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23200610	CP113	0.80 - 0.80	Dark Brown	Loamy Sand	None	Stones
23200602	TP102	1.60 - 1.60	Dark Brown	Clay Loam	Vegetation	Stones
23200596	TP114	3.40 - 3.40	Dark Brown	Sandy Loam	Vegetation	Stones
23200618	TP126	0.50 - 0.50	Dark Brown	Loamy Sand	None	Stones
23200615	TP136	0.80 - 0.80	Dark Brown	Loamy Sand	Vegetation	Stones
23200581	TP138	1.60 - 1.60	Dark Brown	Loamy Sand	Vegetation	Stones
23200577	TP144	0.40 - 0.40	Dark Brown	Clay Loam	Vegetation	Stones
23200621	TP149	0.50 - 0.50	Black	Stone/Soil	Vegetation	Stones
23200628	TP149	1.60 - 1.60	Dark Brown	Loamy Sand	None	Stones
23200586	TP150	2.20 - 2.20	Dark Brown	Loamy Sand	Vegetation	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201107-75	**Client Reference:**	LD10162	**Report Number:**	575935
Location:	Ten Acres Lane	**Order Number:**		**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP102	TP114	TP126	TP136	TP138
			Depth (m)	0.80 - 0.80	1.60 - 1.60	3.40 - 3.40	0.50 - 0.50	0.80 - 0.80	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020
			SDG Ref	201107-75	201107-75	201107-75	201107-75	201107-75	201107-75
			Lab Sample No.(s)	23200610	23200602	23200596	23200618	23200615	23200581
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		13	15	13	19	17	21
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M		<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	0.0118 M	<0.01 M		<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	0.0236 M	<0.015 M		<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M		<0.035 M	<0.035 M
Cyanide, Total	<1 mg/kg	TM153				<1 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201107-75	**Client Reference:**	LD10162	**Report Number:**	575935
Location:	Ten Acres Lane	**Order Number:**		**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP144	TP149	TP149	TP150		
			Depth (m)	0.40 - 0.40	0.50 - 0.50	1.60 - 1.60	2.20 - 2.20		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	05/11/2020	05/11/2020	05/11/2020	05/11/2020		
			Sample Time	.	.	.	.		
			Date Received	07/11/2020	07/11/2020	07/11/2020	07/11/2020		
			SDG Ref	201107-75	201107-75	201107-75	201107-75		
			Lab Sample No.(s)	23200577	23200621	23200628	23200586		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		18	22	15	20		
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 #	<0.01 M			
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 #	<0.01 M			
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 #	<0.015 M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 #	<0.035 M			

Validated

CERTIFICATE OF ANALYSIS

SDG: 201107-75 **Client Reference:** LD10162 **Report Number:** 575935
Location: Ten Acres Lane **Order Number:** **Superseded Report:**

GRO by GC-FID (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP102	TP114	TP149	TP149	TP150
			Depth (m)	0.80 - 0.80	1.60 - 1.60	3.40 - 3.40	0.50 - 0.50	1.60 - 1.60	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020
			SDG Ref	201107-75	201107-75	201107-75	201107-75	201107-75	201107-75
			Lab Sample No.(s)	23200610	23200602	23200596	23200621	23200628	23200586
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		102	75.8	77	71.7	113	79.6
GRO TOT (Moisture Corrected)	<100 µg/kg	TM089		<100 M	118 M	<100 M	388 #	<100 M	1610 M
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10	<10	17.6
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	16.5	<10	28.4	<10	79.4
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	33	<10	49	<10	154
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	24.8	<10	161	<10	755
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	22.4	<10	32.3	<10	102
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	16.5	<10	107	<10	503
Total Aliphatics >C5-C12	<50 µg/kg	TM089		<50	74.3	<50	239	<50	1010
Total Aromatics >EC5-EC12	<50 µg/kg	TM089		<50	<50	<50	139	<50	605

Validated

CERTIFICATE OF ANALYSIS

SDG: 201107-75 **Client Reference:** LD10162 **Report Number:** 575935
Location: Ten Acres Lane **Order Number:** **Superseded Report:**

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP114	TP126	TP136	TP144	TP149	TP149
			Depth (m)	3.40 - 3.40	0.50 - 0.50	0.80 - 0.80	0.40 - 0.40	0.50 - 0.50	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020
			SDG Ref	201107-75	201107-75	201107-75	201107-75	201107-75	201107-75
			Lab Sample No.(s)	23200596	23200618	23200615	23200577	23200621	23200628
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		82.4	75	84.8	81.3	79.8	89.3
Acenaphthene-d10 % recovery**	%	TM218		89.3	84.7	89	87.8	84.8	92.5
Phenanthrene-d10 % recovery**	%	TM218		88.8	87.4	88.7	86.2	90.8	96
Chrysene-d12 % recovery**	%	TM218		83.7	78.8	84.9	85.9	93.5	102
Perylene-d12 % recovery**	%	TM218		83.5	75.1	85.2	86.9	88.1	103
Naphthalene	<9 µg/kg	TM218		18.7 M	17500 M	<9 M	207 M	443 #	13.2 M
Acenaphthylene	<12 µg/kg	TM218		<12 M	997 M	<12 M	<60 M	75.1 #	<12 M
Acenaphthene	<8 µg/kg	TM218		<8 M	80200 M	<8 M	1750 M	1690 #	<8 M
Fluorene	<10 µg/kg	TM218		<10 M	62400 M	<10 M	1080 M	1380 #	<10 M
Phenanthrene	<15 µg/kg	TM218		94.2 M	365000 M	46.7 M	10800 M	18500 #	<15 M
Anthracene	<16 µg/kg	TM218		<16 M	97400 M	<16 M	3290 M	4690 #	<16 M
Fluoranthene	<17 µg/kg	TM218		152 M	400000 M	66.4 M	16400 M	28700 #	<17 M
Pyrene	<15 µg/kg	TM218		148 M	340000 M	65.9 M	12700 M	26400 #	<15 M
Benz(a)anthracene	<14 µg/kg	TM218		79.8 M	134000 M	31 M	6420 M	13000 #	<14 M
Chrysene	<10 µg/kg	TM218		86.1 M	144000 M	33.3 M	5610 M	12900 #	<10 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		121 M	159000 M	35.8 M	7200 M	12300 #	<15 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		37.2 M	53800 M	<14 M	2590 M	4460 #	<14 M
Benzo(a)pyrene	<15 µg/kg	TM218		78.6 M	123000 M	24.8 M	5700 M	10700 #	<15 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		58.5 M	79600 M	<18 M	3710 M	6600 #	<18 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	16400 M	<23 M	730 M	1500 #	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		69.6 M	72700 M	<24 M	3690 M	6280 #	<24 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		944	2150000	304	81900	150000	<118

Validated

CERTIFICATE OF ANALYSIS

SDG: 201107-75 **Client Reference:** LD10162 **Report Number:** 575935
Location: Ten Acres Lane **Order Number:** **Superseded Report:**

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP113	TP102	TP114	TP149	TP149	TP150
			Depth (m)	0.80 - 0.80	1.60 - 1.60	3.40 - 3.40	0.50 - 0.50	1.60 - 1.60	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020	05/11/2020
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020	07/11/2020
			SDG Ref	201107-75	201107-75	201107-75	201107-75	201107-75	201107-75
			Lab Sample No.(s)	23200610	23200602	23200596	23200621	23200628	23200586
			AGS Reference						
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 M	<200 M	<200 M	<200 #	<10 M	<200 M
Benzene	<9 µg/kg	TM116		<9 M	<180 M	<180 M	<180 #	<9 M	<180 M
Toluene	<7 µg/kg	TM116		<7 M	<140 M	<140 M	<140 #	<7 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<4 M	<80 M	<80 M	<80 #	<4 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<10 #	<200 #	<200 #	<200 #	<10 #	<200 #
o-Xylene	<10 µg/kg	TM116		<10 M	<200 M	<200 M	<200 #	<10 M	<200 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.4	<0.4	<0.4	<0.02	<0.4
Sum of BTEX	<40 µg/kg	TM116		<40	<800	<800	<800	<40	<800

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

CERTIFICATE OF ANALYSIS

SDG:	201107-75	**Client Reference:**	LD10162	**Report Number:**	575935
Location:	Ten Acres Lane	**Order Number:**		**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23200610	23200602	23200596	23200618	23200615	23200581	23200577	23200621	23200628	23200586
Customer Sample Ref.	CP113	TP102	TP114	TP126	TP136	TP138	TP144	TP149	TP149	TP150
AGS Ref.										
Depth	0.80 - 0.80	1.60 - 1.60	3.40 - 3.40	0.50 - 0.50	0.80 - 0.80	1.60 - 1.60	0.40 - 0.40	0.50 - 0.50	1.60 - 1.60	2.20 - 2.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Cyanide Comp/Free/Total/Thiocyanate			13-Nov-2020							
GRO by GC-FID (S)	13-Nov-2020	13-Nov-2020	13-Nov-2020					13-Nov-2020	13-Nov-2020	13-Nov-2020
PAH by GCMS			16-Nov-2020	13-Nov-2020	16-Nov-2020		16-Nov-2020	13-Nov-2020	13-Nov-2020	
Phenols by HPLC (S)	18-Nov-2020	18-Nov-2020	18-Nov-2020		17-Nov-2020	18-Nov-2020	18-Nov-2020	18-Nov-2020	18-Nov-2020	
Sample description	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020	10-Nov-2020
VOC MS (S)	13-Nov-2020	13-Nov-2020	13-Nov-2020					13-Nov-2020	13-Nov-2020	12-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	17 November 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201111-40
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	575848

We received 3 samples on Wednesday November 11, 2020 and 3 of these samples were scheduled for analysis which was completed on Tuesday November 17, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23216356	TP118		1.80 - 1.80	06/11/2020
23216353	TP130		0.30 - 0.30	06/11/2020
23216344	TP134		0.20 - 0.20	06/11/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23216356	23216353	23216344
Customer Sample Reference			TP118	TP130	TP134
AGS Reference					
Depth (m)			1.80 - 1.80	0.30 - 0.30	0.20 - 0.20
Container			250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)
Sample Type			S	S	S
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3	X	X	X
PAH by GCMS	All	NDPs: 0 Tests: 3	X	X	X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 3	X	X	X
Sample description	All	NDPs: 0 Tests: 3	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23216356	TP118	1.80 - 1.80	Grey	Loamy Sand	Stones	None
23216353	TP130	0.30 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
23216344	TP134	0.20 - 0.20	Dark Brown	Loamy Sand	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP118	TP130	TP134			
			Depth (m)	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	06/11/2020	06/11/2020	06/11/2020			
			Sample Time	.	.	.			
			Date Received	11/11/2020	11/11/2020	11/11/2020			
			SDG Ref	201111-40	201111-40	201111-40			
			Lab Sample No.(s)	23216356	23216353	23216344			
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		7.6	20	21			
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M			
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M			
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M			
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP118	TP130	TP134			
			Depth (m)	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	06/11/2020	06/11/2020	06/11/2020			
			Sample Time	.	.	.			
			Date Received	11/11/2020	11/11/2020	11/11/2020			
			SDG Ref	201111-40	201111-40	201111-40			
			Lab Sample No.(s)	23216356	23216353	23216344			
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		95.9	95.2	92			
Acenaphthene-d10 % recovery**	%	TM218		105	94.8	90.5			
Phenanthrene-d10 % recovery**	%	TM218		101	96.2	85			
Chrysene-d12 % recovery**	%	TM218		93.9	96.5	71.5			
Perylene-d12 % recovery**	%	TM218		86.3	99.9	71			
Naphthalene	<9 µg/kg	TM218		39 M	5470 M	<450 M			
Acenaphthylene	<12 µg/kg	TM218		15 M	<60 M	<600 M			
Acenaphthene	<8 µg/kg	TM218		81.7 M	2200 M	<400 M			
Fluorene	<10 µg/kg	TM218		75 M	1490 M	<500 M			
Phenanthrene	<15 µg/kg	TM218		538 M	10800 M	<750 M			
Anthracene	<16 µg/kg	TM218		173 M	2490 M	<800 M			
Fluoranthene	<17 µg/kg	TM218		1070 M	8180 M	<850 M			
Pyrene	<15 µg/kg	TM218		1040 M	7480 M	<750 M			
Benz(a)anthracene	<14 µg/kg	TM218		448 M	3720 M	<700 M			
Chrysene	<10 µg/kg	TM218		399 M	3380 M	<500 M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		585 M	3800 M	1360 M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		227 M	1340 M	<700 M			
Benzo(a)pyrene	<15 µg/kg	TM218		417 M	2990 M	<750 M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		275 M	1750 M	1950 M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		47 M	362 M	<1150 M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		230 M	1600 M	<1200 M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		5650	57100	<5900			

CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description
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CERTIFICATE OF ANALYSIS

SDG:	201111-40	**Client Reference:**	LD10162	**Report Number:**	575848
Location:	Ten Acres Lane	**Order Number:**	LD1708	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23216356	23216353	23216344
Customer Sample Ref.	TP118	TP130	TP134
AGS Ref.			
Depth	1.80 - 1.80	0.30 - 0.30	0.20 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Cyanide Comp/Free/Total/Thiocyanate	16-Nov-2020	16-Nov-2020	16-Nov-2020
PAH by GCMS	17-Nov-2020	17-Nov-2020	17-Nov-2020
Phenols by HPLC (S)	17-Nov-2020	17-Nov-2020	17-Nov-2020
Sample description	12-Nov-2020	12-Nov-2020	12-Nov-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

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10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	12 December 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201204-111
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	579714

We received 12 samples on Friday December 04, 2020 and 11 of these samples were scheduled for analysis which was completed on Friday December 11, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23366904	CP107		0.00 - 0.00	02/12/2020
23367032	CP108		0.00 - 0.00	02/12/2020
23366986	CP109		0.00 - 0.00	02/12/2020
23366948	CP110		0.00 - 0.00	02/12/2020
23367170	CP103 (1)		0.00 - 0.00	02/12/2020
23366928	CP103 (2)		0.00 - 0.00	02/12/2020
23367187	NO ID			
23367050	RH101		0.00 - 0.00	02/12/2020
23367006	RH102		0.00 - 0.00	02/12/2020
23367152	SW01		0.00 - 0.00	02/12/2020
23367130	SW02		0.00 - 0.00	02/12/2020
23367087	SW03		0.00 - 0.00	02/12/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)							23366904							23367032							23366986							23366948	
Customer Sample Reference							CP107							CP108							CP109							CP110	
AGS Reference																													
Depth (m)							0.00 - 0.00							0.00 - 0.00							0.00 - 0.00							0.00 - 0.00	
Container							500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)				
Sample Type							GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW				
Alkalinity as CaCO3	All	NDPs: 0 Tests: 11					X					X	X					X	X					X	X				
Anions by Kone (w)	All	NDPs: 0 Tests: 11					X					X	X					X	X					X	X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 11			X				X						X					X									
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 11		X										X					X										
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 11	X					X										X							X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11	X					X										X							X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11	X					X										X							X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11				X										X							X						
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 11	X					X					X						X							X			
Mercury Dissolved	All	NDPs: 0 Tests: 11		X					X						X														
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 11	X					X										X							X				
Redox Potential	All	NDPs: 0 Tests: 11	X					X										X							X				
Sulphide	All	NDPs: 0 Tests: 11					X										X							X					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 11	X					X										X							X				
TPH CWG (W)	All	NDPs: 0 Tests: 11	X					X										X							X				

| 23367050 | | |

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23366904	23367032	23366986	23366948
Customer Sample Reference			CP107	CP108	CP109	CP110
AGS Reference						
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Container			500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
VOC MS (W)	All	NDPs: 0 Tests: 11				X						X							X			

23367050	RH101		0.00 - 0.00	Vial (ALE297)	GW		x
				NaOH (ALE245)	GW		
				HNO3 Filtered (ALE204)	GW		
				500ml Plastic (ALE208)	GW		
				0.5l glass bottle (ALE227)	GW		
23366928	CP103 (2)		0.00 - 0.00	ZnAc (ALE246)	GW		
				Vial (ALE297)	GW		x
				NaOH (ALE245)	GW		
				HNO3 Filtered (ALE204)	GW		
				500ml Plastic (ALE208)	GW		
				0.5l glass bottle (ALE227)	GW		
23367170	CP103 (1)		0.00 - 0.00	ZnAc (ALE246)	GW		
				Vial (ALE297)	GW		x
				NaOH (ALE245)	GW		
				HNO3 Filtered (ALE204)	GW		
				500ml Plastic (ALE208)	GW		
				0.5l glass bottle (ALE227)	GW		
23366948	CP110		0.00 - 0.00	ZnAc (ALE246)	GW		
				Vial (ALE297)	GW		x
				NaOH (ALE245)	GW		
				HNO3 Filtered (ALE204)	GW		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23367050						23367006						23367152						23367130
Customer Sample Reference			RH101						RH102						SW01						SW02
AGS Reference																					
Depth (m)			0.00 - 0.00						0.00 - 0.00						0.00 - 0.00						0.00 - 0.00
Container			ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 11			X						X						X				
Anions by Kone (w)	All	NDPs: 0 Tests: 11			X						X						X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 11					X						X						X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 11				X						X						X			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 11		X						X						X					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11		X						X						X					
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11		X						X						X					
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11						X						X						X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 11			X						X						X				
Mercury Dissolved	All	NDPs: 0 Tests: 11				X						X						X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 11		X						X						X					
Redox Potential	All	NDPs: 0 Tests: 11		X						X						X					
Sulphide	All	NDPs: 0 Tests: 11	X						X						X						X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 11		X						X						X					
TPH CWG (W)	All	NDPs: 0 Tests: 11		X						X						X					

							23367087
							SW03
							0.00 - 0.00
SW	ZnAc (ALE246)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	
SW							
SW					X		
SW					X		
SW			X				
SW				X			
SW						X	
SW						X	
SW						X	
SW		X					
SW					X		
SW				X			
SW						X	
SW						X	
SW	X						
SW						X	
SW						X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)	23367050	23367006						23367152							23367130							
Customer Sample Reference	RH101	RH102						SW01							SW02							
AGS Reference																						
Depth (m)	0.00 - 0.00	0.00 - 0.00						0.00 - 0.00							0.00 - 0.00							
Container	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)			
Sample Type	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW			
VOC MS (W)	All	NDPs: 0 Tests: 11																				
						X						X						X				

23367087	SW03		0.00 - 0.00	ZnAc (ALE246)	SW		
				Vial (ALE297)	SW		x
				NaOH (ALE245)	SW		
				HNO3 Filtered (ALE204)	SW		
				500ml Plastic (ALE208)	SW		
				0.5l glass bottle (ALE227)	SW		

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
Alkalinity, Total as CaCO3	<2 mg/l	TM043		687 #	391 #	1380 #	692 #	702 #	724 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090		18.7	3.73	270	8.89	11.5	12.6
Sulphide	<0.01 mg/l	TM101		0.49 #	0.015 #	0.786 #	0.0223 #	1.59 #	0.598 #
Redox potential	mV	TM110		144	131	107	181	137	143
Arsenic (diss.filt)	<0.5 µg/l	TM152		9.85 #	5.41 #	33.3 #	2.36 #	4.08 #	1.43 #
Boron (diss.filt)	<10 µg/l	TM152		2260 #	198 #	11100 #	854 #	768 #	742 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	<0.08 #	11 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		5.11 #	<1 #	10.7 #	<1 #	7.75 #	6.98 #
Copper (diss.filt)	<0.3 µg/l	TM152		<0.3 #	0.465 #	<0.3 #	140 #	<0.3 #	1.07 #
Lead (diss.filt)	<0.2 µg/l	TM152		0.266 #	0.614 #	5.53 #	3.73 #	0.274 #	2.71 #
Manganese (diss.filt)	<3 µg/l	TM152		230 #	360 #	73 #	485 #	277 #	257 #
Nickel (diss.filt)	<0.4 µg/l	TM152		1.16 #	1.07 #	11.7 #	36.5 #	0.771 #	2.75 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	1.84 #	1.09 #	<1 #	1.39 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152		107 #	187 #	24.4 #	228 #	193 #	236 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		0.783 #	11 #	0.967 #	0.245 #	0.24 #	0.116 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		118 #	177 #	<10 #	82.2 #	135 #	228 #
Cyanide, Total	<0.05 mg/l	TM227		0.13 #	<0.05 #	0.18 #	<0.05 #	<0.05 #	<0.05 #
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Cyanide, Complex	<0.05 mg/l	TM227		0.13	<0.05	0.18	<0.05	<0.05	<0.05
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	0.12 #	<0.05 #	<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
Alkalinity, Total as CaCO3	<2 mg/l	TM043		488 #	1650 #	37.5 #	33.1 #	32.1 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090		4.81	353	5.26	5.61	5.05
Sulphide	<0.01 mg/l	TM101		<0.01 #	0.967 #	0.0183	<0.01	0.0116
Redox potential	mV	TM110		130	132	121	126	122
Arsenic (diss.filt)	<0.5 µg/l	TM152		1.54 #	4.41 #	0.918 #	0.907 #	0.894 #
Boron (diss.filt)	<10 µg/l	TM152		295 #	11100 #	28.6 #	22.7 #	20.7 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	4.28 #	6.25 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		1.63 #	0.43 #	3.38 #	3.27 #	3.52 #
Lead (diss.filt)	<0.2 µg/l	TM152		2.89 #	0.927 #	1.05 #	1.2 #	1.04 #
Manganese (diss.filt)	<3 µg/l	TM152		265 #	238 #	16.7 #	17 #	14.7 #
Nickel (diss.filt)	<0.4 µg/l	TM152		1.02 #	10.4 #	2.07 #	2.12 #	2.05 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152		170 #	210 #	16.5 #	15.7 #	15.5 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		0.0921 #	2.22 #	0.193 #	0.184 #	0.189 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01	<0.01	<0.01
Sulphate	<2 mg/l	TM184		207 #	23.6 #	17.9 #	17.4 #	16.7 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05	<0.05	<0.05
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05	<0.05	<0.05
Cyanide, Complex	<0.05 mg/l	TM227		<0.05	<0.05	<0.05	<0.05	<0.05
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05	<0.05	<0.05
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03	<0.03	<0.03

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		0.0944 #	0.0314 #	2.25 #	0.0605 #	0.339 #	0.386 #
Acenaphthene (aq)	<0.005 µg/l	TM178		1.47 #	0.05 #	1.87 #	0.0956 #	2.95 #	1.68 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		0.0375 #	<0.005 #	0.169 #	0.161 #	0.0168 #	1.71 #
Fluoranthene (aq)	<0.005 µg/l	TM178		1.49 #	0.18 #	2.37 #	2.37 #	1.87 #	2.09 #
Anthracene (aq)	<0.005 µg/l	TM178		0.179 #	0.015 #	0.382 #	0.195 #	0.146 #	0.243 #
Phenanthrene (aq)	<0.005 µg/l	TM178		0.623 #	0.0517 #	2.17 #	0.616 #	0.171 #	1.05 #
Fluorene (aq)	<0.005 µg/l	TM178		0.357 #	0.0163 #	1.04 #	0.0674 #	0.258 #	0.232 #
Chrysene (aq)	<0.005 µg/l	TM178		0.504 #	0.0297 #	0.764 #	1.26 #	0.409 #	0.95 #
Pyrene (aq)	<0.005 µg/l	TM178		1.51 #	0.129 #	2.35 #	2.9 #	1.3 #	1.81 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		0.375 #	0.0362 #	0.537 #	0.936 #	0.303 #	0.835 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		0.711 #	0.0107 #	1.38 #	2.46 #	0.446 #	1.71 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		0.217 #	0.00605 #	0.421 #	0.769 #	0.138 #	0.741 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		0.425 #	0.012 #	0.688 #	1.84 #	0.249 #	1.18 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		0.0606 #	<0.005 #	0.109 #	0.288 #	0.0376 #	0.135 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		0.348 #	0.0107 #	0.594 #	1.25 #	0.193 #	0.821 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		0.323 #	<0.005 #	0.602 #	1.57 #	0.194 #	0.637 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		8.72 #	0.579 #	17.7 #	16.9 #	9.01 #	16.2 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
Naphthalene (aq)	<0.01 µg/l	TM178		0.11 #	0.235 #	0.0241 #	0.0682 #	0.0683 #
Acenaphthene (aq)	<0.005 µg/l	TM178		<0.025 #	2.66 #	0.0179 #	0.0075 #	0.0101 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		<0.025 #	2.71 #	0.00716 #	0.00789 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178		0.264 #	0.0733 #	0.485 #	0.0809 #	0.024 #
Anthracene (aq)	<0.005 µg/l	TM178		0.0473 #	0.0523 #	0.0288 #	0.00757 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178		0.319 #	0.107 #	0.13 #	0.0383 #	0.0158 #
Fluorene (aq)	<0.005 µg/l	TM178		0.0593 #	0.0832 #	0.0118 #	0.00871 #	0.00676 #
Chrysene (aq)	<0.005 µg/l	TM178		0.235 #	0.0176 #	0.229 #	0.054 #	0.0141 #
Pyrene (aq)	<0.005 µg/l	TM178		0.286 #	0.0506 #	0.473 #	0.0785 #	0.0236 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		0.11 #	0.0123 #	0.182 #	0.0458 #	0.0109 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		0.2 #	0.0229 #	0.319 #	0.0801 #	0.0144 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		0.077 #	0.0105 #	0.0976 #	0.0312 #	0.00764 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		0.127 #	0.0173 #	0.186 #	0.0464 #	0.0107 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		<0.025 #	<0.005 #	0.0285 #	0.00759 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		0.13 #	<0.005 #	0.171 #	0.0424 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		0.0963 #	<0.005 #	0.173 #	0.0254 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		2.06 #	6.05 #	2.56 #	0.63 #	0.206 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<4 #	11.5 #	<8 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<4	<10	<8	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<4	<10	<8	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<8 #	<20 #	<16 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<20 #	<50 #	<40 #	<5 #	<5 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<4	<10	<8	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<4	<10	<8	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<4 #	<10 #	<8 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<4	<10	<8	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<20	<8	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<20 #	40.1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<20	<8	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<40 #	<16 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
Dimethyl phthalate (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<100 #	<40 #	<5 #	<5 #	<5 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<20	<8	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<20	16.3	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<20 #	<8 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<20	<8	<1	<1	<1

Validated

CERTIFICATE OF ANALYSIS

SDG: 201204-111 **Client Reference:** LD10162 **Report Number:** 579714
Location: Ten Acres Lane **Order Number:** LD1728 **Superseded Report:**

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		102	94	101	99	103	91
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	280 #	<50 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	3 #	<3 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11	<11	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	22	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	25	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	117	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<20	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	28	14	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	147	213	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	175	227	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	26	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	78	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		25	<10	101	<10	19	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		16	<10	112	24	14	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		34	<10	<20	149	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		75	<10	213	173	33	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		101	<10	669	400	33	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		<10	<10	175	227	<10	<10

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
GRO Surrogate % recovery**	%	TM245		94	89	103	102	110
GRO >C5-C12	<50 µg/l	TM245		<50 #	88 #	<50 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	14	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	16	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	23	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<50	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<50	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<50	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<50	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	15	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<50	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<50	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<50	<10	23	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<50	<10	23	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	88	23	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		<50	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
Dibromofluoromethane**	%	TM208		110	111	105	112	108	112
Toluene-d8**	%	TM208		98.2	98.8	98	98.2	98.4	97.9
4-Bromofluorobenzene**	%	TM208		95.6	96.2	99.6	97.2	100	96
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	3.06 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	2.44 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23366904	23367032	23366986	23366948	23367170	23366928
			AGS Reference						
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	1.95 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	3.39 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	2.66 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	1.83 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	1.41 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		1.17 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	4.3 #	<1 #	1.37 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
Dibromofluoromethane**	%	TM208		113	112	109	107	104
Toluene-d8**	%	TM208		97.9	98.1	98.4	98.5	98.5
4-Bromofluorobenzene**	%	TM208		97.1	95.5	99.6	98.4	98.3
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	1.82 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH101	RH102	SW01	SW02	SW03
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020
			Sample Time	.	.	.	.	.
			Date Received	04/12/2020	04/12/2020	04/12/2020	04/12/2020	04/12/2020
			SDG Ref	201204-111	201204-111	201204-111	201204-111	201204-111
			Lab Sample No.(s)	23367050	23367006	23367152	23367130	23367087
			AGS Reference					
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1

Table of Results - Appendix

Method No	Reference	Description
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM110	BS 1377: Part 3 1990	Redox Potential
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201204-111	**Client Reference:**	LD10162	**Report Number:**	579714
Location:	Ten Acres Lane	**Order Number:**	LD1728	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23366904	23367032	23366986	23366948	23367170	23366928	23367050	23367006	23367152	23367130
Customer Sample Ref.	CP107	CP108	CP109	CP110	CP103 (1)	CP103 (2)	RH101	RH102	SW01	SW02
AGS Ref.										
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water
Alkalinity as CaCO3	09-Dec-2020	09-Dec-2020	10-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020
Anions by Kone (w)	09-Dec-2020	09-Dec-2020	11-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	11-Dec-2020	11-Dec-2020	09-Dec-2020
Cyanide Comp/Free/Total/Thiocyanate	08-Dec-2020	08-Dec-2020	08-Dec-2020	09-Dec-2020	08-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	08-Dec-2020	08-Dec-2020
Dissolved Metals by ICP-MS	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	11-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	11-Dec-2020	11-Dec-2020
Dissolved Organic/Inorganic Carbon	09-Dec-2020	08-Dec-2020	09-Dec-2020	08-Dec-2020	08-Dec-2020	09-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020
EPH CWG (Aliphatic) Aqueous GC (W)	11-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020
EPH CWG (Aromatic) Aqueous GC (W)	11-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020
GRO by GC-FID (W)	08-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	08-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020
Hexavalent Chromium (w)	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020
Mercury Dissolved	07-Dec-2020	08-Dec-2020	07-Dec-2020	08-Dec-2020	07-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	07-Dec-2020	07-Dec-2020
PAH Spec MS - Aqueous (W)	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020	10-Dec-2020
Redox Potential	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020
Sulphide	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020	10-Dec-2020
SVOC MS (W) - Aqueous	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	11-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020	09-Dec-2020
TPH CWG (W)	11-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020	11-Dec-2020	11-Dec-2020	11-Dec-2020	10-Dec-2020
VOC MS (W)	08-Dec-2020	08-Dec-2020	09-Dec-2020	08-Dec-2020	09-Dec-2020	08-Dec-2020	08-Dec-2020	08-Dec-2020	09-Dec-2020	09-Dec-2020

Lab Sample No(s)	23367087
Customer Sample Ref.	SW03
AGS Ref.	
Depth	0.00 - 0.00
Type	Surface Water
Alkalinity as CaCO3	09-Dec-2020
Anions by Kone (w)	09-Dec-2020
Cyanide Comp/Free/Total/Thiocyanate	08-Dec-2020
Dissolved Metals by ICP-MS	11-Dec-2020
Dissolved Organic/Inorganic Carbon	08-Dec-2020
EPH CWG (Aliphatic) Aqueous GC (W)	10-Dec-2020
EPH CWG (Aromatic) Aqueous GC (W)	10-Dec-2020
GRO by GC-FID (W)	09-Dec-2020
Hexavalent Chromium (w)	08-Dec-2020
Mercury Dissolved	07-Dec-2020
PAH Spec MS - Aqueous (W)	10-Dec-2020
Redox Potential	09-Dec-2020
Sulphide	10-Dec-2020
SVOC MS (W) - Aqueous	09-Dec-2020
TPH CWG (W)	10-Dec-2020
VOC MS (W)	09-Dec-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	15 December 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201207-11
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	579951

This report has been revised and directly supersedes 579950 in its entirety.

We received 1 sample on Sunday December 06, 2020 and 1 of these samples were scheduled for analysis which was completed on Monday December 14, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23379646	RH108		0.00 - 0.00	04/12/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23379646					
Customer Sample Reference			RH108					
AGS Reference								
Depth (m)			0.00 - 0.00					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 1		X			
Anions by Kone (w)	All	NDPs: 0 Tests: 1		X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1			X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1		X			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1	X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1	X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1	X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1				X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 1		X			
Mercury Dissolved	All	NDPs: 0 Tests: 1		X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1	X				
Redox Potential	All	NDPs: 0 Tests: 1	X				
Sulphide	All	NDPs: 0 Tests: 1					X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1	X				
TPH CWG (W)	All	NDPs: 0 Tests: 1	X				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23379646				
Customer Sample Reference			RH108				
AGS Reference							
Depth (m)			0.00 - 0.00				
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW
VOC MS (W)	All	NDPs: 0 Tests: 1				X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	RH108
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	04/12/2020
Sample Time	.
Date Received	06/12/2020
SDG Ref	201207-11
Lab Sample No.(s)	23379646
AGS Reference	

Component	LOD/Units	Method						
Alkalinity, Total as CaCO3	<2 mg/l	TM043	1400 #					
Carbon, Organic (diss.filt)	<3 mg/l	TM090	6.93					
Sulphide	<0.01 mg/l	TM101	<0.01 #					
Redox potential	mV	TM110	150					
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.829 2 #					
Boron (diss.filt)	<10 µg/l	TM152	456 2 #					
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.304 2 #					
Chromium (diss.filt)	<1 µg/l	TM152	<1 2 #					
Copper (diss.filt)	<0.3 µg/l	TM152	1.68 2 #					
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 2 #					
Manganese (diss.filt)	<3 µg/l	TM152	1230 2 #					
Nickel (diss.filt)	<0.4 µg/l	TM152	4.67 2 #					
Selenium (diss.filt)	<1 µg/l	TM152	3.63 2 #					
Calcium (Dis.Filt)	<0.2 mg/l	TM152	81.3 2 #					
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019 2 #					
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 2 #					
Sulphate	<2 mg/l	TM184	348 #					
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #					
Cyanide, Free	<0.05 mg/l	TM227	<0.05 #					
Cyanide, Complex	<0.05 mg/l	TM227	<0.05					
Thiocyanate	<0.05 mg/l	TM227	<0.05 #					
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #					

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Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	RH108
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	04/12/2020
Sample Time	.
Date Received	06/12/2020
SDG Ref	201207-11
Lab Sample No.(s)	23379646
AGS Reference	

Component	LOD/Units	Method	
Naphthalene (aq)	<0.01 µg/l	TM178	1.43 #
Acenaphthene (aq)	<0.005 µg/l	TM178	1.17 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	0.266 #
Fluoranthene (aq)	<0.005 µg/l	TM178	19.7 #
Anthracene (aq)	<0.005 µg/l	TM178	2.9 #
Phenanthrene (aq)	<0.005 µg/l	TM178	11.9 #
Fluorene (aq)	<0.005 µg/l	TM178	1.23 #
Chrysene (aq)	<0.005 µg/l	TM178	21.5 #
Pyrene (aq)	<0.005 µg/l	TM178	19.5 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	19.9 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	33.2 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	14.9 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	23 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	4.83 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	23.2 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	22.1 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	221 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	RH108
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	04/12/2020
Sample Time	.
Date Received	06/12/2020
SDG Ref	201207-11
Lab Sample No.(s)	23379646
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<100 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<100 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<100 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<100 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<100 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<100 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<100 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<100 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<100 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<100 #
2-Methylphenol (aq)	<1 µg/l	TM176	<100 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<100 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<100 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<100 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<100 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<100 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<100
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<100 #
4-Methylphenol (aq)	<1 µg/l	TM176	<100 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<100 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<100
Azobenzene (aq)	<1 µg/l	TM176	<100 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<100 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<100 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<200 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<100 #
Carbazole (aq)	<1 µg/l	TM176	<100 #
Dibenzofuran (aq)	<1 µg/l	TM176	<100 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<100 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<100 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

		Customer Sample Ref.	RH108
		Depth (m)	0.00 - 0.00
		Sample Type	Ground Water (GW)
		Date Sampled	04/12/2020
		Sample Time	.
		Date Received	06/12/2020
		SDG Ref	201207-11
		Lab Sample No.(s)	23379646
		AGS Reference	
Component	**LOD/Units**	**Method**	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<100 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<500 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<100 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<100 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<100
Phenol (aq)	<1 µg/l	TM176	<100
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<100 #
Hexachloroethane (aq)	<1 µg/l	TM176	<100 #
Nitrobenzene (aq)	<1 µg/l	TM176	<100 #
Isophorone (aq)	<1 µg/l	TM176	<100 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<100

Validated

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref. RH108				
			Depth (m) 0.00 - 0.00				
			Sample Type Ground Water (GW)				
			Date Sampled 04/12/2020				
			Sample Time .				
			Date Received 06/12/2020				
			SDG Ref 201207-11				
			Lab Sample No.(s) 23379646				
			AGS Reference				
GRO Surrogate % recovery**	%	TM245	115				
GRO >C5-C12	<50 µg/l	TM245	<50 #				
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	<3 #				
Benzene	<7 µg/l	TM245	<7 #				
Toluene	<4 µg/l	TM245	<4 #				
Ethylbenzene	<5 µg/l	TM245	<5 #				
m,p-Xylene	<8 µg/l	TM245	<8 #				
o-Xylene	<3 µg/l	TM245	<3 #				
Sum of detected Xylenes	<11 µg/l	TM245	<11				
Sum of detected BTEX	<28 µg/l	TM245	<28				
Aliphatics >C5-C6	<10 µg/l	TM245	<10				
Aliphatics >C6-C8	<10 µg/l	TM245	<10				
Aliphatics >C8-C10	<10 µg/l	TM245	<10				
Aliphatics >C10-C12	<10 µg/l	TM245	<10				
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	111				
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	174				
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	3550				
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	3840				
Aromatics >EC5-EC7	<10 µg/l	TM245	<10				
Aromatics >EC7-EC8	<10 µg/l	TM245	<10				
Aromatics >EC8-EC10	<10 µg/l	TM245	<10				
Aromatics >EC10-EC12	<10 µg/l	TM245	<10				
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	60				
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	123				
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	671				
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	854				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	4700				
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	3720				

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	RH108
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	04/12/2020
Sample Time	.
Date Received	06/12/2020
SDG Ref	201207-11
Lab Sample No.(s)	23379646
AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM208	110
Toluene-d8**	%	TM208	93.6
4-Bromofluorobenzene**	%	TM208	74.7
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #
Chloromethane	<1 µg/l	TM208	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #
Bromomethane	<1 µg/l	TM208	<1 #
Chloroethane	<1 µg/l	TM208	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1
Bromochloromethane	<1 µg/l	TM208	<1 #
Chloroform	<1 µg/l	TM208	1.48 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #
Benzene	<1 µg/l	TM208	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
Toluene	<1 µg/l	TM208	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	RH108
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	04/12/2020
Sample Time	.
Date Received	06/12/2020
SDG Ref	201207-11
Lab Sample No.(s)	23379646
AGS Reference	

Component	LOD/Units	Method	
Tetrachloroethene	<1 µg/l	TM208	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Styrene	<1 µg/l	TM208	<1 #
Bromoform	<1 µg/l	TM208	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

Table of Results - Appendix

Method No	Reference	Description
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM110	BS 1377: Part 3 1990	Redox Potential
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201207-11	**Client Reference:**	LD10162	**Report Number:**	579951
Location:	Ten Acres Lane	**Order Number:**	LD1732	**Superseded Report:**	579950

Test Completion Dates

Lab Sample No(s)	23379646
Customer Sample Ref.	RH108
AGS Ref.	
Depth	0.00 - 0.00
Type	Ground Water
Alkalinity as CaCO3	10-Dec-2020
Anions by Kone (w)	14-Dec-2020
Cyanide Comp/Free/Total/Thiocyanate	10-Dec-2020
Dissolved Metals by ICP-MS	11-Dec-2020
Dissolved Organic/Inorganic Carbon	09-Dec-2020
EPH CWG (Aliphatic) Aqueous GC (W)	14-Dec-2020
EPH CWG (Aromatic) Aqueous GC (W)	14-Dec-2020
GRO by GC-FID (W)	09-Dec-2020
Hexavalent Chromium (w)	11-Dec-2020
Mercury Dissolved	08-Dec-2020
PAH Spec MS - Aqueous (W)	14-Dec-2020
Redox Potential	09-Dec-2020
Sulphide	14-Dec-2020
SVOC MS (W) - Aqueous	14-Dec-2020
TPH CWG (W)	14-Dec-2020
VOC MS (W)	09-Dec-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	21 December 2020
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	201212-66
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	581010

We received 2 samples on Saturday December 12, 2020 and 2 of these samples were scheduled for analysis which was completed on Monday December 21, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

Version: 2.6 Version Issued: 21/12/2020

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23423227	CP101/RH109		0.00 - 0.00	10/12/2020
23423223	RH106		0.00 - 0.00	10/12/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)									23423227	23423223
Customer Sample Reference									CP101/RH109	RH106
AGS Reference										
Depth (m)									0.00 - 0.00	0.00 - 0.00
Container									0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type									GW	GW	GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 2								X						X
Anions by Kone (w)	All	NDPs: 0 Tests: 2								X						X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2										X				X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2									X					X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2							X						X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 2							X						X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 2							X						X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2											X		X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2								X						X
Mercury Dissolved	All	NDPs: 0 Tests: 2									X					X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2							X						X	
Redox Potential	All	NDPs: 0 Tests: 2							X						X	
Sulphide	All	NDPs: 0 Tests: 2												X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2							X						X	
TPH CWG (W)	All	NDPs: 0 Tests: 2							X						X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)									23423227	23423223
Customer Sample Reference									CP101/RH109	RH106
AGS Reference										
Depth (m)									0.00 - 0.00	0.00 - 0.00
Container									0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
									HNO3 Filtered (ALE204)	NaOH (ALE245)
									Vial (ALE297)	ZnAc (ALE246)
Sample Type									GW	GW
VOC MS (W)	All	NDPs: 0 Tests: 2								X

Validated

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	10/12/2020	10/12/2020				
			Sample Time	.	.				
			Date Received	12/12/2020	12/12/2020				
			SDG Ref	201212-66	201212-66				
			Lab Sample No.(s)	23423227	23423223				
			AGS Reference						
Alkalinity, Total as CaCO3	<2 mg/l	TM043		570 #	533 #				
Carbon, Organic (diss.filt)	<3 mg/l	TM090		6.62	7.22				
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 2 #				
Redox potential	mV	TM110		161	142				
Arsenic (diss.filt)	<0.5 µg/l	TM152		1.13 2 #	4.3 2 #				
Boron (diss.filt)	<10 µg/l	TM152		631 2 #	634 2 #				
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 2 #	<0.08 2 #				
Chromium (diss.filt)	<1 µg/l	TM152		<1 2 #	<1 2 #				
Copper (diss.filt)	<0.3 µg/l	TM152		4.48 2 #	0.757 2 #				
Lead (diss.filt)	<0.2 µg/l	TM152		1.73 2 #	<0.2 2 #				
Manganese (diss.filt)	<3 µg/l	TM152		408 2 #	37.2 2 #				
Nickel (diss.filt)	<0.4 µg/l	TM152		3.99 2 #	3.94 2 #				
Selenium (diss.filt)	<1 µg/l	TM152		3.22 2 #	11.8 2 #				
Calcium (Dis.Filt)	<0.2 mg/l	TM152		194 2 #	64.7 2 #				
Iron (Dis.Filt)	<0.019 mg/l	TM152		0.183 2 #	<0.019 2 #				
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 2 #	<0.01 2 #				
Sulphate	<2 mg/l	TM184		364 #	187 #				
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 2 #				
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 2 #				
Cyanide, Complex	<0.05 mg/l	TM227		<0.05	<0.05 2				
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 2 #				
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	10/12/2020	10/12/2020				
			Sample Time	.	.				
			Date Received	12/12/2020	12/12/2020				
			SDG Ref	201212-66	201212-66				
			Lab Sample No.(s)	23423227	23423223				
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		0.0219 #	<0.01 #				
Acenaphthene (aq)	<0.005 µg/l	TM178		0.0116 #	0.00719 #				
Acenaphthylene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #				
Fluoranthene (aq)	<0.005 µg/l	TM178		0.151 #	0.122 #				
Anthracene (aq)	<0.005 µg/l	TM178		0.018 #	0.011 #				
Phenanthrene (aq)	<0.005 µg/l	TM178		0.108 #	0.0528 #				
Fluorene (aq)	<0.005 µg/l	TM178		0.0159 #	0.00663 #				
Chrysene (aq)	<0.005 µg/l	TM178		0.0928 #	0.0581 #				
Pyrene (aq)	<0.005 µg/l	TM178		0.161 #	0.106 #				
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		0.0682 #	0.0407 #				
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		0.144 #	0.0959 #				
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		0.0567 #	0.0364 #				
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		0.0916 #	0.0564 #				
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		0.0188 #	<0.005 #				
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		0.0912 #	0.0335 #				
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		0.0699 #	0.0328 #				
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		1.12 #	0.66 #				

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	10/12/2020	10/12/2020				
			Sample Time	.	.				
			Date Received	12/12/2020	12/12/2020				
			SDG Ref	201212-66	201212-66				
			Lab Sample No.(s)	23423227	23423223				
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<10 #	<4 #				
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<10 #	<4 #				
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<10 #	<4 #				
2-Chlorophenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<10 #	<4 #				
2-Methylphenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
2-Nitroaniline (aq)	<1 µg/l	TM176		<10 #	<4 #				
2-Nitrophenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
3-Nitroaniline (aq)	<1 µg/l	TM176		<10 #	<4 #				
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<10 #	<4 #				
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
4-Chloroaniline (aq)	<1 µg/l	TM176		<10	<4				
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<10 #	<4 #				
4-Methylphenol (aq)	<1 µg/l	TM176		<10 #	<4 #				
4-Nitroaniline (aq)	<1 µg/l	TM176		<10 #	<4 #				
4-Nitrophenol (aq)	<1 µg/l	TM176		<10	<4				
Azobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<10 #	<4 #				
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<10 #	<4 #				
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<20 #	<8 #				
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<10 #	<4 #				
Carbazole (aq)	<1 µg/l	TM176		<10 #	<4 #				
Dibenzofuran (aq)	<1 µg/l	TM176		<10 #	<4 #				
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<10 #	<4 #				
Diethyl phthalate (aq)	<1 µg/l	TM176		<10 #	<4 #				

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	10/12/2020	10/12/2020				
			Sample Time	.	.				
			Date Received	12/12/2020	12/12/2020				
			SDG Ref	201212-66	201212-66				
			Lab Sample No.(s)	23423227	23423223				
			AGS Reference						
Dimethyl phthalate (aq)	<1 µg/l	TM176		<10 #	<4 #				
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<50 #	<20 #				
Hexachlorobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<10 #	<4 #				
Pentachlorophenol (aq)	<1 µg/l	TM176		<10	<4				
Phenol (aq)	<1 µg/l	TM176		<10	<4				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<10 #	<4 #				
Hexachloroethane (aq)	<1 µg/l	TM176		<10 #	<4 #				
Nitrobenzene (aq)	<1 µg/l	TM176		<10 #	<4 #				
Isophorone (aq)	<1 µg/l	TM176		<10 #	<4 #				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<10	<4				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	10/12/2020	10/12/2020				
			Sample Time	.	.				
			Date Received	12/12/2020	12/12/2020				
			SDG Ref	201212-66	201212-66				
			Lab Sample No.(s)	23423227	23423223				
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		92	95 2				
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 2 #				
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 2 #				
Benzene	<7 µg/l	TM245		<7 #	<7 2 #				
Toluene	<4 µg/l	TM245		<4 #	<4 2 #				
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 2 #				
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 2 #				
o-Xylene	<3 µg/l	TM245		<3 #	<3 2 #				
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11 2				
Sum of detected BTEX	<28 µg/l	TM245		<28	<28 2				
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10 2				
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10 2				
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10 2				
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10 2				
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10				
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10				
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		172	128				
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		172	128				
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10 2				
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10 2				
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10 2				
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10 2				
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10				
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10				
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10				
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		172	128				
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		172	128				

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106			
			Depth (m)	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	10/12/2020	10/12/2020			
			Sample Time	.	.			
			Date Received	12/12/2020	12/12/2020			
			SDG Ref	201212-66	201212-66			
			Lab Sample No.(s)	23423227	23423223			
			AGS Reference					
Dibromofluoromethane**	%	TM208		124	122 2			
Toluene-d8**	%	TM208		100	101 2			
4-Bromofluorobenzene**	%	TM208		93.5	98.9 2			
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 2 #			
Chloromethane	<1 µg/l	TM208		<1 #	<1 2 #			
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 2 #			
Bromomethane	<1 µg/l	TM208		<1 #	<1 2 #			
Chloroethane	<1 µg/l	TM208		<1 #	<1 2 #			
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 2 #			
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 2 #			
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 2 #			
Dichloromethane	<3 µg/l	TM208		<3 #	<3 2 #			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 2 #			
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 2 #			
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 2 #			
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 2 #			
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1 2			
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 2 #			
Chloroform	<1 µg/l	TM208		<1 #	1.27 2 #			
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 2 #			
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 2 #			
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 2 #			
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 2 #			
Benzene	<1 µg/l	TM208		<1 #	<1 2 #			
Trichloroethene	<1 µg/l	TM208		<1 #	<1 2 #			
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 2 #			
Dibromomethane	<1 µg/l	TM208		<1 #	<1 2 #			
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 2 #			
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 2 #			
Toluene	<1 µg/l	TM208		<1 #	<1 2 #			
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 2 #			
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 2 #			
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 2 #			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	CP101/RH109	RH106				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	10/12/2020	10/12/2020				
			Sample Time	.	.				
			Date Received	12/12/2020	12/12/2020				
			SDG Ref	201212-66	201212-66				
			Lab Sample No.(s)	23423227	23423223				
			AGS Reference						
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 2 #				
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 2 #				
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 2 #				
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 2 #				
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 2 #				
o-Xylene	<1 µg/l	TM208		<1 #	<1 2 #				
Styrene	<1 µg/l	TM208		<1 #	<1 2 #				
Bromoform	<1 µg/l	TM208		<1 #	<1 2 #				
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 2 #				
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 2 #				
Bromobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
Propylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 2 #				
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 2 #				
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 2 #				
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1 2				
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 2 #				
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 2 #				
Naphthalene	<1 µg/l	TM208		<1 #	<1 2 #				
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 2 #				
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1 2				

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SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM110	BS 1377: Part 3 1990	Redox Potential
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201212-66	**Client Reference:**	LD10162	**Report Number:**	581010
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23423227	23423223
Customer Sample Ref.	CP101/RH109	RH106
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water
Alkalinity as CaCO3	19-Dec-2020	19-Dec-2020
Anions by Kone (w)	18-Dec-2020	18-Dec-2020
Cyanide Comp/Free/Total/Thiocyanate	16-Dec-2020	16-Dec-2020
Dissolved Metals by ICP-MS	21-Dec-2020	21-Dec-2020
Dissolved Organic/Inorganic Carbon	15-Dec-2020	18-Dec-2020
EPH CWG (Aliphatic) Aqueous GC (W)	18-Dec-2020	18-Dec-2020
EPH CWG (Aromatic) Aqueous GC (W)	18-Dec-2020	18-Dec-2020
GRO by GC-FID (W)	17-Dec-2020	17-Dec-2020
Hexavalent Chromium (w)	15-Dec-2020	15-Dec-2020
Mercury Dissolved	15-Dec-2020	15-Dec-2020
PAH Spec MS - Aqueous (W)	18-Dec-2020	18-Dec-2020
Redox Potential	16-Dec-2020	16-Dec-2020
Sulphide	21-Dec-2020	21-Dec-2020
SVOC MS (W) - Aqueous	21-Dec-2020	21-Dec-2020
TPH CWG (W)	18-Dec-2020	18-Dec-2020
VOC MS (W)	16-Dec-2020	16-Dec-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	13 January 2021
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	210108-54
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	582920

We received 3 samples on Friday January 08, 2021 and 3 of these samples were scheduled for analysis which was completed on Wednesday January 13, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

Version: 2.6 Version Issued: 13/01/2021

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23513591	RH103		0.00 - 0.00	07/01/2021
23513554	RH106		0.00 - 0.00	07/01/2021
23513622	RH108		0.00 - 0.00	07/01/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)									23513591							23513554					23513622
Customer Sample Reference									RH103							RH106					RH108
AGS Reference																					
Depth (m)									0.00 - 0.00							0.00 - 0.00					0.00 - 0.00
Container									0.5l glass bottle (ALE227)	PTFE/PE (ALE219)	250ml Amber Gl.	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	PTFE/PE (ALE219)	250ml Amber Gl.	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)
Sample Type									GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 3										X								X		
Anions by Kone (w)	All	NDPs: 0 Tests: 3										X								X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3						X							X							X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3					X							X							X	
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 3	X							X							X					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3		X							X							X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3		X							X							X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3						X							X							
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 3			X							X								X		
Mercury Dissolved	All	NDPs: 0 Tests: 3				X								X							X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 3		X							X							X				
Redox Potential	All	NDPs: 0 Tests: 3	X							X							X					
Sulphide	All	NDPs: 0 Tests: 3							X							X						
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 3	X							X							X					
TPH CWG (W)	All	NDPs: 0 Tests: 3	X							X							X					

235136222	RH108		0.00 - 0.00	ZnAc (ALE246)	Vial (ALE297)
				GW	GW
					X
					X

Validated

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | |

23513622	RH108		0.00 - 0.00	ZnAc (ALE246)	GW		
				Vial (ALE297)	GW		x

Validated

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH103	RH106	RH108			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	07/01/2021	07/01/2021	07/01/2021			
			Sample Time	.	.	.			
			Date Received	08/01/2021	08/01/2021	08/01/2021			
			SDG Ref	210108-54	210108-54	210108-54			
			Lab Sample No.(s)	23513591	23513554	23513622			
			AGS Reference						
Alkalinity, Total as CaCO3	<2 mg/l	TM043		1020 #	395 #	555 #			
Carbon, Organic (diss.filt)	<3 mg/l	TM090		20.1	6.3	7.89			
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #			
Redox potential	mV	TM110		143	143	160			
Arsenic (diss.filt)	<0.5 µg/l	TM152		35.6 #	2.66 #	3.13 #			
Boron (diss.filt)	<10 µg/l	TM152		54800 #	583 #	313 #			
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	<0.08 #			
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #			
Copper (diss.filt)	<0.3 µg/l	TM152		0.955 #	2.18 #	<0.3 #			
Lead (diss.filt)	<0.2 µg/l	TM152		0.912 #	0.282 #	0.433 #			
Manganese (diss.filt)	<3 µg/l	TM152		544 #	471 #	3880 #			
Nickel (diss.filt)	<0.4 µg/l	TM152		3.09 #	2.61 #	7.88 #			
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	2.86 #	<1 #			
Calcium (Dis.Filt)	<0.2 mg/l	TM152		135 #	97.7 #	255 #			
Iron (Dis.Filt)	<0.019 mg/l	TM152		1.79 #	0.0444 #	0.726 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #			
Sulphate	<2 mg/l	TM184		53.3 #	83.5 #	588 #			
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Cyanide, Complex	<0.05 mg/l	TM227		<0.05	<0.05	<0.05			
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #			

Validated

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH103	RH106	RH108
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	07/01/2021	07/01/2021	07/01/2021
			Sample Time	.	.	.
			Date Received	08/01/2021	08/01/2021	08/01/2021
			SDG Ref	210108-54	210108-54	210108-54
			Lab Sample No.(s)	23513591	23513554	23513622
			AGS Reference			
Naphthalene (aq)	<0.01 µg/l	TM178		0.026 #	0.0188 #	0.0492 #
Acenaphthene (aq)	<0.005 µg/l	TM178		0.149 #	0.0357 #	0.0322 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		0.151 #	0.0347 #	0.0257 #
Fluoranthene (aq)	<0.005 µg/l	TM178		1.25 #	0.48 #	0.31 #
Anthracene (aq)	<0.005 µg/l	TM178		0.135 #	0.0613 #	0.0379 #
Phenanthrene (aq)	<0.005 µg/l	TM178		0.608 #	0.3 #	0.206 #
Fluorene (aq)	<0.005 µg/l	TM178		0.0831 #	0.029 #	0.0267 #
Chrysene (aq)	<0.005 µg/l	TM178		0.755 #	0.323 #	0.23 #
Pyrene (aq)	<0.005 µg/l	TM178		1.19 #	0.454 #	0.322 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		0.685 #	0.295 #	0.219 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		1.27 #	0.637 #	0.418 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		0.484 #	0.23 #	0.146 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		0.9 #	0.399 #	0.278 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		0.127 #	0.0596 #	0.0497 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		0.719 #	0.296 #	0.225 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		0.652 #	0.285 #	0.176 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		9.19 #	3.94 #	2.75 #

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	RH103	RH106	RH108			
Customer Sample Ref.								
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
Date Sampled			07/01/2021	07/01/2021	07/01/2021			
Sample Time			.	.	.			
Date Received			08/01/2021	08/01/2021	08/01/2021			
SDG Ref			210108-54	210108-54	210108-54			
Lab Sample No.(s)			23513591	23513554	23513622			
AGS Reference								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2-Chlorophenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
2-Nitrophenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
3-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
4-Chloroaniline (aq)	<1 µg/l	TM176	<8	<4	<20			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
4-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
4-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
4-Nitrophenol (aq)	<1 µg/l	TM176	<8	<4	<20			
Azobenzene (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<16 #	<8 #	<40 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
Carbazole (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
Dibenzofuran (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			
Diethyl phthalate (aq)	<1 µg/l	TM176	<8 #	<4 #	<20 #			

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH103	RH106	RH108			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	07/01/2021	07/01/2021	07/01/2021			
			Sample Time	.	.	.			
			Date Received	08/01/2021	08/01/2021	08/01/2021			
			SDG Ref	210108-54	210108-54	210108-54			
			Lab Sample No.(s)	23513591	23513554	23513622			
			AGS Reference						
Dimethyl phthalate (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<40 #	<20 #	<100 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<8	<4	<20			
Phenol (aq)	<1 µg/l	TM176		<8	<4	<20			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
Hexachloroethane (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
Nitrobenzene (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
Isophorone (aq)	<1 µg/l	TM176		<8 #	<4 #	<20 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<8	<4	<20			

Validated

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH103	RH106	RH108			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	07/01/2021	07/01/2021	07/01/2021			
			Sample Time	.	.	.			
			Date Received	08/01/2021	08/01/2021	08/01/2021			
			SDG Ref	210108-54	210108-54	210108-54			
			Lab Sample No.(s)	23513591	23513554	23513622			
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		88	95	94			
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #			
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #			
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #			
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #			
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #			
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #			
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #			
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11			
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28			
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		<10	<10	<10			

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH103	RH106	RH108			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	07/01/2021	07/01/2021	07/01/2021			
			Sample Time	.	.	.			
			Date Received	08/01/2021	08/01/2021	08/01/2021			
			SDG Ref	210108-54	210108-54	210108-54			
			Lab Sample No.(s)	23513591	23513554	23513622			
			AGS Reference						
Dibromofluoromethane**	%	TM208		109	114	112			
Toluene-d8**	%	TM208		98.8	97.5	96.8			
4-Bromofluorobenzene**	%	TM208		96.9	95.9	92			
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #			
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1			
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	RH103	RH106	RH108			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	07/01/2021	07/01/2021	07/01/2021			
			Sample Time	.	.	.			
			Date Received	08/01/2021	08/01/2021	08/01/2021			
			SDG Ref	210108-54	210108-54	210108-54			
			Lab Sample No.(s)	23513591	23513554	23513622			
			AGS Reference						
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1			
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1			

Table of Results - Appendix

Method No	Reference	Description
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM110	BS 1377: Part 3 1990	Redox Potential
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210108-54	**Client Reference:**	LD10162	**Report Number:**	582920
Location:	Ten Acres Lane	**Order Number:**	LD1734	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23513591	23513554	23513622
Customer Sample Ref.	RH103	RH106	RH108
AGS Ref.			
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water
Alkalinity as CaCO3	11-Jan-2021	11-Jan-2021	11-Jan-2021
Anions by Kone (w)	11-Jan-2021	11-Jan-2021	11-Jan-2021
Cyanide Comp/Free/Total/Thiocyanate	13-Jan-2021	12-Jan-2021	13-Jan-2021
Dissolved Metals by ICP-MS	12-Jan-2021	12-Jan-2021	12-Jan-2021
Dissolved Organic/Inorganic Carbon	09-Jan-2021	09-Jan-2021	09-Jan-2021
EPH CWG (Aliphatic) Aqueous GC (W)	11-Jan-2021	11-Jan-2021	11-Jan-2021
EPH CWG (Aromatic) Aqueous GC (W)	11-Jan-2021	11-Jan-2021	11-Jan-2021
GRO by GC-FID (W)	12-Jan-2021	12-Jan-2021	12-Jan-2021
Hexavalent Chromium (w)	11-Jan-2021	11-Jan-2021	11-Jan-2021
Mercury Dissolved	11-Jan-2021	12-Jan-2021	11-Jan-2021
PAH Spec MS - Aqueous (W)	12-Jan-2021	12-Jan-2021	12-Jan-2021
Redox Potential	11-Jan-2021	11-Jan-2021	11-Jan-2021
Sulphide	13-Jan-2021	13-Jan-2021	13-Jan-2021
SVOC MS (W) - Aqueous	12-Jan-2021	12-Jan-2021	12-Jan-2021
TPH CWG (W)	12-Jan-2021	12-Jan-2021	12-Jan-2021
VOC MS (W)	11-Jan-2021	11-Jan-2021	11-Jan-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Wardell Armstrong LLP
36 Park Row
Leeds
LS1 5JL

Attention: Jonathan Currie

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 February 2021
Customer:	Wardell Armstrong LLP
Sample Delivery Group (SDG):	210126-33
Your Reference:	LD10162
Location:	Ten Acres Lane
Report No:	585219

This report has been revised and directly supersedes 585201 in its entirety.

We received 1 sample on Tuesday January 26, 2021 and 1 of these samples were scheduled for analysis which was completed on Tuesday February 02, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23607405	Seepage Sample 01		0.00 - 0.00	25/01/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23607405					
Customer Sample Reference			Seepage Sample 01					
AGS Reference								
Depth (m)			0.00 - 0.00					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 1		X				
Anions by Kone (w)	All	NDPs: 0 Tests: 1		X				
Chlorine	All	NDPs: 0 Tests: 1		X				
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1		X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1				X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1			X			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1	X					
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 1		X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1	X					
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1	X					
Fluoride	All	NDPs: 0 Tests: 1		X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1					X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 1		X				
Mercury Dissolved	All	NDPs: 0 Tests: 1			X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1	X					

Validated

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23607405								
Customer Sample Reference			Seepage Sample 01								
AGS Reference											
Depth (m)			0.00 - 0.00								
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)			
Sample Type			GW	GW	GW	GW	GW	GW			
pH Value	All	NDPs: 0 Tests: 1		X							
Redox Potential	All	NDPs: 0 Tests: 1	X								
Sulphide	All	NDPs: 0 Tests: 1						X			
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1	X								
Total Dissolved Solids	All	NDPs: 0 Tests: 1		X							
TPH CWG (W)	All	NDPs: 0 Tests: 1	X								
VOC MS (W)	All	NDPs: 0 Tests: 1					X				

Validated

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	Seepage Sample 01
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	25/01/2021
Sample Time	.
Date Received	26/01/2021
SDG Ref	210126-33
Lab Sample No.(s)	23607405
AGS Reference	

Component	LOD/Units	Method	
Chlorine, Free (Residual)	<0.01 mg/l	TM037	<0.01
Chlorine, Total (Residual)	<0.01 mg/l	TM037	<0.01
Alkalinity, Total as CaCO3	<2 mg/l	TM043	897 #
Oxygen, dissolved	<0.3 mg/l	TM046	3.44
Carbon, Organic (diss.filt)	<3 mg/l	TM090	17.4
Sulphide	<0.01 mg/l	TM101	0.613 #
Fluoride	<0.5 mg/l	TM104	0.679 #
Redox potential	mV	TM110	173
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	1.61 #
Dissolved solids, Total (meter)	<5 mg/l	TM123	1300 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.5 #
Boron (diss.filt)	<10 µg/l	TM152	15700 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	7.22 #
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	533 #
Nickel (diss.filt)	<0.4 µg/l	TM152	3.49 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	<1 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	379 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	1.89 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #
Sulphate	<2 mg/l	TM184	236 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #
Cyanide, Free	<0.05 mg/l	TM227	<0.05 #
Cyanide, Complex	<0.05 mg/l	TM227	<0.05
Thiocyanate	<0.05 mg/l	TM227	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #
pH	<1 pH Units	TM256	7.25 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	Seepage Sample 01
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	25/01/2021
Sample Time	.
Date Received	26/01/2021
SDG Ref	210126-33
Lab Sample No.(s)	23607405
AGS Reference	

Component	LOD/Units	Method	
Naphthalene (aq)	<0.01 µg/l	TM178	0.127 #
Acenaphthene (aq)	<0.005 µg/l	TM178	2.38 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	2.39 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.268 #
Anthracene (aq)	<0.005 µg/l	TM178	0.057 #
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0479 #
Fluorene (aq)	<0.005 µg/l	TM178	0.167 #
Chrysene (aq)	<0.005 µg/l	TM178	0.0146 #
Pyrene (aq)	<0.005 µg/l	TM178	0.171 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	5.63 #

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	Seepage Sample 01
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	25/01/2021
Sample Time	.
Date Received	26/01/2021
SDG Ref	210126-33
Lab Sample No.(s)	23607405
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	1.15 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #
Carbazole (aq)	<1 µg/l	TM176	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	**LOD/Units**	**Method**	**Customer Sample Ref.**
			Seepage Sample 01
			Depth (m) 0.00 - 0.00
			Sample Type Ground Water (GW)
			Date Sampled 25/01/2021
			Sample Time .
			Date Received 26/01/2021
			SDG Ref 210126-33
			Lab Sample No.(s) 23607405
			AGS Reference
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1
Phenol (aq)	<1 µg/l	TM176	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #
Isophorone (aq)	<1 µg/l	TM176	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1

Validated

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Seepage Sample 01
			Depth (m)	0.00 - 0.00
			Sample Type	Ground Water (GW)
			Date Sampled	25/01/2021
			Sample Time	.
			Date Received	26/01/2021
			SDG Ref	210126-33
			Lab Sample No.(s)	23607405
			AGS Reference	
GRO Surrogate % recovery**	%	TM245		101
GRO >C5-C12	<50 µg/l	TM245		<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #
Benzene	<7 µg/l	TM245		<7 #
Toluene	<4 µg/l	TM245		<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #
o-Xylene	<3 µg/l	TM245		<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11
Sum of detected BTEX	<28 µg/l	TM245		<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		<10

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Seepage Sample 01
			Depth (m)	0.00 - 0.00
			Sample Type	Ground Water (GW)
			Date Sampled	25/01/2021
			Sample Time	.
			Date Received	26/01/2021
			SDG Ref	210126-33
			Lab Sample No.(s)	23607405
			AGS Reference	
Dibromofluoromethane**	%	TM208		111
Toluene-d8**	%	TM208		96.9
4-Bromofluorobenzene**	%	TM208		96.1
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #
Chloromethane	<1 µg/l	TM208		<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #
Bromomethane	<1 µg/l	TM208		<1 #
Chloroethane	<1 µg/l	TM208		<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #
Dichloromethane	<3 µg/l	TM208		<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1
Bromochloromethane	<1 µg/l	TM208		<1 #
Chloroform	<1 µg/l	TM208		<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #
Benzene	<1 µg/l	TM208		<1 #
Trichloroethene	<1 µg/l	TM208		<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #
Dibromomethane	<1 µg/l	TM208		<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #
Toluene	<1 µg/l	TM208		<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #
1,3-Dichloropropane	<1 µg/l	TM208		<1 #

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	Seepage Sample 01
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	25/01/2021
Sample Time	.
Date Received	26/01/2021
SDG Ref	210126-33
Lab Sample No.(s)	23607405
AGS Reference	

Component	LOD/Units	Method	
Tetrachloroethene	<1 µg/l	TM208	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #
Chlorobenzene	<1 µg/l	TM208	8.7 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Styrene	<1 µg/l	TM208	<1 #
Bromoform	<1 µg/l	TM208	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	1.57 #
n-Butylbenzene	<1 µg/l	TM208	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	1.15 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

Table of Results - Appendix

Method No	Reference	Description
TM037	MEWAM Chlorine demand HMSO 1988	Determination of Free, Combined and Total Chlorine in Waters and Wastewaters using Colourimetry
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM110	BS 1377: Part 3 1990	Redox Potential
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210126-33	**Client Reference:**	LD10162	**Report Number:**	585219
Location:	Ten Acres Lane	**Order Number:**	LD1778	**Superseded Report:**	585201

Test Completion Dates

Lab Sample No(s)	23607405
Customer Sample Ref.	Seepage Sample 01
AGS Ref.	
Depth	0.00 - 0.00
Type	Ground Water
Alkalinity as CaCO3	27-Jan-2021
Anions by Kone (w)	27-Jan-2021
Chlorine	29-Jan-2021
Conductivity (at 20 deg.C)	26-Jan-2021
Cyanide Comp/Free/Total/Thiocyanate	27-Jan-2021
Dissolved Metals by ICP-MS	26-Jan-2021
Dissolved Organic/Inorganic Carbon	27-Jan-2021
Dissolved Oxygen by Probe	26-Jan-2021
EPH CWG (Aliphatic) Aqueous GC (W)	29-Jan-2021
EPH CWG (Aromatic) Aqueous GC (W)	29-Jan-2021
Fluoride	29-Jan-2021
GRO by GC-FID (W)	02-Feb-2021
Hexavalent Chromium (w)	27-Jan-2021
Mercury Dissolved	27-Jan-2021
PAH Spec MS - Aqueous (W)	29-Jan-2021
pH Value	27-Jan-2021
Redox Potential	27-Jan-2021
Sulphide	27-Jan-2021
SVOC MS (W) - Aqueous	29-Jan-2021
Total Dissolved Solids	27-Jan-2021
TPH CWG (W)	02-Feb-2021
VOC MS (W)	02-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

APPENDIX F

Geotechnical Results

LABORATORY REPORT

4043

Contract Number: PSL20/6932

Report Date: 13 January 2021

Client's Reference: LD10162

Client Name: Wardell Armstrong
Sir Henry Doulton House
Forge Lane
Etruria
Stoke on Trent
ST1 5BD

For the attention of: Liam Taylor

Contract Title: Ten Acres, Newton Heath

Date Received: 30/11/2020
Date Commenced: 30/11/2020
Date Completed: 13/1/2021

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

S Royle (Laboratory Manager)	A Watkins (Director)	R Berriman (Quality Manager)
H Daniels (Senior Technician)	S Eyre (Senior Technician)	L Knight (Senior Technician)

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awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
CP102		B	1.00	2.00	MADE GROUND brown clayey sand & gravel.
CP102		B	5.00	6.00	Brown gravelly sandy CLAY.
CP102		B	6.00	7.00	Brown gravelly sandy CLAY.
CP103		B	11.00	12.00	Brown slightly gravelly sandy CLAY.
CP104		UT	11.00	11.45	Brown slightly gravelly sandy CLAY.
CP105		B	2.00	3.00	MADE GROUND brown clayey sand & gravel.
CP105		UT	4.00	4.45	Brown slightly gravelly sandy CLAY.
CP105		B	4.00	5.00	Brown slightly gravelly sandy CLAY.
CP105		B	5.00	6.00	Brown slightly gravelly sandy CLAY.
CP105		D	5.00	5.45	Brown slightly gravelly sandy CLAY.
CP105		UT	6.00	6.45	Stiff brown slightly gravelly sandy CLAY.
CP105		B	6.00	7.00	Brown slightly gravelly sandy CLAY.
CP105		D	7.45	7.90	Brown slightly gravelly sandy CLAY.
CP105		UT	8.00	8.45	Stiff brown slightly gravelly sandy CLAY.
CP105		UT	10.00	10.45	Stiff brown slightly gravelly sandy CLAY.
CP106		B	2.00	3.00	MADE GROUND dark brown very gravelly clayey silty sand.
CP106		B	3.00	4.00	Brown slightly gravelly very sandy CLAY.
CP106		B	5.00	6.00	Brown slightly gravelly very sandy CLAY.
CP106		UT	6.00	6.45	Soft brown slightly gravelly sandy CLAY.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
CP106		B	6.00	7.00	Brown slightly gravelly sandy CLAY.
CP106		UT	8.00	8.45	Stiff brown slightly gravelly sandy CLAY.
CP106		B	8.00	9.00	Brown slightly gravelly sandy CLAY.
CP106		UT	10.00	10.45	Brown slightly gravelly sandy CLAY.
CP107		D	3.00	3.45	MADE GROUND brown sandy slightly clayey silty gravel.
CP107		D	5.00	5.45	MADE GROUND brown gravelly silty sand.
CP107		UT	11.00	11.45	Stiff brown slightly sandy CLAY.
CP107		B	2.00	3.00	MADE GROUND brown very sandy slightly clayey silty gravel with cobbles.
CP105		B	1.65	2.00	MADE GROUND brown very gravelly very sandy clay.
CP105		B	3.45	4.00	Brown slightly gravelly very sandy CLAY.
CP108		D	5.00	5.45	Brown slightly gravelly sandy CLAY.
CP112		B	11.00	12.00	Brown gravelly sandy CLAY.
CP108		UT	6.00	6.45	Firm brown slightly gravelly sandy CLAY.
CP108		D	6.45	6.90	Brown slightly gravelly sandy CLAY.
CP108		UT	8.00	8.45	Brown slightly gravelly sandy CLAY.
CP108		D	9.00	9.45	Brown slightly gravelly very sandy CLAY.
CP108		UT	10.00	10.45	Firm brown slightly gravelly sandy CLAY.
CP108		UT	14.50	14.95	Brown slightly gravelly very sandy CLAY.
CP108		B	19.00	20.00	Brown slightly gravelly sandy CLAY.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
CP110		D	4.50	4.95	Brown slightly gravelly very sandy CLAY.
CP110		UT	5.50	5.95	Stiff brown slightly gravelly sandy CLAY.
CP110		B	7.00	8.50	Brown slightly gravelly sandy CLAY.
CP110		D	7.00	7.45	Brown slightly gravelly sandy CLAY.
CP110		UT	8.00	8.45	Stiff brown slightly gravelly sandy CLAY.
CP113		UT	3.00	3.45	Brown slightly gravelly sandy CLAY.
CP113		B	5.45	6.00	Dark brown slightly gravelly sandy CLAY.
CP113		UT	5.00	5.45	Firm brown slightly gravelly sandy CLAY.
CP113		B	6.45	7.00	Brown slightly gravelly very sandy CLAY.
CP113		UT	7.00	7.45	Firm brown slightly gravelly very sandy CLAY.
TP103		B	4.50	5.30	Brown slightly gravelly sandy CLAY.
TP121		B	2.00		Brown mottled grey slightly gravelly sandy CLAY.
TP126		B	1.90	2.10	Brown mottled grey slightly gravelly sandy CLAY.
TP116		B	4.80		Brown slightly gravelly sandy CLAY.
TP120		B	0.20	0.30	MADE GROUND brown very sandy clayey silty gravel with many cobbles.
TP124		B	0.25	1.45	MADE GROUND dark grey very sandy gravel.
TP127		B	4.30	4.80	Brown slightly gravelly sandy CLAY.
CP106		B	1.65	2.00	MADE GROUND dark brown very gravelly clayey silty sand.
CP107		B	0.00	1.00	MADE GROUND brown very gravelly very sandy clay.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP133		B	2.40	3.20	MADE GROUND dark grey very sandy slightly clayey very silty gravel.
TP136		B	2.30		Brown SAND.
TP143		B	2.90	5.40	Brown mottled grey slightly gravelly sandy CLAY.
TP148		B	1.60		Brown mottled grey slightly gravelly sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
CP103		B	11.00	12.00	18			40	20	20	98	Intermediate Plasticity CI
CP105		B	4.00	5.00	17			36	18	18	92	Intermediate Plasticity CI
CP105		D	5.00	5.45	16			39	20	19	92	Intermediate Plasticity CI
CP105		B	6.00	7.00	15			35	17	18	90	Intermediate Plasticity CI
CP105		D	7.45	7.90	19			38	18	20	95	Intermediate Plasticity CI
CP106		B	5.00	6.00	24			31	17	14	88	Low Plasticity CL
CP106		B	6.00	7.00	22			37	18	19	90	Intermediate Plasticity CI
CP106		UT	8.00	8.45	16			36	18	18	94	Intermediate Plasticity CI
CP107		D	3.00	3.45	17							
CP107		D	5.00	5.45	20							
CP108		D	5.00	5.45	23			39	19	20	85	Intermediate Plasticity CI
CP108		D	6.45	6.90	19			37	19	18	92	Intermediate Plasticity CI
CP108		D	9.00	9.45	19			32	16	16	88	Low Plasticity CL
CP110		D	4.50	4.95	18			33	17	16	87	Low Plasticity CL
CP110		D	7.00	7.45	20			41	21	20	92	Intermediate Plasticity CI
CP113		B	6.45	7.00	21			34	17	17	86	Low Plasticity CL
TP121		B	2.00		21			41	20	21	98	Intermediate Plasticity CI
TP126		B	1.90	2.10	24			43	21	22	98	Intermediate Plasticity CI
TP127		B	4.30	4.80	16			36	19	17	93	Intermediate Plasticity CI

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

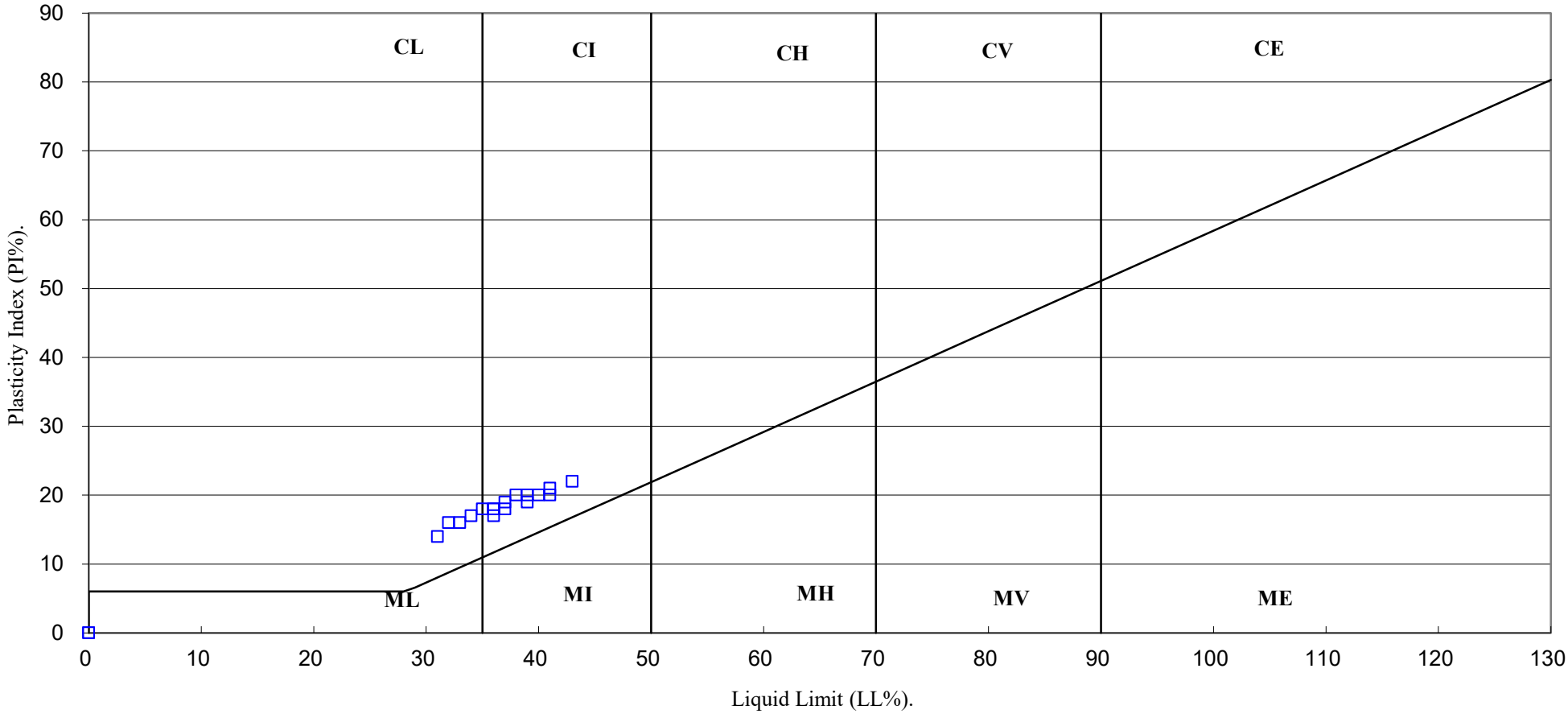
Contract No:

PSL20/6932

Client Ref:

LD10162

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	Ten Acres, Newton Heath	Contract No: PSL20/6932
			Client Ref: LD10162

PARTICLE SIZE DISTRIBUTION TEST

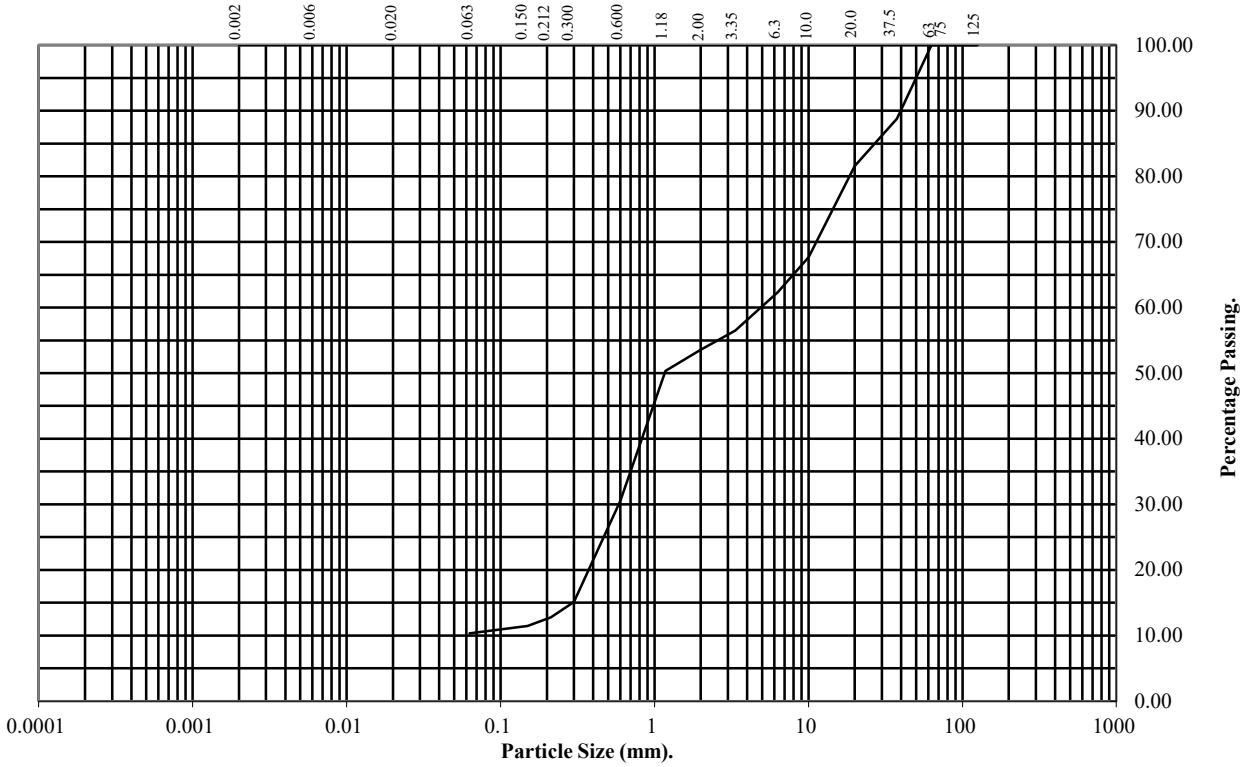
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP102 **Top Depth (m):** 1.00

Sample Number: **Base Depth(m):** 2.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	89
20	82
10	68
6.3	62
3.35	56
2	54
1.18	50
0.6	31
0.3	15
0.212	13
0.15	11
0.063	10

Soil Fraction	Total Percentage
Cobbles	0
Gravel	46
Sand	44
Silt/Clay	10

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

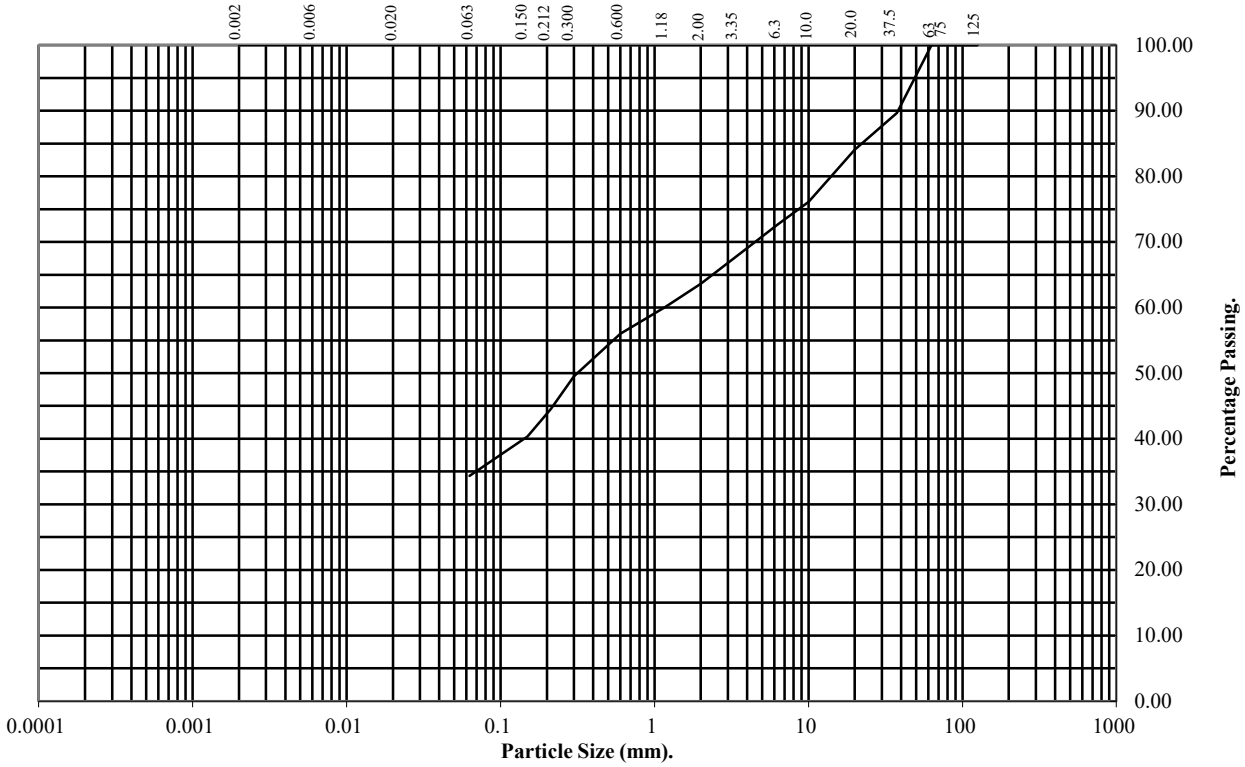
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP105 **Top Depth (m):** 1.65

Sample Number: **Base Depth(m):** 2.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	90
20	84
10	76
6.3	73
3.35	68
2	64
1.18	60
0.6	56
0.3	50
0.212	45
0.15	40
0.063	34

Soil Fraction	Total Percentage
Cobbles	0
Gravel	36
Sand	30
Silt/Clay	34

Remarks:

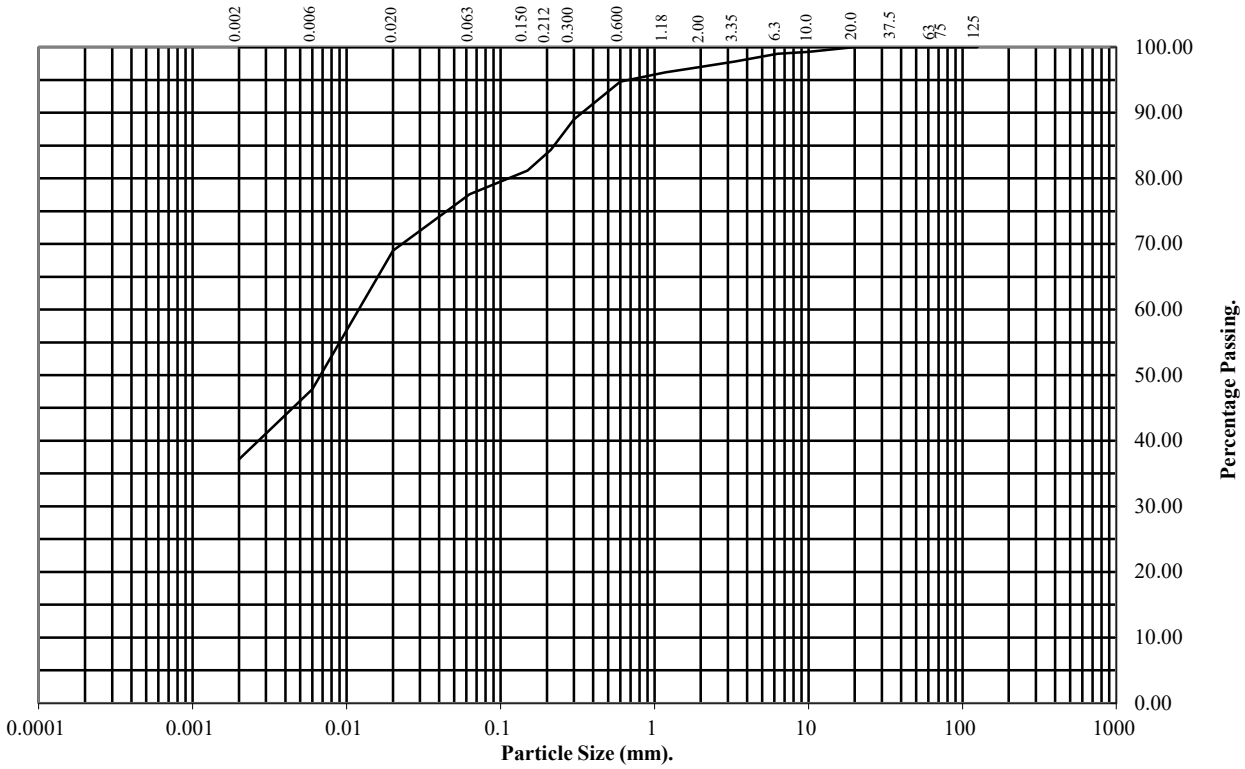
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP105**	**Top Depth (m):**	**4.00**
Sample Number:		**Base Depth(m):**	**5.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	99
3.35	98
2	97
1.18	96
0.6	95
0.3	89
0.212	84
0.15	81
0.063	78

Particle Diameter	Percentage Passing
0.02	69
0.006	48
0.002	37

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	19
Silt	41
Clay	37

Remarks:

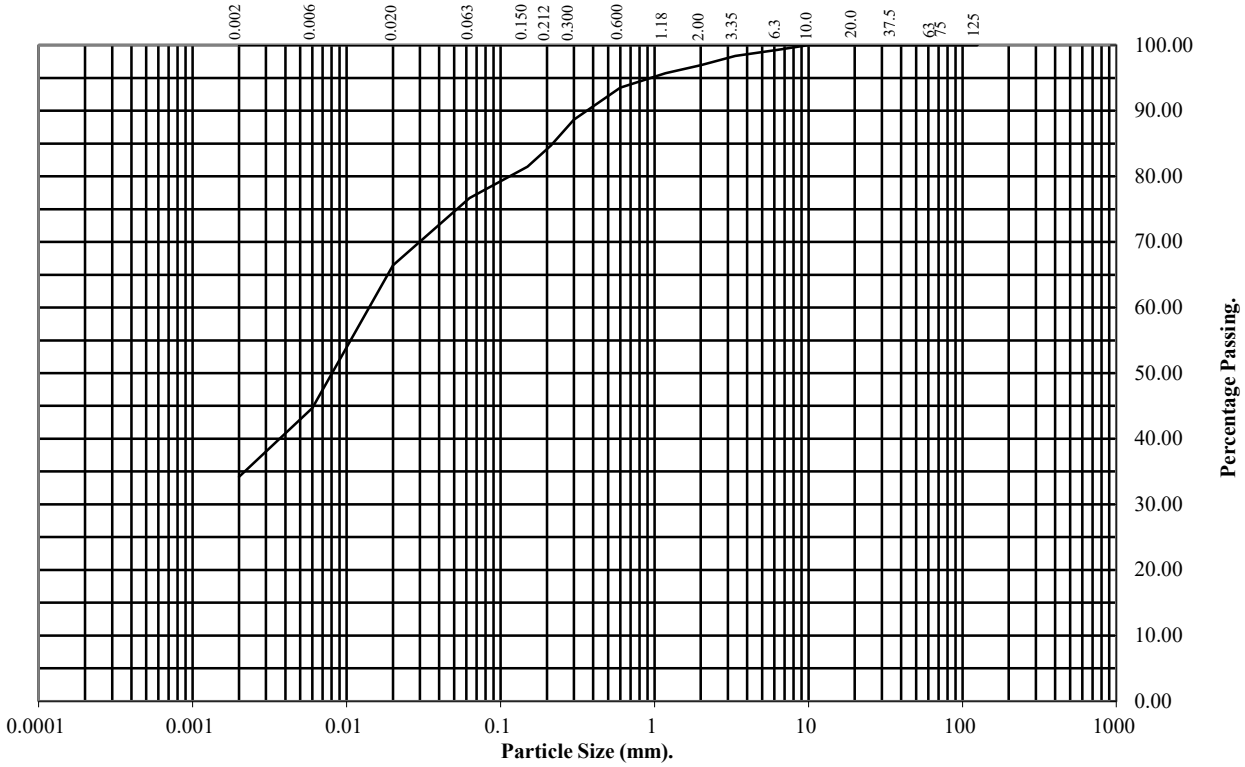
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP105**	**Top Depth (m):**	**5.00**
Sample Number:		**Base Depth(m):**	**5.45**
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	98
2	97
1.18	96
0.6	94
0.3	89
0.212	85
0.15	81
0.063	77

Particle Diameter	Percentage Passing
0.02	66
0.006	45
0.002	34

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	20
Silt	43
Clay	34

Remarks:

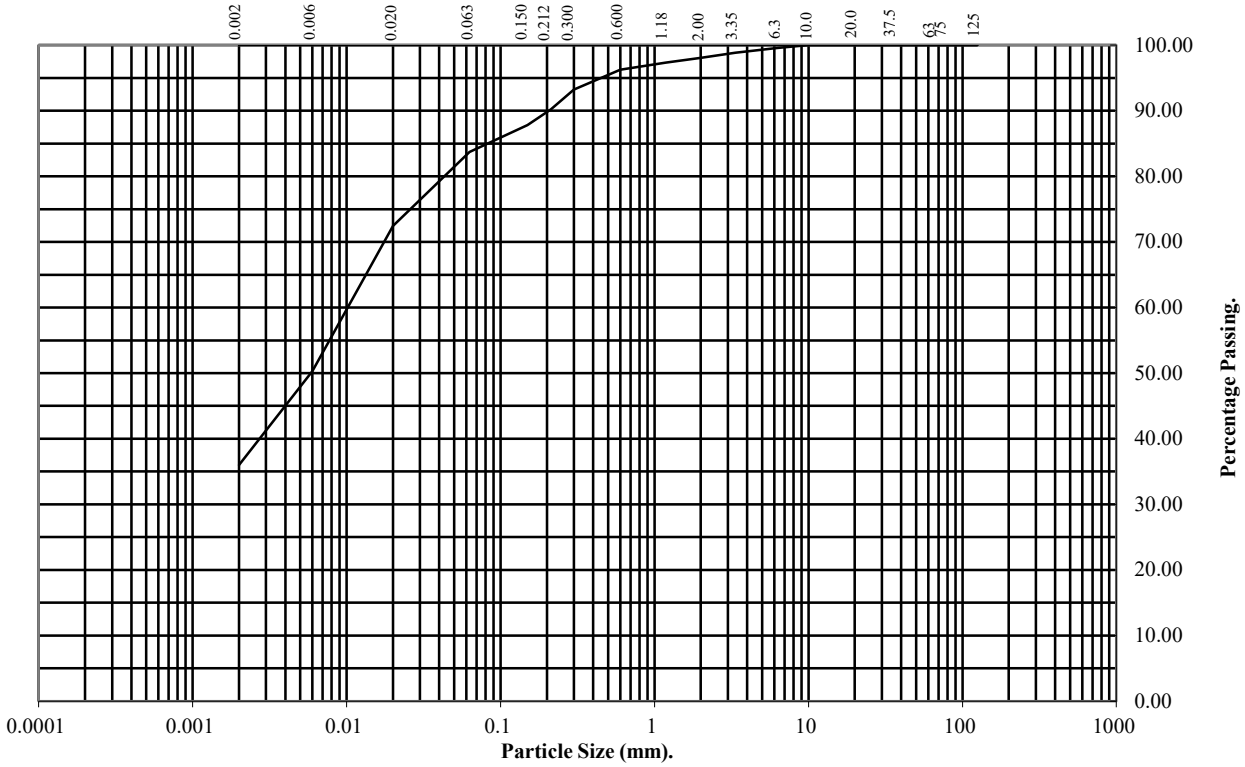
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP105**	**Top Depth (m):**	**7.45**
Sample Number:		**Base Depth(m):**	**7.90**
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	98
1.18	97
0.6	96
0.3	93
0.212	90
0.15	88
0.063	84

Particle Diameter	Percentage Passing
0.02	72
0.006	50
0.002	36

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	14
Silt	48
Clay	36

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

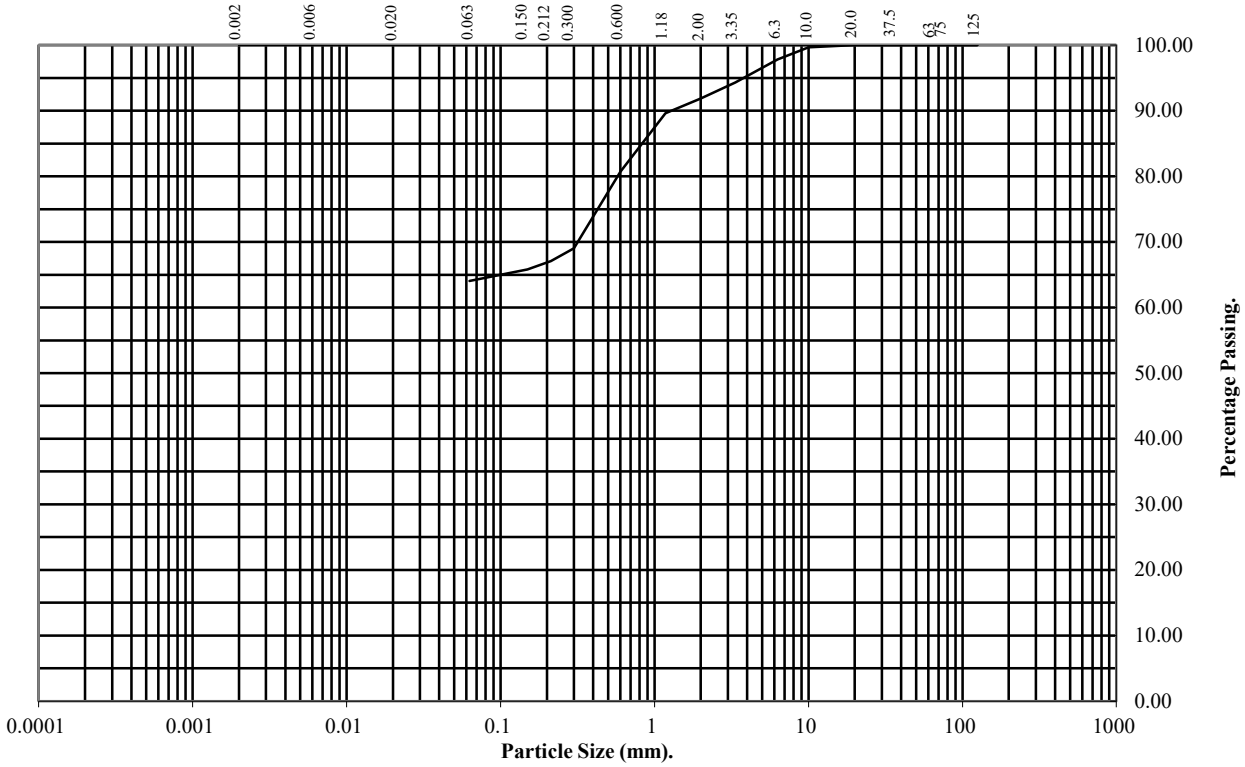
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP106 **Top Depth (m):** 3.00

Sample Number: **Base Depth(m):** 4.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	98
3.35	94
2	92
1.18	90
0.6	81
0.3	69
0.212	67
0.15	66
0.063	64

Soil Fraction	Total Percentage
Cobbles	0
Gravel	8
Sand	28
Silt/Clay	64

Remarks:

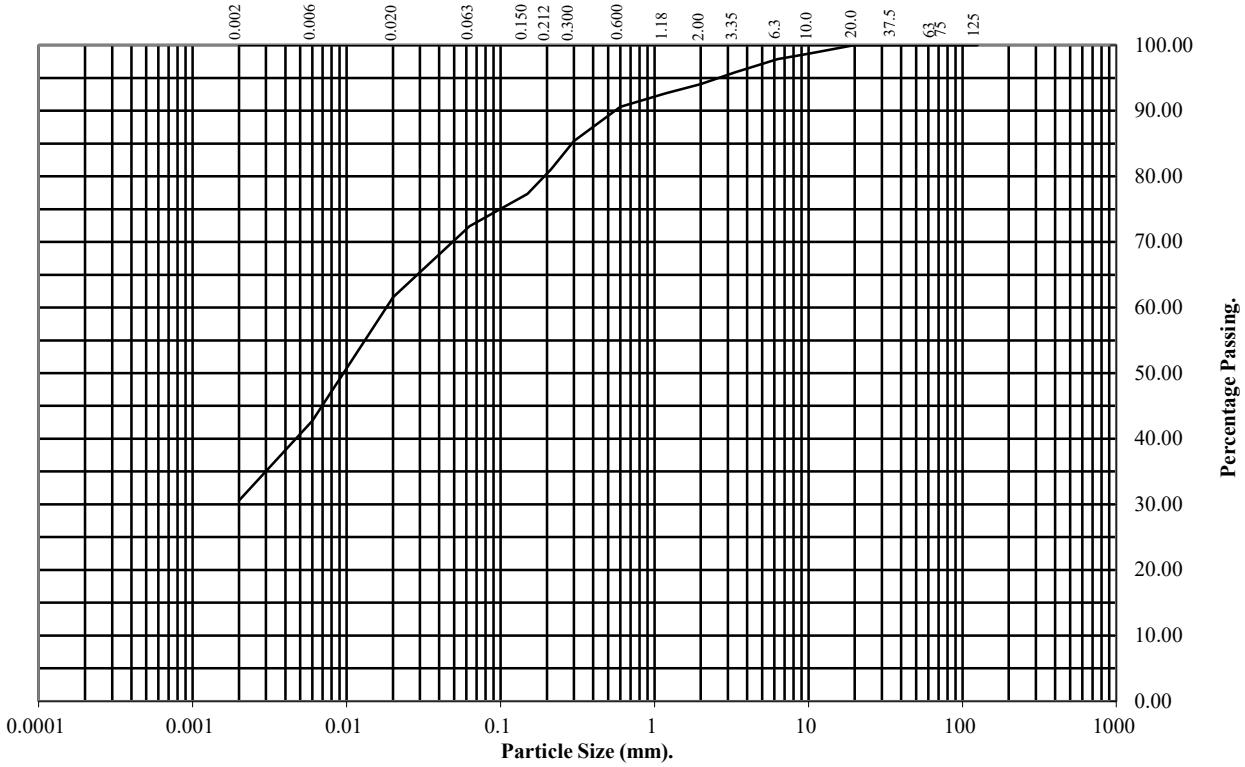
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP106**	**Top Depth (m):**	**5.00**
Sample Number:		**Base Depth(m):**	**6.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	98
3.35	96
2	94
1.18	93
0.6	91
0.3	85
0.212	81
0.15	77
0.063	72

Particle Diameter	Percentage Passing
0.02	62
0.006	43
0.002	31

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	22
Silt	41
Clay	31

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

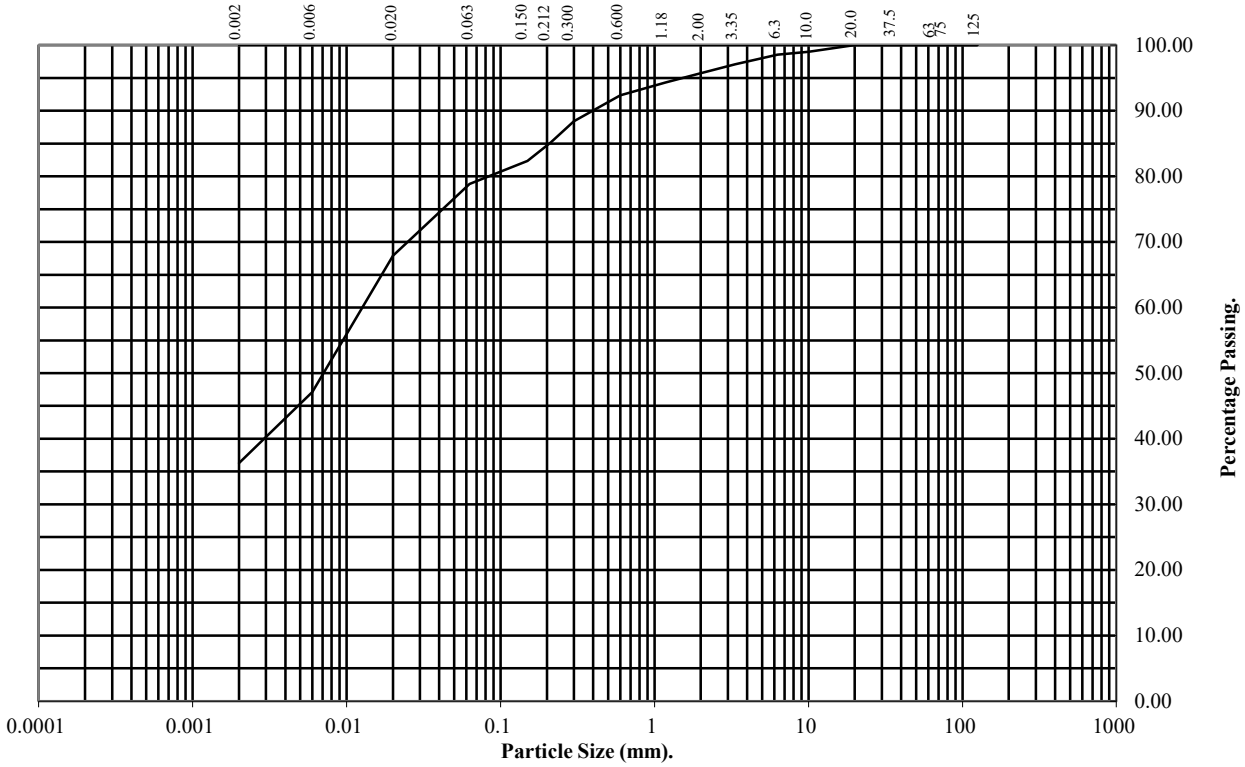
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: CP106 **Top Depth (m):** 6.00

Sample Number: **Base Depth(m):** 7.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	99
3.35	97
2	96
1.18	94
0.6	92
0.3	88
0.212	85
0.15	82
0.063	79

Particle Diameter	Percentage Passing
0.02	68
0.006	47
0.002	36

Soil Fraction	Total Percentage
Cobbles	0
Gravel	4
Sand	17
Silt	43
Clay	36

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

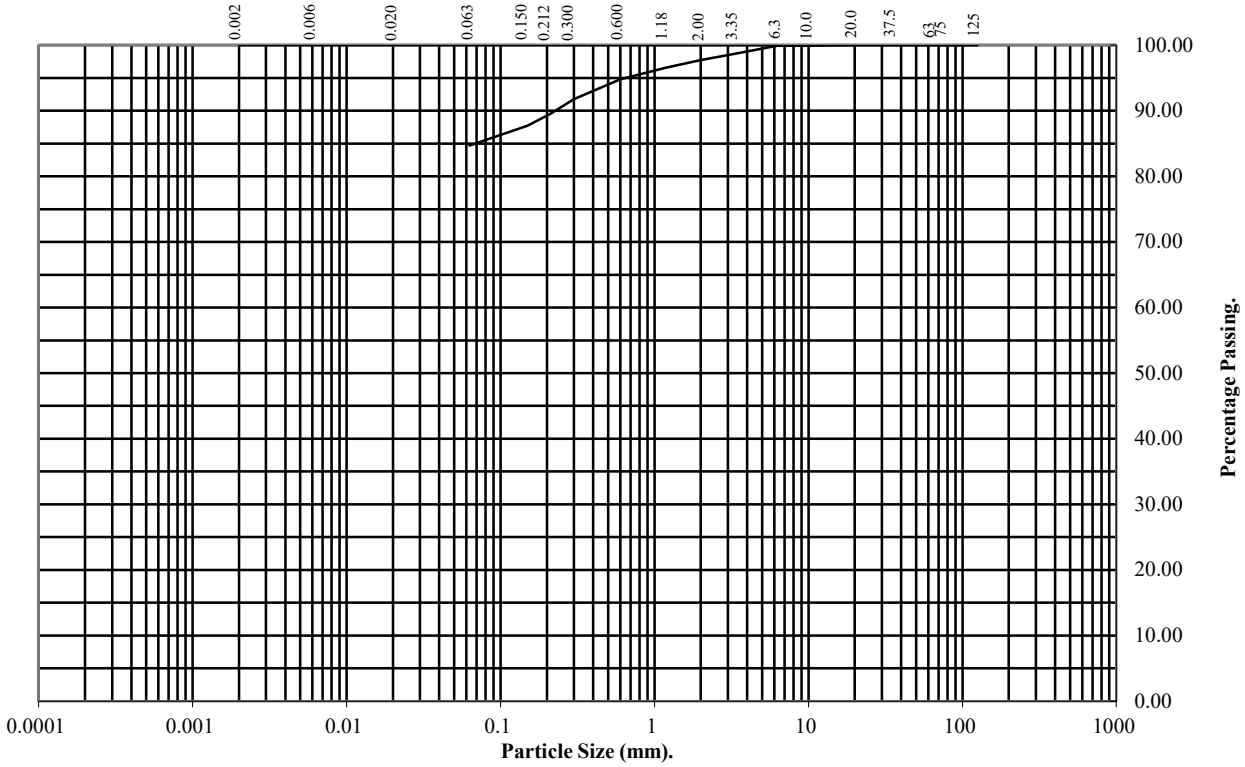
Contract No:
PSL20/6932
Client Ref:
LD10162

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**CP106**	**Top Depth (m):**	**8.00**
Sample Number:		**Base Depth(m):**	**9.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	98
1.18	97
0.6	95
0.3	92
0.212	90
0.15	88
0.063	85

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	13
Silt/Clay	85

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

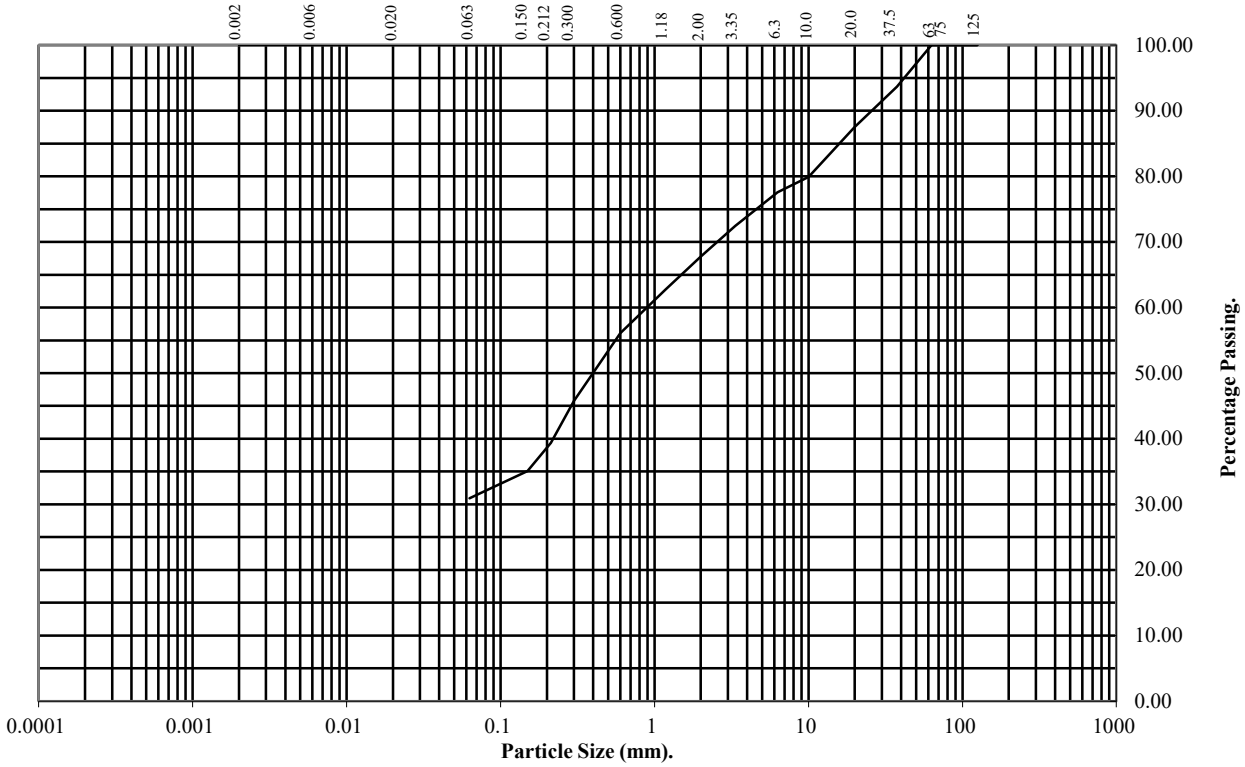
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP107 **Top Depth (m):** 0.00

Sample Number: **Base Depth(m):** 1.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	94
20	88
10	80
6.3	78
3.35	72
2	68
1.18	63
0.6	56
0.3	46
0.212	39
0.15	35
0.063	31

Soil Fraction	Total Percentage
Cobbles	0
Gravel	32
Sand	37
Silt/Clay	31

Remarks:

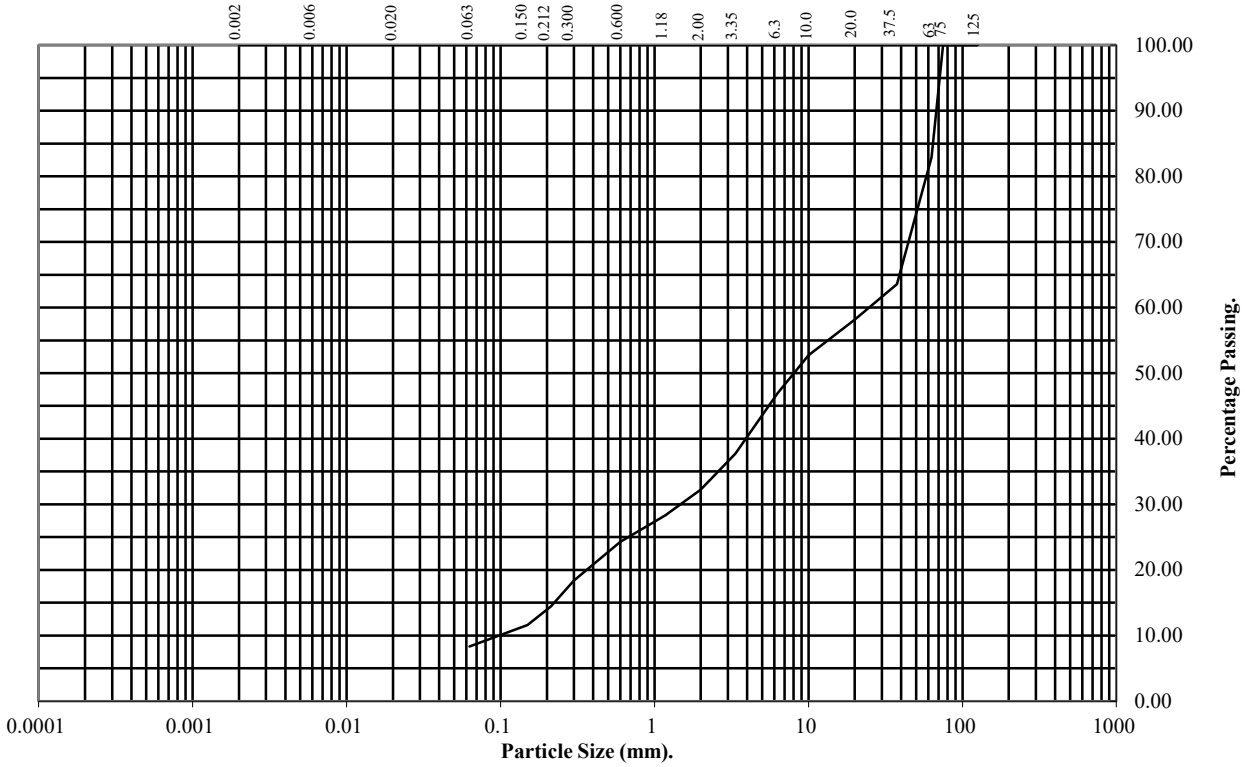
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**CP107**	**Top Depth (m):**	**2.00**
Sample Number:		**Base Depth(m):**	**3.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	83
37.5	64
20	58
10	53
6.3	47
3.35	38
2	32
1.18	28
0.6	24
0.3	18
0.212	14
0.15	12
0.063	8

Soil Fraction	Total Percentage
Cobbles	17
Gravel	51
Sand	24
Silt/Clay	8

Remarks:

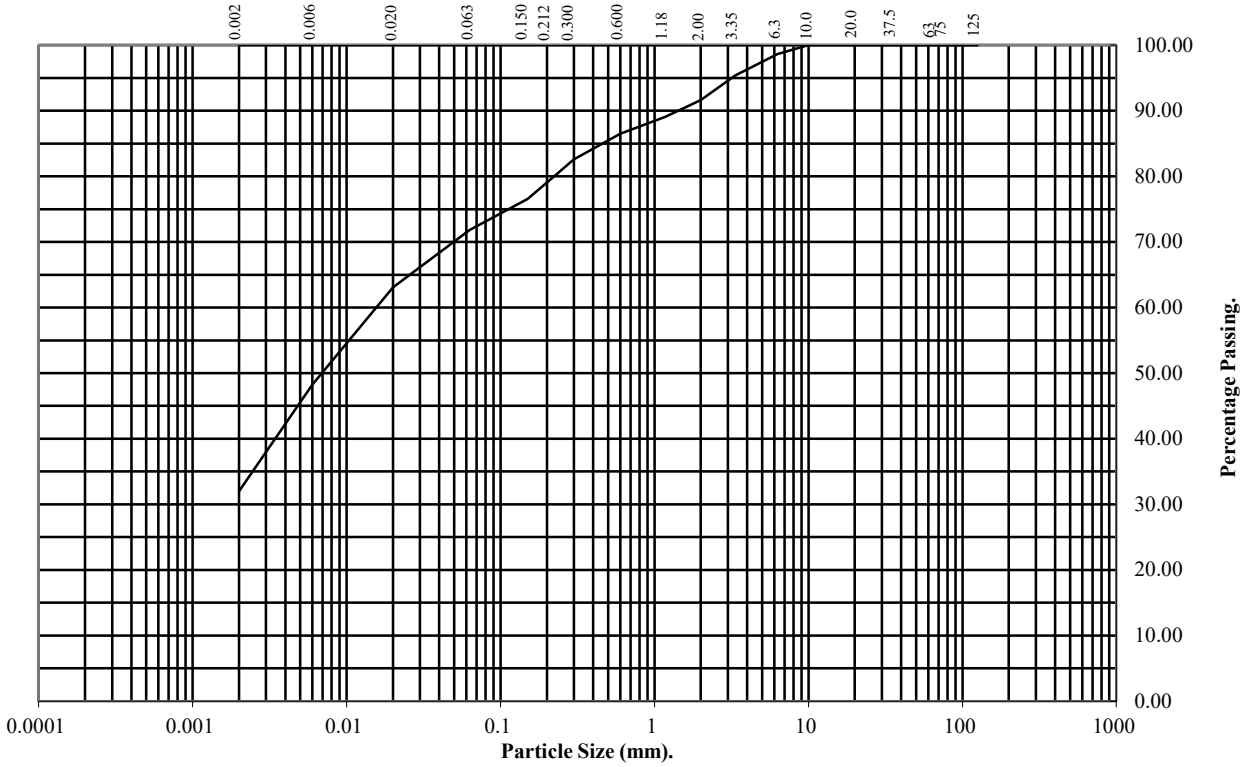
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP108**	**Top Depth (m):**	**5.00**
Sample Number:		**Base Depth(m):**	**5.45**
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	95
2	92
1.18	89
0.6	86
0.3	83
0.212	80
0.15	77
0.063	72

Particle Diameter	Percentage Passing
0.02	63
0.006	48
0.002	32

Soil Fraction	Total Percentage
Cobbles	0
Gravel	8
Sand	20
Silt	40
Clay	32

Remarks:

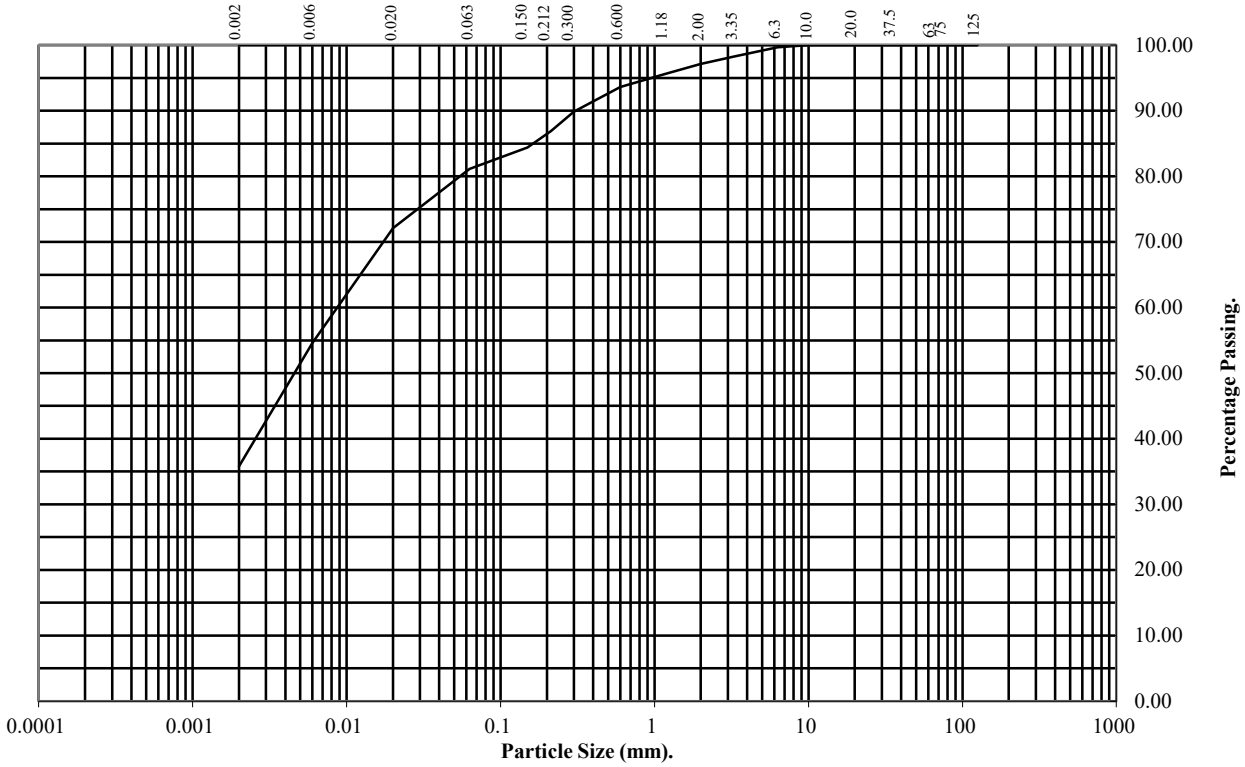
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP108**	**Top Depth (m):**	**6.45**
Sample Number:		**Base Depth(m):**	**6.90**
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	98
2	97
1.18	96
0.6	94
0.3	90
0.212	87
0.15	84
0.063	81

Particle Diameter	Percentage Passing
0.02	72
0.006	55
0.002	36

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	16
Silt	45
Clay	36

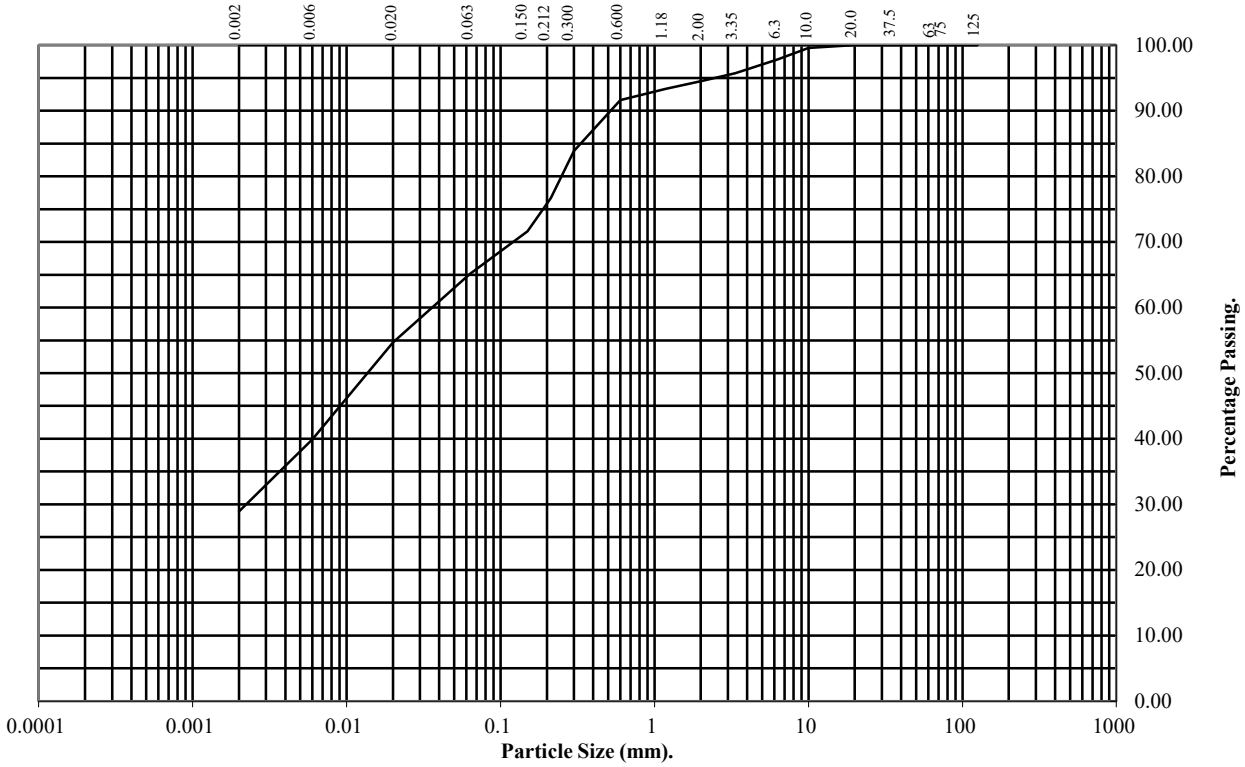
Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP108**	**Top Depth (m):**	**9.00**
Sample Number:		**Base Depth(m):**	**9.45**
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	98
3.35	96
2	94
1.18	93
0.6	92
0.3	84
0.212	77
0.15	72
0.063	65

Particle Diameter	Percentage Passing
0.02	55
0.006	40
0.002	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	29
Silt	36
Clay	29

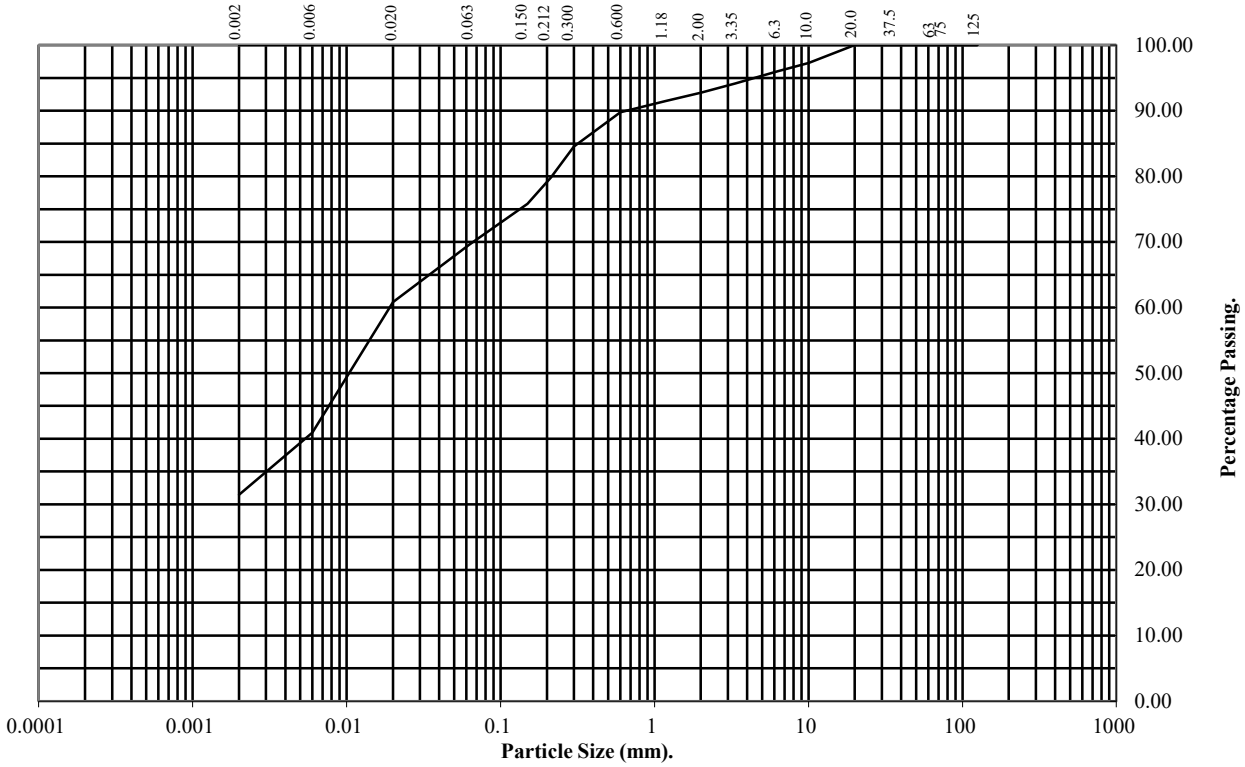
Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP110**	**Top Depth (m):**	**4.50**
Sample Number:		**Base Depth(m):**	**4.95**
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	97
6.3	96
3.35	94
2	93
1.18	91
0.6	90
0.3	85
0.212	80
0.15	76
0.063	70

Particle Diameter	Percentage Passing
0.02	61
0.006	41
0.002	31

Soil Fraction	Total Percentage
Cobbles	0
Gravel	7
Sand	23
Silt	39
Clay	31

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

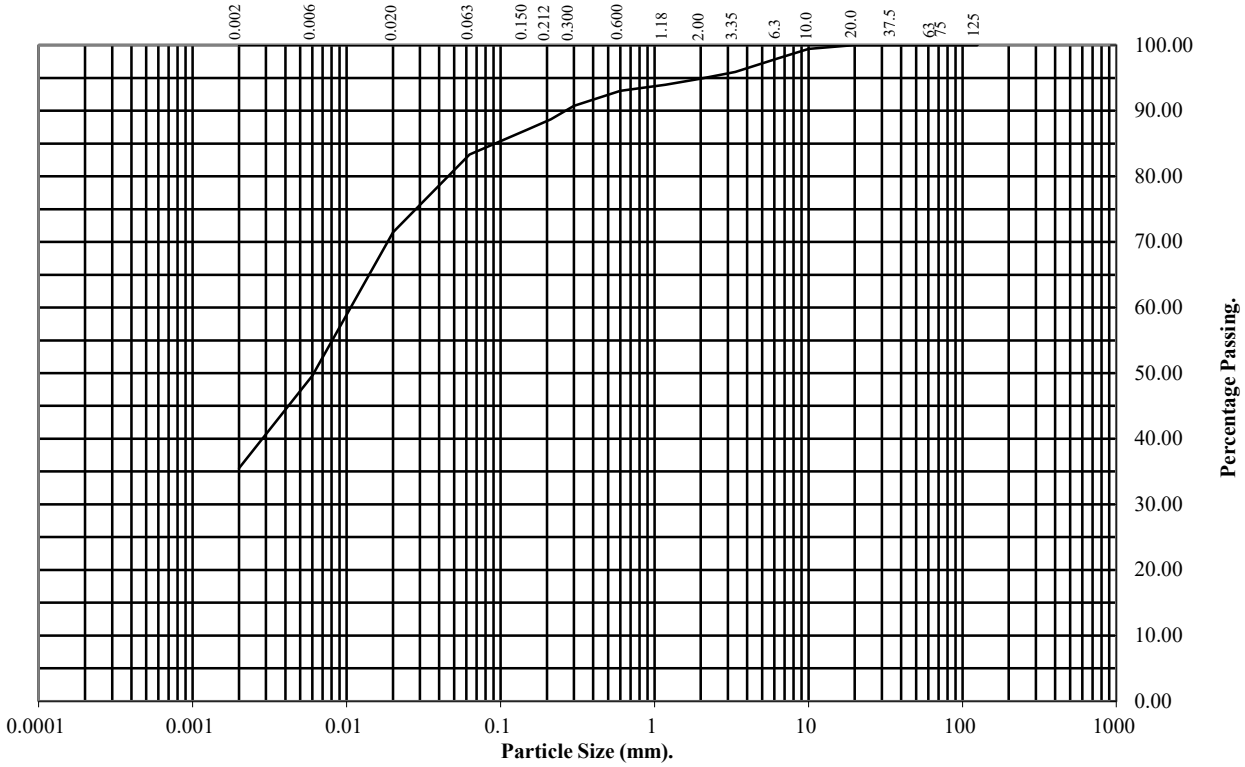
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: CP110 **Top Depth (m):** 7.00

Sample Number: **Base Depth(m):** 7.45

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	98
3.35	96
2	95
1.18	94
0.6	93
0.3	91
0.212	89
0.15	87
0.063	83

Particle Diameter	Percentage Passing
0.02	71
0.006	50
0.002	36

Soil Fraction	Total Percentage
Cobbles	0
Gravel	5
Sand	12
Silt	47
Clay	36

Remarks:

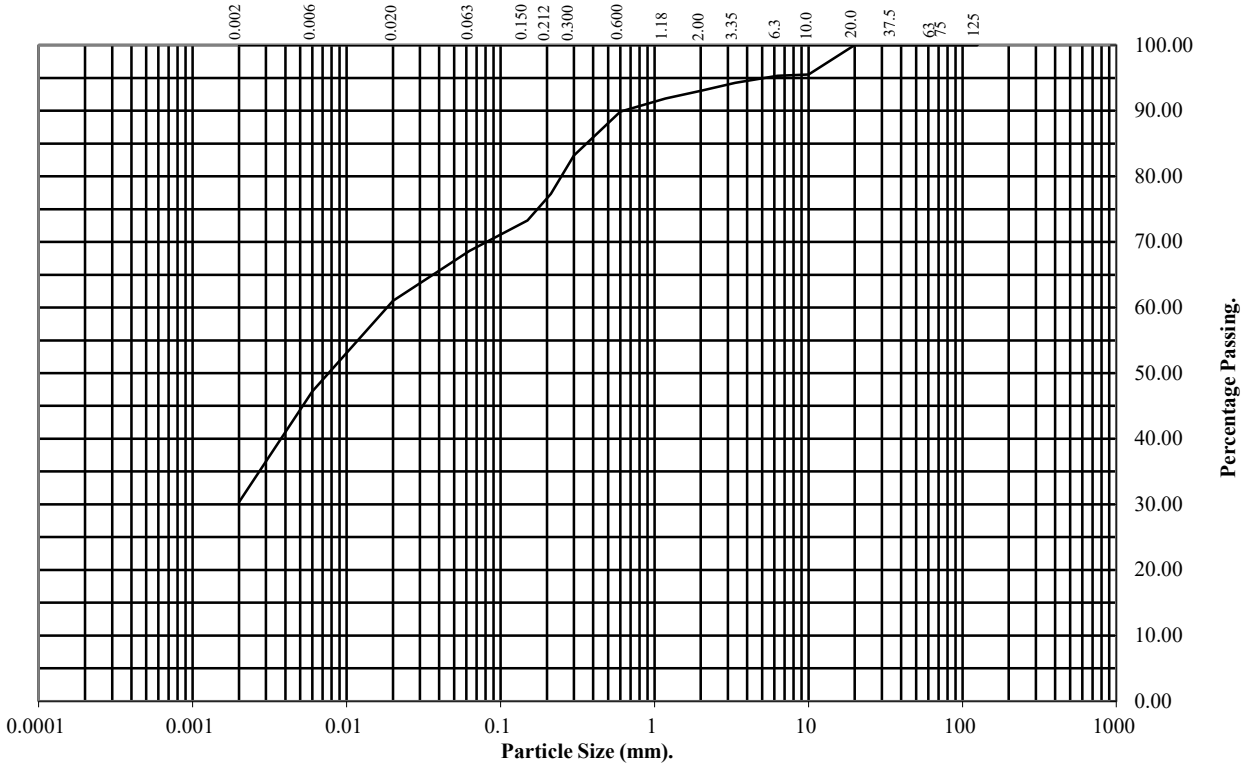
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**CP113**	**Top Depth (m):**	**6.45**
Sample Number:		**Base Depth(m):**	**7.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	96
6.3	95
3.35	94
2	93
1.18	92
0.6	90
0.3	83
0.212	77
0.15	73
0.063	69

Particle Diameter	Percentage Passing
0.02	61
0.006	47
0.002	30

Soil Fraction	Total Percentage
Cobbles	0
Gravel	7
Sand	24
Silt	39
Clay	30

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

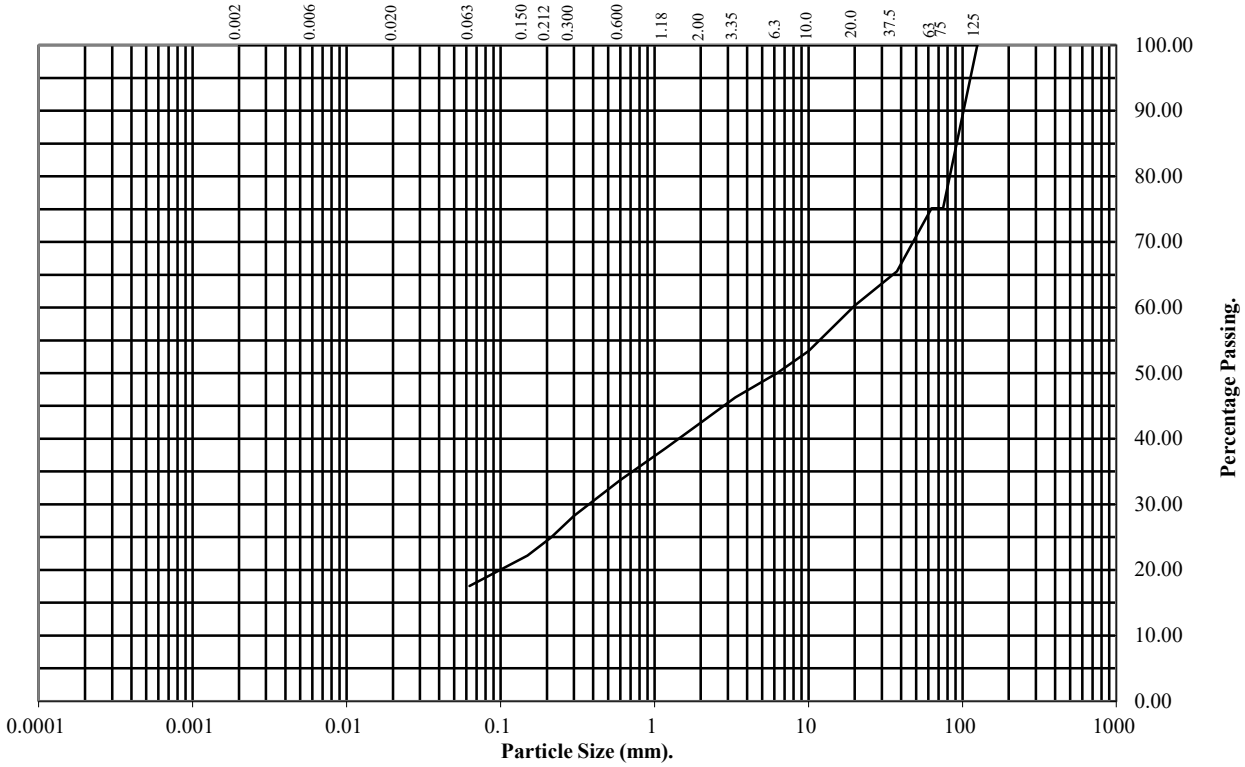
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP120 **Top Depth (m):** 0.20

Sample Number: **Base Depth(m):** 0.30

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	75
63	75
37.5	66
20	60
10	53
6.3	50
3.35	46
2	42
1.18	39
0.6	34
0.3	28
0.212	25
0.15	22
0.063	18

Soil Fraction	Total Percentage
Cobbles	25
Gravel	33
Sand	24
Silt/Clay	18

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

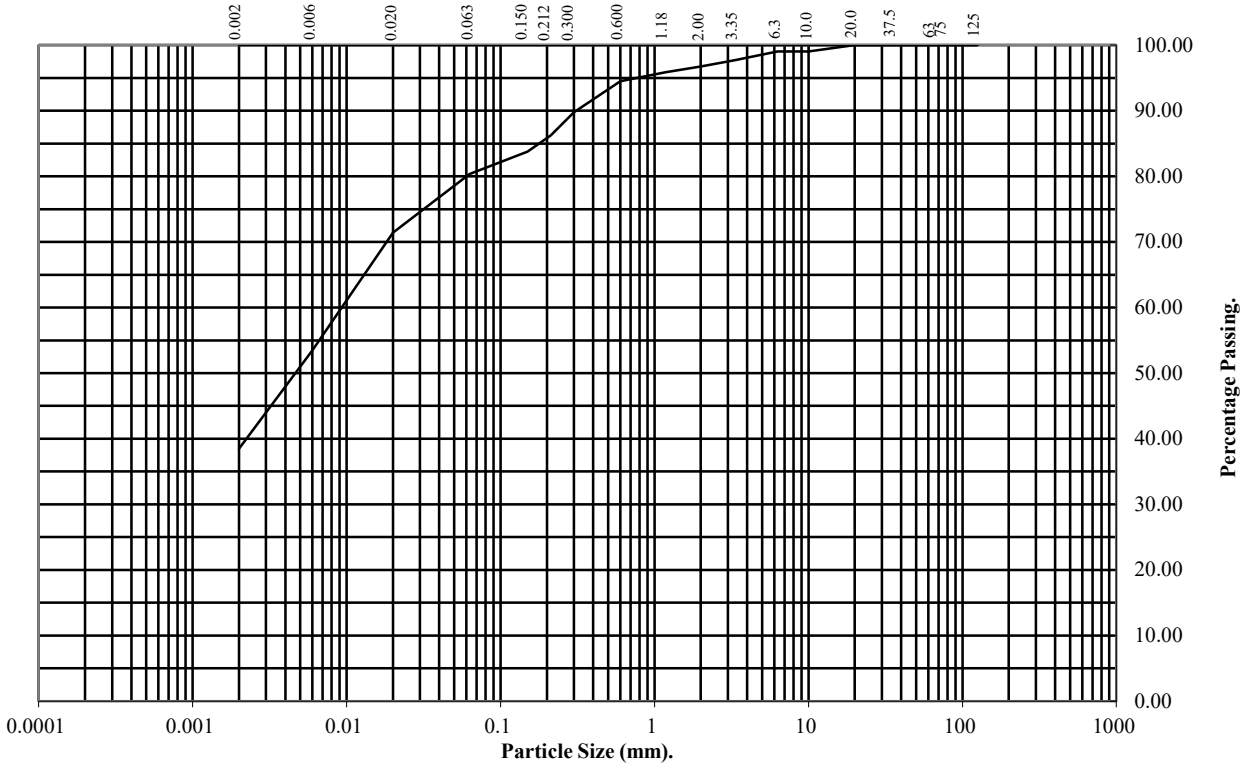
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP127 **Top Depth (m):** 4.30

Sample Number: **Base Depth(m):** 4.80

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	99
3.35	98
2	97
1.18	96
0.6	95
0.3	90
0.212	86
0.15	84
0.063	80

Particle Diameter	Percentage Passing
0.02	71
0.006	53
0.002	38

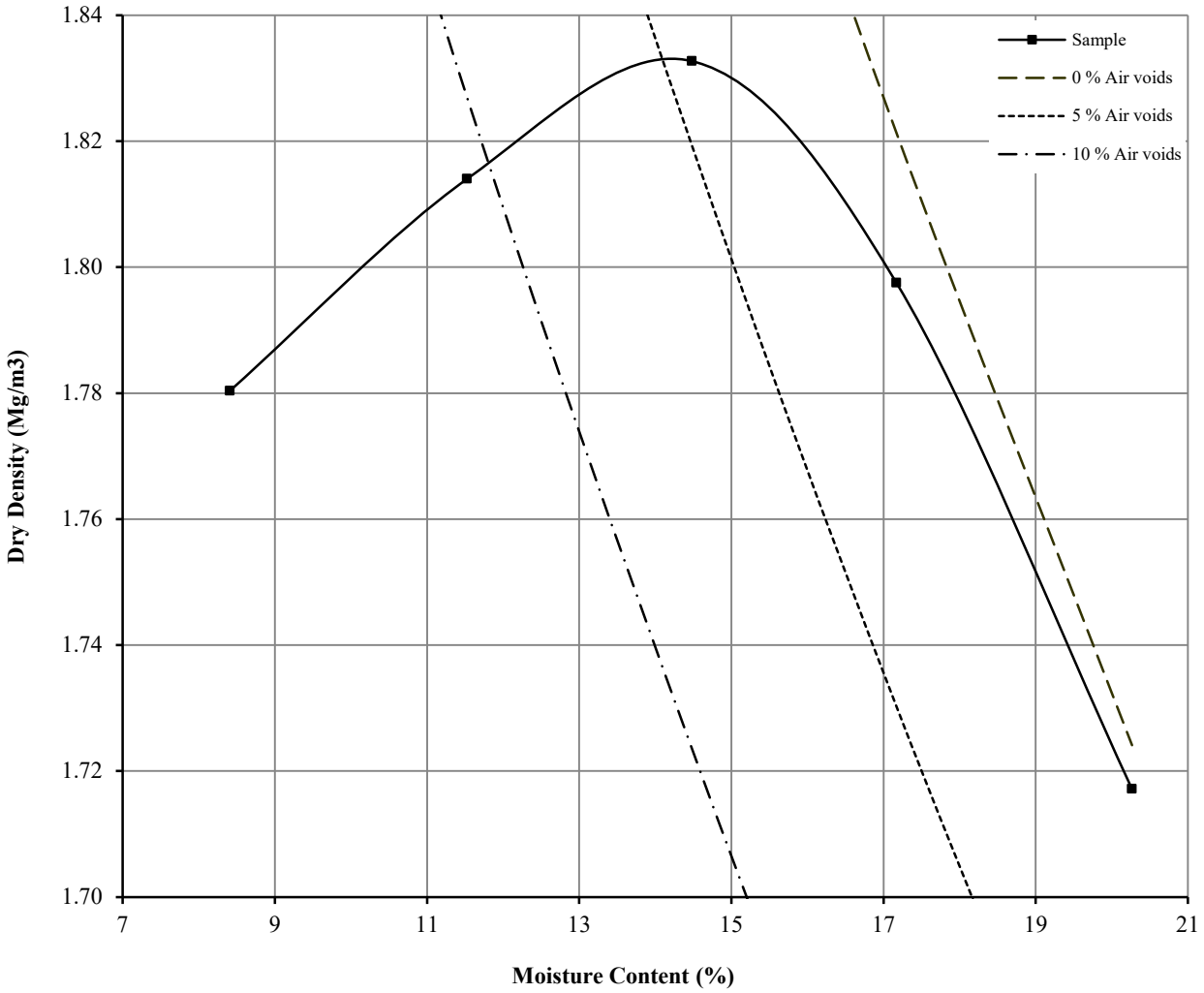
Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	17
Silt	42
Clay	38

Remarks:
See Summary of Soil Descriptions

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP102**	**Top Depth (m) :**	**5.00**
Sample Number:		**Base Depth (m) :**	**6.00**
Sample Type:	**B**		

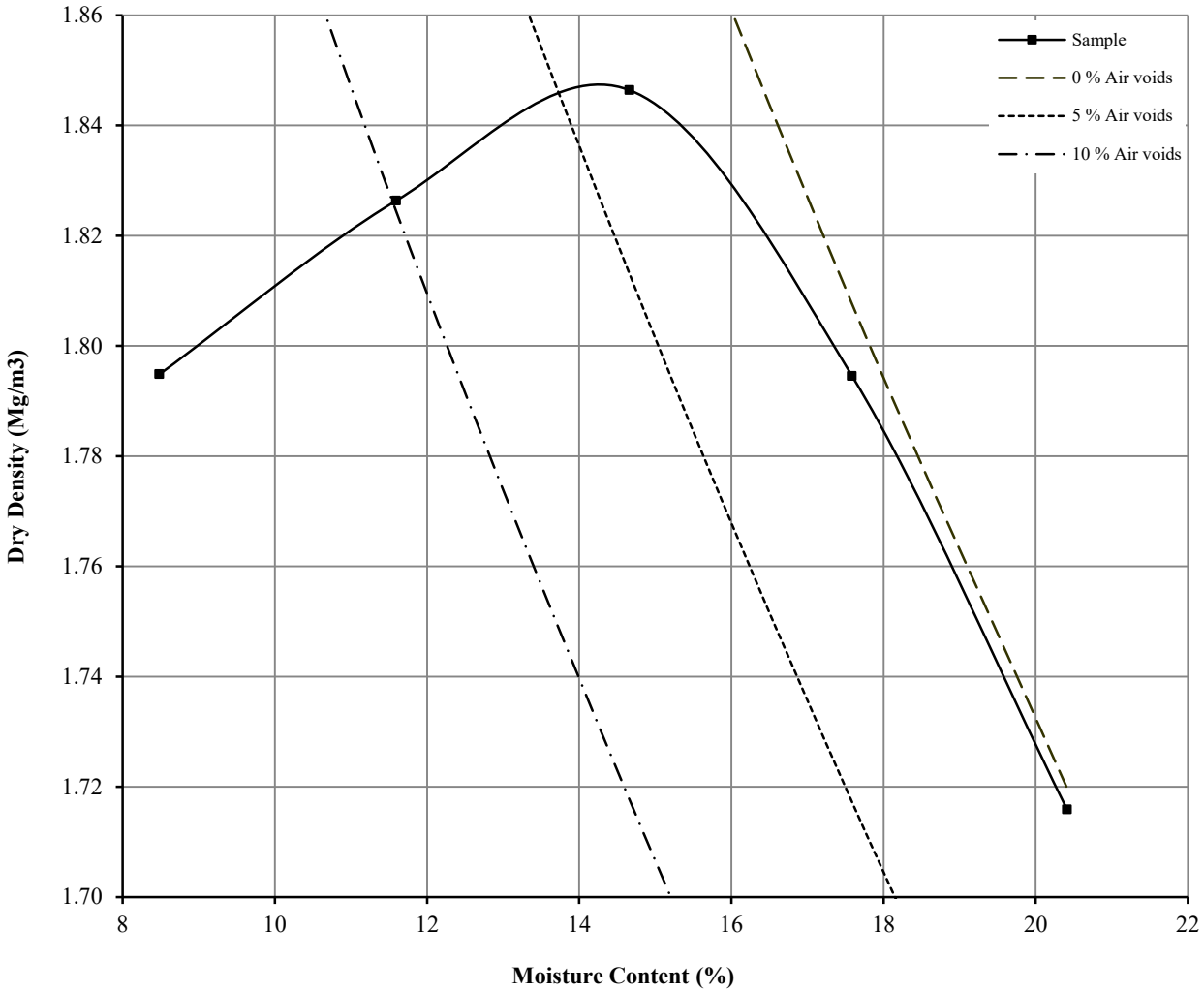


Initial Moisture Content:		20	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.83	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		14			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP102**	**Top Depth (m) :**	**6.00**
Sample Number:		**Base Depth (m) :**	**7.00**
Sample Type:	**B**		

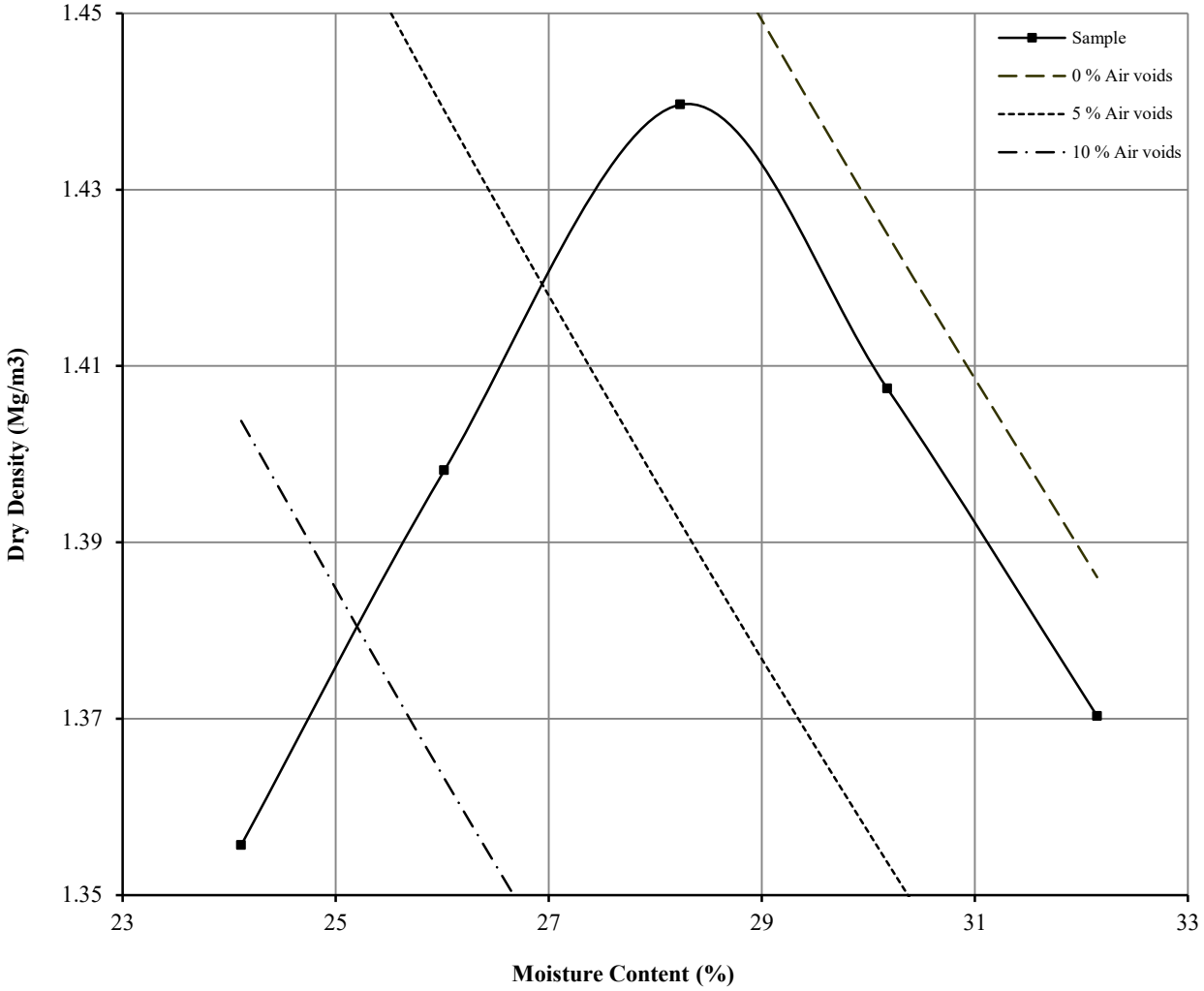


Initial Moisture Content:		18	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.85	Material Retained on 20.0 mm Test Sieve (%):		1
Optimum Moisture Content (%):		15			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.4 : 1990

Hole Number:	**CP105**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**3.00**
Sample Type:	**B**		

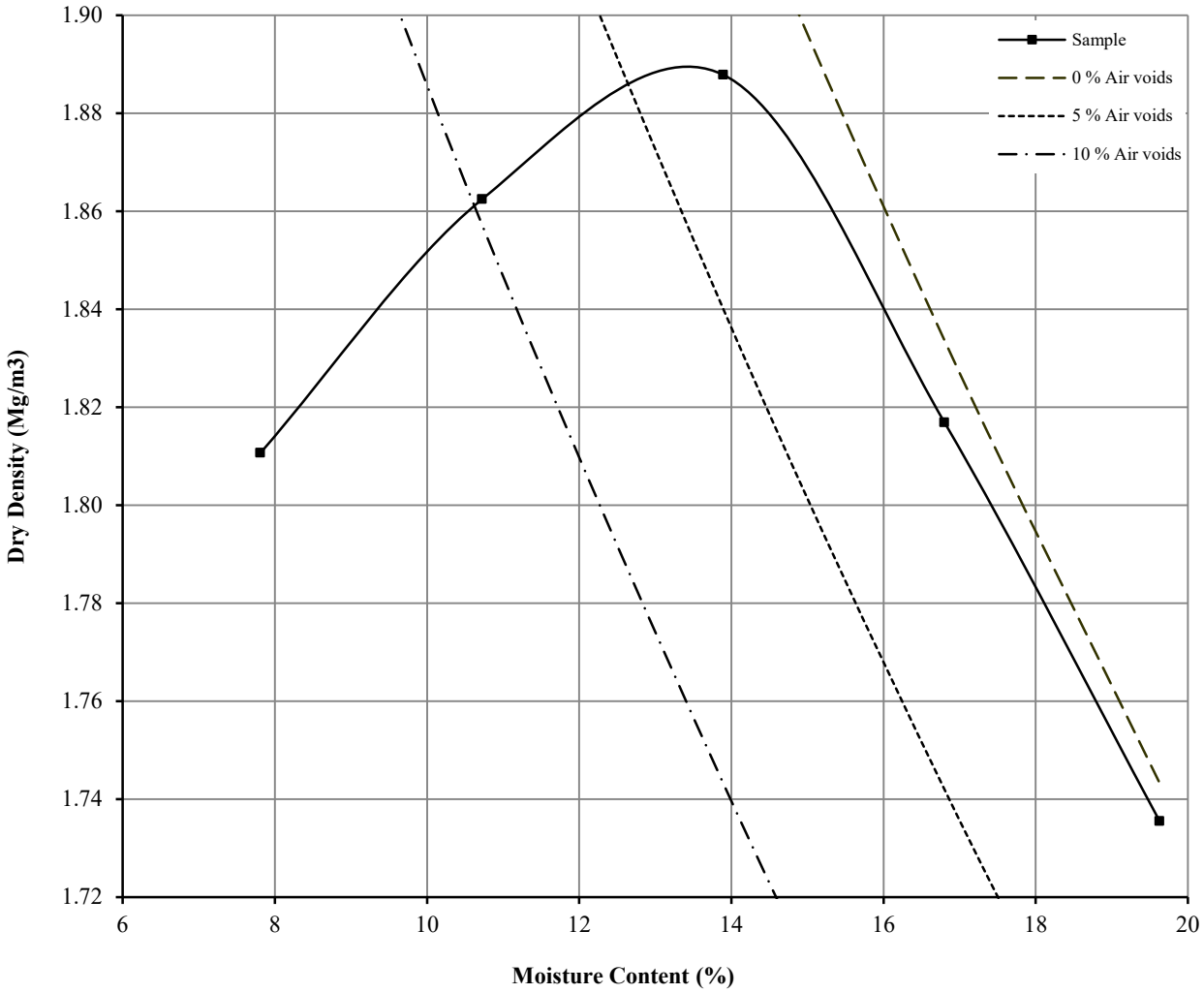


Initial Moisture Content:		30	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.5	Assumed	Material Retained on 37.5 mm Test Sieve (%):		4
Maximum Dry Density (Mg/m3):		1.44	Material Retained on 20.0 mm Test Sieve (%):		11
Optimum Moisture Content (%):		28			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP105**	**Top Depth (m) :**	**3.45**
Sample Number:		**Base Depth (m) :**	**4.00**
Sample Type:	**B**		

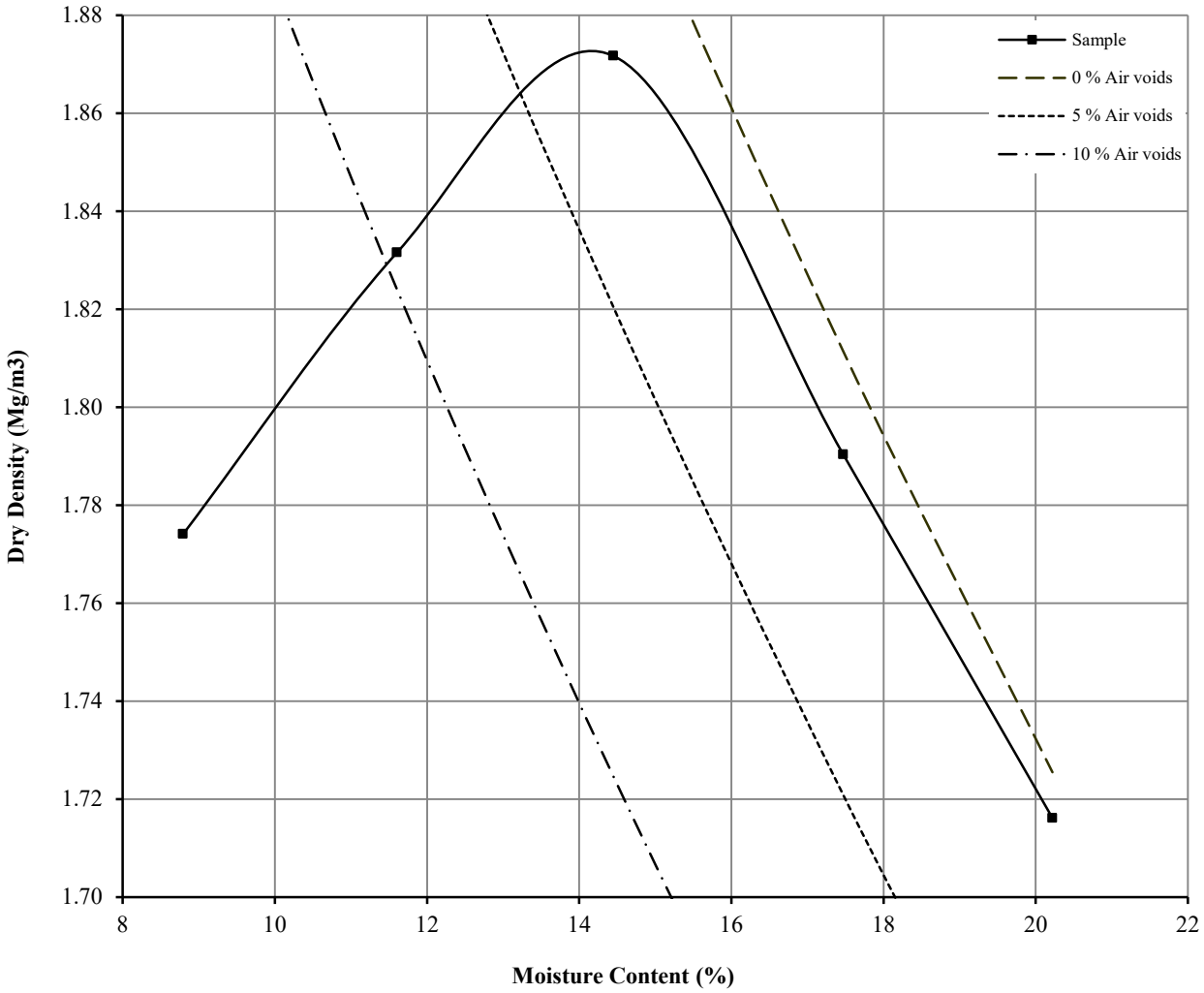


Initial Moisture Content:		17	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.89	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		14			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP105**	**Top Depth (m) :**	**5.00**
Sample Number:		**Base Depth (m) :**	**6.00**
Sample Type:	**B**		

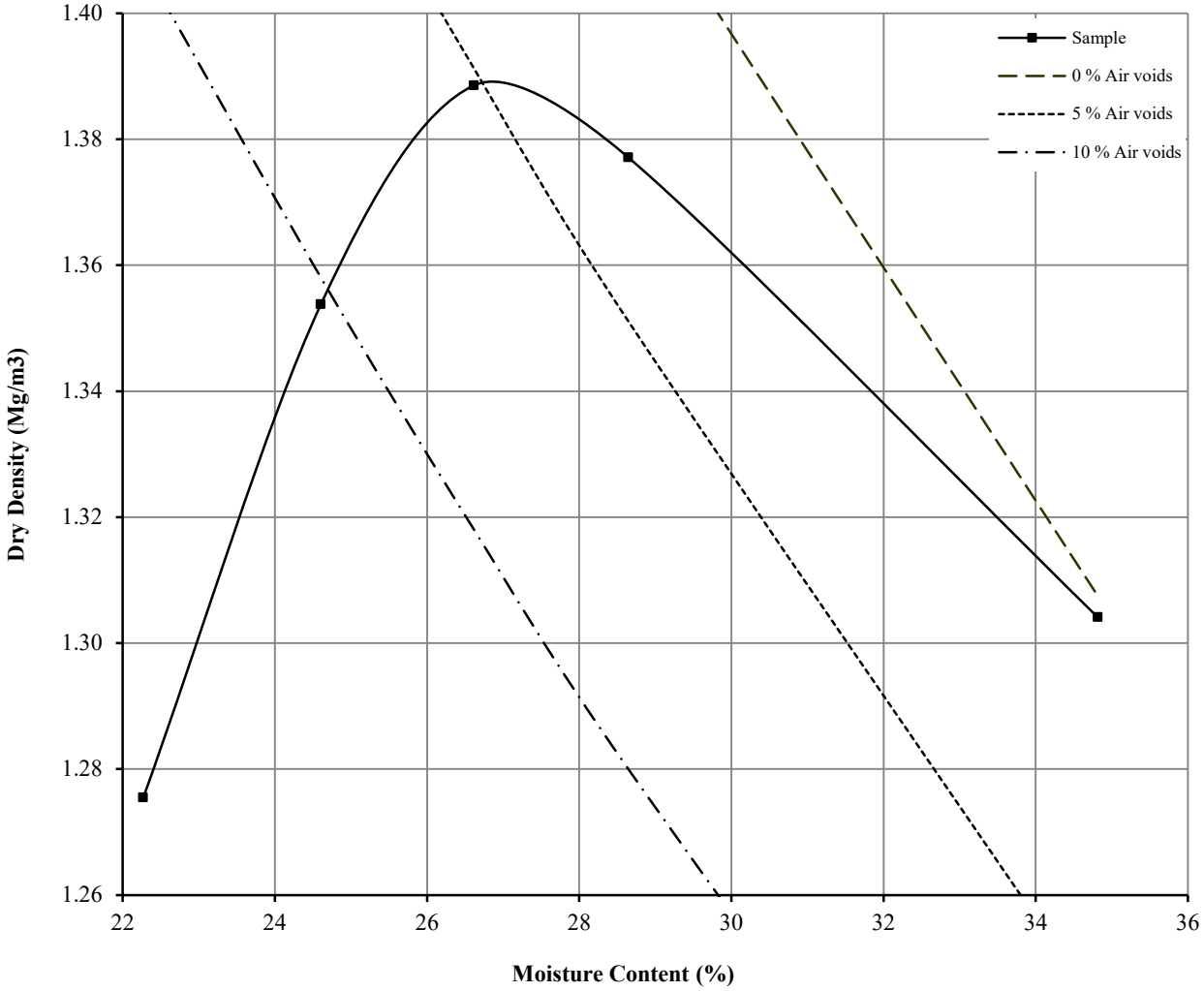


Initial Moisture Content:		17	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.87	Material Retained on 20.0 mm Test Sieve (%):		1
Optimum Moisture Content (%):		14			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.4 : 1990

Hole Number:	**CP106**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**3.00**
Sample Type:	**B**		

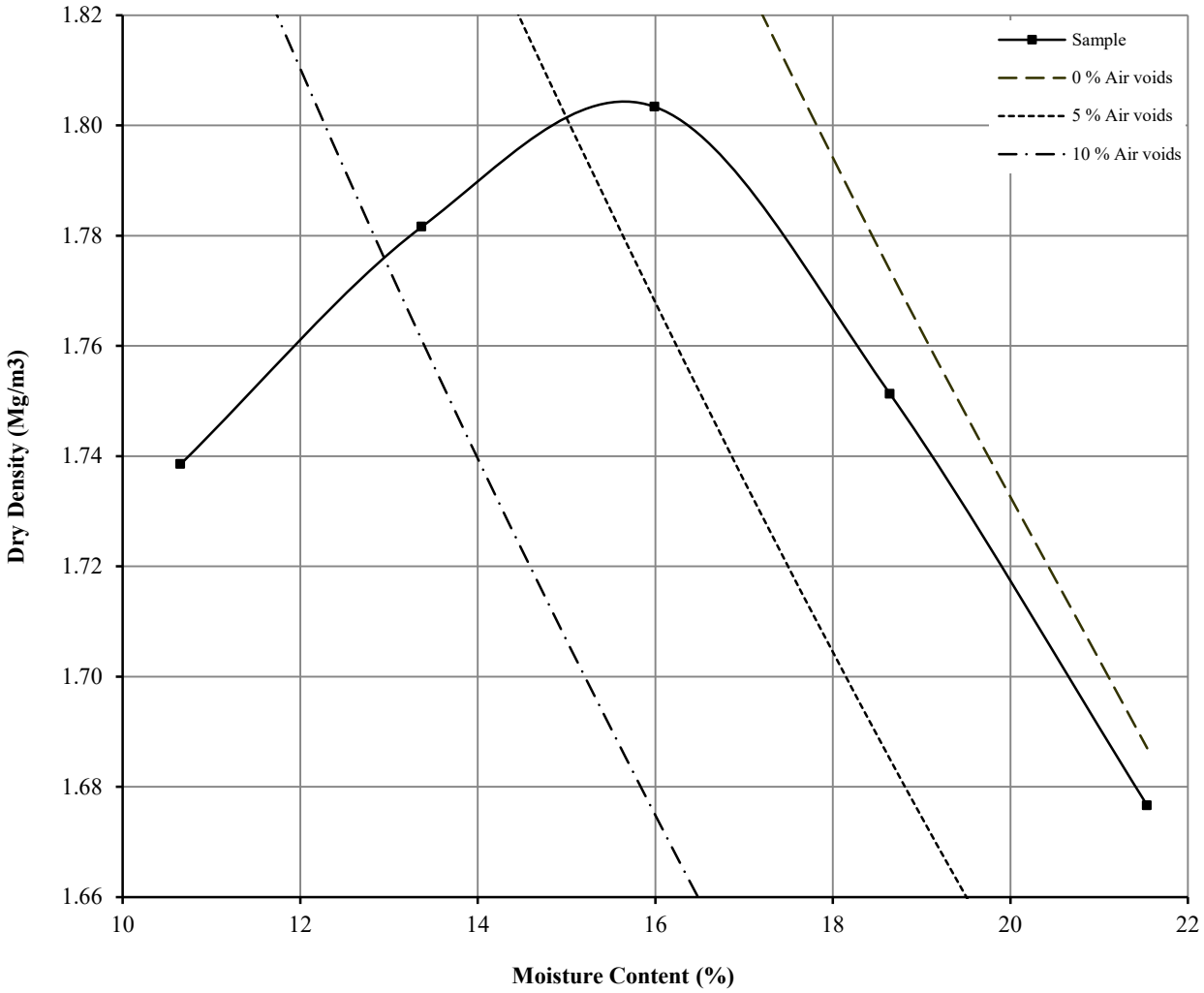


Initial Moisture Content:		35	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.4	Assumed	Material Retained on 37.5 mm Test Sieve (%):		2
Maximum Dry Density (Mg/m3):		1.39	Material Retained on 20.0 mm Test Sieve (%):		5
Optimum Moisture Content (%):		27			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP108**	**Top Depth (m) :**	**19.00**
Sample Number:		**Base Depth (m) :**	**20.00**
Sample Type:	**B**		

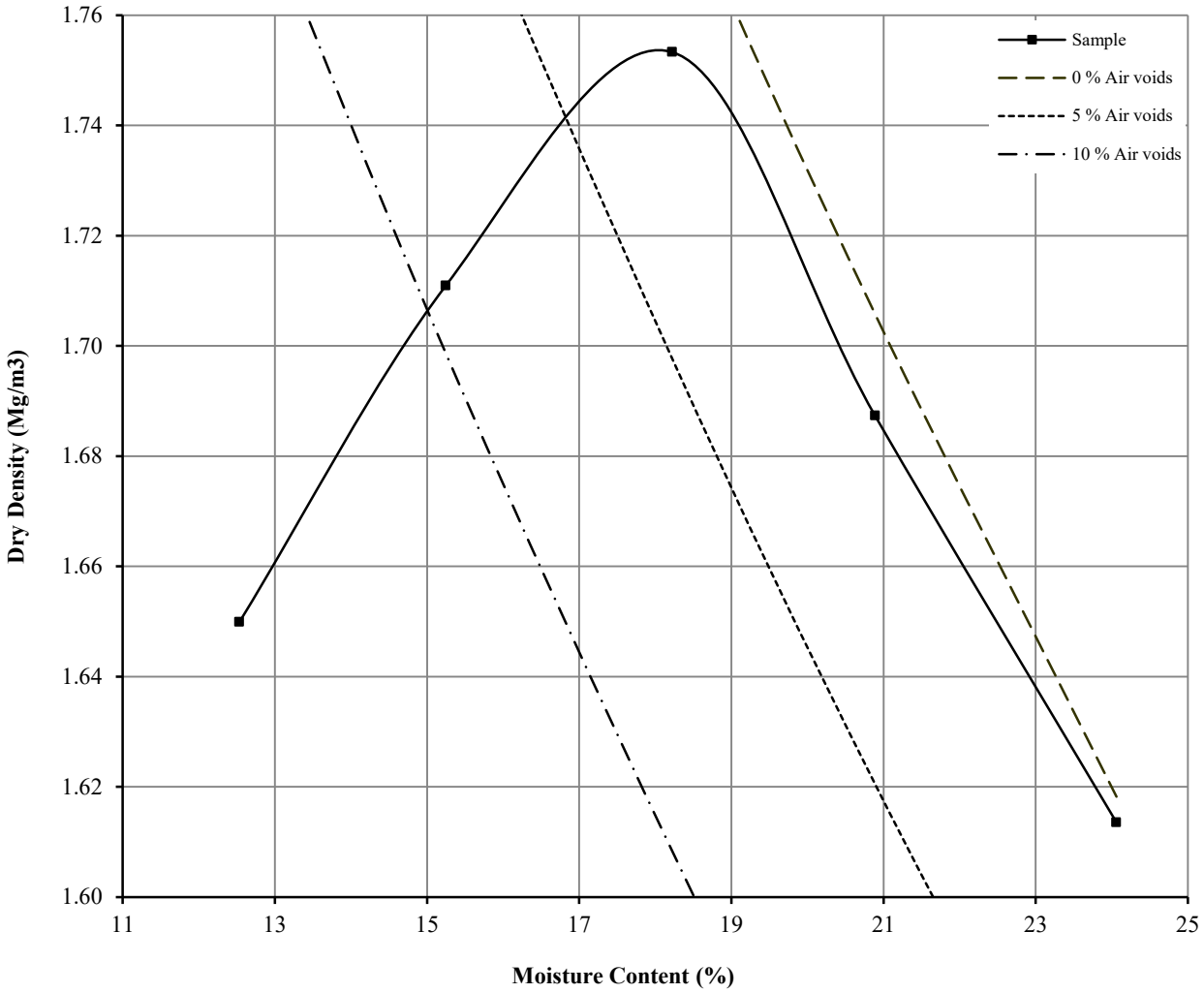


Initial Moisture Content:		16	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.80	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		16			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP110**	**Top Depth (m) :**	**7.00**
Sample Number:		**Base Depth (m) :**	**8.50**
Sample Type:	**B**		

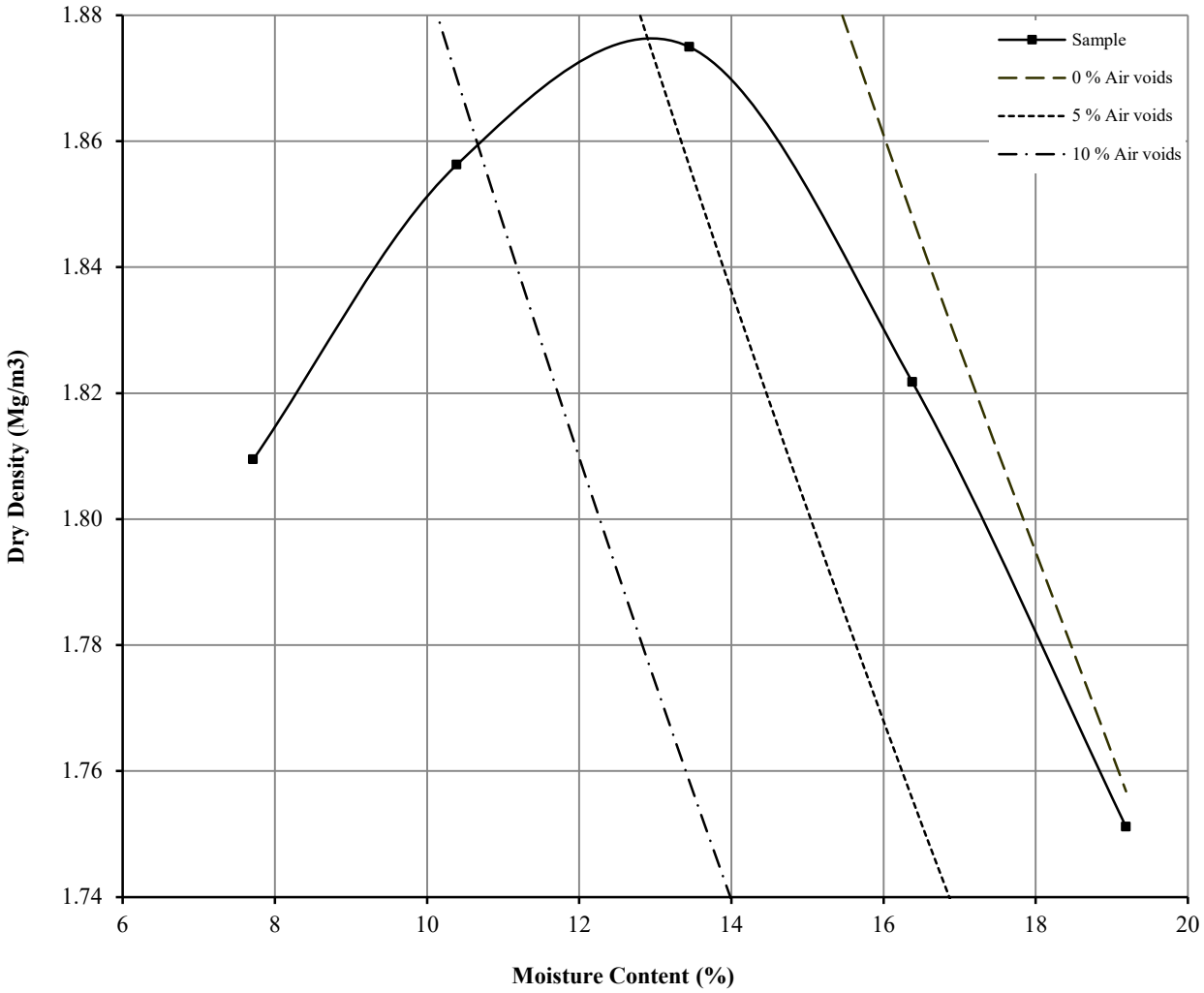


Initial Moisture Content:		21	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.75	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		18			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP112**	**Top Depth (m) :**	**11.00**
Sample Number:		**Base Depth (m) :**	**12.00**
Sample Type:	**B**		

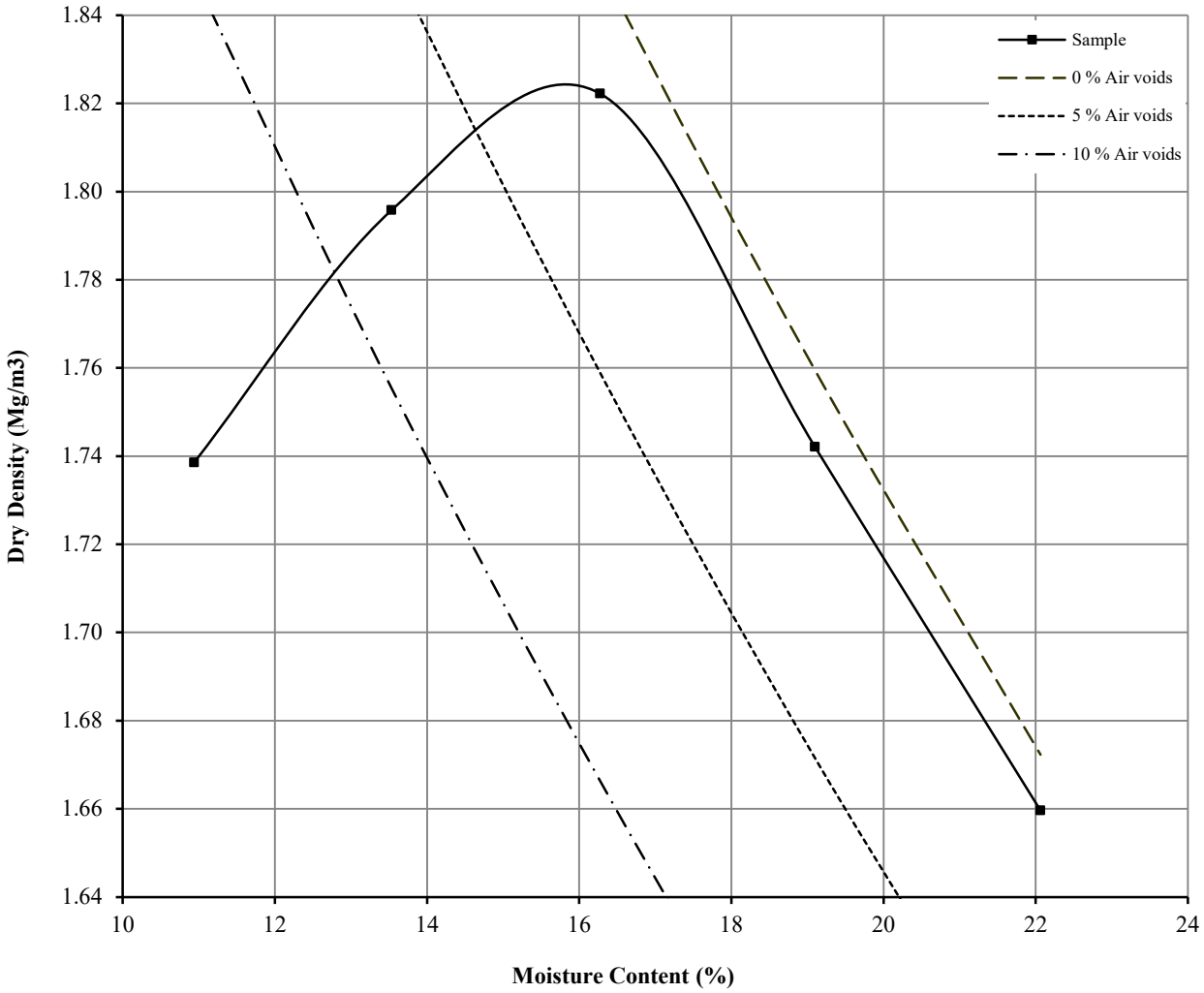


Initial Moisture Content:		19	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.87	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		13			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**CP113**	**Top Depth (m) :**	**5.45**
Sample Number:		**Base Depth (m) :**	**6.00**
Sample Type:	**B**		



Initial Moisture Content:		22	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.82	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		16			
Remarks See summary of soil descriptions					

UKAS TESTING 4043

PSL Professional Soils Laboratory

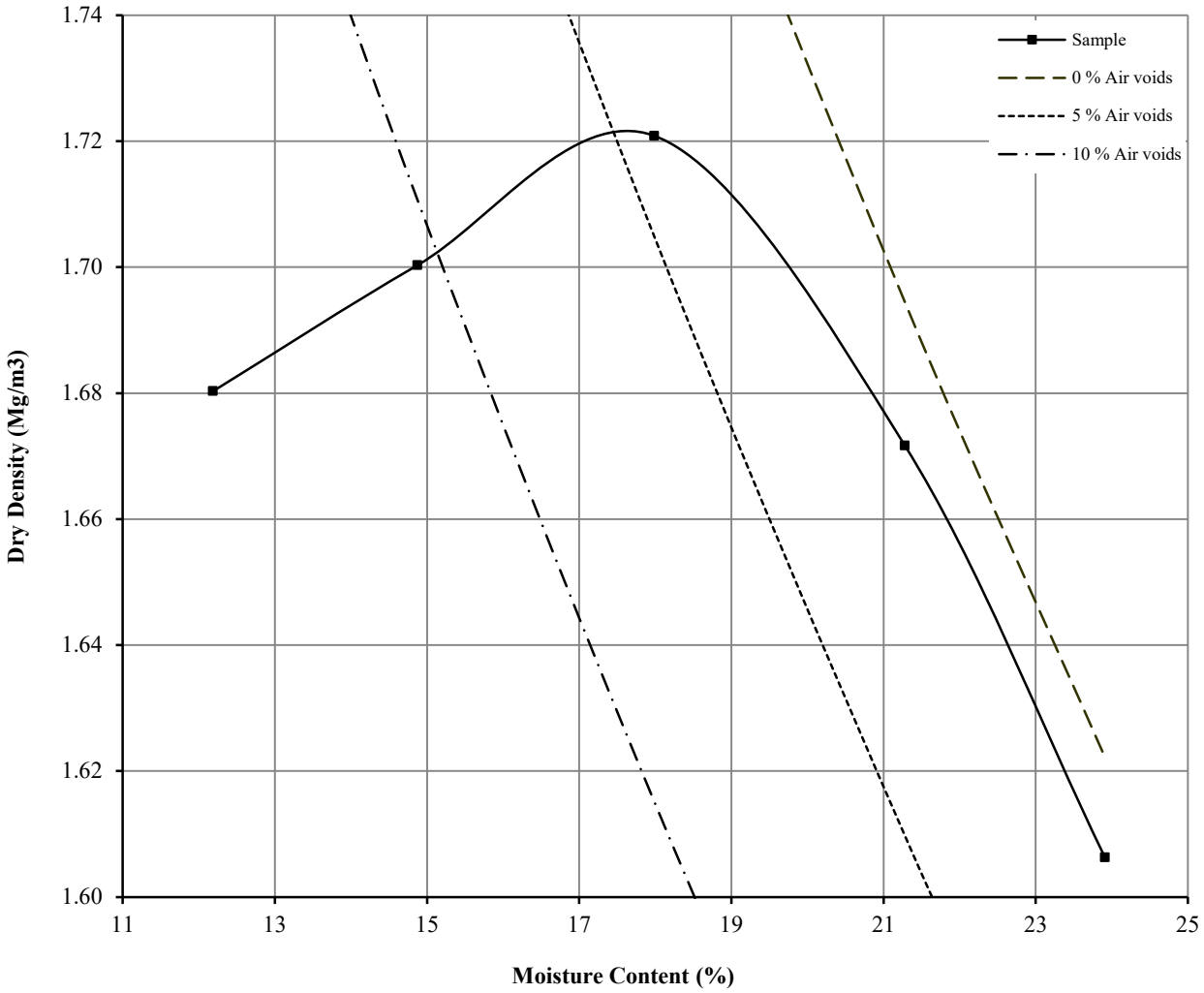
Ten Acres, Newton Heath

Contract
PSL20/6932
Client Ref
LD10162

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**TP103**	**Top Depth (m) :**	**4.50**
Sample Number:		**Base Depth (m) :**	**5.30**
Sample Type:	**B**		



Initial Moisture Content:		18	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.72	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		18			
Remarks See summary of soil descriptions					

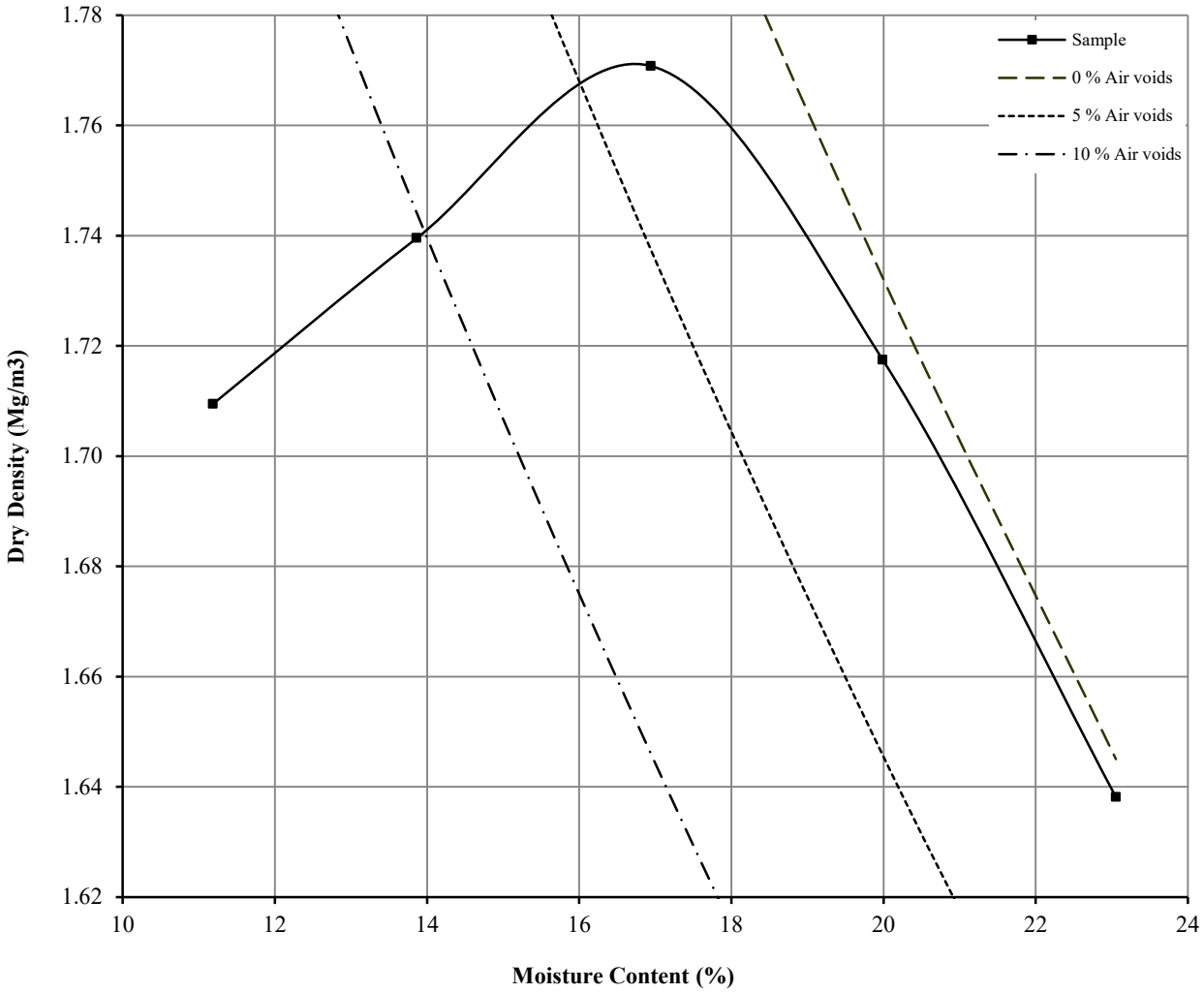
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number: TP116 **Top Depth (m) :** 4.80

Sample Number: **Base Depth (m) :**

Sample Type: B

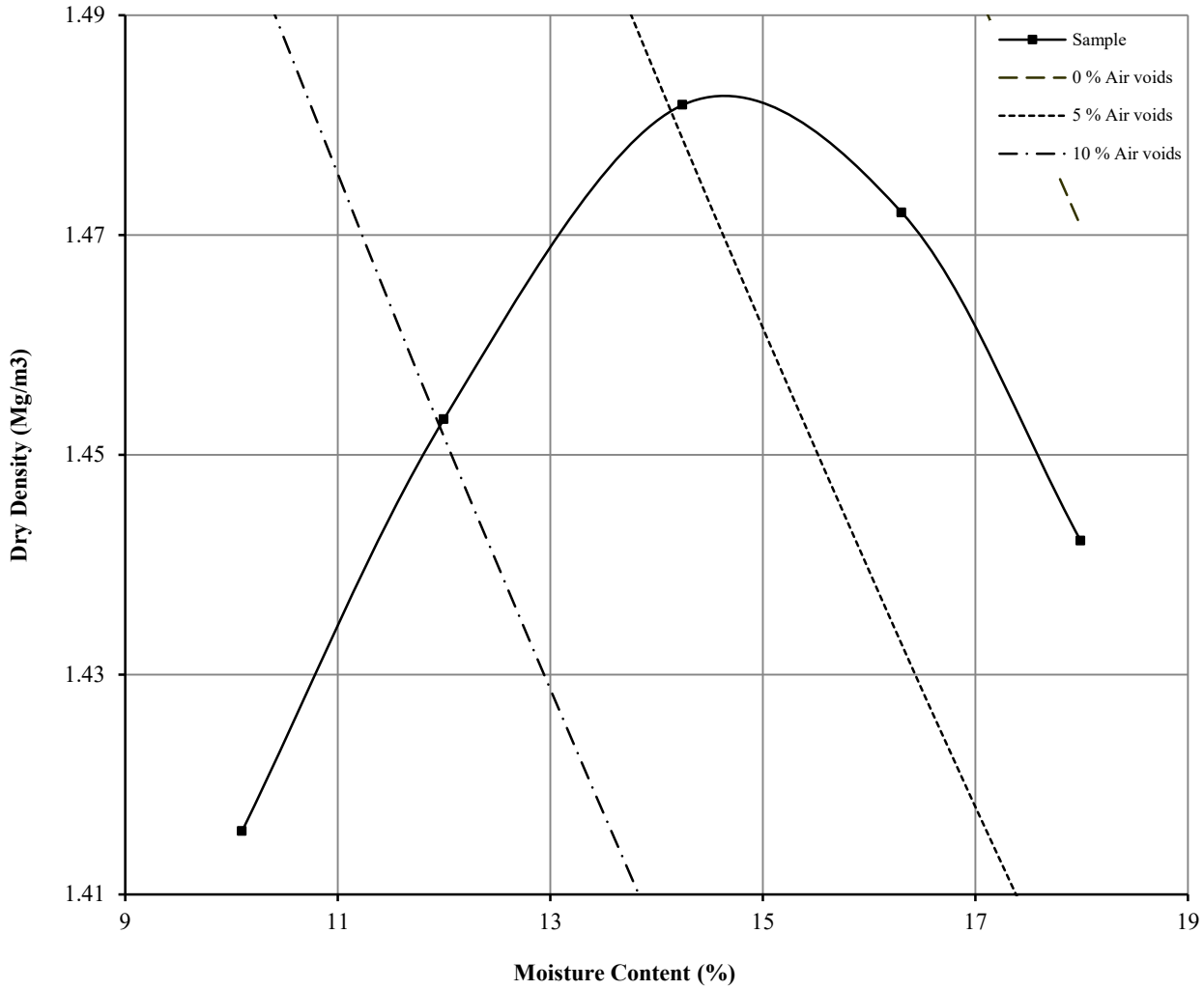


Initial Moisture Content:		17	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.77	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		17			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

Non compliance with BS 1377 : Part 4 : Clause 3.4 : 1990

Hole Number:	**TP133**	**Top Depth (m) :**	**2.40**
Sample Number:		**Base Depth (m) :**	**3.20**
Sample Type:	**B**		



Initial Moisture Content:		14	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2	Assumed	Material Retained on 37.5 mm Test Sieve (%):		54
Maximum Dry Density (Mg/m3):		1.48	Material Retained on 20.0 mm Test Sieve (%):		6
Optimum Moisture Content (%):		14			
Remarks See summary of soil descriptions					

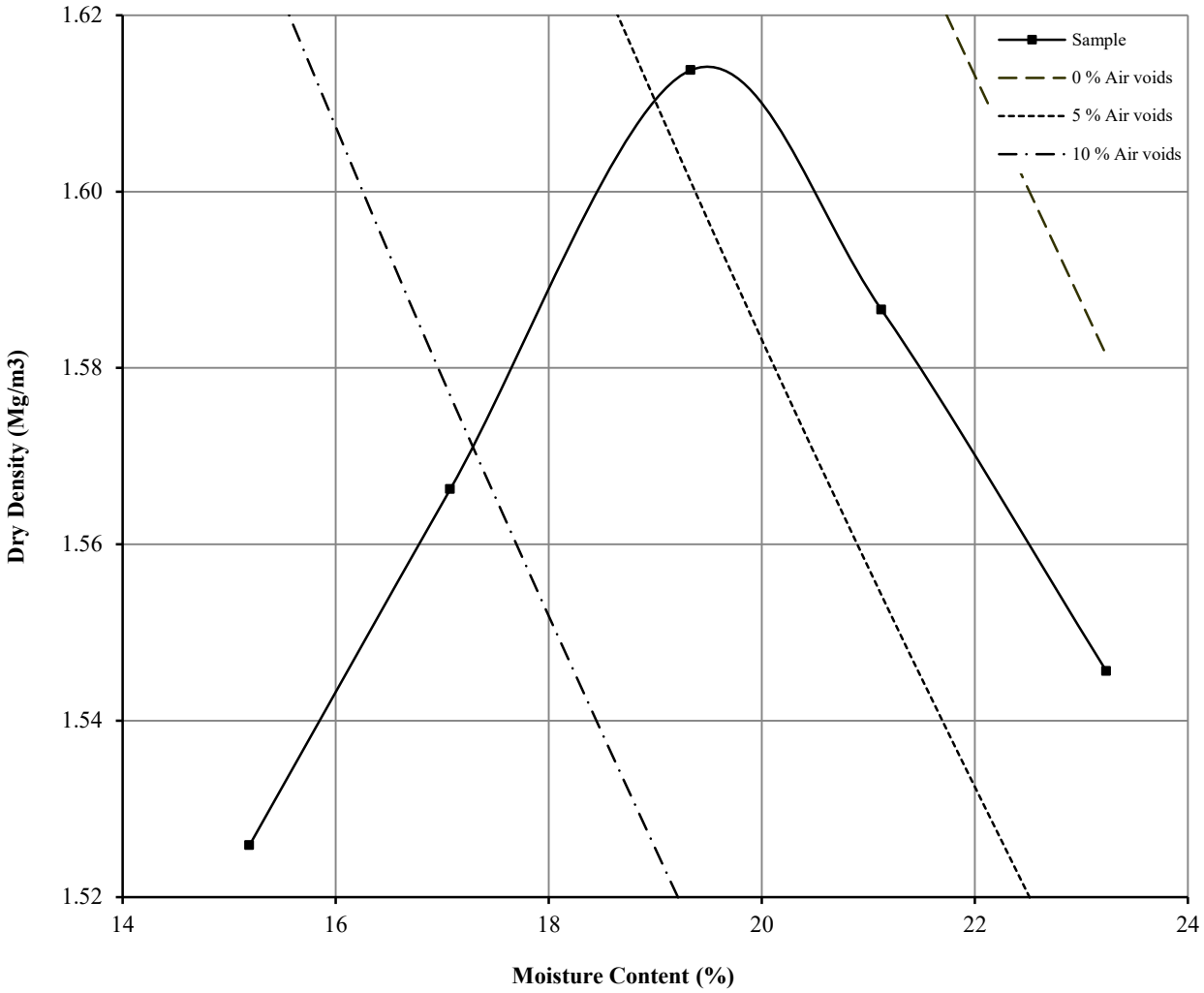
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number: TP136 **Top Depth (m) :** 2.30

Sample Number: **Base Depth (m) :**

Sample Type: B

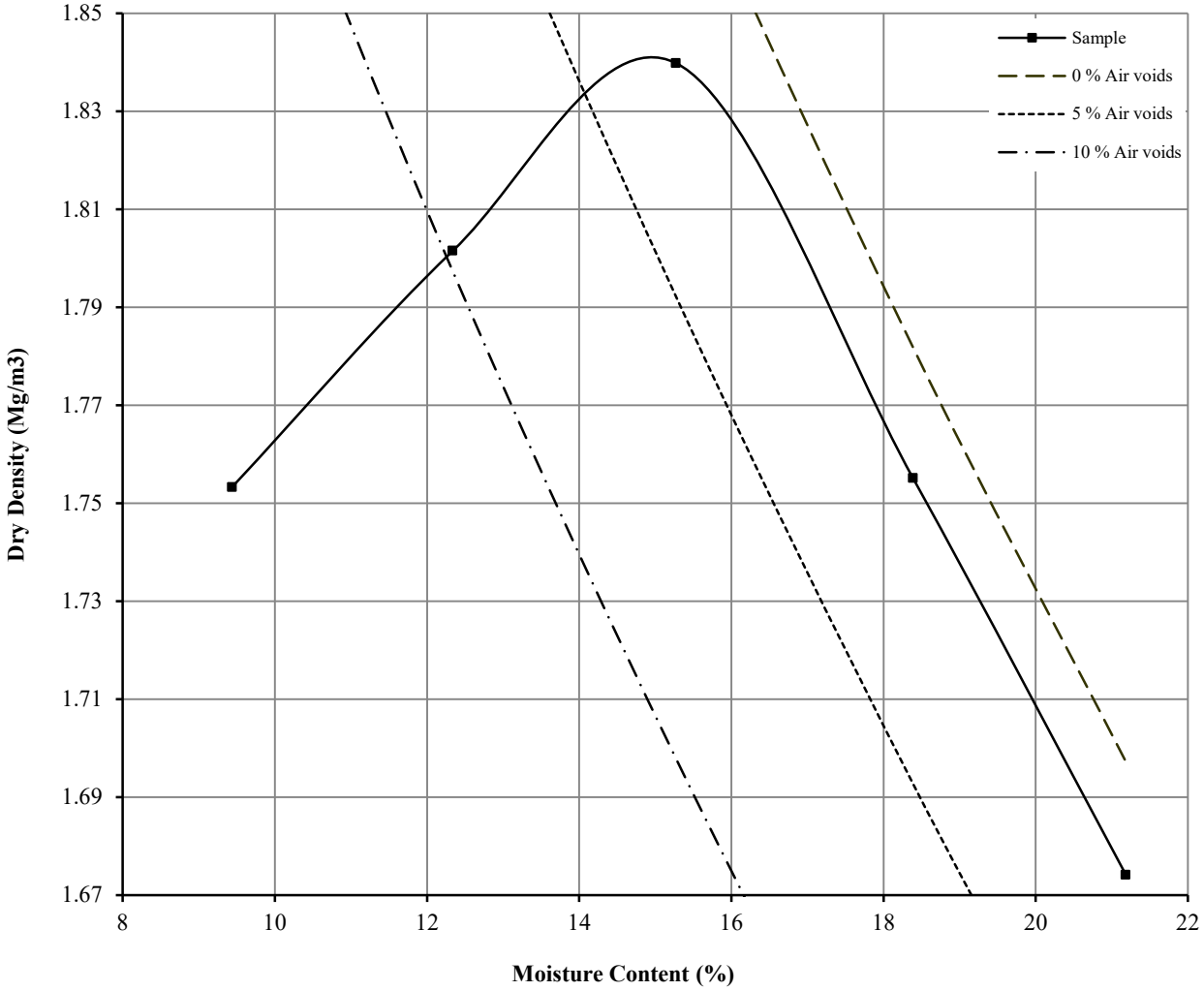


Initial Moisture Content:		21	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.5	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.61	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		19			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**TP143**	**Top Depth (m) :**	**2.90**
Sample Number:		**Base Depth (m) :**	**5.40**
Sample Type:	**B**		



Initial Moisture Content:		9.4	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.84	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		15			
Remarks See summary of soil descriptions					

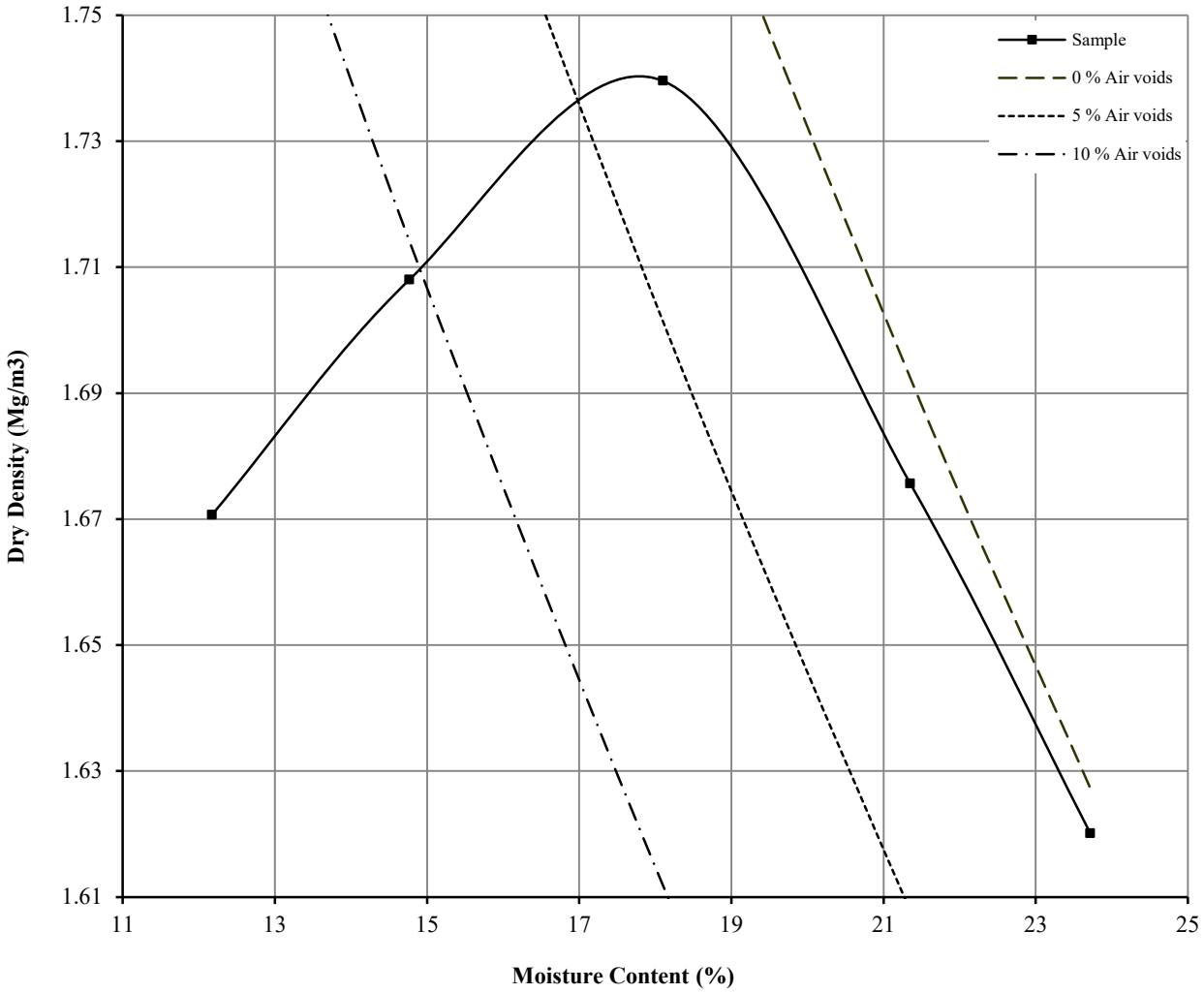
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number: TP148 **Top Depth (m) :** 1.60

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		21	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.74	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		18			
Remarks See summary of soil descriptions					

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

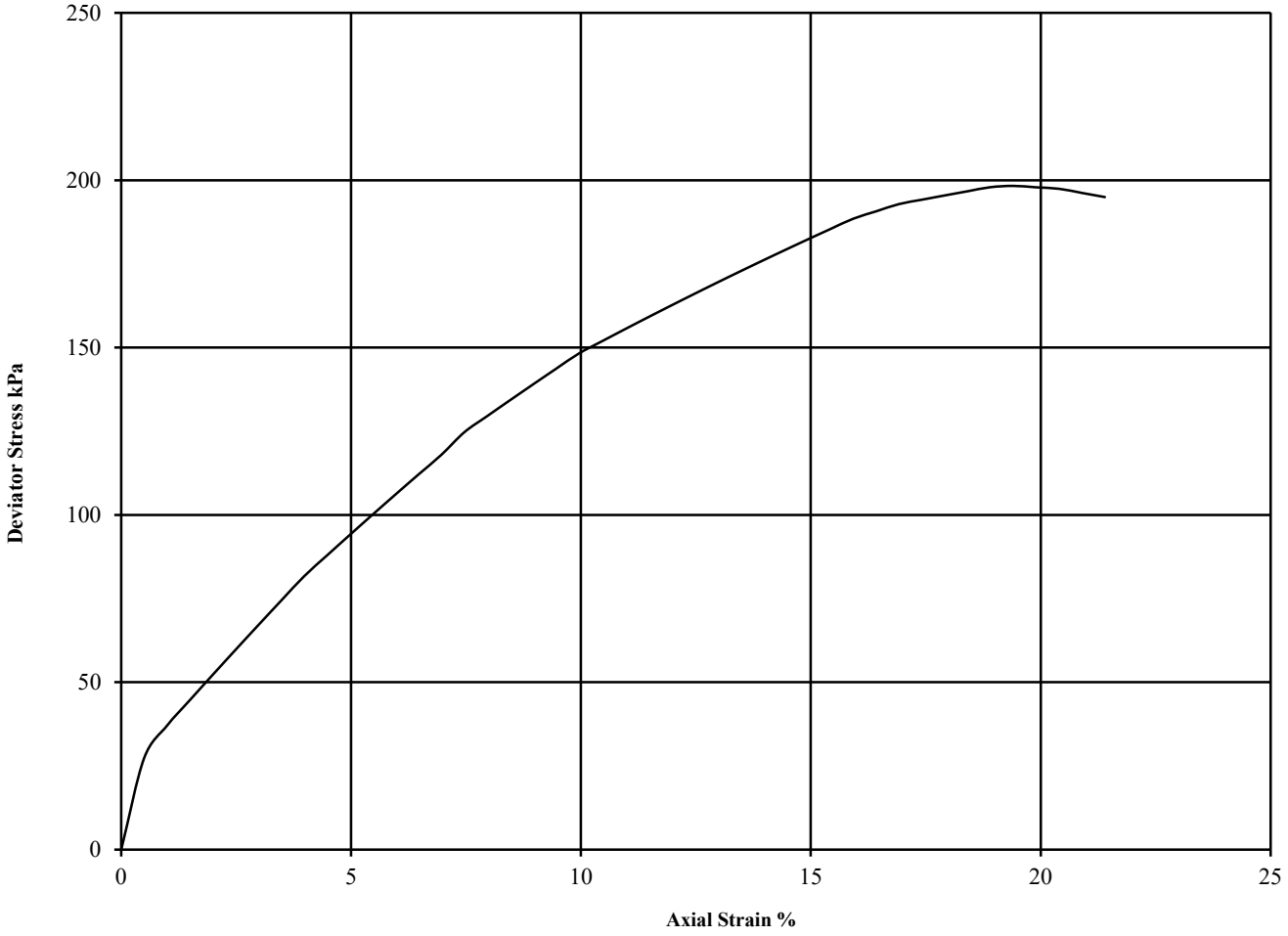
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP105 **Top Depth (m):** 6.00

Sample Number: **Base Depth (m):** 6.45

Sample Type UT



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33
1	15	2.16	1.87	120	198	99	19.4	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No: PSL20/6932

Client Ref: LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

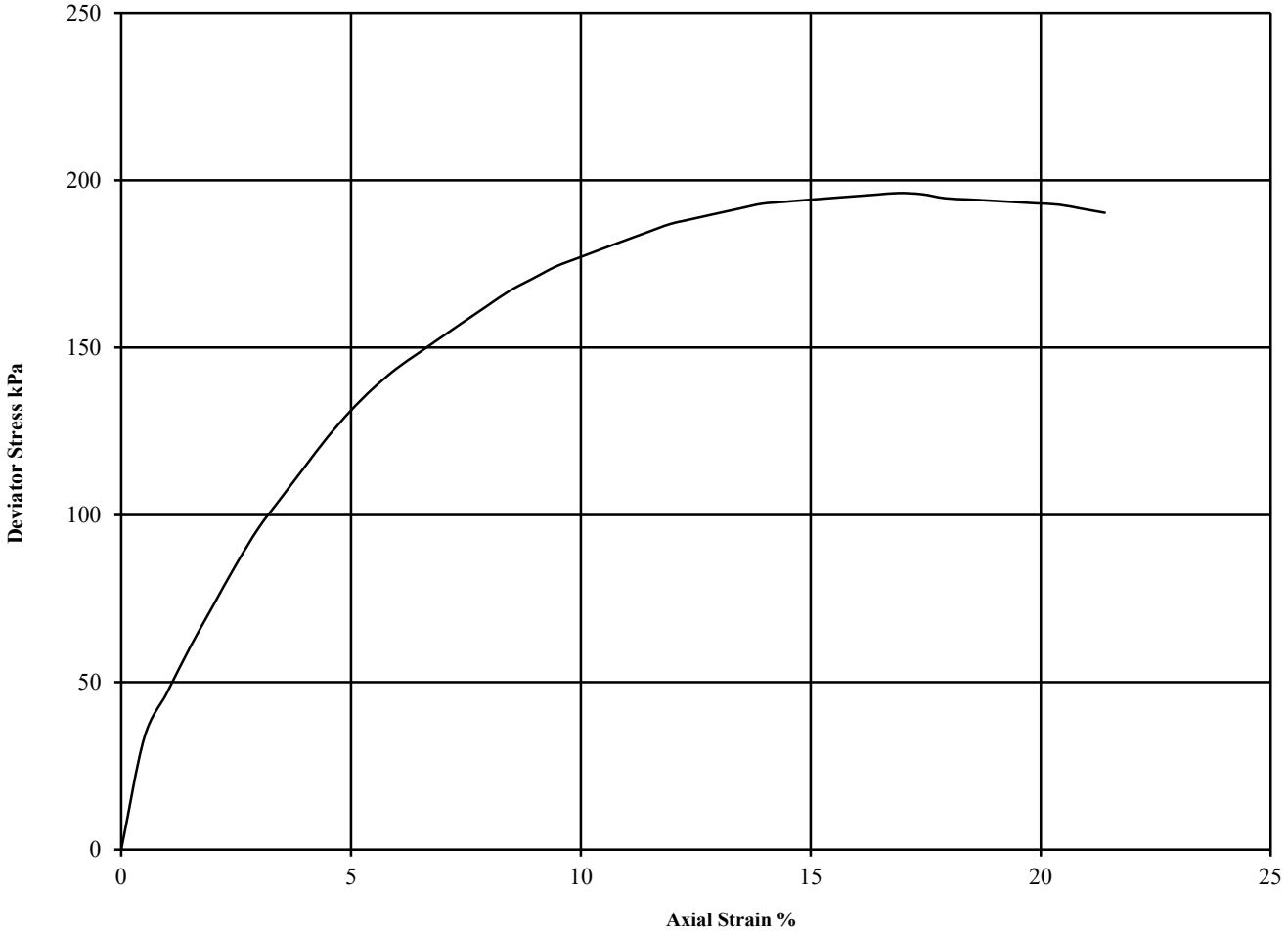
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP105 **Top Depth (m):** 8.00

Sample Number: **Base Depth (m):** 8.45

Sample Type UT



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	18	2.09	1.77	160	196	98	16.9	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No:
PSL20/6932
Client Ref:
LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

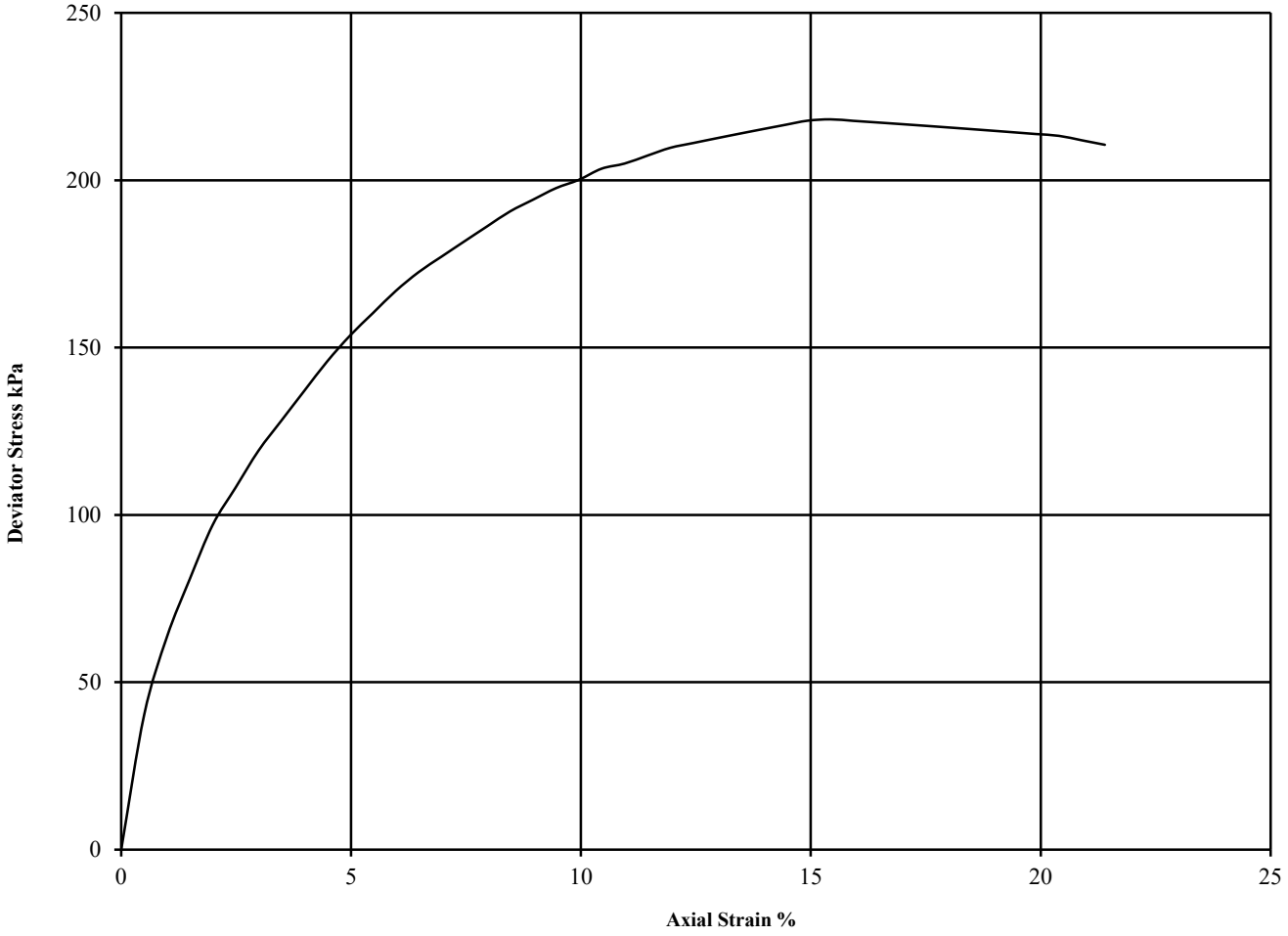
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP105 **Top Depth (m):** 10.00

Sample Number: **Base Depth (m):** 10.45

Sample Type UT



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	16	2.13	1.83	200	218	109	15.4	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No: PSL20/6932

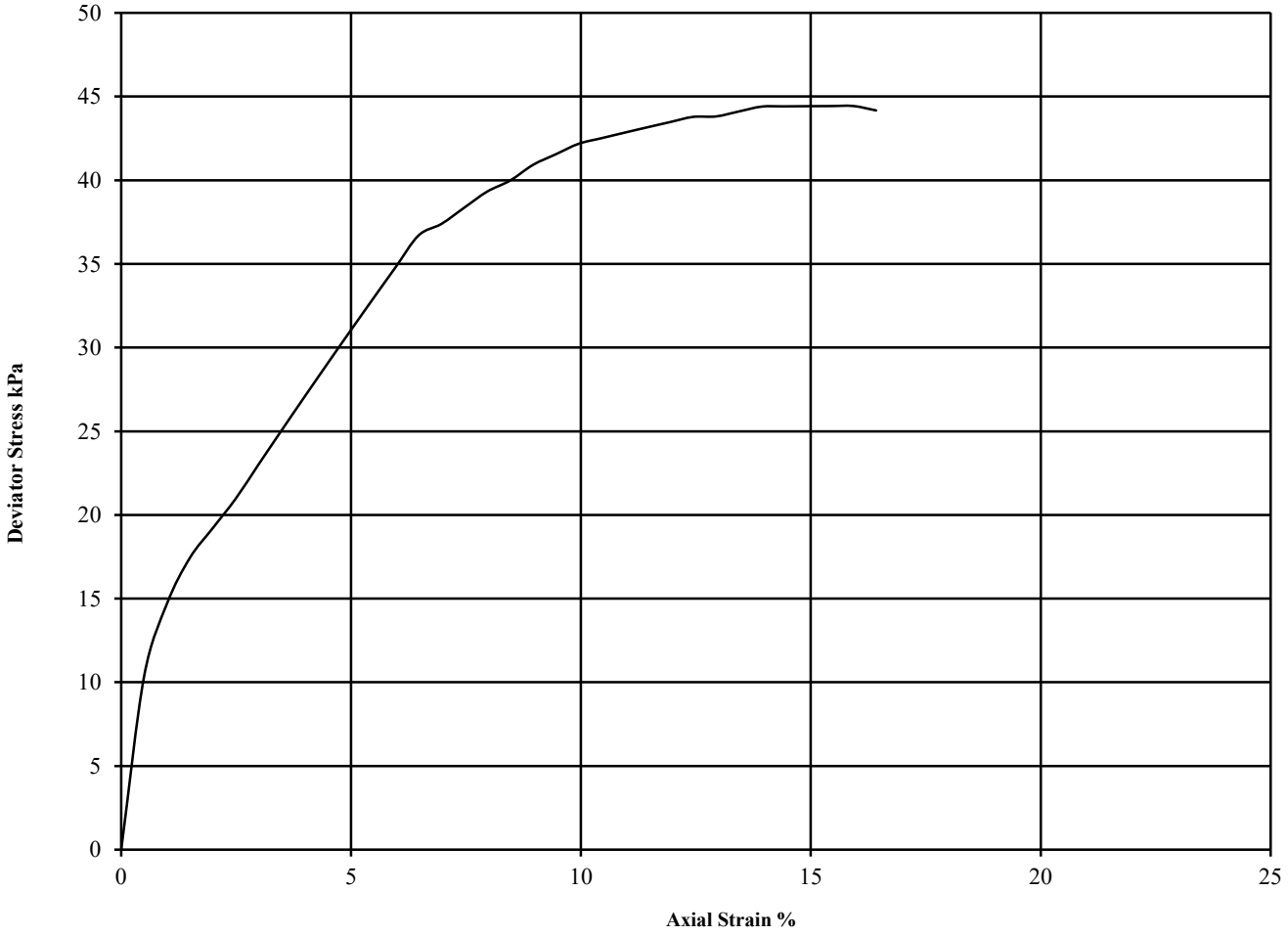
Client Ref: LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**CP106**	**Top Depth (m):**	**6.00**
Sample Number:		**Base Depth (m):**	**6.45**
Sample Type	**UT**		



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	22	2.05	1.69	120	44	22	15.9	Brittle	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**Ten Acres, Newton Heath**	**Contract No:** PSL20/6932 **Client Ref:** LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

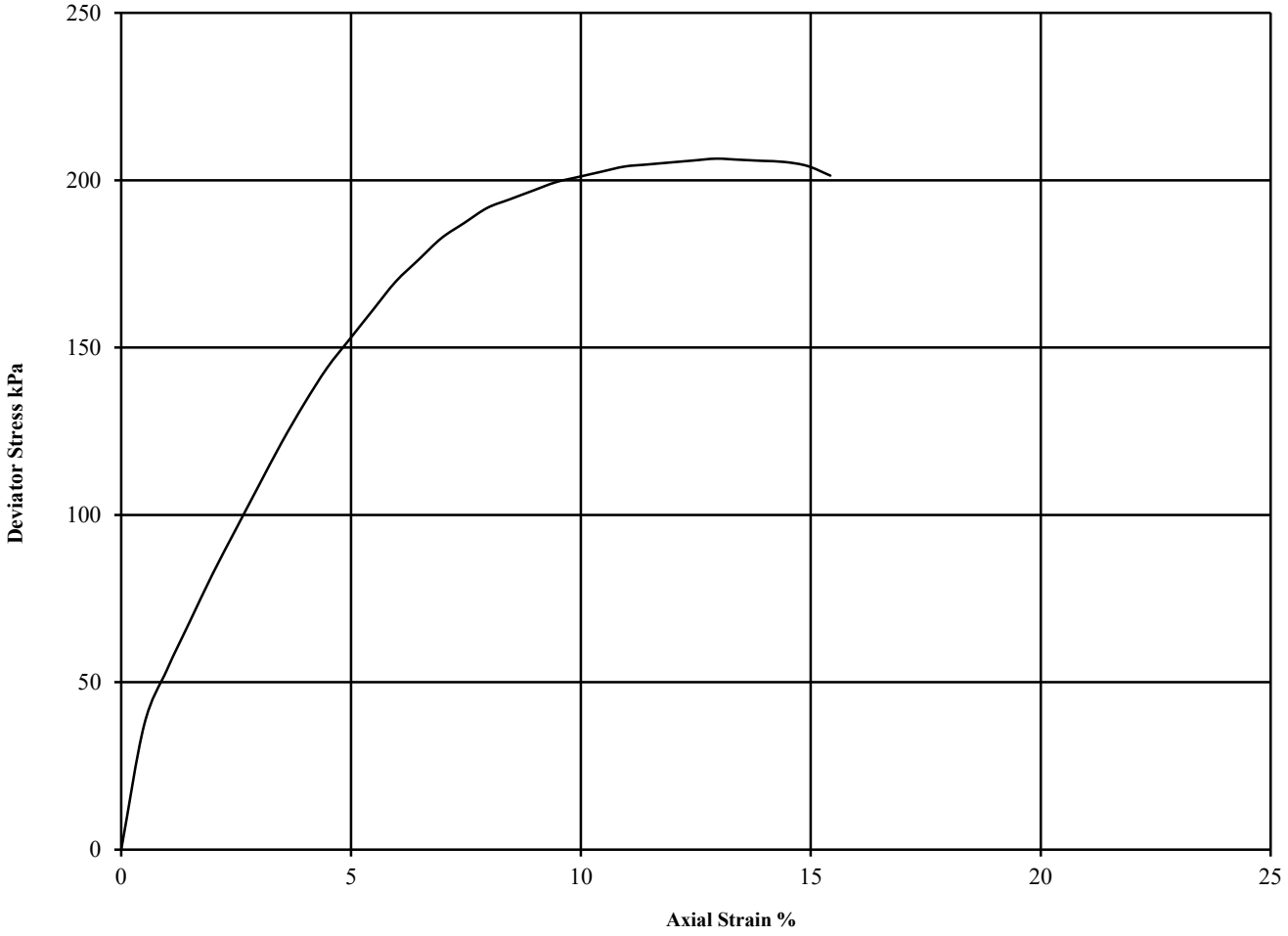
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP106 **Top Depth (m):** 8.00

Sample Number: **Base Depth (m):** 8.45

Sample Type UT



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	16	2.08	1.79	140	206	103	12.9	Brittle	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No:
PSL20/6932
Client Ref:
LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

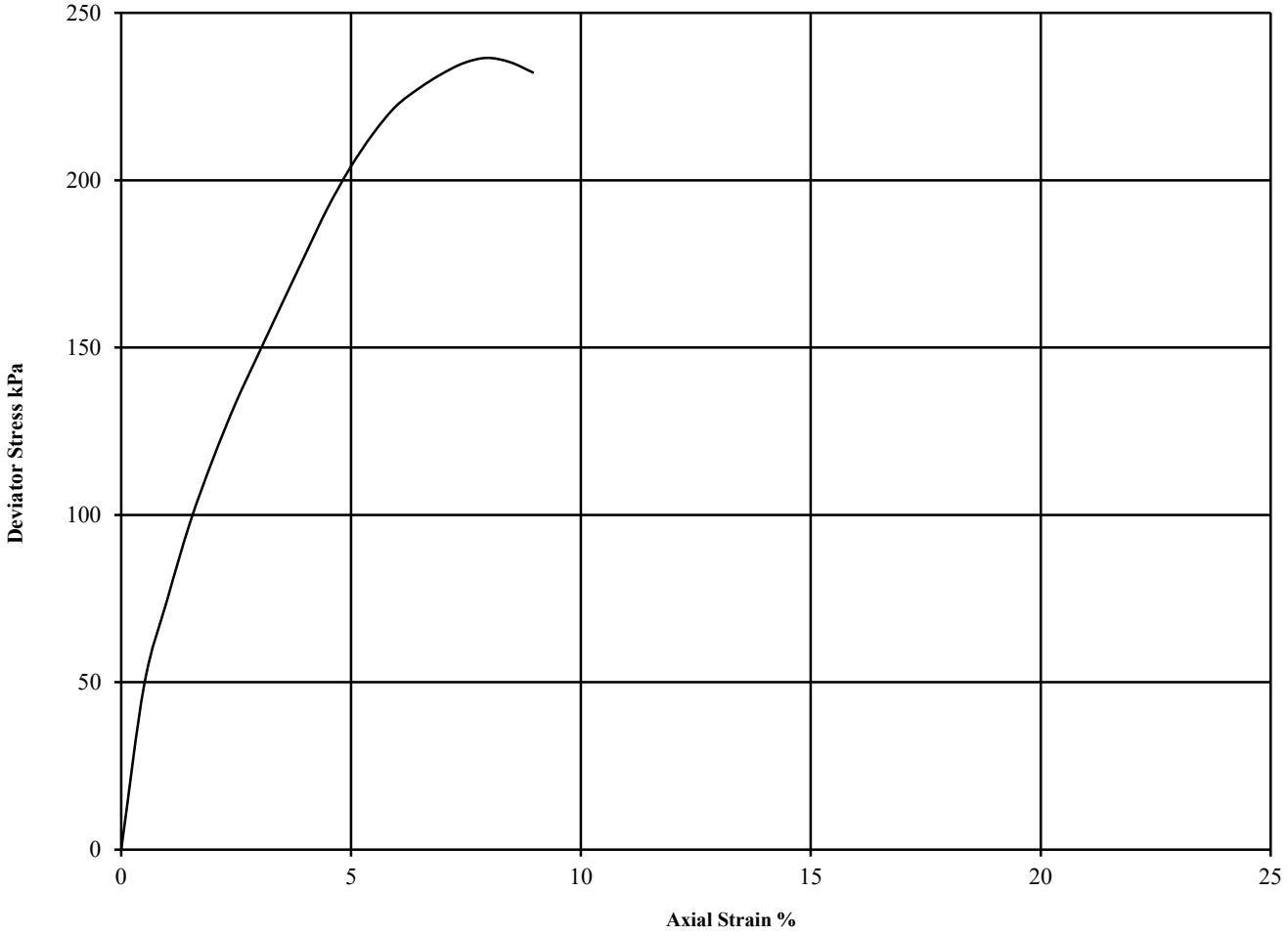
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP107 **Top Depth (m):** 11.00

Sample Number: **Base Depth (m):** 11.45

Sample Type UT



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35
1	28	1.91	1.49	220	237	118	8.0	Brittle	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No: PSL20/6932

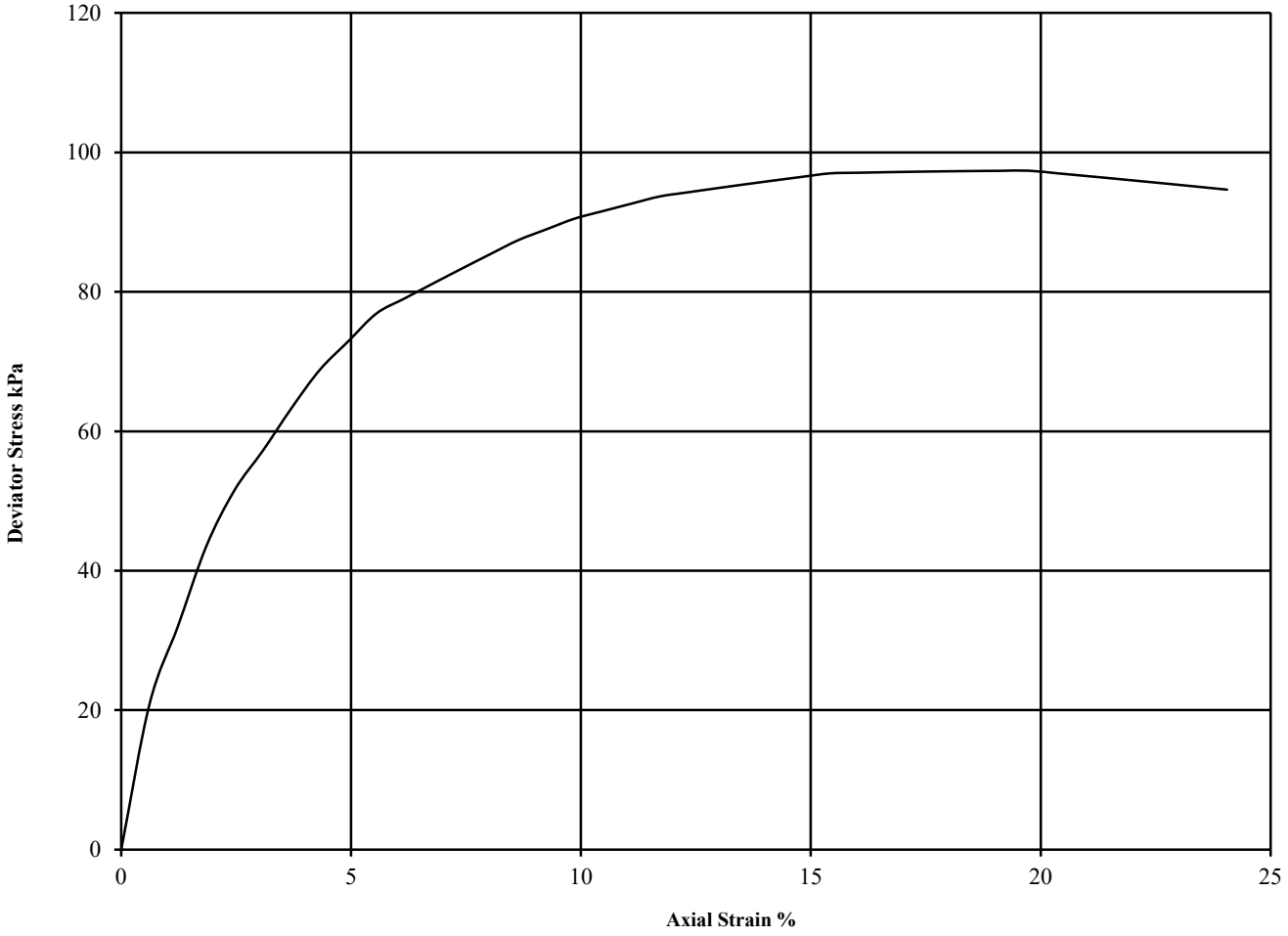
Client Ref: LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**CP108**	**Top Depth (m):**	**6.00**
Sample Number:		**Base Depth (m):**	**6.45**
Sample Type	**UT**		



Diameter (mm):		103	Height (mm):		167	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33
1	21	2.06	1.71	120	97	49	19.7	Plastic	See summary of soil descriptions

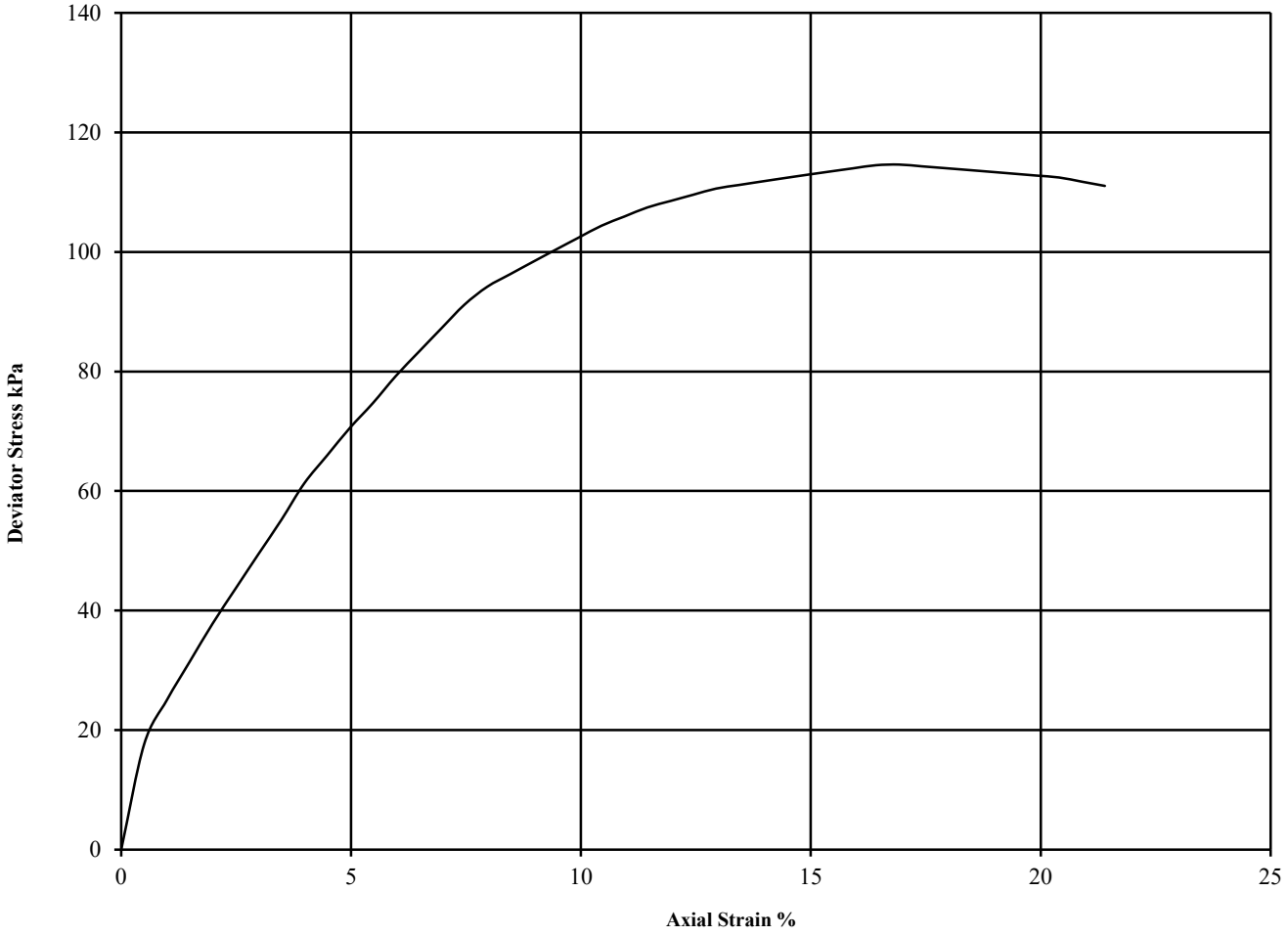
UKAS TESTING 4043	PSL Professional Soils Laboratory	**Ten Acres, Newton Heath**	**Contract No:** PSL20/6932 **Client Ref:** LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**CP108**	**Top Depth (m):**	**10.00**
Sample Number:		**Base Depth (m):**	**10.45**
Sample Type	**UT**		



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	17	2.12	1.82	120	115	57	16.9	Plastic	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**Ten Acres, Newton Heath**	**Contract No:** PSL20/6932 **Client Ref:** LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

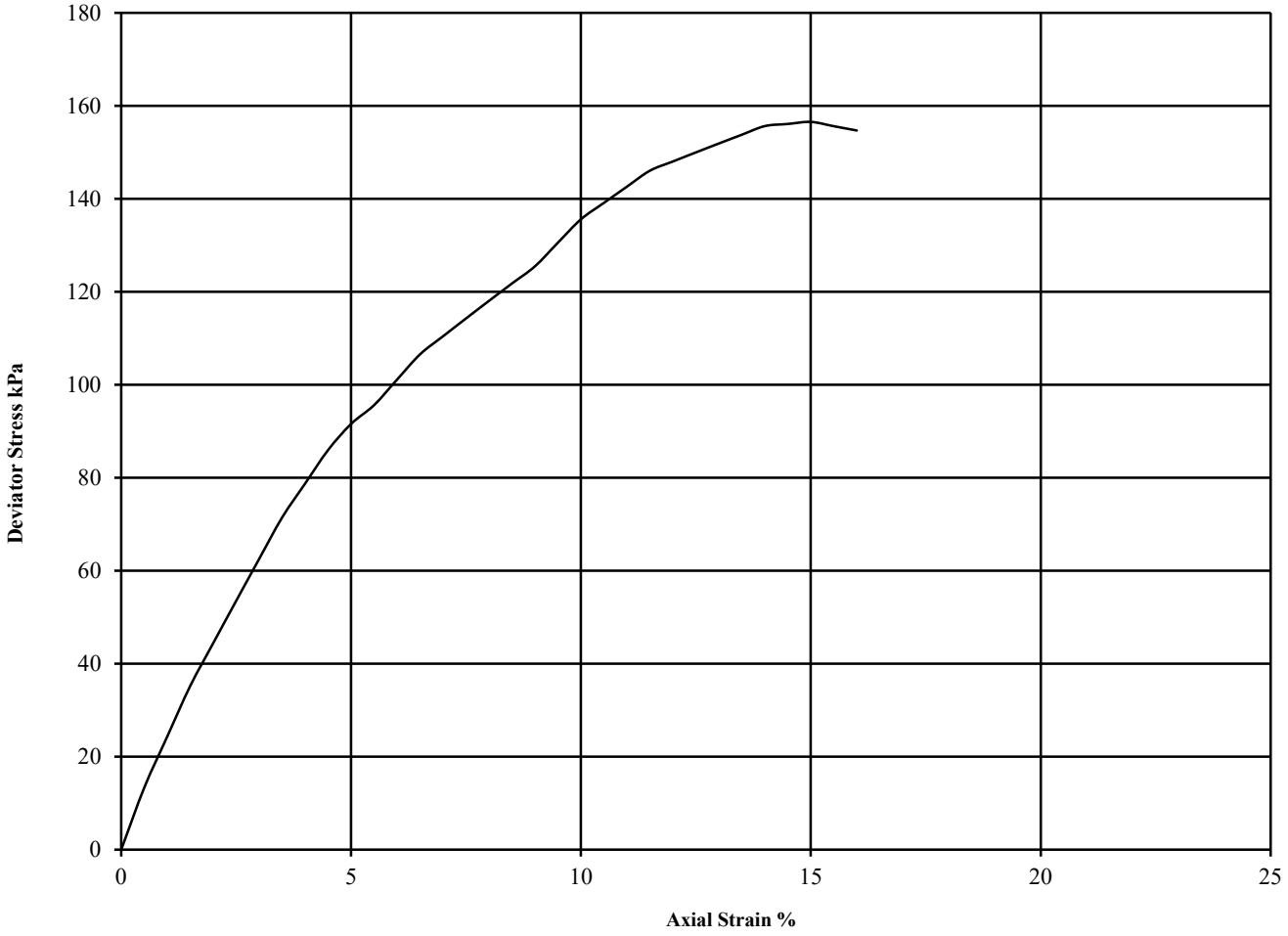
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP110 **Top Depth (m):** 5.50

Sample Number: **Base Depth (m):** 5.95

Sample Type UT



Diameter (mm):		38	Height (mm):		76	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.78
1	14	2.08	1.82	110	157	78	15.0	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No: PSL20/6932

Client Ref: LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

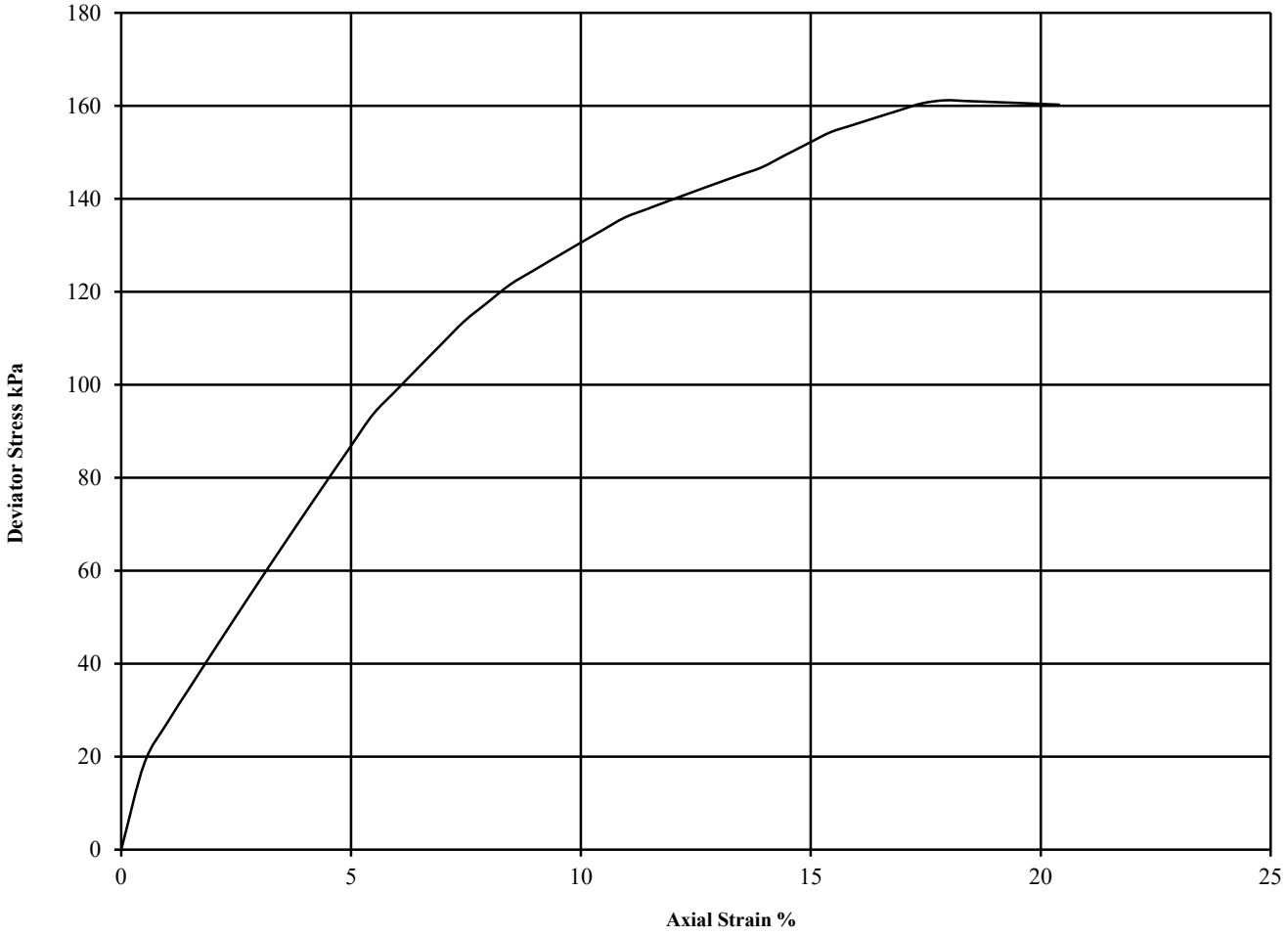
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP110 **Top Depth (m):** 8.00

Sample Number: **Base Depth (m):** 8.45

Sample Type UT



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	19	2.07	1.73	140	161	81	17.9	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

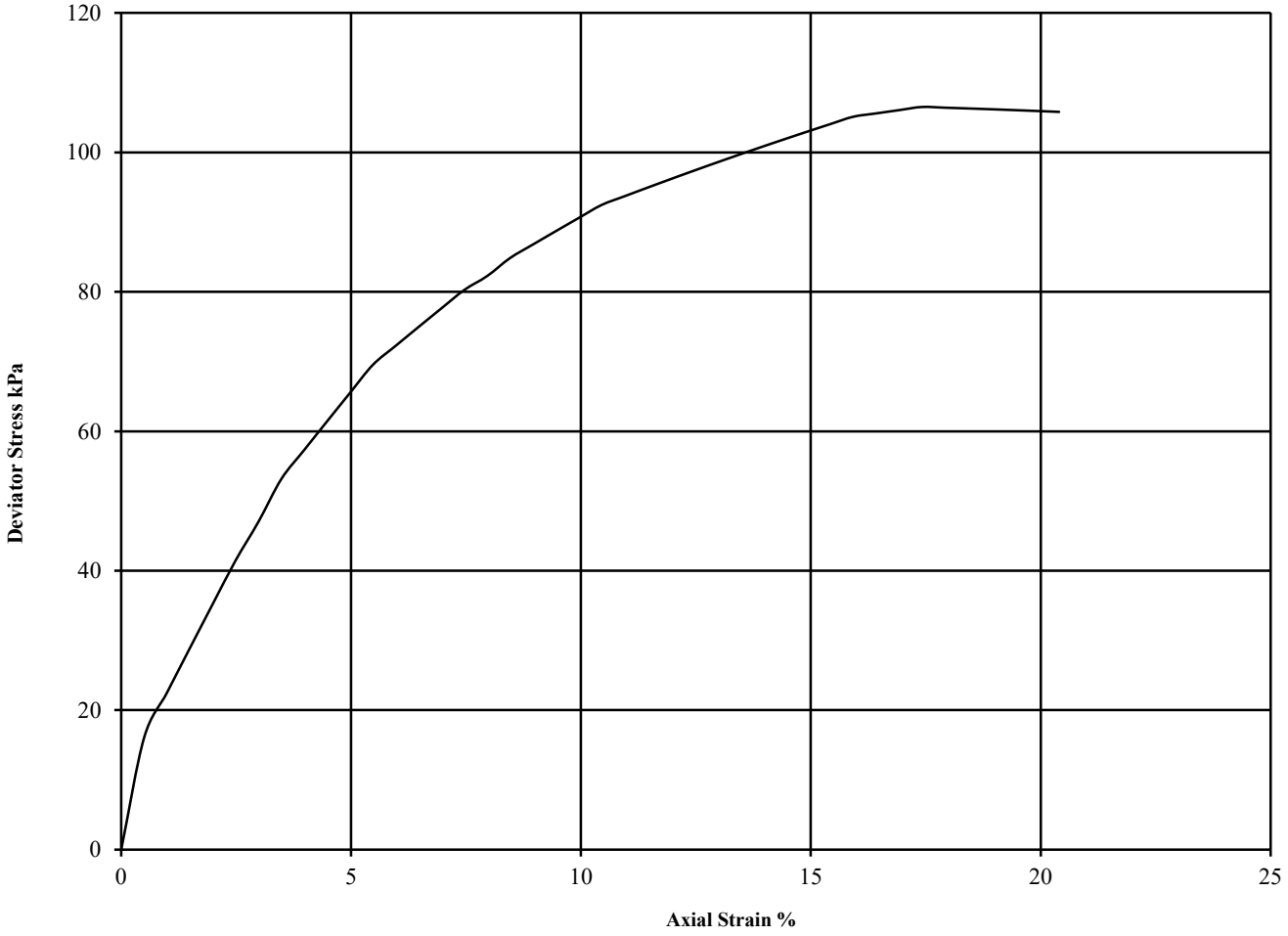
Contract No:
PSL20/6932
Client Ref:
LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**CP113**	**Top Depth (m):**	**5.00**
Sample Number:		**Base Depth (m):**	**5.45**
Sample Type	**UT**		



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	20	2.07	1.73	100	107	53	17.4	Plastic	See summary of soil descriptions

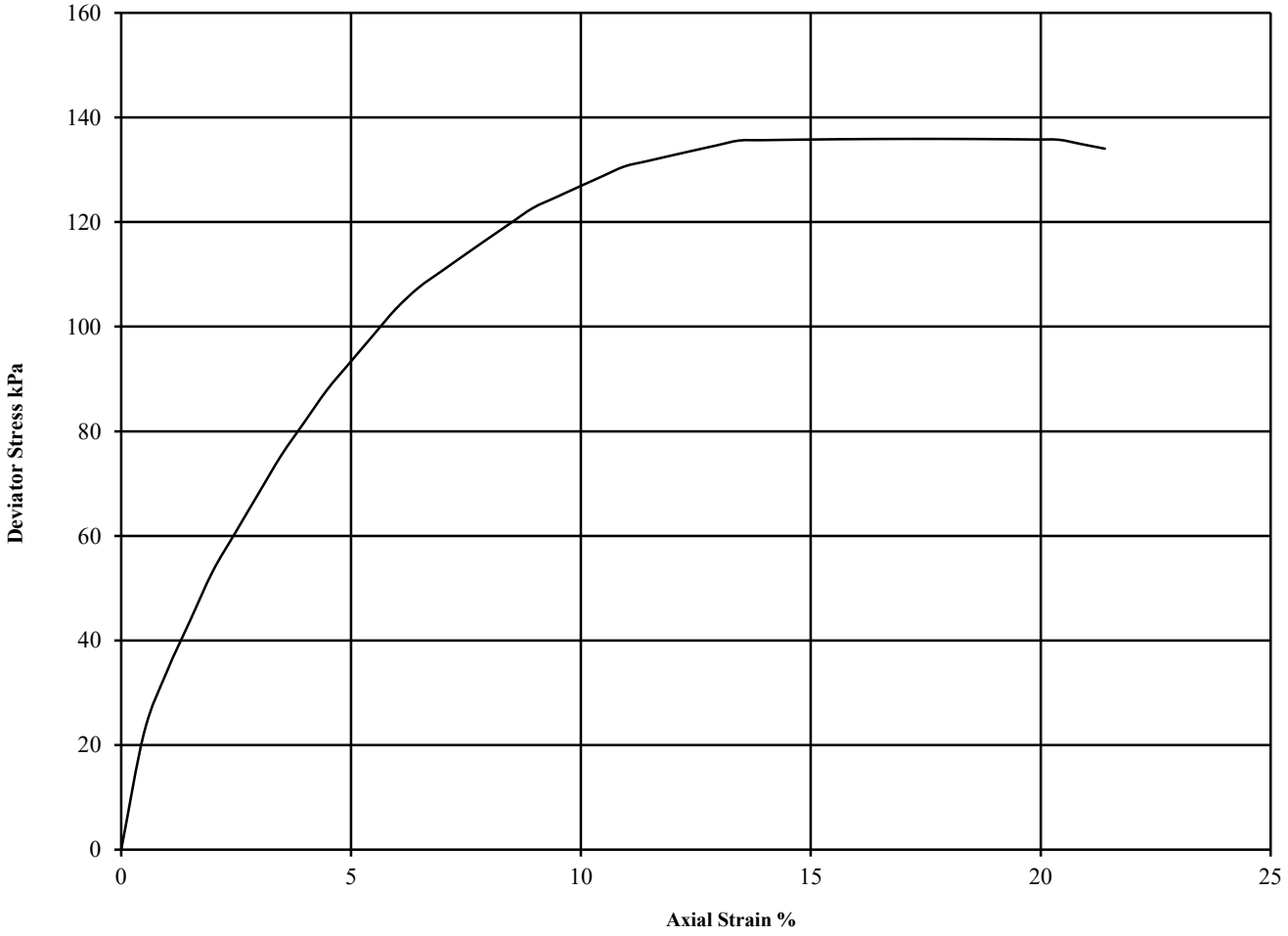
UKAS TESTING 4043	PSL Professional Soils Laboratory	**Ten Acres, Newton Heath**	**Contract No:** PSL20/6932 **Client Ref:** LD10162

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**CP113**	**Top Depth (m):**	**7.00**
Sample Number:		**Base Depth (m):**	**7.45**
Sample Type	**UT**		



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	20	2.10	1.75	140	136	68	17.4	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No:
PSL20/6932
Client Ref:
LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

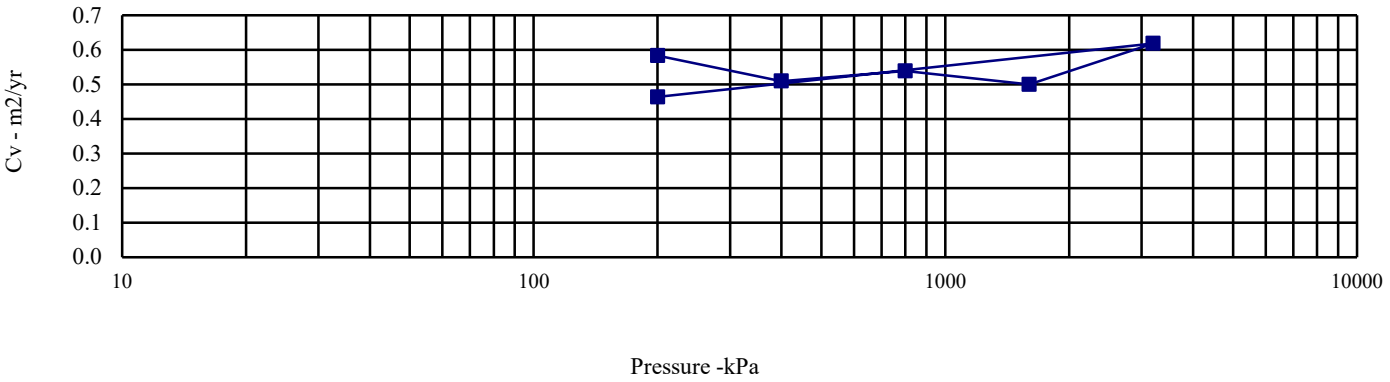
BS 1377: Part 5: 1990: Clause 3

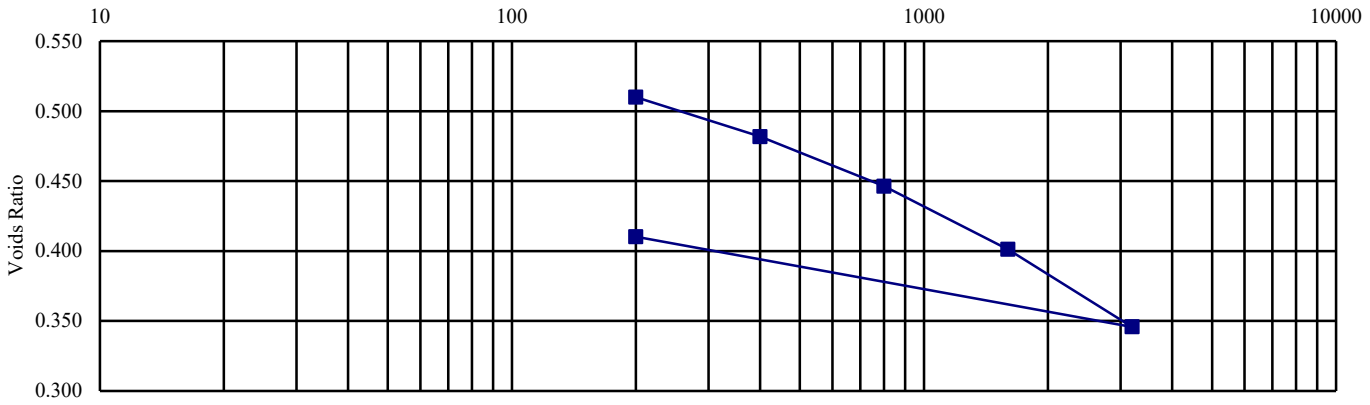
Hole Number: CP104 **Top Depth (m):** 11.00

Sample Number: **Base Depth (m) :** 11.45

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	24						
Bulk Density (Mg/m3):	2.09	0	200	0.181	0.583	Method used to	
Dry Density (Mg/m3):	1.69	200	400	0.094	0.510	determine CV:	T90
Voids Ratio:	0.567	400	800	0.060	0.539	Nominal temperature	
Degree of saturation:	110.7	800	1600	0.039	0.500	during test ' C:	20
Height (mm):	20.07	1600	3200	0.025	0.619	Remarks:	
Diameter (mm)	75.103	3200	200	0.016	0.464	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043	PSL Professional Soils Laboratory	Ten Acres, Newton Heath	Contract No: PSL20/6932 Client Ref: LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

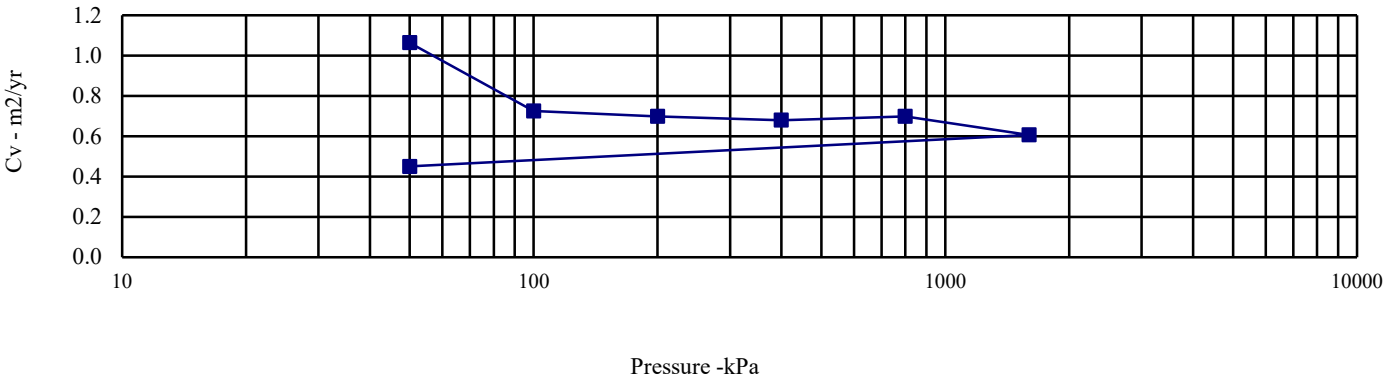
BS 1377: Part 5: 1990: Clause 3

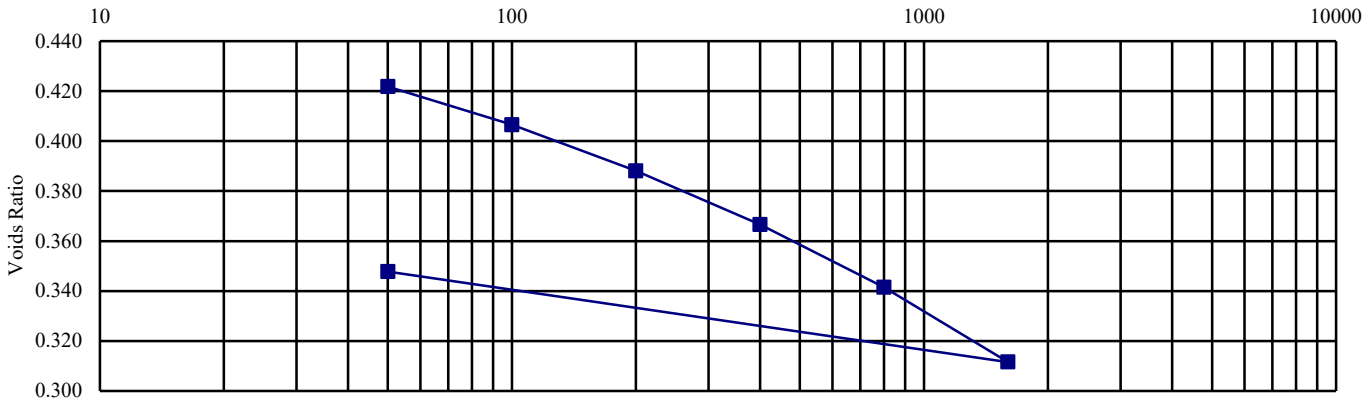
Hole Number: CP105 **Top Depth (m):** 4.00

Sample Number: **Base Depth (m) :** 4.45

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	17						
Bulk Density (Mg/m3):	2.16	0	50	0.278	1.064	Method used to	
Dry Density (Mg/m3):	1.84	50	100	0.215	0.724	determine CV:	T90
Voids Ratio:	0.442	100	200	0.131	0.698	Nominal temperature	
Degree of saturation:	104.7	200	400	0.077	0.679	during test ' C:	20
Height (mm):	20.074	400	800	0.046	0.698	Remarks:	
Diameter (mm)	75.023	800	1600	0.028	0.606	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	1600	50	0.018	0.450		





UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No:
PSL20/6932
Client Ref:
LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

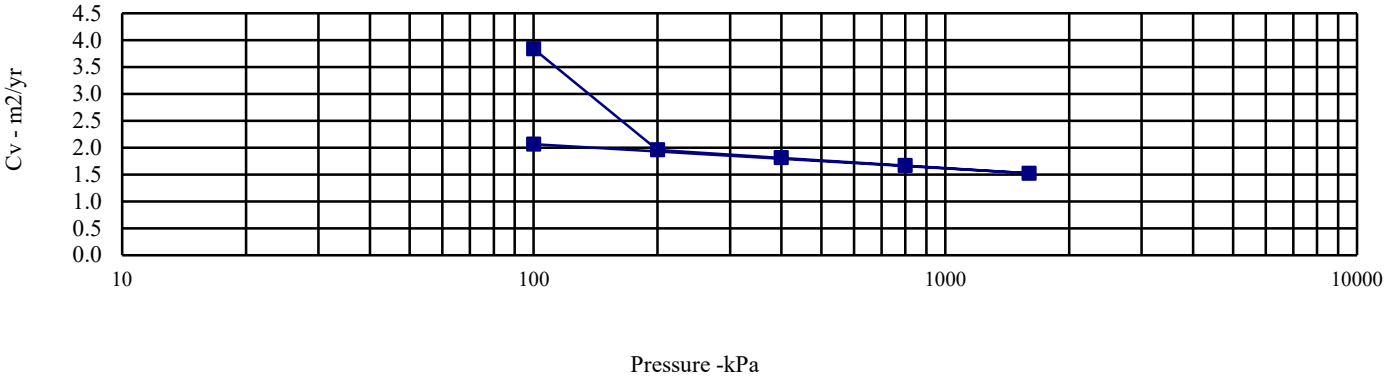
BS 1377: Part 5: 1990: Clause 3

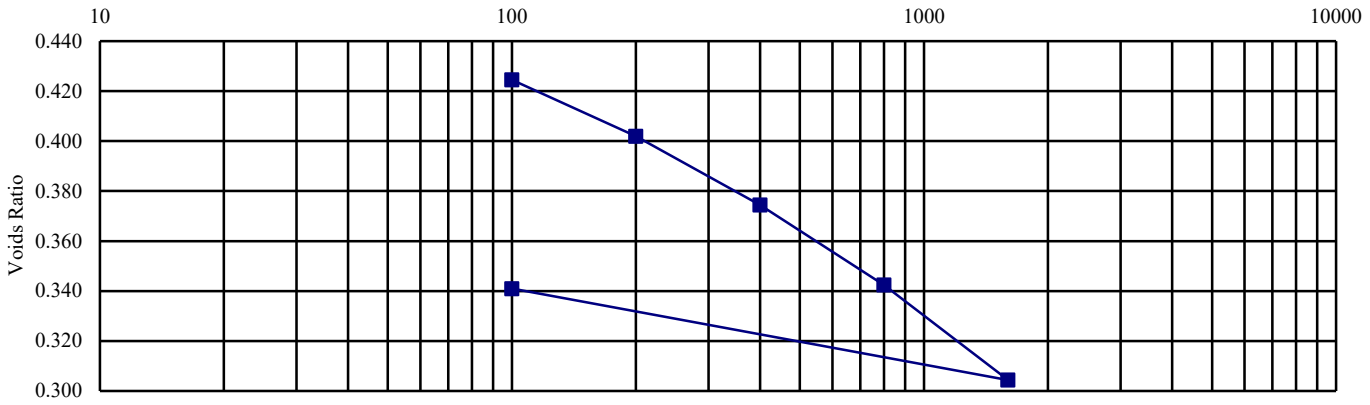
Hole Number: CP106 **Top Depth (m):** 10.00

Sample Number: **Base Depth (m) :** 10.45

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	17						
Bulk Density (Mg/m3):	2.12	0	100	0.280	3.836	Method used to	
Dry Density (Mg/m3):	1.81	100	200	0.159	1.955	determine CV:	T90
Voids Ratio:	0.466	200	400	0.098	1.811	Nominal temperature	
Degree of saturation:	97.8	400	800	0.058	1.665	during test ' C:	20
Height (mm):	19.972	800	1600	0.035	1.522	Remarks:	
Diameter (mm)	75.015	1600	100	0.019	2.063	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043	PSL Professional Soils Laboratory	Ten Acres, Newton Heath	Contract No: PSL20/6932 Client Ref: LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

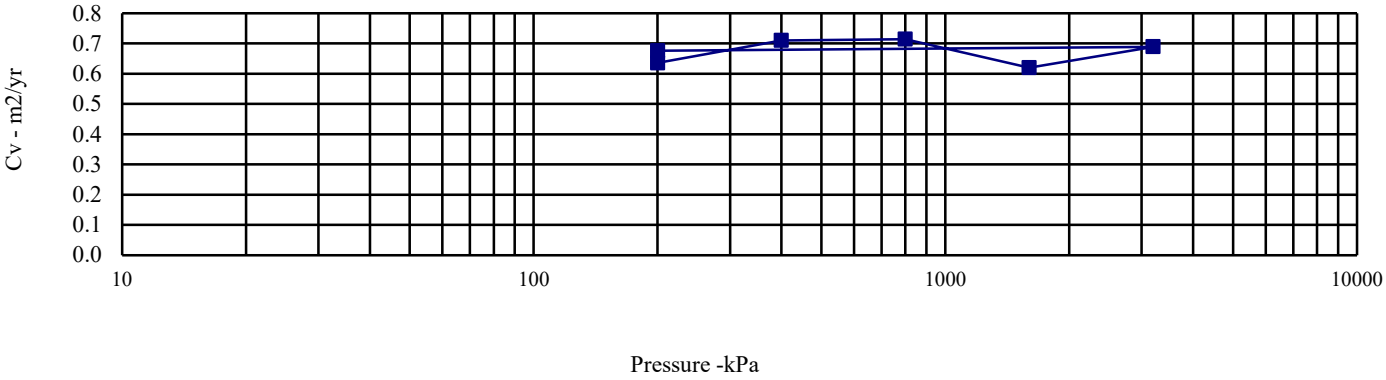
BS 1377: Part 5: 1990: Clause 3

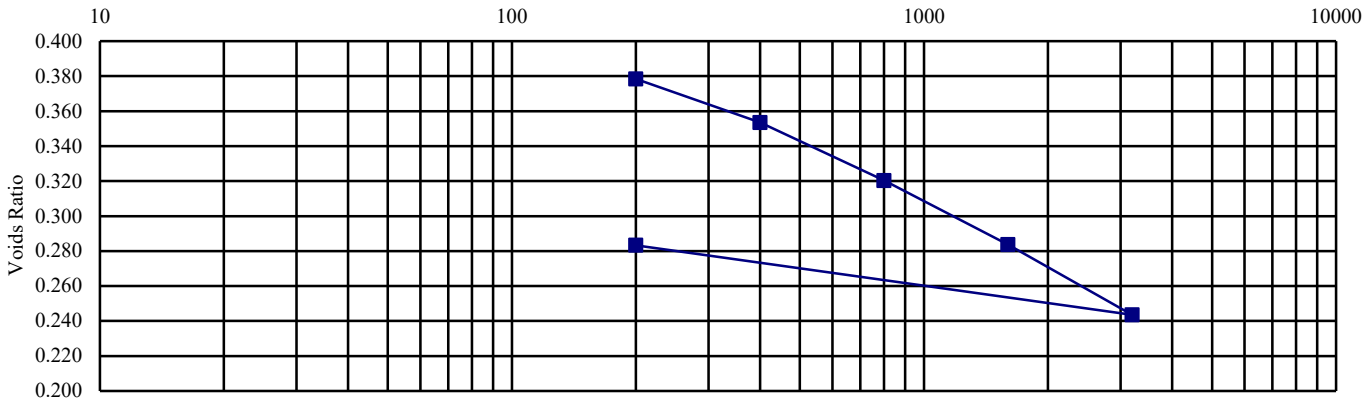
Hole Number: CP108 **Top Depth (m):** 8.00

Sample Number: **Base Depth (m) :** 8.45

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	17						
Bulk Density (Mg/m3):	2.15	0	200	0.209	0.635	Method used to	
Dry Density (Mg/m3):	1.84	200	400	0.091	0.710	determine CV:	T90
Voids Ratio:	0.439	400	800	0.061	0.715	Nominal temperature	
Degree of saturation:	102.4	800	1600	0.035	0.620	during test ' C:	20
Height (mm):	19.97	1600	3200	0.020	0.689	Remarks:	
Diameter (mm)	74.995	3200	200	0.011	0.676	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043	PSL Professional Soils Laboratory	Ten Acres, Newton Heath	Contract No: PSL20/6932 Client Ref: LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

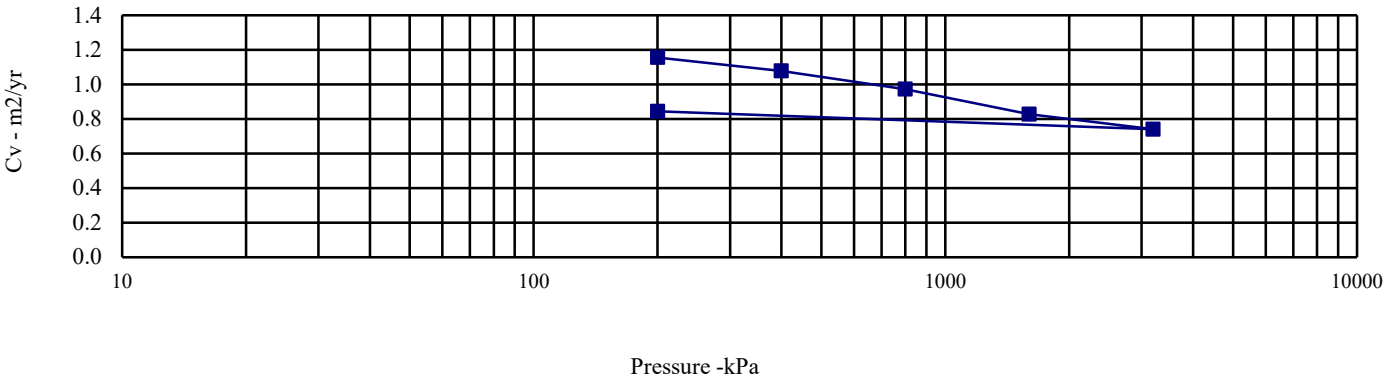
BS 1377: Part 5: 1990: Clause 3

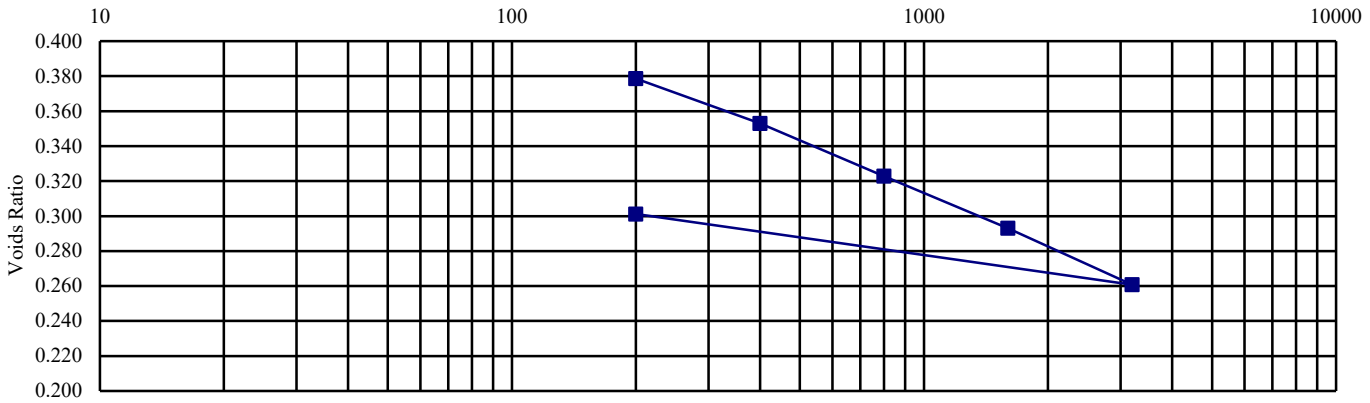
Hole Number: CP108 **Top Depth (m):** 10.00

Sample Number: **Base Depth (m) :** 10.45

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	16						
Bulk Density (Mg/m3):	2.16	0	200	0.169	1.155	Method used to	
Dry Density (Mg/m3):	1.86	200	400	0.093	1.077	determine CV:	T90
Voids Ratio:	0.427	400	800	0.056	0.972	Nominal temperature	
Degree of saturation:	99.9	800	1600	0.028	0.827	during test ' C:	20
Height (mm):	20.01	1600	3200	0.016	0.740	Remarks:	
Diameter (mm)	74.908	3200	200	0.011	0.843	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043

PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No: PSL20/6932

Client Ref: LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

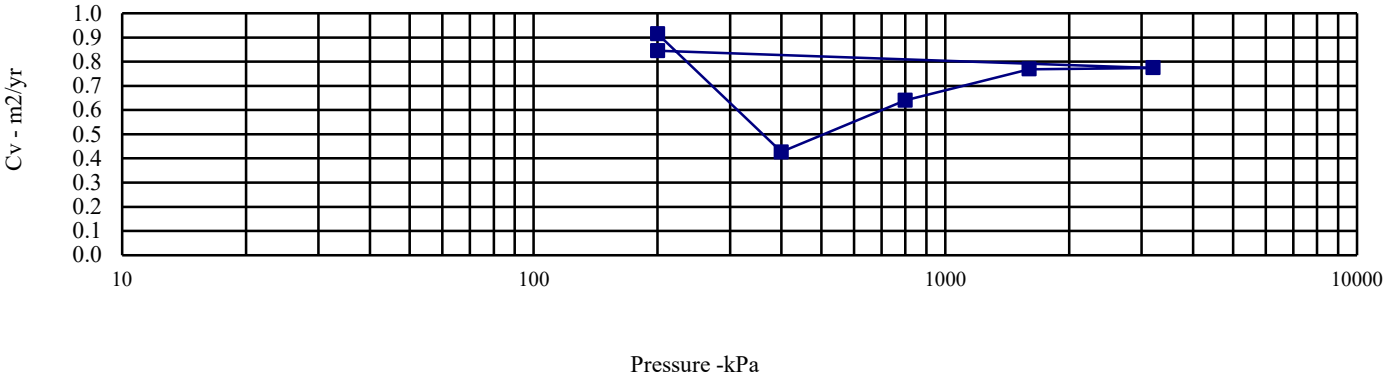
BS 1377: Part 5: 1990: Clause 3

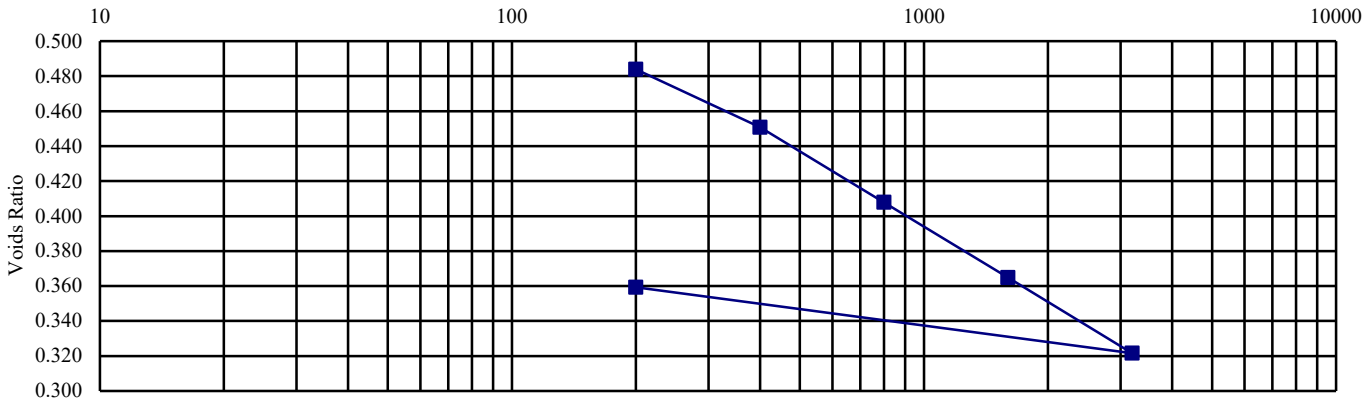
Hole Number: CP108 **Top Depth (m):** 14.50

Sample Number: **Base Depth (m) :** 14.95

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	23						
Bulk Density (Mg/m3):	2.05	0	200	0.339	0.915	Method used to	
Dry Density (Mg/m3):	1.66	200	400	0.111	0.427	determine CV:	T90
Voids Ratio:	0.592	400	800	0.074	0.639	Nominal temperature	
Degree of saturation:	103.8	800	1600	0.038	0.769	during test ' C:	20
Height (mm):	20.054	1600	3200	0.020	0.774	Remarks:	
Diameter (mm)	75.03	3200	200	0.010	0.845	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043	PSL Professional Soils Laboratory	Ten Acres, Newton Heath	Contract No: PSL20/6932 Client Ref: LD10162

ONE DIMENSIONAL CONSOLIDATION TEST

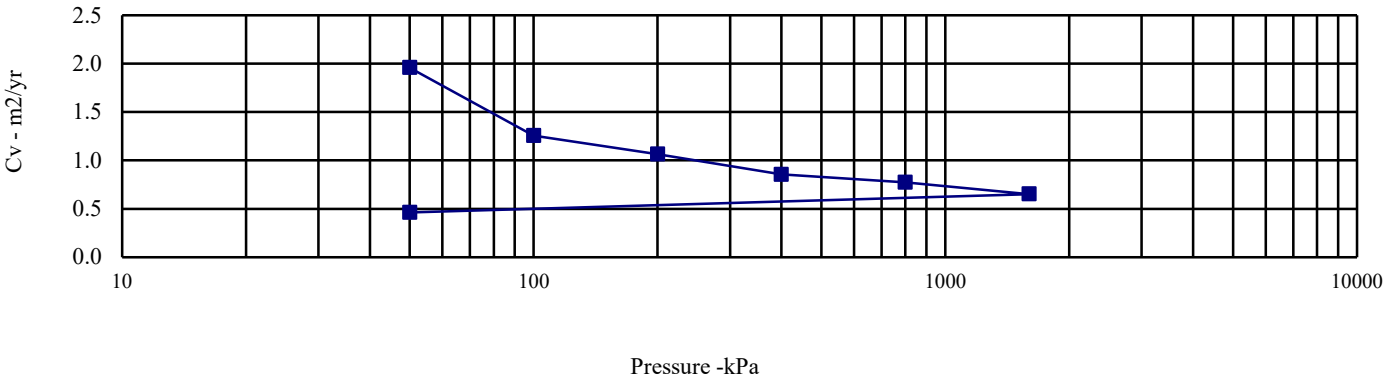
BS 1377: Part 5: 1990: Clause 3

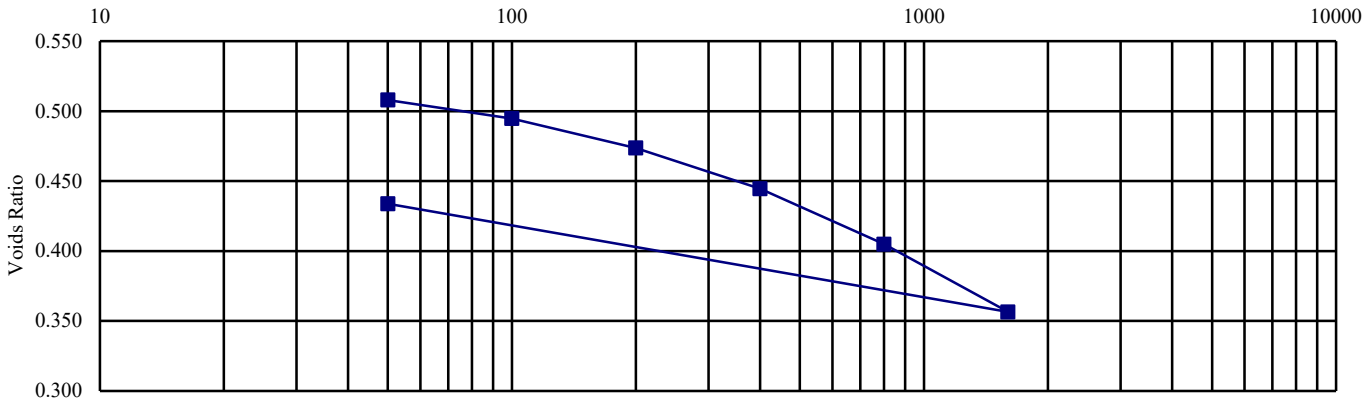
Hole Number: CP113 **Top Depth (m):** 3.00

Sample Number: **Base Depth (m) :** 3.45

Sample Type: UT

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	21						
Bulk Density (Mg/m3):	2.12	0	50	0.070	1.958	Method used to	
Dry Density (Mg/m3):	1.75	50	100	0.174	1.256	determine CV:	T90
Voids Ratio:	0.513	100	200	0.141	1.064	Nominal temperature	
Degree of saturation:	109.5	200	400	0.099	0.855	during test ' C:	20
Height (mm):	20.044	400	800	0.069	0.773	Remarks:	
Diameter (mm)	75.018	800	1600	0.043	0.652	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	1600	50	0.037	0.464		





UKAS TESTING 4043	PSL Professional Soils Laboratory	Ten Acres, Newton Heath	Contract No: PSL20/6932 Client Ref: LD10162

EMERY EXPANSION TEST.

Road and Transport Association of Canada 1974.

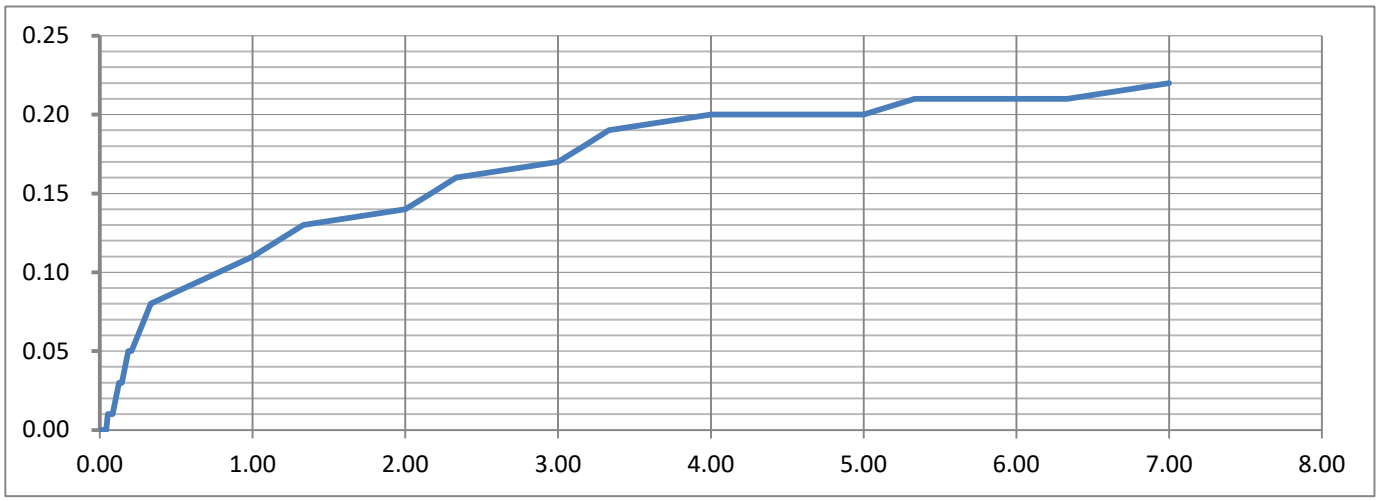
Hole Number: TP124 **Top Depth (m):** 0.25

Sample Number: **Base Depth(m):** 1.45

Sample Type: B

INITIAL CONDITIONS.		FINAL CONDITIONS.	
Initial Height - mm:	126.40	Final Height - mm:	126.62
Initial Diameter - mm:	151.90	Final Mass - g:	3698.00
Initial Mass - g:	3518.00	Final Volume - cm3:	2294.90
Initial Volume - cm3:	2290.91	Dry Mass - g:	2944.00
Dry Mass - g:	2944.00	Final Moisture Content - %:	25.6
Initial Moisture Content - %:	19.5	Final Bulk Density - Mg/m3:	1.61
Initial Bulk Density - Mg/m3:	1.54	Final Dry Density - Mg/m3:	1.28
Initial Dry Density - Mg/m3:	1.29	Test Temperature oC:	82

Elapsed Time Min	Dial Gauge Reading Div	Change In Height mm	Elapsed Time Min	Dial Gauge Reading Div	Change In Height mm	Elapsed Time Min	Dial Gauge Reading Div	Change In Height mm
0	0	0.00	120	1	0.01	2880	14	0.14
5	0	0.00	150	2	0.02	3120	15	0.15
10	0	0.00	180	3	0.03	3360	16	0.16
15	0	0.00	210	3	0.03	4320	17	0.17
20	0	0.00	240	4	0.04	4560	18	0.18
25	0	0.00	270	5	0.05	4800	19	0.19
30	0	0.00	300	5	0.05	5760	20	0.20
40	0	0.00	360	6	0.06	6240	20	0.20
50	0	0.00	420	7	0.07	7200	20	0.20
60	0	0.00	480	8	0.08	7680	21	0.21
75	1	0.01	1440	11	0.11	8640	21	0.21
90	1	0.01	1680	12	0.12	9120	21	0.21
105	1	0.01	1920	13	0.13	10080	22	0.22



PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No:
PSL20/6932
Client Ref:
LD10162

EMERY EXPANSION TEST.

Road and Transport Association of Canada 1974.

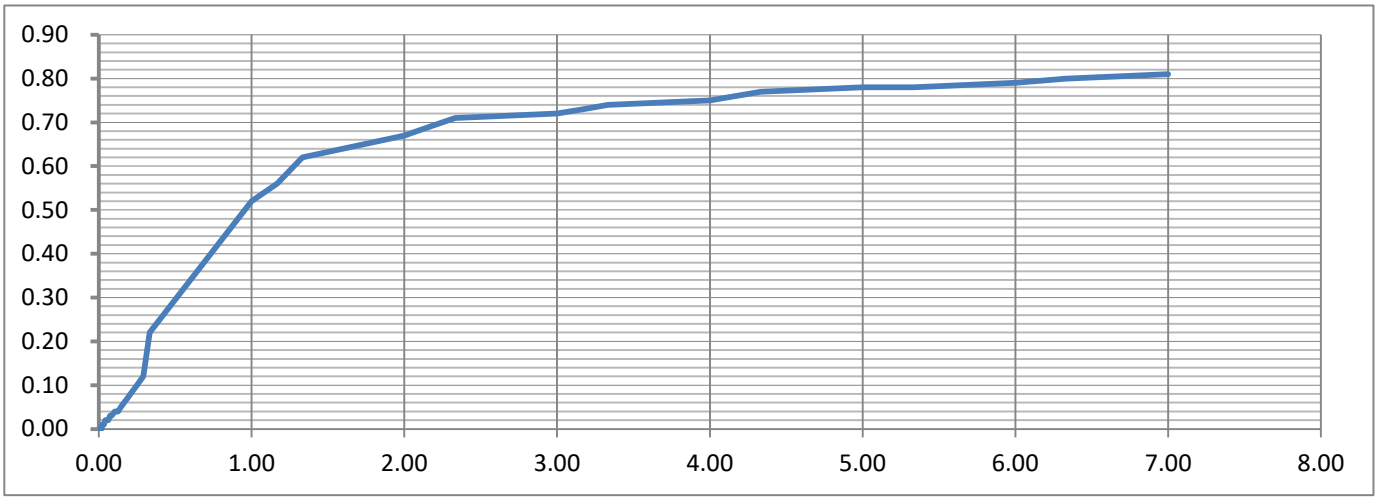
Hole Number: CP106 **Top Depth (m):** 1.65

Sample Number: **Base Depth(m):** 2.00

Sample Type: B

INITIAL CONDITIONS.		FINAL CONDITIONS.	
Initial Height - mm:	127.00	Final Height - mm:	127.81
Initial Diameter - mm:	152.00	Final Mass - g:	3968.00
Initial Mass - g:	3956.00	Final Volume - cm3:	2319.52
Initial Volume - cm3:	2304.82	Dry Mass - g:	2935.00
Dry Mass - g:	2935.00	Final Moisture Content - %:	35.2
Initial Moisture Content - %:	34.8	Final Bulk Density - Mg/m3:	1.71
Initial Bulk Density - Mg/m3:	1.72	Final Dry Density - Mg/m3:	1.27
Initial Dry Density - Mg/m3:	1.27	Test Temperature oC:	82

Elapsed Time Min	Dial Gauge Reading Div	Change In Height mm	Elapsed Time Min	Dial Gauge Reading Div	Change In Height mm	Elapsed Time Min	Dial Gauge Reading Div	Change In Height mm
0	0	0.00	120	3	0.03	2880	67	0.67
5	0	0.00	150	4	0.04	3120	69	0.69
10	0	0.00	180	4	0.04	3360	71	0.71
15	0	0.00	210	5	0.05	4320	72	0.72
20	0	0.00	240	6	0.06	4560	73	0.73
25	0	0.00	270	7	0.07	4800	74	0.74
30	1	0.01	300	8	0.08	5760	75	0.75
40	1	0.01	360	10	0.10	6240	77	0.77
50	1	0.01	420	12	0.12	7200	78	0.78
60	2	0.02	480	22	0.22	7680	78	0.78
75	2	0.02	1440	52	0.52	8640	79	0.79
90	2	0.02	1680	56	0.56	9120	80	0.80
105	3	0.03	1920	62	0.62	10080	81	0.81



PSL Professional Soils Laboratory

Ten Acres, Newton Heath

Contract No:
PSL20/6932
Client Ref:
LD10162

2531

ANALYTICAL TEST REPORT

Contract no: 92012

Contract name: Ten Acres, Newton Heath

Client reference: PSL20/6932

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 16 December 2020

Analysis started: 16 December 2020

Analysis completed: 22 December 2020

Report issued: 22 December 2020

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by:
Rachael Burton
Customer Support Squad Leader

Chemtech Environmental Limited

SOILS

Lab number			92012-1	92012-2	92012-3	92012-4	92012-5	92012-6
Sample id			CP105	CP106	CP106	CP107	CP113	TP120
Depth (m)			2.00-3.00	2.00-3.00	3.00-4.00	2.00-3.00	5.45-6.00	0.20-0.30
Date sampled			15/12/2020	15/12/2020	15/12/2020	15/12/2020	15/12/2020	15/12/2020
Test	**Method**	**Units**						
pH	CE004 [U]	units	8.6	11.0	8.5	8.2	8.3	8.5
Magnesium (2:1 water soluble)	CE061	mg/l Mg	11	2.8	6.7	35	8.7	9.4
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	<1	<1	<1	<1	11	8.9
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	<1	<1	<1	<1	1.2	<1
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	739	287	431	364	188	66
Sulphate (total)	CE062 [U]	mg/kg SO_4	3045	1764	2451	1094	1482	410
Sulphur (total)	CE119	mg/kg S	2574	1244	1578	1411	1146	811
Sulphur (total)	CE119	% w/w S	0.26	0.12	0.16	0.14	0.11	0.08
Calorific value	CE069	kJ/kg	-	-	-	-	-	-

Chemtech Environmental Limited

SOILS

Lab number			92012-7	92012-8	92012-9	92012-10	92012-11	92012-12
Sample id			TP124	TP127	TP128	TP128	CP106	TP132
Depth (m)			0.25-1.45	4.30-4.80	0.40-1.00	3.60	1.65-2.00	3.80-4.10
Date sampled			15/12/2020	15/12/2020	15/12/2020	15/12/2020	15/12/2020	15/12/2020
Test	**Method**	**Units**						
pH	CE004 U	units	-	7.8	9.5	8.2	-	8.3
Magnesium (2:1 water soluble)	CE061	mg/l Mg	-	6.2	11	8.4	-	24
Chloride (2:1 water soluble)	CE049 U	mg/l Cl	-	17	8.7	17	-	4.2
Nitrate (2:1 water soluble)	CE049 U	mg/l NO_3	-	11	1.7	5.6	-	<1
Sulphate (2:1 water soluble)	CE061 U	mg/l SO_4	-	150	35	95	-	212
Sulphate (total)	CE062 U	mg/kg SO_4	-	843	314	1299	-	2883
Sulphur (total)	CE119	mg/kg S	-	1391	692	2044	-	2357
Sulphur (total)	CE119	% w/w S	-	0.14	0.07	0.20	-	0.24
Calorific value	CE069	kJ/kg	595	-	-	-	509	-

Chemtech Environmental Limited

SOILS

Lab number			92012-13	92012-14	92012-15	92012-16
Sample id			TP133	TP136	TP143	TP148
Depth (m)			2.40-3.20	2.30	2.90-5.40	1.60
Date sampled			15/12/2020	15/12/2020	15/12/2020	15/12/2020
Test	**Method**	**Units**			-	
pH	CE004 [U]	units	-	3.5	-	7.4
Magnesium (2:1 water soluble)	CE061	mg/l Mg	-	18	-	14
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	-	12	-	4.0
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	-	<1	-	1.9
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	-	295	-	149
Sulphate (total)	CE062 [U]	mg/kg SO_4	-	691	-	230
Sulphur (total)	CE119	mg/kg S	-	562	-	308
Sulphur (total)	CE119	% w/w S	-	0.06	-	0.03
Calorific value	CE069	kJ/kg	8592	-	8026	-

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S
CE069	Calorific value	Combustion, Carbon analyser	Dry		100	kJ/kg

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
92012-1	CP105	2.00-3.00	N	
92012-2	CP106	2.00-3.00	N	
92012-3	CP106	3.00-4.00	N	
92012-4	CP107	2.00-3.00	N	
92012-5	CP113	5.45-6.00	N	
92012-6	TP120	0.20-0.30	N	
92012-7	TP124	0.25-1.45	N	
92012-8	TP27	4.30-4.80	N	
92012-9	TP128	0.40-1.00	N	
92012-10	TP128	3.60	N	
92012-11	CP106	1.65-2.00	N	
92012-12	TP132	3.80-4.10	N	
92012-13	TP133	2.40-3.20	N	
92012-14	TP136	2.30	N	
92012-15	TP143	2.90-5.40	N	
92012-16	TP148	1.60	N	

APPENDIX G

Gas and Groundwater Monitoring Results

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 30/11/20

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bToC)	Depth to Base (m bToC)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
CP103a	1.1	0.9	1.3	1.2	9.4	10.2	-1.3	-1.0		1011	-8 to -7	5.14	8.68
CP103b	1.1	1.1	3	3	-0.1	-0.1	-1.8	-1.5		1012	-8 to -7	5.13	6.25
CP107	-2.0	0	-0.5	0	18.7	20.2	-2	-1.6		1011	-12	3.58	8.9
CP108	0	0	1.7	1.7	18.5	18.5	-1.0	-0.9		1013	-5	1.34	5.21
CP109	0.5	0.5	0.1	0.1	20	20	-1.7	-1.2		1012	-11	2.37	12.9
CP110	0	0	5.0	5.0	12.2	12.2	1.5	1.5		1012	-9	2.59	3.85

CP112	0	0	1.5	0	18.9	20.3	-2.0	-1.9		1011	-12 to -11	13.91	27.35
CP113	0	0	2.6	2.6	14.7	14.7	-1.7	-1.3		1012	-11	2.04	3.61
RH101	0	0	0.4	0.3	20	20.2	-0.7	1.1		1015	-5	2.19	20.11
RH102	-	-	-	-	-	-	-	-		-	-	2.59	13.50
RH106	0	0	0	0	17.9	19	-1.7	-1.6		1012	-12 to -10	25.46	30+
RH108	0	0	0.8	0.5	16.8	18.4	0	0		1010	0	8.74	12.29
RH109a	0	0	0	0	20.3	20.3	-1.8	-1.7		1010	-12 to -11	-	-
RH109b	0	0	0.4	0.4	16.3	16.3	-2	-1.7		1010	-11 to -10	11.36	15.22
RH110	0	0	0.8	0.5	9.4	16.8	-1.2	-0.9		1012	-6	21.3	22.13
WS101	0	0	1	1	19.8	19.8	-1.3	-0.9		1013	-6	0	1.68

WS102	0	0	10.7	10.7	3.2	3.2	-2	-1.6		1010	-12 to -12	1.34	1.78
WS103	0	0	4.7	4.7	10.1	10.1	-0.5	-0.3		1015	-3	1.2	1.89
WS104	0	0	1.6	1.6	18.9	18.9	-1.8	-1.5		1011	-11 to -9	1.52	1.83
WS105	0	0	0	0	19	19	-1.6	-1.5		1013	-9	0.86	1.86
WS106	0	0	1.5	1.3	19.2	19.3	57.4	-0.7		1012	768 to -5	0.79	1.8
							1 min						
WS107	0	0	1.2	1.2	19	19	119.8	0		1010	>>> to 0	0.28	1.72
							2 mins						
WS108	0	0	4.2	4.2	18.8	18.8	108.7	2.3		1010	843 to 15	-	-
WS109	0	0	7	6.4	1.7	3.5	-1	-0.9		1013	-6	Dry	1.83
WS111	0	0	0.5	0.1	19.9	20.2	64.6	0		1012	1111 to 0	0.35	1.51
							3 mins						
WS112	0	0	5.6	5.6	9.7	9.7	-0.9	-0.9		1013	-6 to -5	Dry	1.81

WS113	0	0	16.8	16.7	9.3	9.3	27.2	-1.3		1010	163 to -8	1.32	1.82
WS119	0	0	2	2	17.2	17.8	-1.8	-1.6		1010	-12 to -11	Dry	1.82
WS120	0	0	0	0	19.7	19.9	-2	-1.8		1011	-13 to -12	1.65	1.71
BH04	-	-	-	-	-	-	-	-		-	-	3.53	4.69
BH06	-	-	-	-	-	-	-	-		-	-	Dry	4.15

Atmospheric Pressure: As indicated

Pressure Trend: Falling

Weather: Raining

Instrument Used: GFM 436

Sample Type: As indicated

Operator: ZH & NA

Notes:	CP103a	LEL=24.6, HEX=0.093, PID=1.4
	CP103b	LEL=26.1, HEX=0.099, PID=1.5, eggy odour.
	CP108	LEL=<<<, PID=1.0, probe silty.
	CP109	LEL=17.9, HEX=0.077, PID=1.0
	WS112	LEL=<<<, PID=1.5
	RH101	LEL=<<<, PID=1.0, probe silty.
	RH110	LEL=<<<, PID=1.0, CO=10, probe silty.
	WS101	LEL=<<<, PID=1.0
	WS109	LEL=<<<, PID=1.0
	WS103	LEL=<<<, PID=1.0
	BH04	No bung.
	WS105	HEX=0.012, PID=1.0
	CP113	CO=-10, HEX=0.08, PID=1.0.
	WS106	HEX=0.08, PID=1.0
	RH106	HEX=-0.011, PID=1.0
	WS111	HEX=-0.011, PID=1.0
	CP110	BUNG OPEN. HEX=0.009, PID=1.0, CO=-10. After 4 mins O2 and CO2 still fluctuating.
	RH102	No bung.
	CP107	HEX=0.008, PID=1.0, CO=-10, probe silty.
	WS120	HEX=0.014, PID=1.0
	CP112	CO=-10, HEX=0.012, PID=1.0
	WS104	HEX=0.012, PID=1.0
	RH109a	Tubing dropped down hole. HEX=0.012, PID=1.0.
	RH109b	BUNG OPEN. HEX=0.011.
	BH06	No bung. Gravel on probe.
	WS108	Bung stuck as pipe not cemented in. HEX=0.010, PID=1.0. Hissed on removal.
	WS107	Hissed when valve opened. HEX=0.011, PID=1.0
	RH108	HEX=0.010, PID=1.0
	WS113	Hissed on removal. HEX=0.007, PID=1.0
	WS102	HEX=0.010, PID=1.0
	WS119	HEX=0.009, PID=1.0

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 14/12/20

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bToC)	Depth to Base (m bToC)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
CP103a	0	0	1.0	1.0	18.5	18.5	-1.2	-1.2		984	-8	5.01	8.66
CP103b	0	0	1.0	1.0	18.7	18.7	-2.2	-1 to -2 Fluct.		984	-11 to -14 Fluct.	4.98	6.12
CP107	0	0	0.5	1.2	19.8	20.0	-1.5	-1.3		985	-9	3.35	8.92
CP108	0	0	0.1	0	19.6	20.5	-0.9	-0.6		985	-5	5.05	5.14
CP109	1.3	1.2	0	0	19.9	19.9	-1.5	-1.5		986	-10	2.18	10.5
CP110	0	0	0.1	0	19.8	20.1	-1.5	-1.5		986	-10	2.53	3.91

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bToC)	Depth to Base (m bToC)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
CP112	3.1	3.1	3.8	3.8	17.9	17.9	16.0	-1.0 to -1.2 Fluct.		986	468 to -1.6	7.82	27.39
CP113	0	0	1.2	0.6	17.6	19.0	-1.5	-1.5		986	-8	Dry	3.50
RH101	-0.1	-0.1	0.1	0.1	20.6	20.6	-0.5	-0.3		986	-3	1.73	19.75
RH102	0	0	0.6	0.2	19.7	20.0	-1.5	-1.5		986	-10 to -9	2.5	13.68
RH106	0	0	0.6	0.6	17.6	17.6	28.9	-1.0 to -1.3 Fluct.		987	155 to -6	25.25	42.02
RH108	0	0	0.1	0	20.1	20.4	-1.6	-1.6		986	-9	-	-
RH109a	0	0	0	0	19.8	19.8	23	0.5		985	237 to -3	9.3	17.68
RH109b	0	0	0.1	0	19.9	19.8	12.4	-1.0		984	124 to -7.0	12.59	15.40
RH110	0	0	1.0	1.0	18.1	18.1	-1.2	-1.0		984	-1.7	-	-

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bToC)	Depth to Base (m bToC)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
WS101	0	0	-	-	19.6	19.6	-1.0	-0.6		984	-6	0	1.68
WS102	0	0	8.2	8.2	2.8	2.8	-1.6	-1.3		986	-10 to -5	0.98	1.80
WS103	0	0	5.0	5.0	7.8	7.8	-1.7	-1.5		988	-10	1.09	1.85
WS104	0	0	1.6	1.6	19.1	19.1	-1.5	-1.3		986	-9	1.23	1.86
WS105	0	0	0	0	20.2	20.2	-1.5	-1.0		986	-9	0.78	1.87
WS106	0	0	1.4	1.4	19.3	19.3	119.8	-1.0		986	>>> to -5 (2mins)	0.40	1.91
							2mins						
WS107	0	0	-	-	-	-	66.9	-0.7		985	1069 to -5 (2mins)	0	1.80
							2 mins						
WS108	0	0	4.9	4.9	17.0	17.0	74.8	2.5		984	126 to 14 (2mins)	-	-
WS109	0	0	5.8	5.8	0.4	0.5	0.9	0.7		985	-4	Dry	1.80

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bToC)	Depth to Base (m bToC)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
WS111	0.1	0.1	2.4	2.4	18.6	18.6	25.2 1.50min	3.3		987	273 to 23	0	1.63
WS112	0	0	5.8	5.8	8.2	8.2	-0.7	0		984	-2	Dry	1.81
WS113	0	0	15.9	15.9	8.4	8.3	41.8	-1.2		986	434 to -7 (1min)	1.03	1.87
WS119	0	0	2.4	2.4	17.4	17.4	-1.6	-1.3		986	-5 to -12	Dry	1.86
WS120	0	0	1.4	0.3	0.5	1.4	29.7	-1.0 to -1.2		986	339 to -6	1.49	1.74
BH04	0	0	13.7	11.8	0	0	-2.1	-1.6		985	-10	3.49	3.49
BH06	0	0	0.1	0.1	20	20	-0.9	-0.7		984	-4	Dry	4.17

Atmospheric Pressure: As indicated

Pressure Trend: Fluctuating (falling, then rose midday, then falling again)

Weather: Overcast, windy, with occasional clear spells.

Instrument Used: GFM 436

Sample Type: As indicated

Operator: ZH & NA

Notes:	CP103a	**Filter Water Clogged**. Hex=0.009, PID=1.0
	CP103b	**Filter Water Clogged**. Hex=0.009, PID=1.0
	CP107	Hex=0.024, PID=1.0
	CP108	PID=1.0, LEL=<<<
	CP109	Hex=0.111, PID=1.6, CO=-10, LEL=51.1
	CP110	Hex=0.013, PID=1.0
	CP112	Probe silty. LEL=72.5, Hex=0.194, PID=3.5.
	CP113	PID=1.0, Hex=0.006
	RH101	LEL=<<<, PID=0.9
	RH102	Hex=0.011, PID=1.0, eggy odour.
	RH106	Hex=0.009, PID=1.0
	RH108	Hex=0.007, PID=1.0
	RH109a	**Filter Water Clogged.** Hex=0.007, PID=1.0
	RH109b	**Filter Water Clogged**. Hex=0.008, PID=1.0
	RH110	**Filter Water Clogged.** Hex=0.006, PID=1.0
	WS101	**Water came up GM pipe.** Hex=0.003, PID=1.0
	WS102	Hex=0.005, PID=1.0
	WS103	CO=-10, PID=1.0, Hex=0.009
	WS104	Hex=0.009, PID=1.0
	WS105	Hex=0.014, PID=1.0
	WS106	Hex=0.006, PID=1.0. Hissed when bung tap opened.
	WS107	**Water came up GM pipe.**
	WS108	Hex=0.006, PID=1.0. Hissed on removal.
	WS109	Hex=0.035, PID=1.0
	WS111	Hex=0.065, PID=1.0, LEL=2.4
	WS112	LEL=<<<, PID=1.0
	WS113	Hex=0.004, PID=1.0
	WS119	Hex=0.006, PID=1.0.
	WS120	Hex=0.008, PID =1.0. Hissed on removal.
	BH04	Hex=0.014, CO=-10, PID=1.0
	BH06	**Filter Water Clogged**. Hex=0.006, PID=1.0

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 06/01/21

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
CP103a	1.2	1.0	1.2	1.2	10.8	13	-1.7	-1.8		1014	-12	4.67	8.57
CP103b	1.5	1.5	3.0	3.0	0.6	0.6	-1.3	-2		1014	-12	4.66	6.11
CP107	0.0	0.0	0.4	0.1	20.0	20.0	0.1	-0.1		1013	-1.0	3.10	9.10
CP108	0.0	0.0	0.2	0.1	20.1	20.1	0.1	-0.1		1015	-1.0	1.69	5.09
CP109	0.4	0.4	0.0	0.0	19.9	20.0	-0.7	-2.0		1015	-14	1.99	12.89
CP110	0.0	0.0	0.4	0.2	19.8	19.8	0.3	0.1		1015	0.2	2.47	3.87

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
CP112	4.1	4.1	5.0	5.0	15.1	15.1	-1.8	-2.1		1015	-255 to -13	3.38	16.58
CP113	0.0	0.0	2.0	1.9	17.1	17.1	-2.0	-2.2		1016	-13	1.71	3.48
RH101	-	-	-	-	-	-	-	-		-	-	1.91	19.58
RH102	0.0	0.0	1.5	0.1	20.0	20.0	0.2	0.1		1015	1.0	2.32	13.53
RH106	0.0	0.0	1.1	1.1	17.9	17.9	0.4	1.1		1016	1.0	-	-
RH108	0.0	0.0	2.6	2.6	12.8	12.8	6.7	0		1012	69 to 0	8.53	12.22
RH109a	0.0	0.0	4.2	4.2	13.7	13.7	-1.2	-1.3		1013	-11 to -9	11.30	15.08
RH109b	0.0	0.0	3.1	3.1	11.0	11.0	-1.7	-2.1		1013	-250 to -12	-	-
RH110	0.0	0.0	0.4	0.4	14.7	14.7	-2.1	-2.5		1015	-15	-	-

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (m BGL)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
WS101	0.0	0.0	2.4	2.4	11.7	11.7	0.1	-1.2		1015	-13	0.00	1.71
WS102	0.0	0.0	8.1	8.1	6.2	6.2	-1.6	-1.3		1013	-11	1.21	1.71
WS103	0.0	0.0	4.7	4.7	9.0	9.0	0.2	0.0		1015	1.0 to 0.0	1.04	1.82
WS104	0.0	0.0	0.8	0.8	19.3	19.3	0.1	0.0		1016	0.0 to 2.0	1.18	1.80
WS105	0.0	0.0	0.2	0.1	20.0	20.0	-1.8	-2.0		1015	-13	0.53	1.81
WS106	0.0	0.0	0.6	0.6	19.1	19.0	-3.7	-0.8		1015	-1196 to -6	0.68	1.77
WS107	0.0	0.0	0.7	0.7	17.6	17.6	-30.1	-0.7		1014	-658 to -4	0.31	1.71
WS108	0.0	0.0	1.1	1.1	19.2	19.2	0.2	0.2		1013	2	0.29	1.68
WS109	0.0	0.0	6.2	6.2	4.1	4.1	0.4	0.1		1015	1.0	Dry	1.26

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (m b BGL)
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady					
WS111	3.8	3.6	14.8	14.8	4.9	4.9	0.4	1.3		1016	1.0 to 0.0	0.00	1.50
WS112	0.0	0.0	5.9	5.9	9.9	9.9	-0.5	-0.4		1015	-2	Dry	1.76
WS113	0.0	0.0	17.4	17.4	9.3	9.3	64.9	-0.7		1012	1200 to -5	0.89	1.81
WS119	0.0	0.0	2.2	2.2	18.2	18.2	-0.6	-0.6		1012	-10 to -9	1.78	1.79
WS120	0.0	0.0	0.0	0.0	0.9	0.9	-2.1	-2.4		1015	-15	1.66	1.74
BH04	-	-	-	-	-	-	-	-	-	-	-	3.50	4.67
BH06	0.0	0.0	11.8	11.8	0.8	0.7	-1.5	-1.7		1013	-12 to -11	Dry	4.11

Atmospheric Pressure: As indicated

Pressure Trend: Rising

Weather: Cold and sunny

Instrument Used: GFM 436

Sample Type: -

Operator: LT & NA

Notes:	CP103a	Hex=0.124, PID 1.8, LEL 27
	CP103b	Hex=0.081, PID=1.8, LEL 35.8
	CP107	Hex=0.025, PID=1.0
	CP108	PID=1.0, Hex 0.02
	CP109	Hex=0.051, PID=1.0, LEL=9.1
	CP110	**Loose bung, unrepresentative.** Hex=0.018, PID=1.0
	CP112	LEL=95.4, Hex=0.220, PID=3.7.
	CP113	PID=1.0, Hex=0.019
	RH101	**No bung. Dip only.**
	RH102	**Loose bung.** Hex=0.02, PID=1.0.
	RH106	**Loose tap**. Hex=0.021, PID=1.0
	RH108	Hex=0.03, PID=1.0
	RH109a	Hex=0.014, PID=1.0
	RH109b	Hex=0.014, PID=1.0
	RH110	Hex=0.021, PID=1.0
	WS101	Hex=0.018, PID=1.0
	WS102	Hex=0.0011, PID=1.0
	WS103	PID=1.0, Hex=0.0017
	WS104	Hex=0.02, PID=1.0
	WS105	Hex=0.021, PID=1.0
	WS106	**Hissed when opening tap**. Hex=0.006, PID=1.0.
	WS107	**Water came up GM pipe.**
	WS108	**Water came up GM pipe.**
	WS109	Hex=0.016, PID=1.0
	WS111	Hex=0.206, PID=3.6, LEL=85
	WS112	Hex 0.016, PID=1.0
	WS113	**Hissed when opening tap.** Hex=0.005, PID=1.0
	WS119	Hex=0.01, PID=1.0.
	WS120	Hex=0.022, PID =1.0.
	BH04	**Loose bung – dip only**
	BH06	Hex=0.014, PID=1.0

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 21/01/21

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP103a (~8m)	0.5	0.0	0.6	0.6	15.9	15.9	-1.7	-2.4	n/a	969	-14	4.35	8.55	HEX: 0.055 PID: 1.0 LEL: 0.0
CP103b (~6m)	0.0	0.0	2.3	2.3	4.5	4.5	-1.0	-1.5	n/a	969	-12	4.31	6.10	HEX: 0.055 PID: 1.0 LEL: 0.0
CP107	0.1	0.0	1.1	0.7	18.0	18.8	-2.4	-2.4	n/a	971	-16	2.67	8.90	HEX: 0.063 PID: 1.0 LEL:2.1
CP108	0.0	0.0	0.5	0.3	19.7	19.9	-1.8	-2.8	n/a	971	-18	1.31	5.14	HEX: 0.017 PID: 1.0 LEL:0.0
CP109	1.5	1.3	0.0	0.0	19.7	19.7	-2.1	2.5	n/a	970	-16	1.63	12.80	HEX: 0.017 PID: 1.7 LEL: 39.4
CP110	0.0	0.0	0.0	0.0	18.9	20.0	0.0	-3.0	n/a	971	-19	2.38	3.91	HEX: 0.019 PID:1.0 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP112	5.8	5.7	4.7	4.7	15.0	15.0	-2.2	-2.4	n/a	969	-15	2.91	16.53	HEX: 0.0271 PID: 1.0 LEL: >>
CP113	0.0	0.0	0.1	0.0	20.0	20.0	-2.4	-3.0	n/a	971	-19	1.17	3.37	HEX: 0.018 PID: 1.0 LEL: 0.0
RH101	0.0	0.0	0.7	0.4	19.8	19.9	-2.4	-2.5	n/a	971	-16	1.39	19.53	HEX: 0.016 PID: 1.0 LEL: 0.0
RH102	0.0	0.0	1.7	0.7	18.5	19.4	-2.4	-2.8	n/a	971	-18	1.82	13.54	HEX: 0.018 PID: 1.0 LEL: 0.0
RH106	0.0	0.0	1.6	1.6	9.2	9.2	120	0.0	n/a	970	>2000 // 0.0	Unable to dip – tubing stuck in borehole		HEX: 0.02 PID: 1.0 LEL:.0.0
RH108	0.0	0.0	1.7	1.7	15.5	15.5	52.5	20.9	n/a	966	979 // 259	Unable to dip – tubing stuck in borehole		HEX: 0.001 PID: 1.0 LEL: 0.0
RH109a (~15m)	0.0	0.0	4.9	4.9	11.8	11.8	-1.7	-2.0	n/a	967	-10	10.49	14.98	HEX: 0.012 PID: 1.0 LEL: 0.0
RH109b	0.0	0.0	3.1	2.8	10.3	10.9	39.2	0.0	n/a	968	624 // 0	Unable to dip – tubing stuck in borehole		HEX: 0.014 PID: 1.0 LEL: 0.0
RH110	0.0	0.0	0.1	0.0	19.6	19.7	-1.6	-2.2	n/a	969	-14	Unable to dip – tubing stuck in borehole		HEX: 0.019 PID: 1.0 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS101	Well flooded – not sampled								n/a	972	-11	0.00	1.69	n/a
WS102	0.0	0.0	4.5	4.5	5.9	5.9	12.1	-2.0	n/a	966	135 // -12	0.84	1.76	HEX: 0.01 PID: 1.0 LEL: 0.0
WS103	0.0	0.0	5.1	5.1	5.7	5.7	77.5	-1.7	n/a	971	1836 // -13	0.78	1.76	HEX: 0.016 PID: 1.0 LEL: 0.0
WS104	0.0	0.0	1.4	1.4	19.0	19.0	101.4	-2.5	n/a	971	2000 // -16	0.86	1.80	HEX: 0.016 PID: 1.0 LEL: 0.0
WS105	0.0	0.0	0.0	0.0	20.0	20.0	-1.7	-2.5	n/a	970	-15	0.15	1.79	HEX: 0.022 PID: 1.0 LEL: 0.0
WS106	0.0	0.0	0.7	0.7	18.8	18.8	119	-1.0	n/a	971	2000 // -7	0.08	1.84	HEX: 0.018 PID: 1.0 LEL: 0.0
WS107	0.0	0.0	0.6	0.6	19.0	19.0	55.2	0	n/a	967	991 // 0	0.00	1.69	Well flooded before sampling
WS108	Well flooded – not sampled								n/a	967	0	0.24	1.65	n/a
WS109	0.0	0.0	4.5	4.5	2.6	2.6	3.3	-2.0	n/a	971	0 // -20	0.89	1.23	HEX: 0.045 PID: 1.0 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS111	Well flooded – not sampled								n/a	971	n/a	0.00	1.65	n/a
WS112	0.0	0.0	3.6	3.6	10.2	10.2	-0.7	-3.0	n/a	972	-12 to -8	1.4	1.746	HEX: 0.016 PID: 1.0 LEL: 0.0
WS113	0.0	0.0	16.3	16.3	11.1	11.1	106.8	-0.6	n/a	966	1100 // -6	0.91	1.83	HEX: 0.005 PID: 1.0 LEL: 0.0
WS119	0.0	0.0	1.8	1.8	18.3	18.3	-1.5	-1.7	n/a	966	-12	1.61	1.80	HEX:0.008 PID: 1.0 LEL: 0.0
WS120	0.0	0.0	0.5	0.5	0.0	0.0	31.1	-2.1	n/a	971	360 // -6	1.27	1.67	HEX: 0.017 PID: 1.0 LEL: 0.0
BH04	Tap not secure – not sampled								n/a	971	n/a	4.16	4.69	n/a
BH06	Tap not secure – not sampled								n/a	971	n/a	Dry	4.11	n/a

Atmospheric Pressure: As indicated

Pressure Trend: Low, Rising

Weather: Overcast, occasional showers

Instrument Used: GFM 436

Sample Type: -

Operator: LT & NA

Notes:	CP103a – Flow fluctuating for 4 minutes. CP110 – Bung not fully secure RH106 – Hissed when opening tap. Flow settled after 5 minutes. WS103 – Flow fluctuating WS106 – Water close to bung. Flow fluctuating for 2 minutes. WS111 – Flow settled after 4 minutes WS113 – Hissed when opening tap WS120 – Hissed when opening tap

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 01/02/21

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP103a (~8m)	0.3	0.0	0.8	0.8	16.0	16.0	0.1	0.0	n/a	988	0	4.37	8.51	HEX: 0.052 PID: 1.0 LEL: 0.0
CP103b (~6m)	0.0	0.0	0.2	0.2	19.4	19.4	-0.6	-0.6	n/a	988	-4	4.44	6.12	HEX: 0.019 PID: 1.0 LEL: 0.0
CP107	0.0	0.0	0.8	0.8	19.0	19.0	0.2	0.0	n/a	991	2//0	2.89	8.93	HEX: 0.062 PID: 1.0 LEL:1.0
CP108	0.0	0.0	0.4	0.4	19.9	19.9	0.3	0.0	n/a	992	2//0	1.51	5.09	HEX: 0.011 PID: 1.0 LEL:0.0
CP109	2.2	0.8	0.0	0.0	19.8	19.9	0.3	-0.1	n/a	990	-1.0	1.87	12.81	HEX: 0.114 PID: 1.7 LEL: 48
CP110	0.0	0.0	6.3	6.3	6.0	6.0	0.3	0.0	n/a	991	0.0	2.47	3.88	HEX: 0.009 PID:1.0 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP112	3.4	3.4	5.8	5.8	11.8	11.7	-0.4	-0.1	n/a	990	-2	3.15	16.45	HEX: 0.2 PID: 3.5 LEL: 77.3
CP113	0.0	0.0	0.2	0.0	20.2	20.2	-0.3	-0.1	n/a	990	0	1.36	3.42	HEX: 0.011 PID: 1.0 LEL: 0.0
RH101	0.0	0.0	0.8	0.4	20.1	20.1	0.3	0.1	n/a	991	-3//0	1.49	19.63	HEX: 0.011 PID: 1.0 LEL: 0.0
RH102	0.0	0.0	0.1	0.0	20.1	20.1	0.1	0.0	n/a	991	0	2.11	13.53	HEX: 0.018 PID: 1.0 LEL: 0.0
RH106	0.0	0.0	1.2	1.2	6.8	6.8	4.4	0.1	n/a	991	-2	Unable to dip, tube blocking borehole		HEX: 0.02 PID: 1.0 LEL:.0.0
RH108	0.0	0.0	2.4	2.4	13.3	13.3	104	2.9	n/a	987	56//18	Unable to dip, tube blocking borehole		HEX: 0.003 PID: 1.0 LEL: 0.0
RH109a (~15m)	0.0	0.0	6.0	6.0	10.5	10.5	2.8	-2.5	n/a	988	17//-15	9.43	14.90	HEX: 0.011 PID: 1.0 LEL: 0.0
RH109b	0.0	0.0	3.0	2.4	11.6	12.4	0.4	0.3	n/a	988	1.0	Unable to dip, tube blocking borehole		HEX: 0.013 PID: 1.0 LEL: 0.0
RH110	0.0	0.0	0.1	0.0	19.8	19.8	-0.2	0.0	n/a	989	1//0	Unable to dip, tube blocking borehole		HEX: 0.017 PID: 1.0 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS101	Not monitored – water near ground level								n/a	990	-4	0.00	1.6	n/a
WS102	0.0	0.0	6.5	6.5	8.2	8.2	-0.4	-0.3	n/a	987	-3	1.05	1.7	HEX: 0.011 PID: 1.0 LEL: 0.0
WS103	0.0	0.0	3.2	3.2	12.9	12.9	-65.7	-2	n/a	991	>>//-12	0.92	1.75	HEX: 0.009 PID: 1.0 LEL: 0.0
WS104	0.0	0.0	0.8	0.8	19.8	19.8	-69	0.2	n/a	993	>>//2	0.88	1.72	HEX: 0.011 PID: 1.0 LEL: 0.0
WS105	0.0	0.0	0.4	0.4	19.6	19.6	0.6	-0.3	n/a	990	-3	0.34	1.77	HEX: 0.022 PID: 1.0 LEL: 0.0
WS106	0.0	0.0	0.3	0.3	19.8	19.8	-79	-0.6	n/a	991	>>//-4	0.37	1.78	HEX: 0.018 PID: 1.0 LEL: 0.0
WS107	Not monitored – water near ground level								n/a	988	-250//-5	0.16	1.67	Well flooded before sampling
WS108	Not monitored – water near ground level								n/a			0.28	1.65	n/a
WS109	0.0	0.0	5.4	5.4	4.3	4.3	0.9	0.4	n/a	990	1.0	1.51	1.72	HEX: 0.013 PID: 1.0 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS111	Not monitored – water near ground level								n/a			0.00	1.47	n/a
WS112	0.0	0.0	4.5	4.5	10.7	10.7	0.1	0.0	n/a	990	0.0	1.66	1.70	HEX: 0.015 PID: 1.0 LEL: 0.0
WS113	0.0	0.0	16.1	16.1	12.3	12.3	75.5	1.1	n/a	986	>-1300/1	0.88	1.79	HEX: 0.005 PID: 1.0 LEL: 0.0
WS119	0.0	0.0	1.8	1.8	18.4	18.4	-0.3	-0.1	n/a	987	-2//-1	1.7	1.73	HEX:0.01 PID: 1.0 LEL: 0.0
WS120	0.0	0.0	0.0	0.0	6.2	6.2	0.3	0.1	n/a	992	2//1	1.48	1.59	HEX: 0.013 PID: 1.0 LEL: 0.0
BH04	0.0	0.0	9.9	9.9	0.0	0.0	-0.5	-0.4	n/a	990	-3	3.36	4.53	HEX: 0.007 PID: 1.0 LEL: 0.0
BH06	0.0	0.0	9.1	9.0	5.0	5.0	-0.5	-0.2	n/a	988	-2	DRY	4.05	HEX: 0.012 PID: 1.0 LEL: 0.0

Atmospheric Pressure: As indicated

Pressure Trend: Low, Rising

Weather: Sunny, cold

Instrument Used: GFM 436

Sample Type: -

Operator: LT & NA

Notes:	CP103a – Flow fluctuating for 4 minutes. CP110 – Bung not fully secure RH106 – Hissed when opening tap. Flow settled after 5 minutes. WS103 – Flow fluctuating WS106 – Water close to bung. Flow fluctuating for 2 minutes. WS111 – Flow settled after 4 minutes WS113 – Hissed when opening tap WS120 – Hissed when opening tap

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 16/02/21

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP103a (~8m)	0	0	1.1	0.7	15.0	15.5	-1.6	-1.9	-	992	-14	4.52	8.58	HEX: 0.028 PID: 1.0 LEL: 0.0
CP103b (~6m)	0.9	0.9	2.3	2.3	0.5	0.5	-0.8	-0.9	-	992	-16	4.5	6.17	HEX: 0.084 PID: 1.3 LEL: 16.6
CP107	0	0	0.8	0.7	19.2	19.4	-1.2	-1.6	-	992	-12	2.94	8.87	HEX: 0.005 PID: 1.0 LEL: 0.0
CP108	0	0	0.3	0.1	20.3	20.3	-1.5	-1.8	-	993	-14	1.7	5.16	HEX: 0.0 PID: 0.9 LEL: 8
CP109	GAS TAP OPEN								-	-	-	1.9	12.85	HEX: PID: LEL:
CP110	0	0	0.3	0.3	20.4	20.4	0	-1.8	-	993	-12	2.48	3.90	HEX: 0.000 PID: 0.9 LEL: 0.0

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP112	2.1	2.1	5.4	5.4	10.8	10.7	-1.8	-2.2	-	992	-16	3.31	16.42	HEX: 0.152 PID: 2 LEL: 47.9
CP113	0	0	0.3	0.1	20.3	20.4	-1.1	-1.6	-	992	-12	1.62	3.5	HEX: 0.0 PID: 0.9 LEL: <<<
RH101	0	0	0.6	0.3	20.3	20.3	-1.5	-1.9	-	992	-14	1.62	19.58	HEX: 0.0 PID: 0.9 LEL: <<<
RH102	0	0	0.3	0.3	20.2	20.2	0	-1.8	-	992	-13	2.14	13.58	HEX: 0.0 PID: 0.9 LEL: <<<
RH106	0	0	2.3	2.3	0.5	0.5	120	1.2	-	992	> // 6 (over 4 mins)	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 1.0 LEL: <<<
RH108	0	0	2.6	2.6	12.9	12.9	29.8	11.0	-	992	394 // 129	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<
RH109a (~15m)	0	0	6.9	6.9	9.3	9.3	-1.3	-1.9	-	991	-14	9.21	15.02	HEX: 0.0 PID: 0.9 LEL: <<<
RH109b	0	0	1.3	0.5	17.4	19.6	-1.9	-2.2	-	991	-16	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<
RH110	0	0	0	0	20.3	20.3	-1.5	-1.9	-	992	-14	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS101	0	0	2.2	2.2	18.8	18.8	15.7	-1.3	-	993	-11	1.63	1.63	HEX: 0.0 PID: 0.9 LEL: <<<
WS102	0	0	5.7	5.7	11.6	11.6	-1.5	-2.2	-	992	-16	1.32	1.79	HEX: 0.0 PID: 1.0 LEL: <<<
WS103	0	0	4.7	4.7	11.8	11.8	-1.5	-1.8	-	993	-12	1.40	1.82	HEX: 0.0 PID: 0.9 LEL: <<<
WS104	0	0	0.4	0.4	20.2	20.2	-1.3	-1.5	-	992	-10	1.05	1.80	HEX: 0.0 PID: 0.9 LEL: <<<
WS105	0	0	0	0	20.4	20.4	-1.1	-1.3	-	992	-10	-.34	1.84	HEX: 0.0 PID: 0.9 LEL: <<<
WS106	0	0	0.4	0.4	19.9	19.9	-1.6	-1.6	-	992	<//-11 (fluctuating)	0.58	1.80	HEX: 0.0 PID: 0.9 LEL: <<<
WS107	0	0	0.4	0.4	20.1	20.1	-1.3	-1.6	-	993	>//-12	0.3	1.77	HEX: 0.0 PID: 0.9 LEL: <<<
WS108	0	0	0.5	0.5	19.2	19.2	-1.3	-1.8	-	992	-13	0.3	1.70	HEX: 0.0 PID: 0.9 LEL: <<<
WS109	0	0	4.9	4.9	4.9	4.9	-1.6	-2.2	-	992	-16	1.7	1.79	HEX: 0.0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS111	0.8	0.8	2.4	2.4	18.2	18.2	-1.6	-3.7	-	992	-36 // -11 (fluctuating)	0	1.58	HEX: 0.095 PID: 1.5 LEL: 3 Hissed on removal of GFM
WS112	0	0	4.2	4.1	14.2	14.2	-1.6	-1.9	-	992	-13	1.8	1.8	HEX: 0.0 PID: 0.9 LEL: <<<
WS113	0	0	16.1	16.1	13	13	0	-1.5	-	992	-11	0.94	1.82	HEX: 0.0 PID: 0.9 LEL: <<<
WS119	0	0	1.6	1.6	19.1	19.1	-1.8	-2.1	-	992	-14	1.82	1.87	HEX: 0.0 PID: 0.9 LEL: <<<
WS120	GAS TAP OPEN								-	-	-	1.65	1.70	HEX: PID: LEL:
BH04	0	0	10.1	10.1	1.4	1.4	-0.4	-1.6	-	992	-12	3.44	4.60	HEX: 0.0 PID: 0.9 LEL: <<<
BH06	0	0	11.4	11.4	0.9	0.9	-1.1	-1.1/-2.9 (fluctuating)	-	992	-14	Dry	4.12	HEX: 0.0 PID: 0.9 LEL: <<<

Atmospheric Pressure: As indicated

Pressure Trend: Low, steady.

Weather: light cloud cover and a light breeze, occasional sun.

Instrument Used: GFM 436

Sample Type: -

Operator: NA & EG

Notes:	CP109 – tap open, need another bolt to secure cover. CP110 – Bung not fully secure RH101 - Brown silt on probe RH106 – Could hear flowing. WS108 - Hissed on removal of GFM WS111 – Hissed when opening tap WS113 – Hissed when opening tap WS120 – Tap open – cover cannot be secured down.

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 25/02/21

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP103a (~8m)	0	0	0.3	0.1	19.5	20.0	-0.9	-0.9	-	1012	-10	4.58	8.5	HEX: 0.0 PID: 1.0 LEL: <<<
CP103b (~6m)	0	0	0	0	20.5	20.5	-1.2	-1.5	-	1013	-13	4.58	6.13	HEX: 0.0 PID: 0.0 LEL: <<<
CP107	0	0	1.3	1.3	18.2	18.2	-0.9	-1.1	-	1015	-9	2.94	8.84	HEX: 0.029 PID: 1.0 LEL: <<<
CP108	0	0	0.4	0.4	20.2	20.2	-0.8	-1.1	-	1014	-9	1.74	5.14	HEX: 0.0 PID: 0.9 LEL: <<<
CP109	0	0	0.3	0	20.4	20.4	-1.1	-1.1	-	1016	-10	1.91	12.85	HEX: 0.062 PID: 1.0 LEL: 0.0
CP110	0	0	0.5	0.5	19.9	19.9	-0.8	-1.1	-	1014	-8	2.45	3.86	HEX: 0.0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP112	1.6	1.5	3.9	3.9	13.0	13.0	-0.9	-1.1	-	1012	-8	3.4	16.41	HEX: 0.123 PID: 1.7 LEL: 36.5
CP113	0	0	0.2	0.1	20.5	20.5	-1.3	-1.6	-	1016	-12	1.42	3.48	HEX: 0.0 PID: 0.9 LEL: <<<
RH101	0	0	0.7	0.5	18.8	18.8	-1.5	-1.8	-	1014	-10	1.8	19.53	HEX: 0.0 PID: 0.9 LEL: <<<
RH102	0	0	0.6	0.6	19.6	19.6	-1.1	-1.2	-	1014	-9	2.18	13.54	HEX: 0.0 PID: 0.9 LEL: <<<
RH106	0	0	2.9	2.9	0.2	0.2	119.9	0	-	1014	>/0	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 1.0 LEL: <<<
RH108	0	0	1.3	1.3	16.9	16.9	-1.6	-13.9	-	1012	-340/-235	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<
RH109a (~15m)	0	0	7.3	7.3	8.2	8.2	-1.5	-1.8	-	1013	-13	9.15	11.3	HEX: 0.0 PID: 0.9 LEL: <<<
RH109b	0	0	0.5	0.3	19.9	20.2	-1.1	0	-	1013	0	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<
RH110	0	0	0.1	0	20.3	20.3	-1.1	-1.3	-	1013	-10	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS101	0	0	2.9	2.9	18.8	18.8	-1.2	-1.6	-	1014	-12	0	1.62	HEX: 0.0 PID: 0.9 LEL: <<<
WS102	0	0	4.5	4.5	10.2	10.2	-1.3	-1.5	-	1013	-10	1.32	1.74	HEX: 0.0 PID: 0.9 LEL: <<<
WS103	0	0	0.4	0.4	19.7	19.7	0	0	-	1014	-5	1.17	1.85	HEX: 0.0 PID: 0.9 LEL: <<<
WS104	0	0	0.4	0.4	20.0	20.0	-0.5	-1.1	-	1014	-7	1.17	1.79	HEX: 0.0 PID: 0.9 LEL: <<<
WS105	0	0	0	0	20.6	20.6	-0.5	-0.6	-	1015	-7	0.43	1.83	HEX: 0.0 PID: 0.9 LEL: <<<
WS106	0	0	0.3	0.3	20.0	20.0	47.2	0.0	-	1017	262 / 0	0.44	1.85	HEX: 0.0 PID: 0.9 LEL: <<<
WS107	0	0	0.4	0.4	20.3	20.3	18.9	0.0	-	1013	0.0	0.22	1.78	HEX: 0.0 PID: 0.9 LEL: <<<
WS108	0	0	0.6	0.6	19.8	19.8	3.0	-1.6	-	1013	-11	0.29	1.69	HEX: 0.0 PID: 0.9 LEL: <<<
WS109	0	0	0.2	0.2	20.3	20.3	-0.6	-1.1	-	1014	-8	1.71	1.76	HEX: 0.0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS111	0	0	1.3	1.3	19.3	19.3	0.9	0.0	-	1014	0.0	0	1.55	HEX: 0.0 PID: 1.0 LEL: <<<
WS112	0	0	0.1	0.1	20.3	20.3	-1.1	-1.1	-	1014	-10	Dry	1.78	HEX: 0.0 PID: 0.9 LEL: <<<
WS113	0	0	14.5	14.5	14.3	14.3	56.3	0.0	-	1012	0.0	0.88	1.81	HEX: 0.0 PID: 0.9 LEL: <<<
WS119	0	0	1.5	1.5	19.1	19.1	-1.2	-1.5	-	1013	-9	1.79	1.84	HEX: 0.84 PID: 0.9 LEL: <<<
WS120	0	0	0	0	11.2	11.2	-	-	-	-	-	1.72	1.72	HEX: 0.0 PID: 0.9 LEL: <<<
BH04	0	0	9.5	9.5	2.9	2.9	-0.1	-1.3	-	1012	-10	3.47	4.59	HEX: 0.0 PID: 0.9 LEL: <<<
BH06	0	0	10.9	10.2	1.9	3.4	-1.8	-1.8	-	1012	-15	Dry	4.06	HEX: 0.0 PID: 0.9 LEL: <<<

Atmospheric Pressure: As indicated

Pressure Trend: Rising slightly and fluctuating (1012 → 1013 ←→ 1017)

Weather: Sunny, slightly breezy with breeze strengthening in the afternoon.

Instrument Used: GFM 436

Sample Type: -

Operator: NA & EG

Notes:	RH106 – relative pressure settled in 1.5 minutes. Could hear gas pushing out of bung when opened to measure flow. RH108 – Hissed when tap opened. WS101 – water drawn up in tube after 30 seconds. WS106 – relative pressure settled after 45 seconds. WS108 – Hissed when tap opened. WS113 – Hissed when tap opened. WS120 – tap open, borehole cover unable to be bolted shut. Despite tap being open, tap hissed when gas tubing was removed. BH06 – gas level fluctuating, especially CO2 and O2, and struggling to stabilise after 3 mins. Groundwater ponding in the south of the beginning to retreat and dry out, extent of flooded area has reduced. Less obvious discolouration.

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group Ltd.

Site Name: Ten Acres Lane – Newton Heath

Date of Sampling: 08/03/21

Job Number: LD10162

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP103a (~8m)	0.5	0.0	0.9	0.8	11.5	15.1	-1.9	-2.1	-	1010	-16	4.69	8.57	HEX: 0.086 PID: 1.3 LEL: 15
CP103b (~6m)	1.2	1.2	2.2	2.2	2.4	2.4	-2.1	-2.4	-	1010	-18	4.71	6.18	HEX: 0.103 PID: 1.5 LEL: 28.2
CP107	0.0	0.0	1.2	1.0	18.3	18.4	-1.8	-2.2	-	1011	-16	3.0	8.81	HEX: 0.054 PID: 1.0 LEL: 0.0
CP108	0.0	0.0	0.5	0.2	20	20.1	-2.1	-2.1	-	1012	-15	1.78	5.16	HEX: 0.0 PID: 1.0 LEL: <<<
CP109	3.1	3.0	0.0	0.0	19.6	19.5	-1.8	-2.5	-	1011	-16	1.96	12.90	HEX: 0.193 PID: 3.5 LEL: 83
CP110	0.0	0.0	4.7	4.7	10.3	10.3	-2.1	-2.4	-	1012	-16	2.49	3.87	HEX: 0.0 PID: 1.0 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP112	1.9	1.9	4.4	4.4	12.3	12.3	-1.9	-2.1	-	1010	-15	3.42	16.36	HEX: 0.136 PID: 0.9 LEL: 42.6
CP113	0.0	0.0	1.2	1.1	17.6	17.6	-1.9	-2.4	-	1011	-16	1.85	3.5	HEX: 0.0 PID: 1.0 LEL: <<<
RH101	0.0	0.0	0.4	0.2	20.0	20.1	-2.4	-2.5	-	1012	-19	1.87	19.71	HEX: 0.0 PID: 1.0 LEL: <<<
RH102	0.0	0.0	0.2	0.2	20.1	20.1	-1.9	-2.4	-	1011	-17	2.33	13.60	HEX: 0.0 PID: 1.0 LEL: <<<
RH106	0.0	0.0	4.4	4.4	1.7	1.7	-1.8	-2.1	-	1011	-16	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 1.0 LEL: <<<
RH108	-0.1	-0.1	2.8	2.8	12.7	12.7	10.5	2.7	-	1010	15	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<
RH109a (~15m)	-0.1	-0.1	6.7	6.7	9.6	9.6	-16	-1.8	-	1010	-14	9.1	14.81	HEX: 0.0 PID: 0.9 LEL: <<<
RH109b	-0.1	-0.1	6.7	6.5	18.9	19.3	-1.9	-2.3	-	1010	-11	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 0.9 LEL: <<<
RH110	0.0	0.0	0.1	0.0	19.9	20.1	-2.1	-2.5	-	1011	-16	Unable to dip – tubing stuck in borehole		HEX: 0.0 PID: 1.0 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS101	0.0	0.0	3.1	3.1	17.8	17.8	-2.2	-2.4	-	1011	-17	0.0	1.63	HEX: 0.0 PID: 1.0 LEL: <<<
WS102	-0.1	-0.1	7.1	7.1	6.0	6.0	-1.9	-2.1	-	1010	-15	1.37	1.77	HEX: 0.0 PID: 0.9 LEL: <<<
WS103	0.0	0.0	4.6	4.6	11.3	11.3	-2.4	-2.7	-	1013	-18	1.19	1.89	HEX: 0.0 PID: 1.0 LEL: <<<
WS104	0.0	0.0	0.9	0.9	19.2	19.2	-2.2	-2.4	-	1011	-18	1.30	1.84	HEX: 0.0 PID: 1.0 LEL: <<<
WS105	0.0	0.0	0.0	0.0	20.1	20.1	-2.2	-2.5	-	1011	-17	0.45	1.79	HEX: 0.0 PID: 1.0 LEL: 0.0
WS106	0.0	0.0	0.1	0.1	20.1	20.1	-1.8	-2.7	-	1011	</-20	0.97	1.82	HEX: 0.0 PID: 1.0 LEL: <<<
WS107	-0.1	-0.1	0.45	0.45	20.1	20.1	-2.4	-3	-	1012	</-21	0.46	1.78	HEX: 0.0 PID: 0.9 LEL: <<<
WS108	-0.1	-0.1	0.7	0.7	19.2	19.2	-2.5	-3.7	-	1011	-36	0.42	1.70	HEX: 0.0 PID: 0.9 LEL: <<<
WS109	0.0	0.0	5.5	5.5	4.4	4.4	-1.8	-1.9	-	1011	-14	1.74	1.76	HEX: 0.0 PID: 1.0 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS111	0.0	0.0	2.0	2.0	19.1	19.1	-1.9	-2.1	-	1011	-16	0.22	1.55	HEX: 0.026 PID: 1.0 LEL: 0.0
WS112	0.0	0.0	4.5	4.5	13.9	13.9	-1.9	-2.1	-	1011	-15	Dry	1.75	HEX: 0.0 PID: 1.0 LEL: <<<
WS113	-0.1	-0.1	13.8	13.8	15.1	15.1	35.4	-1.5	-	1010	-13	0.9	1.85	HEX: 0.0 PID: 0.9 LEL: <<<
WS119	-0.1	-0.1	1.8	1.8	18.6	18.6	-2.1	-2.4	-	1010	-17	1.81	1.87	HEX: 0.0 PID: 0.9 LEL: <<<
WS120	0.0	0.0	0.0	0.0	10.4	10.4	-	-	-	-	-	1.71	1.72	HEX: - PID: - LEL: -
BH04	0.0	0.0	0.0	0.0	20.2	20.3	-1.9	-2.1	-	1011	-16	3.5	4.63	HEX: 0.0 PID: 0.9 LEL: <<<
BH06	-0.1	-0.1	11.4	11.4	2.2	2.2	-2.1	-2.4	-	1010	-17	Dry	4.10	HEX: 0.0 PID: 1.0 LEL: <<<

Atmospheric Pressure: As indicated

Pressure Trend: Steady

Weather: Overcast

Instrument Used: GFM 436

Sample Type: -

Operator: NA & EG

Notes:	WS107 – still settling after 2 mins. WS108 – hissed when bung was removed. WS113 – hissed when bung was removed. WS120 – tap open, unable to monitor flow. CP103a – Oxygen still rising steadily after 2.5 mins.

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: Your Housing Group
Site Name: Ten Acres Lane, Newton Heath
Weather: Overcast and dry. Temp 8°C. Wind 11mph SSW. Gust 20 SW.
Ground Conditions: Slightly wet.
Operator: JC

Date of Sampling:
Job Number: LD10162
Pressure Trend: Falling slightly
Instrument Type: GFM 436

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP103a (~8m)	0	0	0.4	0.3	16.6	16.6	0	0		1004	0	4.92	8.95	H2S: 0 CO: 0 HEX: 0.002 PID: 1.0 LEL: 0
CP103b (~6m)	0.9	0.9	2.1	2.1	1.1	1.1	0	0		1004	0	4.93	6.53	H2S: 0 CO: 0 HEX: 0.045 PID: 1.3 LEL: 20.3
CP107	0	0	0.7	0.7	19.3	19.4	0	0		1004	0	-	-	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: 0
CP108	0	0	0.4	0	20.4	20.4	0	0		1005	0	1.96	5.47	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
CP109	1.4	0	0	0	20.4	20.4	0	0		1003	0	-	13.6	H2S: 0 CO: 0 HEX: 0.032 PID: 1.0 LEL: 4.6

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP110	0	0	5.9	5.9	7.6	7.6	0	0		1004	0	-	-	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
CP112	2.2	2.2	3.8	3.8	7.9	7.9	0	0		1004	0	3.49	27.16	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: 50.4
CP113	0	0	0	0	20.7	20.7	0	0		1004	0	-	3.83	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
RH101	0	0	0.6	0	20.5	20.5	0	0		1006	0	2.13	20.02	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
RH102	0	0	0.2	0	20.5	20.5	0	0		1004	0	-	-	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
RH106	0	0	2.3	2.3	1.6	1.6	0	0		1004	0	-	-	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
RH108	0	0	2.6	2.6	12.6	12.6	7.2	2.7		1004	13	8.67	12.52	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
RH109a (~15m)	0	0	6.9	6.8	7.6	7.6	0	0		1004	0	9.06	15.0	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
RH109b	0	0	2.3	1.4	18.5	18.5	-0.4	-0.4		1004	-2	8.95	17.44	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
RH110	0	0	0	0	20.4	20.4	0	0		1005	0	17.44	22.25	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS101	-	-	-	-	-	-	-	-		-	-	-	-	H2S: CO: HEX: PID: LEL:
WS102	0	0	6.5	6.5	6.9	6.9	0	0		1003	0	1.65	2.13	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS103	-	-	-	-	-	-	-	-		-	-	-	-	H2S: CO: HEX: PID: LEL:
WS104	0	0	0.5	0.5	20	20	0	0		1003	0	1.45	2.15	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS105	0	0	0	0	20.6	20.6	0	0		1004	0	0.88	2.2	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS106	0	0	0	0	20.6	20.6	0	0		1004	0	1.36	2.15	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS107	0	0	20.2	20.2	0.4	0.4	21.4	0.1		1004	0	0.76	2.17	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS108	0	0	0.5	0.5	19.6	19.6	-23.5	0		1003	0	0.80	2.06	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS109	0	0	1.6	1.4	17.5	17.5	0	0		1006	0	Dry	2.25	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS111	0	0	1.0	1.0	19.8	19.8	0.5	0		1004	0	0.64	1.93	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS112	0	0	4.3	4.3	12.6	12.6	0	0		1005	0	Dry	2.12	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS113	-	-	-	-	-	-	-	-		-	-	-	-	H2S: CO: HEX: PID: LEL:
WS119	0	0	1.4	1.4	18.9	18.9	0	0		1004	0	2.1	2.1	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<
WS120	-	-	-	-	-	-	-	-		-	-	1.98	2.03	H2S: CO: HEX: PID: LEL:

Borehole Ref.	CH_4% by Volume		CO_2 % by Volume		O_2 % by Volume		Flow Rate l/hr		Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m BGL)	Depth to Base (mBGL)	Notes
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
BH04	-	-	-	-	-	-	-	-		-	-	-	-	H2S: CO: HEX: PID: LEL:
BH06	0	0	10	10	2.5	2.5	0	0		1004	0	Dry	4.46	H2S: 0 CO: 0 HEX: 0 PID: 0.9 LEL: <<<

Notes:	**CP103A:** Flow measured for 1 minute. Gas measured for 3 minutes. Silty water noted on probe. **CP103B:** Flow measured for 1 minute. Gas measured for 3 minutes. Clear water noted on probe. **CP107:** Flow measured for 1 minute. Gas measured for 1 minutes. Interface probe had stopped working so could not determine water level. **CP108:** Flow measured for 1 minute. Gas measured for 3 minutes. CO2 fell from 0.4 to 0 over 2 minutes and then was steady at 0 for 1 minute. 1.96 fast beep from interface probe that become a slow beep from 3.85. Clear water noted on probe. **CP109:** Flow measured for 1 minute. Gas measured for 3 minutes. CH4 fell from 1.4 to 0 over 2 minutes and then steady at 0 for 1 minute. Interface probe had stopped working so could determine water level. Black sludge on probe with slightly hydrocarbon / organic odour. **CP110:** Flow measured for 1 minute. Gas measured for 1:30 minutes. Bung stuck. **CP112:** Flow measured for 1 minute. Gas measured for 2 minutes. 3.49 fast beep from interface probe that become a slow beep from 5.36. **CP113:** Flow measured for 1 minute. Gas measured for 2 minutes. Interface probe had stopped working so could not determine water level. Clear water noted on probe. **RH101:** Flow measured for 1 minute. Gas measured for 2 minutes. CO2 fell steadily from 0.6 to 0 over 1 minute and then was steady at 0 for 1 minute. Silt water on probe. **RH102:** Flow measured for 1 minute. Gas measured for 2 minutes. Interface probe had stopped working so could not determine water level. **RH106:** Flow measured for 1 minute. Gas measured for 2 minutes. Interface probe had stopped working so could not determine water level. **RH108:** Flow measured for 3 minutes. Gas measured for 1 minute. Flow fell from 7.2 to 2.7 over 1 minute. Fluctuated between 2.7 – 3.0 over 2 minutes. Mostly steady at 2.7. **RH109A:** Flow measured for 1 minutes. Gas measured for 3 minute. Silty water on probe. **RH109B:** Flow measured for 2 minutes. Gas measured for 3:30 minutes. Negative flow that fluctuated between -0.2 and -0.4 but mostly steady at -0.4. CO2 peak at 2.3 fluctuated between 0.9 – 1.5 over 2 minutes and settled at 0.9. **RH110:** Flow measured for 1 minutes. Gas measured for 2 minutes. **WS101:** Unable to remove bolt from raised cover. **WS102:** Flow measured for 1 minutes. Gas measured for 1:30 minute. Clear water on probe. **WS103:** Unable to remove bolt from raised cover. **WS104:** Flow measured for 1 minutes. Gas measured for 1 minute. Clear water on probe. **WS105:** Flow measured for 1 minutes. Gas measured for 1:30 minute. Clear water on probe. **WS106:** Flow measured for 1 minutes. Gas measured for 2 minute. **WS107:** Flow measured for 5 minutes. Gas measured for 1 minute. Flow fell steadily from 21.4 to to 3.3 over 2 minutes and then fell from 3.3 to 0 over a further 2 minutes. Fluctuated between 0.1 and over 1 minute. Black sludge on probe. **WS108:** Flow measured for 1 minutes. Gas measured for 2 minutes. Hiss when removing tubing from valve. Clear water on probe. **WS109:** Flow measured for 1 minutes. Gas measured for 2 minutes. Headworks could be pulled out the ground. **WS111:** Flow measured for 1 minutes. Gas measured for 1 minutes. Clear water on probe. **WS112:** Flow measured for 1 minutes. Gas measured for 2 minutes. **WS113:** Unable to remove bolt from raised cover. **WS119:** Flow measured for 1 minutes. Gas measured for 1 minutes. Clear water on probe. **WS120:** Gas valve left open. Unable to monitor gas. **BH04:** Unable to remove bolt from raised cover. **BH06:** Flow measured for 1 minutes. Gas measured for 2 minutes.

Well Development Data

Client Name: Your Housing Group Ltd. **Job Number: LD10162**

Site Name: Ten Acres Lane - Newton Heath

Date	Borehole	Depth to water (m bgl)	Depth to Base (m bgl)	Notes
09/11/2020	CP110	2.61	3.86	10x well volume removed. Water was silty.
	RH106	24.81	41.87	43 litres removed, well dry with very slow recharge
	RH102	2.65	13.54	No bung. Water silty with very strong rotten egg odour. 10x well volume removed - water appears clearer.
	RH110	21.76	22.55	Unable to remove any water
	CP103a	5.29	8.61	Taller pipe. Rotten egg odour. 10x well volume removed.
	CP103b	5.23	6.13	Shorter pipe. Rotten egg odour. 10x well volume removed.
	RH101	9.47	20.32	35 litres removed, hole dry.
10/11/2020	CP107	3.46	8.91	10x well volume removed. Water was silty.
	CP113	1.82	3.49	7 litres removed, hole dry. Brown silty water.
	CP109	2.42	12.9	Grey silty water with strong eggy odour
	CP112	7.14	27.22	Silty water with slight eggy odour. Poor headworks
	CP108	1.77	5.14	silty water. 15 litres removed, water running clear.
	WS109	DRY	1.66	-
	WS112	DRY	1.76	-
	WS101	0.44	1.82	7 litres very silty water removed, hole dry.
	WS103	1.15	1.85	10x well volume removed. Water slightly silty.
	RH108	8.64	14.74	Verysilty/sl sandy water removed. 15 litres removed, blocking tubing. After developing base at 13.02m
	RH109a	9.97	15.73	Very silty/sandy water. 30 litres removed, tubing blocked.
	RH109b	9.4	17.06	Very silty/sandy water. 10x well volume removed, very slow.
11/11/2020	WS107	0.25	1.76	10x well volume removed, slow recharge.
	WS108	1.76	2.11	10x well volume removed, slow recharge.
	WS113	1.33	1.8	10x well volume removed, slow recharge.
	WS119	DRY	1.81	-
	WS102	1.25	1.75	10x well volume removed, fast recharge.
	WS120	1.65	1.69	Unable to remove any water
	WS104	1.59	1.78	10x well volume removed, slow recharge.
	WS105	0.9	1.74	10x well volume removed, fast recharge.
	WS106	0.72	1.72	10x well volume removed, fast recharge.
	WS111	0.45	1.38	Silty, slow recharge.

RECORD OF FIELD PARAMETER MEASUREMENTS

Client Name: Your Housing Group Ltd. **Job Number: LD10162**

Site Name: Ten Acres Lane – Newton Heath

Borehole Ref.	Waterbody	Date & Time	Temp (C)	Baro (mb)	pH	pHmV	ORP (REDOX)	DO (% Sat)	DO (mg/L)	EC (uS/cm @25C)	RES (Ohms.cm)	TDS (mg/L)	SAL (PSU)	SSG
SW01	Canal (downstream)	02/12/2020 15:56	5.75	1003	8.86	-99.4	-59.4	100.4	12.41	229	6896	148	0.07	0
SW02	Canal (Middle)	01/12/2020 15:12	5.4	1017	6.81	14.6	13.8	98.4	12.47	230	6944	149	0.07	0
SW03	Canal (Upstream)	01/12/2020 15:35	5.5	1017	7.26	-11	11.1	96.4	12.19	208	7633	135	0.07	0
CP101 / RH109	GT	10/12/2020 15:16	10.43	986	7.45	-59.1	25	4.8	0.52	1572	881	1021	0.78	0.2
CP103a	MG/GT	02/12/2020 14:05	9.9	1003	7.75	-38.8	-208.2	5.3	0.59	1797	781	1168	0.89	0.3
CP103b	MG	02/12/2020 14:35	10.5	1003	7.64	-32.4	-233.8	18.1	1.99	1575	877	1023	0.78	0.2
CP107	MG	02/12/2020 15:16	10.6	1003	8.03	-54.5	-176.8	23.9	2.61	1573	876	1022	0.78	0.2

Borehole Ref.	Waterbody	Date & Time	Temp (C)	Baro (mb)	pH	pHmV	ORP (REDOX)	DO (% Sat)	DO (mg/L)	EC (uS/cm @25C)	RES (Ohms.cm)	TDS (mg/L)	SAL (PSU)	SSG
CP108	MG	02/12/2020 10:21	10.4	1008	7	3.3	-152	2.6	0.29	1155	1200	750	0.55	0
CP109	MG	02/12/2020 13:24	10.6	1004	8.88	-102.6	-294.3	1.8	0.2	4262	323	2770	2.25	1.3
CP110	MG	02/12/2020 10:53	10.7	1008	6.96	5.9	68.7	20.4	2.24	1377	999	895	0.65	0.1
RH101	MST	02/12/2020 09:20	10.1	1009	6.67	22.7	20.1	10.2	1.14	1197	1166	778	0.57	0.1
RH102	MG/GT	02/12/2020 11:23	11.1	1006	7.34	-15.7	-214.9	1.1	0.12	4010	339	2606	2.12	1.2
RH103	GT	07/01/2021 11:58	10.5	1008	7.72	-32.9	54.1	11.5	1.26	2015	686	1309	1.02	0.4
RH106	GT/SST	10/12/2020 10:58	10.28	989	7.62	-68.9	-113.8	68.6	7.46	1505	925	978	0.74	0.2
RH106	GT/SST	07/01/2021 10:06	9.4	1010	7.5	-20.6	65	94.3	10.74	2	500000	1	0	0
RH108	SST	04/12/2020 15:09	9.5	963	8.03	-54.2	13.1	89	9.64	0		0	0	0
RH108	SST	07/01/2021 13:03	7.6	1007	7.7	-31.5	42.3	65.1	7.69	2053	729	1334	1.04	0.6

TEST DATE AND CONDITIONS		
Date	08/02/2021	
Atmospheric Pressure	988	mB
Ambient Temperature	21.9	°C
Environics Serial No.	5089	

GAS DATA LTD
Unit 4, Fairfield Court
Seven Stars Estate
Wheler Rd
Coventry
CV3 4LJ
Tel 02476303311 Fax 02476307711

GFM436 Final Inspection & Calibration Check Certificate

Customer	Wardell Armstrong LLP
Certificate Number	122297
Order Number	327797

Serial Number	12237
Software Version	G436-00.0027/0009

Recalibration DUE Date
08/02/22

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	400	*Accept > 200 cc/min*	Pump Flow @ -200mB	250	*Accept > 200 cc/min*
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH_4		CO_2		O_2	
	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %
	60	*60*	40	*40*	20.9	*20.9*
	Accept ±3.0		*Accept ±3.0*		*Accept ±0.5*	
	5	*5*	5	*5*	6	*6*
	Accept ±0.3		*Accept ±0.3*		*Accept ±0.3*	
Zero Reading 100% N2	0	*0*	0	*0*	0	*0*
	Accept ±0.0		*Accept ±0.0*		*Accept ±0.1*	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings *(ppm)*			
Gas Type	Range *(ppm)*		Zero Reading		Instrument Gas Reading	
H2S	5000	*1500*	0	*Accept ±0.0*	1500	*Accept ±5.0*
CO	2000	*1000*	0	*Accept ±0.0*	1002	*Accept ±5.0*
Hexane	*2.0%*	2.0%	0	*Accept ±0.0*	1.99	*Accept ±10.0*

Cross Gas Effects									
Applied Gas *(ppm)*		Instrument Readings *(ppm)*							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	*1500*	1500		0		0			
CO	*1000*	0		1002		0			
Hexane	*2.0%*	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] *(mB)*			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		988	*Accept ±2.0*
AP Port (Internal)	*+800 mB*	800	*Accept ±5.0*
	+1200mb	1200	*Accept ±5.0*

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading *(l/h)*	Instrument Reading *(l/h)*		Applied Pressure *(Pa)*	Instrument Reading *(Pa)*	
-30	-30.2	*Accept ±3.0*	-548	-560	*Accept ±50*
-3	-3	*Accept ±1.0*	-21	-21	*Accept ±6.0*
0	0	*Accept ±0.0*	0	0	*Accept ±0.5*
3	3	*Accept ±0.5*	17	17	*Accept ±3.0*
30	30	*Accept ±3.0*	392	390	*Accept ±50*
60	60	*Accept ±6.0*	1217	1217	*Accept ±130*
90	90.5	*Accept ±9.0*	2415	2415	*Accept ±250*

Temperature Checks		
Calibration Temperature Applied Temperature ^{0}C	Instrument Temperature Reading ^{0}C	
-10	-10	*Accept ±2.0*
0	0	*Accept ±1.0*
30	30	*Accept ±1.0*
60	60	*Accept ±1.0*
100	100	*Accept ±1.0*

Technician:	Date Tested:
Jack Rutland	*09/02/2021*

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

TEST DATE AND CONDITIONS	
Date	8.2.2021
Atmospheric Pressure	988 mB
Ambient Temp	21.9 °C
Environics Serial No.	5089

GAS DATA LTD
Unit 4, Fairfield Court
Seven Stars Estate
Wheler Rd
Coventry
CV3 4LJ
Tel 02476303311 Fax 02476307711

GFM436-1 OUTWARD INSPECTION & QUALITY CHECK SHEET

INSTRUMENT DETAILS			
SO Number	Instrument Type	Instrument Serial Number + SW Version	Job Number(s)
327797	GFM436	12237 9436-27/09	122797

Calibration Technician ..... **Date** 8.2.2021

Inspection Technician ..... **Date** 9-2-21

INSTRUMENT CHECKS		Pass (P), Fail (F) or not applicable (NA)	INSTRUMENT PACKING LIST		Tick if included
Function Tests	Dust Caps Fitted	P	Instrument		✓
	Keyboard Test (All Keys)	P	Leather Case		✓
	Backlight	P	Instrument Strap		✓
	Clock Set / Running	P	AC Battery Charger (UK)		✓
	Comms Test	P	AC Battery Charger (EURO)		X
	Pump Flow Test (In & Out)	P	AC Battery Charger (US)		X
	Overall Leak Test (30mB)	n/a	AC Battery Charger (AUS)		X
	Battery Charge Test	P	Gas Sample Pipe - *(new issue)*		X
	Service Date set to?	8.2.22	Flow Sample Pipe - *(new issue)*		X
Channel Tests	Data Logging Enabled?	P	Hard Carry Case		✓
	Verify CH4/LEL/Hexane/PID	P	Allen Key		X
	Verify CO2	P	Spares Pot		✓
	Verify O2	P	Temperature Probe		X
	Verify H2S	P	Vane Anemometer		X
	Verify CO	P	USB Cable		✓
	Verify LEL	P	USB Memory stick		X
	Verify 1st Option Gas	N/A	SM V5 Software	Ver 5.05	X
	Verify Atmospheric pressure	P	Internal Filter Pack	Qty	X
	Verify differential pressure	P	External Filter Pack	Qty	X
	Verify flow	P	Field Guide		X
	Verify temperature probe input	P	**Extra Items:**		
	Verify vane anemometer input	P	Sample Tubes		
DataBase Checks	Jobcard(s) completed and signed	P			
	Jobcard(s) booked off database	P			
	Calibration certificate completed	P			
	Complete & print QI record	n/a			
Label Checks	No. of Calibration label fitted	GDC 11107	**Comments:**		
	MCERTS label displayed	P			
	Warranty label fitted	P			
H2S Range	H2S Range from Sales Order	5000 ppm			
	H2S Range from Cal Cert	5000 ppm			
	Over-range value correct?	P			

APPENDIX H

Geological Cross Sections

Abbreviations for Cross Sections

Cohesive Glacial Till: CGT

Concrete: CONC

Granular Glacial Till: GGT

Made Ground - Predominantly Cohesive: CMG

Made Ground - Predominantly Granular: GMG

Made Ground - Suspected Colliery Spoil: CS

Made Ground - Suspected Combustion Waste: CW

Made Ground - Suspected Household Waste: HW

Made Ground - Suspected Mixed Construction / Demolition Waste: DW

Possible Collyhurst Sandstone Formation: CSF

Possible Manchester Marls Formation: MMF

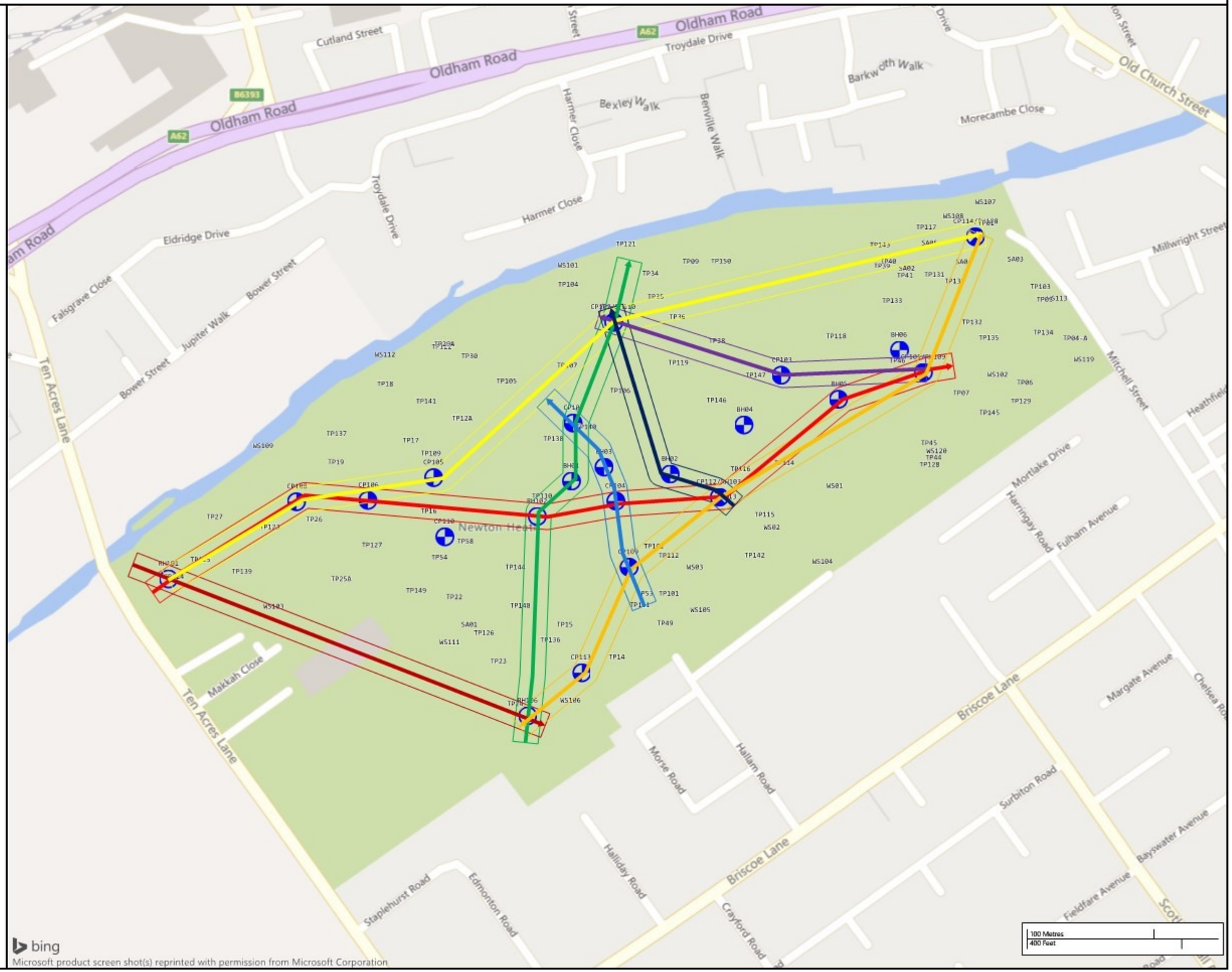
Topsoil Fill: TF

Project Id:	LD10162	Title:	Site Plan
Project Title:	Ten Acres Lane, Newton Heath	Scale:	1:3000
Location:	Newton Heath, Manchester	Engineer:	Wardell Armstrong Leeds
Client:	Your Housing Group	Contractor:	

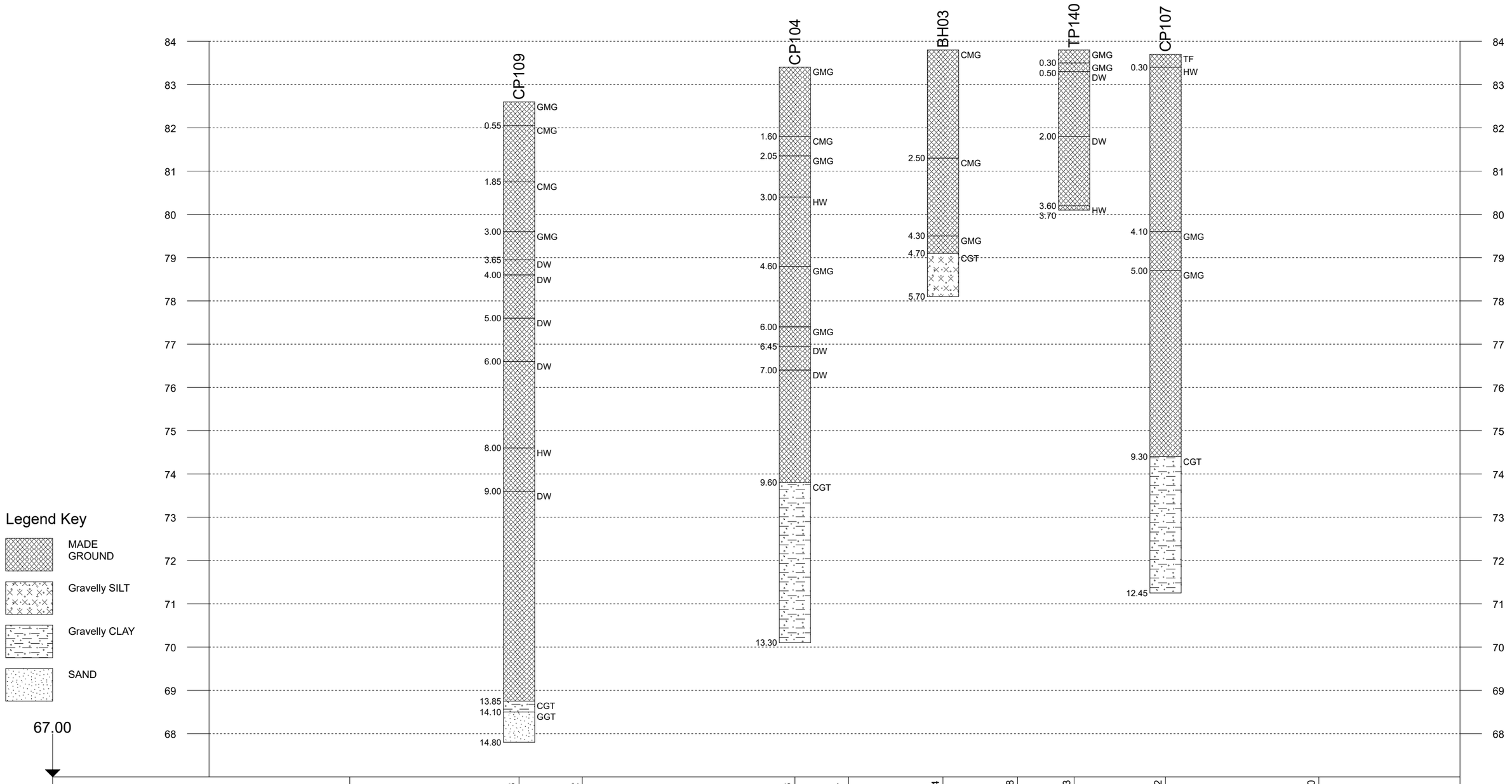
wardell armstrong

Legend Key

- Sections - Section line 2
- Sections - Section line 3
- Sections - Section line 4
- Sections - Section line 5
- Sections - Section line 6
- Sections - Section line 7
- Sections - Section line 8
- Sections - Section line 1
- Locations By Type - CP
- Locations By Type - CP+RO
- Locations By Type - RO



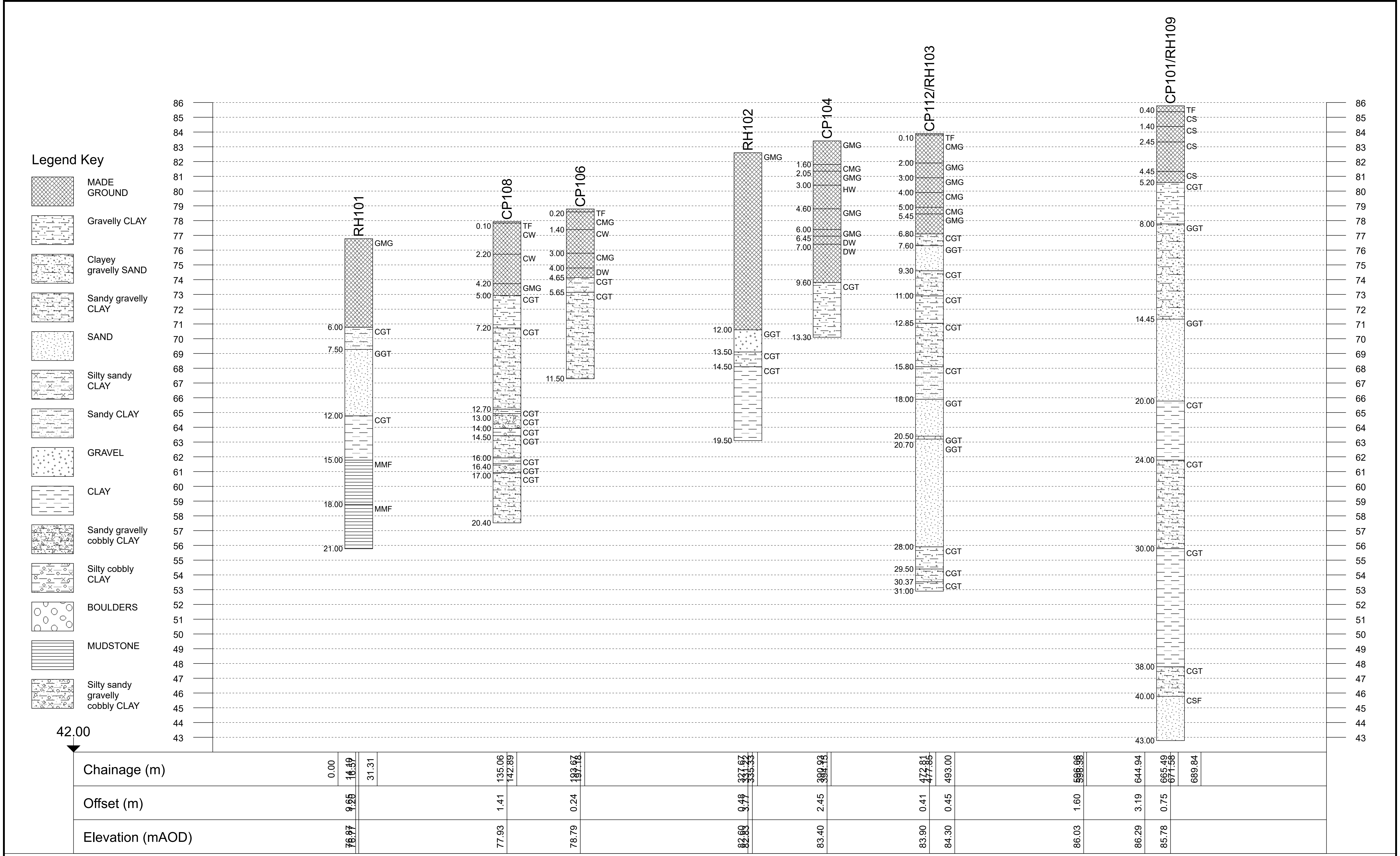
Project Id: LD10162	Title: Section line 1
Project Title: Ten Acres Lane, Newton Heath	Vertical Scale: 1:90
Location: Newton Heath, Manchester	Horizontal Scale: 1:754
Client: Your Housing Group	Engineer: Wardell Armstrong Leeds



Chainage (m)	0.00	32.78	45.02	86.18	96.57	114.84	129.28	140.23	157.92	187.60
Offset (m)		0.01		0.31		1.12		2.70	1.27	
Elevation (mAOD)		82.60		83.40		83.80		83.80	83.70	

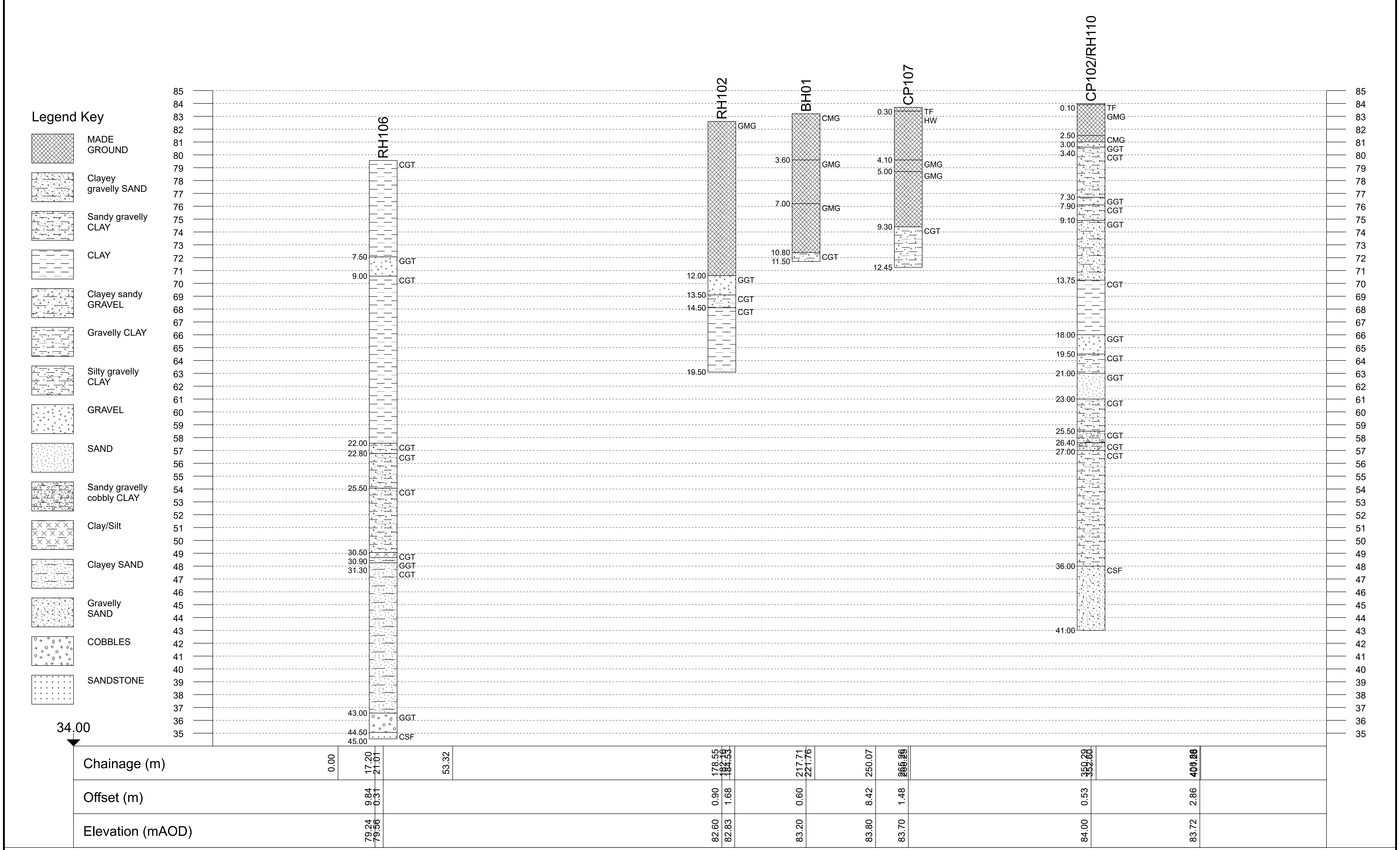
Project Id: LD10162
Project Title: Ten Acres Lane, Newton Heath
Location: Newton Heath, Manchester
Client: Your Housing Group

Title: Section line 2
Vertical Scale: 1:235
Horizontal Scale: 1:2772
Engineer: Wardell Armstrong Leeds



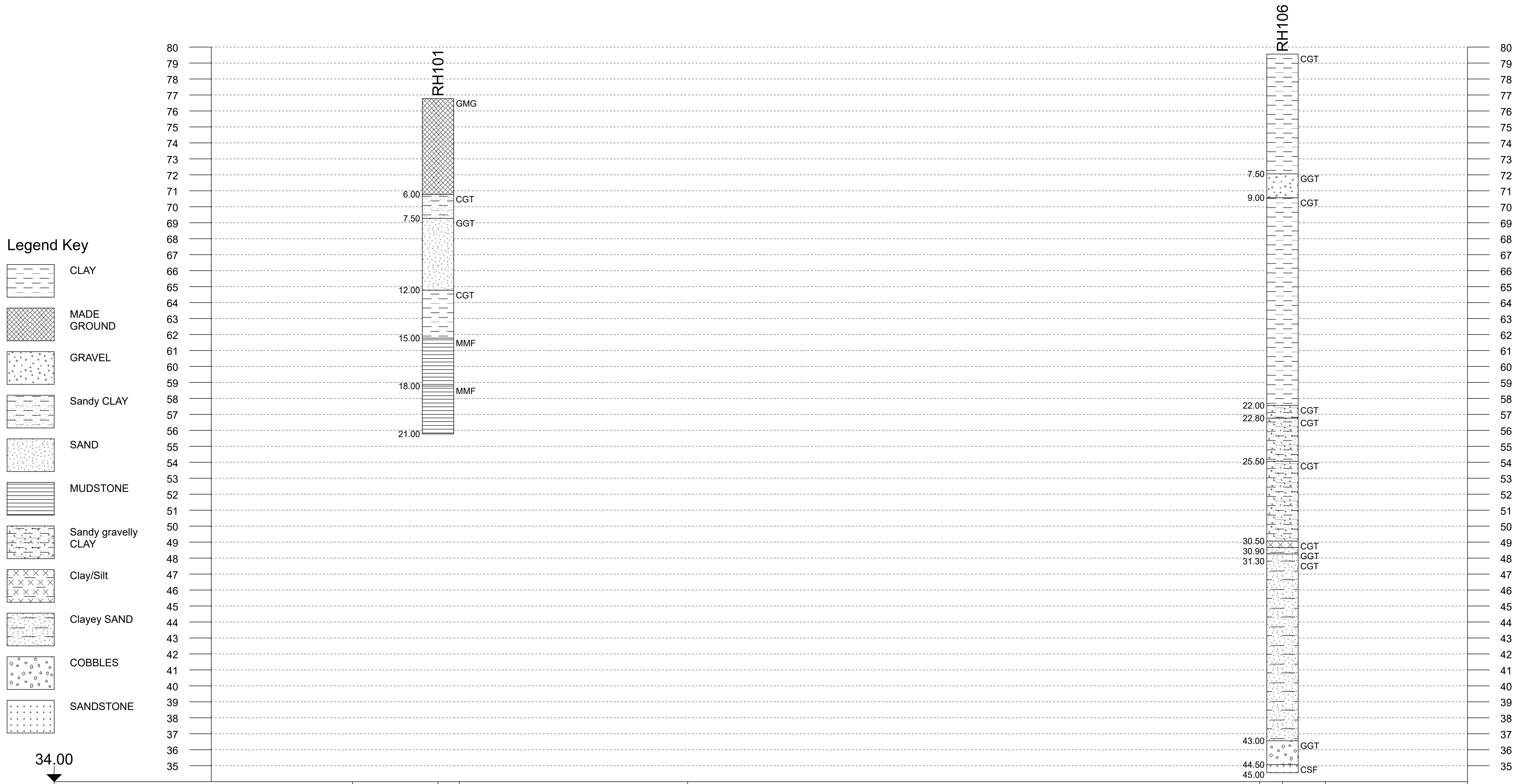
Project Id: LD10162
Project Title: Ten Acres Lane, Newton Heath
Location: Newton Heath, Manchester
Client: Your Housing Group

Title: Section line 3
Vertical Scale: 1:270
Horizontal Scale: 1:1613
Engineer: Wardell Armstrong Leeds



Project Id: LD10162
Project Title: Ten Acres Lane, Newton Heath
Location: Newton Heath, Manchester
Client: Your Housing Group

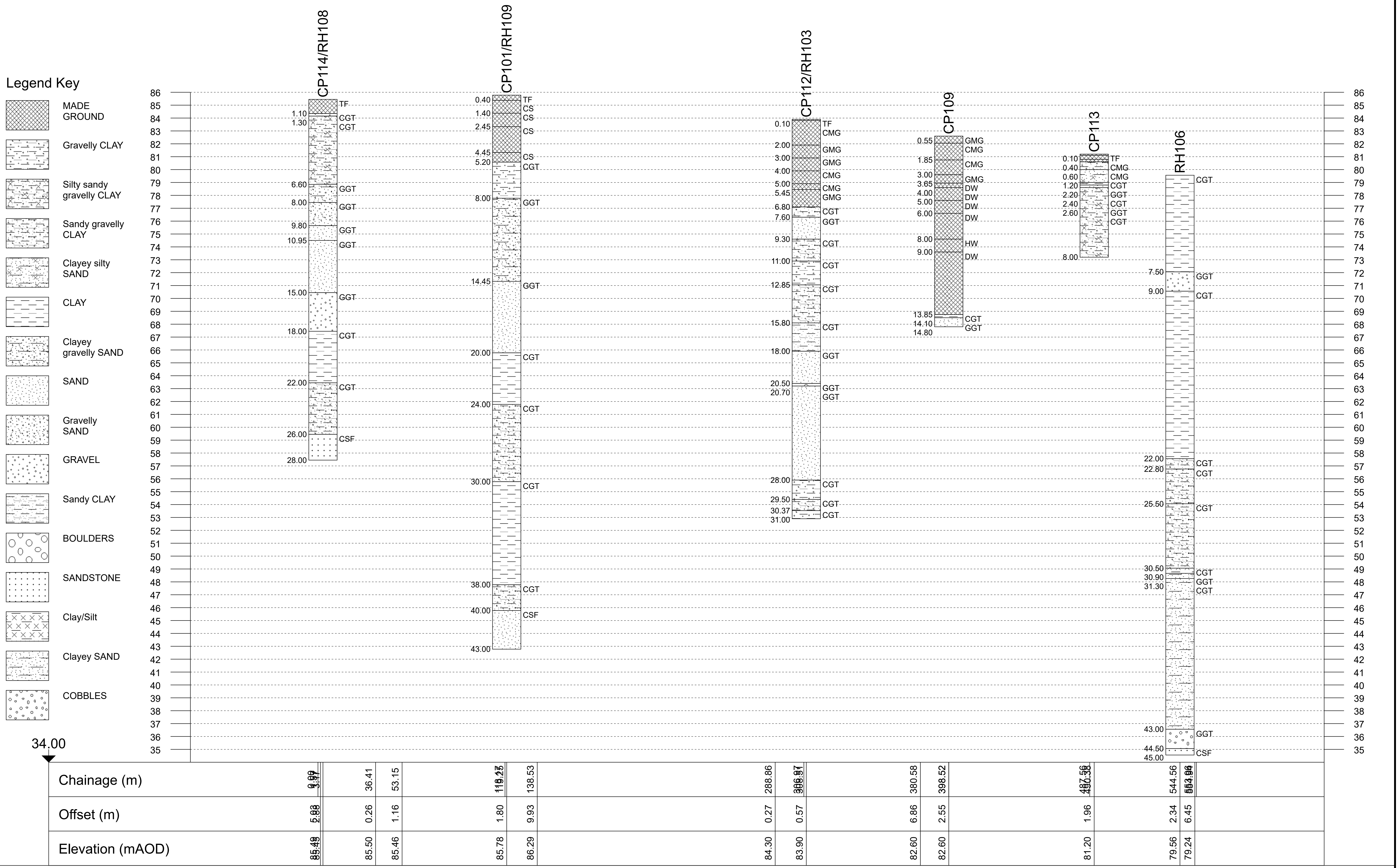
Title: Section line 4
Vertical Scale: 1:245
Horizontal Scale: 1:1408
Engineer: Wardell Armstrong Leeds



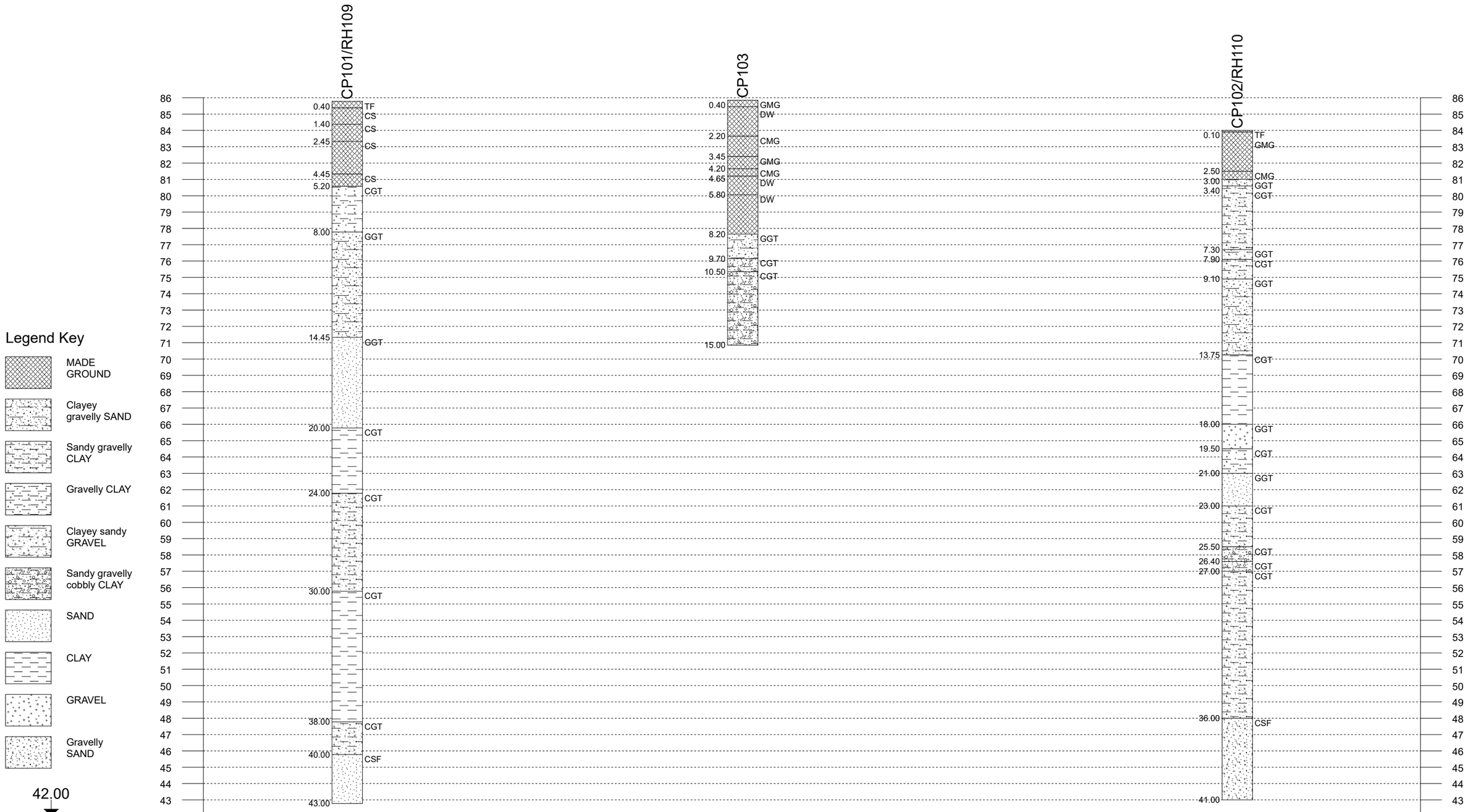
Chainage (m)	0.00	30.76	38.42	120.62	326.54	334.75	350.23
Offset (m)		0.39	8.47	1.72	4.20	1.95	
Elevation (mAOD)		76.77	76.87	77.00	79.24	79.56	

Project Id: LD10162
Project Title: Ten Acres Lane, Newton Heath
Location: Newton Heath, Manchester
Client: Your Housing Group

Title: Section line 5
Vertical Scale: 1:274
Horizontal Scale: 1:2230
Engineer: Wardell Armstrong Leeds

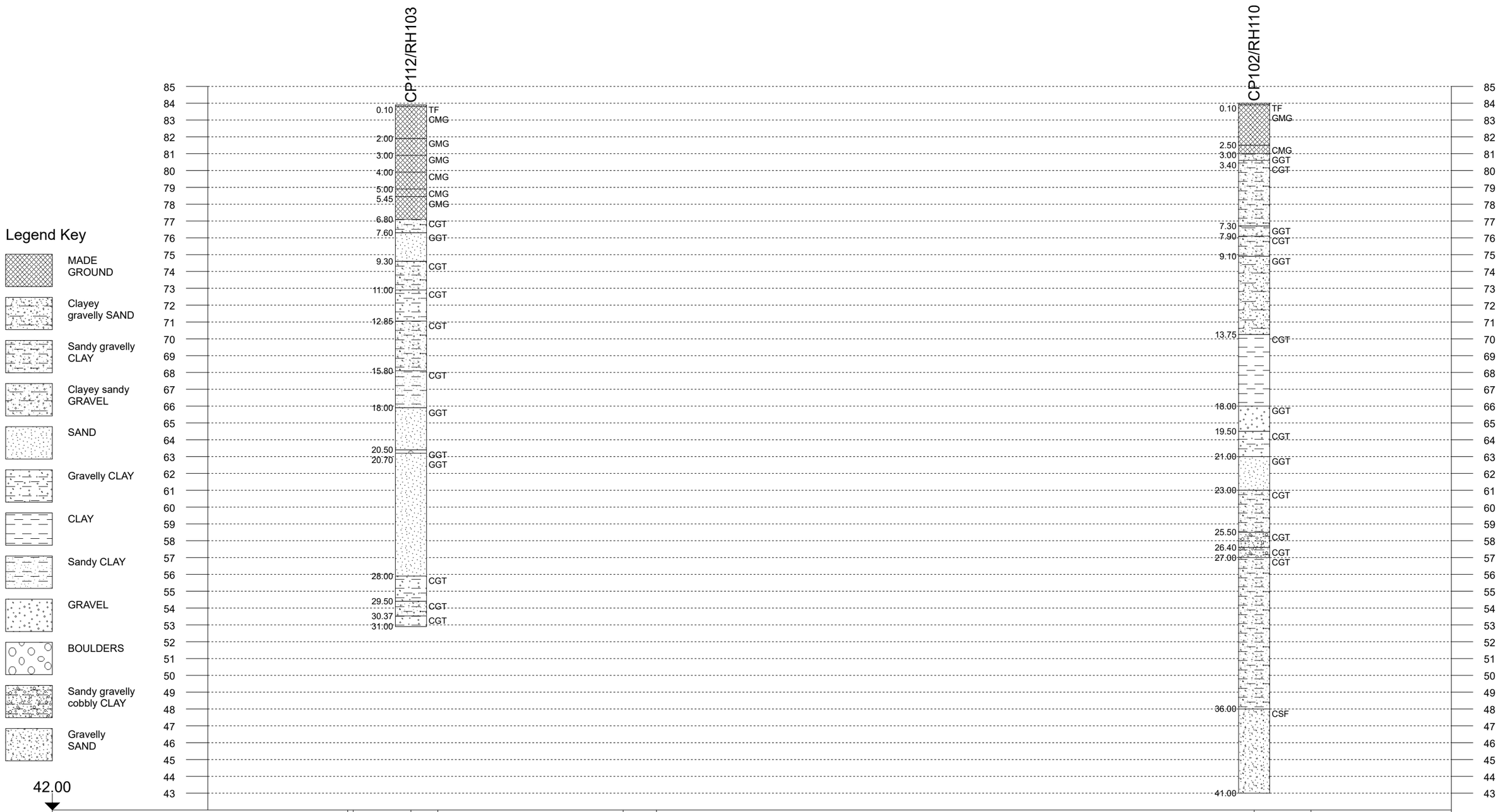


Project Id: LD10162	Title: Section line 6
Project Title: Ten Acres Lane, Newton Heath	Vertical Scale: 1:232
Location: Newton Heath, Manchester	Horizontal Scale: 1:1071
Client: Your Housing Group	Engineer: Wardell Armstrong Leeds



Chainage (m)	0.00 1.97	22.80	113.06	167.31	203.04	253.53	266.34	
Offset (m)	2.83	4.89	0.73	2.03	6.58	1.23		
Elevation (mAOD)	85.78	86.29	85.85	85.30	84.70	84.00		

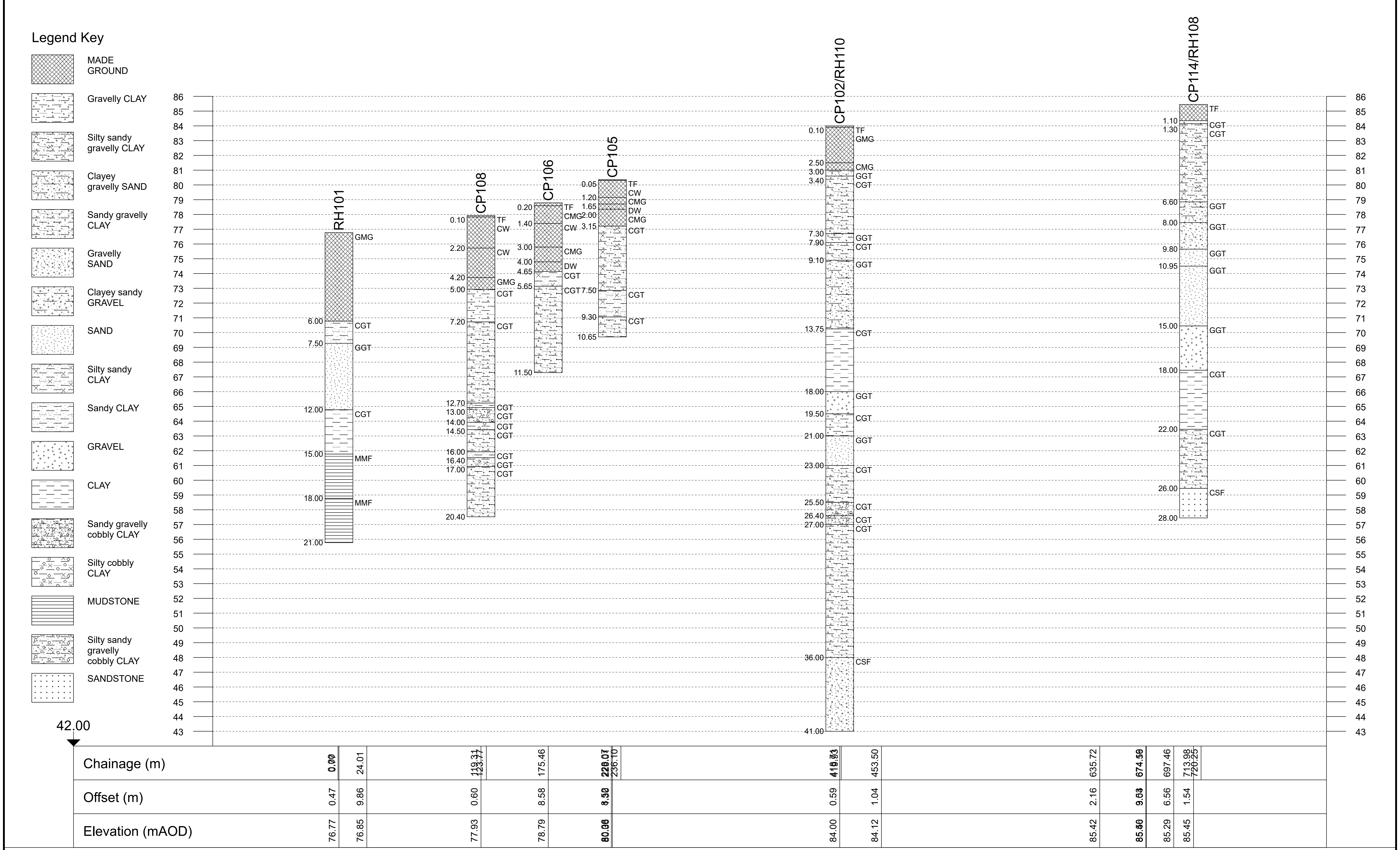
Project Id: LD10162	Title: Section line 7
Project Title: Ten Acres Lane, Newton Heath	Vertical Scale: 1:230
Location: Newton Heath, Manchester	Horizontal Scale: 1:808
Client: Your Housing Group	Engineer: Wardell Armstrong Leeds



Chainage (m)	0.00	1.15	13.20	18.82	57.48	64.44	189.18	201.02	
Offset (m)	7.74		2.71		1.36		1.16		
Elevation (mAOD)	83.90		83.90		84.00		84.00		

Project Id: LD10162
Project Title: Ten Acres Lane, Newton Heath
Location: Newton Heath, Manchester
Client: Your Housing Group

Title: Section line 8
Vertical Scale: 1:235
Horizontal Scale: 1:2894
Engineer: Wardell Armstrong Leeds



A P P E N D I X I

Contaminant Exceedence Tables

Summary of Metal Exceedances in Made Ground (2020)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Chromium IV	<0.6 – 26	21[1]	1	CP106	1.8	26	MG-CW
Arsenic	7.25 – 1930	37[1]	13	TP126	0.50	**1930**	MG-CW
				TP139	2.4	**332**	MG-CW
				TP128	3.6	**309**	MG-CW
				TP108	2.3	**199**	MGC
				TP149	0.5	99.7	MG-CW
				TP123	1.9	80.9	MG-CW
				TP145	3.8	72.5	MG-CDW
				CP108	0.5	62.9	MG-CW
				WS111	0.35	60	MG-CW
				TP114	3.4	45.4	MG-CDW
				WS107	1.4	44.7	MGC
				TP139	1.5	43.3	MGC
				WS112	0.9	40.9	MGG
Copper	11.6 – 9990	2400	1	TP102	1.6	**9990**	MG-CDW
Lead	6.38 – 28700	200[1]	26	TP114	3.4	**28700**	MG-CDW
				TP139	1.5	**3220**	MGC
				CP106	1.8	**1220**	MG-CW
				TP108	2.3	**1130**	MGC
				TP141	0.5	931	MG-CW
				TP126	0.5	879	MG-CW
				TP144	0.4	622	MG-CW
				CP107	4.5	589	MGG
				TP149	0.5	510	MG-CW
				TP138	1.6	471	MG-CDW
				TP102	1.6	470	MG-CDW
				TP119	1.7	352	MG-CDW
				TP128	3.6	341	MG-CW
				TP127	1.2	322	MGC
				TP139	2.4	284	MG-CW
				TP117	4.2	283	MG-CDW
				TP101	0.5	270	MG-CDW
				CP103	2.0 – 3.0	250	MGC
				TP115	0.4	245	MGG
				TP111	1.5	236	MG-CDW
				RH108	0.0 – 1.0	233	TF
				WS112	0.9	229	MGG

Summary of Metal Exceedances in Made Ground (2020)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
				TP145	3.8	227	MG-CDW
				CP108	0.5	226	MG-CW
				TP123	1.9	208	MG-CW
				TP134	0.2	204	MG-CDW
Nickel	5.68 – 535	130	5	CP109	7.5	535	MG-CDW
				TP141	0.5	175	MG-CW
				TP149	0.5	160	MG-CW
				CP104	7.3	145	MG-CDW
				WS105	2.5	131	MGG
Zinc	15.7 – 7290	3700	1	TP102	1.6	7290	MG-CDW

Notes:

[1] Category 4 Screening Levels (March 2014)

MGC = Predominantly Cohesive Made Ground

MGG = Predominantly Granular Made Ground

MG-CW = Suspected Combustion Waste

MG-CDW = Suspected Construction and Demolition Waste

TF = Topsoil Fill

Summary of Metal Exceedances in Made Ground (Celtic 2007)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Arsenic	<3– 190	37[1]	21	WS6	1.5	**190**	MGC
				R3	0.4	**130**	MGG
				TP5	2.4	**120**	MGC
				TP12	1.7	**120**	MGC
				WS12	1.5	**110**	MG-CW
				TP23	0.4	89	MGG
				BH3	5.3-6.0	78	MG-CW
				TP39	0.2-0.7	75	MGC
				TP21	1.2	74	MG-CW
				WS2	0.5	73	MGC
				TP27	1.4-2.0	49	MG-CW
				TP9	1.4	48	MGC
				TP20	0.9	47	MG-CW
				TP40	1.9	47	MGC

Summary of Metal Exceedances in Made Ground (Celtic 2007)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
				TP21	1.2	46	MG-CDW
				TP35	0.6-1.2	40	MG-CS
				TP43	2.9	38	MGG
				TP10	2.4	37	MG-CW
				TP18A	0.9	37	MGC
				BH4	1.2-2.1	37	MG
				TP24	0.0-0.45	37	TF
Lead	5 – 4300	200[1]	24	BH3	5.3-6.0	**4300**	MG-CW
				TP21	1.2	**2600**	MG-CDW
				TP21	1.2	**1900**	MG-CW
				TP27	1.4-2.0	**1500**	MG-CW
				TP20	0.9	**1300**	MG-CW
				TP5	2.4	910	MGC
				TP11A	1.3-2.0	830	MGG
				TP12	1.7	770	MGC
				TP9	1.4	510	MGC
				TP8	2.8	410	MGC
				TP11	0.7	380	MGG
				WS12	1.5	350	MG-CW
				WS17	1.2	330	MGC
				WS4	0.4	330	MGG
				TP4	2.4	300	CMG
				TP27	3.1	290	MG-CW
				BH4	1.2-2.1	280	MG
				TP18A	0.9	260	MGC
				TP19	1	250	MGC
				WS6	1.5	240	MGC
				R3	0.4	240	MGG
				TP23	0.4	230	MGG
				TP46	1.5	220	MGC
				TP24	0-0.45	210	MGG
Nickel	6 – 360	130	2	WS19	2.6	360	MG-CDW
				TP21	1.2	310	MG-CW

Notes:

[1] Category 4 Screening Levels (March 2014)

MGC = Predominantly Cohesive Made Ground

MGG = Predominantly Granular Made Ground

Summary of Metal Exceedances in Made Ground (Celtic 2007)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
MG-CW = Suspected Combustion Waste MG-CDW = Suspected Construction and Demolition Waste MG-CS = Suspected Colliery Spoil							

Summary of Metal Exceedances in Natural Ground (2020)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Arsenic	3.75 – 55.9	37[1]	1	WS102	2.8	55.9	CGT
Lead	4.98 – 291	200[1]	1	WS102	2.8	291	CGT
Notes: 1 Category 4 Screening Levels (March 2014) CGT = Cohesive Glacial Till							

Summary of Metal Exceedances in Natural Ground (Celtic 2007)							
Metal	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Arsenic	<3 – 45	37[1]	2	TP47	4.8-5.0	45	GGT
				TP66	3.3	42	GGT
Lead	5 – 540	200[1]	2	TP47	4.8-5.0	540	GGT
				TP66	3.3	290	GGT
Notes: 1 Category 4 Screening Levels (March 2014) GGT = Granular Glacial Till							

Summary of Cyanide Exceedances in Made Ground (2020)							
Type	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Total Cyanide	<1 – 499	20[1]	6	TP108	2.30-2.30	**499**	MGC
				TP139	2.40-2.40	**162**	MG-CW
				TP114	3.40-3.40	79.5	MG-CDW
				TP123	1.90-1.90	68.8	MG-CW
				TP139	1.50-1.50	51.9	MGC
				TP123	2.40	45.1	MG_CW

Notes:

[1] Value for thiocyanate

MGC = Predominantly Cohesive Made Ground

MG-CW = Suspected Combustion Waste

MG-CDW = Suspected Construction and Demolition Waste

Summary of Cyanide Exceedances in Made Ground (Celtic 2007)							
Type	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Total Cyanide	<1 – 920	20[1]	4	TP12	1.7	**920**	MGC
				TP10	2.4	**180**	MG-CW
				TP5	2.4	69	MGC
				TP62	2.4	50	MG-CS

Notes:

[1] Value for thiocyanate

MGC = Predominantly Cohesive Made Ground

MG-CW = Suspected Combustion Waste

MG-CS = Suspected Colliery Spoil

Summary of Cyanide Exceedances in Natural Ground (Celtic 2007)							
Type	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
Total Cyanide	<1 – 50	20[1]	1	TP67	2.8	50	CGT

Notes:

[1] Value for thiocyanate

CGT = Cohesive Glacial Till

Summary of TPH Exceedances in Made Ground (2020)							
TPH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
Aliphatics >C8-C10	<10 – 703	27	1	TP139	2.4	**703**	MG-CW
Aromatics >EC8-EC10	<10 – 469	34	1	TP139	2.4	**469**	MG-CW
Aromatics > EC10-EC12	<1 – 6110	74	2	TP139	2.4	**6110**	MG-CW
				TP117	4.2	**459**	MG-CDW
Aromatics > EC12-EC16	<1 – 5210	140	4	TP139	2.4	**5210**	MG-CW
				TP117	4.2	**2610**	MG-CDW
				TP126	0.5	325	MG-CW
				WS109	3.65-3.75	157	MGG
Aromatics > EC16-EC21	<1 – 8780	260	6	TP117	4.2	**8780**	MG-CDW
				TP139	2.4	**2160**	MG-CW
				TP126	0.5	**1380**	MG-CW
				WS109	3.65-3.75	513	MGG
				WS112	0.9	449	MGG
				TP108	2.3	382	MGC
Aromatics > EC21-EC35	3.23 – 10200	1100	4	TP117	4.2	**10200**	MG-CDW
				TP139	2.4	2220	MG-CW
				TP126	0.5	2210	MG-CW
				TP145	3.8	1980	MG-CDW

Notes:

MGC = Predominantly Cohesive Made Ground

MGG = Predominantly Granular Made Ground

MG-CW = Suspected Combustion Waste

MG-CDW = Suspected Construction and Demolition Waste

Summary of TPH Exceedances in Made Ground (Celtic 2007)							
TPH Fraction	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Aromatics > EC16-EC21	0.29 – 890	260	4	TP43	2.9	890	MGG
				TP112	1.7	460	MGC
				WS16	4.5	280	MGG
				TP46	1.5	260	MGC
Aromatics > EC21-EC35	4.1 – 8300	1100	3	TP43	2.9	8300	MGG
				TP12	1.7	2700	MGC
				TP46	1.5	1200	MGC
Notes: MGC = Predominantly Cohesive Made Ground MGG = Predominantly Granular Made Ground							

Summary of PAH Exceedances in Made Ground (2020)							
PAH Fraction	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Naphthalene	<0.009 – 13100	2.3	13	TP139	2.4	**13100**	MG-CW
				TP117	4.2	**279**	MG-CDW
				TP117	4.2	**144**	MG-CDW
				WS109	3.65-3.75	**102**	MGG
				TP117	4.2	**83.4**	MG-CDW
				WS109	3.65-3.75	**22.4**	MGG
				TP126	0.5	**17.5**	MG-CW
				WS109	3.65-3.75	**15**	MGG
				WS112	0.9	6.04	MGG
				TP130	0.3	5.47	MG-CDW
				TP126	0.5	5.1	MG-CW
				TP104	1.8	3.14	MG-CDW
				TP134	0.2	2.3	MG-CDW
Acenaphthylene	<0.012 – 315	170	1	TP139	2.4	315	MG-CW
Acenaphthene	<0.008 – 341	210	1	TP117	4.2	**341**	MG-CDW
Fluorene	<0.01 – 656	170	2	TP139	2.4	656	MG-CW
				TP117	4.2	322	MG-CDW
Phenanthrene	<0.015 – 1550	95	5	TP117	4.2	**1550**	MG-CDW
				TP139	2.4	**1320**	MG-CW
				TP117	4.2	**725**	MG-CDW
				TP126	0.5	**365**	MG-CW
				WS109	3.65-3.75	98.3	MGG
Fluoranthene	<0.017 – 1290	280	4	TP117	4.2	**1290**	MG-CDW

Summary of PAH Exceedances in Made Ground (2020)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
				TP117	4.2	621	MG-CDW
				TP139	2.4	450	MG-CW
				TP126	0.5	400	MG-CW
Pyrene	<0.015 – 1120	620	1	TP117	4.2	**1120**	MG-CDW
Benz(a)anthracene	<0.014 – 432	7.2	19	TP117	4.2	**432**	MG-CDW
				TP139	2.4	**237**	MG-CW
				TP117	4.2	**196**	MG-CDW
				TP126	0.5	**134**	MG-CW
				WS112	0.9	**46.8**	MGG
				TP123	2.4	**35**	MG-CW
				WS109	3.65-3.75	**25.8**	MGG
				WS109	3.65-3.75	**25.3**	MGG
				TP126	0.5	**24**	MG-CW
				TP108	2.3	**22.2**	MGC
				TP104	1.8	**18.7**	MG-CDW
				TP149	0.5	**13**	MG-CW
				CP103	2.0-3.0	**12.4**	MGC
				WS111	0.35	9.65	MG-CW
				TP145	3.8	9.51	MG-CDW
				TP149	0.5	9.02	MG-CW
				TP144	0.4	8.91	MG-CW
				WS105	2.5	7.7	MGG
				TP145	2.3	7.42	MG-CDW
Chrysene	<0.010 – 432	15	11	TP117	4.2	**432**	MG-CDW
				TP117	4.2	**196**	MG-CDW
				TP139	2.4	**187**	MG-CW
				TP126	0.5	**144**	MG-CW
				WS112	0.9	45.2	MGG
				TP123	2.4	30.6	MG-CW
				WS109	3.65-3.75	26.3	MGG
				TP108	2.3	22.7	MGC
				WS109	3.65-3.75	22.2	MGG
				TP126	0.5	21.9	MG-CW
				TP104	1.8	18.4	MG-CDW
Benzo(b)fluoranthene	<0.015 – 461	2.6	33	TP117	4.2	**461**	MG-CDW
				TP117	4.2	**197**	MG-CDW
				TP126	0.5	**159**	MG-CW
				TP139	2.4	**113**	MG-CW

Summary of PAH Exceedances in Made Ground (2020)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
				WS112	0.9	**52.8**	MGG
				TP123	2.4	**26.7**	MG-CW
				WS109	3.65-3.75	**23**	MGG
				TP104	1.8	**22.1**	MG-CDW
				TP108	2.3	**21.2**	MGC
				TP126	0.5	**18.9**	MG-CW
				WS109	3.65-3.75	**18.5**	MGG
				CP103	2.0-3.0	**15.7**	MGC
				TP149	0.5	**12.3**	MG-CW
				TP149	0.5	**11.8**	MG-CW
				TP144	0.4	**11.3**	MG-CW
				TP145	3.8	**10.9**	MG-CDW
				WS111	0.35	**10.4**	MG-CW
				TP102	1.6	9.73	MG-CDW
				TP141	0.5	9.08	MG-CW
				TP145	2.3	7.74	MG-CDW
				TP145	3.8	7.52	MG-CDW
				TP144	0.4	7.2	MG-CW
				WS105	2.5	6.76	MGG
				TP123	0.8	5.34	MG-CW
				TP134	0.2	4.99	MG-CDW
				TP119	1.7	4.84	MG-CDW
				TP130	0.3	3.8	MG-CDW
				TP119	1.7	3.3	MG-CDW
				CP108	0.5	3.28	MG-CW
				TP115	0.4	3.25	MGG
				CP107	4.5	3.13	MGG
				TP101	0.5	2.92	MG-CDW
				CP108	0.5	2.71	MG-CW
Benzo(k)fluoranthene	<0.014 – 173	77	2	TP117	4.2	**173**	MG-CDW
				TP117	4.2	**155**	MG-CDW
Benzo(a)pyrene	<0.015 – 376	2.2	34	TP117	4.2	**376**	MG-CDW
				TP117	4.2	**192**	MG-CDW
				TP139	2.4	**154**	MG-CW
				TP126	0.5	**123**	MG-CW
				WS112	0.9	**39.2**	MGG
				TP123	2.4	**35**	MG-CW
				WS109	3.65-3.75	**29.1**	MGG

Summary of PAH Exceedances in Made Ground (2020)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
				TP126	0.5	**21.9**	MG-CW
				WS109	3.65-3.75	**21.8**	MGG
				TP108	2.3	**16.4**	MGC
				TP104	1.8	**16.3**	MG-CDW
				CP103	2.0-3.0	**11.3**	MGC
				TP149	0.5	**10.7**	MG-CW
				TP145	3.8	9.07	MG-CDW
				TP149	0.5	8.57	MG-CW
				TP144	0.4	8.15	MG-CW
				WS111	0.35	7.44	MG-CW
				TP141	0.5	7.04	MG-CW
				TP145	2.3	6.98	MG-CDW
				TP102	1.6	6.92	MG-CDW
				WS105	2.5	6.22	MGG
				TP123	0.8	6.05	MG-CW
				TP144	0.4	5.7	MG-CW
				TP134	0.2	4.29	MG-CDW
				CP108	0.5	3.65	MG-CW
				TP145	3.8	3.57	MG-CDW
				TP119	1.7	3.06	MG-CDW
				TP130	0.3	2.99	MG-CDW
				CP103	2.0-3.0	2.98	MGC
				TP119	1.7	2.98	MG-CDW
				TP115	0.4	2.57	MGG
				CP107	4.5	2.44	MGG
				CP108	1.8	2.3	MG-CW
				TP101	0.5	2.22	MG-CDW
Indeno(1,2,3-cd)pyrene	<0.018 – 255	27	5	TP117	4.2	**255**	MG-CDW
				TP117	4.2	**133**	MG-CDW
				TP126	0.5	79.6	MG-CW
				TP139	2.4	61.7	MG-CW
				WS112	0.9	28.1	MGG
Dibenzo(a,h)anthracene	<0.023 – 51.6	0.24	38	TP117	4.2	**51.6**	MG-CDW
				TP126	0.5	**16.4**	MG-CW
				TP139	2.4	**15.4**	MG-CW
				TP117	4.2	**11.3**	MG-CDW
				TP123	2.4	**4.83**	MG-CW
				WS112	0.9	**3.99**	MGG

Summary of PAH Exceedances in Made Ground (2020)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
				WS109	3.65-3.75	**2.94**	MGG
				TP126	0.5	**2.3**	MG-CW
				TP104	1.8	**1.92**	MG-CDW
				TP108	2.3	**1.66**	MGC
				WS109	3.65-3.75	**1.63**	MGG
				TP149	0.5	**1.5**	MG-CW
				CP103	2.0-3.0	**1.45**	MGC
				TP111	1.5	**1.15**	MG-CDW
				TP134	0.2	**1.15**	MG-CDW
				TP149	0.5	0.995	MG-CW
				TP145	3.8	0.973	MG-CDW
				TP102	1.6	0.963	MG-CDW
				TP144	0.4	0.924	MG-CW
				TP141	0.5	0.911	MG-CW
				TP145	2.3	0.826	MG-CDW
				TP123	0.8	0.815	MG-CW
				WS111	0.35-0.35	0.749	MG-CW
				TP144	0.4	0.73	MG-CW
				WS105	2.5	0.712	MGG
				TP134	0.2	0.541	MG-CDW
				TP145	3.8	0.5	MG-CDW
				TP145	3.8	0.422	MG-CDW
				CP108	0.5	0.391	MG-CW
				TP130	0.3	0.362	MG-CDW
				TP119	1.7	0.33	MG-CDW
				TP119	1.7	0.326	MG-CDW
				CP108	0.5	0.297	MG-CW
				CP103	2.0-3.0	0.293	MGC
				TP127	1.2	0.275	MGC
				CP108	1.8	0.272	MG-CW
				TP115	0.4	0.266	MGG
				TP101	0.5	0.256	MG-CDW

Notes:

MGC = Predominantly Cohesive Made Ground

MGG = Predominantly Granular Made Ground

MG-CW = Suspected Combustion Waste

MG-CDW = Suspected Construction and Demolition Waste

Summary of PAH Exceedances in Made Ground (2007)							
PAH Fraction	**Range of All Results (mg/kg)**	**GAC (mg/kg)**	**No.**	**Exceedance Details**			
				Location	**Depth**	**Result (mg/kg)**	**Geology Code**
Naphthalene	<0.013 – 18	2.3	6	TP8	2.2-2.4	**18**	MGC
				TP20	0.9	7.6	MG-CW
				TP12	1.7	3.6	MGC
				BH13	0.6-1.1	3.6	MG-CS
				TP11	0.7	3.6	MGG
				TP11A	1.3-2.0	2.4	MGG
Benz(a)anthracene	0.039 – 31	7.2	6	TP12	1.7	**31**	MGC
				TP10	2.4	**22**	MG-CW
				TP20	0.9	**19**	MG-CW
				TP11A	1.3-2.0	**18**	MGG
				WS16	4.5	**11**	MGG
				TP1	0.2	7.9	MGG
Chrysene	<0.1 – 33	15	4	TP12	1.7	33	MGC
				TP10	2.4	24	MG-CW
				TP20	0.9	20	MG-CW
				TP11A	1.3-2.0	19	MGG
Benzo(b)fluoranthene	0.076 – 24	2.6	11	TP12	1.7	**24**	MGC
				TP20	0.9	**18**	MG-CW
				TP11A	1.3-2.0	**18**	MGG
				TP10	2.4	**17**	MG-CW
				TP1	0.2	**11**	MGG
				WS16	4.5	9.9	MGG
				TP16	2.5	9.0	MG-CDW
				WS22	0.5	5.7	MGC
				WS6	1.5	3.7	MGC
				TP8	2.2-2.4	3.5	MGC
				WS9	0.2	2.9	MGG
Benzo(a)pyrene	0.024 – 22	2.2	11	TP10	2.4	**22**	MG-CW
				TP12	1.7	**22**	MGC
				TP11A	1.3-2.0	**20**	MGG
				TP20	0.9	**17**	MG-CW
				WS16	4.5	**10**	MGG
				TP1	0.2	9.1	MGG
				TP16	2.5	6.4	MG-CDW
				WS22	0.5	5.3	MGC
				TP8	2.2-2.4	5.2	MGC
				WS6	1.5	4.5	MGC

Summary of PAH Exceedances in Made Ground (2007)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
				WS9	0.2	3.2	MGG
Dibenzo(a,h)anthracene	<0.008 – 3.5	0.24	13	TP12	1.7	**3.5**	MGC
				TP11A	1.3-2.0	**3.4**	MGG
				TP10	2.4	**2.9**	MG-CW
				TP20	0.9	**1.8**	MG-CW
				WS16	4.5	**1.2**	MGG
				TP1	0.2	**1.1**	MGG
				TP8	2.2-2.4	**1.0**	MGC
				TP16	2.5	0.69	MG-CDW
				WS6	1.5	0.51	MGC
				WS22	0.5	0.48	MGC
				TP31	3.0-3.3	0.44	MG-CW
				WS9	0.2	0.36	MGG
				TP7	2.8	0.29	MGC

Notes:
MGC = Predominantly Cohesive Made Ground
MGG = Predominantly Granular Made Ground
MG-CW = Suspected Combustion Waste
MG-CDW = Suspected Construction and Demolition Waste

Summary of PAH Exceedances in Natural Ground (2020)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
Benzo(b)fluoranthene	<0.015 – 11.8	3.3	2	WS102	2.8	**11.8**	CGT
				WS102	2.8	8.3	CGT
Benzo(a)pyrene	<0.015 – 9.13	2.7	2	WS102	2.8	9.13	CGT
				WS102	2.8	7.44	CGT
Dibenzo(a,h)anthracene	<0.023 – 0.776	0.28	2	WS102	2.8	0.776	CGT
				WS102	2.8	0.521	CGT

Notes:
CGT = Cohesive Glacial Till

Summary of PAH Exceedances in Natural Ground (Celtic 2007)							
PAH Fraction	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
Naphthalene	0.005 – 30	2.3	3	TP38	1.2	30	CGT
				TP38	1.2	13	CGT
				TP26	1.6	5.3	CGT
Acenaphthene	<0.014 – 230	210	1	TP38	1.2	230	CGT
Fluorene	0.015 – 200	170	1	TP38	1.2	200	CGT
Phenanthrene	0.049 – 590	95	1	TP38	1.2	590	CGT
Benz(a)anthracene	0.017 – 14	7.2	1	TP38	1.2	14	CGT
Benzo(b)fluoranthene	<0.016 – 5.2	2.6	3	TP26	1.6	5.2	CGT
				TP66	3.3	4.4	GGT
				WS11	2.0	2.8	CGT
Benzo(a)pyrene	<0.012 – 4.3	2.2	2	TP26	1.6	4.3	CGT
				TP66	3.3	2.5	GGT
Dibenzo(a,h)anthracene	<0.008 – 0.75	0.24	2	TP26	1.6	0.75	CGT
				TP66	3.3	0.34	GGT
Notes: CGT = Cohesive Glacial Till GGT = Granular Glacial Till							

Summary of BTEX and MTBE Exceedances in Made Ground (2020)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
Benzene	<0.009 – 2.74	0.0087	1	TP139	2.4	2.74	MG-CW
p/m-Xylene	<0.01 – 219	56	1	TP139	2.4	219	MG-CW
o-Xylene	<0.01 – 114	60	1	TP139	2.4	114	MG-CW
Notes: MG-CW = Suspected combustion wastes							

Summary of SVOC and VOC Exceedances in Made Ground (2020)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
Dibenzofuran	<0.1 – 114	4.8	2	TP117	4.2	114	MG-CDW
				WS109	3.65-3.75	13.2	MGG
Carbazole	<0.1 – 47.3	6.7	1	TP117	4.2	47.3	MG-CDW
2-Methylnaphthalene	<0.1 – 97.4	10	1	TP117	4.2	97.4	MG-CDW
1,2,4-Trimethylbenzene	<0.009 – 0.653	0.35	2	TP117	4.2	0.653	MG-CDW
				WS109	3.65-3.75	0.619	MGG
Notes: MGC = Predominantly Cohesive Made Ground MGG = Predominantly Granular Made Ground MG-CW = Suspected Combustion Waste MG-CDW = Suspected Construction and Demolition Waste							

Summary of SVOC and VOC Exceedances in Made Ground (Celtic 2007)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
2-Methylnaphthalene	<0.1 – 180	10	2	TP8	2.2-2.4	180	MGC
				WS18	2.3	12	MG-CW
2,4-Dinitrotoluene	<0.1 – 13	1.5	1	TP8	2.2-2.4	13	MGC
Carbazole	<0.1 – 70	6.7	1	TP8	2.2-2.4	70	MGC
Dibenzofuran	<0.1 – 80	4.8	3	TP8	2.2-2.4	80	MGC
				WS18	2.3	15	MG-CW
				WS16	4.5	6.2	MGG
Chloromethane	<0.007 – 0.013	0.0083	1	WS10	0.2	0.013	TF
Trichloroethene	<0.009 – 0.06	0.016	1	BH13	0.6-1.1	0.06	MG-CS
Notes: MGC = Predominantly Cohesive Made Ground MGG = Predominantly Granular Made Ground MG-CW = Suspected Combustion Waste MG-CDW = Suspected Construction and Demolition Waste TF = Topsoil Fill							

Summary of SVOC and VOC Exceedances in Natural Ground (Celtic 2007)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
2-Methylnaphthalene	<0.1 – 19	10	1	TP38	1.2	19	CGT
Carbazole	<0.1 – 7.1	6.7	1	TP38	1.2	7.1	CGT
Dibenzofuran	<0.1 – 81	4.8	1	TP38	1.2	81	CGT
Notes: CGT = Cohesive Glacial Till GGT = Granular Glacial Till							

Summary of Phenol Exceedances in Made Ground (Celtic 2007)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
2,4-Dimethylphenol	<0.1 – 27	19	1	TP8	2.2-2.4	27	MGC
Notes: MGC = Predominantly Cohesive Made Ground							

Summary of PCB Exceedances in Made Ground (2020)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
PCB congener 28	<0.003 – <0.15	0.008	2	CP104	7.3	0.0834	MG-CDW
				TP119	1.7	0.0648	MG-CDW
PCB congener 52	<0.003 – <0.15	0.008	2	CP104	7.3	0.0924	MG-CDW
				TP150	2.2	0.0117	MGG
PCB congener 101	<0.003 – 0.17	0.008	4	CP104	7.3	0.17	MG-CDW
				TP119	1.7	0.0265	MG-CDW
				TP112	1.8	0.0237	MG-CDW
				TP150	2.2	0.0197	MGG
PCB congener 118	<0.003 – <0.15	0.008	4	CP104	7.3	0.109	MG-CDW
				TP119	1.7	0.0168	MG-CDW
				TP112	1.8	0.0127	MG-CDW
				TP150	2.2	0.0103	MGG
PCB congener 138	<0.003 - <0.15	0.008	4	CP104	7.3	0.0887	MG-CDW

Summary of PCB Exceedances in Made Ground (2020)							
SVOC / VOC	Range of All Results (mg/kg)	GAC (mg/kg)	No.	Exceedance Details			
				Location	Depth	Result (mg/kg)	Geology Code
				TP119	1.7	**0.0171**	MG-CDW
				TP150	2.2	**0.0148**	MGG
				TP112	1.8	**0.0101**	MG-CDW
PCB congener 153	<0.003 – <0.15	0.008	3	CP104	7.3	**0.0582**	MG-CDW
				TP150	2.2	**0.00946**	MGG
				TP112	1.8	**0.00859**	MG-CDW
PCB congener 180	<0.003 - <0.15	0.008	1	CP104	7.3	**0.0142**	MG-CDW

Notes:

MGC = Predominantly Cohesive Made Ground

MGG = Predominantly Granular Made Ground

MG-CW = Suspected Combustion Waste

MG-CDW = Suspected Construction and Demolition Waste

Summary of Contaminants in Groundwater Exceeding WQS (2020)							
Contaminant	Units	WQS[*1]	No. Tests	No. > WQS	Max. Conc.	Mean Conc.	Location of >WQS (Conc.)
Metals							
Arsenic	µg/l	10	14	2	35.6	7.9	RH103 (**35.6**) in GT CP109 (**33.3**) in MG
Boron	µg/l	1000	14	4	54800	6052	RH103 (**54,800**) in GT RH102 (**11,100**) in MG/GT CP109 (**11,100**) in MG CP107 (**2,260**) in MG
Cadmium	µg/l	5	14	1	11	0.88	CP110 (**11**) in MG
Manganese	µg/l	50	14	13	3880	625	RH108 (**3,880**) in SST RH108 (**1,230**) in SST RH103 (**544**) in GT RH106 (**471**) in SST CP110 (**485**) in MG CP101/RH109 (**408**) in SST CP108 (**360**) in MG CP103A (**277**) in MG/GT RH101 (**265**) in MST CP103B (**257**) in MG RH102 (**238**) in MG/GT CP107 (**230**) in MG CP109 (**73**) in MG
Nickel	µg/l	20	14	1	36.5	-	CP110 (**36.5**) in MG
Selenium	µg/l	10	14	1	11.8	-	RH106 (**11.8**) in SST
Iron	µg/l	200	14	8	11000	1317	CP108 (**11000**) in MG RH102 (**2220**) in MG/GT

Summary of Contaminants in Groundwater Exceeding WQS (2020)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
							RH103 (**1790**) in GT CP109 (967) in MG CP107 (783) in MG RH108 (726) in SST CP110 (245) in MG CP103A (240) in MG/GT
PAH							
Benzo(b)fluoranthene	µg/l	0.1	14	11	33.2	3.05	RH108 (**33.2**) in SST CP110 (**2.46**) in MG CP103B (**1.71**) in MG CP109 (**1.38**) in MG RH103 (**1.27**) in GT CP107 (**0.711**) in MG RH106 (**0.637**) in SST CP103 (**0.45**) in MG/GT RH108 (**0.42**) in SST RH101 (**0.20**) in MST CP101/RH109 (**0.14**) in SST
Benzo(k)fluoranthene	µg/l	0.1	14	9	14.9	1.30	RH108 (**14.9**) in SST CP110 (**0.77**) in MG CP103B (**0.74**) in MG RH103 (**0.45**) in GT CP109 (**0.42**) in MG RH106 (**0.23**) in GT/SST CP107 (**0.22**) in MG RH108 (**0.15**) in SST CP103A (**0.14**) in MG/GT
Benzo(a)pyrene	µg/l	0.01	14	14	23	2.09	RH108 (**23**) in SST CP110 (**1.84**) in MG CP103B (**1.18**) in MG RH103 (**0.9**) in GT CP109 (**0.688**) in MG CP107 (**0.425**) in MG RH106 (**0.399**) in SST RH108 (**0.278**) in SST CP103A (**0.249**) in MG/GT RH101 (**0.127**) in MST CP101/RH109 (**0.092**) in SST RH106 (**0.056**) in SST RH102 (**0.017**) in MG/GT CP108 (**0.012**) in MG
Benzo(g,h,i)perylene	µg/l	0.1	14	10	23.2	1.99	RH108 (**23.2**) in SST CP110 (**1.25**) in MG CP103B (**0.82**) in MG RH103 (**0.72**) in GT CP109 (**0.59**) in MG RH106 (**0.30**) in SST CP107 (**0.35**) in MG RH108 (**0.23**) in SST CP103A (**0.19**) in MG/GT

Summary of Contaminants in Groundwater Exceeding WQS (2020)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
							RH101 (**0.13**) in MST
Indeno(1,2,3-cd)pyrene	µg/l	0.1	14	9	22.1	1.91	RH108 (**22.1**) in SST CP110 (**1.57**) in MG RH103 (**0.65**) in GT CP103B (**0.64**) in MG CP109 (**0.60**) in MG CP107 (**0.32**) in MG RH106 (**0.28**) in SST CP103A (**0.19**) in MG/GT RH108 (**0.17**) in SST
TPH							
Total Aliphatics & Aromatics >C5-35	µg/l	10[*2]	14	8	4700	454	RH108 (**4,700**) in SST CP109 (**669**) in MG CP110 (**400**) in MG CP101/RH109 (**172**) in SST RH106 (**128**) in SST CP107 (**101**) in MG RH102 (**88**) in MG/GT CP103A (**33**) in MG/GT
SVOC							
Phenol	µg/l	0.5	14	1	16.3	-	RH102 (**16.3**) in MG/GT
VOC							
Benzene	µg/l	1	14	2	3.06	1.36	CP109 (**3.06**) in MG RH102 (**1.82**) in MG/GT
Other Substances							
Sulphate	mg/l	250	14	3	588	186	RH108 (**588**) in SST CL101/RH109 (**364**) in SST RH108 (**348**) in SST
Cyanide, Total	µg/l	50	14	2	180	65	CP109 (**180**) in MG CP107 (**130**) in MG
Cyanide, Complex	µg/l	50	14	2	180	65	CP109 (**180**) in MG CP107 (**130**) in MG
Thiocyanate	µg/l	50	14	1	120	55	CP109 (**120**) in MG

Notes:
Detection limit values used to calculate arithmetic mean
[*1] UK Drinking Water Standard (2016) values unless noted.
[*2] Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted.

Abbreviations:
MG = Groundwater within Made Ground.
GT = Groundwater within Glacial Till.
SST = Groundwater within Sandstone
MST = Groundwater within Mudstone
MG/GT = Groundwater within Glacial Till and possibly in continuity with groundwater within Made Ground.

Summary of Contaminants in Groundwater Exceeding WQS (2007)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
Metals							
Arsenic	µg/l	10	12	1	11	3	BH3 (**11**) in MG
Boron	µg/l	1000	12	6	6100	1294	BH11 (**6100**) in MG BH10 (**2100**) in MG R2 (**1700**) in GT BH1 (**1600**) in GT R1 (**1200**) in SST/MST? BH2 (**1100**) in GT
Manganese	µg/l	50	12	11	3100	1106	BH6 (**3100**) in MG/GT BH1 (**3100**) in GT BH3 (**2100**) in MG BH2 (**1700**) in GT BH11 (**700**) in MG R1 (**660**) in SST/MST? BH8 (**640**) in GT R3 (**530**) in MST? BH10 (**400**) in MG R2 (**230**) in GT BH9 (**110**) in GT
Selenium	µg/l	10	12	1	29	5	R5 (**29**) in MST?
Iron	µg/l	200	12	5	1200	289	BH9 (**1200**) in GT BH1 (570) in GT BH2 (280) in GT BH3 (250) in MG BH10 (210) in MG
Other Substances							
Sulphate	mg/l	250	12	4	520	210	BH2 (580) in GT R5 (460) in MST? BH9 (320) in GT BH8 (300) in GT
Phenol							
Phenol	µg/l	0.5	12	1	3	1.18	R5 (3) in MST?
Phenol Monohydric	µg/l	0.5	12	4	50	16	R1 (50) in SST/MST BH9 (20) in GT BH6 (20) in MG/GT BH3 (20) in MG

Notes:
Detection limit values used to calculate arithmetic mean
[*1] UK Drinking Water Standard (2016) values unless noted.
[*2] Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted.

Abbreviations:
MG = Groundwater within Made Ground.
GT = Groundwater within Glacial Till.
SST = Groundwater within Sandstone
MST = Groundwater within Mudstone

Summary of Contaminants in Groundwater Exceeding WQS (2007)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
MG/GT = Groundwater within Glacial Till and possibly in continuity with groundwater within Made Ground.							

Summary of Contaminants in Surface Water Exceeding WQS (2020)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
Metals							
Chromium	µg/l	4.7	3	1	6.25	2.75	SW1 (**6.25**)
Lead	µg/l	1.2	3	1	1.2	1.1	SW2 (**1.2**)
TPH							
Total Aliphatics & Aromatics >C5-35	µg/l	10[*2]	3	1	23	14.3	SW1 (**23**)
PAH							
Fluoranthene	µg/l	0.0063	3	3	0.485	0.197	SW1 (**0.485**) SW2 (**0.081**) SW3 (**0.024**)
Benzo(a)pyrene	µg/l	0.00017	3	3	0.186	0.081	SW1 (**0.186**) SW2 (**0.046**) SW3 (**0.011**)
Notes: Detection limit values used to calculate arithmetic mean [*1] Environmental Quality Standards (2015) values unless noted. [*2] Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted.							

Summary of Contaminants in Surface Water Exceeding WQS (2007)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
Metals							
Lead	µg/l	1	2	2	4	4	Canal B (**4**) Canal A (**3**)
Copper	µg/l	1[2]	2	2	9	8	Canal B (**9**) Canal A (**6**)
Nickel	µg/l	4	2	1	4	3	Canal B (**4**) Canal A (**1**)
Notes: Detection limit values used to calculate arithmetic mean [*1] Environmental Quality Standards (2015) values unless noted. [*2] Parameters not obtained to allow for MBAT calculation to be undertaken. Screening value used as therefore highly conservative.							

Summary of Leachate Exceedences in Soil (2020)

Contaminant	Units	WQS[*1]	No. Tests	No. > WQS	Max. Conc.	Mean Conc.	Location of >WQS (Conc.)
Total Cyanide	µg/l	50	10	1	70	52	TP123 (**70**) MG-CW
Sulphate	µg/l	250000	10	1	279000	71920	TP112 (**279000**) in MG-CDW
Chromium IV	µg/l	50	10	1	53.4	9.56	CP108 (**53.4**) in MG-CW
Arsenic	µg/l	10	10	1	73.4	9.66	TP145 (**73.4**) in MG-CDW
Chromium	µg/l	50	10	2	1500	159.32	TP148 (**1500**) in MG-CW CP108 (**50.3**) in MG-CW
Lead	µg/l	10	10	2	108	15.02	TP148 (**108**) in MG-CW CP107 (**33.2**) in MG-HW
Total Aliphatics & Aromatics >C5-35	µg/l	10[*2]	10	2	65	28.8	TP146 (**65**) in MG-CDW CP107 (**49**) in MG-HW
Benzo(a)pyrene	µg/l	0.001	10	4	0.040	0.012	TP112 (**0.040**) in MG-CDW CP107 (**0.030**) in MG-HW TP148 (**0.018**) in MG-CW CP108 (**0.016**) in MG-CW
Benzo(g,h,i)perylene	µg/l	0.1	10	1	0.106	0.024	TP112 (**0.11**) in MG-CDW

Notes:
Detection limit values used to calculate arithmetic mean
[*1] UK Drinking Water Standard (2016) values unless noted.
[*2] Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted.

Summary of Leachate Exceedences in Soil (2020)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
Total Cyanide	µg/l	1	10	1	70	52	TP123 (**70**) in MG-CW
Chromium IV	µg/l	3.4	10	4	53.4	9.56	CP108 (**53.4**) in MG-CW CP107 (**15**) in MG-HW TP123 (**4.96**) in MG-CW WS104 (**4.24**) in MGC
Cadmium	µg/l	0.08	10	2	0.349	0.11	TP148 (**0.349**) in MG-CW TP120 (**0.11**) in MG-CDW
Chromium	µg/l	4.7	10	4	1500	159.32	TP148 (**1500**) in MG-CW CP108 (**50.3**) in MG-CW CP107 (**17.9**) in MG-HW TP120 (**4.82**) in MG-CDW
Copper	µg/l	8.98	10	2	35.8	7.45	CP108 (**35.8**) in MG-CW TP148 (**11.2**) in MG-CW
Lead	µg/l	1.2	10	5	108	15.02	TP148 (**108**) in MG-CW CP107 (**33.2**) in MG-HW CP101 (**4.32**) in MG-CS TP120 (**1.64**) in MG-CDW TP146 (**1.39**) in MG-CDW
Nickel	µg/l	4	10	2	8.76	2.57	TP112 (**8.76**) in MG-CDW TP120 (**5.51**) in MG-CDW
Total Aliphatics & Aromatics >C5-35	µg/l	10[*2]	10	2	65	28.8	TP146 (**65**) in MG-CDW CP107 (**49**) in MG-HW
Anthracene	µg/l	0.1	10	1	1.18	0.13	CP107 (**1.18**) in MG-HW
Fluoranthene	µg/l	0.0063	10	10	1.63	0.20	CP107 (**1.63**) in MG-HW TP145 (**0.15**) in MG-CDW TP112 (**0.05**) in MG-CDW TP120 (**0.04**) in MG-CDW CP108 (**0.024**) in MG-CW TP146 (**0.023**) in MG-CDW TP148 (**0.022**) in MG-CW CP101 (**0.014**) in MG-CS WS104 (**0.0134**) in MGC TP123 (**0.011**) in MG-CW
Benzo(a)pyrene	µg/l	0.00017	10	4	0.040	0.012	TP112 (**0.040**) in MG-CDW CP107 (**0.030**) in MG-HW TP148 (**0.018**) in MG-CW CP108 (**0.016**) in MG-CW

Notes:
Detection limit values used to calculate arithmetic mean
[*1] Environmental Quality Standards (2015) values unless noted.
[*2] Environment Agency (2009), 'Petroleum hydrocarbons in groundwater: supplementary guidance for hydrogeological risk assessment' values used unless noted.

Summary of Leachate Exceedences in Soil (2007)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
Nickel	µg/l	20	10	1	56	7	WS20 (**56**) in MG-CW
Sulphate	µg/l	250000	10	2	1000000	175500	WS20 (**1000000**) in MG-CW TP51 (**270000**) in MG-CW
Phenols Monohydric	µg/l	0.5	10	1	20	12	BH5 (**20**) in MGC
Benzo(b)fluoranthene	µg/l	0.1	10	3	0.16	0.04	TP47 (**0.16**) in MG-CW
Benzo(a)pyrene	µg/l	0.01	10	4	0.15	0.03	TP47 (**0.15**) in MG-CW BH5 (**0.044**) in MGC BH9 (**0.036**) in MGG TP11 (**0.013**) in MG-CW
Indeno(123cd)pyrene	µg/l	0.1	10	3	0.19	0.03	TP47 (**0.19**) in MG-CW
Benzo(ghi)perylene	µg/l	0.1	10	3	0.39	0.058	TP47 (**0.39**) in MG-CW
Notes: Detection limit values used to calculate arithmetic mean [*1] UK Drinking Water Standard (2016) values unless noted.							

Summary of Leachate Exceedences in Soil (2007)							
Contaminant	**Units**	**WQS[*1]**	**No. Tests**	**No. > WQS**	**Max. Conc.**	**Mean Conc.**	**Location of >WQS (Conc.)**
Chromium	µg/l	4.7	10	2	13	3	TP51 (**13**) in MG-CW BH5 (**7**) in MGC
Lead	µg/l	1.2	10	2	3	1	TP51 (**3**) in MG-CW BH9 (**2**) in MGG
Nickel	µg/l	9.21	10	1	56	7	WS20 (**56**) in MG-CW
Zinc	µg/l	29.13	10	1	110	16	WS20 (**110**) in MG-CW
Phenols Monohydric	µg/l	7.7	10	1	20	12	BH5 (**20**) in MGC
Anthracene	µg/l	0.1	10	6	0.14	0.04	TP47 (**0.14**) in MG-CW TP11 (**0.12**) in MG-CW
Fluoranthene	µg/l	0.0063	10	10	0.26	0.08	TP11 (**0.26**) in MG-CW TP47 (**0.16**) in MG-CW BH01 (**0.08**) in GT BH9 (**0.062**) in MGG BH2 (**0.047**) in MG BH5 (**0.047**) in MGC WS20 (**0.044**) in MG-CW BH13 (**0.025**) in MG-CS TP51 (**0.023**) in MG-CW BH7 (**0.017**) in MGG
Benzo(a)pyrene	µg/l	0.00017	10	4	0.15	0.03	TP47 (**0.15**) in MG-CW BH5 (**0.044**) in MGC BH9 (**0.036**) in MGG TP11 (**0.013**) in MG-CW
Notes: Detection limit values used to calculate arithmetic mean [*1] Environmental Quality Standards (2015) values unless noted.							

APPENDIX J

PID Results

PID Results

Client Name: Your Housing Group Ltd.
Site Name: Ten Acres Lane - Newton Heath
Job Number: LD10162

Reference	Depth	PIDResult
CP101/RH109	1.5	0.30
CP101/RH109	4.5	0.70
CP101/RH109	6.5	0.20
CP101/RH109	10.5	0.00
CP103	1.5	3.50
CP103	8.5	0.50
CP103	0.5	0.50
CP103	2.5	1.70
CP103	9.5	0.20
CP103	3.5	1.00
CP103	5.5	4.30
CP103	14.5	0.20
CP105	0.5	0.10
CP105	4.5	0.10
CP105	1.5	0.80
CP105	2.5	0.20
CP108	2.4	0.30
CP108	5.1	0.10
CP108	1.5	0.50
CP108	0.5	0.10
CP110	0.6	0.10
CP113	0.8	0.80
CP113	0.5	0.10
CP114/RH108	8.5	0.20
CP114/RH108	0.5	0.10
CP114/RH108	5.5	0.00
TP109	1.1	0.00
TP110	1.2	1.80
TP110	3.3	13.80
TP114	3.6	0.40
TP114	0.9	0.50
TP115	0.4	0.20
TP117	3.6	5.00
TP117	1.7	0.40
TP118	1.8	0.60
TP118	0.5	0.20
TP118	1.8	0.60
TP125	3.3	0.30
TP125	2.4	0.30
TP127	1.2	0.30

TP127	4.35	0.30
TP128	3.6	0.10
TP130	0.3	0.10
TP132	0.3	0.40
TP132	2.6	0.40
TP133	0.6	0.20
TP134	0.2	0.20
TP135	1.2	0.20
TP138	3.3	0.10
TP140	1	0.10
TP142	2.7	0.00
TP145	2.2	0.60
TP145	3.9	2.10
TP146	4.3	1.10
TP146	0.8	0.20
WS101	3	0.00
WS101	0.5	0.00
WS102	2.5	1.00
WS104	5	0.10
WS106	4	0.10
WS106	2.72	0.00
WS107	1.4	1.50
WS108	0.8	5.40
WS109	3.4	0.70
WS109	0.9	0.00
WS109	2.35	0.80
WS119	1.5	8.40

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