Area 5, Wythenshawe

Preliminary Site Investigation Interpretative Report

31 October 2025

Prepared For

Muse and Manchester City Council



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Preliminary Site Investigation Interpretative Report

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Report Reference	51143-CIV-01-XX-R-G-1002
Issuing Company	Civic Earth Limited
Issued	31/10/2025 – Revision C01

Revisions

Date	Revision	Reason	Name
31/10/2025	C01	Initial Issue	L. Reid

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Executive Summary

Site Description	The site comprises an area of approximately 1.11 ha in size and is located within Wythenshawe town centre. The approximate postcode for the site is M22 5SA and the National Grid Reference for the approximate centre of the site are 382600E, 387080N. The site is occupied by a mixture of market stalls, retail units, restaurants and offices with car parking within the west of the site. An electricity substation is also present within the west and south areas of the site. An open area used for market stalls occupies the north of the area.
Proposed Development	Current proposals for the redevelopment of the site are understood to include the construction of a high-rise residential building with retail units at ground level.
Historical Development	Earliest available mapping of 1876 indicates the area is undeveloped greenfield land with a *pond* and trees within the southern part of the area. No significant changes are noted until c.1960 when two footpaths are indicated through the area, meeting in the south of the area with a small embankment at the junction. By c.1971 the area has been redeveloped into a similar layout to the present day. Ainley Road has been constructed to the west of the area, leading into the *car parking* area in the west. A pedestrian area (The Birtles) is indicated to the east of the area, running north-south. Several buildings (likely retail) have been constructed across the area between the road and pedestrian route including two *Banks* and an *Electrical Substation* (increasing to two c.1982). Between c.2000 and c.2009 the buildings in the north of the area have been replaced by an outdoor market area. By c.2013, Ainley Road has been modified by the construction of the *Manchester Metrolink* immediately adjacent to the western boundary of the area.
Published Geology	Published BGS mapping indicated the site be underlain Glacial Till overlying bedrock of the Bollin Mudstone Member. Made Ground whilst not formally mapped is considered to be present associated with the previous development of the site including the infilled pond in the south of the site. A geological fault is recorded approximately 190m to the south of the site, trending north to south/southeast.
Hydrology and Hydrogeological Setting	The Glacial Till is designated as a Secondary Undifferentiated aquifer, with the underlying Bollin Mudstone Member designed as a Secondary B aquifer. The site not located within a groundwater Source Protection Zone (SPZ) and there are no groundwater abstractions or surface water abstractions reported within 1km of the site. The nearest surface water features are unnamed streams/ditches and a small pond approximately 450m northeast of the area within Park Wood. A stream/ditch is located approximately 650m southeast of the area within Hatchetts Wood. The nearest significant surface water body is a lake approximately 1km southwest of the area. The lake is fed by a predominantly the culverted Baguley Brook which is orientated north-south approximately 600m west of the area.
Radon	The site lies within a low risk radon probability area (less than 1% of home are at or above the Action Level). As such, radon protective measures are not considered necessary for the proposed development.
Preliminary Site Investigation	A preliminary Phase 2 ground investigation was undertaken between 6 August and 29 August 2025 and included 3 window sample boreholes up to a maximum depth of 3.45mbgl, 1 cored rotary borehole up to a maximum depth of 15.00mbgl and 1 inspection pit excavated to a maximum depth of 1.20mbgl. Three ground gas and groundwater monitoring rounds have subsequently been carried. The ground conditions across the site were found to comprise of a variable thickness of Made Ground (between >0.10m and 1.50m in thickness) overlying superficial deposits of Glacial Till. The superficial soils were recorded in each exploratory hole where the base of the Made Ground was proven, with the upper surface recorded between +59.35mOD and + 58.37mOD and found to be between >1.65m and >3.20m in thickness (proven to be 1.70m in borehole RC05). The bedrock of the Bollin Mudstone Member was only encountered in borehole RC05, with the upper surface recorded at +56.67mOD. The bedrock was proven to a depth of +44.87mOD. Review of the groundwater monitoring results across the wider Wythenshawe masterplan area indicates that the perched water within the Made Ground is inconsistent in nature. Similarly, a pervasive shallow aquifer within the Glacial Till has not been recorded, with groundwater considered likely to be constrained by the predominantly cohesive deposits of the stratum. Groundwater levels within the Bollin Mudstone Member have been recorded to range between 0.00mbgl and 3.04mbgl (59.87mOD and 56.29mOD) across the wider masterplan area (between 0.00mbgl and 2.10mbgl / 59.87mOD and 57.73mOD at the site), and the groundwater levels suggest that there is a degree of sub-artesian groundwater present as groundwater levels have been recorded above the surface of the bedrock. Groundwater flow direction may be towards the west or southwest; however, further investigation of the groundwater levels will be required to further confirm the groundwater regime beneath the site.
Contamination Assessment	The assessments are based on the data obtained from the preliminary site investigation within the accessible areas of the site only (i.e. the northern area of the site) and further assessment will be required once access becomes available. **Human Health:** Based on the assessment of the soil testing undertaken, there is considered to be a potential risk to future site users and construction workers from the Made Ground soils due to the elevated beryllium concentration identified at borehole WS19A at 0.50mbgl. Where hardstanding and buildings are proposed, the risk from the underlying soils will be mitigated as the pathway between source and receptor will be broken. A clean capping layer will be required in areas of proposed soft landscaping to mitigate the risks to future site users. Alternatively, it may be possible to demonstrate through further site investigation that the elevated concentration is a hotspot of contamination, and it may be possible to excavate the impacted Made Ground as a hotspot of contamination. **Ground Gases:** Based on the preliminary rounds of ground gas monitoring undertaken, methane and carbon dioxide concentrations were below 1%v/v and 5%v/v respectively with low flow rates recorded. The calculated GSVs correlate to CS1. **Controlled Waters:** Minor exceedances of cadmium, zinc and fluoranthene were recorded against the EQS in the single groundwater sample obtained from the bedrock aquifer. The risks to controlled waters are considered to be low on the basis that no exceedances against the DWVs were recorded (as well as noting that the DWVs are considered to be a conservative assessment criteria for the site as it is considered unlikely that the groundwater at the site will be used as a drinking water source); the nearest surface water bodies to the site are the predominantly culverted Baguley Brook approximately 600m west of the site and a lake

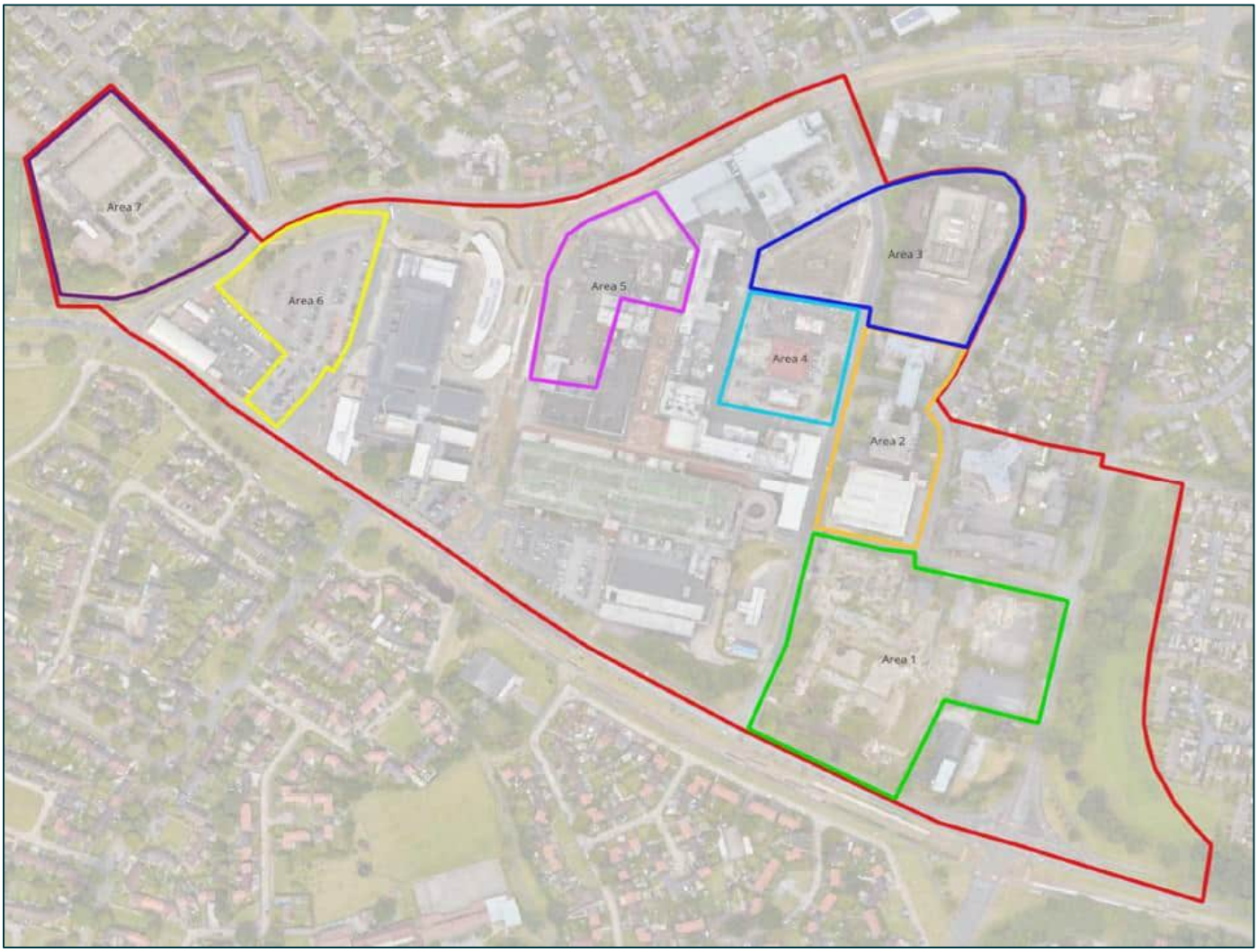
	approximately 1km southwest of the site, where the distance from the site and the culverted nature of the brook afford protection to the water bodies; the cohesive nature of the Glacial Till, as well as the cohesive horizons of Made Ground are considered to mitigate lateral and vertical contaminant migration and a laterally pervasive water body has not been encountered in the Made Ground and Glacial Till during the preliminary site investigation; and the existing and proposed buildings and hardstanding across the site limit infiltration which subsequently limits potential mobilisation of contaminants. **Plants and Vegetation:** Very low phytotoxic concentrations within the Made Ground and natural soils present a very low risk to proposed plants and vegetation. It is noted however that the composition of the Made Ground is unlikely to be a suitable growth medium with high proportions of extraneous materials observed during the preliminary site investigation. **Water Supply Pipes:** The initial total soils analysis results indicates that standard polyethylene (PE) pipework may be suitable for use for new buried water supply pipes. However, it is recommended that a UKWIR assessment is undertaken along the proposed water supply pipe route once the site layout and site levels have been confirmed to confirm the water supply pipe selection material.
Preliminary Waste Characterisation	The preliminary waste assessment (carried out using the HazWasteOnline™ Toolkit) indicates that the Made Ground material tested would be characterised as non-hazardous material and therefore considered to be acceptable to a non-hazardous waste facility. WAC testing of 3 samples indicates that the material would be acceptable to an inert waste facility.
Revised Conceptual Site Model	There is considered to be a potential risk to future site users and construction workers from the Made Ground soils due to the elevated concentrations of beryllium encountered within window sample WS19A, which is considered to present a risk via direct contact/ingestion. The risk to controlled waters, plants, vegetation and buried water supply pipes is considered to be low, based on the findings of the preliminary site investigations. The preliminary ground gas monitoring currently indicates a low risk from ground gases. Further site investigation(s) will be required to be undertaken to further investigate the potential risk to controlled water and provide further information to inform the assessment of risk to human health and ground gas regime, in particular across the south of the site where access was not available during the preliminary site investigation.
Preliminary Geoenvironmental Recommendations	Preliminary geoenvironmental recommendations for the proposed development of the site are outlined in the following sections based on the information obtained during the preliminary site investigation and revised qualitative risk assessment. Further site investigation(s) will be required to be undertaken to provide further information to inform the assessment of risks to human health, controlled waters and ground gas regime, as well as obtain information on the deeper geology across the site to inform the detailed design of the proposed development. It is noted that the above assessments and following recommendations are based on the findings of the preliminary investigation only, and the below recommendations should be reviewed following completion of the further site investigation works, and updated where necessary. The preliminary geoenvironmental recommendations include a watching brief, potential hotspot delineation and removal works, decommissioning of the existing monitoring wells prior to commencement of significant earthworks, measures implemented to mitigate the potential impact to controlled waters during construction works, installation of clean cover system / growth medium within any areas of soft landscaping and installation of suitable pipework for new buried water supplies. The Contractor should be responsible for the material management and waste classification and the “waste hierarchy” should be used to range waste management options.
Preliminary Geotechnical Recommendations	At this stage, detailed information on the proposed foundations, formation levels and/or loadings is not available. Given the variable thickness and composition of the Made Ground and the proposed height of the new structures (i.e. multi-storey), it is considered likely that a piled foundation solution will be required. It is assumed that piles would be socketed approximately 5m into the competent bedrock, noting the upper horizon of the bedrock is highly weathered and the bedrock is generally fractured. Pile design should be undertaken by, and remain the sole responsibility, of a specialist piling contractor. It is considered that roads and pavement will be founded likely onto the Made Ground or Glacial Till, depending on formation levels. It is recommended that pavements and roadways founded on the Made Ground or superficial deposits are designed to an initial conservative California Bearing Ratio (CBR) value of 2.5%. Floor slab design will need to take account of the potential variability in ground conditions at the formation level, and suspended slabs will need to be utilised where there is insufficient bearing capacity or potential for an unacceptable level of differential settlement. Where floor slabs are founded onto granular deposits, ground bearing slabs may be utilised although the potential for differential settlement where floor slabs span multiple strata will need to be considered. Based on the ground conditions encountered, excavations required during the development should not pose difficulties for conventional excavators or earth moving equipment. Shallow excavations may be unstable during groundworks due to the unpredictable nature of its composition and strength. Groundwater control, if required, may be achieved within shallow excavations by adopting a sump pumping system around the perimeter of the excavation as well as appropriate temporary supports such as trench boxes/trench sheets. This should be confirmed by the contractor and temporary works designer on initial excavation. Excavation below the level of the Secondary Undifferentiated aquifer is not currently anticipated; however, if required, more significant groundwater control measures are likely to be required. Buried concrete design classes have been calculated for the Glacial Till as DS-1 (AC-1). Consideration should be given to existing buried infrastructure within the site and if buried infrastructure is to be retained, ground movement analysis and/or impact assessments may be required. An Earthworks Specification should be produced in accordance with the Specification for Highway Works and an MMP will be required to set out the on-site movement of soils for earthworks operations. There is potential for encountering buried obstructions at the site due to the site’s development history. Obstructions may include former basements, foundations, walls, utilities and Made Ground containing demolition rubble and large boulder sized obstructions of concrete and brick. Whilst no evidence of voids was encountered during the site investigations, there is potential for voids to be present within the ground, for example small voids associated with uncontrolled / un-engineered backfill of historical basements. Voids may present a risk to shallow foundations and a watching brief for these features is recommended during earthworks and construction works.

1. Introduction

Civic Earth Limited was appointed in August 2025 by Civic Engineers Limited, on behalf of Muse and Manchester City Council (the Client), to undertake a desk study and preliminary site investigation for the proposed redevelopment of a site known as 'Area 5' in the town centre of Wythenshawe, Manchester (herein referred to as "the site"). It is noted that the site is also referred to as 'Area C2'.

The site forms part of the wider Wythenshawe masterplan redevelopment scheme which is split into 7 development areas as illustrated in Plate 1. The site is outlined by the pink boundary line, and is located towards the central north area of the wider masterplan development area (indicated by the red boundary line). High level Phase 1 desk studies were undertaken by Civic Earth in April 2025[1], and a preliminary site investigation was undertaken by Civic Earth in August 2025 across Areas 1, 2, 3, 5 and 7[2].

Plate 1: Wider Wythenshawe Masterplan Redevelopment Areas



The aim of this report is to provide:

- A review of available historical mapping and environmental disclosure report for the site;
- A summary of the anticipated ground conditions and associated geotechnical and geoenvironmental constraints based on review of available published and unpublished sources;
- A preliminary qualitative contamination source-pathway-receptor risk assessment based on available desk study information and current proposed development plan;
- A summary of the ground and groundwater conditions encountered during the preliminary site investigation within the site, and analysis and interpretation of chemical and geotechnical laboratory testing carried out as part of the preliminary site investigation; and
- Recommendations with respect to the potential risks identified to receptors associated with potential contamination

[1] Civic Earth (2025) Wythenshawe. Preliminary Ground Conditions Assessment. Reference: 51143-CE-XX-XX-R-G-1008. Revision P01. 11 April 2025.

[2] Civic Earth (2025) Wythenshawe. Factual Site Investigation Report. Reference 51143-CIV-01-XX-R-G-1001. Revision C01. 23 October 2025.

beneath the site, waste disposal and the geotechnical design of the project.

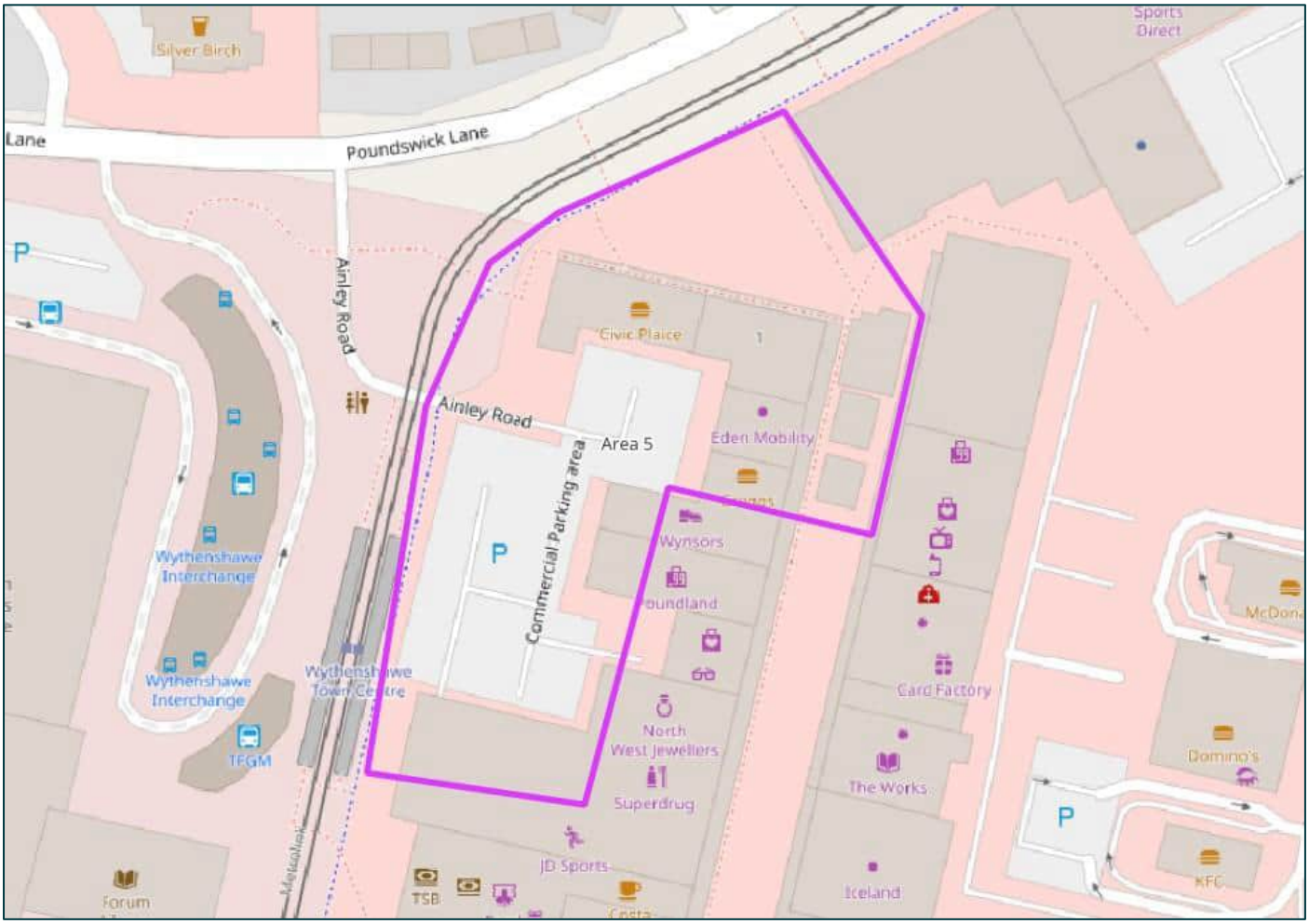
The site investigation within the site and this report are considered to be preliminary, with the preliminary investigation primarily undertaken to provide information to inform the assessment of potential contaminants beneath the site with respect to potential risks to human health, controlled water and waste disposal. Further investigation will be required to inform geotechnical design parameters for foundations and road/pavement design etc. and to provide supplementary chemical and geotechnical testing results and the detailed design of each area as it progresses, and when access becomes available.

2. Site Context

2.1. Site Location

The site comprises an area of approximately 1.11 ha in size and is located within Wythenshawe city centre. The approximate postcode for the site is M22 5SA and the National Grid Reference for the approximate centre of the site are 382600E, 387080N. The site location is illustrated in Plate 2.

Plate 2: Approximate Site Location Plan (©OpenStreetMap Contributors)



2.2. Site Description

The site comprises an irregularly shaped parcel of land which is currently bound to the north and west by Manchester tramway and by retail units to the south, east and northeast. The site is currently occupied by service yards of various retail units (of Wythenshawe Civic Shopping Centre), along with associated areas of car parking. The site is generally flat lying and is at approximately +59m above ordnance Datum (mOD).

A site walkover was carried out by an engineer from Civic Earth on 14 September 2025 which confirmed the site usage and general topography. A copy of the site walkover record is included in Appendix A.

2.3. Proposed Development

It is understood that the current proposal for the development site includes the construction of a residential block with retail units at ground level. An illustrative plan of the proposed development is illustrated in Plate 3.

Plate 3: Conceptual Sketch for Proposed Redevelopment (FeildenCleggBradley Studios LLP, Drawing No: 18702-FCB-ZZ-SP-D-A-0401)



3. Historical Development

3.1. Sources of Information

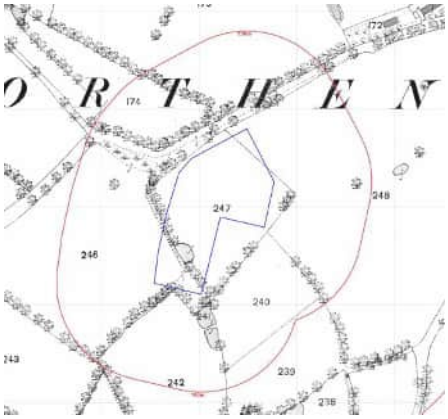
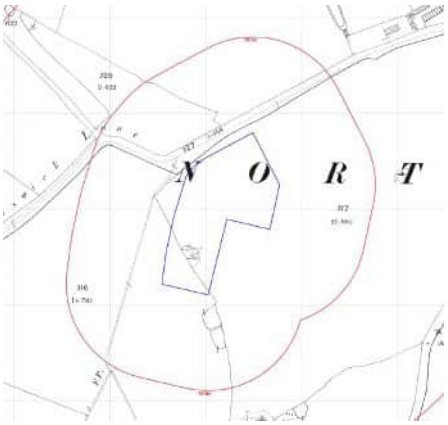
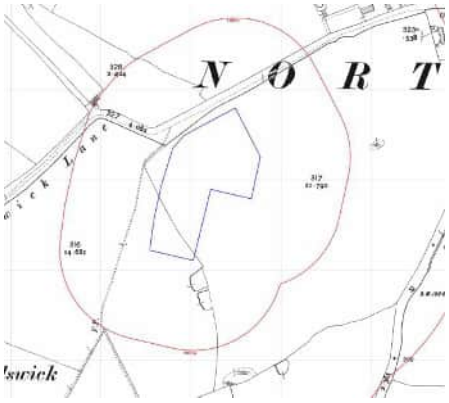
The historical development of the site has been traced from Ordnance Survey mapping (see Appendix B) and historical satellite mapping included in the Groundsure Enviro + Geo Insight report (see Appendix C).

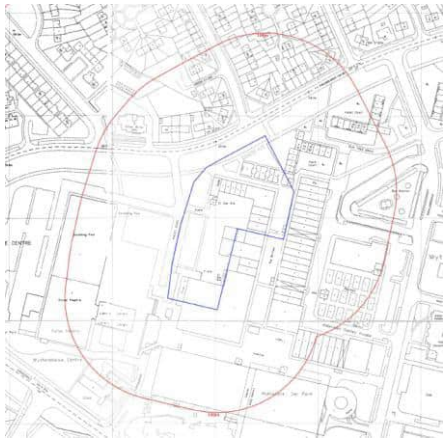
3.2. Site History

3.2.1. On-Site

The pertinent historical development of the site is summarised in Table 1 along with relevant excerpts from historical maps and aerial photographs.

Table 1: Summary of Site History

1876 – 1:2,500	1898 – 1:2,500	1910 – 1:2,500
		
The earliest available mapping for the site indicates the site is occupied by agricultural fields, which is bound by hedgerows/trees. A possible 'pond' feature is present in the southern site area.	There are no significant changes indicated on the mapping dated 1898, although the hedgerows/trees are no longer noted and the 'pond' is now indicated to be occupied by marshland / wetland.	The pond feature within the southern site area is no longer noted.
1960 – 1:1,250	**1971-1975 – 1:1,250**	**1977-1982 – 1:1,250**
		
The site is indicated to be surfaced in grassland with footpaths extending parallel to the northeastern site boundary as well as extending across the central and southern site areas. A small embankment is present at the junction of the paths in the southern site area.	The site is now occupied by commercial units (including *Banks*) across the northern and south of the site, with associated access routes (including *The Birtles*) between the units. An open area, suspected to be for car parking or loading, is present in the west of the site. An *Electrical Substation* is present within the northern site area.	A further *Electrical Substation* is present within the south of the site.

1992 – 1:1,250	2013 – 1:1,250	2023 – Aerial imager
		
No significant changes are recorded on-site.	No significant changes are recorded on-site.	No significant changes are recorded on-site.

3.2.2. Off-Site

Earliest available mapping dated 1876 indicates much of the immediate surrounding to be agricultural land with *Poundswick Lane* recorded parallel to the northern site boundary, with the hamlet of *Brownley Green* recorded approximately 250m to the northeast of the site. Two *pond* features are recorded approximately 10m south of the site, with further ponds recorded between 100m and 250m of the site.

By 1897-1899, a *Smithy* and *'The Cedars'* is recorded within *Brownley Green* along with several isolated residential properties (named *Corton Lodge*, *Corton Hall* and *Crabtree Cottages*) approximately 500m to the south and south-southwest of the site. The hamlet of *Poundswick* is recorded approximately 400m to the southwest. *Elmtree Farm* is recorded approximately 450m to the south-southeast of the site by approximately1907.

By 1938, much of the area to the immediate north of the site has been developed with residential properties and a *School*. Further residential properties have also been developed approximately 350m to the east of the site. By 1954, large-scale residential development is recorded approximately 150m to the southeast of the site *at Woodhouse Park and Moss Nook.* A *Clinic* has been developed approximately 100m to the south-southeast of the site by 1960.

By 1967, the *Smithy* has been redeveloped as a *Fire Station* and the farm and isolated residential properties to the south and south-southwest have been demolished and the areas redeveloped with larger-scale residential properties. Major infrastructure development is recorded approximately 250m to the southeast with an upgraded road network and roundabout now noted.

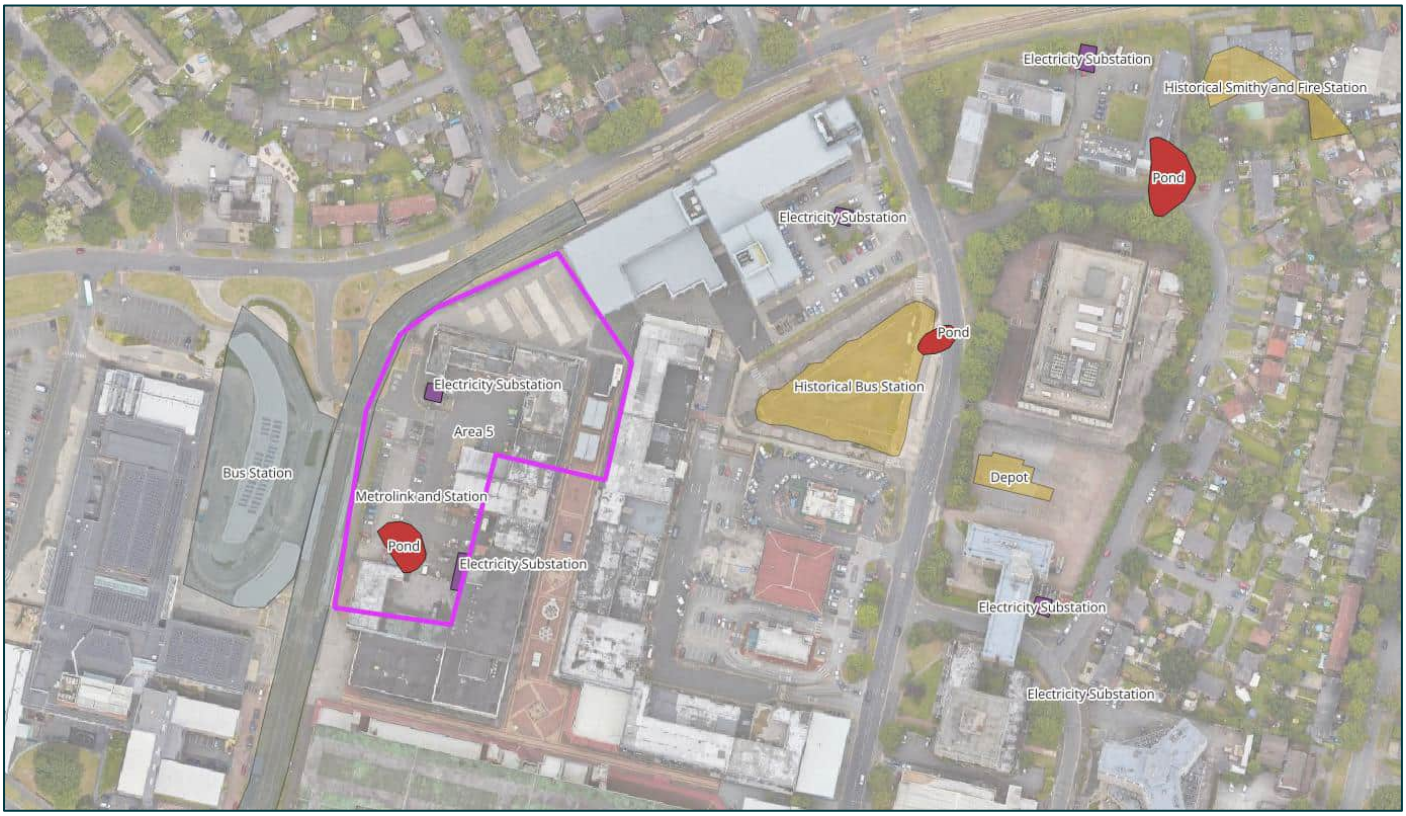
Between 1971 and 1975, much of the immediate surrounding area has been developed as *Wythenshawe Centre* with a *Library, Post Office, Church, Public Baths, Theatre and* several *Car Parks* now indicated. The *Ponds* to the southeast and within the wider site area are no longer recorded. A *Bus Station* and outdoor *Market* are recorded approximately 100m to the east and southeast of the site on the OS maps dated1977 to 1982, and by 1989 a *Multistorey Carpark* has been developed approximately 50m to the south.

Mapping of 2025 indicates that the site forms part of Wythenshaw Town Centre, with the *Metrolink* now recorded adjacent to the western site boundary. The *Bus Station* has also relocated to within 10m to the west of the site, the outdoor *Market* has relocated to the immediate north of the site, with the original area now occupied by a retail park, which includes various commercial units and restaurants. The flatted residential properties to the immediate northeast of the site have also been redeveloped as a commercial unit, which includes a sportswear shop and office space. The *Public Baths* are also now indicated as *Sport/Leisure Centre*.

3.2.3. Summary of Historical Development

A summary of the potentially contaminative activities identified on the historical mapping for the site and surrounding area is illustrated in Plate 4.

Plate 4: Summary of Potentially Contaminative Activities



3.3. Planning History

A review of Manchester City Council planning portal[3] includes the following selected planning applications for the site; it is noted that a full review of the planning history has not been undertaken:

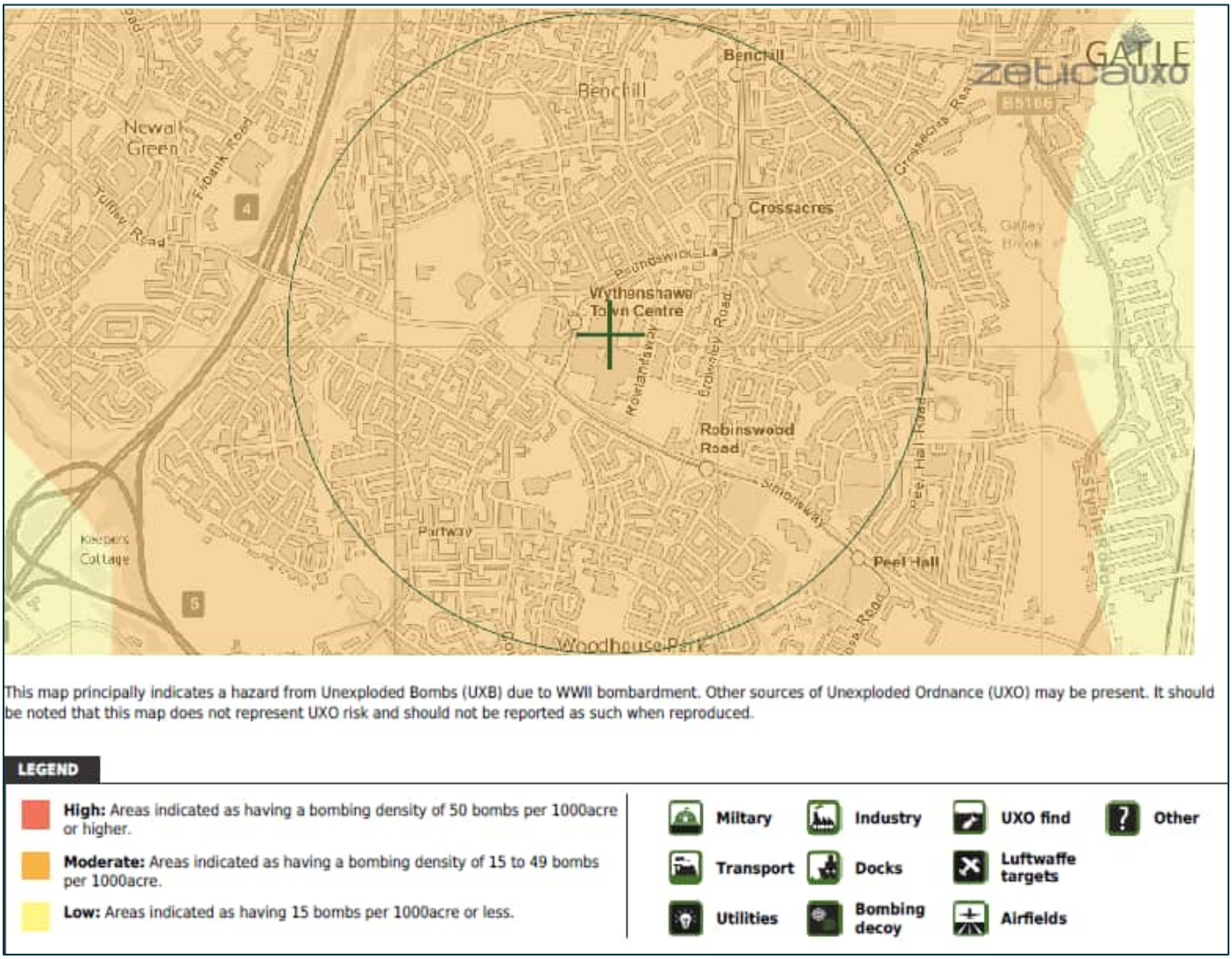
- **051798/FO/SOUTH3/97:** Major refurbishment of shopping centre, to include limited demolition, closure of walkways, relocation of open market and development of new retail units. This application was approved in August 1997.
- **F01195/LA:** Provision of additional surface car parking areas at the landscaped areas at Ainsley Road and Rowlandsway, Wythenshawe. This application was approved in September 1974.
- **082907/AO/2007/S2**: Installation of one internally illuminated totem sign and one internally illuminated car parking sign and disabled car parking signage and directional signage (non-illuminated). This application was approved in June 2007.
- **FD10386:** Change of use from a shop to a Building Society Branch Office (Unit 53 (West) Etrop Way, Wythenshawe town centre). This application was approved in April 1979.
- **FO8872:** Alternations to shop front (33 The Birtles. Civic Centre, Wythenshawe). This application was approved in July 1978.
- **06716/FO/SOUTH2/03:** External alternation to shop front to form new entrance doors (Unit 3, The Birtles, Wythenshawe). This application was approved in April 2003.
- **F08590/LA**: Erection of enclosure for 3 dustbins and 1 grit container for use by car parking attendant at multi-storey car park. This application was approved in June 1978.
- **097719/FO/2011/S2:** Treatment of canopies to The Birtles, erection of new fascia to junction of the Birtles and Haletop and repainting of canopies along Haletop. This application was approved in December 2011.
- **054003/FO/SOUTH3/98.** Elevational alterations including new entrance ramp at block 3A, Etrop Way, Wythenshawe. This application was approved in August 1998.

3.4. Unexploded Ordnance

A review of the publicly available online risk mapping indicates that the site is located within a moderate risk area from unexploded ordnance (UXO) as illustrated in Plate 5.

[3] https://pa.manchester.gov.uk/online-applications/spatialDisplay.do?action=display&searchType=Application (Accessed October 2025)

Plate 5: UXO Risk Map (Zetica Online[4])



A Detailed UXO risk assessment was procured to confirm the potential risk from UXO associated with intrusive works e.g. site investigation and future construction works. A copy of the Detailed UXO Risk Assessment report, prepared by RMS UXO Limited, is included in Appendix D.

The detailed UXO report identified the following:

- Wythenshawe was not bombed during WWI and therefore the risk of encountering unexploded WWI bombs today is considered to be very low / unlikely.
- During WWII, the Borough of Bucklow sustained a low-density bombing campaign according to The National Archives statistics, with an average of 5.6 items of ordnance recorded per 1,000 acres.
- There are six bombing known to have occurred within an approximate 1km radius of the site, those being two HE (high explosive) bombs and four firebombs. The closest HE bomb strike occurred approximately 880m northeast of the site in January 1941. However, abandoned bombs and UXBs (unexploded bombs) were recorded in the wider surrounds to the site.
- Bomb damage mapping is unavailable for the area of Wythenshawe.
- The risk of encountering unexploded WWI bombs is considered to be very low.
- No evidence has been located to suggest that the site formerly had any military occupation or usage that could have led to contamination with items of British / Allied ordnance.
- It was noted that during post-war development works, there are no records of UXO being found onsite.

RMS UXO Limited conclude that the site is at a low risk from high explosive and incendiary bombs. On this basis, UXO supervision during in-ground works, including ground investigation and construction, was not considered necessary, although a safety awareness briefing and emergency response plan was recommended prior to intrusive works.

[4] UXO Zetica Online Risk Map, https://zeticauxo.com/guidance/risk-maps/ (Accessed October 2025)

4. Anticipated Ground Conditions

4.1. Published Geology

With reference to the British Geological Survey (BGS) website[5], BGS Sheet SJ 88NW[6] and the Groundsure Enviro + Geo Insight report (see Appendix C), the site is anticipated to be underlain by Glacial Till (diamicton). The distribution of the superficial deposits is illustrated in Plate 6.

Plate 6: Superficial Deposits (Excerpt from Enviro + Geo Insight Report)



The bedrock is indicated to comprise the Bollin Mudstone Member, as illustrated in Plate 7. No geological faults were recorded on-site or within the immediate surrounding area, with the closest fault recorded approximately 190m to the south, trending north to south/southeast.

Plate 7: Bedrock Geology (based on excerpt from Groundsure Enviro + Geo Insight Report)



With reference to the BGS Lexicon[7], the anticipated ground conditions can be described as follows:

- **Till:** unsorted and unstratified drift, generally over-consolidated material, consisting of a heterogenous mixture of clay, sand, gravel, and boulders varying widely in size and shape.
- **Bollin Mudstone Member:** upper part is a dominantly laminated reddish-brown and greenish-grey mudstone with siltstone. The lower part is a structureless and laminated, dominantly reddish-brown mudstone.

4.2. Unpublished Geology

There are two records for BGS borehole logs for review on-site, located in the south/southwest of the site (BGS IDs 19335900 and 19335131), with a further 13 published records (3 of which are classified and not able to be reviewed) within 250m of the site boundary, as illustrated in Section 16 Groundsure Enviro + Geo Insight report (see Appendix C).

The ground conditions encountered within the 2 boreholes undertaken on-site recorded reworked topsoil (up to 0.15m in thickness), underlain by Made Ground which is described as greyish brown, slightly sandy, fine to coarse, subangular gravel of limestone. The Made Ground is recorded to overlie natural soils described as stiff, reddish brown mottled grey, slightly sandy, gravelly clay and very dense, reddish brown, slightly silty, gravelly, fine to coarse sand. The natural soils

[5] BGS GeoIndex (https://mapapps2.bgs.ac.uk/geoindex/home.html) (Accessed October 2025)

[6] BGS (1962) Lancashire, Sheet SJ 88 NW, Solid and Drift. 1:10,560

[7] BGS Lexicon of Named Rock Units, https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=BGS (Accessed October 2025)

were encountered at 0.40m below ground level (mbgl) and were recorded to extend to depths of up to 2.65mbgl (the borehole termination depth).

Within the surrounding area, the Made Ground was recorded to extend to depths of up to 1.40mbgl and is described as; yellowish grey, medium to coarse gravel of limestone; soft to firm, reddish brown, slightly sandy, slightly gravelly clay; and stiff grey, very sandy clay fill, with anthropogenic materials including brick fragments. The underlying superficial soils were recorded to be firm to stiff, grey brown, sandy to very sandy, gravelly clay, with the bedrock described as; extremely weak, light grey/brown, thinly laminated, moderately weathered siltstone; extremely weak, light grey sandstone and extremely weak, reddish brown mudstone (recovered at clay). The natural deposits were recorded in a number of boreholes at varying depths of between 0.50mbgl and 3.00mbgl. Copies of the on-site and off-site BGS borehole records are included in Appendix E.

With reference to the Groundsure Enviro + Geo Insight report obtained for the site (included in Appendix C), deposits of Artificial Made Ground (undivided) and Worked Ground are not indicated to be present onsite, or within 500m of the site boundary. However, given the previous development of the site, Made Ground deposits are anticipated to be present.

4.3. Mining and Ground Workings

A review of the Mining Remediation Authority Interactive Viewer[8] indicates that the site lies outwith a 'Coal Mining Reporting Area' and a 'Development High Risk Area'. In addition, there are no recorded mine entries on-site or within the immediate surrounding area recorded within the Groundsure Enviro + Geo Insight report.

With reference to the Groundsure Enviro + Geo Insight report, there are no records of British Pits (BritPits), underground workings, mining or natural cavities or non-coal mining within 250m of the site. However, there are 5 records of historical surface workings within 250m of the site relating to ponds, the closest of which are recorded 10m southeast of the site. In addition, there are 2 records of historical surface workings relating to a pool recorded approximately 15m and 65m west of the site, associated with the historical baths / current leisure centre identified on the historical mapping.

4.4. Hydrology and Hydrogeology

The Environment Agency (EA) has produced an aquifer designation system consistent with the requirements of the Water Framework Directive. The designations have been set for superficial and bedrock geologies and are based on the importance of aquifers for potable water supply and their role in supporting surface water bodies and wetland ecosystems.

The superficial deposits of Glacial Till are designated as a Secondary Undifferentiated aquifer i.e. *'assigned where it is not possible to attribute either category A or B to a rock type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type'.* The underlying bedrock of the Bollin Mudstone Member is designed as a Secondary B aquifer i.e. *'predominantly lower permeability layers which may store / yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers'.*

The site is not located within a groundwater Source Protection Zone (SPZ) and there are no records of groundwater abstractions reported within 1km of the site, with nearest abstraction recorded approximately 1.9km northeast of the site for laundry use. There are also no reported surface water abstractions within 1km of the site.

The Groundsure Enviro + Geo Insight report obtained for the site indicates that there are no surface water features within 250m of the site. A review of Google Earth indicates there to be unnamed ditches and a pond within Park Wood, located approximately 450m to the northeast of the site. A stream/ditch is located approximately 650m southeast of the site within Hatchetts Wood. The nearest significant surface water body is a lake approximately 1km southwest of the site. The lake is fed by a predominantly culverted Baguley Brook which is orientated north-south approximately 600m west of the area.

4.5. Ground Hazards

The risk associated with the potential geological hazards at the site have been assessed using the Enviro + Geo Insight report (see Appendix C) and are summarised in Table 2.

Table 2: Geological Hazards

Hazard	Risk
Shrink-swell clays	Very Low
Running Sands	Very Low
Compressive Deposits	Negligible

[8] Mining Remediation Authority Map Viewer, https://datamine-cauk.hub.arcgis.com/ (Accessed October 2025)

Hazard	Risk
Collapsible Deposits	Very Low
Landslides	Very Low
Ground Dissolution	Negligible

4.6. Radon

The Groundsure Enviro + Geo Insight Report indicates that the site lies within a low risk radon probability area (less than 1% of home are at or above the Action Level). As such, radon protective measures are not considered necessary for the proposed development, assuming no basement structures are to be incorporated into the proposed development.

4.7. Railway Infrastructure

There are no records of railway infrastructure within the site; however, there are 14 records relating to the Metrolink recorded within 250m of the site, the closest of which recorded adjacent to the northwest site boundary.

5. Environmental Setting

5.1. Environmental Disclosure Report

The Groundsure + Geo Insights report (included in Appendix C) has been used to provide information on the environmental setting of the site and to assist in identifying possible sources of contamination. A summary of the pertinent records generally within 250m of the site is provided below in Table 3. For full details the Groundsure Enviro + Geo Insights reports should be referred to. The records generally reflect the key pertinent features identified on the historical mapping. It is noted that the distances stated are approximate.

Table 3: Summary of Pertinent Information from the Environmental Disclosure Report

Environmental Record	Record Details	Distance from Site
Historical Industrial Land Uses	No records identified on-site. 1 record identified within 250m of the site for a bus station (dated 1989-1995).	- 20m E
Historical Tanks	No records identified on-site. 4 records identified within 250m of the site for unspecified tanks, dated 1978 to 1982.	- 100m E
Historical Energy Features	3 records on-site for electrical substations, dated 1982 to 1992 A further record for an electrical substation, dated 1982 – 1992 also recorded within 250m of the site	N and SE 225m NE
Historical Garages	No records identified on-site. 2 records identified within 250m of the site, dated 1978 to 1992.	- 160m SE
Historical Petrol Stations	No records identified within 250m of the site.	-
Active or Historical Landfill	No records identified within 250m of the site.	-
Historical Waste Sites	No records identified within 250m of the site.	-
Licensed Waste Sites	No records identified within 250m of the site.	-
Waste Exemptions	No records identified on-site. 4 records identified within 250m of the site for sorting and de-naturing of controlled drugs for disposal (3 of which are at The Pharmacy Group Corporation, Forum Square, Civic Centre and Forum Square, Civic Centre)	- 65m W, 90m W
Recent Industrial Land Uses	3 records identified on-site for electricity substations (2 Nr) and disability and mobility equipment (1 Nr). A further 11 recent industrial land uses recorded within 250m of the site for; tram, metro and light railway stations and stops, disability and mobility equipment, giftware, electrical features, bus and coach stations, deposits and companies, vehicle cleaning services and petrol and fuel stations.	N and S Various
Current or Recent Petrol Stations	1 record for a petrol station at Rowlands Way, Wythenshawe, Manchester, M22 5RG, with the status listed as *'Open'*.	215m SE
Licensed Pollutant Release (Part A (2) / B)	1 record at BP Civic Service Station, Rowlandsway, Wythenshawe, M22 5RG for unloading of petrol into storage at service stations.	200m SE
Licensed Discharges to Controlled Waters	1 record at MCC Coak Park SWO, Dawson Street/ River Medlock, Water Street for the discharge of surface water into the River Medlock. The status was listed as *'Revoked – Unspecified'*.	345m N
Pollution Incidents (EA/NRW)	No records identified within 250m of the site.	-
Control of Major Accident Hazards (COMAH)	No records identified within 250m of the site.	-
Regulated Explosives Sites	No records identified within 250m of the site.	-
Radioactive Substance Authorisations	No records identified within 250m of the site.	-
Environmental Designations	The site is located within a SSSI Impact Zone.	-

6. Preliminary Risk Assessment

6.1. Introduction

Historical contamination of land may present harm to human health and the environment. Current UK legislation stipulates that the risk associated with potential land contamination is assessed and remediated, if necessary. Under the Town and Country Planning Act 1990 (as amended), potential land contamination is a "material planning consideration" together with the National Planning Policy Framework[9] (revised in July 2023), which means that a planning authority must consider contamination when they prepare development plans or consider individual applications for planning permission. It is the responsibility of the developer to carry out the remediation where it is required and satisfy the Local Authority that the remediation has been carried out as agreed.

Additionally, Part 2A of the Environmental Protection Act 1990 requires that a significant source-pathway-receptor linkage exists to determine a site as contaminated land. This means that there has to be a contaminant present, a receptor that could be harmed by this contaminant, and a pathway linking the two. Part 2A deals with the contamination risk from a site in its current use, however, the planning system requires that the proposed use is considered. Where remediation is carried out under the planning system, it should be ensured that the site is in such a condition that it would still not meet the definition of contaminated land under Part 2A.

6.2. Preliminary Conceptual Site Model

A preliminary conceptual model has been compiled for the site with respect to the proposed residential development to identify the potential sources of contamination and the associated potential contaminant linkages. This model also informs the potential need for further investigation at the site.

6.2.1. Potential Sources

Potential contamination sources can include both current and historical activities on-site and off-site in the surrounding area. The potential sources outlined in Table 4 have been identified at the site.

Table 4: Potential Sources

Hazard	Description
Historical and current land uses – Site	Historical mapping indicates the area was primarily occupied by commercial buildings, car parking and electrical substation which could be potential sources of a wide range of contaminants including heavy metals, PCBs and hydrocarbons.
Historical and current land uses – Off-site	Off-site historical and current land uses include a garage / petrol filling station, bus station, depot and electrical substations which could be potential sources of a similar range of contaminants.
Made Ground – Site and Off-site	Potential for Made Ground to be present due to historical development on and off-site including the historical infilling of ponds which could be a potential source of contamination including heavy metals, hydrocarbons and asbestos.
Ground gases / vapour	Made Ground can be a source of ground gas where an appreciable organic content is present. If present, degradation of hydrocarbons / organic chemicals can also produce organic vapours and ground gases.
Groundwater	Perched water in the Made Ground and Secondary B aquifer may be a source of contamination resulting from impacts from previous on and off-site sources, where contaminants would be similar to those potentially present in the soils.

6.2.2. Potential Pathways

The potential migration pathways that may be present are outlined in Table 5.

Table 5: Potential Pathways

Hazard	Description
Ingestion and inhalation	Contamination within the Made Ground and/or shallow natural soils can result in the ingestion or inhalation of contaminated soils (and asbestos fibres if present) where soil is exposed and inhalation of ground gases/vapours.
Direct / dermal contact	Direct/dermal contact with contaminated soils or shallow groundwater can result in the uptake of contaminants through the skin (where soil is exposed) or permeation of contaminants through structures.
Root uptake	Uptake of phytotoxic contaminants by plants and vegetation within areas of soft landscaping.
Lateral and vertical migration	Leaching from potential contamination in the soils may impact perched water in the Made Ground, underlying Secondary Undifferentiated aquifer (Glacial Till), underlying Secondary B aquifer (Bollin Mudstone Member) and surface water receptors (predominantly culverted Baguley Brook 600m west and lake 1km southwest).

[9] Ministry of Housing, Communities and Local Government (2023). National Planning Policy Framework

Hazard	Description
Ground gas / vapour migration	Lateral migration of ground gases and/or vapours through the soil matrix could lead to accumulation within buildings, posing a risk of asphyxiation or explosion.
Drainage and services	Could provide a preferential pathway for dissolved phase contaminant migration and/or ground gases/vapour transport.
Foundations (shallow, piled)	Could provide a preferential pathway for dissolved phase contaminant migration and/or ground gases/vapour transport.

6.2.3. Potential Receptors

The potential receptors have been identified based on the proposed residential end use of the site, and are outlined in Table 6.

Table 6: Potential Receptors

Hazard	Description
Future site users	Users and occupiers are considered to be at risk from possible contamination associated within shallow soils and groundwater, if source and pathway are present.
Construction workers	Considered to be at risk from potential contamination within soils and groundwater during groundworks. Such persons are likely to be in close contact with potentially contaminated materials on site associated with the current and historical uses of the site and surrounding area.
Off-site residents	Potentially at risk from potential contaminants in wind-blown dust and potential odours/vapours generated during development works.
Controlled waters	The surrounding aquifers and surface water are potentially at risk from the leaching of contaminants from potentially contaminated soils and groundwater.
Buildings / Infrastructure / services	Potentially at risk from ground gas migration, aggressive ground conditions and contaminants that may permeate through underground services such as water supply pipes.
Plants and vegetation	Primarily at risk from phototoxic contaminants such as boron, copper, nickel and zinc.

6.2.4. Preliminary Risk Assessment

A preliminary qualitative risk assessment has been undertaken for the site based on the findings of the conceptual site model and the potential contaminant linkages that may exist at the site in accordance with the October 2020 Land Contamination Risk Management Guidance (LCRM)[10]. The magnitude of the risks associated with potential contaminant linkages has been assessed using criteria broadly based on those presented in CIRIA Report C552[11], and are summarised in Table 7. The risk assessment methodology is presented in Appendix F.

[10] Environment Agency (2020). Land Contamination Risk Management (LCRM).

[11] CIRIA (2001) Contaminated Land Risk Assessment. A guide to good practice. C552.

Table 7. Preliminary Qualitative Risk Assessment

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
Explosive/ asphyxiating gases/vapours from underlying soils (Made Ground/infilled pond material) and potential on and off-site sources	Migration of gases and vapours through the surface via permeable soils and drainage & services	Internal building spaces & future occupiers	Medium	Likely	Moderate	Potential for variable thickness of Made Ground, particularly in area of infilled pond. *Assessment of underlying geology and ground gas monitoring recommended to assess ground gas regime.*
Organic/ inorganic contaminants within underlying soils and perched groundwater within the Made Ground	Direct/indirect ingestion of soil and dust, inhalation of particle vapours and asbestos fibres and dermal contact	Construction workers	Medium	Likely	Moderate	Potential for shallow soils to be impacted with asbestos and/or contaminants associated, although it is noted that the risk would be mitigated by use of appropriate PPE. *Further chemical analysis and assessment of shallow soils required to assess risk.*
		Future site users	Medium	Likely	Moderate	Potential for shallow soils to be impacted with asbestos and/or contaminants. Where hardstanding and/or buildings are proposed, these will act as a barrier between receptor and potential contamination within underlying soils. Likely soft landscaping will require a clean cover system to mitigate potential risks. Assessment of risk from potential vapour intrusion into buildings required. *Chemical analysis and assessment of shallow soils required to assess risk.*
		Off-site residents	Medium	Low likelihood	Moderate/low	Potential for shallow soils to be impacted with asbestos and/or contaminants. Assumes that appropriate practices are adopted to prevent dust generation during construction e.g., dampening down and covering stockpiles etc.
	Direct contact with underground structures and services	Buildings and structures, buried services	Mild	Likely	Moderate/low	Buried concrete to be designed as appropriate for ground conditions. Potential for contamination within Made Ground where new buried water supply pipes will be laid. *Chemical assessment of soils required to assess risk.*
	Root uptake	Plants and vegetation	Minor	Likely	Low	Potential for shallow soils to be impacted with asbestos and/or contaminants. A suitable growth likely to be required for new areas of soft landscaping to mitigate risks to receptors. *Chemical analysis and assessment of shallow soils required to assess risk.*

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
	Vertical and lateral migration, pathways created during construction activities	Shallow Secondary Undifferentiated aquifer (*Glacial Till*)	Medium	Low likelihood	Moderate/low	Potential for contaminants within the soil to leach to the underlying aquifer within superficial deposits. Where proposed, buildings and hardstanding will limit leaching potential. In addition, cohesive horizons within Made Ground may mitigate migration of contaminants. *Analysis and assessment of soils and groundwater required to assess risk.*
		Secondary B aquifer (*Bollin Mudstone Member*)	Medium	Low likelihood	Moderate/low	Potential for contaminants within the soil to leach to the underlying aquifer within bedrock. Where proposed, buildings and hardstanding will limit leaching potential. In addition, cohesive horizons within Made Ground may mitigate migration of contaminants. *Analysis and assessment of soils and groundwater required to assess risk.*
		Local surface water bodies (*Culverted Baguley Brook and Lake*)	Mild	Unlikely	Very Low	Potential for shallow soils and perched water to be impacted with contaminants based on historical site use. However, cohesive horizons within Made Ground may mitigate migration of contaminants. In addition, Baguley Brook is predominantly culverted which will act as a barrier to contaminant migration into the water body. The lake is located 1km from the site. *Analysis and assessment of soils and groundwater required to assess risk.*
Organic / inorganic contaminants within shallow groundwater aquifer (Glacial Till)	Direct contact and ingestion of contaminated groundwater	Future site users	Medium	Unlikely	Low	Hardstanding, buildings and formal landscaping is proposed across the site which will limit the exposure to future site users. Construction workers may come into contact with shallow water during excavation works; however, contact between future site users/off-site residents and shallow aquifer considered unlikely. In addition, a pervasive groundwater body within the cohesive Glacial Till is unlikely to be present. *Assessment of groundwater profile and contamination is required to assess risk.*
		Construction workers	Medium	Low likelihood	Moderate/low	
		Off-site residents	Medium	Unlikely	Low	
	Inhalation of vapours	Future site users	Medium	Unlikely	Low	Potential for elevated hydrocarbon concentrations in shallow groundwater from historical site and/or off-site uses. *Assessment of groundwater profile and contamination is required to assess risk.*
	Vertical and lateral migration, pathways created during construction activities	Secondary B aquifer (*Bollin Mudstone Member*)	Medium	Unlikely	Low	Potential for shallow aquifer to be impacted with contaminants based on historical site use. However, a laterally pervasive groundwater body within the cohesive Glacial Till is considered unlikely to be present with the cohesive horizons likely to mitigate contaminant migration. *Assessment of groundwater profile and contamination is required to assess risk.*

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
	Lateral migration	Local surface water bodies (*Culverted Baguley Brook and Lake*)	Mild	Unlikely	Very Low	Potential for shallow aquifer to be impacted with contaminants based on historical site use. However, a laterally pervasive groundwater body within the cohesive Glacial Till is considered unlikely to be present with the cohesive horizons likely to mitigate contaminant migration. In addition, Baguley Brook is predominantly culverted which will act as a barrier to contaminant migration into the water body. The lake is located 1km from the site. *Analysis and assessment of soils and groundwater required to assess risk.*
	Direct contact with underground services	Buildings and structures	Mild	Likely	Moderate/low	Buried concrete to be designed as appropriate for ground conditions. *Assessment of groundwater profile and contamination is required to assess risk.*

7. Phase 2 Preliminary Site Investigation

7.1. Introduction

A preliminary Phase 2 site investigation was undertaken within accessible areas of the site between 6 and 29 August 2025 as part of a wider preliminary site investigation across the wider masterplan redevelopment area, and a summary of the intrusive works completed at the site is presented in Table 8. It is noted that the site investigation works were limited to the northern area of the site only.

Table 8: Summary of Exploratory Hole Locations

Location Reference	Type of Exploratory Hole	Ground Level (mOD)	Base Depth (mbgl)	Base Levels (mOD)	Reason for Termination
WS16	WS	60.06	0.30	59.76	Terminated due to potential services. Borehole moved and redrilled as WS16A.
WS16A	WS	60.03	0.25	59.78	Terminated due to potential services.
WS19	WS	60.20	0.10	60.10	Terminated due to potential services. Borehole moved and redrilled as WS19A.
WS19A	WS	59.95	2.25	57.70	Terminated due to refusal.
WS20	WS	59.90	3.45	56.45	Terminated due to refusal.
RC05	RH	59.87	15.00	44.87	Achieved target depth.
TP09	TP	Internal*	1.20	-	Achieved target depth

WS = window sample borehole; RH = rotary cored hole TP = machine excavated trial pit, FIP = inspection trial pit. *Not available as internal position.

Prior to breaking ground, exploratory holes were cleared for buried services by a specialist utility contractor utilising a cable avoidance tool (CAT) and signal generator. Coordinates and ground levels were surveyed, where possible, for each exploratory hole position.

The investigation was undertaken in general accordance with the requirements of BS 5930:2015+A1:2020[12]and BS 10175:2011+A2:2017[13] and the exploratory hole records are included in Appendix G. An exploratory hole location plan is illustrated in Plate 8. It is noted that three inspection trial pits (TP06, TP07 and TP08) were unable to be completed due to access constraints; the proposed locations of these trial pits are indicated in Plate 8. In-situ Standard Penetration Tests (SPTs) were carried out within the window sample and rotary boreholes. In addition, hand shear vane (HSV) tests were undertaken where suitable cohesive soil samples were retrieved.

[12] British Standards Institution (2015) Code of practice for ground investigations. BS 5930:2015+A1:2020.

[13] British Standards Institution (2017) Investigation of potentially contaminated sites – Code of practice. BS 10175:2011+A2:2017.

Plate 8: Exploratory Hole Location Plan



7.2. Ground Gas and Groundwater Monitoring

Three ground gas and groundwater monitoring visits have been undertaken at the site on 4 and 5 September 2025, 16 and 17 September 2025 and 30 September 2025. Groundwater sampling at boreholes were groundwater was recorded and of sufficient volume was available for sampling on 17 September 2025. A summary of the monitoring wells installed is provided in Table 9 and the ground gas and groundwater monitoring and sampling records are included in Appendix H. it is noted that the records included in Appendix H also include the results of the ground gas and groundwater monitoring carried out within the wider Wythenshawe development area.

Table 9: Summary of Monitoring Well Response Zones

Location Reference	Target Response Zone	Response Zone Top Depth (mbgl)	Response Zone Base Depth (mbgl)	Response Zone Top Level (mOD)	Response Zone Base Level (mOD)
WS19A	Glacial Till	0.80	1.80	59.15	58.15
WS20	Made Ground	0.50	1.00	59.40	58.90
RC05	Bollin Mudstone Member	3.00	15.00	56.87	44.87

7.3. Chemical Laboratory

7.3.1. Soil Testing

Selected soil samples were submitted to i2 Analytical Limited (a UKAS and MCERTS accredited laboratory) for chemical soil testing. The analysis included the following determinants and the results are included in Appendix I.

- 5 Nr. pH
- 5 Nr. soil organic matter (SOM);

- 5 Nr. total sulphate as SO_4;
- 5 Nr. total cyanide;
- 5 Nr. heavy metal suite (antimony, arsenic, barium, beryllium, boron, cadmium, chromium (III and VI), copper, lead, mercury, nickel, selenium, vanadium and zinc);
- 5 Nr. polycyclic aromatic hydrocarbons (PAH);
- 5 Nr. total petroleum hydrocarbons (TPH);
- 5 Nr. total monohydric phenols;
- 5 Nr. BTEX compounds (benzene, toluene, ethylbenzene, xylenes);
- 1 Nr polychlorinated biphenyls (PCB);
- 3 Nr. Waste Acceptance Criteria (WAC) tests; and
- 4 Nr. asbestos screen and identification.

7.3.2. Groundwater Testing

A water sample were submitted to i2 Analytical Limited (a UKAS and MCERTS accredited laboratory) for chemical water testing. The analysis included the following determinants and the results are included in Appendix I.

- 1 Nr. pH
- 1 Nr. dissolved organic carbon (DOC);
- 1 Nr. total sulphate as SO_4;
- 1 Nr. ammoniacal nitrogen as N;
- 1 Nr. total cyanide;
- 1 Nr. free cyanide;
- 1 Nr. hardness;
- 1 Nr. heavy metal suite (antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium (III and VI), copper, lead, magnesium, mercury, nickel, selenium, vanadium and zinc);
- 1 Nr. PAH;
- 1 Nr. BTEX compounds (benzene, toluene, ethylbenzene, xylenes);
- 1 Nr. TPH; and
- 1 Nr. total monohydric phenols.

It is noted that the soil and groundwater testing certificates included in Appendix I also include the results of other samples which were scheduled for analysis as part of the wider Wythenshawe preliminary site investigation.

7.4. Geotechnical Laboratory Analysis

Selected soil samples were submitted to Geolabs Limited (a UKAS accredited laboratory) for geotechnical testing in general accordance with BS 1377[14]. The analysis included the following determinants and the results are included in Appendix J.

- 3 Nr. Atterberg Limit (4 Point);
- 1 Nr. particle size distribution (PSD) (wet sieve);
- 4 Nr. natural water content;
- 1 Nr laboratory hand shear vane;
- 9 Nr point load;
- 2 Nr. Building Research Establishment (BRE) Special Digest (SD) [15]Suite – including 2:1 water soluble sulphate, 2:1 water soluble chloride, water soluble magnesium, total sulphate, total sulphur and pH.

It is note that the geotechnical results included in Appendix J also include the results for samples which were scheduled for analysis as part of the wider Wythenshawe site assessment.

[14] British Standard (2018). Methods of testing for soils for civil engineering purposes. BS 1377:2018.

[15] Building Research Establishment (2006). BRE Special Digest Part 1: Concrete in aggressive ground

8. Ground and Groundwater Conditions

8.1. Summary of Ground Model

A summary of the ground conditions encountered during preliminary site investigation is provided in Table 10. It is noted that the ground conditions recorded in the inspection pit (TP09) are not included in Table 10, but is reported separately in Section 8.9.

Table 10: Summary of Preliminary Site Investigation Ground Conditions

Stratum	Top of Stratum (mbgl) [mOD]	Thickness (m)
Concrete / tarmac hardstanding over: *Granular horizons:* typically grey mottled black silty gravelly sand. Sand is fine to coarse, Gravel is fine to coarse, angular to subangular of brick, ceramic, concrete, limestone and mudstone. *Cohesive horizons*: typically dark grey to black / dark red / mottled black and orange slightly gravelly sandy silt / slightly sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of brick, concrete, tarmac, sandstone, limestone and coal. Rare fragments of fabric noted. **[MADE GROUND]**	0.00 [60.20 to 59.87]	>0.10 to 1.50
Firm to stiff grey brown mottled / reddish brown grey / orange brown mottled grey slightly silty gravelly CLAY / slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to subangular of sandstone, mudstone, limestone, quartz and coal. Rare angular cobbles of mudstone noted. *Encountered in WS19A, WS20 and RC05. Thickness proven in RC05 only (1.70m).* **[GLACIAL TILL]**	0.60 to 1.50 [59.35 to 58.37]	>1.65 to >2.45
Extremely weak thinly laminated to thinly bedded orange brown micaceous MUDSTONE. Discontinuities: 1) 5 degrees extremely close to medium spaced rough planar clean; 2) 8 degrees medium to close spaced rough planar clean. *Encountered in RC05 only.* **[WEATHERED BOLLIN MUDSTONE MEMBER]**	3.20 [56.67]	1.10
Extremely weak to weak thinly laminated to thinly bedded orange brown / mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremely close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. *Often recovered as orange brown slightly clayey gravel. Gravel is fine to coarse of angular mudstone.* Very weak to weak thinly laminated to thinly bedded greenish grey SILTSTONE. Discontinuities: 1) 5 to 10 degrees extremely close to medium spaced rough planar clean; 2) 75 degrees very close to medium rough planar clean. Encountered at depths of between 13.50mbgl (46.37mOD) and 14.80mbgl (45.07mOD). *Encountered in RC05 only.* **[BOLLIN MUDSTONE MEMBER]]**	4.30 [55.57]	>15.00 [>44.87]

8.2. Made Ground

Made Ground was encountered below concrete / tarmac hardstanding in each exploratory hole location and comprised both granular horizons and cohesive horizons, both of variable consistency and density. The Made Ground ranged up to 1.50m in thickness, where the base of the Made Ground was proven.

A single SPT was undertaken within the Made Ground where an SPT N60 value of 25 was recorded, corresponding to a 'medium dense' granular deposits[12].

Particle size distribution (PSD) tests were undertaken on a single sample of the Made Ground (from borehole RC05 at 0.40mbgl) and the results are provided in Table 11. The results of the testing indicate the material testing to comprise slightly clayey/silty, sandy gravel.

Table 11: Summary of PSD Testing – Made Ground

Number of Tests	Water Content (%)	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Fines Content (Clay/Silt (%))
1	10.7	0.0	74.4	23.1	2.5

8.3. Glacial Till

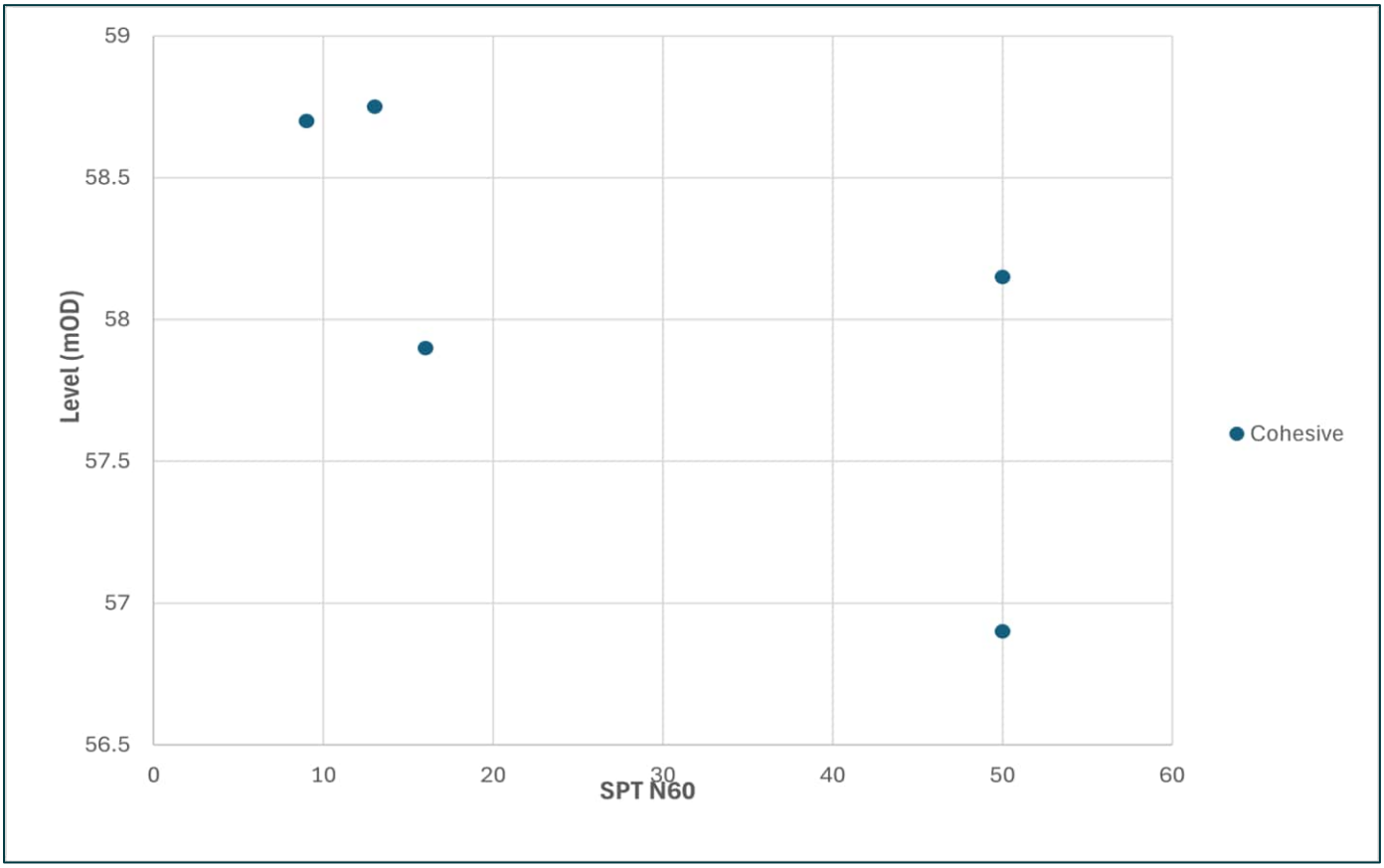
The underlying superficial soils were encountered beneath the Made Ground in boreholes WS19A, WS20 and RC05. The upper surface of the deposits was recorded between 59.35mOD and 58.37mOD and as found to be between >1.65m and >3.20m in thickness (thickness proven in borehole RC05 only as 1.70m).

A total of 5 SPTs were undertaken within the Glacial Till deposits where SPT N60 values ranged from 9 to 50, and described to be of 'firm to very stiff' consistency. Correlated c_u value ranged from approximately 40.5kPa and 225kPa (assuming f1 = 4.5[16]), correlating to low strength to very high strength material[12].

Hand shear vane tests (including a lab hand shear vane) undertaken within the cohesive Glacial Till deposits returned undrained shear values between 54kPa and >150kPa, correlating to medium strength to high strength material[12].

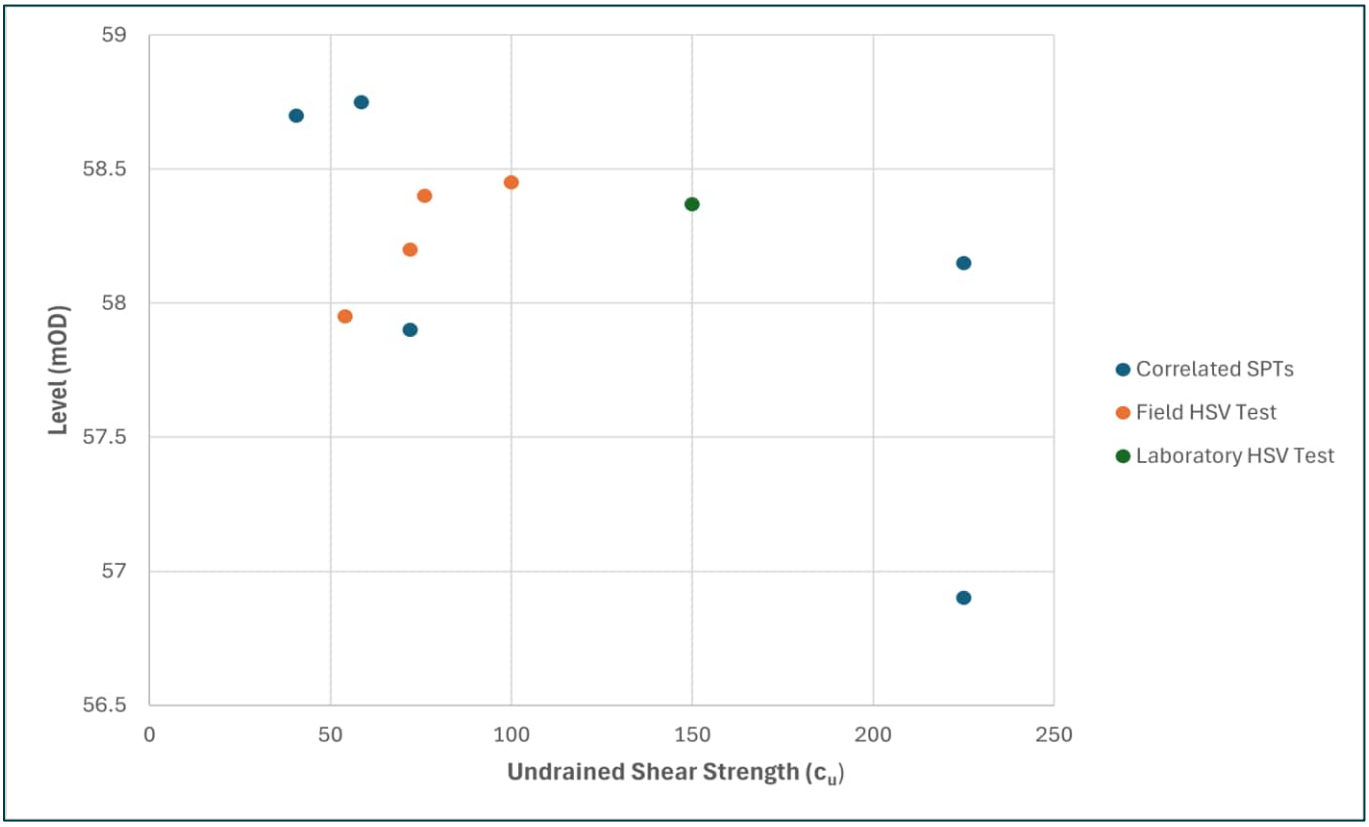
A summary of the SPT N60 values and undrained shear strength versus level are provided in Plate 9 and Plate 10, respectively.

Plate 9: SPT N60 versus Level (mOD) – Glacial Till



[16] Stroud, M, A (2015). The Standard Penetration Test in Insensitive Clays and Soft Rocks. Proceedings of the European on Penetration Testing, Stockholm, June 5-7, 1974 2(2): 367-375

Plate 10: Undrained Shear Strength versus Level (mOD) – Glacial Till



Sulphate and pH testing was undertaken on samples of the Glacial Till retrieved during the site investigation (from WS19A at 1.60mbgl and WS20 at 1.80mbgl). The results are summarised in Table 12.

Table 12: Summary of pH and Sulphate Testing – Glacial Till

Number of Tests	pH	Water Soluble SO_4* (mg/l)	Total Sulphate (%)
2	7.7 to 8.3	28.7 to 28.8	0.02 to 0.05

*2:1 Leachate Equivalent

A summary of the classification testing on selected samples from the Glacial Till deposits is provided in Table 13. The results of the classification testing indicate the material to be clay/silt of low plasticity[12] with a negligible to low volume change potential[17].

Table 13: Summary of Classification Testing – Glacial Till

Number of Tests	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	% Passing (>450µm)	Modified Plasticity Index (%)
3	9.3 to 11.7	28 to 31	14 to 19	55 to 98	6.6 to 15.7

8.4. Bollin Mudstone Member

The bedrock of the Bollin Mudstone Member was only encountered in borehole RC05, with the upper surface encountered at 3.20mbgl (56.67mOD). The thickness of the stratum was confirmed to be >15.00mbgl (>44.87mOD). The stratum typically comprised extremely weak to weak mudstone. Rock coring of the bedrock was carried out and therefore no SPTs were undertaken within the Bollin Mudstone Member.

Point load testing was carried out on core samples retrieved from the rotary boreholes. A summary of the point load tests is provided Table 14 with estimated UCS values (applying the Broch and Franklin conversation of 24 to the Is(50) values). It is noted that a selection of cores from borehole RC05 were also scheduled for Unconfined Compressive Strength (UCS) testing and Youngs Modulus/Poisson's Ratio; however, the testing was unable to be carried out due to the fractured nature of the material.

[17] NHBC (2013) NHBC Standards. Chapter 4.2 Building near trees.

Table 14: Summary of Point Load Testing

Number of Tests	Is (MPa)	Is(50 (MPa)	Estimated UCS (MPa)
9	0.02 to 0.31	0.03 to 0.39	0.72 to 9.36

The estimated UCS values for the Bollin Mudstone Member correlate to an extremely weak to weak rock[12], which is generally consistent with the field descriptions of the stratum.

8.5. Visual and Olfactory Potential Contamination

No visual or olfactory signs of potential contamination were noted during the site investigation. The presence of foreign materials such as brick, concrete, fabric, tarmac, sandstone, limestone and coal was however noted within the Made Ground.

8.6. Obstructions

A summary of the obstructions encountered during the preliminary site investigation is provided in Table 15.

Table 15: Summary of Obstruction encountered during Preliminary Site Investigation

Location	Top Depth of Obstruction (mbgl)	Top Level of Obstruction (mbgl)	Detailed of Obstruction Encountered
WS16	0.30	59.76	Potential services
WS16A	0.25	59.78	Potential services
WS19	0.10	60.10	Potential services

8.7. Groundwater

Groundwater was encountered during the site investigation as detailed in Table 16.

Table 16: Summary of Groundwater Strikes during Preliminary Site Investigation

Location	Stratum	Strike Depth (mbgl)	Strike Level (mOD)
RC05	Bollin Mudstone Member	5.00	54.87

Three groundwater monitoring rounds have been undertaken at the site between 4 and 30 September 2025 and the results are summarised in Table 17.

Table 17: Summary of Groundwater Monitoring

Location	Stratum	Date	Groundwater Depth (mbgl)	Groundwater Level (mOD)
WS19A	Glacial Till	04 & 05.09.25	DRY	DRY
		16 & 17.09.25	DRY	DRY
		30.09.25	DRY	DRY
WS20	Made Ground	04 & 05.09.25	0.50	59.40
		16 & 17.09.25	0.48	59.42
		30.09.25	0.51	59.39
RC05	Bollin Mudstone Member	04 & 05.09.25	0.00	59.87
		16 & 17.09.25	2.14	57.73
		30.09.25	2.10	57.77

The results of the preliminary groundwater monitoring indicates that water is present within the Made Ground as well as within the Bollin Mudstone Member; however, no groundwater was recorded in borehole WS19A within the Glacial Till. Review of the groundwater monitoring results from the other site investigation boreholes undertaken across the wider Wythenshawe masterplan area[2] indicates that the perched water within the Made Ground is inconsistent in nature. Similarly, a pervasive shallow aquifer within the Glacial Till has not been recorded, with groundwater considered likely to be constrained by the predominantly cohesive deposits of the stratum.

Groundwater levels within the Bollin Mudstone Member have been recorded to range between 0.00mbgl and 3.04mbgl (59.87mOD and 56.29mOD) across the wider masterplan area (between 0.00mbgl and 2.10mbgl / 59.87mOD and 57.73mOD at the site), and the groundwater levels suggest that there is a degree of sub-artesian groundwater present

as groundwater levels have been recorded above the surface of the bedrock. Comparison of the groundwater level recorded at the site against the groundwater levels recorded in Area 7 to the west of the site suggest groundwater flow direction may be towards the west or southwest; however, further investigation of the groundwater levels will be required to further confirm the groundwater regime beneath the site.

8.8. Ground Gas

Three rounds of ground gas monitoring have been carried out at the site between 4 September 2025 and 30 September 2025. The monitoring rounds were carried out in atmospheric pressure ranging between 999mbar and 1019mbar, in rising and steady atmospheric pressures. A summary of the worst-case ground gas monitoring results is provided in Table 18. The worst-case scenario includes maximum steady flow, maximum steady carbon dioxide and maximum (peak) methane recorded at each borehole over the three monitoring rounds. It is noted that ground gas monitoring was not carried out within borehole RC05 as the well as flooded on the first monitoring occasion, and the gas tap was missing on following occasions. It is noted that the Bollin Mudstone Member is not considered to be a ground gas generating stratum.

Table 18: Summary of Ground Gas Monitoring Results

Location	Stratum	Steady Flow Rate (l/hr)	Maximum Steady CO_2 (% vol. in air)	Maximum CH_4 (% vol. in air)	Maximum PID (ppm)
WS19A	Glacial Till	0.0	4.5	0.0	0.0
WS20	Made Ground	0.0	0.4	0.0	0.0

8.9. Inspection Pit

As part of the preliminary investigations, an inspection pit (TP09) was carried out within one of the existing shops to confirm make-up beneath the ground floor slab.

Reinforced concrete was encountered from the ground surface to 0.50mbgl, underlain by a light brown/mottled light grey, slightly sandy, gravelly clay sub-base. Made Ground, described as firm, dark brown mottled reddish brown, slightly gravelly clay with gravel of concrete, tarmac and coal was recorded beneath the sub-base to a depth of 0.80mbgl. The Glacial Till was encountered below the Made Ground and described as a firm, dark reddish brown mottled grey, slightly gravelly, slightly sandy clay. The inspection pit sketch is included in Appendix G.

9. Preliminary Ground Model Summary

The preliminary ground model at the site has been generated based on the preliminary site investigation undertaken within the site by Civic Earth in August 2025.

The ground conditions across the site were found to comprise of a variable thickness of Made Ground (between >0.10m and 1.50m in thickness) overlying superficial deposits of Glacial Till. The superficial soils were recorded in each exploratory hole where the base of the Made Ground was proven, with the upper surface recorded between +59.35mOD and + 58.37mOD and found to be between >1.65m and >3.20m in thickness (proven to be 1.70m in borehole RC05). The bedrock of the Bollin Mudstone Member was only encountered in borehole RC05, with the upper surface recorded at +56.67mOD. The bedrock was proven to a depth of +44.87mOD.

Review of the groundwater monitoring results across the wider Wythenshawe masterplan area[2] indicates that the perched water within the Made Ground is inconsistent in nature. Similarly, a pervasive shallow aquifer within the Glacial Till has not been recorded, with groundwater considered likely to be constrained by the predominantly cohesive deposits of the stratum. Groundwater levels within the Bollin Mudstone Member have been recorded to range between 0.00mbgl and 3.04mbgl (59.87mOD and 56.29mOD) across the wider masterplan area (between 0.00mbgl and 2.10mbgl / 59.87mOD and 57.73mOD at the site), and the groundwater levels suggest that there is a degree of sub-artesian groundwater present as groundwater levels have been recorded above the surface of the bedrock. Groundwater flow direction may be towards the west or southwest; however, further investigation of the groundwater levels will be required to further confirm the groundwater regime beneath the site.

10. Contamination Assessment

10.1. Introduction

The risks to the identified potential receptors at the site have been assessed with respect to the identified contamination at the site. The potential receptors have been identified with reference to the Part 2A Contaminated Land Guidance and associated DEFRA guidance[18] and have been considered if there is the potential for them to be adversely affected by exposure to contamination. Civic Earth's approach and rationale to the assessment criteria for this site is provided in Appendix K.

It is noted that the assessment is based on the data obtained from the preliminary site investigation within the accessible areas of the site only (i.e. the northern area of the site) and further assessment will be required once access becomes available.

10.2. Risks to Human Health from Soil Contaminants

A total of 5 soil samples were submitted for chemical analysis, 4 samples from Made Ground and 1 sample from the natural Glacial Till. The results have been compared against human health generic assessment criteria (GAC) for a "residential without home grown produce" end use based on the proposed end use of the site.

The assessment results for the Made Ground and natural soils are summarised in Tables A and B, respectively, in Appendix K. It is noted that the Solubility Saturation Limit (SSL) and Vapour Saturation Limit (VSL) criteria indicate the theoretical value at which free phase product is expected to be present. As no evidence of free product was noted during the site investigation, the SSL and VSL values have not been considered within the assessment.

Assessment of the Made Ground results indicate that the contaminant concentrations are generally below their respective assessment thresholds with the exception of beryllium, where an elevated concentration of 2.9mg/kg was recorded above the GAC (1.7 mg/kg) within the Made Ground sample obtained from borehole WS19A at 0.50mbgl. In addition to the total soils analysis, asbestos screening was carried out on the 4 samples of Made Ground; asbestos was not detected in the samples submitted for analysis. PCB analysis was also carried out on 1 Made Ground sample from borehole WS19A, located in proximity to an electrical substation; the concentrations were reported as less than the laboratory limit of detection.

The results of the assessment of the natural soils indicate that the contaminant concentrations recorded are below their respective GAC.

Based on the assessment of the soil testing undertaken, there is considered to be a potential risk to future site users and construction workers from the Made Ground soils due to the elevated beryllium concentration identified. Where hardstanding and buildings are proposed, the risk from the underlying soils will be mitigated as the pathway between source and receptor will be broken. A clean capping layer will be required in areas of proposed soft landscaping to mitigate the risks to future site users. Alternatively, it may be possible to demonstrate through further site investigation that the elevated concentration is a hotspot of contamination, and it may be possible to excavate the impacted Made Ground as a hotspot of contamination. It is assumed that the risks to construction workers will be mitigated through the use of appropriate site practices i.e. appropriate personal protective equipment (PPE), dust suppression during earthworks (which would also mitigate the risks to off-site human health receptors), good handwashing practices before eating etc. Further investigation and assessment of the shallow soils will be required once access becomes available across the rest of the site.

10.3. Risks to Human Health from Dissolved Contaminants

One groundwater sample has been analysed as part of the preliminary site investigation from the Secondary B aquifer in the Bollin Mudstone Member. The groundwater chemical analysis results have been compared to assessment criteria for a residential end use and the results of the assessment are summarised in Table C in Appendix K. The results of the assessment indicate that the contaminants are below their respective thresholds and therefore the potential risks to future site users from vapours from groundwater to are considered to be low.

10.4. Risks to Human Health and Buildings/Structures from Ground Gas

Gas Screening Values (GSVs) have been calculated in accordance with CIRIA 665[19] using the maximum flow rate and maximum carbon dioxide/methane concentration for each individual well during the rounds of monitoring completed at the site. The results of the assessment are summarised in Table 19. It is noted that where a concentration of 0.0%v/v or flow of 0.0l/hr has been recorded, a value of <0.1%v/v and/or 0.1l/hr has been adopted for the calculation.

[18] DEFRA (2012) Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance.

[19] CIRIA (2007) Assessing risks posed by hazardous ground gases to buildings. CIRIA Report C665, London.

Table 19: Summary of Ground Gas Risk Assessment

Location	Stratum	Maximum Steady Flow Rate (l/hr)	Maximum Steady CO_2 (% vol. in air)	Maximum CH_4 (% vol. in air)	Maximum GSV	Characteristic Situation
WS19A	Glacial Till	0.0	4.5	0.0	<0.0045	CS1
WS20	Made Ground	0.0	0.4	0.0	<0.0004	CS1

Based on the preliminary ground gas assessment outlined above, the calculated GSVs for the Made Ground and superficial deposits to a CS1 regime, whereby ground gas protection measures are not considered necessary. Further ground gas monitoring will be required, particularly in currently un-investigated areas of the site, to confirm the ground gas regime.

10.5. Risks to Controlled Waters

A single groundwater sample from the Bollin Mudstone Member from borehole RC05 was scheduled for groundwater analysis and the potential risks assessed against the Environmental Quality Standards (EQS) for freshwater and the UK Drinking Water Values (DWVs) to assess the potential risks to controlled waters; the predominantly culverted Baguley Brook 600m west and lake 1km southwest of the site, and the underlying Secondary Undifferentiated aquifer of the Glacial Till and Secondary B aquifer of the Bollin Mudstone Member. The results of the EQS groundwater assessment are summarised in Table D and the results of the DWV groundwater assessments are summarised in Table E in Appendix K.

The results of the assessment indicate that the concentrations are predominantly below their respective assessment criteria with the exception of:

- Elevated **cadmium** concentration of 0.43µg/l in borehole RC05 against an EQS threshold of 0.25µg/l (but below the EQS maximum allowable concentration of 1.5µg/l).
- Elevated bioavailable **zinc** concentration of 14.2µg/l in RC05 against a EQS threshold of 12.3µg/l.
- Elevated **fluoranthene** concentration of 0.09µg/l in borehole RC05 against a EQS threshold of 0.0063µg/l (which is below the laboratory limit of detection of 0.01µg/l), noting that the concentration is below the EQS maximum allowable concentration of 0.12µg/l.

In consideration of the above assessment results and the site conceptual site model, the risks to controlled waters are considered to be low on the basis of the following:

- No exceedances against the DWV were recorded, noting that the DWVs are considered to be a conservative assessment criteria for the site as it is considered unlikely that the groundwater at the site will be used as a drinking water source.
- Minor exceedances of cadmium, zinc and fluoranthene are recorded against the EQS; however, the nearest surface water bodies to the site are the predominantly culverted Baguley Brook approximately 600m west of the site and a lake approximately 1km southwest of the site, where the distance from the site and the culverted nature of the brook afford protection to the water bodies.
- The cohesive nature of the Glacial Till, as well as the cohesive horizons of Made Ground are considered to mitigate lateral and vertical contaminant migration. In addition, a laterally pervasive water body has not been encountered in the Made Ground and Glacial Till during the preliminary site investigation.
- The existing and proposed buildings and hardstanding across the site limit infiltration which subsequently limits potential mobilisation of contaminants.

Further leachate and/or groundwater sampling and analysis will be required to confirm the groundwater risk assessment. The risks to controlled waters from foundation activities i.e. piling are considered to be low assuming appropriate piling techniques are adopted.

10.6. Risks to Plants and Vegetation

The risk to vegetation and plants from phytotoxic contaminants is summarised in Table F in Appendix K. The results indicate that the concentrations of phytotoxic contaminants are below their respective GAC and the risk to proposed plants and vegetation is considered to be low. It is noted however that the Made Ground is unlikely to be a suitable growth medium, and importation of a suitable growth medium may be required. Further investigation and assessment of the shallow soils will be required once access becomes available across the rest of the site to further investigate the potential risks to plants and vegetation.

10.7. Risks to Buried Water Supply Pipes

An assessment of the risks to buried water supply pipes is summarised in Table G in Appendix K where the selected soil analysis results have been compared against the UK Water Industry Research (UKWIR) guidance. It is noted that the full suite of UKWIR testing has not been carried out at this stage; however, as outlined in Table G, the initial total

soils analysis results indicates that standard polyethylene (PE) pipework may be suitable for use within the proposed development. However, it is recommended that further assessment of the shallow soils where water supply pipes are proposed is undertaken to confirm the pipework requirement.

10.8. Preliminary Waste Characterisation

A preliminary waste characterisation assessment in line with WM3 technical guidance has been carried out on 5 soil samples submitted for the broader suite of chemical analysis which indicates whether the material is hazardous or non-hazardous. If the material is classified as non-hazardous, there is the option of sending the material to a non-hazardous waste facility or an inert waste facility (subject to the material meeting the inert waste acceptance levels based on Waste Characterisation Acceptance (WAC) analysis). If the material is classified as hazardous, WAC analysis will be required to demonstrate that the concentrations meet the levels for a hazardous waste facility or stable non-reactive hazardous (SNRH) waste facility without a requirement for prior treatment.

The preliminary waste assessment has been carried out using the HazWasteOnline™ Toolkit and the waste classification reports are included in Appendix L. The results of the assessment indicate that each of the samples tested would be characterised as non-hazardous material and therefore considered to be acceptable to an inert waste facility (subject to WAC testing) or a non-hazardous waste facility.

A total of 3 WAC tested were carried out as part of the preliminary site investigation within the site on the Made Ground material from boreholes WS19A at 0.50mbgl and WS20 at 0.70mbgl, and the Made Ground material from trial pit TP09 at 0.60mbgl. The results of the WAC testing indicated that the material would be acceptable for disposal at an inert waste facility.

The Contractor should be responsible for the material management and waste classification at the site and the “waste hierarchy” should be used to rank waste management options according to what is best for the environment. Potential for re-use of materials should be considered as part of the cut and fill strategy for the site; however, it is anticipated that some material will require segregation and off-site disposal. Further information is provided in Section 11.8.

10.9. Revised Qualitive Risk Assessment

A revised risk assessment has been carried out (see Table 20) based on the findings of preliminary site investigation and updated conceptual site model, and the potential contaminant linkages that may exist at the site in accordance with the LCRM[20]. It is noted that the assessment is based on the data obtained from the preliminary site investigation within the accessible areas of the site only (i.e. the northern area of the site) and further assessment will be required once access becomes available.

[20] Environment Agency (2020). Land Contamination Risk Management (LCRM).

Table 20: Revised Qualitative Risk Assessment – Preliminary Site Investigation

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
Explosive/ asphyxiating gases/vapours from underlying soils (Made Ground) and potential on and off-site sources	Migration of gases and vapours through the surface via permeable soils and drainage & services	Internal building spaces & future occupiers	Medium	Unlikely	Low	Variable thickness of Made Ground encountered on site during preliminary site investigations. The initial ground gas monitoring recorded very low ground gas concentrations and negligible flow rates, corresponding to CS1 regime for the site.
Organic/ inorganic contaminants within underlying soils and perched groundwater within the Made Ground	Direct/indirect ingestion of soil, perched water and dust, inhalation of particle vapours and asbestos fibres and dermal contact	Construction workers	Medium	Low likelihood	Moderate/Low	Elevated concentration of beryllium recorded within the Made Ground soils at borehole WS19, which may present a potential risk to construction workers. Risk would be mitigated by use of appropriate PPE.
		Future site users	Medium	Low likelihood	Moderate/Low	Elevated concentration of beryllium recorded within the Made Ground soils at borehole WS19, which may present a potential risk to future site users. Where hardstanding and buildings are proposed, the risk from the underlying soils will be mitigated as the pathway between source and receptor will be broken. A clean capping layer will be required in areas of proposed soft landscaping to mitigate the risks to future site users, if the material is not removed from site during earthworks. Alternatively, it may be possible to demonstrate through further site investigation that the elevated concentration is a hotspot of contamination, and it may be possible to excavate the impacted Made Ground as a hotspot of contamination.
		Off-site residents	Medium	Unlikely	Low	Proposed hardstanding and buildings will act as a barrier between receptor and contamination within underlying soils. Assumes good site practices in place to limit generation of dust and off-site migration of dust and odours such as dampening down and covering of stockpiles.
	Direct contact with underground structures and services	Buildings and structures, buried services	Mild	Likely	Moderate/Low	Buried concrete to be designed as appropriate for ground conditions. Standard PE pipes may be suitable for new buried water supply pipes. However, it is recommended that a UKWIR assessment is undertaken along the proposed water supply, once the site layout and site levels have been finalised, to confirm the water supply pipe suitability.
	Root uptake	Plants and vegetation	Minor	Unlikely	Very Low	Low phytotoxic concentrations recorded in Made Ground and natural soils; however, Made Ground material unlikely to be a suitable growth medium. Importation of a suitable growth medium may be required.
	Lateral and vertical migration	Shallow Secondary Undifferentiated aquifer (*Glacial Till*)	Medium	Unlikely	Low	No continuous water body recorded within the Made Ground to act as a pathway to the underlying Secondary Undifferentiated aquifer. In addition, no continuous groundwater body recoded in the Glacial Till. Cohesive horizons within the Made Ground are considered to limit potential contaminant migration. Where proposed, buildings and hardstanding will also limit infiltration and leaching potential.
		Secondary B aquifer (*Bollin Mudstone Member*)	Medium	Unlikely	Low	No continuous water body recorded within the Made Ground to act as a pathway to the underlying Secondary Undifferentiated aquifer. In addition, no continuous groundwater body recoded in the Glacial Till. Cohesive horizons within the Made Ground and

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
						underlying Glacial Till are considered to limit potential contaminant migration. Where proposed, buildings and hardstanding will also limit infiltration and leaching potential.
		Local surface water bodies (*Culverted Baguley Brook and Lake)*	Mild	Unlikely	Very Low	No continuous water body recorded within the Made Ground to act as a pathway to the underlying Secondary Undifferentiated aquifer. In addition, no continuous groundwater body recoded in the Glacial Till. Cohesive horizons within the Made Ground and underlying Glacial Till are considered to limit potential contaminant migration. Where proposed, buildings and hardstanding will also limit infiltration and leaching potential. In addition, Baguley Brook is predominantly culverted which will act as a barrier to contaminant migration into the water body. The lake is located 1km from the site.
Organic/ inorganic contaminants within underlying shallow aquifer (Glacial Till)	Direct/indirect ingestion of contaminated groundwater	Construction workers	Medium	Low likelihood	Moderate/Low	No continuous water body recorded within the Glacial Till. Should localised shallow groundwater be encountered by construction workers, use of appropriate PPE will mitigate risks to receptors. Future site users and off-site residents are unlikely to come into contact with groundwater due to formal landscaping and buildings/hardstanding across the site.
		Future site users	Medium	Unlikely	Low	
		Off-site residents	Medium	Unlikely	Low	
	Inhalation of vapours	Future site users	Medium	Unlikely	Low	No continuous water body recorded within the Glacial Till. In addition, generally low hydrocarbon concentrations recorded within Made Ground soils.
	Direct contact with underground structures	Buildings and structures	Mild	Likely	Moderate/Low	Buried concrete to be designed as appropriate for ground conditions.
	Vertical and lateral migration, pathways created during construction activities	Secondary B aquifer (*Bollin Mudstone Member*)	Medium	Unlikely	Low	No exceedances against the DWV recorded in the groundwater sample obtained from the bedrock aquifer, and no continuous water body recorded within the Glacial Till to act as a pathway for contaminant migration into underlying aquifer. Cohesive horizons within the Glacial Till are considered to limit potential contaminant migration. Where proposed, buildings and hardstanding will also limit infiltration and leaching potential.
	Lateral migration	Local surface water bodies (pond)	Mild	Unlikely	Very Low	No continuous water body recorded within the Glacial Till. Cohesive horizons within the Glacial Till are considered to limit potential contaminant migration. Where proposed, buildings and hardstanding will also limit infiltration and leaching potential. Minor exceedances of cadmium, zinc and fluoranthene are recoded against the EQS; however, the nearest surface water bodies to the site are the predominantly culverted Baguley Brook approximately 600m west of the site and a lake approximately 1km southwest of the site, where the distance from the site and the culverted nature of the brook afford protection to the water bodies.

11. Preliminary Geoenvironmental Recommendations

11.1. Introduction

Preliminary geoenvironmental recommendations for the proposed development of the site are outlined in the following sections based on the information obtained during the preliminary site investigation and revised qualitative risk assessment.

Further site investigation(s) will be required to be undertaken to provide further information to inform the assessment of risks to human health, controlled waters and ground gas regime, as well as obtain information on the deeper geology across the site to inform the detailed design of the proposed development. **It is noted that the above assessments and following recommendations are based on the findings of the preliminary investigation only, and the below recommendations should be reviewed following completion of the further site investigation works, and updated where necessary.**

Following completion of the supplementary site investigation(s), it is recommended that a remediation strategy and verification plan are produced to outline the remediation requirements for the site in consideration of the recommendations outlined in the following sections and how they will be verified. Following completion of the remediation works by the Contractor, a verification report should be produced to confirm that the remediation works have been completed in accordance with the remediation strategy.

11.2. Watching Brief and Discovery Strategy

It is recommended that a watching brief is carried out by the Contractor during the enabling works, earthworks and construction works. Should areas of unexpected contamination, including asbestos, be encountered or suspected, a qualified geoenvironmental engineer should be informed, and the risk associated with the contamination assessed.

An appropriate remediation strategy should be devised and implemented for the unexpected contamination where necessary, and the regulators should be informed of additional areas of contamination identified. The regulators should be provided with the risk assessment and proposed remediation methodology for agreement before undertaking the remedial works. The methodology should include appropriate verification works to be completed.

11.3. Potential Hotspot Delineation and Removal

As outlined in Section 10.2, an elevated concentration of beryllium was recorded within borehole WS19A at 0.50mbgl. It is currently not possible to advise whether the elevated concentration represents a hotspot of contamination given the limited data set available for assessment and therefore a clean capping layer will be required in areas of proposed soft landscaping to mitigate the risks to future site users (see Section 11.7). Alternatively, it may be possible to demonstrate through further site investigation and chemical assessment that the elevated concentration is a hotspot of contamination, and it may be possible to excavate the impacted Made Ground as a hotspot.

11.4. Borehole Decommissioning

It is recommended that the existing monitoring wells are decommissioned prior to commencement of significant groundworks in accordance with EA good practice guidance[21].

11.5. Ground Gas Protection Measures

Ground gas protection measures are unlikely to be required based on the results of preliminary ground gas assessment, which indicate a CS1 ground gas regime.

11.6. Radon Protection Measures

Requirements with respect to radon measures are set out in Building Regulations Approved Document C. Probability bandings (based on the proportion of properties in a given area that exceed the Action Level; currently 200 $Bq.m^3$) are used to determine whether a property requires no, basic or full measures. At present, Approved Document C advocates basic measures for the probability banding 3% to 10% (full measures if >10%). However, Public Health England would like to see all new builds include basic measures.

Information the Public Health England UK radon map[22] which indicates that the site lies in an area where less than 1% of homes are estimated to be at or above the action level. As such, radon protection measures are not considered necessary within the future development of the site.

11.7. Clean Cover System / Growth Medium

Based on the findings of the preliminary soil contamination assessment and in consideration of Section 11.3, a clean cover system will be required to mitigate the potential risks to human health. To comply with BRE 465[23], the clean cover

[21] Environment Agency (2012) Good practice for decommissioning redundant boreholes and wells.

[22] Public Health England UK radon map, www.ukradon.org/information/ukmaps

[23] BRE (2004) Cover systems for land regeneration - thickness design of cover systems for contaminated land. BRE 465

system for the areas of soft landscaping will need to comprise:

- 450mm imported soil (with a minimum of 150mm topsoil (including 50mm turf/sod) over a geotextile membrane; or
- 600mm imported soil (with a minimum of 150mm topsoil (including 50mm turf/sod).

The material imported to form the clean cover system should be clean imported soil from a known and reputable source and meet the chemical criteria for human health with respect to the residential (without home grown produce consumption) end use of the site. Imported topsoil should also meet the requirements of BS 3882[24] and subsoil the requirements for BS 8601[25]. The material should be free from propagules of aggressive weeds, free from obvious signs of contamination e.g. staining, free phase hydrocarbon, coal, non-odorous such that it could be considered a statutory nuisance and free from unsuitable material/foreign bodies e.g. brick, glass, pipework.

It is noted that where soils are imported to form a growth medium only i.e. placement in planters or where no Made Ground remains at formation level, a minimum thickness is not required from a clean cover system perspective. The thickness of the growth medium would be determined by the project horticulturalist.

11.8. Material Management

The Contractor should be responsible for the material management and waste classification at the site and the "waste hierarchy" should be used to rank waste management options according to what is best for the environment. Top priority should be given to preventing waste in the first place, for example, during the pre-construction and planning stages of a new development. However, if waste is created, priority should be given to preparing it for re-use, then recycling, then recovery, and last of all, disposal.

Based on the results of the preliminary Civic Earth assessment, it is considered that the Made Ground material excavated could be re-used on site below the clean cover system or hardstanding, subject to final finish levels, under the CL:AIRE Department of Waste Code of Practice (herein referred to as the CL:AIRE protocol) [26]. The CL:AIRE protocol would require a Material Management Plan (MMP) to be produced which details where materials will arise from and how they will be used within the limits of the Code of Practice. The process would require sign off by a Qualified Person in advance of works commencing and a final validation report to be produced.

It is noted that the CL:AIRE protocol is not applicable to soils that pose harm to human health or the environment and as such, should gross contamination in the Made Ground be encountered during earthworks, this material would unlikely be suitable for re-use and should be selectively excavated and disposed of from site.

Uncontaminated clean, naturally occurring arisings may be re-used within the site under the CL:AIRE protocol or re-used off-site under direct transfer under the CL:AIRE protocol, subject to the status of a waste recovery permit for the site as outlined above. Additionally, screening of uncontaminated (inert) granular soils may permit the re-use of this material on site or off-site under the WRAP protocol , where the protocol sets out end waste criteria for the production and use of aggregates from inert waste; where the criteria are met, the aggregates would typically be regarded as having been fully recovered and ceased to be waste.

If off-site disposal of excavated soils is unavoidable, the Contractor will be responsible for the appropriate classification of the waste.

It is noted that in May/June 2012, HMRC issued Briefs 15/12 and 18/12 clarifying how construction spoil and excess soils will be assessed for landfill tax purposes, and detailed accurate descriptions of waste are required for all wastes to support the landfill tax assessment. Uncontaminated naturally occurring soils will remain inert by default and eligible for the lower rate of landfill tax and similarly, 'reworked soils' and demolition 'stone' comprising only materials listed in the Schedule of the Landfill Tax (Qualifying Material) Order 2011 (SI 2011/1017) would also be eligible for the lower rate of landfill tax. Made Ground containing soil and foreign objects such as timber, plastic, rubber, metal, paper, plasterboard, asbestos, etc., regardless of the results of chemical analysis for waste classification purposes, will be eligible for the standard (higher) rate of landfill tax. Therefore, to maximise eligibility for lower rate landfill tax on waste construction spoil/ reworked ground, careful waste segregation and controls are recommended necessary.

All material intended for off-site disposal should be transported and disposed in accordance with the Environmental Protection (Duty of Care) Regulations 1991 and the Landfill (England and Wales) Regulations 2002 (as amended). Waste legislation stipulates that hazardous and non-hazardous waste should be pre-treated prior to disposal and pre-treatment can be undertaken either at the site of origin or may be carried out at a licensed off-site facility and can include selective segregation of soils conducted on site.

11.9. Mitigation of Risks to Controlled Waters during Construction Works

It is recommended that measures are undertaken to mitigate the potential impact to controlled waters during construction works where contaminants in the underlying soils may be mobilised to a greater extent that naturally occurs. The

[24] British Standards (2015) Specification for Topsoil and Requirements for Use. BS3882:2015

[25] British Standards Institute (2013) Specification for Subsoil. BS8601:2013.

[26] CL: AIRE (2011). The Definition of Waste: Development Industry Code of Practice. Version 2

construction works should be undertaken in line with CIRIA 741[27].

The risk to controlled water from foundation activities i.e. piling are considered to be low assuming appropriate piling techniques are adopted.

Excavated soil should be appropriately stored with preventative measures against surface water infiltration/leaching or nuisance odours to protect the environment and human health during temporary storage on site. This could take the form of a lined and covered storage bund using an appropriate material (e.g. polyethylene), positioned away from sensitive locations. Handling and storage protocols for potentially contaminated soils should be documented by the Contractor. Appropriate storage of all hazardous liquids, chemicals and materials where materials are to be stored in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations.

11.10. Buried Water Supply Pipes

Based on the results of our initial assessment, it is anticipated that standard PE pipes may be suitable for use for new buried water supply pipes. Completion of a United Utilities Risk Assessment including sampling of soils at depth and location of proposed water supply pipes will be required.

11.11. Health, Safety and Environmental Controls

It is recommended that precautions are taken to minimise exposure of workers and the general public to potentially harmful substances, including asbestos, during earthworks. The risks to contractors should be controlled through the implementation of site safety procedures and the use of suitable personal protective equipment (PPE). Attention should also be paid to restricting possible off-site nuisance such as dust and odour emissions. All site works should be undertaken in accordance with the guidelines prepared by the Health and Safety Executive and all work should also be carried out in accordance with the Contractor's Construction Health and Safety Plan.

Excavations should be planned and inspected regularly by a competent person and no operatives should be permitted to enter un-shored or otherwise protected excavations identified as unstable by a competent person, however shallow they may be. The stockpiled material and excavations should be dampened during all earthworks excavation and earth moving activities and vehicles should be washed before leaving site, with washings contained on site and suitably disposed.

11.11.1. Asbestos

Asbestos was not detected in the Made Ground soil samples analysed as part of the preliminary site investigation; however, there is considered to be the potential for asbestos to be encountered during demolition works and earthworks. Where encountered, asbestos containing materials (ACMs) and asbestos impacted soils will be managed, handled and removed / disposed of in accordance with current regulations and guidance[28,29,30]. ACMs, if encountered, will be segregated by hand picking by a suitably qualified person utilising the appropriate PPE / respiratory protective equipment (RPE) and implementing necessary precautionary measures to minimise exposure to construction workers and general public during earthworks. The Contractor will be responsible for determining whether the works are notifiable or licensable, and for implementing the appropriate procedures.

All site operatives undertaking groundworks will be advised for the potential for ACMs including fibres to be present and will be trained in basic visual recognition of asbestos. Soils being handled should be dampened, taking care that damping is carried out at the appropriate time and with appropriate amounts of water to suppress dust, but not saturate the soils. Soil movement should be minimised and double handling avoided.

Vehicles used in moving contaminated soils will be washed and a wheel wash installed and used before vehicles leave the working area to avoid carrying potential fugitive dust into the surrounding environment. The vehicle washing will be returned to stockpiled material and not be allowed to enter public drains where drying out has the potential to release dusts.

[27] CIRIA (2015) Environmental Good Practice on Site Guide. 4th Edition. CIRIA C741.

[28] HSE (2013) Managing and Working with Asbestos. Control of Asbestos Regulations 2012. 2nd Edition. L143.

[29] HSE (2006) Asbestos: The Licensed Contractors' Guide. 1st Edition. HSG 247.

[30] HSE (2012) Asbestos: The Survey Guide. 2nd Edition. HSG 264.

12. Preliminary Geotechnical Recommendations

Preliminary geotechnical recommendations for the proposed development of the site are outlined in the following sections based on the information obtained during the preliminary site investigation and proposed development scheme. It is noted that the following recommendations are based on the findings of the preliminary investigation only within the north of the site, and further investigations and assessments will be required as the redevelopment proposals are progressed.

12.1. Preliminary Geotechnical Design Parameters

Preliminary geotechnical design parameters are outlined in Table 21. The parameters provided are moderately conservative, serviceability limit state and considered appropriate for shallow foundation, retaining walls (gravity/embedded), earthworks (settlement/consolidation) and infrastructure (roads/ aprons) design.

Table 21: Geotechnical Design Parameters

Stratum	Bulk Unit Weight γ_b (kN/m^3)	Undrained Shear Strength c_u (kPa) [c']	Unconfirmed Compressive Strength (MPa)	Friction Angle ϕ (°)	Young's Modulus, Eu (MPa) [E']
Made Ground (Granular)	17	-	-	30[a]	[10]
Glacial Till	19	60 [5]	-	30[b]	36[c] [16.2][d]
Bollin Mudstone Member	20	-	3.0	-	-

Notes:

a. Peck, R.B., Hanson, W.E., and Thornburn, T.H., Foundation Engineering, 2nd Edition, John Wiley, New York, 1967, p.310
b. BS 8002:2015 Code of Practice for Earth Retaining Structures, British Standards Institution
c. Based on 600c_u – Bawnes G.E. (2016) Soil Mechanics Principles and Practice
d. Based on 270c_u – Bawnes G.E. (2016) Soil Mechanics Principles and Practice

12.2. Foundation Design

At this stage, detailed information on the proposed foundations, formation levels and/or loadings is not available; however, it is considered likely that formation level is likely to be within the Made Ground across the majority of the site. Given the variable thickness and composition of the Made Ground and the proposed height of the new structures (i.e. multi-storey), it is considered likely that a piled foundation solution will be required. It is assumed that piles would be socketed approximately 5m into the competent bedrock, noting the upper horizon of the bedrock is highly weathered and the bedrock is generally fractured.

Pile design should be undertaken by, and remain the sole responsibility of, a specialist piling contractor who will determine the most appropriate and cost-effective pile type based on their own interpretation of the site investigation data, their own installation techniques, and experience of piling in similar ground conditions. For all piling operations the design, construction, and maintenance of a working platform in accordance with guidance presented in BRE 470 "Working platforms for tracked plant" (2004) will be required.

12.3. Floor Slabs and Pavement Design

It is considered that roads and pavement will be founded likely onto the Made Ground or Glacial Till, depending on formation levels. It is recommended that pavements and roadways founded on the Made Ground or superficial deposits are designed to a conservative California Bearing Ratio (CBR) value of 2.5%. This value could potentially increase following in-situ testing of formation soil levels. It is recommended that formation level should be compacted and soft sports (<2.5%) removed. All pavements should be designed and compacted and verified in accordance with MCHW Series 600[31].

Floor slab design will need to take account of the potential variability in ground conditions at the formation level, and suspended slabs will need to be utilised where there is insufficient bearing capacity or potential for an unacceptable level of differential settlement. Where floor slabs are founded onto granular deposits, ground bearing slabs may be utilised although the potential for differential settlement where floor slabs span multiple strata will need to be considered.

12.4. Excavation Works

Based on the ground conditions encountered, excavations required during the development should not pose difficulties for conventional excavators or earth moving equipment. However, shallow excavations may be unstable during groundworks due to the unpredictable nature of its composition and strength.

Groundwater control, if required, may be achieved with shallow excavations by adopting a sump pumping systems

[31] Highways England (2016) manual of Contract Documents for Highway Works, Series 600 (Earthworks), MCHW Series 600

around the perimeter of the excavation as well appropriate temporary supports such as trench boxes/trench sheets. This should be confirmed by the contractor and temporary works designer on initial excavation. Excavaction below the level of the Secondary Undifferentiated aquifer is not currently anticipated; however if required, more significant groundwater control measures are likely to be required.

Excavations should be suitably shored or otherwise supported or battered and should be inspected regularly by a competent person. No operatives should enter un-shored or otherwise protected excavations identified as unstable by a competent person, however shallow they are, in accordance with the guidance presented in CIRIA Report[32],

12.5. Buried Concrete Design

Preliminary Design Sulphate (DS) and Aggressive Chemical Environmental for Concrete (ACEC) classes for the Glacial Till are summarised in Table 22, based on the results of the chemical sulphate and pH testing[33]

Table 22: Summary of DS and ACEC Classes

Stratum	WSS DS Class	WSS ACEC Class	TPS DS Class	TPS ACEC Class
Glacial Till	DS-1	AC-1	DS-1	AC-1

12.6. Buried Infrastructure

Consideration should be given to existing buried infrastructure within the site and if buried infrastructure is to be retained, ground movement analysis and/or impact assessments may be required. Consideration should also be given to the potential for differential settlement where new services are to be located within areas of cut and fill and pass between Made Ground and natural soils. This could include measures such as designing services to greater falls, including flexible joints and piling of manholes.

12.7. Buried Obstructions and Voids

There is potential for encountering buried obstructions at the site due to the site's development history. Obstructions may include former basements, foundations, walls, utilities and Made Ground containing demolition rubble and large boulder sized obstructions of concrete and brick. Whilst no evidence of voids was encountered during the site investigations, there is potential for voids to be present within the ground, for example small voids associated with uncontrolled / un-engineered backfill of historical basements. Voids may present a risk to shallow foundations and a watching brief for these features is recommended during earthworks and construction works.

12.8. Earthworks

An Earthworks Specification should be produced in accordance with the Specification for Highway Works[34] and an MMP will be required to set out the on-site movement of soils for earthworks operations.

[32] CIRIA (1992) Trenching Practice (Second Edition). Construction Industry Research and Information Association Report 97.

[33] BRE (2005) Concrete in Aggressive Ground. BRE Special Digest 1:2005

[34] Manual of Contract Document for Highway Works (MCHW) Specification for Highway Works. Amendment November 2006.

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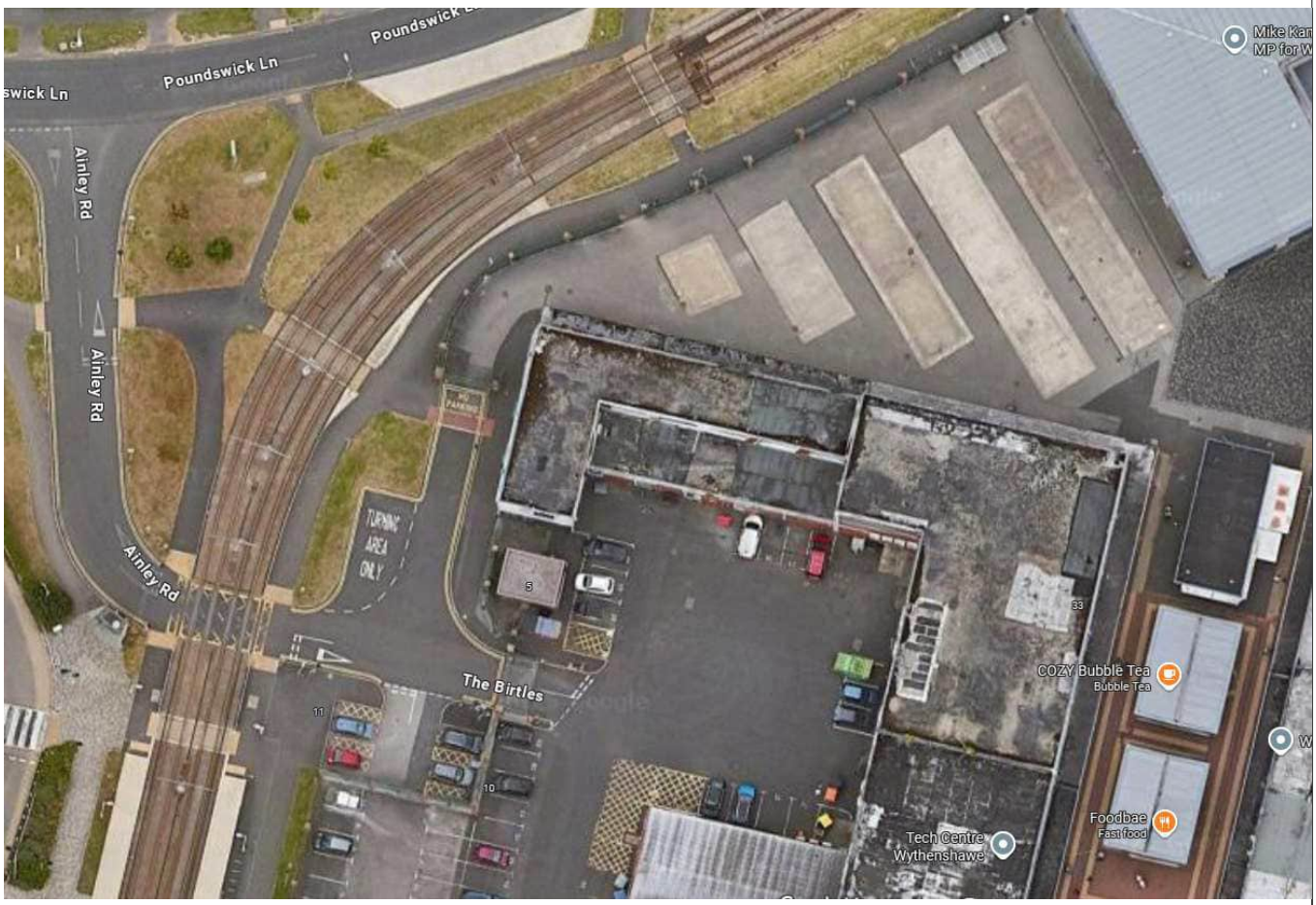
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Appendix A – Site Walkover Survey

Project Name:			
Address:	11 The Birtles, Civic Centre, Wythenshawe, Manchester M22 5RE	Job Number:	51143/01
Date:	14/07/2025	Engineer:	JF
Weather:	Light wind, light cloud, sunny		

Site Layout Plan



Site Access

Pedestrian Access	Pedestrian access available site wide from Poundswick Lane, Ainley Road and Wythenshawe Civic Centre.
Vehicular Access	Access from Ainley Road.
Parking Arrangements	Parking available in contractor parking bays behind retail units on The Birtles.
Restrictions	ANPR for parking, locked gate into market area to the north, access to both provided by Savills (owner). Proximity to Metrolink to be considered.

Access for Site Investigation (Drilling Rigs, Excavators etc.)	Generally level hardstanding and roads which are accessible, just need permissions from Savills.
Surface Covering	
Type of Cover	Tarmacadam, concrete and brick hardstanding.
Quality of Cover	Good condition.
Evidence of Existing Boreholes	None observed.
Topography	
Flat / Sloping / Stepped etc.	Slight gradient towards drainage in centre of service yard/carpark. Slightly stepped where concrete slabs for market stalls and kerbs exist. Remainder of the site is flat.
Evidence of Subsistence	None observed.
Significant Slopes	None observed.
Local Depressions	None observed.
Vegetation	
Trees (Type & Estimated Height)	None observed within site boundary. Some outside of site boundary along Metrolink, between approx. 6-10m high, deciduous.
Other Vegetation	None observed.
Japanese Knotweed	None observed. However, a survey of the site should be undertaken by specialist invasive plant contractors.
Giant Hogweed	None observed. However, a survey of the site should be undertaken by specialist invasive plant contractors.
Himalayan Balsam	None observed. However, a survey of the site should be undertaken by specialist invasive plant contractors.
Signs of Stressed Vegetation / Poor Growth / Disease	None observed.
Services	
Location and Details of Manhole Covers, Wells, Marker Pegs	Various manhole covers within service yard and market area, some marked for water, some BT, drainage. Markers on the rear of units within service yard for gas and on substation building. Visible foul water drainage and electricity entering buildings via rear external wall.
Utility Scar Features	Multiple across service yard and market area running both into and around buildings.
Overhead Services	None observed. Outside of site boundary overhead lines are present for the Metrolink.

Water Supply	Around rear of buildings, presumably entering the site from Ainley Rd. Also, some United Utility works ongoing in northwest corner of the market area.
Buildings and Structures	
Number, Height, Construction Material, Roof Construction Material	Single storey brick building housing substation. Main buildings are 3 storey reinforced concrete and brick, flat roof. Glass windows, metal shutters on ground floor. Potential for ACM internally.
Current Uses	Mostly retail, electronics repairs, takeaways, solicitors, some units empty.
Evidence of Subsistence / Cracking / Water Damage	None observed.
Presence of Potential Asbestos Containing Material (ACM)	None observed, but potential for these internally.
Existing Foundations	Likely reinforced concrete slab but may have footings.
Existing Basements / Cellars	Unknown.
Surface Water and Groundwater	
Evidence of Flooding	None observed.
Evidence of High Water Table	None observed.
Rivers, Springs, Wells, Ponds, Ditches, Streams (incl. Flow Direction and Size)	None observed.
Potential Sources of Contamination	
Fly Tipped Material	None observed.
Evidence of Filled Ground	Potential for made ground under market area and carpark to create both flat and slightly graded ground.
Evidence of Tanks (USTs, ASTs, Interceptors, Pipework) incl. Fuel Spillages	None observed.
Stored Substances	None observed.
Electricity Substations	Substation in service yard.
Other Identified Potential Sources	None observed.
Surrounding Land Use	
Residential / Commercial / Industrial incl. Type of Industry / Commercial Activity	Residential to the north beyond the Metrolink and Poundswick Lane, commercial to the east and south (shopping centre) and transport to the west.

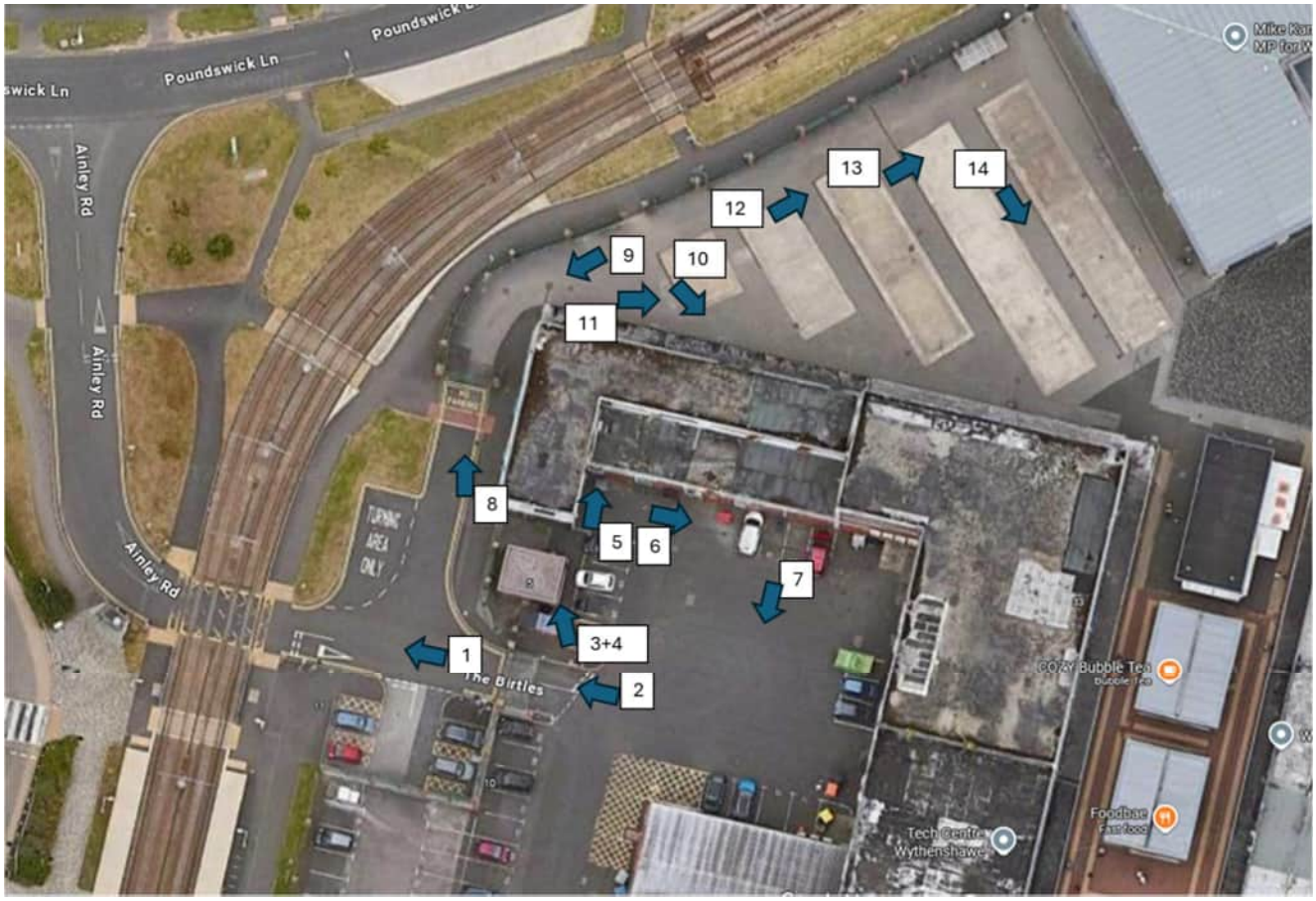
Railways / Viaducts / Bridges	Metrolink track and Wythenshawe Town Centre stop.
Tunnels	None observed.
Other Identified Pertinent Uses	Wythenshawe Town Centre bus station.
Anecdotal Information	
Tenants / Landowners / Client	Walker Sime PM's: Permissions required from Savills, tenants still occupy some of the units.
Neighbours / Locals	N/A
Other Comments	

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Site Walkover Record

Project Name:			
Address:	11 The Birtles, Civic Centre, Wythenshawe, Manchester M22 5RE	Job Number:	51143/01
Date:	14/07/2025	Engineer:	JF
Weather:	Light wind, light cloud, sunny		

Photo Location Plan



Site Photos



1. View facing west showing vehicular entrance to site from Ainley Rd, plus bus station and Metrolink.



2. View facing west showing gated access to service yard.



3. View facing north showing Civic Centre Warehouse substation.



4. Close up of substation information.

Site Photos



5. View facing north of vacant units 4 and 5, unit 3 is occupied. Building only 2 storeys at this location.



6. View facing northeast, northern portion of service yard, 2 and 3 storey sections of building shown. Utilities visible entering external wall of building and covers within hardstanding.



7. Facing southeast, southern portion of service yard.



8. Facing north, gated vehicular access into market area from Ainley Rd.

Site Photos



9. Facing southwest, view showing gated entrance to market, fencing separating the pedestrian area from the Metrolink, Metrolink overhead lines, manhole covers (possibly drainage) and bollards.



10. Facing east, view of shop fronts along northern portion of building. Bollards separate brickwork footpath from market area hardstanding.



11. Facing east, view across the market area, yellow barriers indicate location of United Utilities works.



12. Facing east, view across the market area, yellow barriers indicate location of United Utilities works.

Site Photos

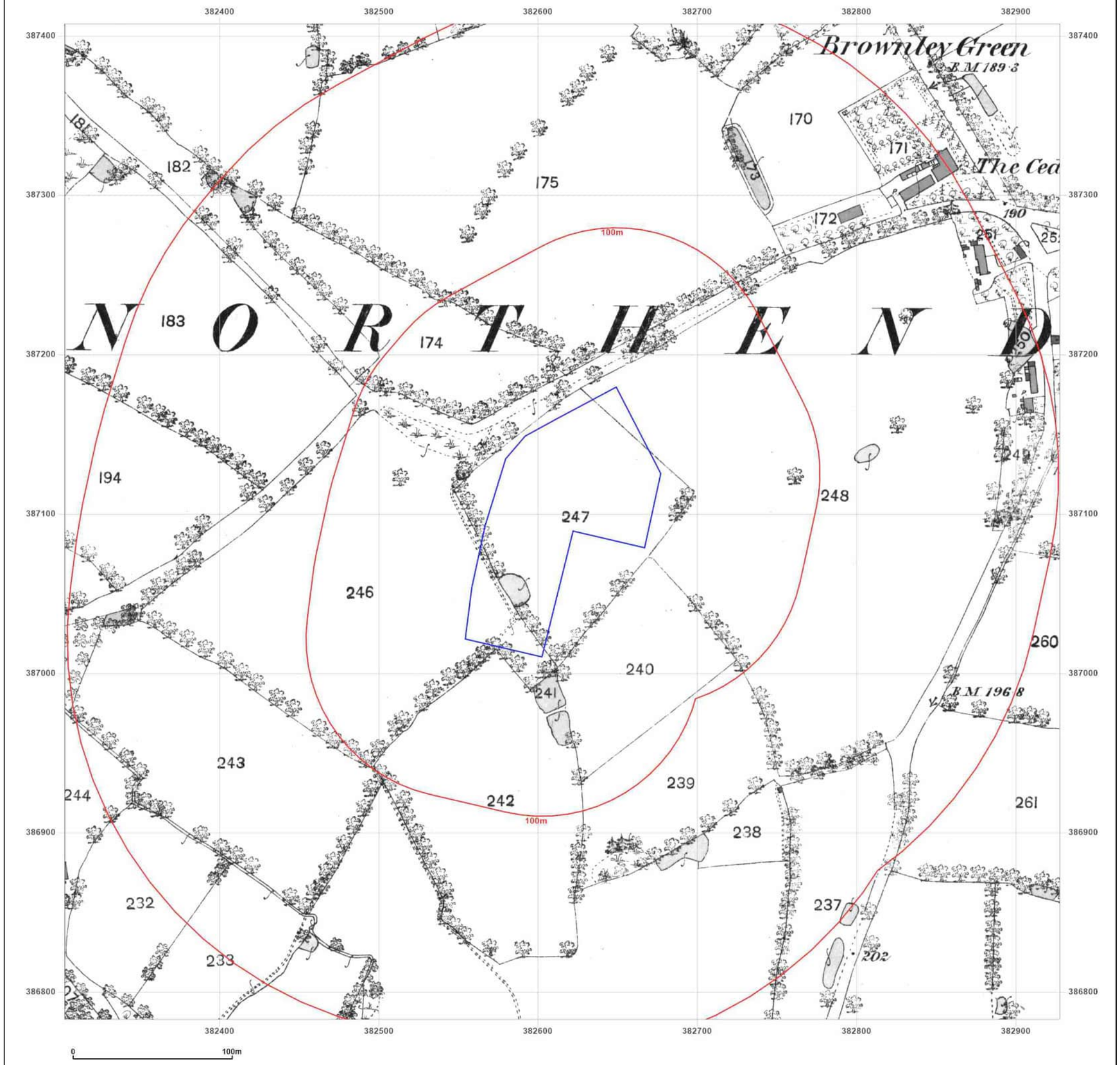


13. Facing east. Close up of united utilities works.



14. Facing southeast, view across concrete hardstanding towards main buildings.

Appendix B – Historical OS Maps



Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1876**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A

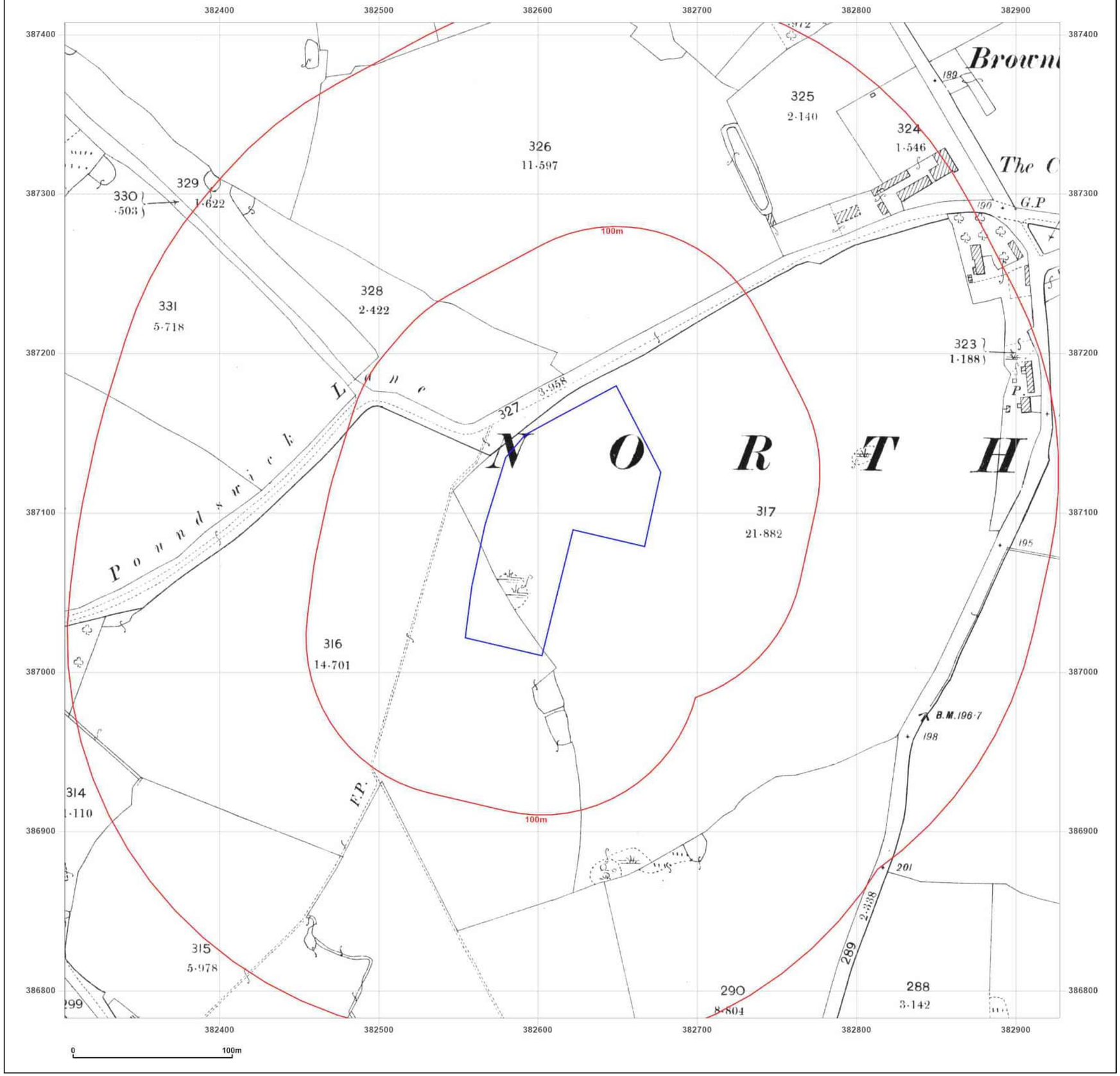
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Production date: 17 October 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series
Map date: **1898**
Scale: 1:2,500
Printed at: 1:2,500

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W E
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Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

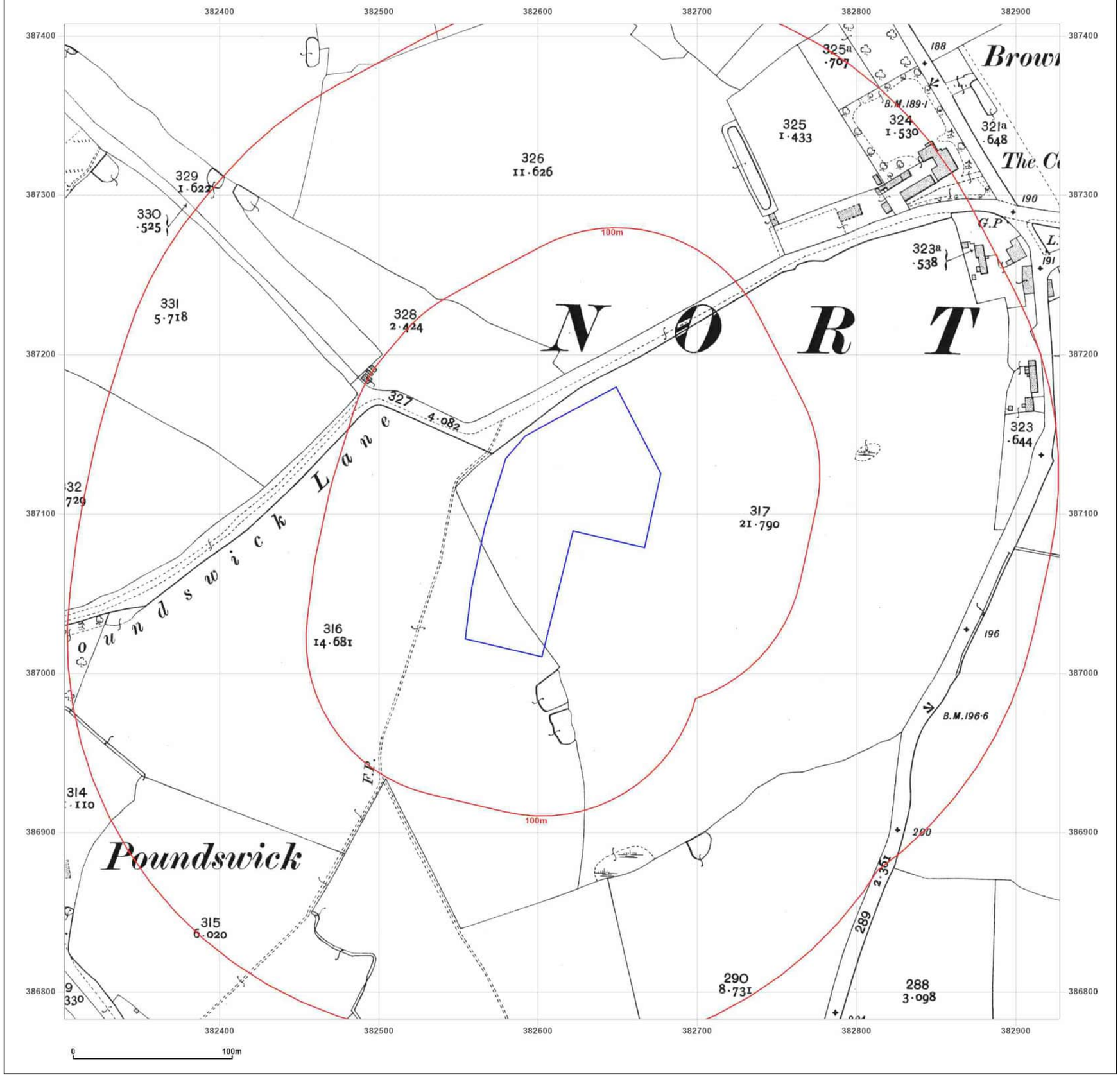
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Production date: 17 October 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1910**

Scale: 1:2,500

Printed at: 1:2,500

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W E
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Surveyed 1910
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 17 October 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1960**

Scale: 1:1,250

Printed at: 1:2,000

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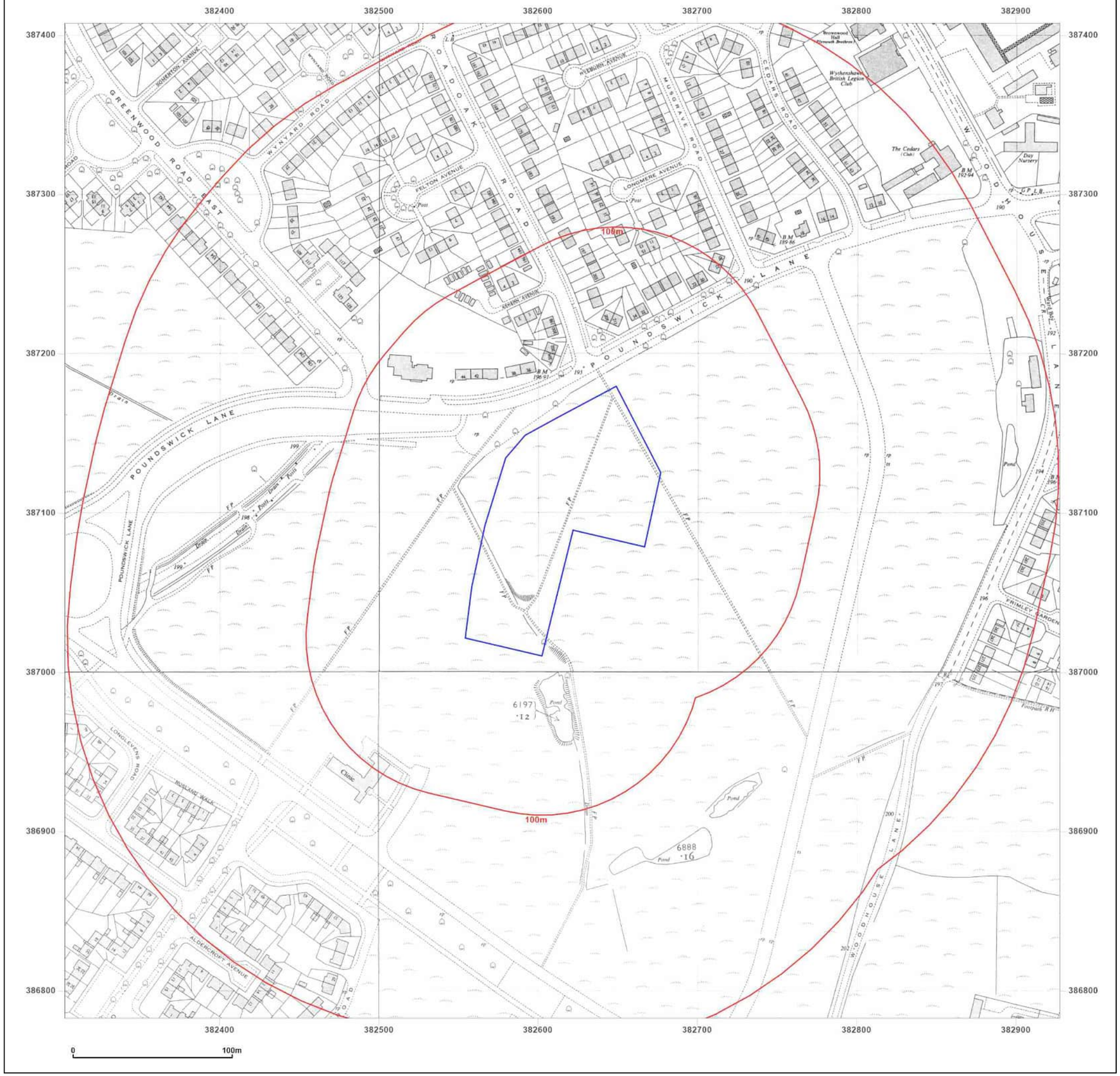
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Production date: 17 October 2025

Map legend available at:
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1960-1961**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1959
Revised 1959
Edition 1960
Copyright 1960
Levelled 1949

Surveyed 1959
Revised 1959
Edition 1961
Copyright 1961
Levelled 1949

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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1971-1975**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

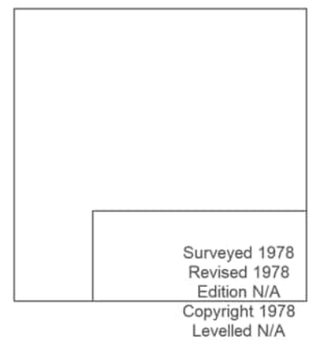
Map Name: National Grid

Map date: **1978**

Scale: 1:1,250

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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1977-1982**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright 1978 Levelled 1959	Surveyed N/A Revised N/A Edition N/A Copyright 1982 Levelled 1959
	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1982-1987**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1959
Revised 1987
Edition N/A
Copyright 1987
Levelled 1959

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1986
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Surveyed 1959
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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1995 Revised 1995 Edition N/A Copyright 1995 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A

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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

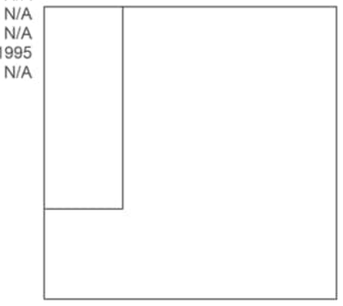
Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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Edition N/A
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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2003

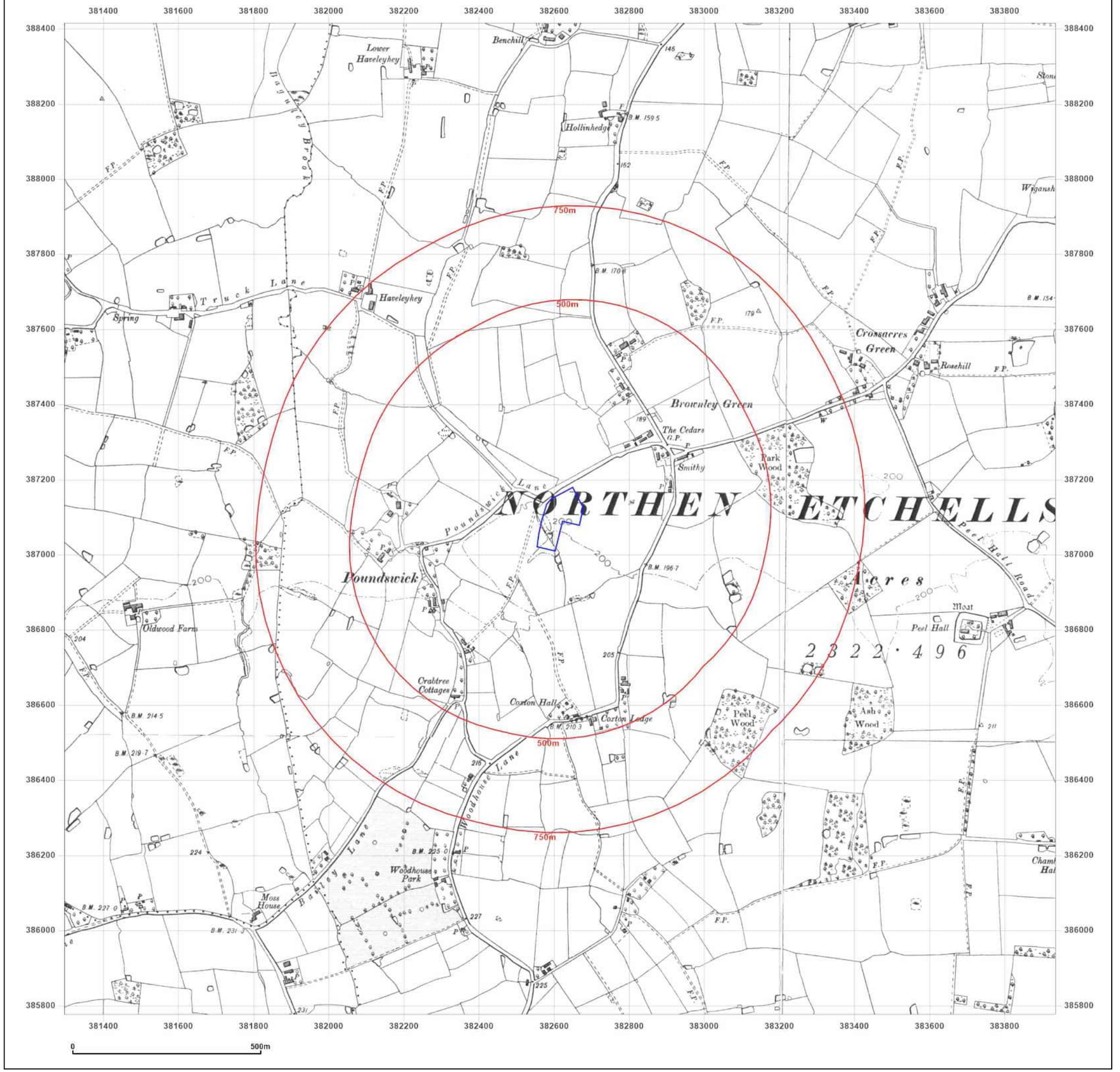
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Production date: 17 October 2025

Map legend available at:
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1897-1899**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1876
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1897
Edition 1899
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

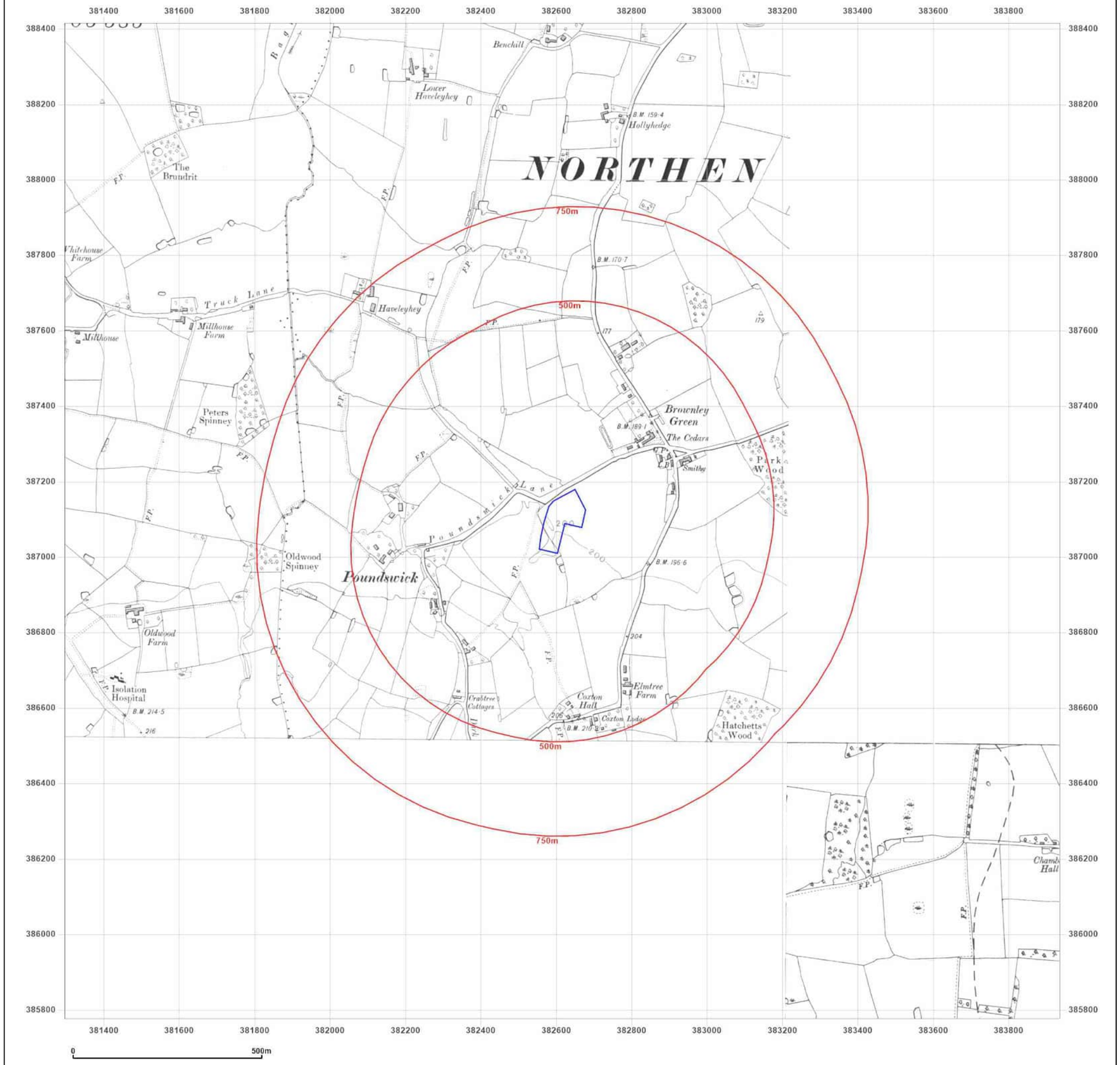
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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1907**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1873
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

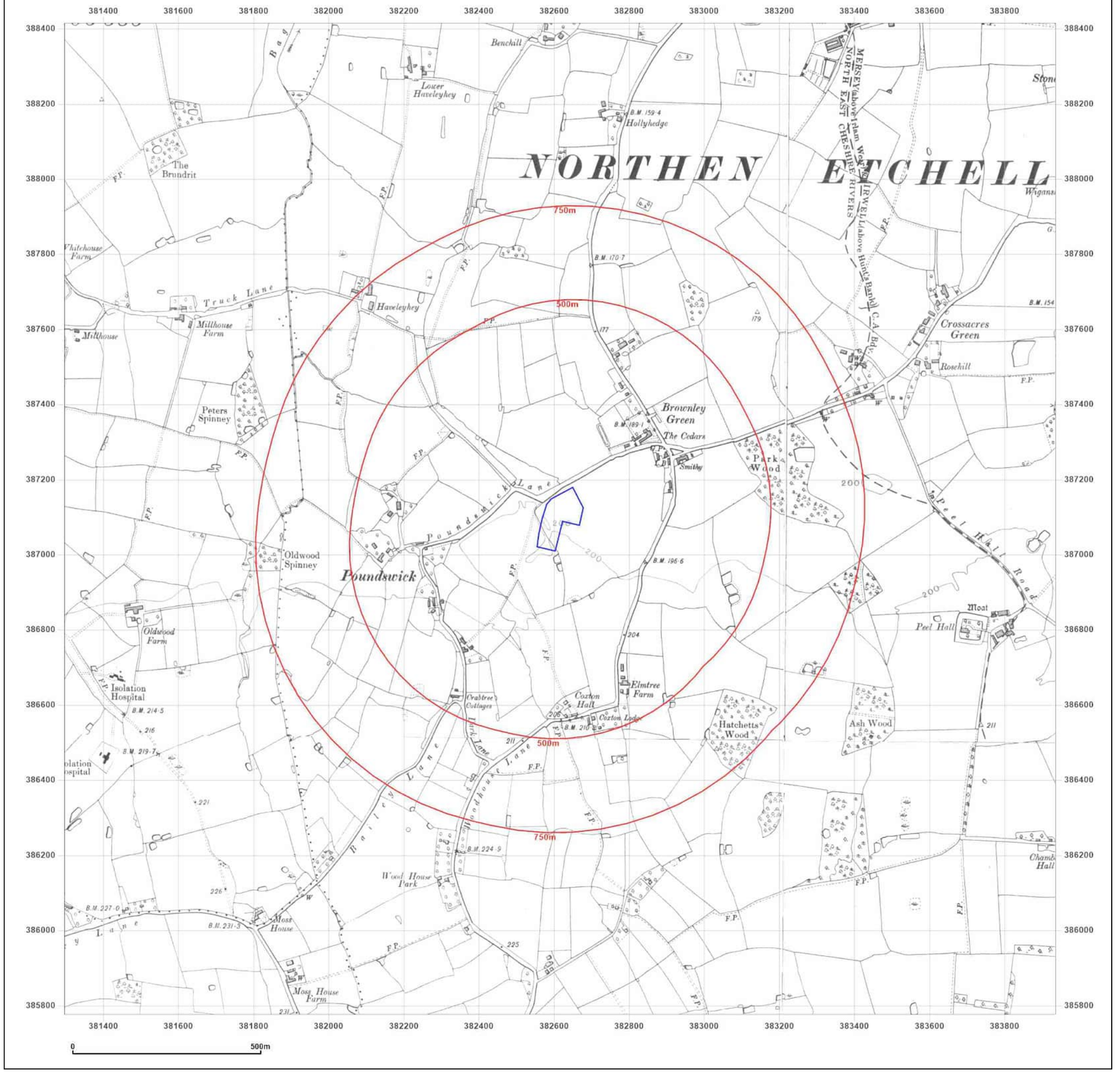
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1907-1910**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1873 Revised 1907 Edition N/A Copyright N/A Levelled N/A	Surveyed 1872 Revised 1908 Edition N/A Copyright N/A Levelled N/A
Surveyed 1874 Revised 1910 Edition 1910 Copyright N/A Levelled N/A	Surveyed 1872 Revised 1907 Edition N/A Copyright N/A Levelled N/A

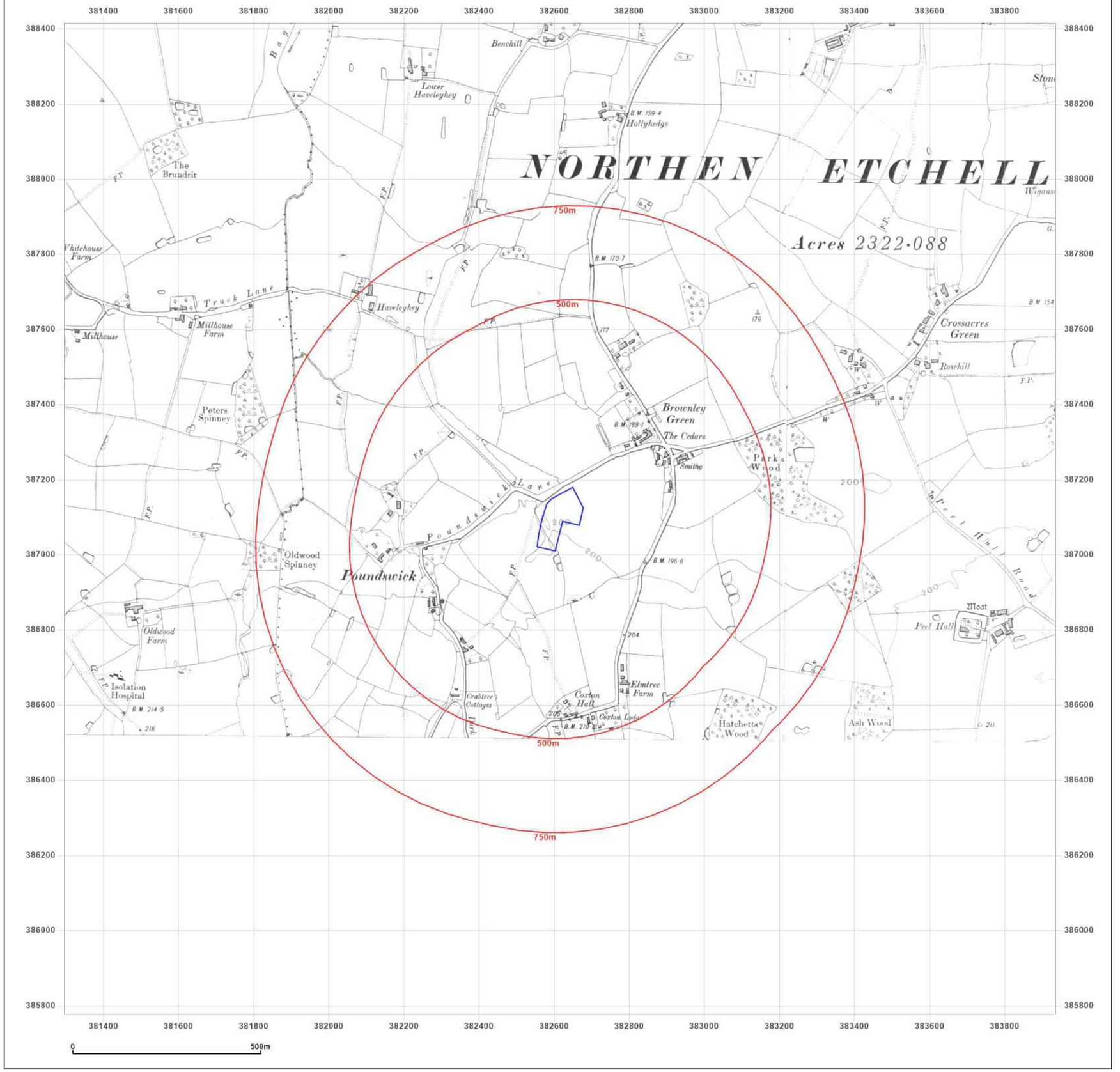
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Site Details:

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Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1907-1911**

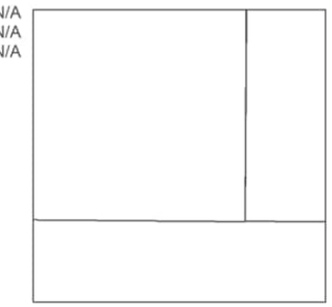
Scale: 1:10,560

Printed at: 1:10,560

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Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1911
Edition 1911
Copyright N/A
Levelled N/A



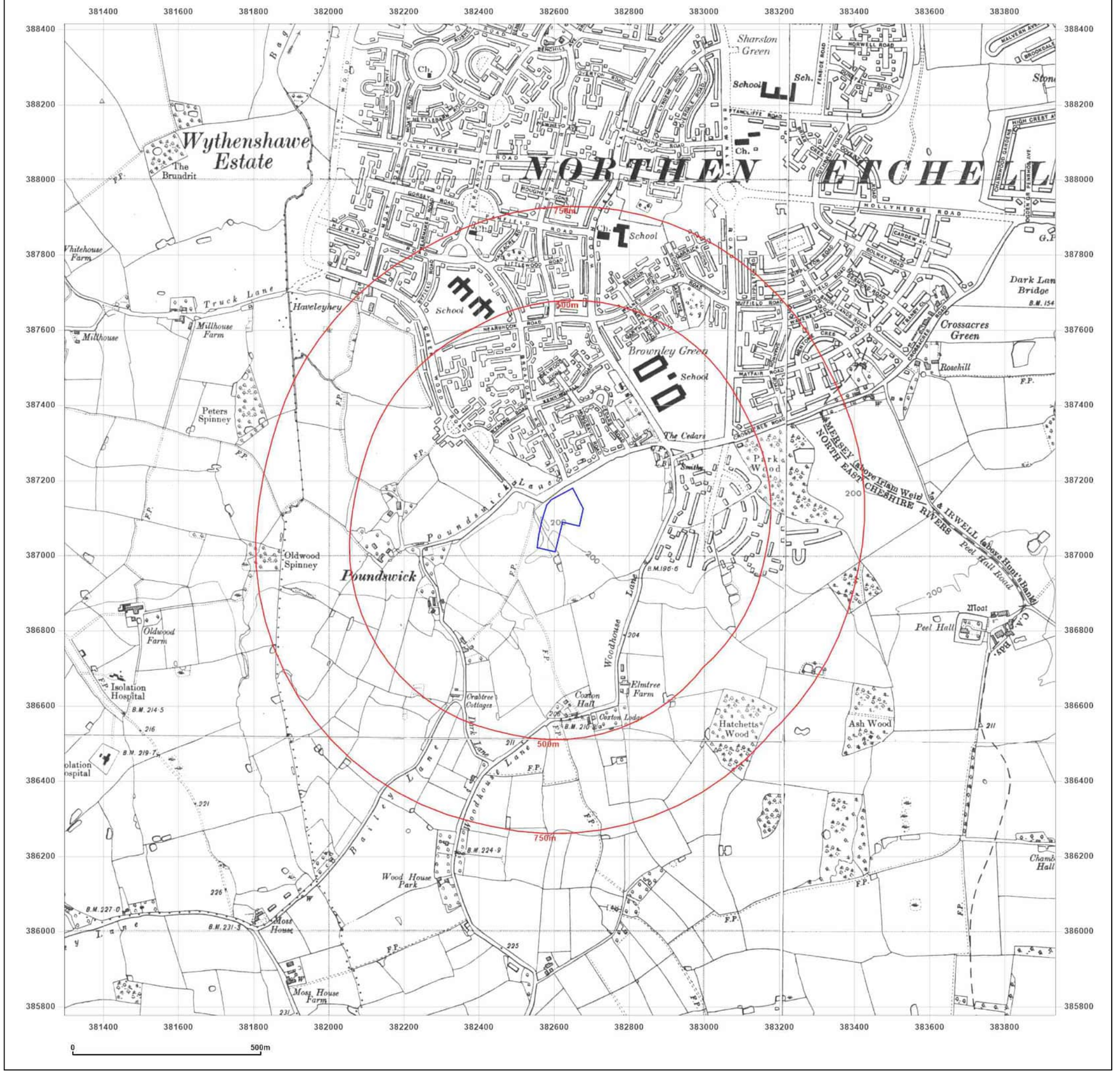
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Edition 1938
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

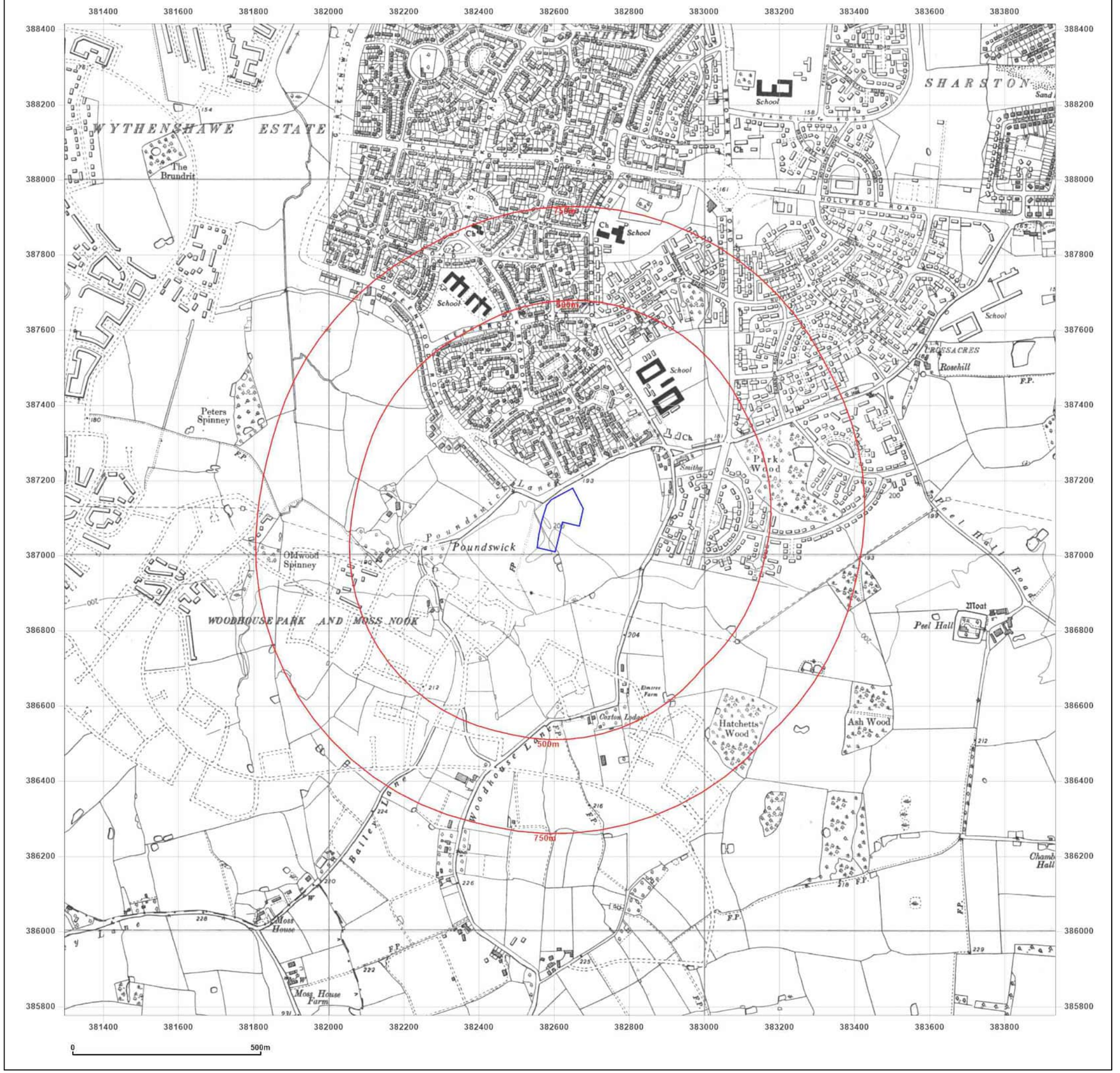
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: Provisional

Map date: **1954**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1949
Revised 1954
Edition N/A
Copyright N/A
Levelled N/A

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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: Provisional

Map date: **1967**

Scale: 1:10,560

Printed at: 1:10,560

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Revised 1967
Edition N/A
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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1977**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1975
Revised 1977
Edition N/A
Copyright 1977
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1989**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1984
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

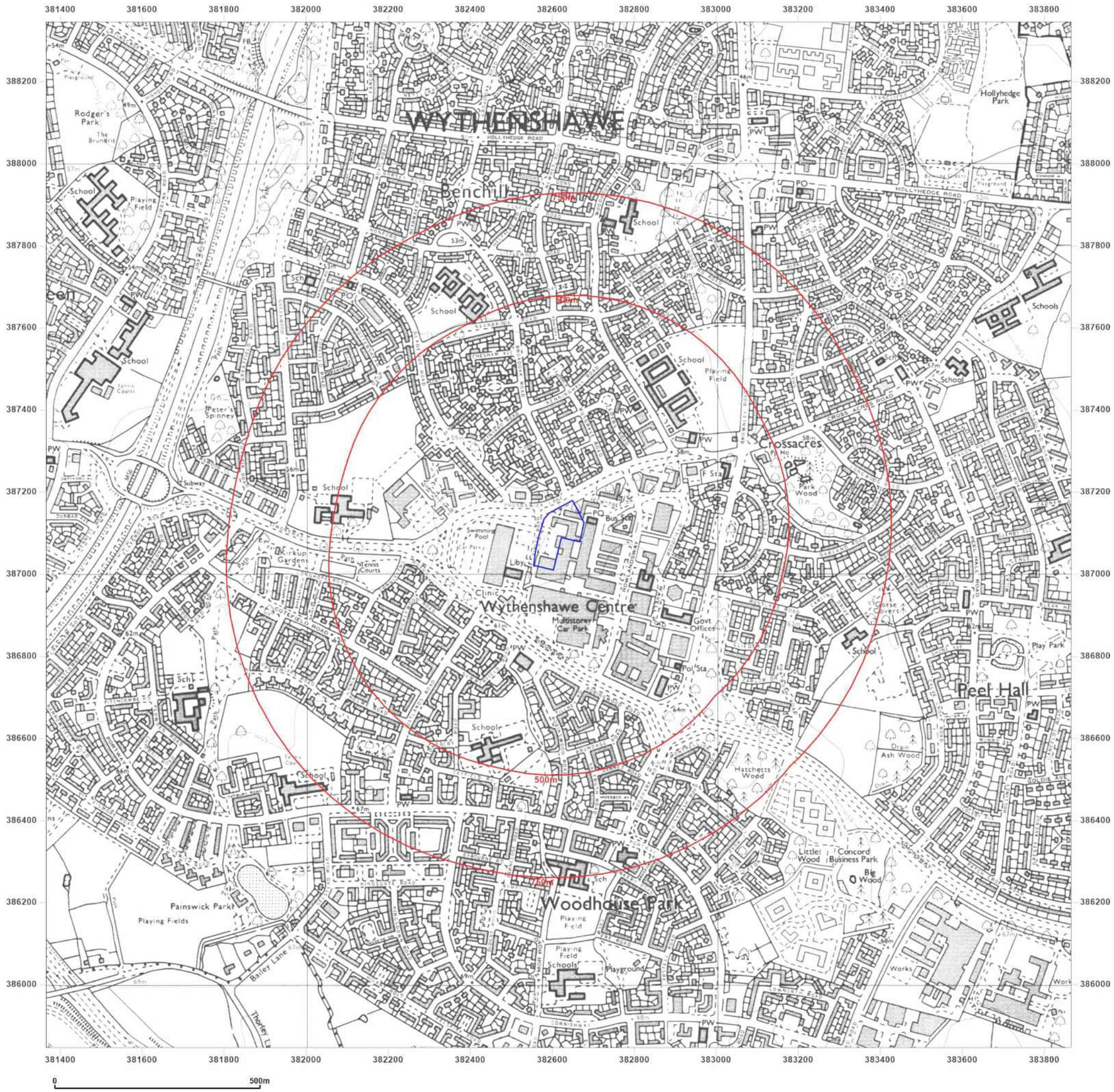
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **1995**

Scale: 1:10,000

Printed at: 1:10,000

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Revised 1995
Edition N/A
Copyright N/A
Levelled N/A

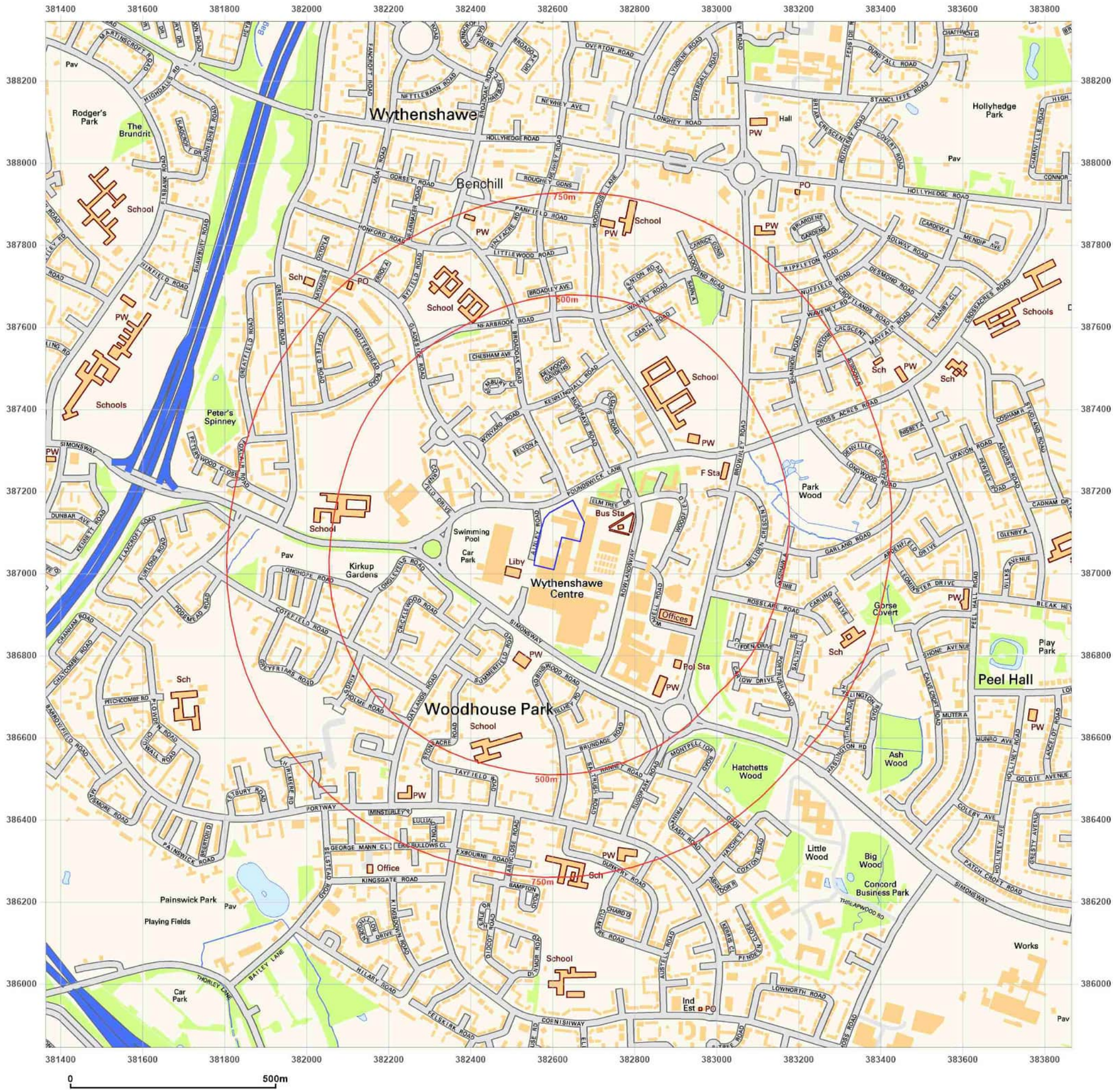
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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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Groundsure INSIGHTS

Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

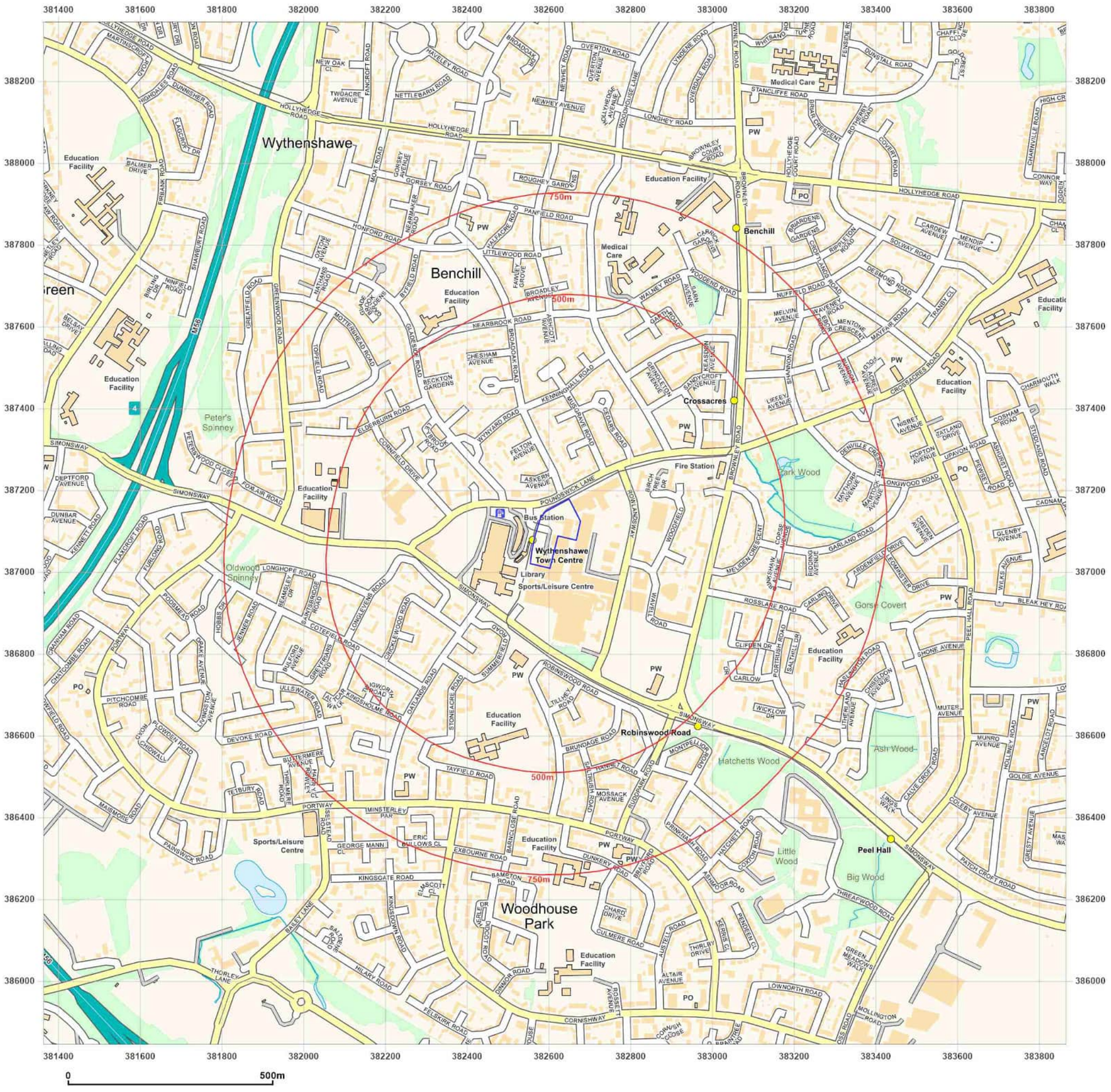
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Site Details:

Area 5, Wythenshawe

Client Ref: 51143-01 Wythenshawe
Report Ref: GS-YO7-QC2-GA3-8S5
Grid Ref: 382615, 387095

Map Name: National Grid

Map date: **2025**

Scale: 1:10,000

Printed at: 1:10,000

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Appendix C – Groundsure Enviro + Geo Insight Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Area 5, Wythenshawe

Order Details

Date: 17/10/2025

Your ref: 51143-01 Wythenshawe

Our Ref: GS-D4V-HMN-BE1-DHO

Site Details

Location: 382612 387098

Area: 1.11 ha

Authority: Manchester City Council ↗



Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

Insight User Guide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	1	0	12	-
16 >	1.2 >	Historical tanks >	0	0	4	0	-
17 >	1.3 >	Historical energy features >	3	0	1	4	-
17	1.4	Historical petrol stations	0	0	0	0	-
18 >	1.5 >	Historical garages >	0	0	2	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	2	0	18	-
20 >	2.2 >	Historical tanks >	0	0	4	0	-
21 >	2.3 >	Historical energy features >	4	0	2	8	-
22	2.4	Historical petrol stations	0	0	0	0	-
22 >	2.5 >	Historical garages >	0	0	3	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	0	4	5	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	3	4	7	-	-
27	4.2	National Geographic Database (NGD) - Current or recent tanks	0	0	0	-	-
28 >	4.3 >	Current or recent petrol stations >	0	0	1	0	-
28	4.4	Electricity cables	0	0	0	0	-
28	4.5	Gas pipelines	0	0	0	0	-

28	4.6	Sites determined as Contaminated Land	0	0	0	0	-
28	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.8	Regulated explosive sites	0	0	0	0	-
29	4.9	Hazardous substance storage/usage	0	0	0	0	-
29	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
29 >	**4.12 >**	**Licensed pollutant release (Part A(2)/B) >**	0	0	1	0	-
30	4.13	Radioactive Substance Authorisations	0	0	0	0	-
30 >	**4.14 >**	**Licensed Discharges to controlled waters >**	0	0	0	1	-
30	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.16	Pollutant release to public sewer	0	0	0	0	-
31	4.17	List 1 Dangerous Substances	0	0	0	0	-
31	4.18	List 2 Dangerous Substances	0	0	0	0	-
31	4.19	Pollution Incidents (EA/NRW)	0	0	0	0	-
31	4.20	Pollution inventory substances	0	0	0	0	-
32	4.21	Pollution inventory waste transfers	0	0	0	0	-
32	4.22	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
33 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
34 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
35 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
36	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	2
38	5.7	Surface water abstractions	0	0	0	0	0
38	5.8	Potable abstractions	0	0	0	0	0
39	5.9	Source Protection Zones	0	0	0	0	-
39	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m

40	6.1	Water Network (OS MasterMap)	0	0	0	-	-
40	6.2	Surface water features	0	0	0	-	-
41 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
41 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
42 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
43	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
43	7.2	Historical Flood Events	0	0	0	-	-
43	7.3	Flood Defences	0	0	0	-	-
44	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
44	7.5	Flood Storage Areas	0	0	0	-	-
45	7.6	Flood Zone 2	None (within 50m)				
45	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
46 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
48 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
49	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
50	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
50	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
50	10.4	Special Protection Areas (SPA)	0	0	0	0	0
50	10.5	National Nature Reserves (NNR)	0	0	0	0	0
51	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
51 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	1
51	10.8	Biosphere Reserves	0	0	0	0	0
51	10.9	Forest Parks	0	0	0	0	0
52	10.10	Marine Conservation Zones	0	0	0	0	0
52 >	10.11 >	Green Belt >	0	0	0	0	3

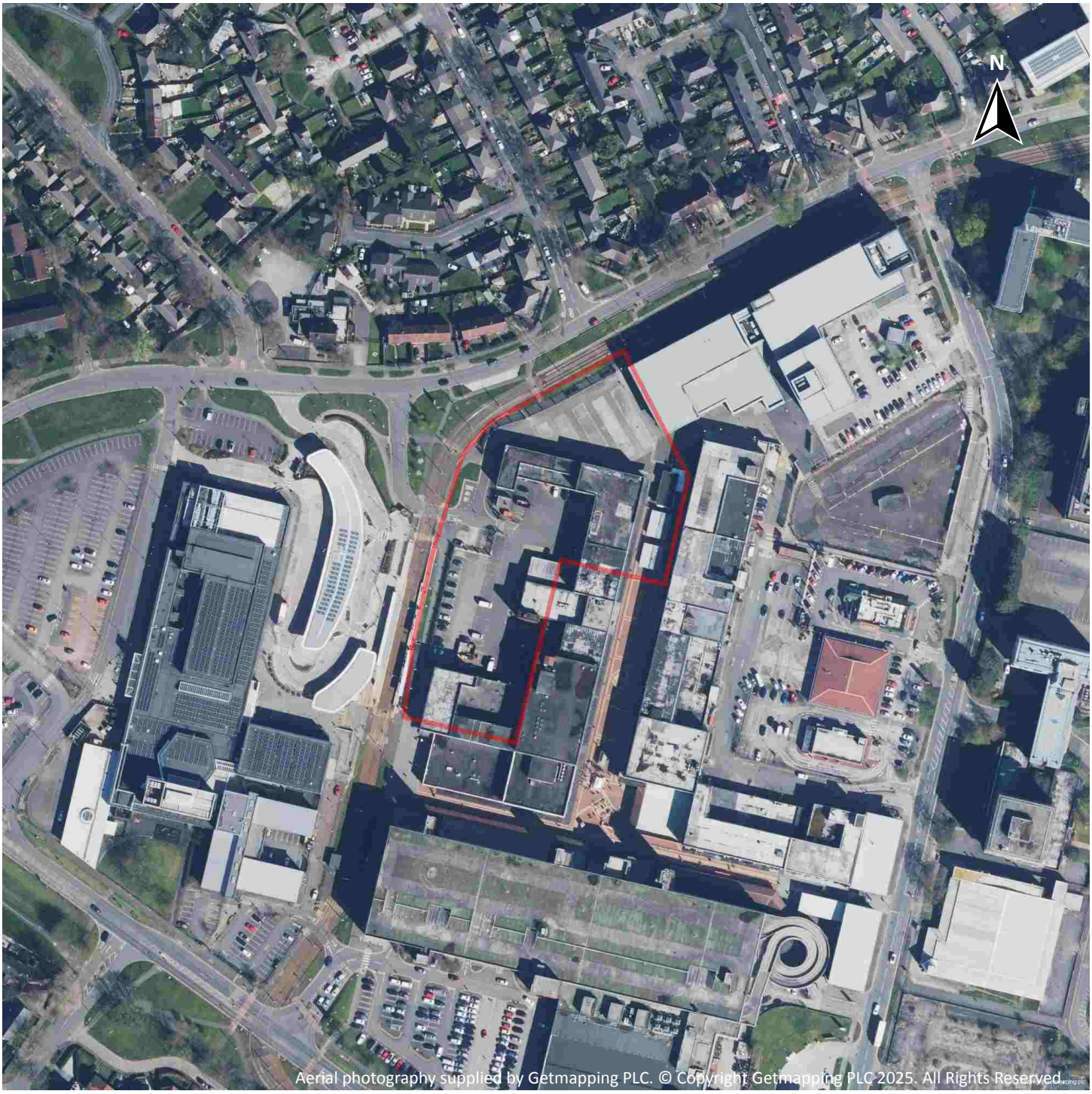
52	10.12	Proposed Ramsar sites	0	0	0	0	0
52	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
53	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
53	10.15	Nitrate Sensitive Areas	0	0	0	0	0
53	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
54	10.17	SSSI Impact Risk Zones	0	-	-	-	-
54	10.18	SSSI Units	0	0	0	0	0
Page	Section	**Visual and cultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
55	11.1	World Heritage Sites	0	0	0	-	-
56	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
56	11.3	National Parks	0	0	0	-	-
56 >	**11.4 >**	**Listed Buildings >**	0	0	1	-	-
57	11.5	Conservation Areas	0	0	0	-	-
57	11.6	Scheduled Ancient Monuments	0	0	0	-	-
57	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
58 >	**12.1 >**	**Agricultural Land Classification >**	Urban (within 250m)				
59	12.2	Open Access Land	0	0	0	-	-
59	12.3	Tree Felling Licences	0	0	0	-	-
59	12.4	Environmental Stewardship Schemes	0	0	0	-	-
59	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
60	13.1	Priority Habitat Inventory	0	0	0	-	-
60	13.2	Habitat Networks	0	0	0	-	-
60	13.3	Open Mosaic Habitat	0	0	0	-	-
60	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
61 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
62	14.2	Artificial and made ground (10k)	0	0	0	0	-

63 >	14.3 >	Superficial geology (10k) >	1	0	0	0	-
64	14.4	Landslip (10k)	0	0	0	0	-
65 >	14.5 >	Bedrock geology (10k) >	1	0	0	0	-
66 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	1	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
67 >	15.1 >	50k Availability >	Identified (within 500m)				
68	15.2	Artificial and made ground (50k)	0	0	0	0	-
68	15.3	Artificial ground permeability (50k)	0	0	-	-	-
69 >	15.4 >	Superficial geology (50k) >	1	0	0	0	-
70 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
70	15.6	Landslip (50k)	0	0	0	0	-
70	15.7	Landslip permeability (50k)	None (within 50m)				
71 >	15.8 >	Bedrock geology (50k) >	1	0	0	0	-
72 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
72 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	1	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	16.1 >	BGS Boreholes >	2	5	8	-	-
Page	Section	Natural ground subsidence >					
75 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
76 >	17.2 >	Running sands >	Very low (within 50m)				
77 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
78 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
79 >	17.5 >	Landslides >	Very low (within 50m)				
80 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
82	18.1	BritPits	0	0	0	0	-
83 >	18.2 >	Surface ground workings >	0	4	3	-	-
83	18.3	Underground workings	0	0	0	0	0
83	18.4	Underground mining extents	0	0	0	0	-

84	18.5	Historical Mineral Planning Areas	0	0	0	0	-
84	18.6	Non-coal mining	0	0	0	0	0
84	18.7	JPB mining areas	None (within 0m)				
84	18.8	The Coal Authority non-coal mining	0	0	0	0	-
85	18.9	Researched mining	0	0	0	0	-
85	18.10	Mining record office plans	0	0	0	0	-
85	18.11	BGS mine plans	0	0	0	0	-
85	18.12	Coal mining	None (within 0m)				
85	18.13	Brine areas	None (within 0m)				
86	18.14	Gypsum areas	None (within 0m)				
86	18.15	Tin mining	None (within 0m)				
86	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
87	19.1	Natural cavities	0	0	0	0	-
87	19.2	Mining cavities	0	0	0	0	0
87	19.3	Reported recent incidents	0	0	0	0	-
87	19.4	Historical incidents	0	0	0	0	-
Page	Section	**Radon** >					
89 >	**20.1** >	**Radon** >	Less than 1% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
91 >	**21.1** >	**BGS Estimated Background Soil Chemistry** >	1	1	-	-	-
91	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
91	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects** >	On site	0-50m	50-250m	250-500m	500-2000m
92	22.1	Underground railways (London)	0	0	0	-	-
92	22.2	Underground railways (Non-London)	0	0	0	-	-
93	22.3	Railway tunnels	0	0	0	-	-
93	22.4	Historical railway and tunnel features	0	0	0	-	-
93	22.5	Royal Mail tunnels	0	0	0	-	-

93	22.6	Historical railways	0	0	0	-	-
93 >	**22.7 >**	**Railways >**	0	7	7	-	-
94	22.8	Crossrail 2	0	0	0	0	-
94	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 07/04/2023

Site Area: 1.11ha

Recent site history - 2019 aerial photograph



Capture Date: 22/04/2019

Site Area: 1.11ha

Recent site history - 2009 aerial photograph



Capture Date: 24/06/2009

Site Area: 1.11ha

Recent site history - 2005 aerial photograph



Capture Date: 15/05/2005

Site Area: 1.11ha

Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

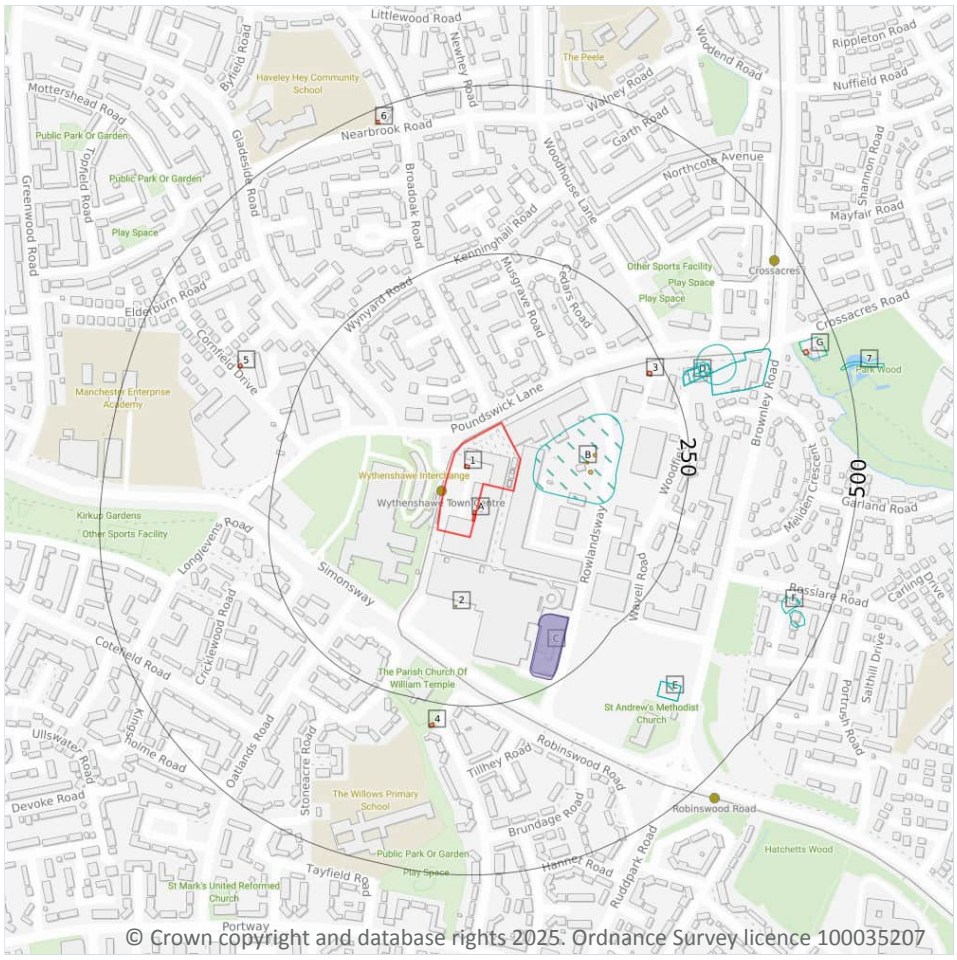
Site Area: 1.11ha

OS MasterMap site plan



Site Area: 1.11ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	13

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
B	22m E	Bus Station	1989 - 1995	937279

ID	Location	Land use	Dates present	Group ID
D	265m NE	Smithy	1954	971506
D	266m NE	Smithy	1938	978006
D	277m NE	Smithy	1907	901757
D	295m NE	Smithy	1897 - 1907	955386
D	300m E	Fire Station	1989 - 1995	994082
D	300m E	Fire Station	1967 - 1977	999924
E	354m SE	Police Station	1989 - 1995	872036
E	354m SE	Police Station	1967 - 1977	885011
F	430m E	Unspecified Pit	1967	830563
G	446m E	Pump House	1989	856794
F	447m SE	Unspecified Pit	1967	830564
7	493m E	Unspecified Ground Workings	1995	813114

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m **4**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
B	97m E	Unspecified Tank	1982	117061
2	103m S	Unspecified Tank	1978	117075
B	103m E	Unspecified Tank	1982	117062
B	108m E	Unspecified Tank	1982	117060

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	8

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Electricity Substation**	**1982 - 1992**	**88660**
A	**On site**	**Electricity Substation**	**1982**	**67162**
A	**On site**	**Electricity Substation**	**1992**	**67164**
3	224m NE	Electricity Substation	1982 - 1992	72110
4	280m S	Electricity Substation	1978 - 1992	86615
5	339m W	Electricity Substation	1978 - 1995	77223
G	448m E	Electricity Substation	1992	67165
6	478m N	Electricity Substation	1985	67718

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	2

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
C	158m SE	Garage	1978 - 1982	30823
C	159m SE	Garage	1992	24509

This data is sourced from Ordnance Survey / Groundsure.

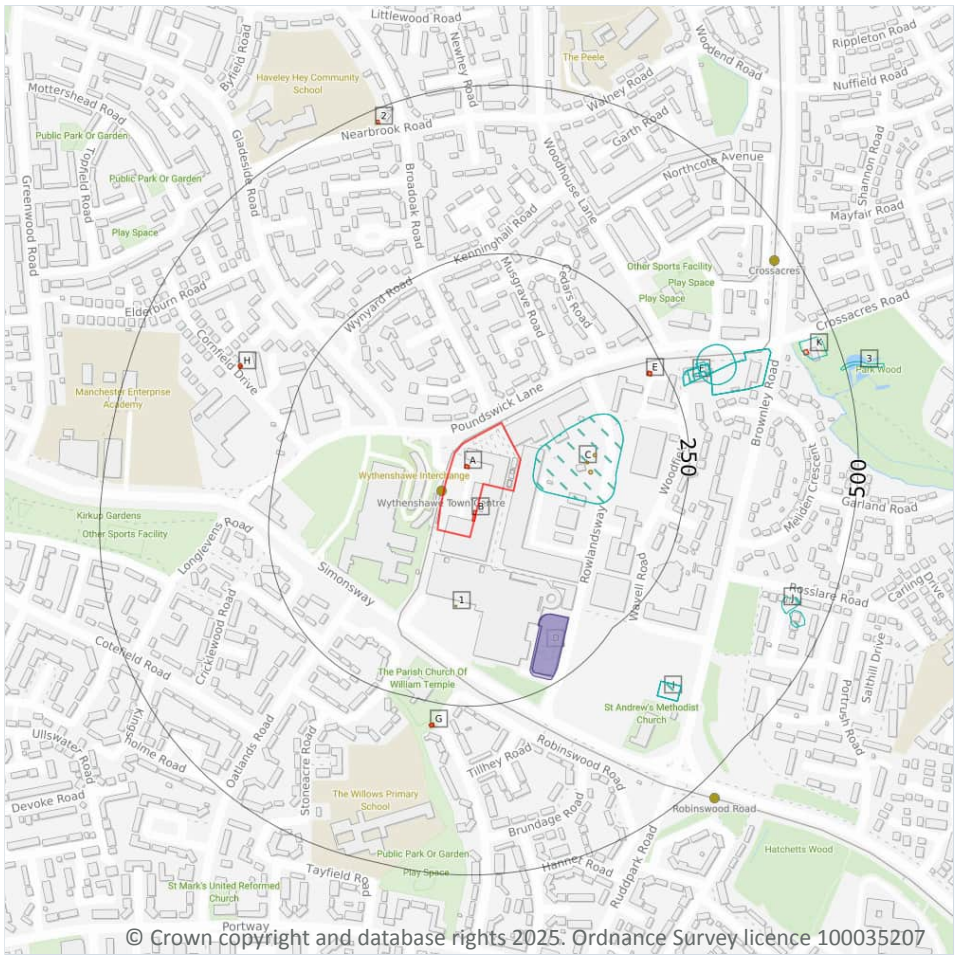
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	20

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19 >**

ID	Location	Land Use	Date	Group ID
C	22m E	Bus Station	1995	937279
C	22m E	Bus Station	1989	937279
F	265m NE	Smithy	1954	971506

ID	Location	Land Use	Date	Group ID
F	266m NE	Smithy	1938	978006
F	277m NE	Smithy	1907	901757
F	277m NE	Smithy	1907	901757
F	295m NE	Smithy	1897	955386
F	295m NE	Smithy	1907	955386
F	300m E	Fire Station	1995	994082
F	300m E	Fire Station	1967	999924
F	300m E	Fire Station	1977	999924
F	300m E	Fire Station	1989	994082
I	354m SE	Police Station	1995	872036
I	354m SE	Police Station	1967	885011
I	354m SE	Police Station	1977	885011
I	354m SE	Police Station	1989	872036
J	430m E	Unspecified Pit	1967	830563
K	446m E	Pump House	1989	856794
J	447m SE	Unspecified Pit	1967	830564
3	493m E	Unspecified Ground Workings	1995	813114

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**4**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19 >**

ID	Location	Land Use	Date	Group ID
C	97m E	Unspecified Tank	1982	117061
1	103m S	Unspecified Tank	1978	117075
C	103m E	Unspecified Tank	1982	117062

ID	Location	Land Use	Date	Group ID
C	108m E	Unspecified Tank	1982	117060

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**14**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Electricity Substation**	**1982**	**88660**
A	**On site**	**Electricity Substation**	**1992**	**88660**
B	**On site**	**Electricity Substation**	**1982**	**67162**
B	**On site**	**Electricity Substation**	**1992**	**67164**
E	224m NE	Electricity Substation	1982	72110
E	224m NE	Electricity Substation	1992	72110
G	280m S	Electricity Substation	1978	86615
G	280m S	Electricity Substation	1992	86615
G	281m S	Electricity Substation	1982	86615
H	339m W	Electricity Substation	1978	77223
H	339m W	Electricity Substation	1987	77223
H	340m NW	Electricity Substation	1995	77223
K	448m E	Electricity Substation	1992	67165
2	478m N	Electricity Substation	1985	67718

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	3

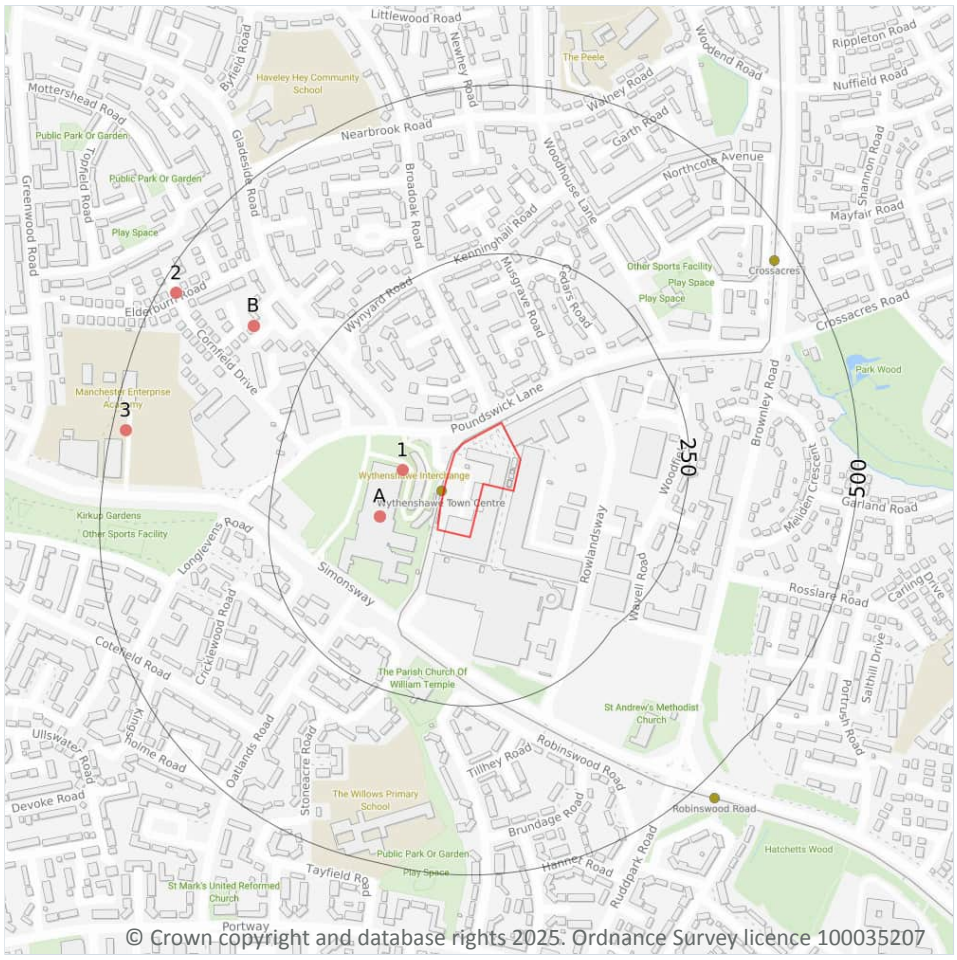
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19 >**

ID	Location	Land Use	Date	Group ID
D	158m SE	Garage	1982	30823
D	159m SE	Garage	1992	24509
D	159m SE	Garage	1978	30823

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	9

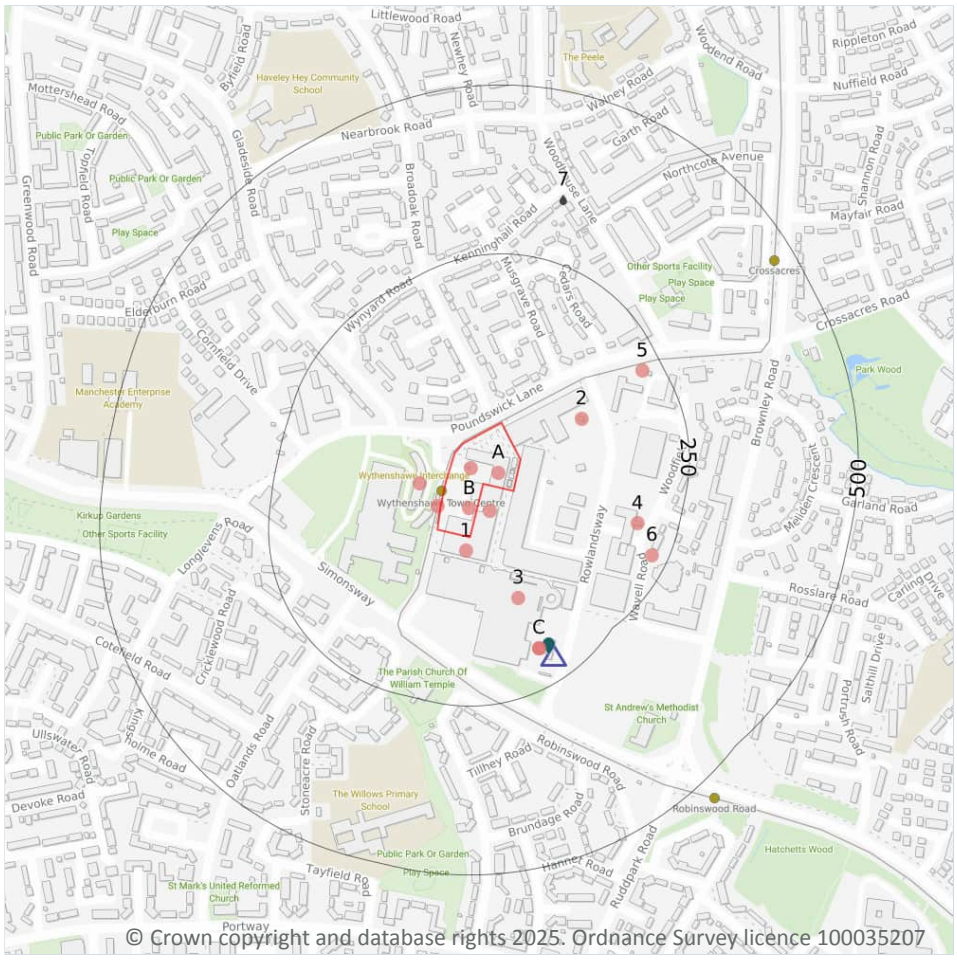
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 23 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	67m W	-	WEX412706	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	88m W	The Pharmacy Group Corporation, Forum Square, Civic Centre, Wythenshawe, Manchester, M22 5rx	WEX366395	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	88m W	Forum Square, Civic Centre, Wythenshawe, Manchester, M22 5rx	WEX375009	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	88m W	Forum Square, Civic Centre, Wythenshawe, Manchester, M22 5rx	WEX442071	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	353m NW	Willmott Dixon, Off Laybrook Road, Wythenshawe, M22 9qt	WEX138248	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
B	353m NW	Willmott Dixon, Off Laybrook Road, Wythenshawe, M22 9qt	WEX138248	Using waste exemption	Not on a farm	Spreading waste on non-agricultural land to confer benefit
B	353m NW	Former Playing Fields Off, Leybrook Road, Wythenshawe, M22 9qt	WEX136422	Using waste exemption	Not on a farm	Use of waste in construction
2	475m NW	-	WEX245184	Using waste exemption	Not on a farm	Use of waste in construction
3	480m W	Simonsway, Manchester, M22 9rh	WEX026481	Using waste exemption	Not on a farm	Use of waste in construction

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

Licensed pollutant release (Part A(2)/B)

Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m	14

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	Activity	Category
A	On site	Eden Mobility Ltd	3, The Birtles, Manchester, Greater Manchester, M22 5RF	Disability and Mobility Equipment	Consumer Products
A	On site	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
B	On site	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
B	5m W	Wythenshawe Town Centre (Manchester Metrolink)	Greater Manchester, M22	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
B	18m E	Specsavers Hearcare	17, The Birtles, Manchester, Greater Manchester, M22 5SA	Disability and Mobility Equipment	Consumer Products
1	21m S	Manchester Balloons	20, Hale Top, Manchester, Greater Manchester, M22 5RN	Giftware	Consumer Products
B	38m W	Bus Station	Greater Manchester, M22	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
2	108m NE	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
3	114m SE	Mfg Civic Centre	Civic Centre, Rowlandsway, Manchester, Greater Manchester, M22 5RG	Vehicle Cleaning Services	Personal, Consumer and Other Services
4	189m E	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
C	193m SE	B P Car Wash	Rowlandsway, Manchester, Greater Manchester, M22 5RG	Vehicle Cleaning Services	Personal, Consumer and Other Services
C	193m SE	BP Service Station	Rowlandsway, Manchester, Greater Manchester, M22 5RG	Petrol and Fuel Stations	Road and Rail
5	220m NE	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
6	225m SE	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m	0

Current or recent tanks identified from the Ordnance Survey NGD.

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	LPG	Status
C	214m SE	BP	Rowlands Way, Wythenshawe, Manchester, Greater Manchester, M22 5RG	No	Open

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.8 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.9 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.12 Licensed pollutant release (Part A(2)/B)

Records within 500m	1

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Address	Details	
C	199m SE	BP Civic Service Station, Rowlandsway, Wythenshawe, M22 5RG	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.13 Radioactive Substance Authorisations

Records within 500m	**0**

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Licensed Discharges to controlled waters

Records within 500m	**1**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Address	Details	
7	343m N	MCC COACH PARK SWO, DAWSON STREET/RIVER MEDLOCK, WATER STREET, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991245 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1993 Revocation Date: 16/04/1993

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to surface waters (Red List)

Records within 500m	**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution Incidents (EA/NRW)

Records within 500m	0

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.20 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

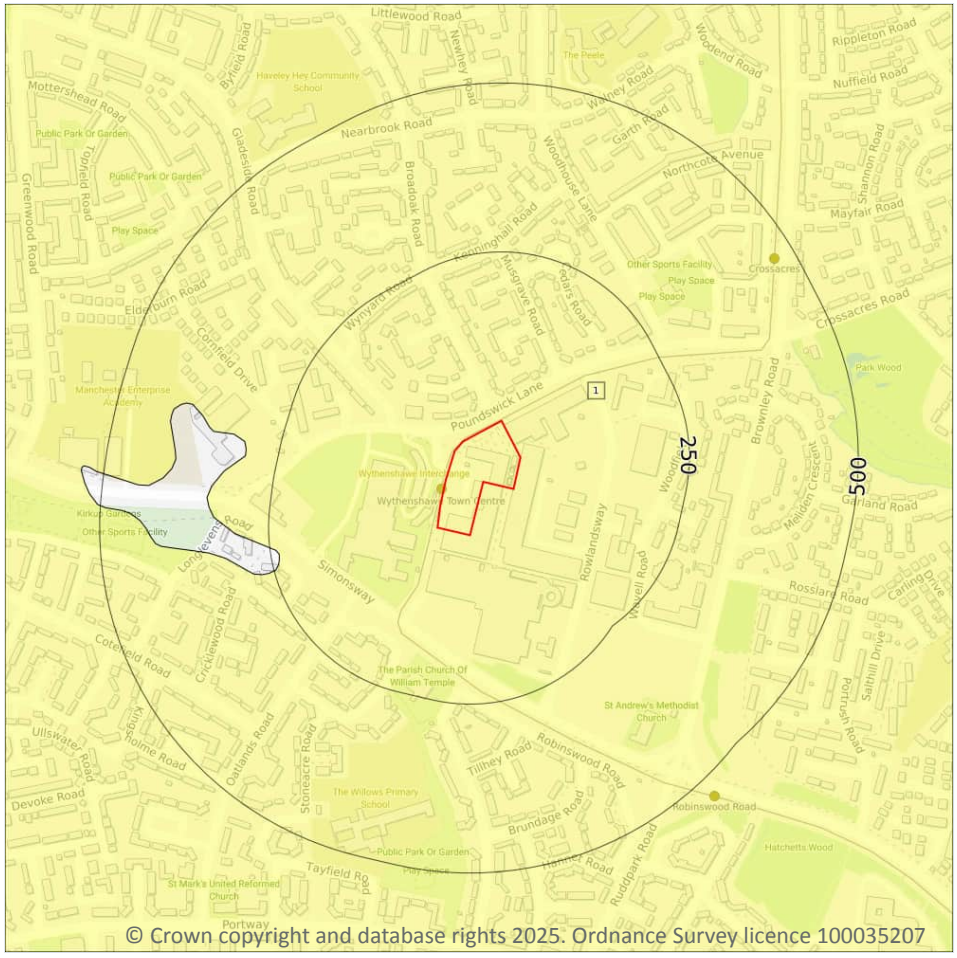
4.22 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



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5.1 Superficial aquifer

Records within 500m	1

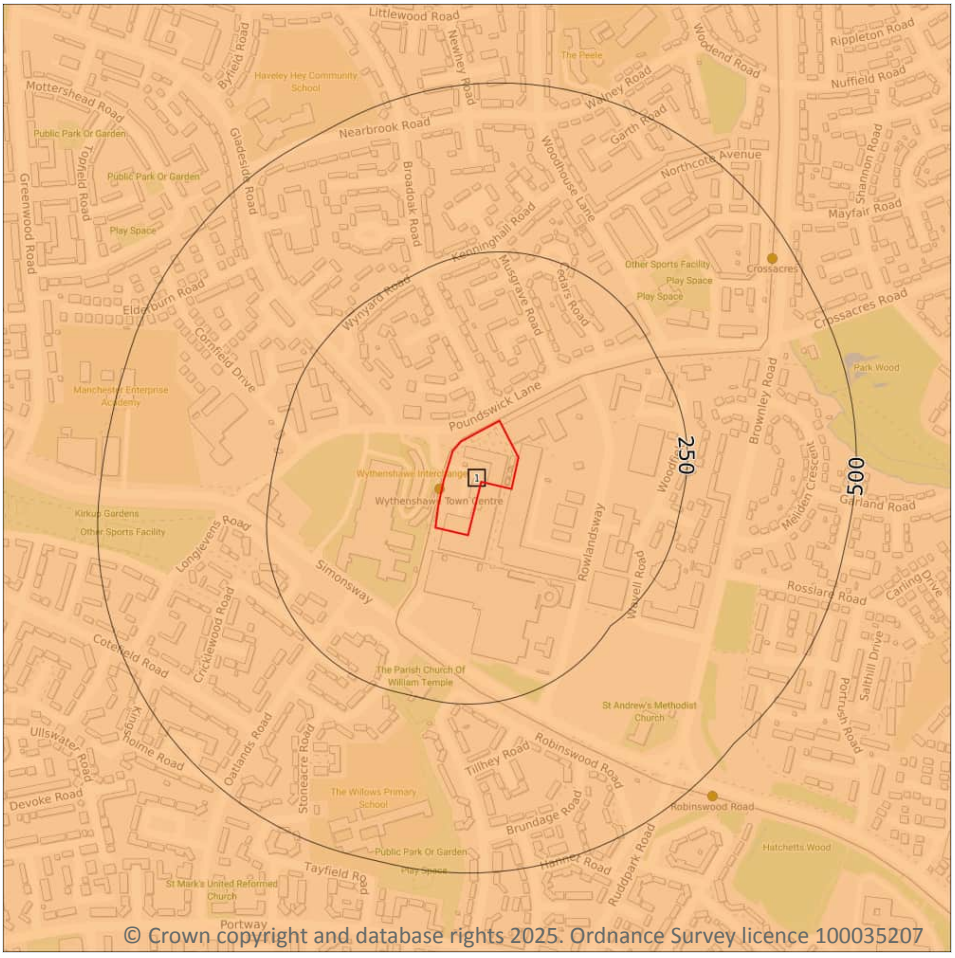
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 33 >**

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	1

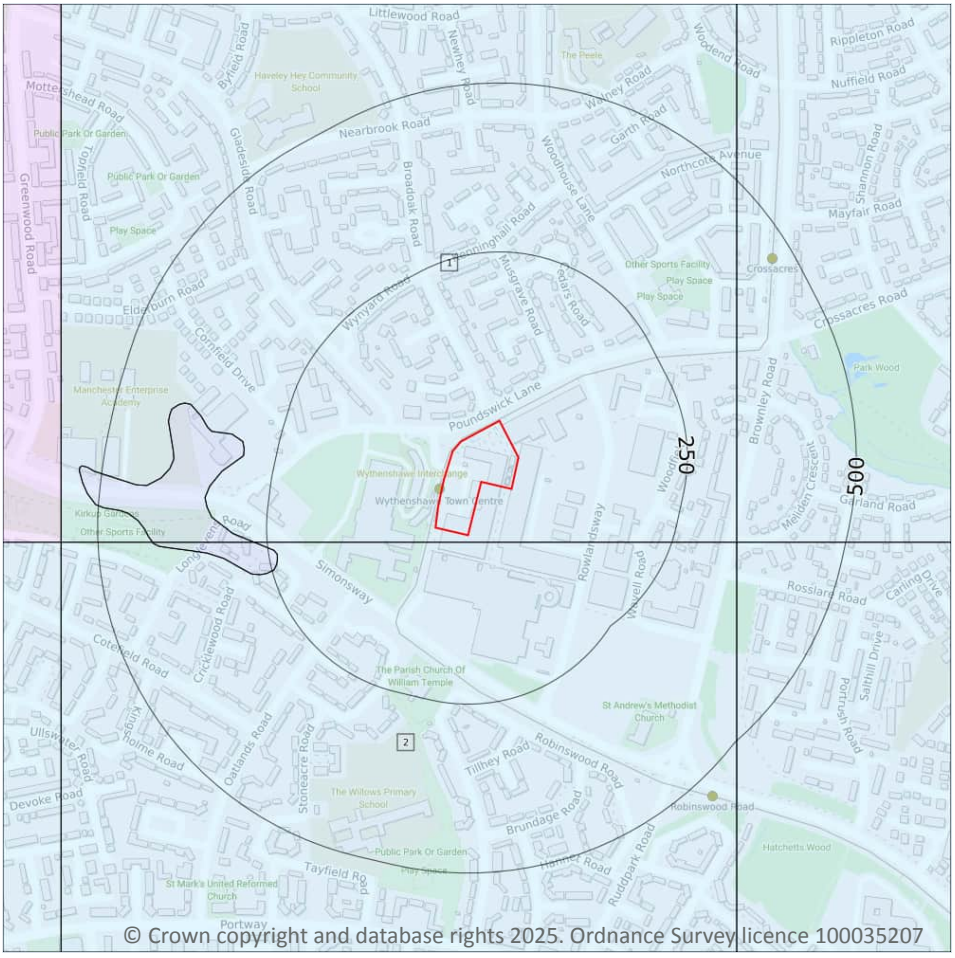
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 34 >**

ID	Location	Designation	Description
1	**On site**	**Secondary B**	**Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 35 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	10m S	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

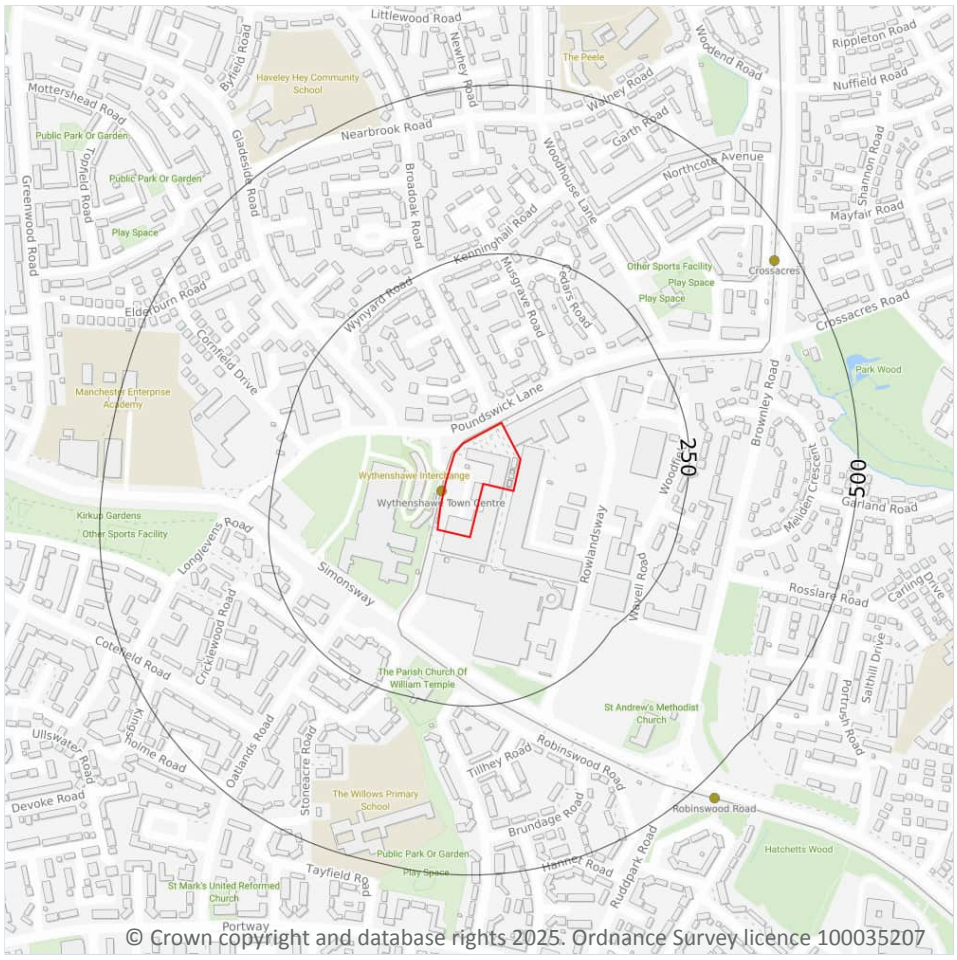
5.5 Groundwater vulnerability- local information

Records on site	**0**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



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Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	2

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 37 >**

ID	Location	Details	
-	1936m NE	Status: Historical Licence No: 2569014037 Details: Laundry Use Direct Source: Ground Water - North West Region Point: "UNDERGROUND STRATA: BOREHOLE AT SHARSTON, MANCHESTER" Data Type: Point Name: MR KHALID SALEEM Easting: 383610 Northing: 388860	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/11/2002 Expiry Date: 31-Mar-18 Issue No: 1 Version Start Date: 15/11/2002 Version End Date: -
-	1936m NE	Status: Historical Licence No: 2569014037 Details: Laundry Use Direct Source: Ground Water - North West Region Point: UNDERGROUND STRATA: BOREHOLE AT SHARSTON, MANCHESTER Data Type: Point Name: MR KHALID SALEEM Easting: 383610 Northing: 388860	Annual Volume (m^3): 20975 Max Daily Volume (m^3): 80.67 Original Application No: - Original Start Date: 15/11/2002 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 15/11/2002 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**0**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	**0**

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

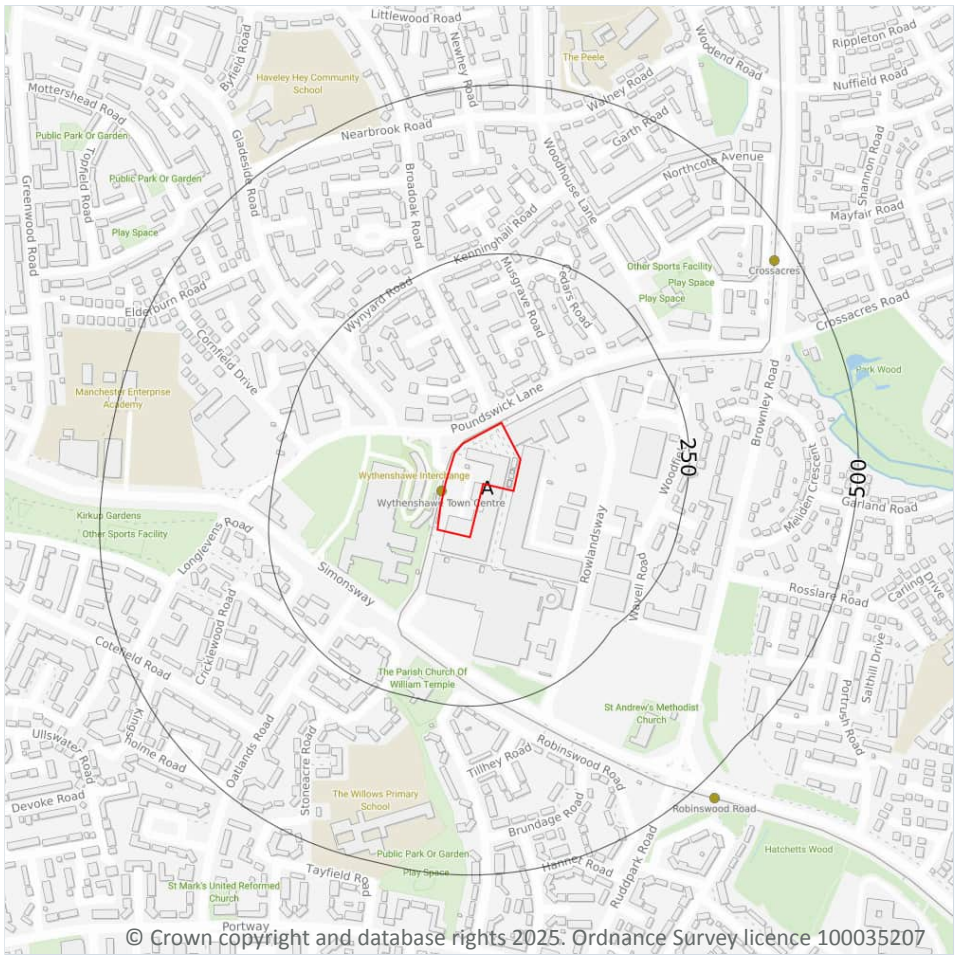
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



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Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 40 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Sinderland Brook (Fairywell Bk and Baguley Bk)**	**GB112069061270**	**Bollin Dean Mersey Upper**	**Mersey Upper**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 40 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	630m W	River	Sinderland Brook (Fairywell Bk and Baguley Bk)	GB112069061270 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 40 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Weaver and Dane Quaternary Sand and Gravel Aquifers**	**GB41202G991700** ↗	**Poor**	**Poor**	**Good**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

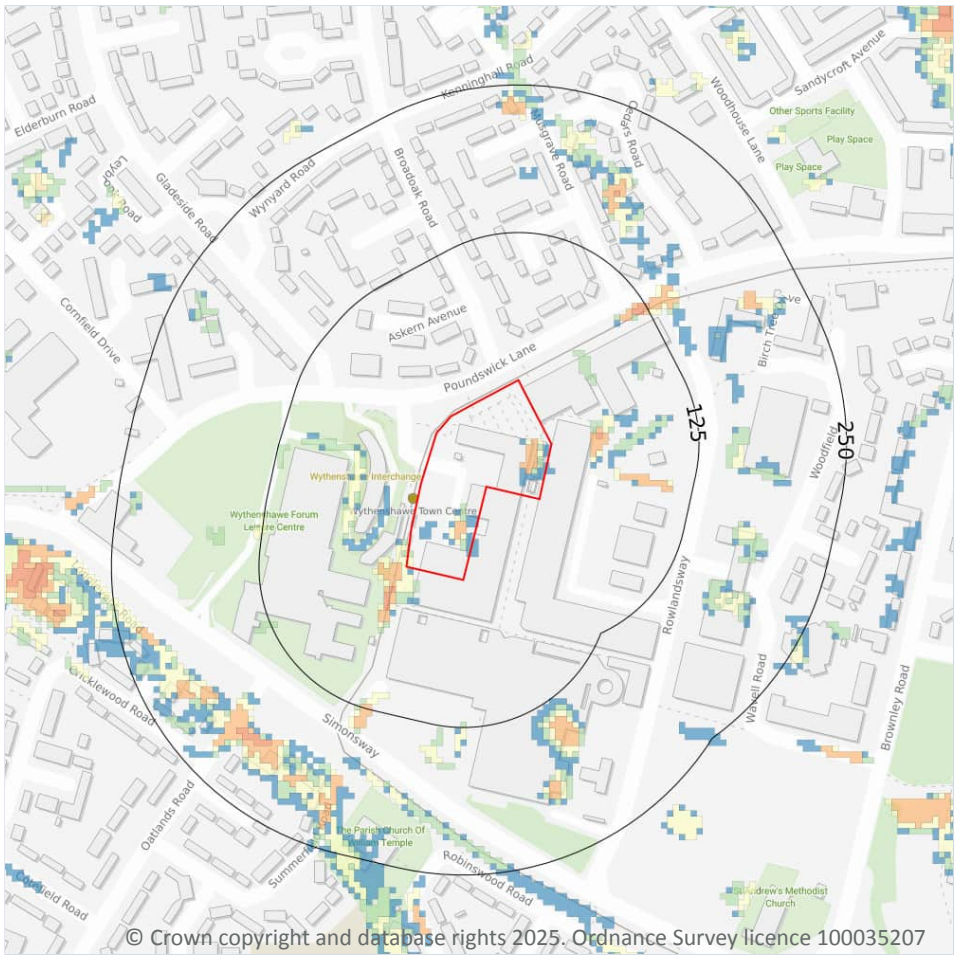
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



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8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 46 >**

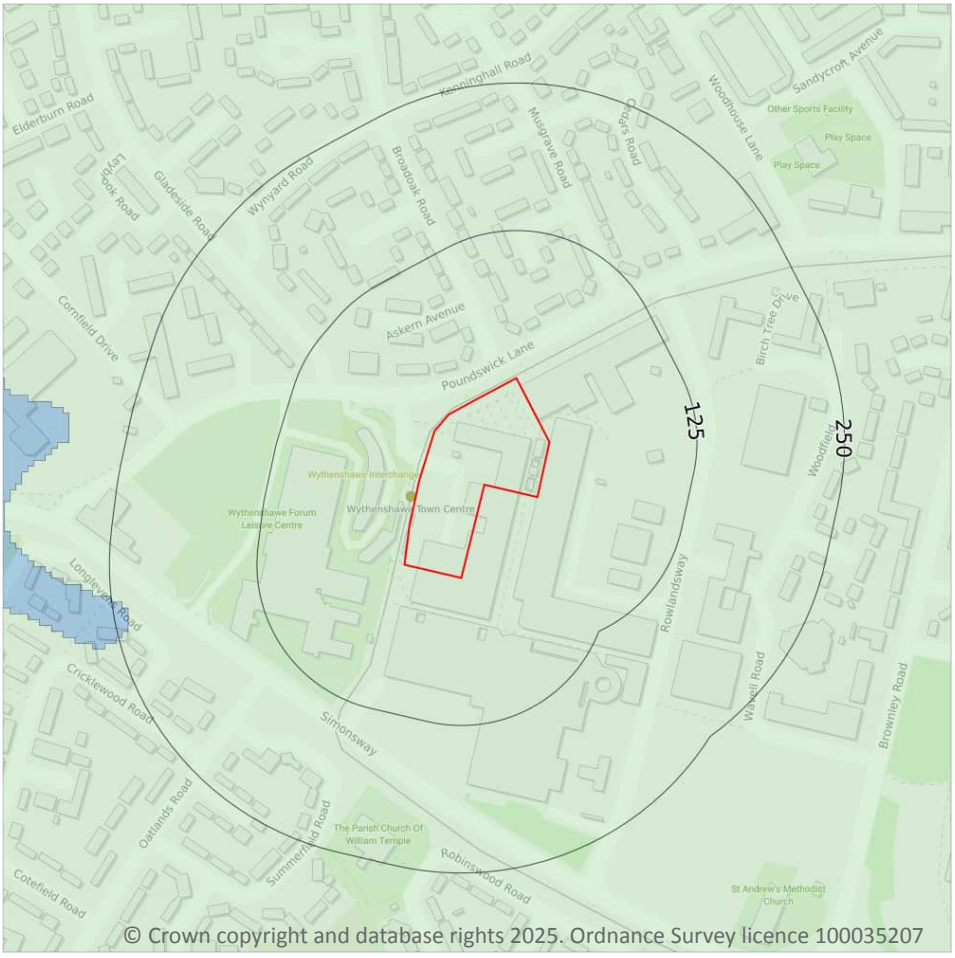
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

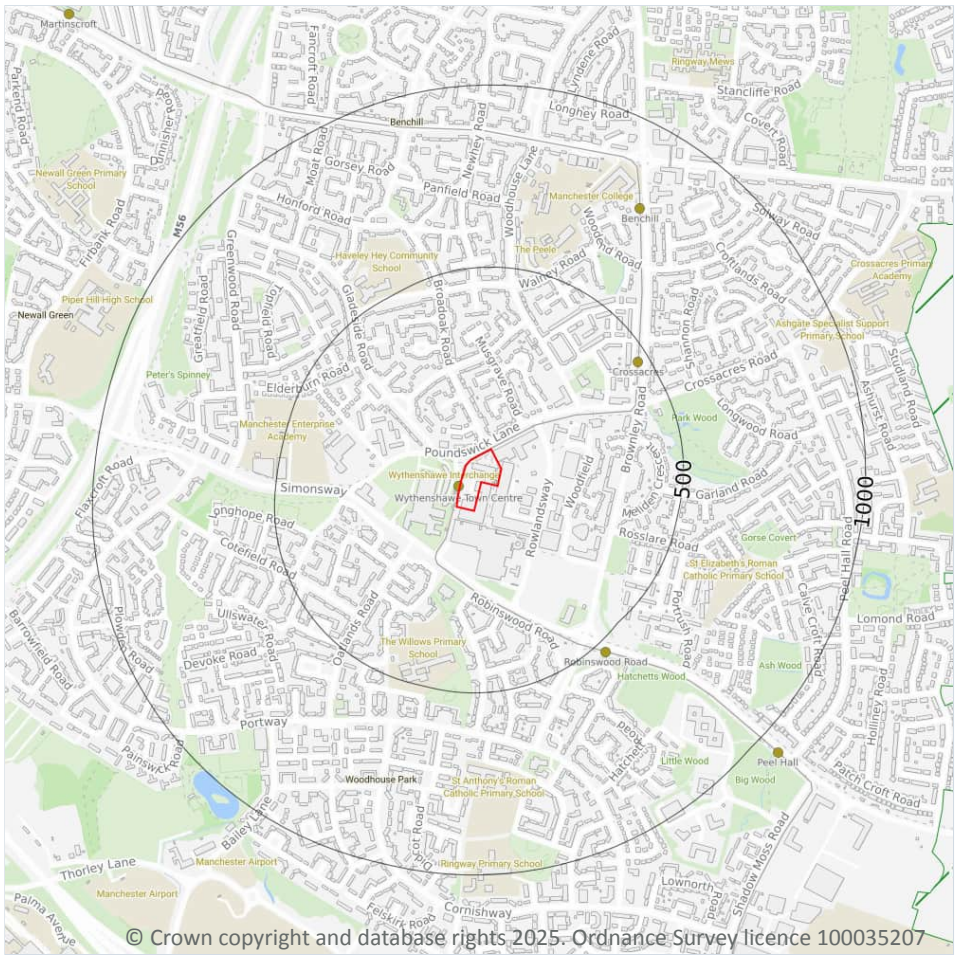
Highest risk on site	**Low**
Highest risk within 50m	**Low**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 48 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	1

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 49 >**

ID	Location	Name	Woodland Type
-	1840m N	Black Carr Wood	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	3

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 49 >**

ID	Location	Name	Local Authority name
1	1170m E	Merseyside and Greater Manchester Green Belt	Manchester
-	1276m E	Merseyside and Greater Manchester Green Belt	Stockport
-	1739m S	Merseyside and Greater Manchester Green Belt	Manchester

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	1

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 55 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	235m S	William Temple Memorial Church	II	1376597	25/09/1998

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

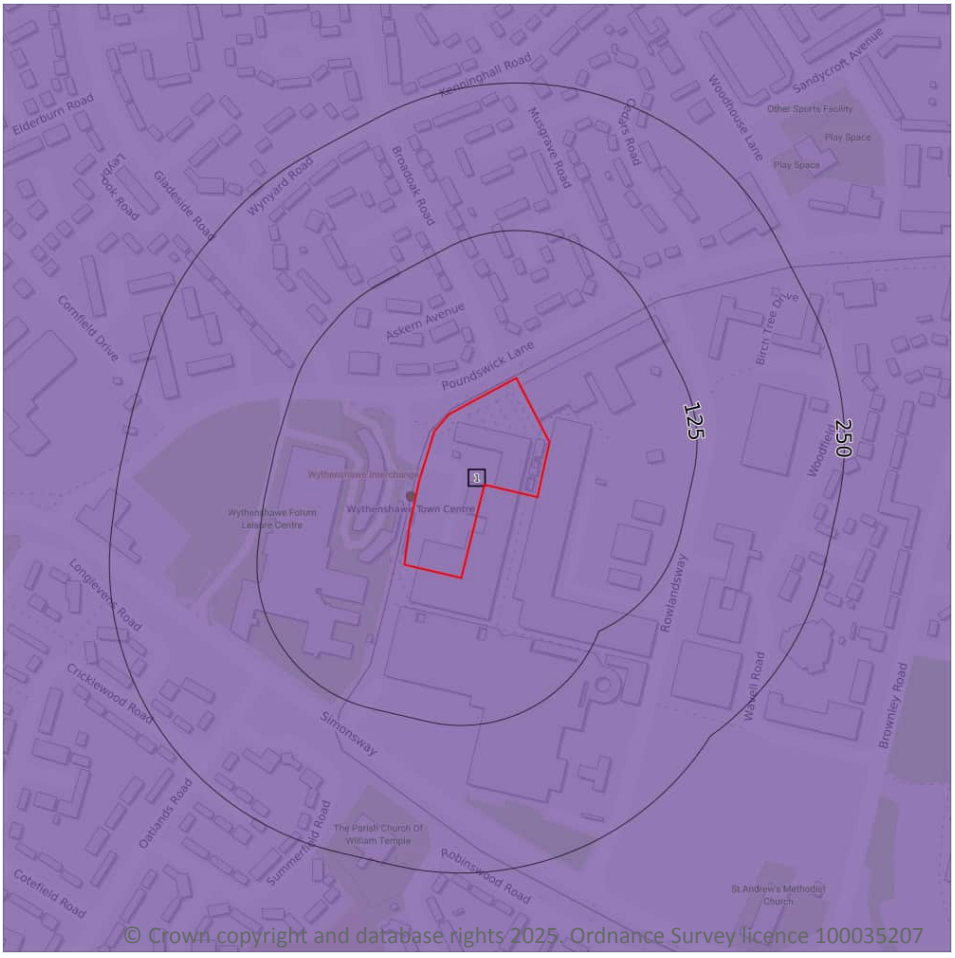
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m	1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 58 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	**Non-agricultural/no quality assigned**

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

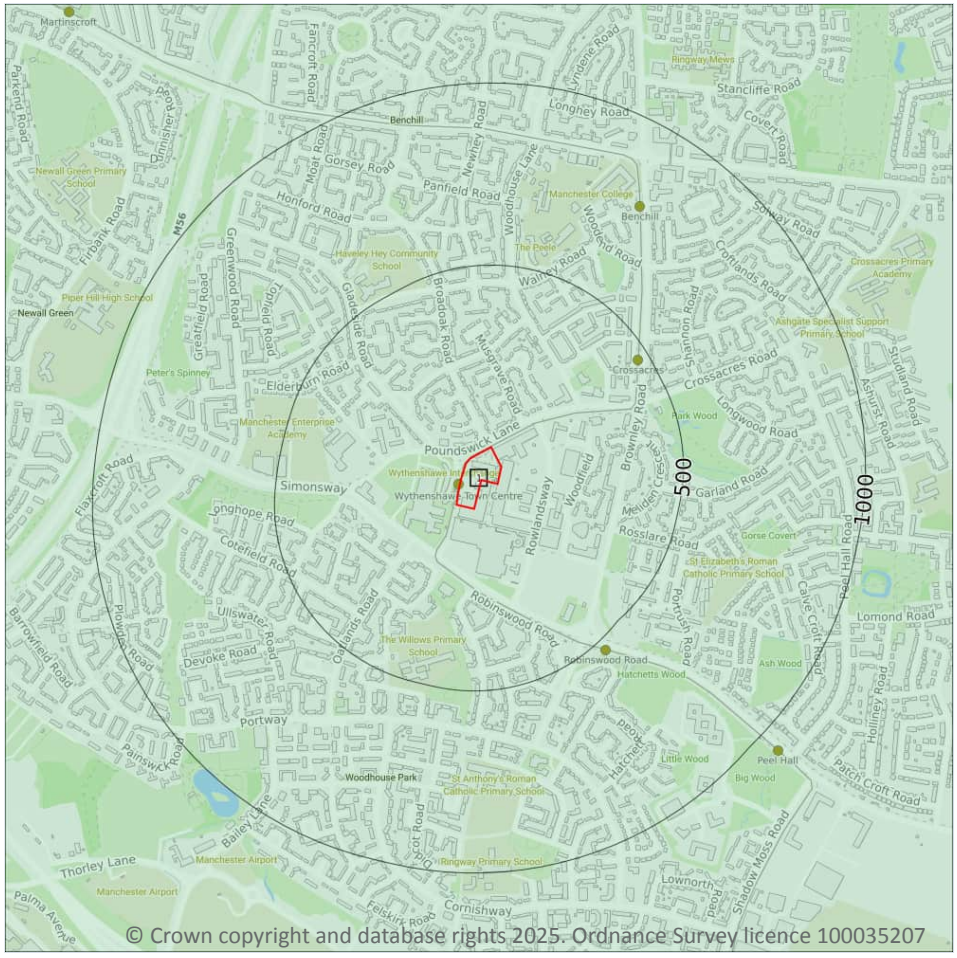
13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 61 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**SJ88NW**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **1**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 63 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**

This data is sourced from the British Geological Survey.

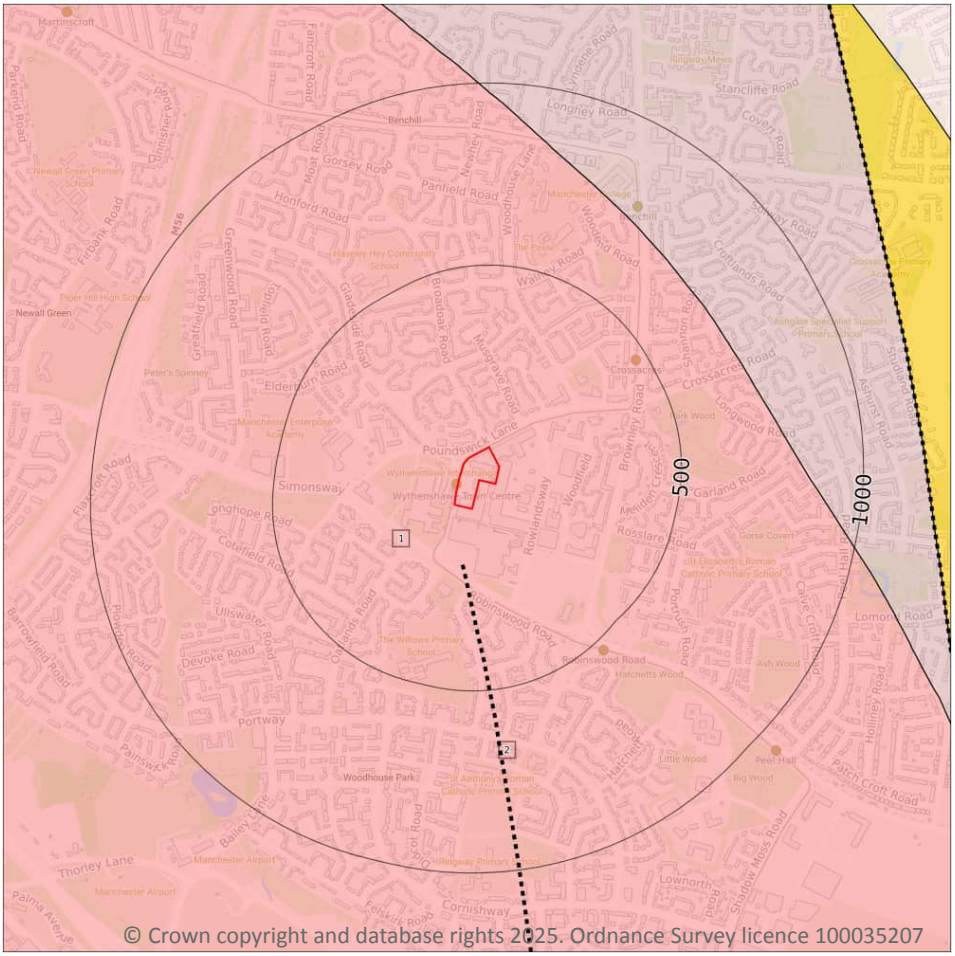
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	1

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 65 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BOM-MDST**	**Bollin Mudstone Member - Mudstone**	**Anisian Age**

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	1

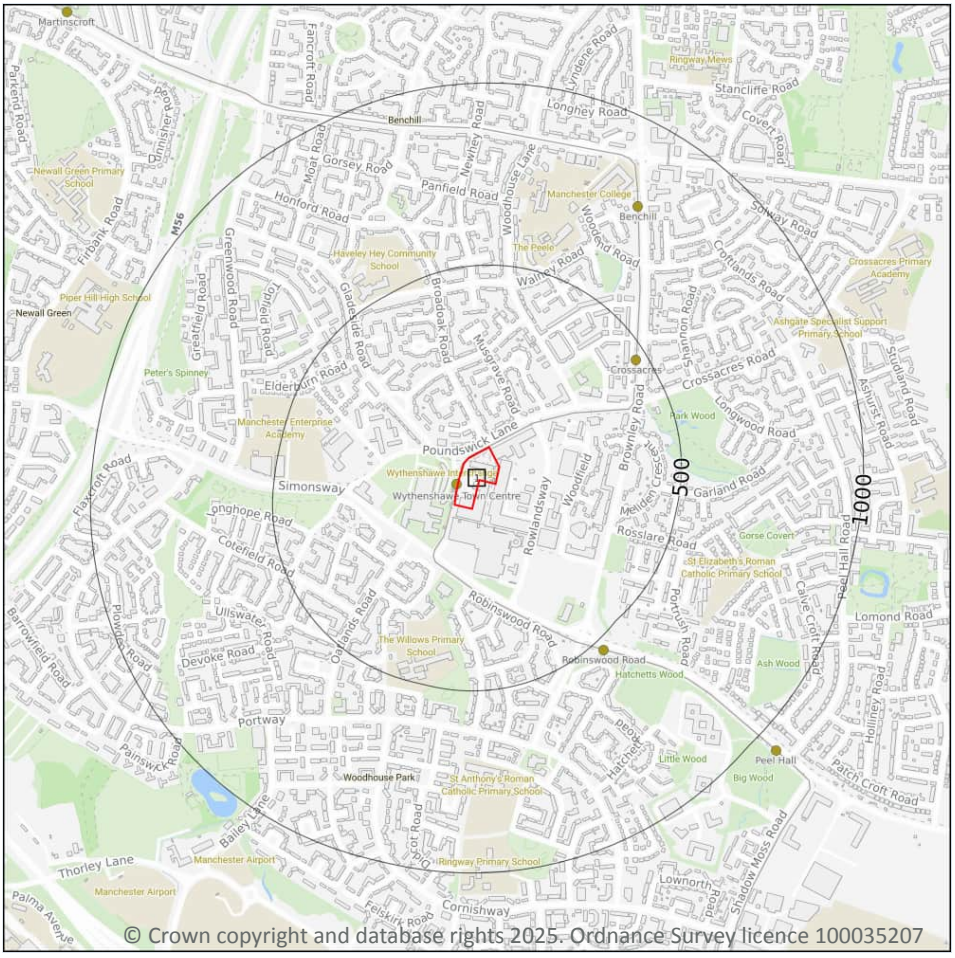
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 65 >**

ID	Location	Category	Description
2	148m S	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 67 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW098_stockport_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

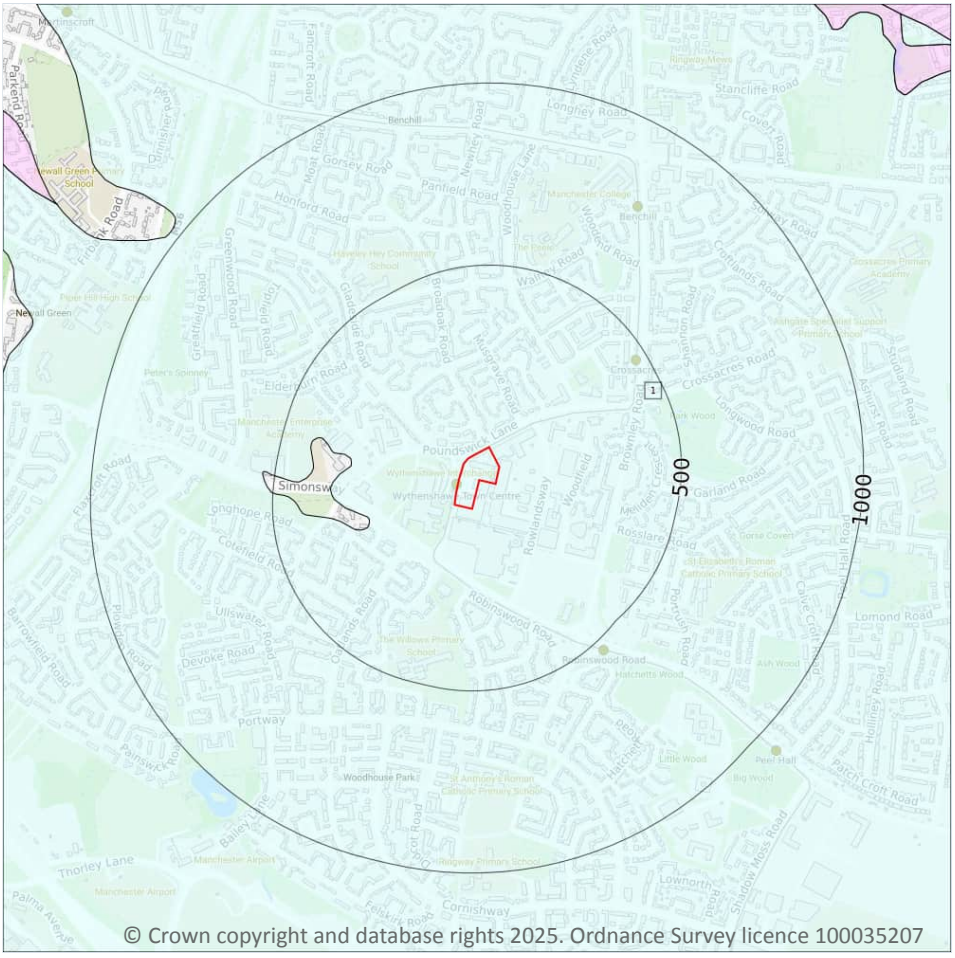
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	1

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 69 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Low**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

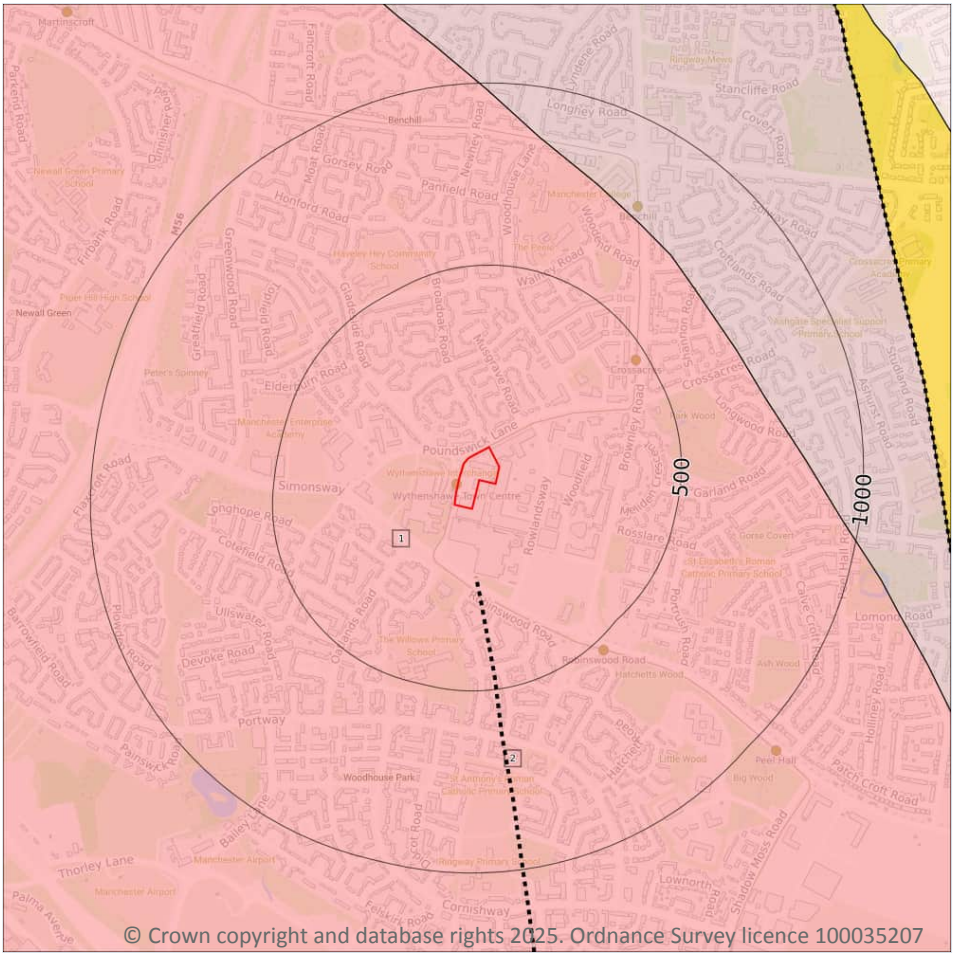
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	1

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 71 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BOM-MDST**	**BOLLIN MUDSTONE MEMBER - MUDSTONE**	**ANISIAN**

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Low**	**Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

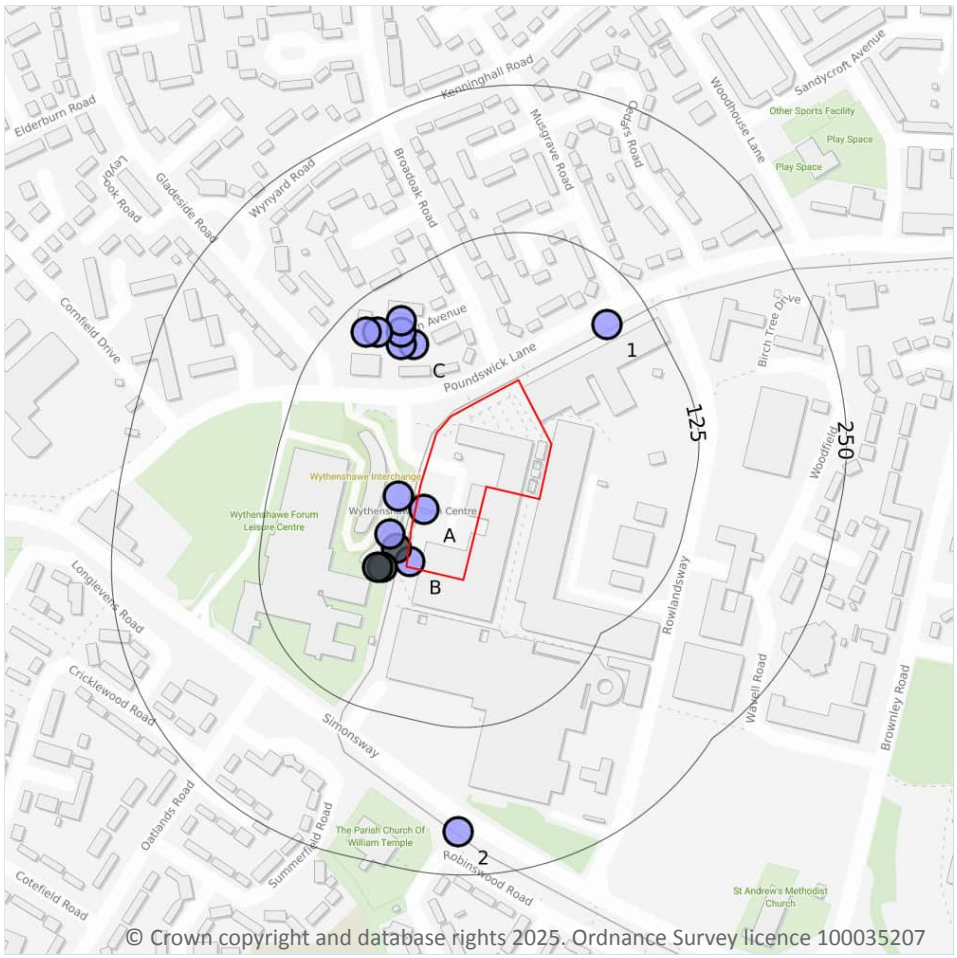
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 71 >**

ID	Location	Category	Description
2	188m S	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m	15

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

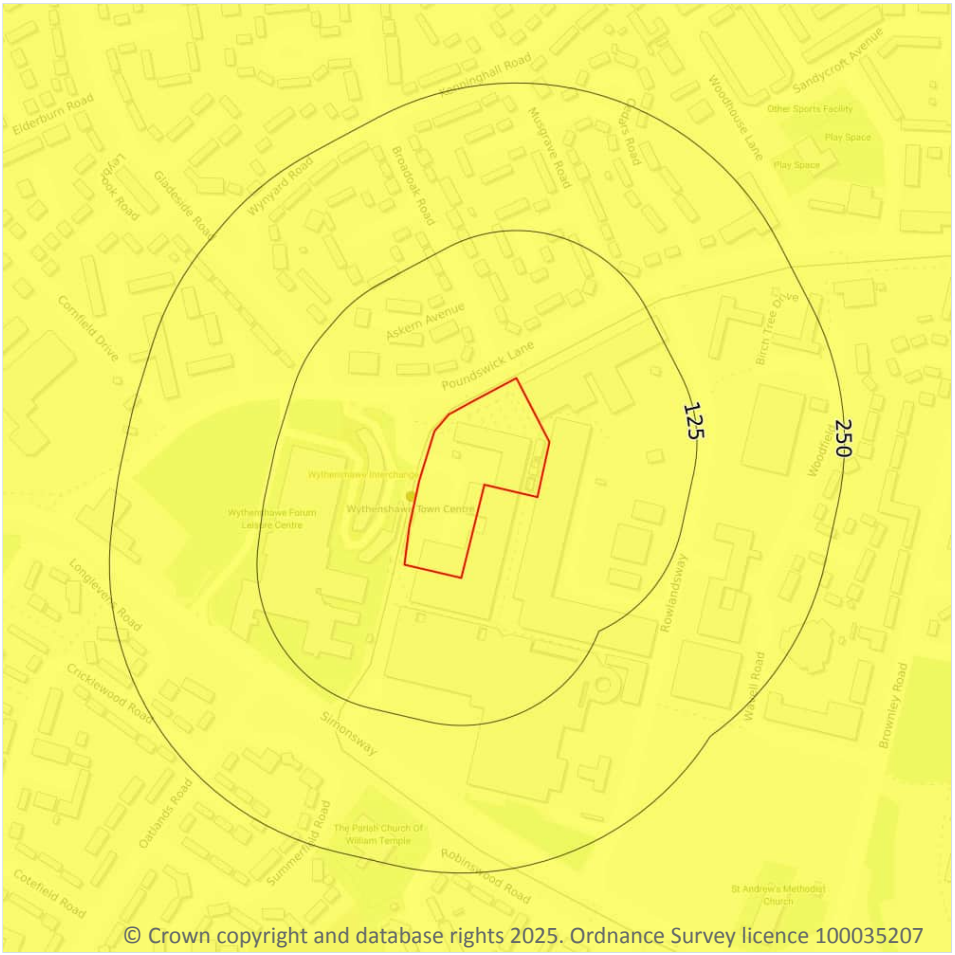
Features are displayed on the Boreholes map on **page 73 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	On site	382569 387070	MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION WSTP100_AIR	1.5	N	19335900 ↗
B	On site	382557 387026	MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION WS43_AIR	2.65	N	19335131 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	10m W	382546 387037	Metrolink 3B - Nonaccelerated Airport BH5001X	-	Y	N/A
A	17m W	382547 387081	MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION WS41_AIR	2.37	N	19335129 ↗
B	17m W	382540 387049	MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION WS42_AIR	1.7	N	19335130 ↗
B	20m W	382534 387021	Metrolink 3B - Nonaccelerated Airport BH5002A	-	Y	N/A
B	24m W	382530 387021	Metrolink 3B - Nonaccelerated Airport BH5002	-	Y	N/A
C	69m NW	382560 387210	ASKERN AVENUE BENCHILL MANCHESTER TPA	2.8	N	915679 ↗
C	74m NW	382550 387210	ASKERN AVENUE BENCHILL MANCHESTER TPB	2.7	N	915680 ↗
C	82m NW	382550 387220	ASKERN AVENUE BENCHILL MANCHESTER BH1	3.1	N	915678 ↗
1	89m NE	382724 387227	MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION TP99_AIR	3.3	N	19335952 ↗
C	91m NW	382550 387230	ASKERN AVENUE BENCHILL MANCHESTER TPC	2.8	N	915681 ↗
C	94m NW	382530 387220	ASKERN AVENUE BENCHILL MANCHESTER TPD	2.6	N	915682 ↗
C	101m NW	382520 387220	ASKERN AVENUE BENCHILL MANCHESTER TPE	2.5	N	915683 ↗
2	213m S	382598 386797	MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION WS44_AIR	2.77	N	19335132 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

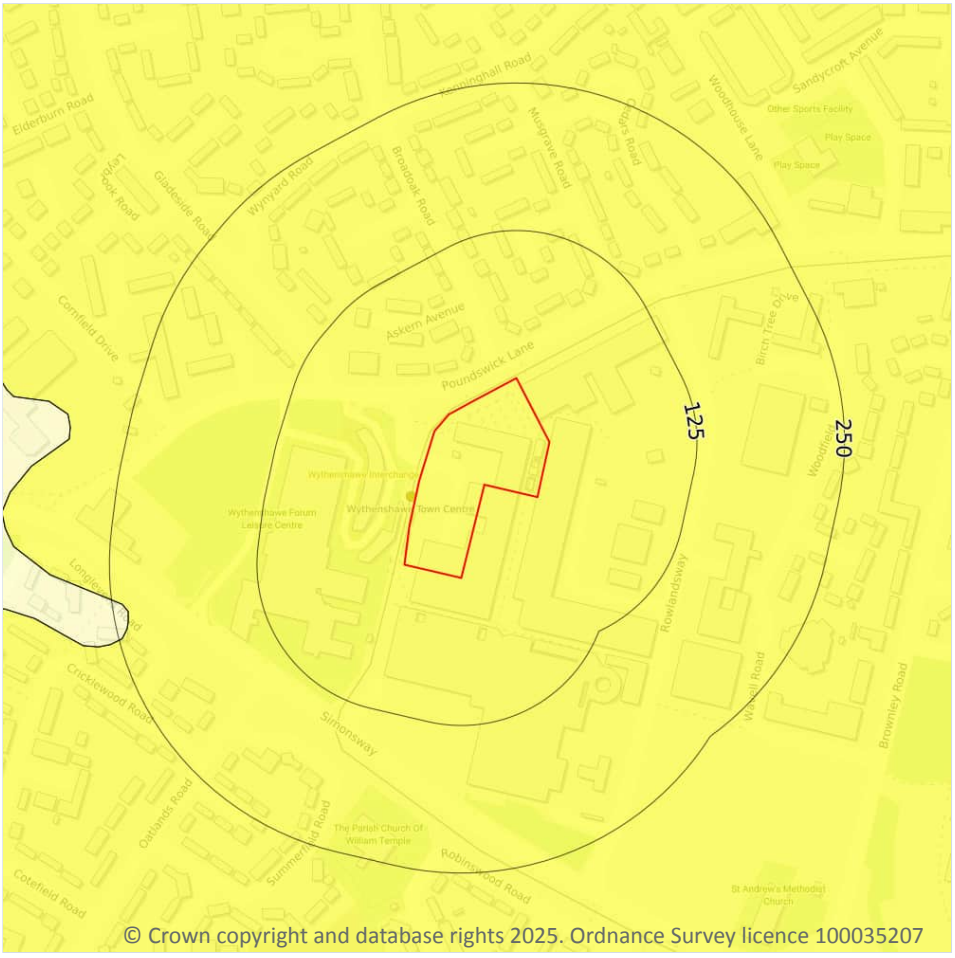
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 75 >**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

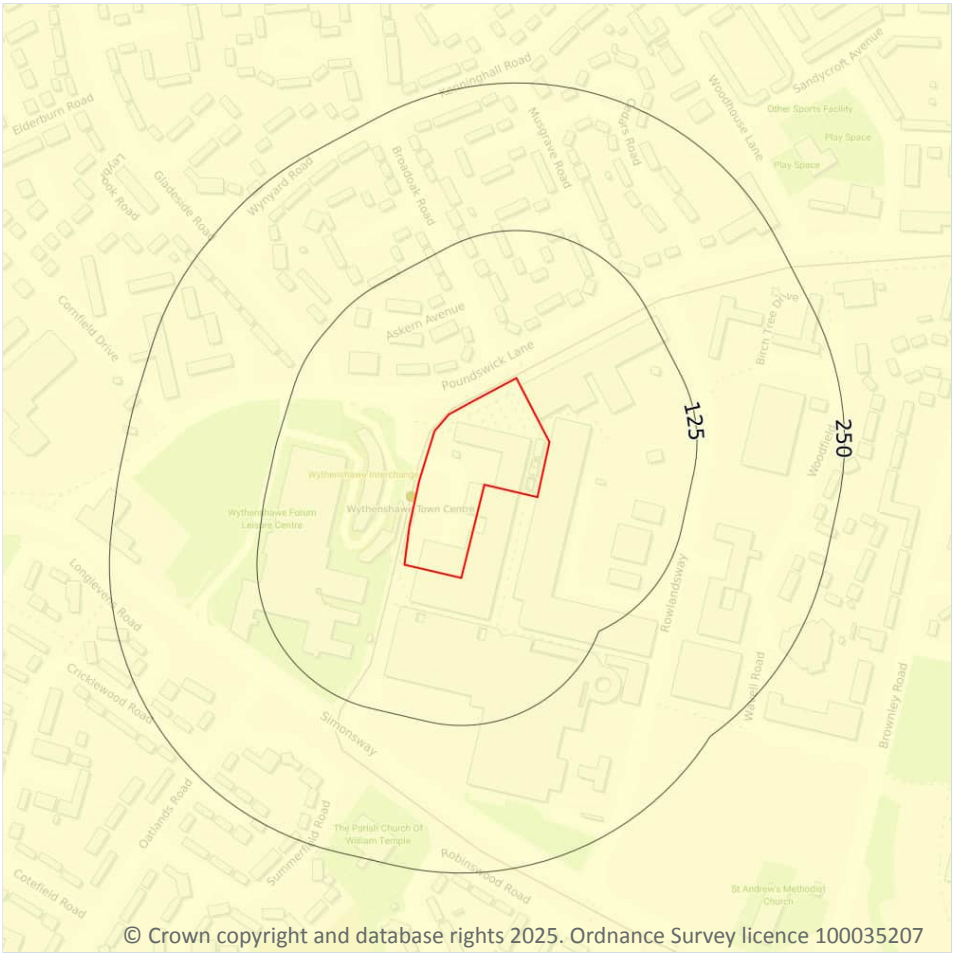
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 76 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

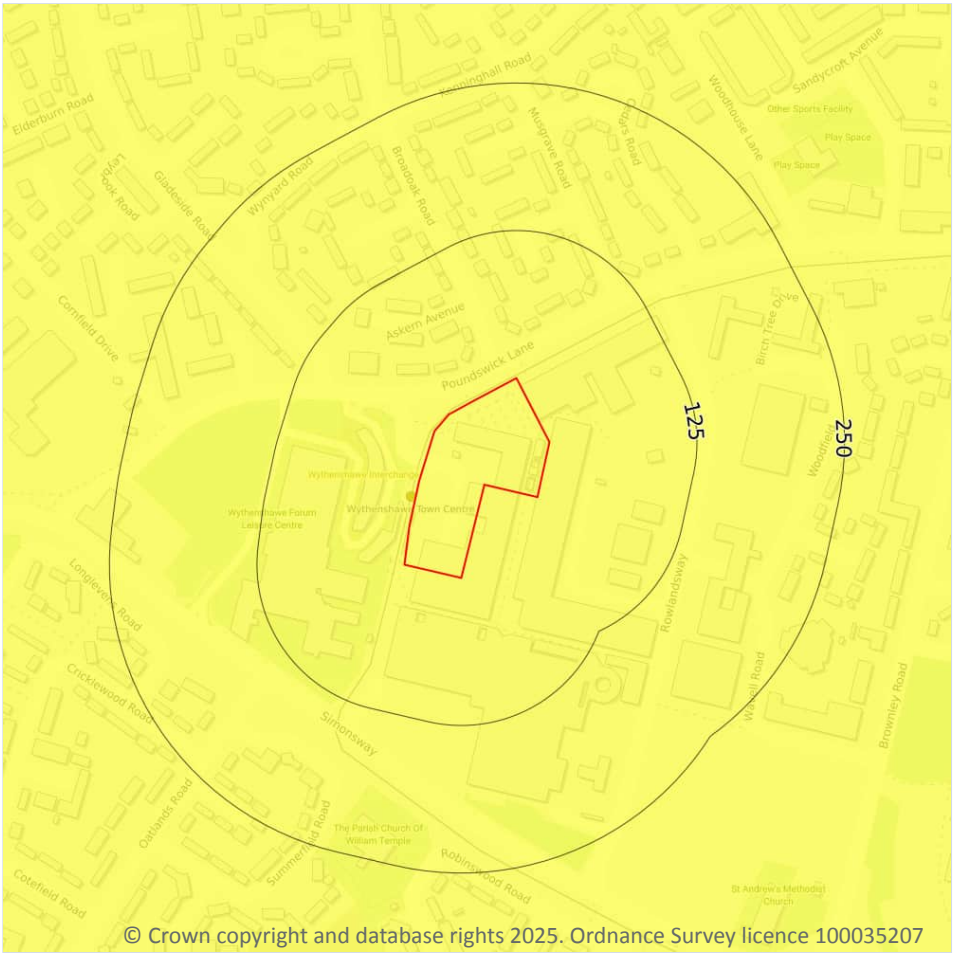
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 77 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

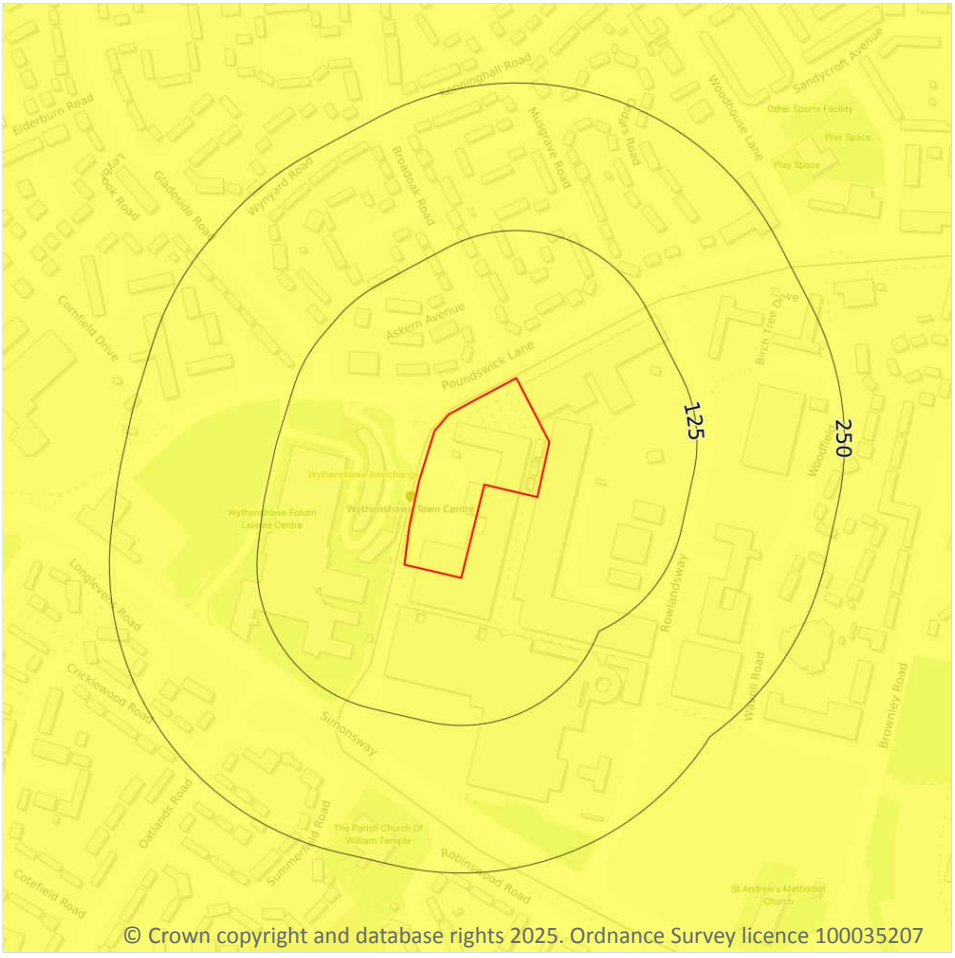
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 78 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

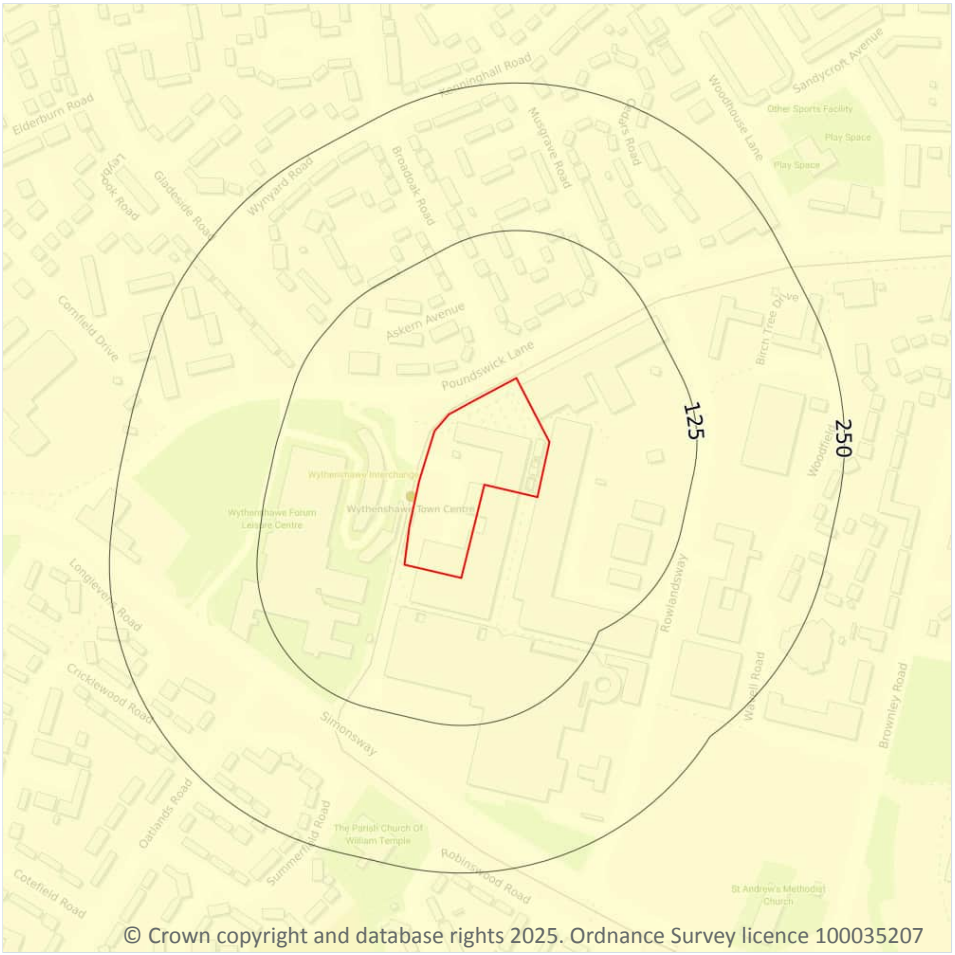
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 79 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

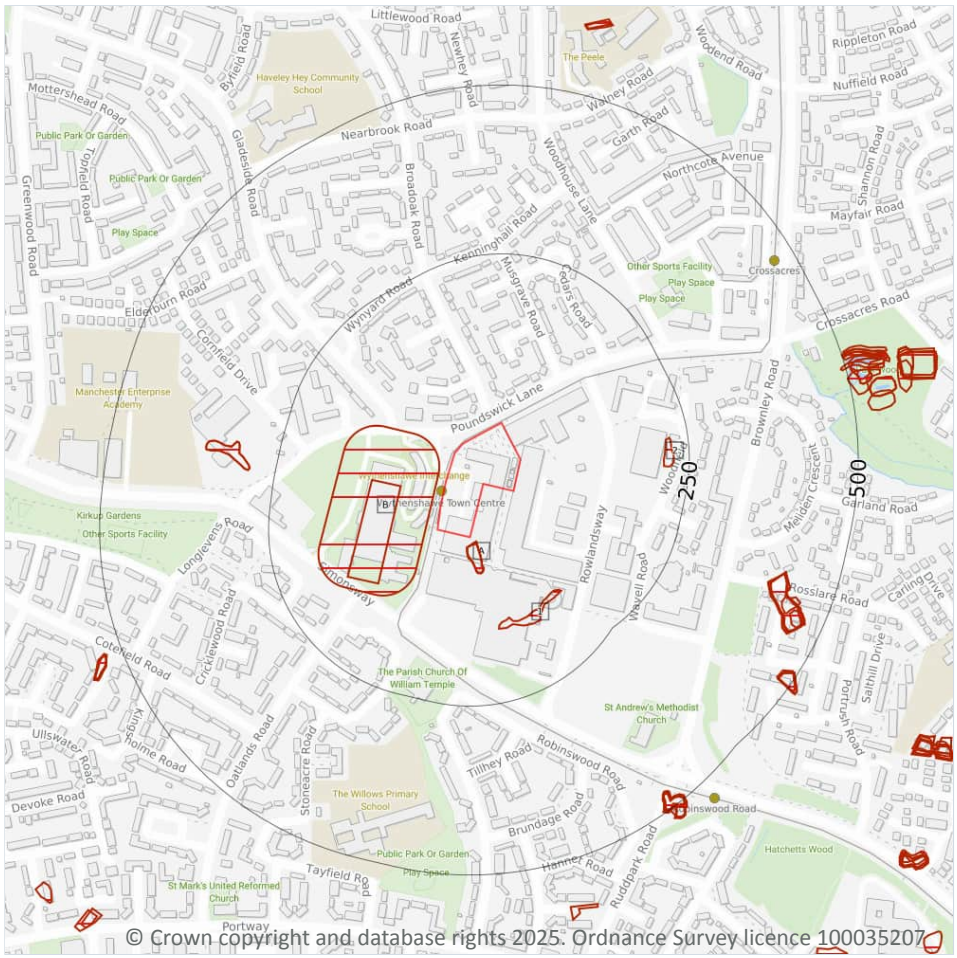
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 80 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	7

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 82 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	10m SE	Ponds	1954	1:10560
A	10m SE	Pond	1967	1:10560
A	12m SE	Ponds	1938	1:10560
B	13m W	Pool	1989	1:10000
B	64m W	Pool	1995	1:10000
1	132m SE	Ponds	1967	1:10560
2	212m E	Pond	1967	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

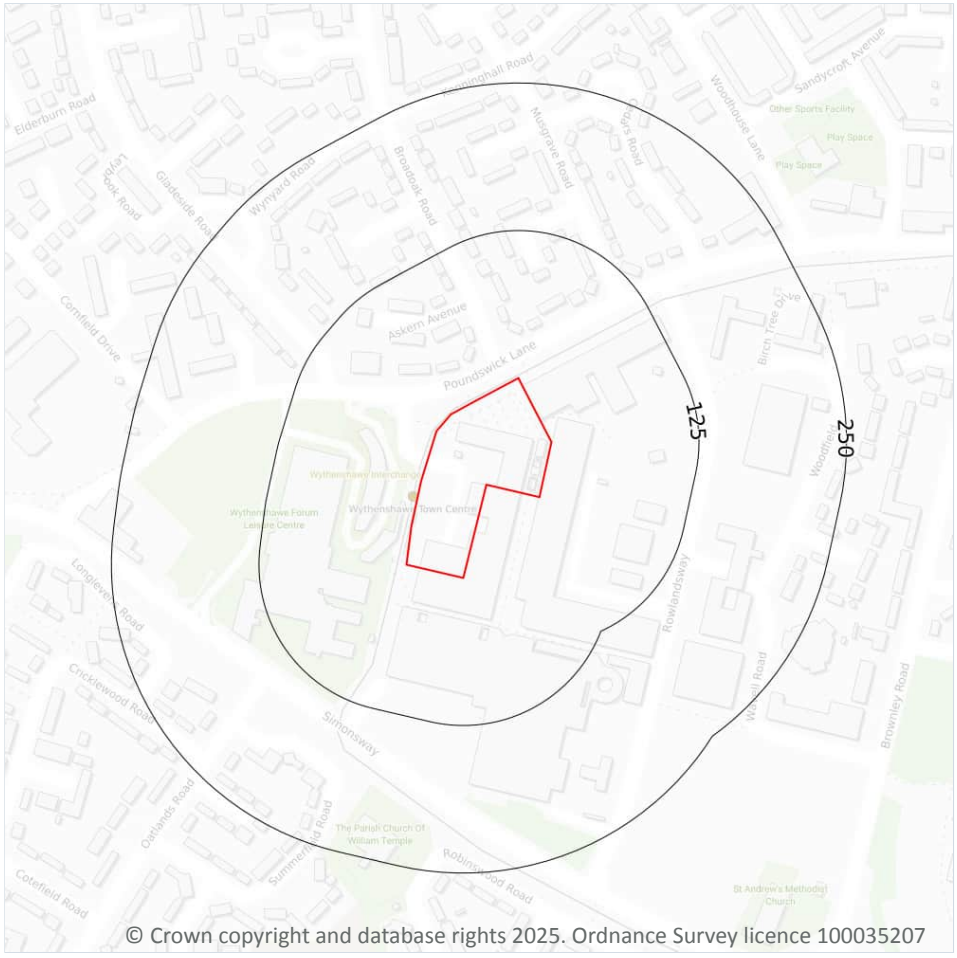
Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

20 Radon



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20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 89 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
10m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

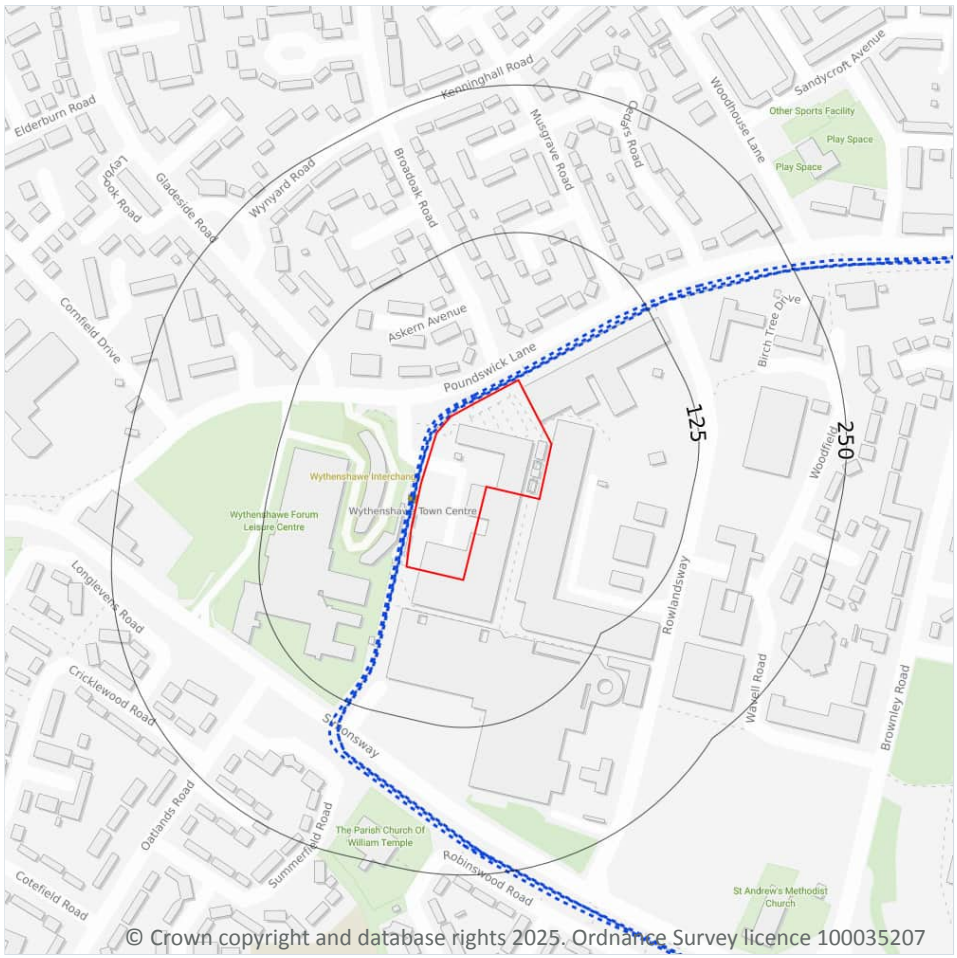
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	14

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 92 >**

Location	Name	Type
1m NW	Not given	Multi Track
3m W	Metrolink	light_rail
3m NW	Metrolink	light_rail
4m W	Not given	Multi Track
6m W	Metrolink	light_rail
6m NW	Metrolink	light_rail
30m SW	Not given	Multi Track
122m NE	Metrolink	light_rail
123m NE	Metrolink	light_rail
172m NE	Metrolink	light_rail
173m NE	Metrolink	light_rail
177m S	Metrolink	light_rail
179m S	Metrolink	light_rail
224m S	Metrolink	light_rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

Appendix D – RMS UXO Limited Detailed UXO Report

Detailed Unexploded Ordnance (UXO) Risk Assessment

Project Name: Wythenshawe

Prepared for: Civic Earth Limited

Prepared by: H. Merritt

Site: Wythenshawe, Manchester, M22 5RF

Date: 30/07/2025

Document Name: INO5823 - Detailed UXO Risk Assessment - Wythenshawe

Version: INO5823-001

Reviewed By: K. Kneebone

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B-3: LAND SERVICE AMMUNITION - ROCKETS

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C-2: HIGH EXPLOSIVE BOMBS

C-3: INCENDIARY BOMBS

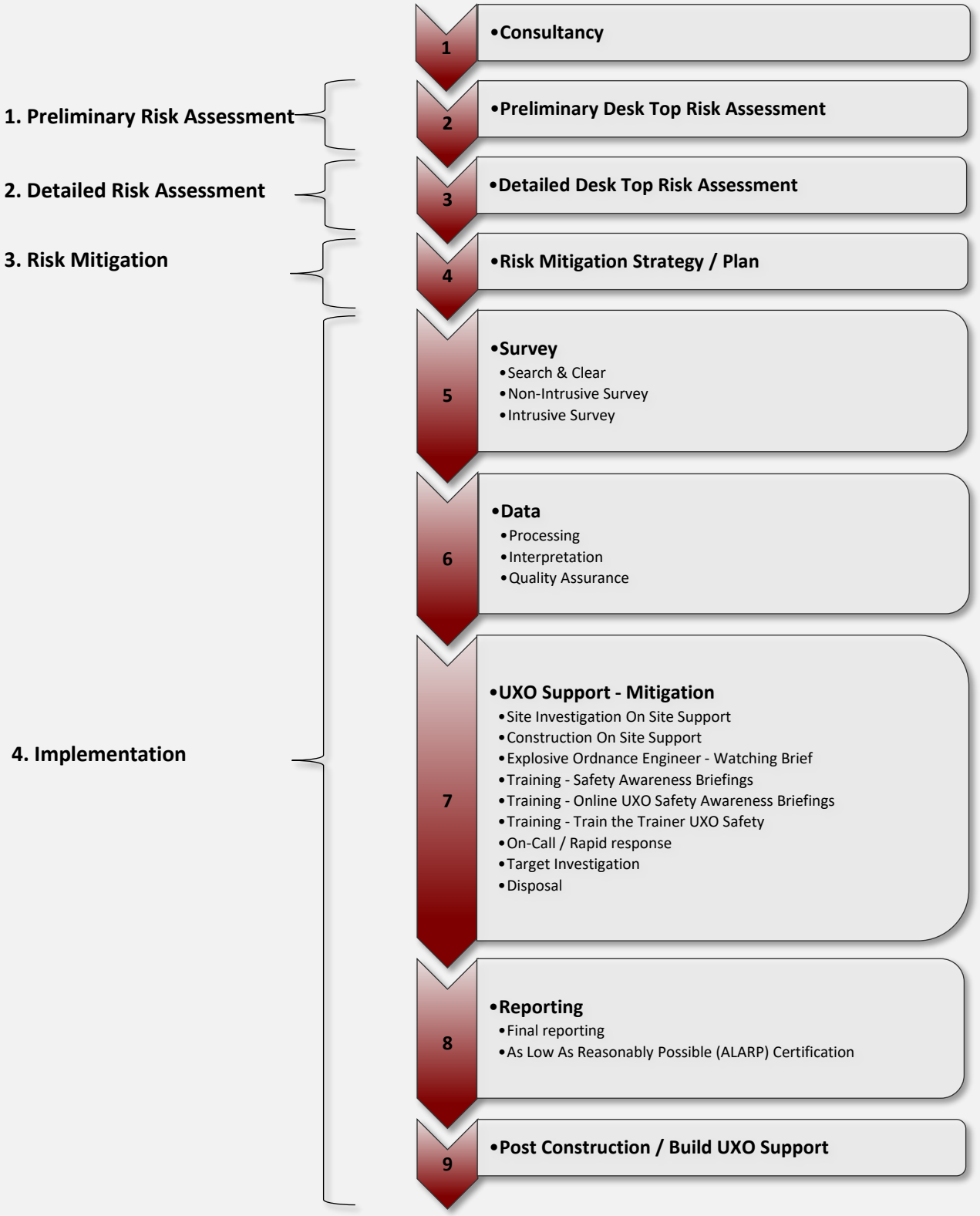
Acronyms & Abbreviations

AA	Anti-Aircraft
AAA	Anti-Aircraft Ammunition
ALARP	As Low As Reasonably Practicable
AOD	Above Ordnance Datum
ARP	Air Raid Precaution
AXO	Abandoned Explosive Ordnance
BD	Bomb Disposal
BDO	Bomb Disposal Officer
bgl	Below Ground Level
BGS	British Geological Survey
BH	Borehole
BPD	Bomb Penetration Depth
CDP	Cast Driven Piles
CFA	Continuous Flight Auger
CIRIA	Construction Industry Research and Information Association
CPT	Cone Penetration Testing
CS	County Series
EO	Explosive Ordnance
EOC	Explosive Ordnance Clearance
EOD	Explosive Ordnance Disposal
GI	Ground Investigation
GIS	Geographic Information Systems
GL	Ground Level
GP	General Purpose
GPS	Global Positioning Systems
HAA	Heavy Anti-Aircraft
HE	High Explosive
HO	Home Office
HSE	Health and Safety Executive
IB	Incendiary Bomb
kg	Kilograms
km	Kilometres
LAA	Light Anti-Aircraft
LCC	London County Council
LE	Low Explosive
LSA	Land Service Ammunition
m	Metres
MoD	Ministry of Defence
mm	Millimetres
NEQ	Net Explosive Quantity
NFF	National Filling Factory
NGR	National Grid Reference
OD	Ordnance Datum
OS	Ordnance Survey
PM	Parachute Mine
PoW	Prisoner of War
RADAR	Radio Detection And Ranging
RAF	Royal Air Force
RN	Royal Navy
RNAS	Royal Naval Air Service
ROF	Royal Ordnance Factory
SAA	Small Arms Ammunition
TA	Territorial Army
TNT	Trinitrotoluene
UK	United Kingdom
UN	United Nations
USAAF	United States Army Air Force
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
V	Weapons Vergeltungswaffe– Vengeance Weapons
WD	War Department
WWI	World War One
WWII	World War Two
ZAA	'Z' Anti-Air Rocket Battery

UK UXO Risk Mitigation Process

CIRIA 681 Phases

RMS UXO Detailed Phases



1. Executive Summary

1.1 Site Overview

The client has specified the site location as Wythenshawe, Manchester, M22 5RF and is approximately centred on the National Grid Reference: SJ 82639 87010.

RMS UXO Limited, (RMS UXO) was commissioned by Civic Earth Limited to conduct an Unexploded Ordnance (UXO) Desk Study Risk Assessment for Wythenshawe. The primary objective of this document is to evaluate the UXO risks present at the specified site and its surrounding areas, in compliance with the Construction Industry Research and Information Association (CIRIA) C681 guide on 'Unexploded Ordnance (UXO), a Guide for the Construction Industry'.

1.2 Proposed Works

The proposed works outlined by the client include Borehole Drilling, foundation inspection pits and Window Sampling.

1.3 Summary of Available Information

- During WWII, the Borough of Bucklow sustained a low-density bombing campaign according to The National Archives statistics, with an average of 5.6 items of ordnance recorded per 1,000 acres.
- There are six bombing incidents known to have occurred within an approximate 1km radius of the site, those being two HE bombs and four Firebombs. The closest HE bomb strike occurred approximately 880m north-east and was dropped on the night of the 10thJanuary 1941. There is a possibility that additional HE bombs, UXBs and IB clusters may have struck certain areas of the site unrecorded due to open ground across the site, masking any evidence of such strikes. It should be noted that incendiary bomb showers were not recorded within these records and therefore may also pose a risk to the site. The entire site being the main risk pathway. It should also be noted that abandoned bombs and UXBs were recorded in the wider surrounds to the site.
- Bomb damage mapping is unavailable for the area of Wythenshawe.
- High-resolution aerial photographs around the Wythenshawe area in 1945 corroborate with pre-war OS mapping and reveal the site comprised open, undeveloped ground. A high-resolution aerial photograph around the Wythenshawe area in 2000 shows the site comprised the structures that are on site in its modern-day composition.
- It should be noted that the majority of the site is anticipated to have received relatively low levels of access and observation due to its undeveloped nature. Although, during any bombing raids or after any consequent damage on site (nonvisible) the anticipated level of access may have dropped significantly. It is possible that the open areas are unlikely to have experienced frequent and regular access during WWII, with some areas potentially experiencing no access at all.
- No evidence has been located to suggest that the site formerly had any military occupation or usage that could have led to contamination with items of British / Allied ordnance.
- It should be noted that during post-war development works, there are no records of UXO being found on the site.

1.4 Risk Assessment Summary

Risk Level
Low

Table 1.1 - Risk Assessment					
Type of work	Potential Hazard	Likelihood (L)	Severity	Risk Rating	Risk Zone
Future developments	HE	1	5	5	Low
Future developments	IBs	1	4	4	Low

It should be noted that the risk associated with UXOs is partially mitigated to the exact depths of post-war redevelopment within the structures' foundations and the hard standing.

1.5 Project Specific Recommendations

The table below provides the recommended methods of UXO risk mitigation required to adequately mitigate the risk of UXO for the project in line with the scope of works detailed within the report and is in accordance with the CIRIA 681 Guidelines.

	Table 1.2 MITIGATION METHOD – Low Risk Areas	YES	TBC*
	Safety Awareness Briefings Explosive Ordnance Safety and Awareness Training is provided to site personnel to make them aware of the potential threat from UXO on the work site, what UXO might look like and what to do if suspected UXO is encountered.	✓	
	Site Specific Safety Instructions – Emergency Response Plan Provides site management teams the training, information and guidance to respond to a UXO related incident. Delivered by experienced EOD qualified personnel and often employed alongside an on-call offsite EOD responder.	✓	
	On-call EOD Engineer – Off-site Responder A retained service whereby a qualified EOD engineer will respond to a suspicious find on-site.		✓
	UXO Removal & Disposal The removal from site of safe to move or inert items of UXO for disposal off-site.		✓
	UXO Disposal The disposal of UXO onsite. This may be through explosive means, burning or mechanical dismantling methods.		✓

*Note: These are mitigation options that may be required as a result of either a non-intrusive or intrusive survey. For the complete list of UXO risk mitigation measures available please refer to section 6 within the report.

2. Project Context

2.1 Project Rational & Scope

Objective

The objective of this assessment is to evaluate the potential for encountering unexploded ordnance (UXO) at the Wythenshawe, Manchester, M22 5RF during the proposed window sampling, foundation inspection pits and rotary borehole drilling. This assessment adheres to the UXO risk management process and follows CIRIA Guidelines.

Aims

The primary aim of this report is to examine the likelihood of encountering explosive ordnance during the planned works at Wythenshawe, Manchester, M22 5RF. Based on the findings, risk mitigation measures will be recommended to either eliminate or minimize the threat from UXO.

Issues Addressed

The report will focus on the following key issues:

- The risk of UXO contamination at the site.
- The possibility of remaining UXO on site.
- The potential for encountering UXO during intrusive works.
- The risk of ordnance initiation.
- The consequences of initiating or encountering ordnance.
- Appropriate risk mitigation measures will be recommended, contingent on the assessed level of risk and specific site conditions.

Tasks:

- **Preliminary Site Assessment:** Conduct an initial review of historical data and previous studies related to the site.
- **Data Collection:** Gather relevant data through field surveys etc.
- **Data Analysis and Risk Assessment:** Analyse the collected data to identify UXO threats and assess risks.
- **Mitigation Planning:** Develop a set of tailored risk mitigation measures.

Responsibilities:

- RMS UXO will be responsible for all data collection, analysis, and reporting.
- The client is responsible for providing access to the site and any existing data or reports.

Limitations and Assumptions:

- The assessment is based on the data available at the time of the study.
- Any changes in project scope or site conditions must be communicated to RMS UXO for re-assessment.

3. Methodology

3.1 Methods

Risk Assessment Process

Our risk evaluation employs a systematic methodology, focusing on several crucial aspects:

- Assessing historical UXO contamination at the location.
- Assessing the likelihood – pathways for UXO to have contaminated the site.
- Assessing the likelihood of UXO being still present
- Estimating the likelihood of encountering UXO during upcoming activities.
- Assessing the chances of UXO functioning as designed.
- Understanding the implications of either encountering or UXO detonating.

To comprehensively cover these aspects, we've considered:

- Past records of bombings and military engagements.
- Conditions and historical context of the site during times of conflict.
- Post-conflict developments and any documented UXO removal efforts.
- The characteristics and scale of the planned activities.
- The variety of munitions that could have affected the area.

Sources of Information

To ensure a thorough and comprehensive report, material from the following sources has been consulted:

- The National Archives.
- Local Historical Archives.
- Relevant Government Departments.
- Information provided by client.
- RMS UXO's comprehensive historical archives and UXO geo-database.
- Open sources such as published books and internet resources.

Reliability and Limitations

As of the date this document was issued, all contained information is verified to be both current and accurate. Our databases undergo systematic updates to include the most recent data, and RMS UXO has employed rigorous precision and specialised expertise in the creation of this document.

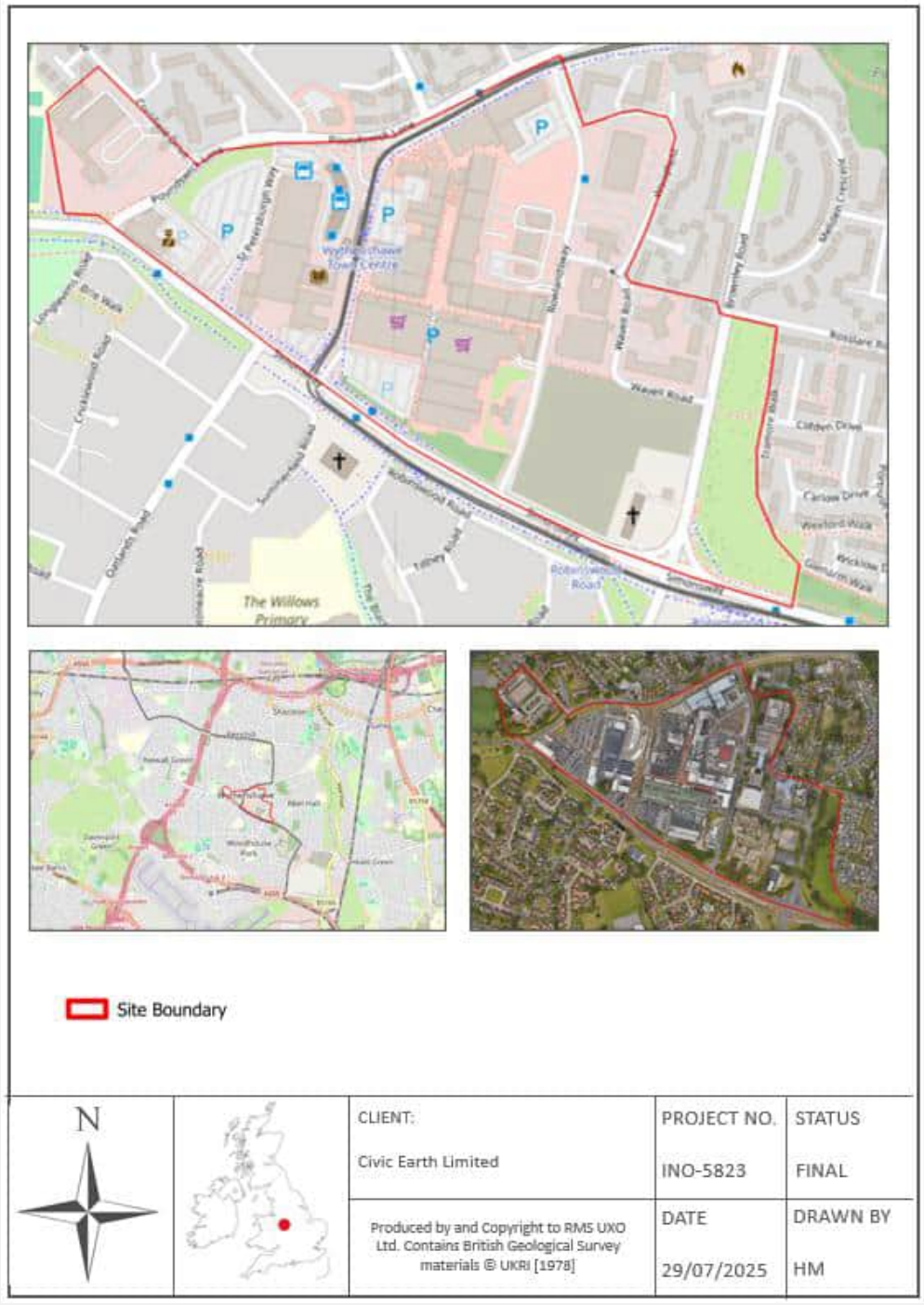
Our risk evaluations are grounded in thorough investigation and supported by data from multiple, verified external sources. While every measure has been taken to ensure the reliability of this data, it is understood that historical records may contain inherent limitations. Consequently, RMS UXO disclaims liability for any inaccuracies present in external data sets beyond our purview.

4. Site Profile

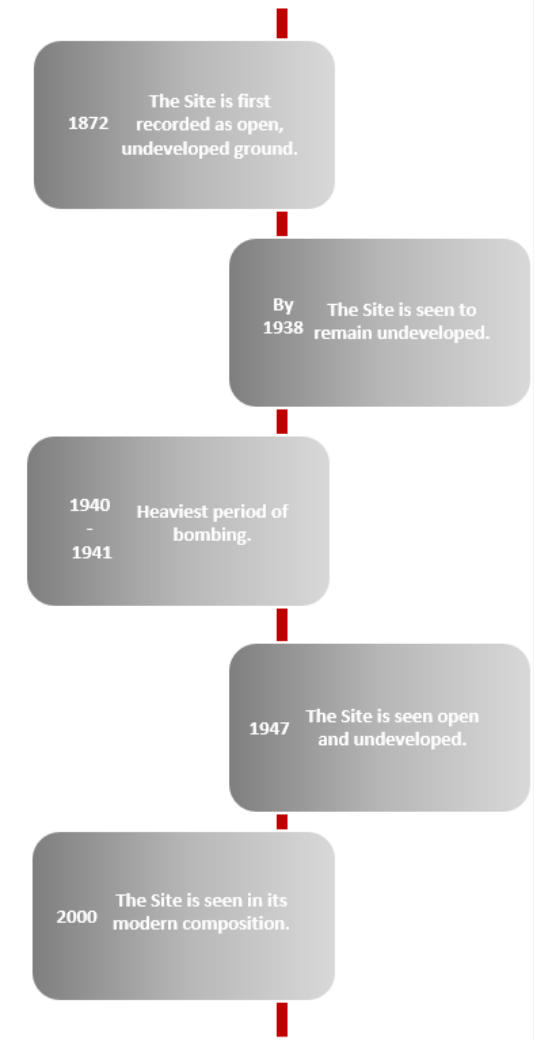
4.1 Location

The Client has defined the site as Wythenshawe, Manchester, M22 5RF and is approximately centred on the National Grid Reference: SJ 82639 87010.

The site is situated in the Rural District of Bucklow, approximately 1.5km west from Heald Green Station.



4.2 Historical Context & Previous Studies



Military Activity & WWII Site Utilisation: The site has not been identified as an area of military activity during the war.

Bombing Decoys: Records indicate no bombing decoys in the immediate area.

Air Delivered Ordnance: Archival records confirm the deployment of HE and Incendiary bombs via aerial delivery in the vicinity of Wythenshawe between 1940 and 1945. At least two HE bomb strikes and four firebomb strikes are known to have occurred within an approximate 1km radius of the site; the closest of these being recorded 880m north-east and was dropped on the night of the 10th January 1941. It should be noted that incendiary bomb showers were not recorded within these records and therefore may also pose a risk to the site. The entire site being the main risk pathway.

Anti-Aircraft Defences: There are 25 Heavy-Anti-Aircraft (HAA) gun batteries located within an approximate 15 kilometres radius from the site. These pose a risk of UXO contamination primarily due to storage of ammunition and partially due to searchlights rendering them clear targets for bombing at night. The closest is located approximately 3km north-west of the site and the risk from buried ammunition is not deemed significant, however the main risk associated with this site is that unexploded HAA shells can land up to an average of 15km from the firing point.

Aerial Photography: High-resolution aerial photographs around the Wythenshawe area in 1945 corroborate with OS mapping and reveal the site comprised open, undeveloped ground.

Access to the Site: It should be noted that the majority of the site is anticipated to have received relatively low levels of access and observation due to its undeveloped nature. Although, during any bombing raids or after any consequent damage on site (nonvisible) the anticipated level of access may have dropped significantly.

Bomb Damage Maps: Research indicates that bomb damage maps are not available for Wythenshawe and therefore are unavailable for this report.

Pre-WWII Maps: Historical maps dated 1938, have been consulted and show the site comprised open, undeveloped ground.

Post-War Maps & Historical Records: A thorough review of post-WWII maps and historical records show post-war the site retained its pre-war composition until at least 1953 as this is the last set of available mapping.

Modern Development: Further development has comprised the development of most of the site. By 2000 multiple structures are seen across the site with associated hardstanding roads and parking areas. Ares of open ground remain to the east of the site. It should be noted that during post-war development works, there are no records of UXO being found on the site.

Intentional or Unintentional Disposal: Records indicate no instances of disposal of UXO, within the confines of site. However, due to UXO finds in the wider study area of Wythenshawe this cannot be entirely discounted.

4.3 Proposed Work & Risk Pathways

The planned activities at Wythenshawe, Manchester, M22 5RF encompass various intrusive engineering tasks, such as Borehole drilling and Window Sampling. These tasks inherently create risk pathways for potential encounters with Unexploded Ordnance. The probability of encountering UXO is contingent upon the type and depth of the intrusive work being conducted. Consequences of UXO initiation could range from critical injuries to personnel to substantial damage to equipment and project delays. To mitigate these risks, a comprehensive approach will be employed, considering historical data, site-specific conditions, and previous UXO clearance operations. Tailored risk mitigation strategies will be developed to address the unique risk pathways associated with the proposed work. Considering the range of UXO that could exist within the site, boring and window sampling could introduce a high-risk scenario. While not every UXO encountered in this manner is guaranteed to activate upon contact, the discovery of one could have severe repercussions. These could range from endangering personnel and damaging equipment to causing substantial delays in project timelines.

4.4 Potential Hazards

German Air Delivered Ordnance

To gain a comprehensive understanding of the impact of air raids on Cheshire during wartime, a comprehensive examination of record sets was conducted at the National Archives and within online sources.

World War I

Wythenshawe was not bombed during WWI and therefore the risk of encountering unexploded WWI bombs today is very low/unlikely.

World War II

Primary strategic targets in Britain included airfields, depots, docks, warehouses, wharves, railways, factories, and power stations. Later in the war the Luftwaffe bombing started to include civilian areas and sites of cultural and historical significance.

The most intensive period of bombing over Wythenshawe occurred between August 1940 and January 1941, as this is when most of the bomb strikes to the wider area occurred.

WWII Home Office Bombing Statistics

The table below shows the quantity of German aerial delivered bombs (excluding 1kg incendiaries and anti-personnel bombs) dropped on the area of Bucklow from 1940 to 1945.

Table 4.1 - Record of German Ordnance Dropped on Bucklow	
Area (Acres)	46,103
High Explosive Bombs	247
Parachute Mines	7
Oil Bombs	4
Phosphorus Bombs	-
Fire Pots	-
V1	1
V2	-
Total	259
Bombs per 1000 Acres	5.6

During WWII, the Rural District of Bucklow sustained a low-density bombing campaign according to The National Archives statistics, with an average of 5.6 items of ordnance recorded per 1,000 acres.

Records of the 1kg incendiary and anti-personnel bombs were not routine as they were too numerous to record. Although risk from IB's is less than that of HE bombs they were still designed to harm. Anti-personnel bombs are rare to find today but are potentially more dangerous. Although statistics for these bombs were not often recorded, it is important to carefully consider when evaluating risk to personnel and equipment.

Primarily HE bombs are most commonly associated with historical military activities in the area of Wythenshawe. These UXO items are typically found in undisturbed soil, up to a standard depth of 9m.

4.2	Type of UXO	Characteristics
HE	High Explosive Bombs	The most commonly deployed German High Explosive (HE) bombs during WWII were the SC50, with 97% of all bombs dropped being in the 50kg, 250kg, and 500kg range. These bombs, which comprised 40-50% explosive fill, were capable of creating entry holes as small as 20cm in diameter and could easily penetrate the ground if they failed to detonate on impact. HE bombs were the primary ordnance used by the Luftwaffe in terms of weight. Post-air raid assessments often struggled to identify unexploded ordnance (UXO) due to the extensive damage caused by detonated bombs, which sometimes rendered the small entry holes of UXO undetectable, especially in certain ground conditions. This is further complicated as Air Raid Precautions (ARP) documents highlight the risk of misidentifying large UXO damage as resulting from an exploded 50kg bomb. As a result, UXO pose a significant risk to current intrusive works.
LIB	Large Incendiary Bombs	Large Incendiary Bombs (IBs) were less common than the 1kg variants but were used more frequently than Parachute Mines and Anti-Personnel bomblets. In instances where these large IBs penetrated the ground, complete combustion did not always take place. As a result, they could remain a hazard for any intrusive works, maintaining a risk due to their potential unburnt components.
IB	1kg Incendiary Bombs	In terms of the number of weapons dropped, small IBs were the most numerous. Millions of these were dropped throughout WWII. Large IB's were not as common as the 1kg IBs, although they were more frequently deployed than PMs and AP bomblets.
PM	Parachute Mine or G Mine	These were deployed less frequently than HE and IBs due to size, cost, and the difficulty of deployment

4.2	Type of UXO	Characteristics
AP	SD-2 Anti-Personnel Bomblets	Anti-Personnel (AP) bomblets, though not widely used, are generally regarded as posing a low risk to most operations in the UK. The SD2 bomblets, typically packed in containers with 6 to 108 submunitions, had limited ability to penetrate the ground. They would have likely been identified during post-raid surveys, barring instances where they landed in water, dense vegetation, or amidst bomb rubble, where their detection might have been more challenging
V-1	Vergeltungswaffe-1, Flying Bomb, Buzz Bomb, or Doodlebug	The V-1 was a pivotal advancement in military weaponry during WWII. It holds the distinction of being the first guided missile utilized in the conflict, serving as a precursor to modern cruise missiles. This innovative design was propelled by a pulsejet, marking a significant technological breakthrough at the time
V-2	Vergeltungswaffe 2 (Reprisal Weapon 2)	The V-2 was the first ballistic missile in military history. It was predominantly employed by the German Army against Belgian and British targets during the latter stages of World War II. Notably, the V-2 holds the distinction of being the first man-made object to reach space, achieving an altitude of 189 km (117 miles) during test flights in 1944.

German Air-delivered Ordnance Failure Rate

It has been estimated that approximately 10% of the HE bombs dropped during WWII failed to explode as designed. This estimate is probably based on the statistics of wartime recovered UXBs and therefore will not have taken account of the unknown numbers of UXBs that were not recorded at the time and is probably an underestimate.

The reasons for failures include:

- Fuse or gaine malfunction due to manufacturing fault, sabotage (by forced labour) or faulty installation.
- Clockwork mechanism failure in delayed action bombs.
- Failure of the bomber aircraft to arm the bombs (e.g. charge the electrical condensers which supplied the energy to initiate the detonation sequence) due to human error or equipment defect.
- Jettison of the bomb before it was armed or from a very low altitude.

Allied Explosive Ordnance

The potential risk of encountering Allied ordnance on construction sites is particularly high in areas with a history of military activity, including munitions from military exercises, poor disposal practices, or defensive placements against enemy occupation. Such areas may contain remnants like Land Service Ammunition (LSA) and Small Arms Ammunition (SAA).

While there's no evidence of military use at the specific site in question that could lead to contamination with Allied ordnance, urban areas like this one are still at risk from unexploded Anti-Aircraft projectiles from WWII. This is particularly relevant considering the Ministry of Defence's WWII defence tactics against the Luftwaffe, which involved heavy and light anti-aircraft artillery and 'Z' batteries to protect major towns, cities, and strategic locations. The table below offers further details on these defence systems and the associated risks.

4.3	Type of UXO	Characteristics
LSA	Land Service Ammunition	LSA resulting from historic military activity is commonly encountered across the UK by the public and construction industry alike. Such finds are much more common in rural areas than in urban environments and can often be anticipated in areas such as former RAF stations or ranges. However, many such items are encountered entirely by surprise where the landowner or developer has no knowledge of any previous military use of the land.
	Mortars	A mortar is typically a simple, lightweight, man-portable, muzzle-loaded cannon, consisting of a smooth-bore metal tube fixed to a base plate (to spread out the recoil) with a lightweight bipod mount and a sight. Mortars are typically used as indirect fire weapons for close fire support with a variety of ammunition. Mortars launch high explosive or carrier shells in high-arching ballistic trajectories.
	Grenades	A grenade is a small explosive weapon typically thrown by hand (also called hand grenade) but can also refer to a shell (explosive projectile) shot from the muzzle of a rifle (as a rifle grenade) or a grenade launcher.
	Mines	A landmine is an explosive weapon often concealed under or camouflaged on the ground and designed to destroy or disable enemy targets as they pass over or near it. Land mines are divided into two types: anti-tank mines, which are designed to disable tanks or other vehicles; and anti-personnel mines, which are designed to injure or kill people
	Rockets	During World War II, a variety of rockets were mounted on planes, including air-to-air rockets, air-to-surface rockets, and guided bombs
SAA	Small Arms Ammunition	The most common type of ordnance encountered on land used by the military are items of Small Arms Ammunition (SAA). SAA refers to the complete round or cartridge designed to be discharged from varying sized hand-held weapons such as rifles, machine guns and pistols. SAA can include bullets, cartridge cases and primers/caps
	.303	It was the standard British and Commonwealth military cartridge for rifles and machine guns (Bren Gun) from 1889 until it was replaced by the 7.62×51mm NATO in the 1950s.
	7.92mm BESA	The British military's Besa machine gun was chambered for the 7.92×57mm Mauser and was used in armoured vehicles during World War II.
	9x19mm	These rounds were issued for use with Sten guns, the Lanchester sub machine gun and the Browning Hi Power pistol and were produced in huge quantities.
	20mm Hispano	Used in the Hispano 20mm Cannon, which was installed in various fighter planes including the spitfire and the hurricane.
	20mm Oerlikon	A semi-rimmed round that was used in the 20mm Oerlikon gun, which was a key weapon in defending ships and aircraft. During WWII, twin and quadruple Oerlikon mounts were developed, both for army and for navy use

4.4	Type of UXO	Characteristics
AAA	Anti-Aircraft Artillery	At the start of WWII, two types of AAA guns were deployed: Heavy Anti-Aircraft Artillery (HAA), firing large shells (3.7” plus calibre) and Light Anti-Aircraft Artillery (LAA) employing smaller calibre weapons, firing .303”, 20mm and 40mm shells.
LAA	Light Anti-Aircraft	The Light Anti-Aircraft (LAA) artillery, notably the 40mm Bofors and 20mm Oerlikon guns, played a significant role in WWII, primarily targeting fast, low-flying aircraft. These mobile units were strategically repositioned along town perimeters and near key industrial sites, enhancing their operational

4.4	Type of UXO	Characteristics
		flexibility. However, this mobility results in limited historical records regarding their exact locations. The 40mm Bofors gun, widely utilized due to its capacity to fire up to 120 projectiles per minute over a range of 1,800 meters, was a common fixture. The RAF Regiment initially employed the 20mm Oerlikon gun, capable of discharging up to 330 rounds per minute up to 4,000 meters, before gradually integrating the Bofors gun from 1943 onwards, often maintaining a mix of both types until the end of the war. All Allied military airfields were fortified with these LAA batteries, strategically placed in isolated positions to optimize defence during aerial attacks. The primary function of these batteries was to intercept fast, low-flying German fighter bombers. The ammunition used in LAA batteries consisted of small projectiles equipped with contact fuses and either a high-explosive or incendiary charge, designed to detonate upon impact. In instances where these projectiles failed to hit their intended targets, they would fall back to the ground with their charges intact. Despite their reduced risk compared to larger ordnance, the 40mm projectiles, resembling large-calibre small arms ammunition, still pose a considerable safety concern.
HAA	Heavy Anti-Aircraft	Heavy Anti-Aircraft (HAA) batteries, equipped with large guns like the 3.7" Quick Firing (QF), were strategically positioned for engaging high-flying bomber aircraft. These installations, often permanent gun emplacements, were a key component of the UK's aerial defence during WWII. In addition to firing large High Explosive (HE) projectiles, triggered by various fuses including impact, area and time delay mechanisms, local ammunition caches were commonly situated near strategic location like defended roadblocks or pillboxes. The closest HAA Batteries to the site in question is located approximately 3 kilometres to the north-west, yet their effective range was up to 15km. This proximity and operational range underscore the potential risk of encountering Allied ordnance, especially in areas with a historical military presence.
ZAA	Z (Rocket) Batteries:	A Z-Battery comprised a grid formation of 64 rocket projectors which fired 2" and later 3" Unrotated Projectile (UP) rockets to a maximum altitude of 5,800m; a ground range of some 9,000m. They were deployed in cities all around the UK from 1941 and proved to be an effective addition to the existing AA guns. The rockets measured 0.9m (2") and 1.8m (3") in length with four stabilising fins at the base and were fitted with 3.5kg or 8.2kg HE warheads. The larger warhead had an effective airborne blast radius of up to 20m. Some variants deployed a form of aerial mine described as a "small yellow bomb" which was designed to detach from the rocket at height and descend on a parachute with the objective of becoming snagged on target aircraft and then detonating.

4.5 Site Geology & Bomb Penetration Depth

Assessing ground conditions is a key factor in determining both the maximum penetration depths of unexploded ordnance (UXO) and the likelihood of hidden munitions.

Should there be any changes in site investigation protocols, construction methods, or focus areas within the project site, immediate communication with RMS UXO is advised. This action allows for a timely reassessment of existing UXO risks and the adjustment of risk mitigation plans. Certain soil and rock

conditions, such as iron-rich or mineralised soils, can impact the effectiveness of UXO risk reduction methods like magnetometer surveys. Identifying the source of altered soil types is essential for accurately assessing the ground state at the time of potential UXO contamination. This information aids in fine-tuning the calculations for average and maximum bomb penetration depths, thereby enabling more targeted risk reduction strategies in line with ALARP guidelines.

Table 4.5 - GROUND TYPE	DEPTH
Topsoil	0.0 – 0.5m
Sandy Silty Clay	0.5 – 3.2m
Clays	3.2 – 16.4m (end of borehole)

Following a review of the BGS borehole log "SJ88NW994 – ROWLANDSWAY WYTHENSHAWE" (located on the site), RMS UXO have been able to provide an estimate of the likely maximum bomb penetration depth:

The estimated average bomb penetration depths accounting for ground composition are:

500kg	<8m

The estimated bomb penetration depth for 50kg and 250kg bombs would be expected to be at shallower depths.

The calculation of bomb penetration depths involves several key factors.

These factors include the bomb being dropped from a significant height, leading to an impact speed of 260 m/s from heights above 5,000m. The angle of impact with the ground varies between 10 and 15 degrees from the vertical, and the bomb remains stable during its descent and upon ground penetration. Additionally, no slowing mechanisms are attached to the bomb, and the soil composition is consistent. When released from a high altitude, the bomb generally enters the ground at an angle of 10 to 15 degrees to the vertical. It maintains this angle until its momentum is nearly depleted, at which point it shifts suddenly to a horizontal position before coming to rest. The term 'offset' refers to the gap between the centre of the entry hole and the bomb's final position. Significant sideways movement from the initial entry path is not uncommon. For attacks from lower altitudes, the angle of impact can be 45 degrees or more, often resulting in increased lateral movement during penetration.

The J-curve effect is an important aspect of bomb trajectory, primarily influenced by the bomb's interaction with the ground upon impact. Bombs would typically fall nose-first and result in a varied deceleration between the nose and tail upon contact with the ground with the nose slowing down before the tail. This differential in speeds leads to a notable shift in trajectory and often results in the bomb either achieving a horizontal orientation or, in certain scenarios, curving upward in a J-shaped trajectory.

Determining the average impact velocity of World War II bombs like the 50kg, 250kg, and 500kg high-explosive (HE) bombs is not straightforward due to several factors, including the altitude from which they were dropped, their design/shape, and the mediums they passed through.

5. Risk Analysis

5.1 Analysis

For each type of investigative method that might be used, RMS UXO has carried out unique calculations to rate the risks. The risks associated with encountering and activating UXO can vary widely. These variations depend on several factors, including the amount of high-explosive material in the UXO and the intensity with which it is encountered. Ground investigation specific to this research location have been prepared to help analyse these risks, as the likelihood of encountering UXO can differ based on the nature of the intrusive activities being conducted.

5.2 Risk Levels and Interpretation

Risk Rating

RMS UXO's Risk Assessment gauges and categorises the dangers presented by the most likely hazardous items during various operations on the site. The Hazard Assessment Score is calculated by evaluating the likelihood of coming across UXO and the potential outcomes of triggering it.

Firstly, the probability of encountering UXO (PE) has been considered and rated for the different construction techniques, as detailed below. The probability of detonating a UXO (PD) has been considered and rated for the different construction techniques, as detailed below.

Table 5.1.1 - Probability of Encounter (PE)	Rating
Highly likely and frequent.	5
Probable and likely to happen.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could	2
Improbable, highly unlikely	1
Impossible	0

Table 5.1.2 - Probability of Detonation (PD)	Rating
Highly likely and frequent.	5
Probable and likely to happen.	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) has been used to generate an overall likelihood rating (L).

Each potential risk has been assessed separately to generate the overall likelihood of encountering and detonation a UXO:

For the purpose of this risk assessment, the following values have been applied;

- German HE Bombs - PE= 2 and PD= 2. Therefore, the overall likelihood (L) = 4.
- IBs - PE= 1 and PD= 2. Therefore, the overall likelihood (L) = 2.

Table 5.2 L = 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
10 to 15	Occasional, increased chance or probability.	3
6 to 9	Remote, unlikely to happen but could.	2
1 to 5	Improbable, highly unlikely.	1
0	Impossible	0

L 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 (L x S), in order to provide a risk level using the following matrix.

Table 5.3 - 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

This risk matrix is underpinned by historical data, site-specific conditions, and expert analysis. The likelihood and severity ratings assigned are not just theoretical estimates but are grounded in a detailed understanding of the site's past and present characteristics. These factors combine to form a risk profile that guides our UXO mitigation strategy and ensures all necessary precautions are tailored to the site's unique context.

The final risk assessment for the site is given in Table 5.5.

Table 5.4	Severity (s)					
Likelihood (L)		1	2	3	4	5
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5

Table 5.5 - Risk Assessment Table					
Type of work	Potential Hazard	Likelihood (L)	Severity	Risk Rating	Risk Zone
Future developments	HE	1	5	5	Low
Future developments	IBs	1	4	4	Low

It should be noted that the risk associated with UXOs is partially mitigated to the exact depths of post-war redevelopment within the structures' foundations and the hard standing.

6. Risk Mitigation & Recommendations

6.1 Recommended Risk Mitigation Measures

The recommendation table below is provided as an overview of the methods required to adequately mitigate the risk of UXO and is in accordance with the CIRIA 681 Guidelines. All of the methods listed are acceptable methods of mitigating explosive risk but do have limitations and should be employed only if viable, interpretable data can be collected.

This is particularly true of intrusive surveys, carried out on sites which are not suitable for this type of method, be it as a result of the underlying strata not allowing sufficient depth penetration or the magnetic environment being too high for the sensors to adequately detect a bomb at the distances from the probe as specified. There is also a reluctance by UXO contractors to raise these constraints once identified on site as it is in their interest to have their survey rigs fully employed.

As this is a direct conflict of interest, RMS UXO has made the decision to not own survey rigs and offer this service, when appropriate, in partnership with UK market leading geotechnical providers – combining our UXO knowledge and our partners ground engineering expertise.

	Table 6.1 - MITIGATION METHOD – Low Risk Areas	YES	NO	TBC*
1	**Project Specific Risk Mitigation Strategy** A project specific overarching strategy to manage UXO project risk on more complex sites. Developed in line with the clients construction plan and methods of construction to be used.		✓	
2	**Safety Awareness Briefings** Explosive Ordnance Safety and Awareness Training is provided to site personnel to make them aware of the potential threat from UXO on the work site, what UXO might look like and what to do if suspected UXO is encountered.	✓		
3	**Site Specific Safety Instructions – Emergency Response Plan** Provides site management teams the training, information and guidance to respond to a UXO related incident. Delivered by experienced EOD qualified personnel and often employed alongside an on-call offsite EOD responder.	✓		
4	**On-call EOD Engineer – Off-site Responder** A retained service whereby a qualified EOD engineer will respond to a suspicious find on-site.			✓
5	**Onsite EOD Engineer – Support to Site Investigation** Providing Realtime on-site EOD support to site investigation activities. Delivering safety briefings & employing handheld survey instruments ahead of trial pit excavations, drilling activities etc.		✓	
6	**Onsite EOD Engineer- Watching Brief** Providing a reactive on-site support where pro-active UXO risk mitigation measures, are not practical. Supervising all open/bulk excavations, responding to suspicious finds & managing UXO related incidents.		✓	
7	**Non-Intrusive Survey** The collection of survey data which is then processed & interpreted offsite. The purpose of the survey is to locate sub-surface anomalies/targets which may be UXO related. Usually employed on greenfield sites or sites which have not previously been developed.		✓	

	Table 6.1 - MITIGATION METHOD – Low Risk Areas	YES	NO	TBC*
8	**Intrusive Survey** For sites where a non-intrusive UXO survey cannot reach the maximum depth of UXO risk, or the site is not suitable for a non-intrusive survey such as a brownfield site the intrusive UXO survey provides a suitable alternative. Designed to survey point specific locations where deep engineering works are being undertaken such a piling, pile clusters and sheet piled walls.		✓	
9	**Search & Clearance** For areas where a non-intrusive survey is not viable or cost effective two-man UXO Specialist teams can be deployed to conduct a manual Search & Clear operation of the site location with handheld UXO detection equipment.		✓	
10	**Data Management** Data processing, Interpretation or QA (of third-party survey data) The processing and interpretation of third-party survey data for the purpose of UXO clearance.		✓	
11	**Target Investigation** The investigation of anomalies/targets identified by previously undertaken surveys. Conducted by a two-man EOD team using handheld locators/detectors.		✓	
12	**UXO Removal & Disposal** The removal from site of safe to move or inert items of UXO for disposal off-site.			✓
13	**UXO Disposal** The disposal of UXO onsite. This may be through explosive means, burning or mechanical dismantling methods.			✓

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RMS UXO has consulted its internal databases, as well as reference books and archived information, to gather relevant data. Additionally, historic mapping and aerial photography were sourced from the National Archives and other relevant government offices. Information has also been obtained from local county councils and record offices.

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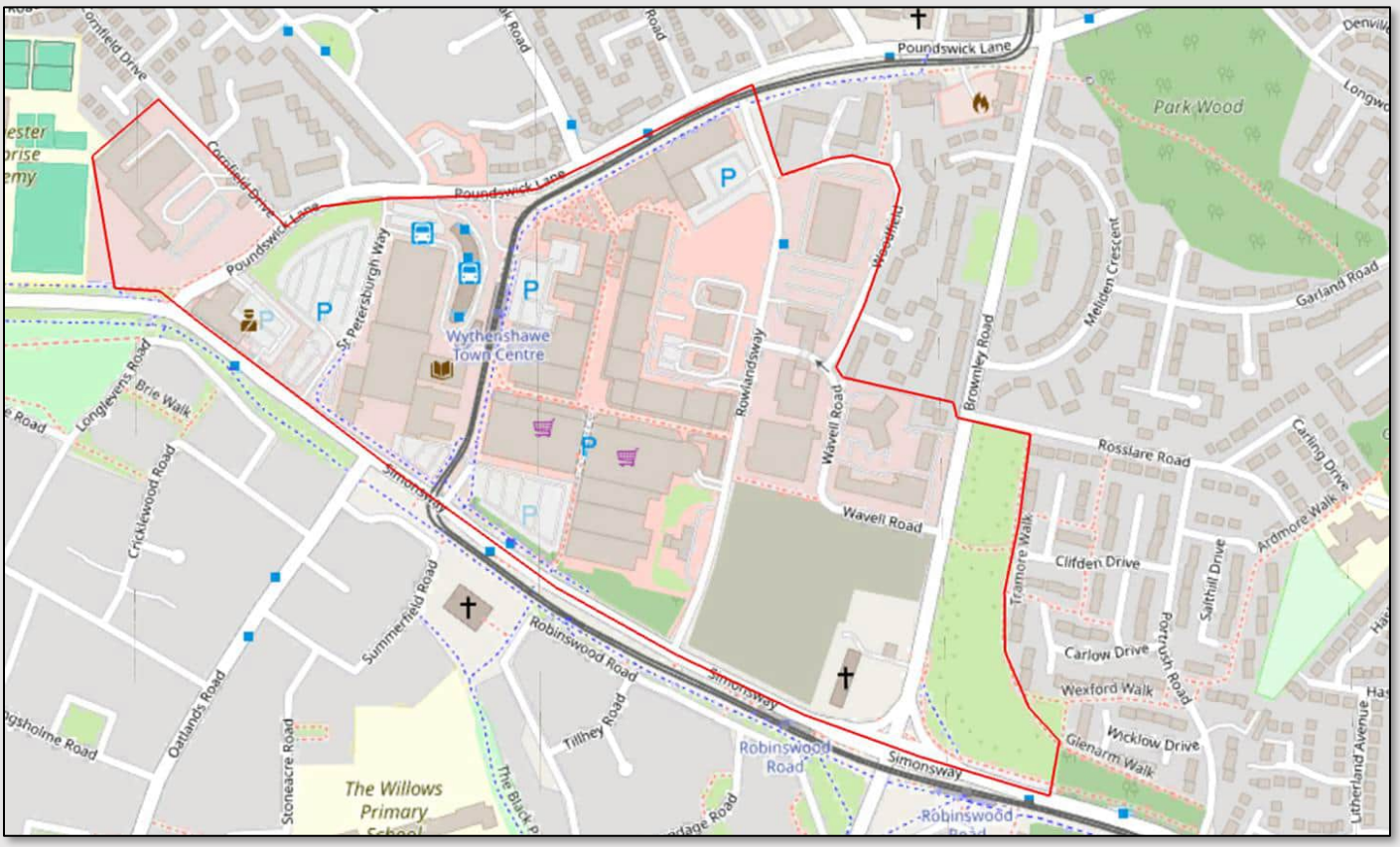
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This report has been constructed with professional thought and care by RMS UXO. Historical data has been meticulously collected and reviewed from third party sources. The validity of this information has been checked to the best of our ability, but RMS UXO holds no accountability for errors resulting from missing or incomplete information. Moreover, despite best efforts to compile a comprehensive historical dataset RMS UXO disclaims responsibility for any subsequent modifications to risk evaluations or mitigation proposals that may be necessitated by the discovery of additional information post factum.

SITE LOCATION

A-1





Approx. Site Boundary	

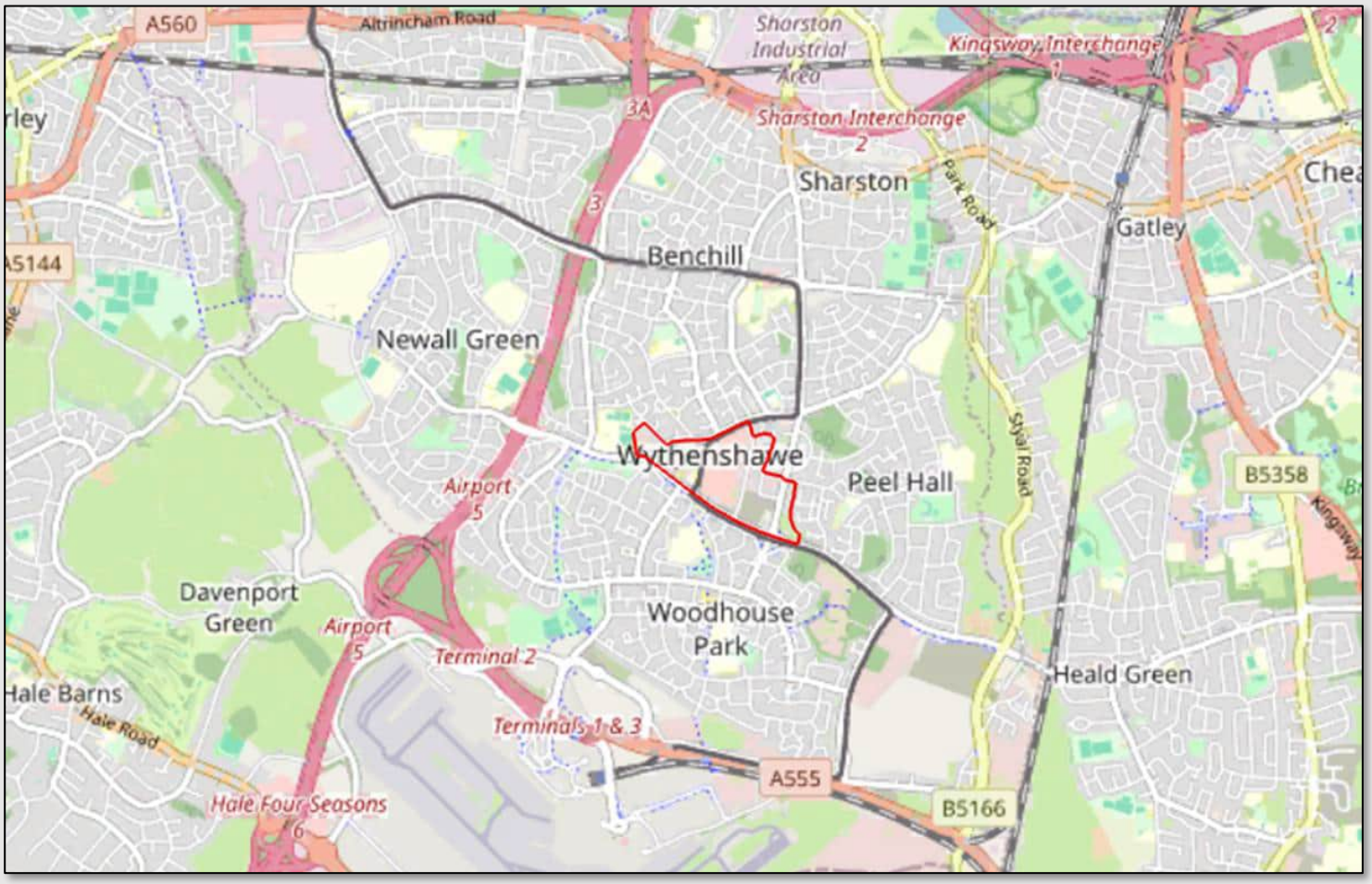
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CLIENT:	PROJECT:	DATE:
Civic Earth Limited	Wythenshawe	30/07/2025
SOURCE:	**REPORT REFERENCE:**	N
Google Earth, OpenStreetMap	INO5823	

SITE LOCATION

A-2

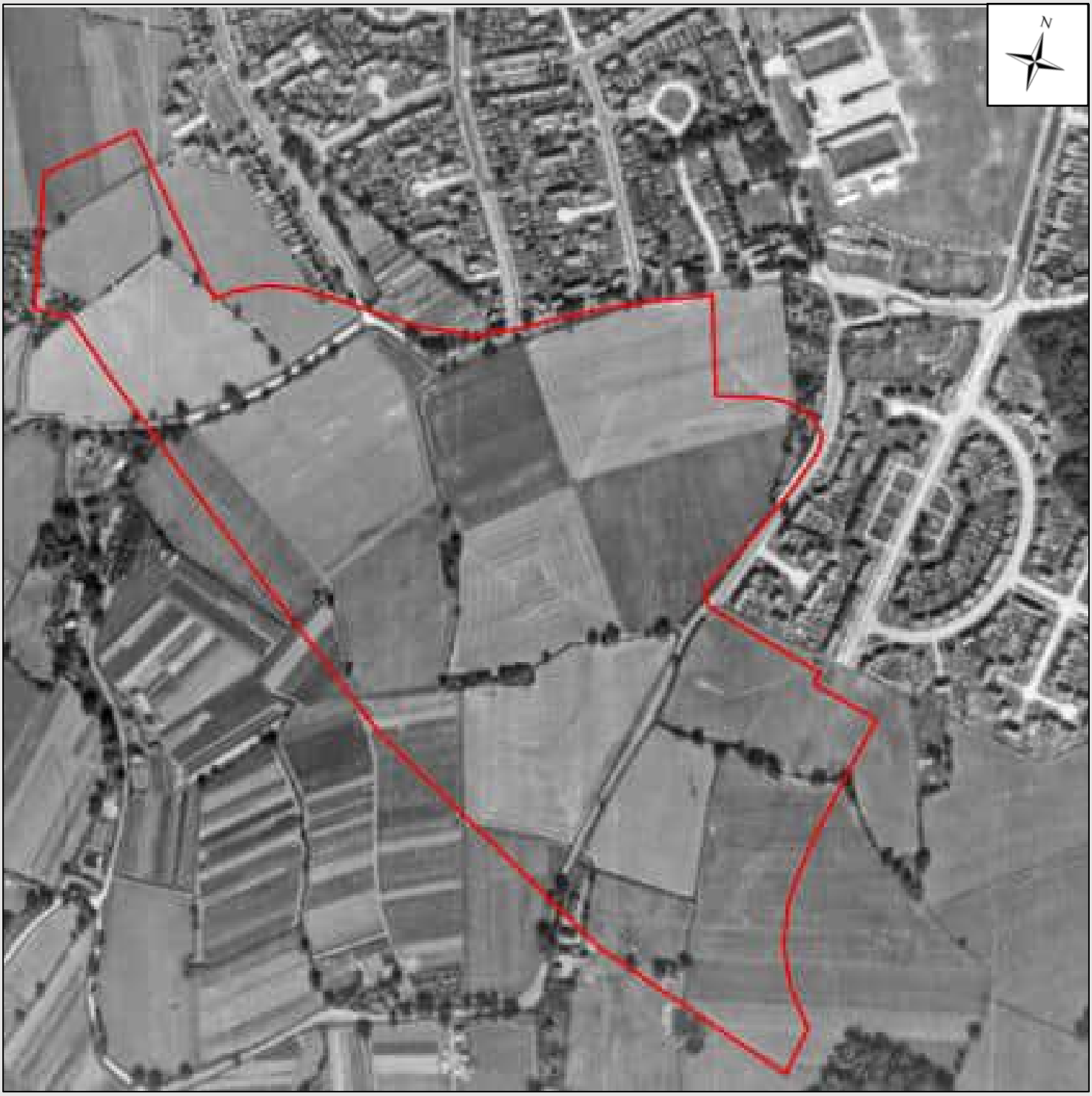


Approx. Site Boundary	

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SOURCE:	REPORT REFERENCE:	N
OpenStreetMap	INO5823	



Wythenshawe – August 1945

Approx. Site Boundary	—

RMS UXO	CLIENT: Civic Earth Limited	PROJECT: Wythenshawe	DATE: 30/07/2025
Produced by and Copyright to RMS UXO Limited	SOURCE: Historic England	REPORT REFERENCE: INO5823	

RECORDED BOMB STRIKES

A-4



Approx. Recorded HE Bomb Strike Locations	
Approx. Recorded Firebomb Strike Locations	
Approx. Site Boundary	

RMS UXO

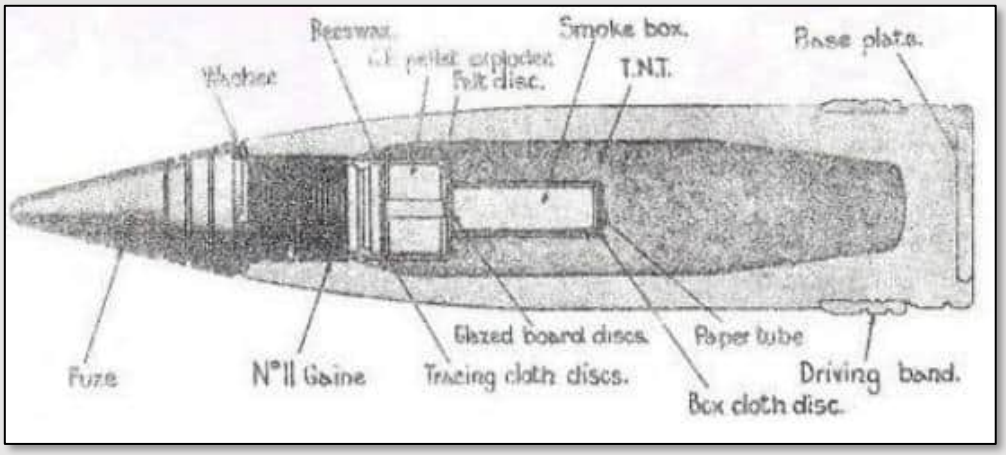
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CLIENT: Civic Earth Limited	PROJECT: Wythenshawe	DATE: 30/07/2025	
SOURCE: RMS UXO Limited	REPORT REFERENCE: INO5823		N

3.7 Inch QF Anti-Aircraft Projectile







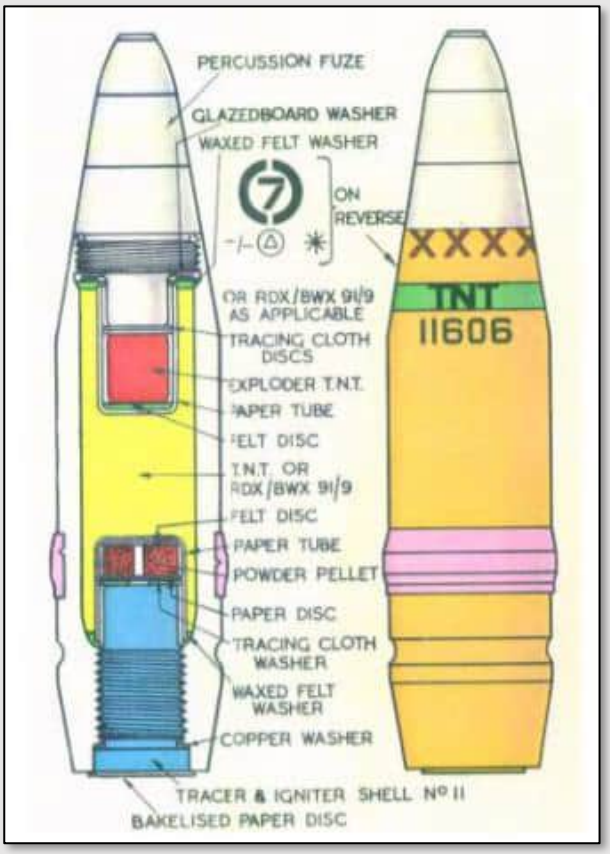
Total Weight	Projectile Weight 28lb (12.6 kg) Explosive Weight 2.52lbs
Dimensions	3.7in x 14.7in (94mm x 360mm) Rate of Fire 10 to 20 rounds per minute
Fuse Type	Mechanical Time Fuze
Use	The 3.7in AA Mks 1-3 were the standard Heavy Anti-Aircraft guns of the British Army. Ceiling 30,000ft to 59,000ft

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SOURCE:	REPORT REFERENCE:	
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40mm Bofors Projectile







Total Weight	Projectile Weight 1.96lb (0.86kg) Explosive Weight 300g (0.6lb)
Dimensions	Dimensions 40 x 180mm
Fuse Type	Impact Fuze
Ceiling	23,000ft (7000m)
Remarks	Light quick fire high explosive antiaircraft projectile. Each projectile fitted with small tracer element. If no target hit, shell would explode when tracer burnt out. Designed to engage aircraft flying below 2,000ft

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3in Unrotated Projectile (UP) Anti-Aircraft Rocket (“Z” Battery)

This antiaircraft artillery, designed specifically for the Royal Navy, saw significant deployment in the initial stages of the Second World War. Known as the UP, it was not only utilised at sea but also found applications on land through single and 128-round launchers, commonly referred to as Z Batteries. The ammunition for this system features a cylindrical steel casing that tapers towards the bottom, equipped with external threading for secure attachment to the rocket motor's shell ring







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SOURCE:	REPORT REFERENCE:	
RMS UXO Limited	INO5823	

SC 50

Bomb Weight: 40-54kg (110-119lb)

Explosive Weight: c25kg (55lb)

Fuze Type: Impact fuze/electro-mechanical time delay fuze

Bomb Dimensions:1,090 x 280mm (42.9 x 11.0in)

Body Diameter: 200mm (7.87in)

Use: Against lightly damageable materials, hangars, railway rolling stock, ammunition depots, light bridges and buildings up to three stories.

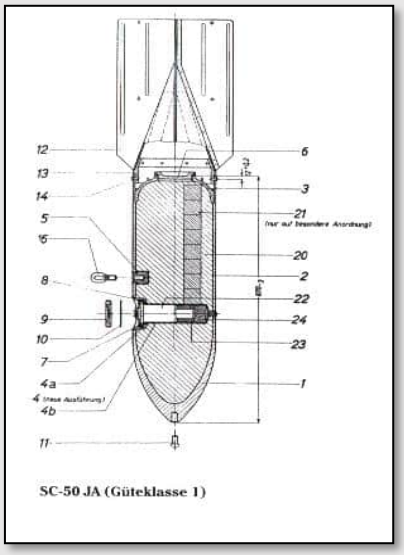
Remarks: The smallest and most common conventional German bomb. Nearly 70% of bombs dropped on the UK were 50kg.



50kg bomb, London Docklands



Minus tail section



SC 250

Bomb weight: 245-256kg (540-564lb)

Explosive weight: 125-130kg (276-287lb)

Fuze type: Electrical impact/mechanical time delay fuze.

Post-1943 – Type 50 (Y) electric anti-disturbance fuze

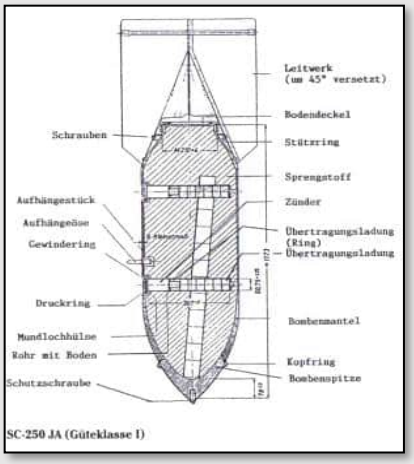
Bomb dimensions: 1640 x 512mm (64.57 x 20.16in)

Body diameter: 368mm (14.5in)

Use: Against railway installations, embankments, flyovers, underpasses, large buildings and below-ground installations.



250kg bomb, Hawkinge



SC 500

Bomb weight: 480-520kg (1,058-1,146lb)

Explosive weight: 250-260kg (551-573lb)

Fuze type: Electrical impact/mechanical time delay fuze.

Post-1943 – Type 50 (Y) electric anti-disturbance fuze

Bomb dimensions: 1957 x 640mm (77 x 25.2in)

Body Diameter: 470mm (18.5in)

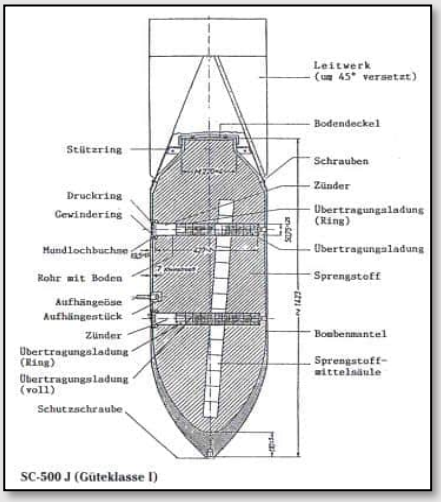
Use: Against fixed airfield installations, hangars, assembly halls, flyovers, underpasses, high-rise buildings and below-ground installations.



50kg bomb included for size comparison (see above)



500kg bomb, Felixstowe beach, April 2008



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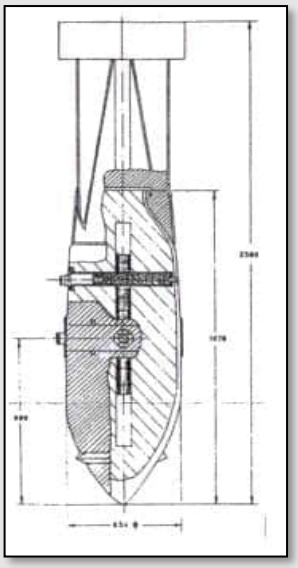
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SC 1000

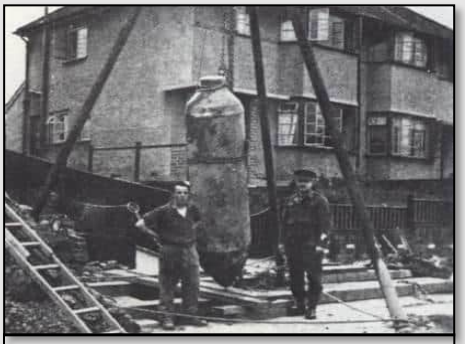
Bomb weight: 993-1,027kg (2189-2,264lb)
Explosive weight: 530-590kg (1,168-1,300lb)
Fuze type: Electrical impact fuze.
Bomb dimensions: 2,580 x 654mm (101.6 x 2.5in)
Body diameter: 654mm (25.75in)
Use: Against unarmoured sea and land targets
Remarks: Known as the 'Hermann'



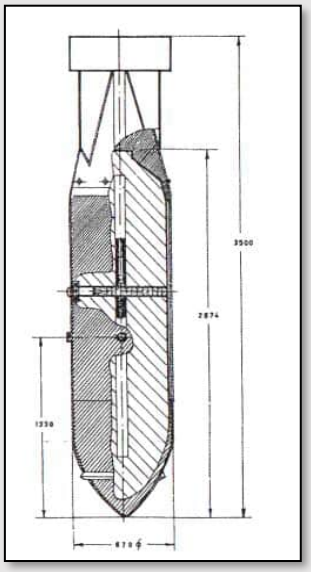


SC 1800

Bomb weight: 1,767-1,879kg (3,896-4,142lb)
Explosive weight: 1,000kg (2,205lb)
Fuze Type: Electrical impact fuze
Bomb Dimensions: 3500 x 670mm (137 x 26in)
Use: Against building complexes and large merchant vessels
Remarks: Known as the 'Satan'

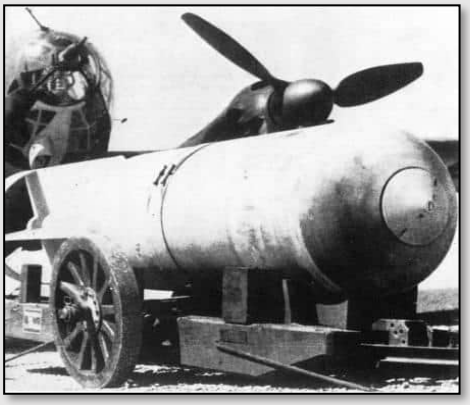


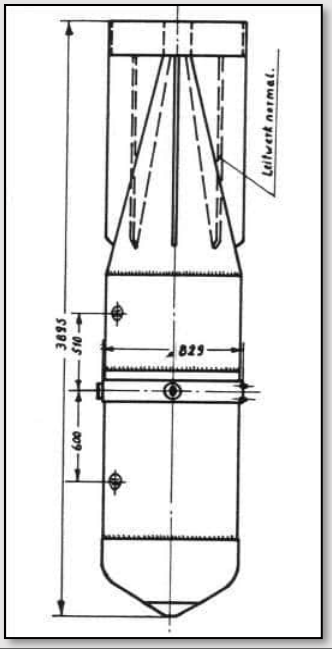
1800kg bomb, Bristol, 1941



SC 2500

Bomb Weight: Bomb weights have been quoted as 1,950kg (4,300lb) and 2,500kg (5,512lb)
Explosive Weight: 1,700kg (3,748lb)
Fuze Type: Electrical impact fuze
Bomb Dimensions: 3,895 x 829mm (153.3 x 32.6in)
Body Diameter: 829mm (32.6in)
Use: Against building complexes and merchant vessels.
Remarks: The SC 2500 has an aluminium body with a welded head and tailpiece. Known as the 'Max'. Only a limited number were deployed.





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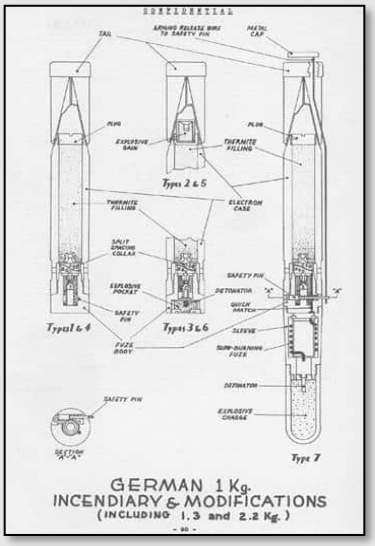
1kg Incendiary Bomb

Bomb weight: 1.0 and 1.3kg (2.2 and 2.87lb)
Filling: 680gm (1.3lb) Thermite
Fuze type: Impact fuze
Bomb dimensions: 350 x 50mm (13.8 x 1.97in)
Body diameter: 50mm (1.97in)
Use: As incendiary – dropped in clusters against towns and industrial complexes
Remarks: Jettisoned from air-dropped containers. Magnesium alloy case. Sometimes fitted with high explosive charge





1. Scaffold pipe
2. Incendiary 1kg bomb
3. Incendiary bomb recently found on site in UK

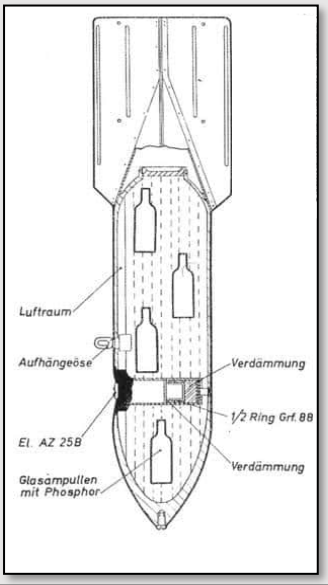


C-50 A Phosphorous Bomb

Bomb weight: 41kg (90.4lb)
Explosive weight: 0.03kg (0.066lb)
Incendiary filling: 12kg (25.5lb) liquid filling with phosphor igniters in glass phials
Fuze type: Electrical impact fuze
Bomb dimensions: 1,100 x 2800mm (43.3 x 11in)
Body diameter: 200mm (2.87in)
Use: Against all targets where an incendiary effect is to be expected
Remarks: Early fill was a phosphorous/carbon disulphide incendiary mixture



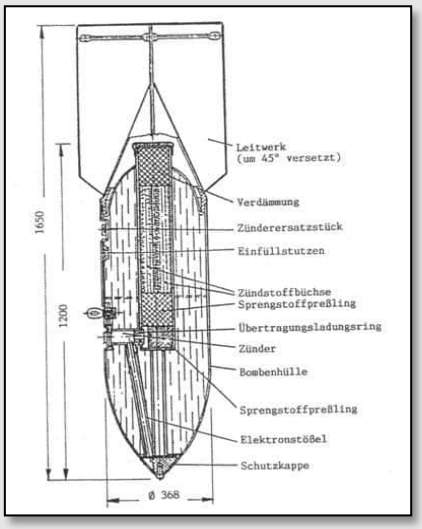
Phosphorous Bomb, M25/A2, Kent



Flam C-250 'Oil Bomb'

Bomb weight: 125kg (276lb)
Explosive weight: 1kg (2.2lb)
Flammable weight: 74kg (163lb)
Filling: Mixture of 30% petrol and 70% crude oil
Fuze type: Super-fast electrical impact fuze
Bomb dimensions: 1,650 x 512.2mm (65 x 20.2in)
Body diameter: 368mm (14.5in)
Use: Often used for surprise attacks on living targets, against troop barracks and industrial installations
Remarks: Thin casing – not designed for ground penetration





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Civic Earth Limited	Wythenshawe	30/07/2025
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RMS UXO Limited	INO5823	

EXPERTISE, INTEGRITY, PROFESSIONALISM

RMS UXO Limited

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Basey Road, Rackheath NR13 6PZ
info@rmsuxo.com I +44 0203 005 5246
Company Reg: 14666538
www.rmsuxo.com

Appendix E – BGS Borehole Records

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Site	Number
MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION	WSTP100_AIR

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler		60.28	JACOBS ENGINEERING UK LTD	PN102241
	Location	**Dates**	**Engineer**	**Sheet**
	382569.315 E 387070.499 N	18/06/2010	MPACT	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.15	E			60.08	(0.20) 0.20	Grass over TOPSOIL: Dark brown slightly gravelly silty sand with rootlets. Gravel is fine to coarse subangular to subrounded of various lithologies.		
				59.88	(0.20) 0.40	Light grey slightly sandy fine to coarse GRAVEL of various lithologies.		
0.70	E				(1.10)	Stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular to angular of various lithologies. At 1.20m, low strength		▽1
1.00	DN2270		Slow inflow(1) at 1.10m.					
1.20-1.50	UN2270		18/06/2010:	58.78	1.50	Complete at 1.50m		
			18/06/2010:					

Remarks

Scale (approx)	Logged By
1:50	TC

Figure No.

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British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Site	Trial Pit Number
MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION	TP99_AIR

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		58.44	JACOBS ENGINEERING UK LTD	PN102241
	Location	**Dates**	**Engineer**	**Sheet**
	382724.075 E 387227.152 N	16/06/2010	MPACT	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			None encountered.(1) at 0.00m.			Grass over dark brown very sandy TOPSOIL.		▽1
0.20-0.30	B				(0.40)			
0.20-0.30	D							
0.40-0.60	BN2242			58.04	0.40	MADE GROUND: Firm dark greyish brown and orange slightly gravelly sandy clay. Gravel is fine to medium angular of coal, sandstone and pottery.		
0.40-0.60	DN2242				(0.30)			
0.40-0.60	E							
0.70-0.80	B			57.74	0.70	Soft to firm greyish brown sandy CLAY.		
0.70-0.80	DN2242			57.64	(0.10) 0.80	Firm brown slightly sandy slightly gravelly CLAY with occasional lenses of bluish grey fine to medium sand. Gravel is fine to coarse subrounded of sandstone.		
0.90-1.20	B							
0.90-1.20	DN2242							
					(1.80)			
1.90-2.10	B					At 1.90m, becoming mottled bluish grey. Sand lenses absent.		
1.90-2.10	D							
				55.84	2.60	Firm friable reddish brown slightly gravelly sandy CLAY. Gravel is fine to medium angular of sandstone.		
2.70-2.90	B							
2.70-2.90	D				(0.40)			
				55.44	3.00	Extremely weak to very weak reddish brown fine grained SANDSTONE (recovered as silty angular gravel with a low cobble content).		
					(0.30)			
			16/06/2010:	55.14	3.30	Complete at 3.30m		
			16/06/2010:					

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:25	LP	

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British Geological Survey

BGS ID: 915678 : BGS Reference: SJ88NW997
British National Grid (27700) : 382550,387220

SJ88NW. 8255 8722 997

BOREHOLE RECORD SHEET

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD.
MIDDLEWICH. CHESHIRE.
Telephone: Middlewich (STD 0606 84) 4637

BOREHOLE No. 1
Sheet 1 of 1

Job No.: 3258/42 Location: ASKERN AVENUE, BENCHILL, MANCHESTER
Client: MANCHESTER CITY COUNCIL
Scale: 1:50
Diam. & Boring Type 150MM SHA

Description of Strata (Ground Level)	Reduced Level	Legend	Thickness (m)	Depth (m)	Samples from	Samples to	Samples Type	N Value	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
TOPSOIL			0.30	0.30							3/3/87
FIRM TO STIFF, TO STIFF BROWN/GREY SLIGHTLY GRAVELLY SANDY CLAY					0.50	0.96	U1		125	7	
					1.00		D1				
			1.20	1.50	1.50	1.95	U2		72	0	
FIRM TO STIFF BROWN SILTY CLAY					2.00		D2				
			0.85	2.35	2.30	2.40	U3				
					2.40		D4				
VERY WEAK LIGHT GREY BECOMING BROWN MODERATELY TO SLIGHTLY WEATHERED SILTSTONE					2.500	2.725	P1	59			BOREHOLE REMAINED DRY.
			(0.75)	3.10	3.000	3.050	P2	50			
BOREHOLE COMPLETE AT 3.10M											

U - undisturbed D - disturbed B - bulk W - groundwater P - standard penetration CP - cone penetration V - vane test

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 915679 : BGS Reference: SJ88NW998
British National Grid (27700) : 382560,387210

SJ88NW 8256 8721 998

TRIAL PIT RECORDS

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE.
Telephone: Middlewich (STD 0606 84) 4637

Job No: 3258/42 Location: ASKERN AVENUE, BENCHILL, MANCHESTER Scale 1:50

Client: MANCHESTER CITY COUNCIL

T.P. No. A(1)

Description of Strata (Ground Level)	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
TOPSOIL			0.50	0.50							24/2/87
FIRM TO STIFF BROWN/GREY SANDY CLAY			1.20	1.70							
FIRM TO STIFF BECOMING STIFF BROWN SILTY CLAY			0.80	2.50							
VERY STIFF BROWN SILTY CLAY (COMPLETELY WEATHERED SILTSTONE)			(0.30)	2.80							TRIAL PIT REMAINED DRY
TRIAL PIT COMPLETE AT 2.80											TRIAL PIT STABLE

SJ88NW 8255 8721 999

T.P. No. B

Description of Strata (Ground Level)	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
TOPSOIL			0.25	0.25							24/2/87
MEDIUM DENSE YELLOW ORANGE/BROWN CLAYEY SAND			0.35	0.60							
FIRM TO STIFF GREY BROWN SILTY TO VERY SILTY CLAY			0.60	1.20							
STIFF GREY BROWN SILTY TO VERY SILTY CLAY			1.00	2.20							
VERY WEAK LIGHT GREY SANDY SLIGHTLY TO MODERATELY WEATHERED SILTSTONE			0.40	2.60							TRIAL PIT REMAINED DRY
STIFF TO VERY STIFF BROWN VERY SILTY CLAY. (HIGHLY TO COMPLETELY WEATHERED SILTSTONE)			(0.10)	2.70							TRIAL PIT STABLE
TRIAL PIT COMPLETE AT 2.70											

U - undisturbed D - disturbed B - bulk W - groundwater P - standard penetration CP - cone penetration V - vane test

Webberley

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 915680 : BGS Reference: SJ88NW999
British National Grid (27700) : 382550,387210

SJ88NW 8256 8721 998

TRIAL PIT RECORDS

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE.
Telephone: Middlewich (STD 0606 84) 4637

Job No: 3258/42 Location: ASKERN AVENUE, BENCHILL, MANCHESTER Scale 1:50

Client: MANCHESTER CITY COUNCIL

T.P. No. A(1)

Description of Strata — Ground Level

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
TOPSOIL			0.50	0.50							24/2/87
FIRM TO STIFF BROWN/GREY SANDY CLAY			1.20	1.70							
FIRM TO STIFF BECOMING STIFF BROWN SILTY CLAY			0.80	2.50							
VERY STIFF BROWN SILTY CLAY (COMPLETELY WEATHERED SILTSTONE)			(0.30)	2.80							TRIAL PIT REMAINED DRY
TRIAL PIT COMPLETE AT 2.80											TRIAL PIT STABLE

SJ88NW 8255 8721 999

T.P. No. B

Description of Strata — Ground Level

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
TOPSOIL			0.25	0.25							24/2/87
MEDIUM DENSE YELLOW ORANGE/BROWN CLAYEY SAND			0.35	0.60							
FIRM TO STIFF GREY BROWN SILTY TO VERY SILTY CLAY			0.60	1.20							
STIFF GREY BROWN SILTY TO VERY SILTY CLAY			1.00	2.20							
VERY WEAK LIGHT GREY SANDY SLIGHTLY TO MODERATELY WEATHERED SILTSTONE			0.40	2.60							TRIAL PIT REMAINED DRY
STIFF TO VERY STIFF BROWN VERY SILTY CLAY. (HIGHLY TO COMPLETELY WEATHERED SILTSTONE)			(0.10)	2.70							TRIAL PIT STABLE
TRIAL PIT COMPLETE AT 2.70											

U - undisturbed D - disturbed B - bulk W - groundwater P - standard penetration CP - cone penetration V - vane test

Webberley

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 915681 : BGS Reference: SJ88NW1000
British National Grid (27700) : 382550,387230

SJ88NW 8255 8723 1000

TRIAL PIT RECORDS

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE.
Telephone: Middlewich (STD 0606 84) 4637

Job No: 3258/42 Location: ASKERN AVENUE, BENCHILL, MANCHESTER Scale 1:50

Client: MANCHESTER CITY COUNCIL

T.P. No. C

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
Ground Level											
DARK GREY ASH FILL			0.15	0.15							24/2/87
FIRM TO STIFF GREY/ORANGE BROWN SLIGHTLY GRAVELLY SANDY CLAY			0.55	0.70							
FIRM TO STIFF BROWN/GREY SANDY TO VERY SANDY CLAY. (SAND LENSE AT BASE).			0.90	1.60							
FIRM TO STIFF BROWN SILTY CLAY			0.50	2.10							
VERY STIFF TO HARD BROWN SILTY TO VERY SILTY CLAY. (HIGHLY TO COMPLETELY WEATHERED SILTSTONE)			(0.70)	2.80							TRIAL PIT REMAINED DRY
TRIAL PIT COMPLETE AT 2.80M											TRIAL PIT STABLE

SJ88NW 8253 8722 1001

T.P. No. D

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
Ground Level											
DARK GREY ASH & LIMESTONE GRAVEL FILL				0.05							24/2/87
BROWN SLIGHTLY CLAYEY SLIGHTLY SANDY GRAVEL FILL			0.30	0.35							
FIRM TO STIFF DARK BROWN SANDY CLAY FILL			0.15	0.50							
FIRM TO STIFF BROWN/GREY SANDY TO VERY SANDY GRAVELLY CLAY			0.90	1.40							
FIRM TO STIFF BROWN SLIGHTLY GRAVELLY SILTY CLAY			0.70	2.10							
VERY WEAK BROWN THINLY LAMINATED MODERATELY WEATHERED SILTSTONE			(0.50)	2.60							TRIAL PIT REMAINED DRY
											TRIAL PIT STABLE.

U - undisturbed D - disturbed B - bulk W - groundwater P - standard penetration CP - cone penetration V - vane test

Webberley

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 915682 : BGS Reference: SJ88NW1001
British National Grid (27700) : 382530,387220

SJ88NW 8255 8723 1000

TRIAL PIT RECORDS

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE.
Telephone: Middlewich (STD 0606 84) 4637

Job No: 3258/42 Location: ASKERN AVENUE, BENCHILL, MANCHESTER Scale 1:50

Client: MANCHESTER CITY COUNCIL

T.P. No. C

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
Ground Level											24/2/87
DARK GREY ASH FILL			0.15	0.15							
FIRM TO STIFF GREY/ORANGE BROWN SLIGHTLY GRAVELLY SANDY CLAY			0.55	0.70							
FIRM TO STIFF BROWN/GREY SANDY TO VERY SANDY CLAY. (SAND LENSE AT BASE).			0.90	1.60							
FIRM TO STIFF BROWN SILTY CLAY			0.50	2.10							
VERY STIFF TO HARD BROWN SILTY TO VERY SILTY CLAY. (THICKLY TO COMPLETELY WEATHERED SILTSTONE)			(0.70)	2.80							TRIAL PIT REMAINED DRY
TRIAL PIT COMPLETE AT 2.80M											TRIAL PIT STABLE

SJ88NW 8253 8722 1001

T.P. No. D

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
Ground Level											24/2/87
DARK GREY ASH & LIMESTONE GRAVEL FILL				0.05							
BROWN SLIGHTLY CLAYEY SLIGHTLY SANDY GRAVEL FILL			0.30	0.35							
FIRM TO STIFF DARK BROWN SANDY CLAY FILL			0.15	0.50							
FIRM TO STIFF BROWN/GREY SANDY TO VERY SANDY GRAVELLY CLAY			0.90	1.40							
FIRM TO STIFF BROWN SLIGHTLY GRAVELLY SILTY CLAY			0.70	2.10							
VERY WEAK BROWN THINLY LAMINATED MODERATELY WEATHERED SILTSTONE			(0.50)	2.60							TRIAL PIT REMAINED DRY
											TRIAL PIT STABLE.

U - undisturbed D - disturbed B - bulk W - groundwater P - standard penetration CP - cone penetration V - vane test

Webberley

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 915683 : BGS Reference: SJ88NW1002
British National Grid (27700) : 382520,387220

SJ88NW. 8252 8722 1002

TRIAL PIT RECORDS

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE.
Telephone: Middlewich (STD 0606 84) 4637

Job No: 3258/42 Location: ASKERN AVENUE, BENCHILL, MANCHESTER Scale 1:50

Client: MANCHESTER CITY COUNCIL

T.P. No. E

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
Ground Level											24/2/87
DARK GREY ASH & LIMESTONE GRAVEL FILL			0.20	0.05							
YELLOW BROWN SLIGHTLY SANDY GRAVEL FILL				0.25							
STIFF GREY VERY SANDY CLAY FILL			0.25	0.50							
FIRM LIGHT GREY / ORANGE BROWN MOTTLED VERY SANDY SLIGHTLY GRAVELLY CLAY.			0.60	1.10							
FIRM LIGHT GREY GRAVELLY SANDY CLAY			0.30	1.40							
FIRM TO STIFF BROWN SILTY SLIGHTLY GRAVELLY CLAY			0.90	2.30							
VERY WEAK BROWN THINLY LAMINATED MODERATELY WEATHERED SILTSTONE			(0.20)	2.50							TRIAL PIT REMAINED DRY.
TRIAL PIT COMPLETE AT 2.50M											TRIAL PIT STABLE.

T.P. No.

Description of Strata	Reduced Level	Legend	Thickness	Depth	Samples from	Samples to	Samples Type	NMC	Apparent Cohesion kN/m2	Ø degrees	Daily Progress Water Levels Remarks
Ground Level											

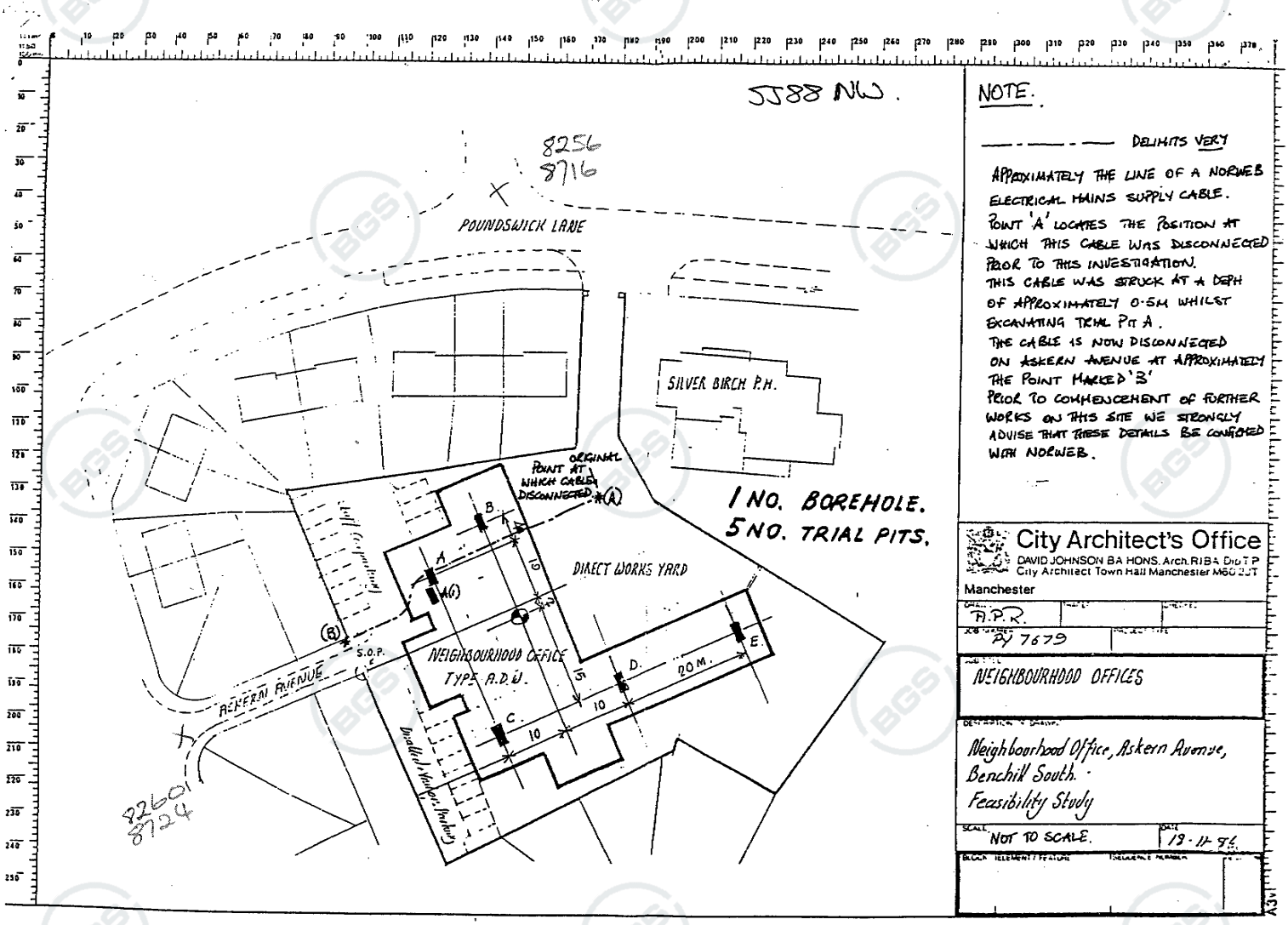
U - undisturbed D - disturbed B - bulk W - groundwater P - standard penetration CP - cone penetration V - vane test

Webberley

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

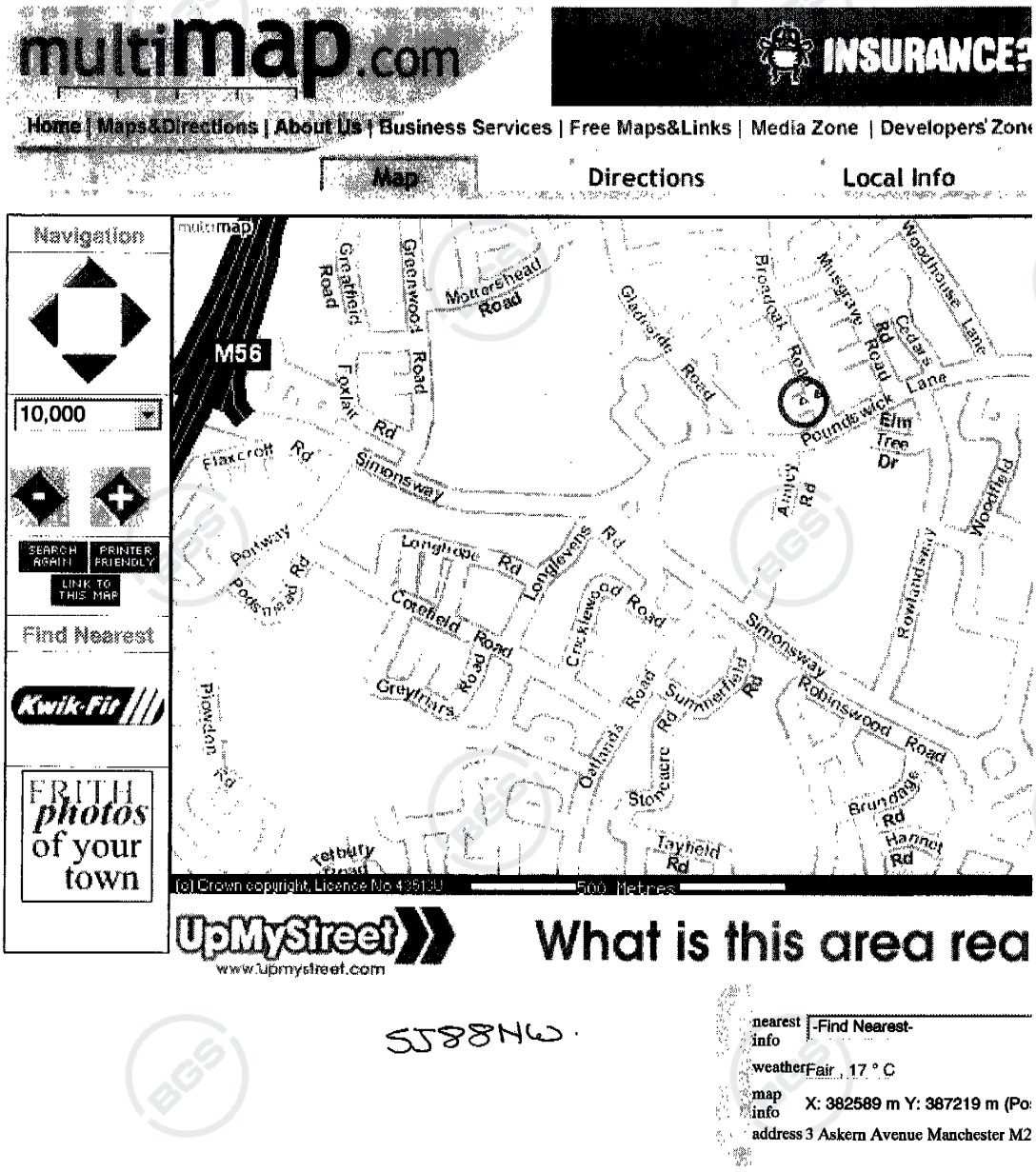
BGS ID: 915683 : BGS Reference: SJ88NW1002
British National Grid (27700) : 382520,387220



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 915683 : BGS Reference: SJ88NW1002
British National Grid (27700) : 382520,387220



SJ88NW

nearest info -Find Nearest-

weather Fair , 17 ° C

map info X: 382589 m Y: 387219 m (Po

address 3 Askern Avenue Manchester M2

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Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Site	Number
MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION	WS41_AIR

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler		61.04	JACOBS ENGINEERING UK LTD	PN102241
	Location	**Dates**	**Engineer**	**Sheet**
	382547.175 E 387081.56 N	18/06/2010	MPACT	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			None encountered.(1) at 0.00m.		(0.60)	Grass over TOPSOIL: Dark brown slightly gravelly silty sand with some rootlets and a low cobble content. Gravel is fine to coarse angular to subangular of brick and glass		▽1
0.50	E			60.44	0.60	Reddish brown slightly gravelly silty fine to medium SAND . Gravel is fine to medium and subangular of mudstone		
					(0.50)			
				59.94	1.10	Extremely weak reddish brown MUDSTONE recovered as clay. With occasional bands of sandstone.		
1.20-1.65 1.20 1.50	SPT N=27 D DN2276		5,6/6,6,7,8					
					(1.20)			
2.00-2.37	SPT 50/215		11,13/15,18,17,0					
			18/06/2010:	58.74	2.30	Extremely weak light grey SANDSTONE.		
			18/06/2010:	58.67	2.37	Complete at 2.37m		

Remarks	Scale (approx)	Logged By
	1:50	TC
	Figure No.	

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British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Site	Number
MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION	WS42_AIR

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler		60.88	JACOBS ENGINEERING UK LTD	PN102241
	Location	**Dates**	**Engineer**	**Sheet**
	382540.321 E 387049.563 N	18/06/2010	MPACT	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			None encountered(1) at 0.00m.		(0.40)	Grass over TOPSOIL: Brown sandy gravelly silt with some rootlets. Gravel is fine to coarse and subangular of limestone, coal, clinker and brick fragments.		▽1
				60.48	0.40			
0.50	E			60.28	(0.20) 0.60	MADE GROUND: Yellowish grey medium to coarse gravel of limestone.		
1.00	E				(0.80)	MADE GROUND: Soft to firm reddish brown slightly sandy slightly gravelly clay with low subangular cobble content. Gravel is fine to coarse subangular to subrounded of various lithologies and brick fragments.		
1.30	D			59.48	1.40			
				59.43	(0.25)	Extremely weak light grey SILTSTONE.		
1.60	DN2274			59.23	1.65			
			18/06/2010:	59.18	1.70	Extremely weak reddish brown MUDSTONE recovered as clay.		
			18/06/2010:			Extremely weak light grey SILTSTONE		
						Complete at 1.70m		

Remarks	Scale (approx)	Logged By
	1:50	TC
	Figure No.	

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British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Site	Number
MANCHESTER METROLINK PHASE 3B - AIRPORT EXTENSION	WS43_AIR

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler		60.04	JACOBS ENGINEERING UK LTD	PN102241
	Location	**Dates**	**Engineer**	**Sheet**
	382557.588 E 387026.903 N	18/06/2010	MPACT	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			None encountered(1) at 0.00m.	59.89	(0.15) 0.15	Grass over TOPSOIL: Dark brown slightly silty slightly gravelly sand with rootlets. Gravel is fine to coarse subangular to rounded of various lithologies including limestone.		▽1
0.10	E			59.64	(0.25) 0.40			
0.50	E					MADE GROUND: Greyish brown slightly sandy fine to coarse subangular gravel of limestone		
0.80	DN2274				(1.16)			
1.20-1.56	SPT 50/205		10,12/14,19,17,0			Very dense reddish brown slightly silty gravelly fine to coarse SAND. Gravel is fine to medium subangular to subrounded of various lithologies.		
			18/06/2010:	58.48	1.56			
			18/06/2010: 18/06/2010:			Complete at 2.65m		
2.20-2.65	DN2232							

Remarks	Scale (approx)	Logged By
	1:50	TC
	Figure No.	

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Appendix F – Risk Assessment Methodology

Civic Earth Risk Assessment Methodology

Civic Earth's risk assessment methodology is based on the CIRIA C552 (2001) Contaminated Land Risk Assessment – A Guide to Good Practice[1].

The assessment approach is to quantify the potential risk at Phase 1 Stage via risk estimation and risk evaluation. This defines the overall risk category that can be used to identify likely actions to address the potential risk or undertake further risk evaluation.

The methodology is a qualitative approach and is undertaken for each identified potential contaminant linkage (source-pathway-receptor) identified for the site in accordance with the October 2020 Land Contamination Risk Management Guidance (LCRM)[2].

The methodology requires the classification of the following:

- The magnitude of the consequence (severity) of a risk occurring; and
- The magnitude of the probability (likelihood) of a risk occurring.

The potential consequences of contamination risks occurring at a site are classified in accordance with Table 1 below, which is based on CIRIA guidance[1].

Table 1: Classification of Consequence Ratings

Classification	Definition of Consequence	Examples
Severe	Short-term (acute) risks to human health. Short-term (acute) risk of pollution of sensitive water resource or ecosystem Catastrophic damage to crops/ building/ property/ infrastructure, including off-site soils	High concentration of cyanide on the surface of an informal recreation area Major spillage of contaminants from site into controlled waters Explosion causing building collapse
Medium	Long-term (chronic) risks to human health Long-term (chronic) pollution of sensitive water resource Significant change in an ecosystem/contamination of off-site soils	Concentrations of a contaminant on site exceeding the generic or site specific assessment criteria Leaching of contaminants from a site into a major or minor aquifer Death of species within a designated nature reserve
Mild	Pollution of non-sensitive water resource Significant damage to crops/ buildings/ property /infrastructure Damage to an ecosystem or sensitive buildings/structures/services	Pollution of a non-classified groundwater Damage to a building rendering it unsafe to occupy (e.g. foundation damage resulting in instability)
Minor	Easily preventable non-permanent effects Harm, although not necessarily significant harm, which may result in financial loss or expenditure resolve Easily repairable effects of damage to building/ structures/ services	Presence of contamination at concentrations which require the use of personal protective equipment during site work Loss of plants in a landscaping scheme/discolouration of concrete

The potential probability of the risks being realised are classified in accordance with the ratings set out in Table 2, which are based on CIRIA guidance[1]. It should be noted that where a potential contaminant linkage has not been identified the likelihood is considered to be negligible.

[1] CIRIA, (2001). Contaminated Land Risk Assessment. A Guide to Good Practice. CIRIA C552.

[2] Environment Agency (2020). *Land Contamination Risk Management (LCRM)*.

Table 2: Classification of Probability Ratings

Classification	Definition of Consequence
High likelihood	There is a contaminant linkage and an event that either appears very likely in the short term and almost inevitable in the long term, or there is evidence at the receptor that an event has occurred
Likely	There is a contaminant linkage and all the elements are present 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 contaminant 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 an event would take place and is less likely in the short term
Unlikely	There is a contaminant linkage but circumstances are such that it is improbable that an event would occur even in the very long term

In accordance with C552, the risk classifications for each potential contaminant linkage are classified in accordance with the matrix of consequence and probability set out in Table 3. The definitions for the risk classifications are presented in Table 4.

Table 3: Risk Classification Matrix

		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 4: Risk Classification Definitions

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

Appendix G – Exploratory Hole Records

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF Checked By: KP	
Location ID:	**RC05**	Location Type: Rotary cored	
Coords: 382626.92E/387106.82N	Level: 59.87mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 15.00
Sheet 1 of 2		Date Start: 26/08/2025	Date End: 26/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug	5.00	-	-
1.20	15.00	RC	Beretta GT			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						59.67	0.20		Tarmacadam hardstanding. [MADE GROUND]					
		0.40	B 1						Grey mottled dark grey gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of limestone and concrete. [MADE GROUND]					
		0.80	B 2			59.07	0.80		Dark grey to black mottled red and brown slightly gravelly sandy silt. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of brick, concrete, limestone and coal. [MADE GROUND]					
		0.80	ES 1											
	1.0	1.20 - 1.65	D 1	SPT(S) 1.20m N=23 (4,4/5,6,6,6)										
		1.50 - 3.00	C 1			58.37	1.50		*from 0.80 to 1.50mbgl - Occasional pockets of soft reddish brown mottled black clay noted.*					
									Firm to stiff dark orangish brown mottled grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mudstone, sandstone, coal and quartz. Sand is fine to coarse. [GLACIAL TILL]					
	2.0									1.50 3.00	100	100	0	- - -
						57.27	2.60		Firm to stiff orangish brown gravelly CLAY. Gravel is subangular to angular fine to coarse of mudstone lithorelics. Rare angular cobbles of mudstone. [GLACIAL TILL]					
									Extremely weak thinly laminated to thinly bedded orangish brown micaceous MUDSTONE. Discontinuities: 1) 5 degrees extremely close to medium spaced rough planar clean; 2) 8 degrees medium to close spaced rough planar clean. [WEATHERED BOLLIN MUDSTONE MEMBER]					
	3.0	3.00 - 4.50	C 2			56.67	3.20		*from 3.20 to 4.30mbgl - Becomes moderately weathered with depth.*					
									MUDSTONE recovered as orangish brown gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]					
						55.57	4.30		No recovery.	3.00 4.50	93	87	11	10 61 360
						55.47	4.40		MUDSTONE recovered as orangish brown slightly clayey gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]					
	4.0					55.37	4.50							
		4.50 - 6.00	C 3			55.07	4.80		Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]					
					▼									
	5.0					54.42	5.45		MUDSTONE recovered as orangish brown slightly clayey gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]	4.50 6.00	83	57	0	10 37 140
						54.32	5.55							
						54.12	5.75							
						53.87	6.00		Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]					
	6.0	6.00 - 7.50	C 4			53.77	6.10							
						53.12	6.75		No recovery.					
						53.07	6.80		MUDSTONE recovered as orangish brown slightly clayey gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]	6.00 7.50	83	73	18	5 60 150
	7.0					52.62	7.25		Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]					
		7.50 - 9.00	C 5			52.07	7.80		MUDSTONE recovered as orangish brown slightly clayey gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]					
	8.0					51.47	8.40		Very weak to weak thinly bedded orangish brown MUDSTONE. Discontinuities: 1) 5 degrees close to medium spaced rough planar clean. [BOLLIN MUDSTONE MEMBER]	7.50 9.00	80	80	42	20 114 740
									No recovery.					
	9.0	9.00 - 10.50	C 6						Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]	9.00 10.50	100	87	28	5 46 250
						50.22	9.65							
						50.02	9.85		Very weak to weak thinly bedded orangish brown MUDSTONE. Discontinuities: 1) 5 degrees close to medium spaced rough planar					
	10.0													

Stratum continues onto next page

Notes:

1. Groundwater strike encountered at 5.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00m to 3.00m plain 63mm diameter pipe with bentonite; 3.00m to 15.00m slotted 63mm diameter pipe with gravel filter and geosock. Gas tap, bung and flush cover.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Hammer Information	
Energy Ratio	Serial No.
65%	BBL4

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	3.00	15.00

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF Checked By: KP	
Location ID:	**RC05**	Location Type: Rotary cored	
		Coords: 382626.92E/387106.82N	Level: 59.87mOD
Status:	FINAL	Scale: 1:50	Final Depth: 15.00
Sheet 2 of 2		Date Start: 26/08/2025	Date End: 26/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug	5.00	-	-
1.20	15.00	RC	Beretta GT			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm): min avg max
						49.32	10.55		Very weak to weak thinly bedded orangish brown MUDSTONE. Discontinuities: 1) 5 degrees close to medium spaced rough planar clean. [BOLLIN MUDSTONE MEMBER]					
		10.50 - 12.00	C 7			48.97	10.90		MUDSTONE recovered as orangish brown gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]					
	11.0					48.77	11.10		Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]	10.50 12.00	77	53	0	10 32 300
						48.02	11.85		No recovery.					
	12.0	12.00 - 13.50	C 8			47.67	12.20		MUDSTONE recovered as orangish brown gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]					
									Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]	12.00 13.50	100	87	17	10 73 440
	13.0								MUDSTONE recovered as orangish brown gravel. Gravel is angular fine to coarse of mudstone lithorelics. [BOLLIN MUDSTONE MEMBER]					
		13.50 - 15.00	C 9			46.37	13.50		Extremely weak to weak thinly laminated to thinly bedded light orangish brown to light grey MUDSTONE. Discontinuities: 1) 5 degrees extremely close to medium spaced rough undulating clean; 2) 75 degrees close to medium spaced rough planar clean. [BOLLIN MUDSTONE MEMBER]					
	14.0								Very weak to weak thinly laminated to thinly bedded greenish grey SILTSTONE. Discontinuities: 1) 5 to 10 degrees extremely close to medium spaced rough planar clean. 2) 75 degrees very close to medium rough planar clean. [BOLLIN MUDSTONE MEMBER]	13.50 15.00	100	100	16	10 55 500
						45.07	14.80		Extremely weak to weak thinly laminated to thinly bedded orangish brown mottled grey MUDSTONE. Discontinuities: 1) 5 degrees extremeley close to close spaced rough planar clean; 2) 65 to 80 degrees very close to close rough planar clean. [BOLLIN MUDSTONE MEMBER]					
	15.0					44.87	15.00		EOH at 15.00m - Achieved target depth					
	16.0													
	17.0													
	18.0													
	19.0													
	20.0													

Notes:

1. Groundwater strike encountered at 5.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00m to 3.00m plain 63mm diameter pipe with bentonite; 3.00m to 15.00m slotted 63mm diameter pipe with gravel filter and geosock. Gas tap, bung and flush cover.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
				65%	BBL4

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF / Checked By: KP	
Location ID:	**TP09**	Location Type: Inspection pit	
		Coords: 382612.38E/387124.64N	Level: 59.98mOD
Status:	FINAL	Scale: 1:30	Final Depth: 1.20
Sheet 1 of 1		Date Start: 19/08/2025	Date End: 19/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
						59.48	0.50		Reinforced concrete hardstanding. [MADE GROUND]
		0.60	ES 1			59.28	0.70		Light brown mottled light grey slightly sandy clayey gravel. Gravel is subangular to angular fine to coarse of limestone. Sand is fine to coarse. [MADE GROUND]
						59.18	0.80		Firm dark grey mottled reddish brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is subangular to angular fine to coarse of concrete, tarmac and coal. [MADE GROUND]
	1.0	1.00	ES 2						
						58.78	1.20		Firm dark reddish brown mottled grey slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of sandstone, mudstone, coal and igneous lithorelics. [GLACIAL TILL]
									EOH at 1.20m - Achieved target depth
	2.0								
	3.0								
	4.0								
	5.0								
	6.0								

Notes:

1. Inspection Pit terminated at target depth.
2. No groundwater encountered.
3. ES = Environmental Sample.
4. Inspection Pit backfilled with arisings in order upon completion.
5. Ground level extrapolated from topographic survey due to the internal location of the Inspection Pit.
6. Strength / Density based on site Engineer's observations only.

Soakaway Tests

Test Number	Date	Duration (hh:mm)	Infiltration Rate

Pit Details

Stability	Shoring Used	Length (m)	Width (m)
Stable			

PROJECT NAME						
TITLE	DRAWING No.	PROJECT No.	DATE CREATED	DRAWN	REV	

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CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: KIA Checked By: KP	
Location ID:	**WS07**	Location Type: Window Sampler	
		Coords: 382780.89E/386933.86N	Level: 61.51mOD
Status:	FINAL	Scale: 1:30	Final Depth: 2.60 m
Sheet 1 of 1		Date Start: 18/08/2025	Date End: 18/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug			
1.20	2.60	WS	Window Sampler			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.10	ES 1			61.23	0.28		Dark brown slightly clayey slightly gravelly sand. Sand is fine to coarse. Gravel is angular fine to coarse of mudstone and flint. Frequent rootlets noted. [MADE GROUND]			
		0.60	ES 2			60.71	0.80		Firm dark brown slightly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, flint, bituminous material, mudstone and siltstone. Rare plastic noted. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=12 (1,2/2,3,3,4)		59.91	1.60		Firm dark brown mottled yellow gravelly sandy CLAY with sandstone lithorelics. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of sandstone, chalk, flint, mudstone and coal. [GLACIAL TILL]	1.20 2.00	110	100
	2.0	2.00	D 2	SPT(S) 2.00m N=31 (4,6/6,8,8,9)		59.41	2.10		Firm to very stiff red CLAY with mudstone lithorelics. [GLACIAL TILL]			
						59.21	2.30		Stiff grey slightly gravelly CLAY with mudstone lithorelics. Gravel is subangular fine of coal. [GLACIAL TILL]	2.00 2.60	77	100
				SPT(S) 2.60m 50 (25 for 75mm/50 for 75mm)		58.91	2.60		Very stiff grey CLAY with mudstone lithorelics. [GLACIAL TILL]			
	3.0								EOH at 2.60m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole terminated due to refusal.
2. No groundwater encountered.
3. ES = Environmental Sample; D = Disturbed Sample.
4. Installation Details: 0.00m to 1.00m plain 63mm diameter pipe with bentonite; 1.00m to 2.50m slotted 63mm diameter pipe with gravel filter and geosock; 2.50m to 2.60m backfilled with bentonite. Gas tap, bung and flush cover.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Hammer Information	
Energy Ratio	Serial No.
60%	BBL7

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	2.60

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: KIA Checked By: KP	
Location ID:	**WS08**	Location Type: Window Sampler	
		Coords: 382840.67E/386914.62N	Level: 61.68mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.00 m
Sheet 1 of 1		Date Start: 18/08/2025	Date End: 18/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug			
1.20	3.00	WS	Window Sampler			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						61.52	0.16		Tarmacadam hardstanding. [MADE GROUND]			
		0.20	ES 1			61.08	0.60		Dark brown slightly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick, sandstone, flint and bituminous material. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=12 (2,1/2,3,3,4) HSV 1.30m (p)= 63 kPa		60.18	1.50		Firm red brown slightly sandy slightly gravelly CLAY with mudstone lithorelics. Gravel is angular fine to medium of coal. Sand is fine to medium. [GLACIAL TILL]			
		1.90	D 2	HSV 1.70m (p)= 42 kPa		59.68	2.00		Firm to stiff grey gravelly very silty CLAY with mudstone lithorelics. Gravel is angular fine to coarse of mudstone and coal. [GLACIAL TILL]	1.20 2.00	110	90
	2.0	2.00	D 3	SPT(S) 2.00m N=22 (3,3/4,4,5,9)		58.68	3.00		Very stiff red gravelly CLAY. Gravel is angular fine to medium of mudstone. [GLACIAL TILL] *2.60mbgl - Material damp.*	2.00 3.00	77	100
	3.0			SPT(S) 2.80m 50 (25 for 0mm/50 for 0mm)					EOH at 3.00m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole terminated due to refusal.
2. No groundwater encountered.
3. ES = Environmental Sample; D = Disturbed Sample.
4. Installation Details: 0.00m to 1.00m plain 63mm diameter pipe with bentonite; 1.00m to 2.50m slotted 63mm diameter pipe with gravel filter and geosock; 2.50m to 3.00m backfilled with bentonited. Gas tap, bung and flush cover.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Hammer Information	
Energy Ratio	Serial No.
60%	BBL7

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	2.50

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF / Checked By: KP	
Location ID:	**WS12**	Location Type: Window Sampler	
Coords:	382778.34E/387117.27N	Level:	59.33mOD
Status:	FINAL	Scale:	1:30
Final Depth:	3.30 m		
Sheet 1 of 1		Date Start: 07/08/2025	Date End: 07/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug			
1.20	3.30	WS	Window Sampler			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						59.28	0.05		Brick hardstanding.			
		0.10	ES 1			59.13	0.20		[MADE GROUND] Reddish brown mottled black sand. Sand is coarse. Rare subangular to subrounded fine to medium gravel of quartz. Frequent rootlets. [MADE GROUND]			
						58.83	0.50		Light brown mottled grey silty sandy gravel. Gravel is angular to subangular fine to coarse of limestone. Sand is fine to coarse. [MADE GROUND]			
	1.0			SPT(S) 1.20m N=8 (1,1/1,2,3,2)					Firm to stiff dark brown to dark reddish brown slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone, limestone and igneous lithorelics. [GLACIAL TILL]	1.20 2.00	110	100
				HSV 1.70m (p)= 76 kPa HSV 1.75m (p)= 60 kPa								
	2.0	2.00	D 1	SPT(S) 2.00m N=12 (1,2/2,3,3,4)								
				HSV 2.40m (p)= 109 kPa		56.83	2.50		Firm to stiff reddish brown slightly gravelly slightly silty CLAY. Gravel is angular to subangular fine to coarse of mudstone and sandstone lithorelics. [GLACIAL TILL]	2.00 3.00	77	100
		2.80	D 2									
	3.0			SPT(S) 3.00m 50 (25 for 5mm/50 for 10mm)		56.03	3.30		EOH at 3.30m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole terminated due to refusal.
2. No groundwater encountered.
3. ES = Environmental Sample; D = Disturbed Sample.
4. Borehole backfilled in order with arisings on completion.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
				60%	BBL7

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	Wythenshawe	Client:	Muse
Project Number:	51143/01	Logged By:	JF
		Checked By:	KP
Location ID:	WS16	Location Type:	Window Sampler
Coords:	382607.78E/387145.84N	Level:	60.06mOD
Status:	FINAL	Scale:	1:30
Final Depth:	0.30 m		
Sheet 1 of 1		Date Start:	06/08/2025
Date End:	06/08/2025		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.30	IP	Hand Dug			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						59.91	0.15		Tarmacadam hardstanding. [MADE GROUND]			
						59.76	0.30		Concrete hardstanding. [MADE GROUND]			
									EOH at 0.30m - Terminated due to potential services			
	1.0											
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole abandoned due to encountering potential services.
2. No groundwater encountered.
3. Borehole backfilled with arisings in order upon completion.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF Checked By: KP	
Location ID:	**WS16A**	Location Type: Window Sampler	
		Coords: 382608.38E/387141.38N	Level: 60.03mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.25 m
Sheet 1 of 1		Date Start: 06/08/2025	Date End: 06/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.25	IP	Hand Dug			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Samples & Tests: Type/Ref	Samples & Tests: Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Window Sampling: Dia (mm)	Window Sampling: Recovery (%)
						59.88	0.15		Tarmacadam hardstanding. [MADE GROUND]			
						59.78	0.25		Concrete hardstanding. [MADE GROUND]			
									EOH at 0.25m - Terminated due to potential services			
	1.0											
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole abandoned due to encountering potential services.
2. No groundwater encountered.
3. Borehole backfilled with arisings in order upon completion.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF Checked By: KP	
Location ID:	**WS19**	Location Type: Window Sampler	
		Coords: 382605.83E/387106.62N	Level: 60.20mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.10 m
Sheet 1 of 1		Date Start: 06/08/2025	Date End: 06/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.10	IP	Hand Dug			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						60.10	0.10		Tarmacadam hardstanding. [MADE GROUND]			
									EOH at 0.10m - Terminated due to potential services			

1.0
2.0
3.0
4.0
5.0
6.0

Notes:

1. Borehole abandoned due to encountering potential services.
2. No groundwater encountered.
3. Borehole backfilled with arisings in order upon completion.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF / Checked By: KP	
Location ID:	**WS19A**	Location Type: Window Sampler	
Coords:	382615.73E/387104.61N	Level:	59.95mOD
Status:	FINAL	Scale:	1:30
Final Depth:	2.25 m		
Sheet 1 of 1		Date Start: 06/08/2025	Date End: 06/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug			
1.20	2.25	WS	Window Sampler			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						59.85	0.10		Tarmacadam hardstanding.			
									[MADE GROUND]			
						59.65	0.30		Concrete hardstanding.			
									[MADE GROUND]			
		0.50	ES 1			59.35	0.60		Dark grey to black slightly silty gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, ceramic, concrete and mudstone.			
									[MADE GROUND]			
									from 0.50 to 0.60mbgl - Pocket of clay noted.			
	1.0								Firm to stiff dark greyish brown mottled light grey slightly silty gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone and mudstone lithorelics.			
									[GLACIAL TILL]			
		1.20 - 1.65	D 1	SPT(S) 1.20m N=13 (2,2/2,3,4,4)						1.20 1.80	110	100
				HSV 1.50m (p)= 100 kPa								
		1.60	D 2									
	2.0			SPT(S) 1.80m 50 (25 for 5mm/50 for 15mm)		57.70	2.25		EOH at 2.25m - Terminated due to refusal			
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole terminated due to refusal.
2. No groundwater encountered.
3. ES = Environmental Sample; D = Disturbed Sample.
4. Installation Details: 0.00m to 0.80m plain 63mm diameter pipe with bentonite; 0.80m to 1.80m slotted 63mm diameter pipe with gravel filter and geosock; 1.80m to 2.25m backfilled with bentonite. Gas tap, bung and flush cover.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Hammer Information	
Energy Ratio	Serial No.
60%	BBL7

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	0.80	1.80

CIVIC EARTH

Project Title:	**Wythenshawe**	Client:	**Muse**
Project Number:	**51143/01**	Logged By: JF / Checked By: KP	
Location ID:	**WS20**	Location Type: Window Sampler	
Coords: 382640.08E/387140.28N	Level: 59.90mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
Sheet 1 of 1		Date Start: 06/08/2025	Date End: 06/08/2025

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Dug			
1.20	3.45	WS	Window Sampler			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						59.75	0.15		Reinforced concrete hardstanding. [MADE GROUND]			
		0.70	ES 1			58.90	1.00		Soft dark reddish mottled black and orange slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of concrete, tarmac, brick, coal and sandstone. Sand is fine to coarse. Rare angular to subangular cobbles of concrete. Rare fragments of fabric. [MADE GROUND] *0.15mbgl - Blue plastic membrane at base of concrete hardstanding.*			
	1.0			SPT(S) 1.20m N=9 (1,2/2,2,2,3)					Firm dark brown to reddish brown slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse of sandstone, mudstone, limestone and coal. Sand is fine to coarse. [GLACIAL TILL]	1.20 2.00	110	100
		1.70	D 1	HSV 1.50m (p)= 76 kPa HSV 1.70m (p)= 72 kPa								
		1.80	D 2						*from 1.80 to 2.10mbgl - Increase in sand content.*			
	2.0			HSV 1.95m (p)= 54 kPa SPT(S) 2.00m N=16 (3,3/2,3,4,7)		57.80	2.10					
									Laminated firm to stiff dark reddish brown mottled black sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of mudstone and mudstone lithorelics. Sand is fine to coarse. [GLACIAL TILL] *from 2.10 to 3.45mbgl - Mica noted on laminations.*	2.00 3.00	110	100
	3.0			SPT(S) 3.00m 50 (25 for 10mm/50 for 20mm)		56.45	3.45					
									EOH at 3.45m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. Borehole terminated due to refusal.
2. No groundwater encountered.
3. ES = Environmental Sample; D = Disturbed Sample.
4. Installation Details: 0.00m to 0.50m plain 63mm diameter pipe with bentonite; 0.50m to 1.00m slotted 63mm diameter pipe with gravel filter and geosock; 1.00m to 3.45m backfilled with bentonite. Gas tap, bung and flush cover.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Hammer Information	
Energy Ratio	Serial No.
60%	BBL7

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	0.50	1.00

Appendix H – Ground Gas and Groundwater Monitoring Records

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

Atm. Pressure:	**1002mb to 1019mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**13°C to 17°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
RC01 (14:30)	-	0	-	-	-	-	-	-	1.77	14.43
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		
RC02 (12:42)	-	0	-	-	-	-	-	-	2.23	14.46
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		
RC03 (10:50)		0	-	-	-	-	-	-	3.04	13.89
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		
RC06 (12:55)	1003	0	-	-	-	-	-	-	0.00	-
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
RC01 - No gas monitoring undertaken
RC02 - No gas monitoring undertaken
RC03 - No gas monitoring undertaken
RC05 - Headworks flooded unable to monitor, bung wedged too low into pipe.
RC06 - No gas monitoring undertaken. Borehole flooded to surface. Unable to open bung to measure depth to base of well.

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

Atm. Pressure:	**1002mb to 1019mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**13°C to 17°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS01 (10:42)	1008	0	0.0	0.0	20.7	0.0	0.0	0.0	1.12	1.45
		15	0.0	0.0	15.8	3.1	0.0	0.0		
		30	0.0	0.0	16.3	2.7	0.0	0.0		
		45	0.0	0.0	16.8	2.3	0.0	0.0		
		60	0.0	0.0	17.1	2.3	0.0	0.0		
		90	0.0	0.0	17.3	2.1	0.0	0.0		
		120	0.0	0.0	17.5	2.1	0.0	0.0		
		150	0.0	0.0	17.5	2.1	0.0	0.0		
		180	0.0	0.0	17.6	2.0	0.0	0.0		
		240	0.0	0.0	17.7	2.0	0.0	0.0		
		300	0.0	0.0	17.7	2.0	0.0	0.0		
WS02A	-	0	-	-	-	-	-	-	-	-
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		
WS04 (12:06)	1008	0	0.0	0.0	21.1	0.0	0.0	0.0	Dry	1.32
		15	0.0	0.0	20.4	0.5	0.0	0.0		
		30	0.0	0.0	20.3	0.6	0.0	0.0		
		45	0.0	0.0	20.2	0.6	0.0	0.0		
		60	0.0	0.0	20.2	0.6	0.0	0.0		
		90	0.0	0.0	20.2	0.6	0.0	0.0		
		120	0.0	0.0	20.2	0.6	0.0	0.0		
		150	0.0	0.0	20.2	0.6	0.0	0.0		
		180	0.0	0.0	20.2	0.6	0.0	0.0		
		240	0.0	0.0	20.2	0.6	0.0	0.0		
		300	0.0	0.0	20.2	0.6	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS02A - Not monitored

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

Atm. Pressure:	**1002mb to 1019mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**13°C to 17°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS05 (12:48)	1009	0	40.0	400.0	20.9	0.0	0.0	0.0	0.96	2.57
		15	15.0	80.0	10.5	5.8	0.0	0.0		
		30	3.0	16.0	9.8	6.9	0.0	0.0		
		45	1.0	6.0	9.6	7.0	0.0	0.0		
		60	0.8	5.0	9.5	7.0	0.0	0.0		
		90	0.2	1.0	9.6	7.0	0.0	0.0		
		120	0.0	0.0	9.6	6.9	0.0	0.0		
		150	0.0	0.0	9.7	6.9	0.0	0.0		
		180	0.0	0.0	9.8	6.8	0.0	0.0		
		240	0.0	0.0	9.7	6.9	0.0	0.0		
		300	0.0	0.0	9.8	6.8	0.0	0.0		
WS07 (08:40)	1007	0	0.0	0.0	20.7	0.0	0.0	0.0	Dry	2.53
		15	0.0	0.0	18.9	2.8	0.0	0.0		
		30	0.0	0.0	18.3	3.2	0.0	0.0		
		45	0.0	0.0	18.3	3.2	0.0	0.0		
		60	0.0	0.0	18.3	3.2	0.0	0.0		
		90	0.0	0.0	18.2	3.2	0.0	0.0		
		120	0.0	0.0	18.2	3.2	0.0	0.0		
		150	0.0	0.0	18.2	3.2	0.0	0.0		
		180	0.0	0.0	18.2	3.2	0.0	0.0		
		240	0.0	0.0	18.2	3.2	0.0	0.0		
		300	0.0	0.0	18.2	3.3	0.0	0.0		
WS08 (09:50)	1007	0	0.0	0.0	20.8	0.0	0.0	0.0	2.19	2.86
		15	0.0	0.0	18.1	0.0	0.0	0.0		
		30	0.0	0.0	16.5	0.0	0.0	0.0		
		45	0.0	0.0	16.7	0.0	0.0	0.0		
		60	0.0	0.0	17.0	0.0	0.0	0.0		
		90	0.0	0.0	17.5	0.0	0.0	0.0		
		120	0.0	0.0	17.6	0.0	0.0	0.0		
		150	0.0	0.0	17.6	0.0	0.0	0.0		
		180	0.0	0.0	17.8	0.0	0.0	0.0		
		240	0.0	0.0	18.0	0.0	0.0	0.0		
		300	0.0	0.0	18.3	0.0	0.0	0.0		
WS13 (17:17)	997	0	0.0	0.0	20.9	0.0	0.0	0.0	Dry	1.44
		15	0.0	0.0	20.3	0.6	0.0	0.0		
		30	0.0	0.0	20.0	0.7	0.0	0.0		
		45	0.0	0.0	20.0	0.7	0.0	0.0		
		60	0.0	0.0	20.0	0.7	0.0	0.0		
		90	0.0	0.0	20.0	0.7	0.0	0.0		
		120	0.0	0.0	19.9	0.7	0.0	0.0		
		150	0.0	0.0	19.9	0.7	0.0	0.0		
		180	0.0	0.0	19.9	0.7	0.0	0.0		
		240	0.0	0.0	19.9	0.7	0.0	0.0		
		300	0.0	0.0	19.9	0.7	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS05 - Peak flow recorded as 48.7l/hr

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

Atm. Pressure:	**1002mb to 1019mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**13°C to 17°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS15 (09:14)	1006	0	0.0	0.0	20.6	0.2	0.0	0.0	2.10	2.38
		15	0.0	0.0	20.2	0.9	0.0	0.0		
		30	0.0	0.0	20.0	0.9	0.0	0.0		
		45	0.0	0.0	20.0	0.9	0.0	0.0		
		60	0.0	0.0	20.0	0.9	0.0	0.0		
		90	0.0	0.0	20.0	0.9	0.0	0.0		
		120	0.0	0.0	20.0	0.9	0.0	0.0		
		150	0.0	0.0	20.0	0.9	0.0	0.0		
		180	0.0	0.0	20.0	0.9	0.0	0.0		
		240	0.0	0.0	20.0	0.9	0.0	0.0		
		300	0.0	0.0	20.0	0.9	0.0	0.0		
WS17 (16:30)	1005	0	-	-	-	-	-	-	2.19	2.84
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		
WS18 (16:40)	996	0	0.0	0.0	20.9	0.0	0.0	0.0	Damp	1.68
		15	0.0	0.0	17.9	2.2	0.0	0.0		
		30	0.0	0.0	17.0	2.3	0.0	0.0		
		45	0.0	0.0	16.9	2.3	0.0	0.0		
		60	0.0	0.0	16.9	2.3	0.0	0.0		
		90	0.0	0.0	16.8	2.4	0.0	0.0		
		120	0.0	0.0	16.8	2.4	0.0	0.0		
		150	0.0	0.0	16.8	2.4	0.0	0.0		
		180	0.0	0.0	16.8	2.4	0.0	0.0		
		240	0.0	0.0	16.8	2.4	0.0	0.0		
		300	0.0	0.0	16.8	2.4	0.0	0.0		
WS19A (15:13)	995	0	0.0	0.0	20.7	0.0	0.0	0.0	Dry	1.71
		15	0.0	0.0	13.1	3.7	0.0	0.0		
		30	0.0	0.0	8.7	4.3	0.0	0.0		
		45	0.0	0.0	8.2	4.4	0.0	0.0		
		60	0.0	0.0	8.1	4.4	0.0	0.0		
		90	0.0	0.0	7.9	4.4	0.0	0.0		
		120	0.0	0.0	7.8	4.4	0.0	0.0		
		150	0.0	0.0	7.8	4.4	0.0	0.0		
		180	0.0	0.0	7.7	4.4	0.0	0.0		
		240	0.0	0.0	7.6	4.5	0.0	0.0		
		300	0.0	0.0	7.6	4.5	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS17 - No gas monitoring undertaken

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

Atm. Pressure:	**1002mb to 1019mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**13°C to 17°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS20 (15:44)	996	0	0.0	0.0	20.9	0.0	0.0	0.0	0.50	1.13
		15	0.0	0.0	19.8	0.4	0.0	0.0		
		30	0.0	0.0	19.7	0.4	0.0	0.0		
		45	0.0	0.0	19.7	0.4	0.0	0.0		
		60	0.0	0.0	19.7	0.4	0.0	0.0		
		90	0.0	0.0	19.7	0.4	0.0	0.0		
		120	0.0	0.0	19.8	0.4	0.0	0.0		
		150	0.0	0.0	19.8	0.4	0.0	0.0		
		180	0.0	0.0	19.9	0.4	0.0	0.0		
		240	0.0	0.0	19.9	0.4	0.0	0.0		
		300	0.0	0.0	21.0	0.0	0.0	0.0		
WS21 (13:15)	-	0	-	-	-	-	-	-	1.62	2.53
		15	-	-	-	-	-	-		
		30	-	-	-	-	-	-		
		45	-	-	-	-	-	-		
		60	-	-	-	-	-	-		
		90	-	-	-	-	-	-		
		120	-	-	-	-	-	-		
		150	-	-	-	-	-	-		
		180	-	-	-	-	-	-		
		240	-	-	-	-	-	-		
		300	-	-	-	-	-	-		
WS23 (14:03)	994	0	0.0	0.0	20.9	0.0	0.0	0.0	Dry	1.04
		15	0.0	0.0	20.4	0.6	0.0	0.0		
		30	0.0	0.0	20.3	0.6	0.0	0.0		
		45	0.0	0.0	20.3	0.6	0.0	0.0		
		60	0.0	0.0	20.2	0.6	0.0	0.0		
		90	0.0	0.0	20.2	0.6	0.0	0.0		
		120	0.0	0.0	20.2	0.6	0.0	0.0		
		150	0.0	0.0	20.2	0.6	0.0	0.0		
		180	0.0	0.0	20.2	0.6	0.0	0.0		
		240	0.0	0.0	20.2	0.6	0.0	0.0		
		300	0.0	0.0	20.2	0.6	0.0	0.0		
WS24 (12:05)	992	0	0.0	0.0	20.9	0.0	0.0	0.0	1.56	1.98
		15	0.0	0.0	20.5	0.7	0.0	0.0		
		30	0.0	0.0	20.3	0.7	0.0	0.0		
		45	0.0	0.0	20.3	0.7	0.0	0.0		
		60	0.0	0.0	20.3	0.7	0.0	0.0		
		90	0.0	0.0	20.3	0.7	0.0	0.0		
		120	0.0	0.0	20.3	0.7	0.0	0.0		
		150	0.0	0.0	20.2	0.7	0.0	0.0		
		180	0.0	0.0	20.2	0.7	0.0	0.0		
		240	0.0	0.0	20.2	0.7	0.0	0.0		
		300	0.0	0.0	20.2	0.7	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS21 - No gas monitoring undertaken

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

Atm. Pressure:	**1002mb to 1019mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**13°C to 17°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS25 (11:10)	992	0	0.0	0.0	20.8	0.0	0.0	0.0	Dry	1.11
		15	0.0	0.0	20.8	0.2	0.0	0.0		
		30	0.0	0.0	20.6	0.3	0.0	0.0		
		45	0.0	0.0	20.5	0.5	0.0	0.0		
		60	0.0	0.0	20.3	0.6	0.0	0.0		
		90	0.0	0.0	20.5	0.5	0.0	0.0		
		120	0.0	0.0	20.3	0.7	0.0	0.0		
		150	0.0	0.0	20.3	0.7	0.0	0.0		
		180	0.0	0.0	20.2	0.7	0.0	0.0		
		240	0.0	0.0	19.8	1.1	0.0	0.0		
		300	0.0	0.0	19.4	1.4	0.0	0.0		
		360	-	-	19.5	1.3	0.0	-		
		420	-	-	19.6	1.2	0.0	-		
		480	-	-	20.1	0.8	0.0	-		
		540	-	-	19.7	1.2	0.0	-		
		600	-	-	20.1	0.8	0.0	-		
WS26 (10:05)	993	0	0.0	0.0	20.7	0.1	0.0	0.0	Damp	1.09
		15	0.0	0.0	16.9	2.4	0.0	0.0		
		30	0.0	0.0	16.3	2.4	0.0	0.0		
		45	0.0	0.0	16.2	2.4	0.0	0.0		
		60	0.0	0.0	16.2	2.4	0.0	0.0		
		90	0.0	0.0	16.1	2.4	0.0	0.0		
		120	0.0	0.0	16.1	2.4	0.0	0.0		
		150	0.0	0.0	16.0	2.5	0.0	0.0		
		180	0.0	0.0	15.9	2.6	0.0	0.0		
		240	0.0	0.0	15.9	2.6	0.0	0.0		
		300	0.0	0.0	16.3	2.4	0.0	0.0		
WS27 (13:27)	994	0	0.0	0.0	20.8	0.0	0.0	0.0	1.61	2.48
		15	0.0	0.0	20.0	0.6	0.0	0.0		
		30	0.0	0.0	19.8	0.6	0.0	0.0		
		45	0.0	0.0	20.0	0.6	0.0	0.0		
		60	0.0	0.0	20.0	0.5	0.0	0.0		
		90	0.0	0.0	20.1	0.5	0.0	0.0		
		120	0.0	0.0	20.1	0.4	0.0	0.0		
		150	0.0	0.0	20.2	0.4	0.0	0.0		
		180	0.0	0.0	20.3	0.3	0.0	0.0		
		240	0.0	0.0	20.4	0.3	0.0	0.0		
		300	0.0	0.0	20.5	0.2	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference	**RC01**	**RC02**	**RC03**	**RC05**	**RC06**	**WS01**	**WS02A**	**WS04**
Target Stratum	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Made Ground	Glacial Till	Made Ground
Ground Level (mOD)	58.50	58.92	59.71	59.87	58.68	62.86	62.70	62.13
Groundwater Depth (mbgl)	1.77	2.23	3.04	0.00	0.00	1.12	-	Dry
Groundwater Level (mOD)	56.73	56.69	56.67	59.87	58.68	61.74	-	Dry
Base of Well (mbgl)	14.43	14.46	13.89	-	-	1.45	-	1.32
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	3.00	3.00	2.00	3.00	3.00	0.50	1.00	0.50
Base of Response Zone (mbgl)	15.00	15.00	14.00	15.00	15.00	1.20	2.00	1.00
Top of Response Zone (mOD)	55.50	55.92	57.71	56.87	55.68	62.36	61.70	61.63
Base of Response Zone (mOD)	43.50	43.92	45.71	44.87	43.68	61.66	60.70	61.13
Hydrocarbon Sheen Observed?	No	No	No	No	No	No	No	No
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details								
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

RC05 - Bung wedged too low into pipe, unable to remove. Headworks flooded to surface level.
RC06 - Unable to open bung. Headworks flooded to surface level.
WS02A - Not monitored.

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

State of Ground:	**Dry**		**Damp**		**Wet**	X	**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	X
Precipitation Level:	**None**		**Slight**	X	**Moderate**		**Heavy**	

Borehole Reference	**WS05**	**WS07**	**WS08**	**WS13**	**WS15**	**WS17**	**WS18**	**WS19A**
Target Stratum	Made Ground / Glacial Till / W Bedrock	Drift	Drift	Made Ground	Drift	Drift	Made Ground	Drift
Ground Level (mOD)	63.10	61.51	61.68	59.47	61.68	59.28	59.46	59.95
Groundwater Depth (mbgl)	0.96	Dry	2.19	Dry	2.10	2.19	Dry	Dry
Groundwater Level (mOD)	62.14	Dry	59.49	Dry	59.58	57.09	Dry	Dry
Base of Well (mbgl)	2.57	2.53	2.86	1.44	2.38	2.84	1.68	1.71
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	1.50	1.00	1.00	0.50	1.00	1.00	0.80	0.80
Base of Response Zone (mbgl)	3.00	2.70	2.80	1.40	2.60	3.00	1.50	1.80
Top of Response Zone (mOD)	61.60	60.51	60.68	58.97	60.68	58.28	58.66	59.15
Base of Response Zone (mOD)	60.10	58.81	58.88	58.07	59.08	56.28	57.96	58.15
Hydrocarbon Sheen Observed?	No	No	No	No	No	No	No	No
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details								
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**JF**
Date of Visit:	**4 & 5 September 2025**	**Time of Visit:**	**08:30 - 17:30**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**	**X**	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**	**X**	**Moderate**		**Heavy**	

Borehole Reference	**WS20**	**WS21**	**WS23**	**WS24**	**WS25**	**WS26**	**WS27**	
Target Stratum	Made Ground	Glacial Till / W Bedrock	Made Ground	Made Ground / Glacial Till	Made Ground	Made Ground	Glacial Till / W Bedrock	
Ground Level (mOD)	59.90	58.70	58.37	59.84	59.90	59.78	58.41	
Groundwater Depth (mbgl)	0.50	1.62	Dry	1.56	Dry	Dry	1.61	
Groundwater Level (mOD)	59.40	57.08	Dry	58.28	Dry	Dry	56.80	
Base of Well (mbgl)	1.13	2.53	1.04	1.98	1.11	1.09	2.48	
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Condition of Well	Good	Good	Good	Good	Good	Good	Good	
Top of Response Zone (mbgl)	0.50	1.50	0.50	1.00	0.50	0.50	1.50	
Base of Response Zone (mbgl)	1.00	2.50	1.00	2.00	1.00	1.00	2.50	
Top of Response Zone (mOD)	59.40	57.20	57.87	58.84	59.40	59.28	56.91	
Base of Response Zone (mOD)	58.90	56.20	57.37	57.84	58.90	58.78	55.91	
Hydrocarbon Sheen Observed?	No	No	No	No	No	No	No	
Thickness of Free Product (m)	-	-	-	-	-	-	-	

Groundwater Sampling Details								
Purge Method	-	-	-	-	-	-	-	
Purged Volume	-	-	-	-	-	-	-	
Recharge (Good / Poor)	-	-	-	-	-	-	-	
Sampling Method	-	-	-	-	-	-	-	
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	
Colour / Odours Noted	-	-	-	-	-	-	-	
In-situ pH	-	-	-	-	-	-	-	
In-situ Temperature (°C)	-	-	-	-	-	-	-	
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	
In-situ Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	

Notes:

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

Atm. Pressure:	**999mb to 1007mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**10°C to 12°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
RC01 (14:50)	1000	0	24.7	298.0	20.9	0.0	0.0	0.0	1.29	14.40
		15	11.5	100.0	20.9	0.0	0.0	0.0		
		30	5.0	39.0	20.8	0.0	0.0	0.0		
		45	3.0	20.0	20.8	0.0	0.0	0.0		
		60	2.9	5.0	20.8	0.0	0.0	0.0		
		90	0.0	0.0	20.8	0.0	0.0	0.0		
		120	0.0	0.0	20.8	0.0	0.0	0.0		
		150	0.0	0.0	20.8	0.0	0.0	0.0		
		180	0.0	0.0	20.8	0.0	0.0	0.0		
		240	0.0	0.0	20.8	0.0	0.0	0.0		
		300	0.0	0.0	20.8	0.0	0.0	0.0		
RC02 (12:40)	999	0	55.8	800.0	20.6	0.3	0.0	0.0	2.03	14.42
		15	24.9	165.0	20.6	0.3	0.0	0.0		
		30	2.1	23.0	20.6	0.3	0.0	0.0		
		45	0.0	0.0	20.5	0.3	0.0	0.0		
		60	0.0	0.0	20.5	0.3	0.0	0.0		
		90	0.0	0.0	20.5	0.3	0.0	0.0		
		120	0.0	0.0	20.5	0.3	0.0	0.0		
		150	0.0	0.0	20.5	0.3	0.0	0.0		
		180	0.0	0.0	20.5	0.3	0.0	0.0		
		240	0.0	0.0	20.5	0.3	0.0	0.0		
		300	0.0	0.0	20.5	0.3	0.0	0.0		
RC03 (11:30)	999	0	5.5	50.0	20.1	0.0	0.0	0.0	2.87	13.90
		15	0.0	0.0	16.2	1.9	0.0	0.0		
		30	0.0	0.0	15.5	2.0	0.0	0.0		
		45	0.0	0.0	15.5	2.0	0.0	0.0		
		60	0.0	0.0	15.5	2.0	0.0	0.0		
		90	0.0	0.0	15.5	1.9	0.0	0.0		
		120	0.0	0.0	15.6	1.9	0.0	0.0		
		150	0.0	0.0	15.7	1.9	0.0	0.0		
		180	0.0	0.0	15.7	1.9	0.0	0.0		
		240	0.0	0.0	15.7	1.9	0.0	0.0		
		300	0.0	0.0	15.8	1.8	0.0	0.0		
RC06 (13:20)	999	0	28.7	250.0	20.2	0.2	0.0	0.0	2.39	14.75
		15	3.2	18.0	20.6	0.3	0.0	0.0		
		30	0.4	2.0	20.6	0.3	0.0	0.0		
		45	0.0	0.0	20.6	0.3	0.0	0.0		
		60	0.0	0.0	20.7	0.1	0.0	0.0		
		90	0.0	0.0	20.7	0.1	0.0	0.0		
		120	0.0	0.0	20.7	0.1	0.0	0.0		
		150	0.0	0.0	20.8	0.1	0.0	0.0		
		180	0.0	0.0	20.8	0.1	0.0	0.0		
		240	0.0	0.0	20.8	0.1	0.0	0.0		
		300	0.0	0.0	20.8	0.1	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
RC05 - No gas tap, gas monitoring not undertaken.

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

Atm. Pressure:	**999mb to 1007mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**10°C to 12°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS01 (10:15)	1003	0	0.0	0.0	20.6	0.0	0.0	0.0	0.78	1.40
		15	0.0	0.0	16.2	3.1	0.0	0.0		
		30	0.0	0.0	17.0	2.2	0.0	0.0		
		45	0.0	0.0	17.3	2.1	0.0	0.0		
		60	0.0	0.0	17.6	2.0	0.0	0.0		
		90	0.0	0.0	18.2	1.7	0.0	0.0		
		120	0.0	0.0	18.6	1.4	0.0	0.0		
		150	0.0	0.0	18.7	1.3	0.0	0.0		
		180	0.0	0.0	18.6	1.2	0.0	0.0		
		240	0.0	0.0	19.0	1.1	0.0	0.0		
		300	0.0	0.0	19.1	1.0	0.0	0.0		
		360	-	-	19.2	0.9	0.0	-		
		420	-	-	19.2	0.9	0.0	-		
		480	-	-	19.3	0.9	0.0	-		
		540	-	-	19.3	0.9	0.0	-		
		600	-	-	19.3	0.9	0.0	-		
WS02A (11:00)	1004	0	0.0	0.0	20.7	0.0	0.0	0.0	1.08	1.90
		15	0.0	0.0	20.5	0.2	0.0	0.0		
		30	0.0	0.0	20.3	0.4	0.0	0.0		
		45	0.0	0.0	20.0	0.6	0.0	0.0		
		60	0.0	0.0	19.7	0.7	0.0	0.0		
		90	0.0	0.0	19.6	0.8	0.0	0.0		
		120	0.0	0.0	19.6	0.8	0.0	0.0		
		150	0.0	0.0	19.6	0.8	0.0	0.0		
		180	0.0	0.0	19.6	0.8	0.0	0.0		
		240	0.0	0.0	19.6	0.8	0.0	0.0		
		300	0.0	0.0	19.6	0.8	0.0	0.0		
WS04 (09:15)	1003	0	-0.5	-1.0	20.2	0.3	0.0	0.0	0.33	1.30
		15	0.0	0.0	19.2	0.4	0.0	0.0		
		30	0.0	0.0	19.2	0.4	0.0	0.0		
		45	0.0	0.0	19.2	0.4	0.0	0.0		
		60	0.0	0.0	-	-	0.0	0.0		
		90	0.0	0.0	-	-	0.0	0.0		
		120	0.0	0.0	-	-	0.0	0.0		
		150	0.0	0.0	-	-	0.0	0.0		
		180	0.0	0.0	-	-	0.0	0.0		
		240	0.0	0.0	-	-	0.0	0.0		
		300	0.0	0.0	-	-	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

WS04 - Gas monitoring stopped after 45 seconds due to groundwater being sucked up gas monitoring tube.

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

Atm. Pressure:	**999mb to 1007mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**10°C to 12°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS05 (11:40)	1005	0	0.0	0.0	20.5	0.0	0.0	0.0	0.82	3.01
		15	0.0	0.0	20.4	0.2	0.0	0.0		
		30	0.0	0.0	19.9	0.8	0.0	0.0		
		45	0.0	0.0	19.5	1.5	0.0	0.0		
		60	0.0	0.0	19.2	2.2	0.0	0.0		
		90	0.0	0.0	19.3	2.1	0.0	0.0		
		120	0.0	0.0	19.4	2.0	0.0	0.0		
		150	0.0	0.0	19.5	1.9	0.0	0.0		
		180	0.0	0.0	19.7	1.6	0.0	0.0		
		240	0.0	0.0	20.1	0.9	0.0	0.0		
		300	0.0	0.0	20.3	0.7	0.0	0.0		
		360	-	-	20.4	0.7	0.0	-		
		420	-	-	20.4	0.6	0.0	-		
		480	-	-	20.5	0.4	0.0	-		
		540	-	-	20.5	0.4	0.0	-		
		600	-	-	20.5	0.4	0.0	-		
WS07 (14:10)	1006	0	0.0	0.0	20.8	0.2	0.0	0.0	Dry	2.46
		15	0.0	0.0	20.7	1.5	0.0	0.0		
		30	0.0	0.0	19.7	2.0	0.0	0.0		
		45	0.0	0.0	19.4	2.1	0.0	0.0		
		60	0.0	0.0	19.0	2.1	0.0	0.0		
		90	0.0	0.0	19.0	2.1	0.0	0.0		
		120	0.0	0.0	18.9	2.1	0.0	0.0		
		150	0.0	0.0	18.9	2.1	0.0	0.0		
		180	0.0	0.0	18.9	2.1	0.0	0.0		
		240	0.0	0.0	18.9	2.1	0.0	0.0		
		300	0.0	0.0	18.9	2.1	0.0	0.0		
WS08 (12:40)	1006	0	0.0	0.0	20.7	0.3	0.0	0.0	2.08	2.89
		15	0.0	0.0	17.3	0.1	0.0	0.0		
		30	0.0	0.0	13.2	0.1	0.0	0.0		
		45	0.0	0.0	13.2	0.1	0.0	0.0		
		60	0.0	0.0	13.2	0.1	0.0	0.0		
		90	0.0	0.0	13.2	0.1	0.0	0.0		
		120	0.0	0.0	13.2	0.1	0.0	0.0		
		150	0.0	0.0	13.6	0.1	0.0	0.0		
		180	0.0	0.0	13.6	0.1	0.0	0.0		
		240	0.0	0.0	14.0	0.1	0.0	0.0		
		300	0.0	0.0	14.7	0.1	0.0	0.0		
WS13 (15:40)	1008	0	0.0	0.0	20.7	0.2	0.0	0.0	0.40	1.40
		15	0.0	0.0	19.7	0.3	0.0	0.0		
		30	0.0	0.0	19.5	0.4	0.0	0.0		
		45	0.0	0.0	9.6	0.3	0.0	0.0		
		60	0.0	0.0	19.9	0.3	0.0	0.0		
		90	0.0	0.0	20.2	0.2	0.0	0.0		
		120	0.0	0.0	20.4	0.1	0.0	0.0		
		150	0.0	0.0	20.5	0.1	0.0	0.0		
		180	0.0	0.0	20.5	0.1	0.0	0.0		
		240	0.0	0.0	20.5	0.1	0.0	0.0		
		300	0.0	0.0	20.5	0.1	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

Atm. Pressure:	**999mb to 1007mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**10°C to 12°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS15 (13:45)	1005	0	-2.1	-7.0	20.5	0.2	0.0	0.0	1.32	2.34
		15	0.0	0.0	20.2	0.7	0.0	0.0		
		30	0.0	0.0	20.1	0.8	0.0	0.0		
		45	0.0	0.0	20.0	0.9	0.0	0.0		
		60	0.0	0.0	20.0	0.9	0.0	0.0		
		90	0.0	0.0	20.1	0.8	0.0	0.0		
		120	0.0	0.0	20.1	0.8	0.0	0.0		
		150	0.0	0.0	20.1	0.7	0.0	0.0		
		180	0.0	0.0	20.1	0.7	0.0	0.0		
		240	0.0	0.0	20.1	0.7	0.0	0.0		
		300	0.0	0.0	20.1	0.7	0.0	0.0		
WS17 (15:00)	1006	0	0.0	0.0	20.5	0.3	0.0	0.0	0.53	2.80
		15	0.0	0.0	20.5	0.3	0.0	0.0		
		30	0.0	0.0	20.5	0.3	0.0	0.0		
		45	0.0	0.0	20.5	0.3	0.0	0.0		
		60	0.0	0.0	20.5	0.3	0.0	0.0		
		90	0.0	0.0	20.5	0.3	0.0	0.0		
		120	0.0	0.0	20.6	0.2	0.0	0.0		
		150	0.0	0.0	20.6	0.2	0.0	0.0		
		180	0.0	0.0	20.6	0.2	0.0	0.0		
		240	0.0	0.0	20.6	0.2	0.0	0.0		
		300	0.0	0.0	20.6	0.2	0.0	0.0		
WS18 (16:15)	1008	0	22.0	50.0	20.7	0.2	0.0	0.0	0.88	1.63
		15	3.0	5.0	17.9	1.7	0.0	0.0		
		30	0.0	0.0	17.3	1.8	0.0	0.0		
		45	0.0	0.0	17.3	1.7	0.0	0.0		
		60	0.0	0.0	17.4	1.7	0.0	0.0		
		90	0.0	0.0	17.6	1.6	0.0	0.0		
		120	0.0	0.0	17.8	1.5	0.0	0.0		
		150	0.0	0.0	17.8	1.5	0.0	0.0		
		180	0.0	0.0	17.9	1.4	0.0	0.0		
		240	0.0	0.0	18.0	1.4	0.0	0.0		
		300	0.0	0.0	18.0	1.4	0.0	0.0		
WS19A (09:30)	999	0	0.0	0.0	20.6	0.0	0.0	0.0	Dry	1.65
		15	0.0	0.0	8.9	4.0	0.0	0.0		
		30	0.0	0.0	6.2	5.0	0.0	0.0		
		45	0.0	0.0	6.0	5.1	0.0	0.0		
		60	0.0	0.0	5.7	5.2	0.0	0.0		
		90	0.0	0.0	5.1	5.3	0.0	0.0		
		120	0.0	0.0	5.0	5.4	0.0	0.0		
		150	0.0	0.0	4.8	5.4	0.0	0.0		
		180	0.0	0.0	4.8	5.4	0.0	0.0		
		240	0.0	0.0	4.8	5.4	0.0	0.0		
		300	0.0	0.0	4.8	5.4	0.0	0.0		
		360	-	-	9.5	3.9	-	-		
		420	-	-	9.5	3.9	-	-		
		480	-	-	9.9	3.8	-	-		
		540	-	-	9.9	3.8	-	-		
		600	-	-	9.9	3.8	-	-		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

Atm. Pressure:	**999mb to 1007mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**10°C to 12°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS20 (10:30)	999	0	0.0	0.0	20.2	0.1	0.0	0.0	0.48	1.06
		15	0.0	0.0	20.0	0.1	0.0	0.0		
		30	0.0	0.0	19.4	0.1	0.0	0.0		
		45	0.0	0.0	19.4	0.1	0.0	0.0		
		60	0.0	0.0	19.4	0.1	0.0	0.0		
		90	0.0	0.0	19.3	0.1	0.0	0.0		
		120	0.0	0.0	19.3	0.1	0.0	0.0		
		150	0.0	0.0	19.3	0.1	0.0	0.0		
		180	0.0	0.0	19.3	0.1	0.0	0.0		
		240	0.0	0.0	19.3	0.1	0.0	0.0		
		300	0.0	0.0	19.3	0.1	0.0	0.0		
WS21 (13:45)	999	0	0.0	0.0	20.2	0.0	0.0	0.0	1.46	2.46
		15	0.0	0.0	20.1	0.4	0.0	0.0		
		30	0.0	0.0	19.9	0.4	0.0	0.0		
		45	0.0	0.0	20.0	0.4	0.0	0.0		
		60	0.0	0.0	20.0	0.4	0.0	0.0		
		90	0.0	0.0	20.0	0.4	0.0	0.0		
		120	0.0	0.0	20.0	0.4	0.0	0.0		
		150	0.0	0.0	20.0	0.4	0.0	0.0		
		180	0.0	0.0	20.0	0.4	0.0	0.0		
		240	0.0	0.0	20.0	0.4	0.0	0.0		
		300	0.0	0.0	20.0	0.4	0.0	0.0		
WS23 (14:35)	999	0	0.0	0.0	20.7	0.0	0.0	0.0	Dry	0.99
		15	0.0	0.0	20.7	0.3	0.0	0.0		
		30	0.0	0.0	20.6	0.3	0.0	0.0		
		45	0.0	0.0	20.6	0.3	0.0	0.0		
		60	0.0	0.0	20.6	0.3	0.0	0.0		
		90	0.0	0.0	20.6	0.3	0.0	0.0		
		120	0.0	0.0	20.5	0.3	0.0	0.0		
		150	0.0	0.0	20.5	0.3	0.0	0.0		
		180	0.0	0.0	20.5	0.3	0.0	0.0		
		240	0.0	0.0	20.5	0.3	0.0	0.0		
		300	0.0	0.0	20.5	0.3	0.0	0.0		
WS24 (15:10)	1002	0	0.0	0.0	20.9	0.1	0.0	0.0	1.39	1.89
		15	0.0	0.0	20.6	0.4	0.0	0.0		
		30	0.0	0.0	20.5	0.5	0.0	0.0		
		45	0.0	0.0	20.5	0.5	0.0	0.0		
		60	0.0	0.0	20.5	0.5	0.0	0.0		
		90	0.0	0.0	20.5	0.5	0.0	0.0		
		120	0.0	0.0	20.4	0.5	0.0	0.0		
		150	0.0	0.0	20.4	0.5	0.0	0.0		
		180	0.0	0.0	20.4	0.5	0.0	0.0		
		240	0.0	0.0	20.4	0.5	0.0	0.0		
		300	0.0	0.0	20.4	0.5	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

Atm. Pressure:	**999mb to 1007mb**	**Local Pressure System*:**	**Rising**
Air Temperature:	**10°C to 12°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS25 (12:15)	999	0	0.0	0.0	20.3	0.3	0.0	0.0	0.80	1.01
		15	0.0	0.0	20.3	0.6	0.0	0.0		
		30	0.0	0.0	20.3	0.7	0.0	0.0		
		45	0.0	0.0	20.3	0.7	0.0	0.0		
		60	0.0	0.0	20.3	0.7	0.0	0.0		
		90	0.0	0.0	20.4	0.4	0.0	0.0		
		120	0.0	0.0	20.5	0.3	0.0	0.0		
		150	0.0	0.0	20.4	0.4	0.0	0.0		
		180	0.0	0.0	20.4	0.4	0.0	0.0		
		240	0.0	0.0	20.4	0.4	0.0	0.0		
		300	0.0	0.0	20.4	0.4	0.0	0.0		
WS26 (11:15)	999	0	0.0	0.0	20.6	0.0	0.0	0.0	Dry	1.02
		15	0.0	0.0	19.5	1.0	0.0	0.0		
		30	0.0	0.0	18.0	1.3	0.0	0.0		
		45	0.0	0.0	17.9	1.3	0.0	0.0		
		60	0.0	0.0	18.0	1.3	0.0	0.0		
		90	0.0	0.0	18.2	1.3	0.0	0.0		
		120	0.0	0.0	18.2	1.2	0.0	0.0		
		150	0.0	0.0	18.2	1.1	0.0	0.0		
		180	0.0	0.0	18.2	1.1	0.0	0.0		
		240	0.0	0.0	18.3	1.1	0.0	0.0		
		300	0.0	0.0	18.3	1.1	0.0	0.0		
WS27 (14:15)	1000	0	24.0	200.0	20.6	0.0	0.0	0.0	1.34	2.42
		15	2.0	20.0	20.4	0.5	0.0	0.0		
		30	0.0	0.0	20.3	0.6	0.0	0.0		
		45	0.0	0.0	20.3	0.6	0.0	0.0		
		60	0.0	0.0	20.4	0.5	0.0	0.0		
		90	0.0	0.0	20.5	0.3	0.0	0.0		
		120	0.0	0.0	20.6	0.3	0.0	0.0		
		150	0.0	0.0	20.6	0.3	0.0	0.0		
		180	0.0	0.0	20.7	0.2	0.0	0.0		
		240	0.0	0.0	20.7	0.2	0.0	0.0		
		300	0.0	0.0	20.7	0.2	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

State of Ground:	**Dry**		**Damp**		**Wet**	X	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	X	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	X
Precipitation Level:	**None**		**Slight**		**Moderate**	X	**Heavy**	

Borehole Reference	**RC01**	**RC02**	**RC03**	**RC05**	**RC06**	**WS01**	**WS02A**	**WS04**
Target Stratum	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Made Ground	Glacial Till	Made Ground
Ground Level (mOD)	58.50	58.92	59.71	59.87	58.68	62.86	62.70	62.13
Groundwater Depth (mbgl)	1.29	2.03	2.87	2.14	2.39	0.78	1.08	0.33
Groundwater Level (mOD)	57.21	56.89	56.84	57.73	56.29	62.08	61.62	61.80
Base of Well (mbgl)	14.40	14.42	13.90	14.63	14.75	1.40	1.90	1.30
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	3.00	3.00	2.00	3.00	3.00	0.50	1.00	0.50
Base of Response Zone (mbgl)	15.00	15.00	14.00	15.00	15.00	1.20	2.00	1.00
Top of Response Zone (mOD)	55.50	55.92	57.71	56.87	55.68	62.36	61.70	61.63
Base of Response Zone (mOD)	43.50	43.92	45.71	44.87	43.68	61.66	60.70	61.13
Hydrocarbon Sheen Observed?	No	No	No	No	No	No	No	No
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details								
Purge Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer
Purged Volume	24.5	23.2	20.5	23.5	23.2	1.2	1.5	1.8
Recharge (Good / Poor)	Good	Good	Good	Good	Good	Poor	Good	Good
Sampling Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer
Volume of Water Sampled (ltrs)	2J + 2V	2J + 2V	2J + 2V	2J + 2V	2J + 2V	2J + 2V	2J + 2V	2J + 2V
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	Brown silty water. No odour.	Light brown slightly silty water. No odour.	Light brown silty water. No odour.	Light brown silty water. No odour.	Brown silty water. No odour.	Black silty water. Sewage odour.	Brown silty water. No odour.	Brown silty water. No odour.
In-situ pH	7.79	7.30	7.13	7.64	7.01	7.07	7.47	7.71
In-situ Temperature (°C)	18.00	18.50	16.50	16.20	17.60	16.40	17.20	15.80
In-situ Dissolved Oxygen (%)	7.50	7.60	10.10	10.00	7.60	2.80	1.46	15.00
In-situ Electrical Conductivity (µS/cm)	1.51	1.96	1.27	0.71	2.18	2.10	2.31	1.72
In-situ Total Dissolved Solids (ppt)	0.75	0.98	0.64	0.35	1.09	1.05	1.18	0.79

Notes:

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference	**WS05**	**WS07**	**WS08**	**WS13**	**WS15**	**WS17**	**WS18**	**WS19A**
Target Stratum	Made Ground / Glacial Till / W Bedrock	Glacial Till	Glacial Till	Made Ground	Glacial Till	Glacial Till	Made Ground	Glacial Till
Ground Level (mOD)	63.10	61.51	61.68	59.47	61.68	59.28	59.46	59.95
Groundwater Depth (mbgl)	0.82	Dry	2.08	0.40	1.32	0.53	0.88	Dry
Groundwater Level (mOD)	62.28	Dry	59.60	59.07	60.36	58.75	58.58	Dry
Base of Well (mbgl)	3.01	2.46	2.89	1.40	2.34	2.80	1.63	1.65
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	1.50	1.00	1.00	0.50	1.00	1.00	0.80	0.80
Base of Response Zone (mbgl)	3.00	2.70	2.80	1.40	2.60	3.00	1.50	1.80
Top of Response Zone (mOD)	61.60	60.51	60.68	58.97	60.68	58.28	58.66	59.15
Base of Response Zone (mOD)	60.10	58.81	58.88	58.07	59.08	56.28	57.96	58.15
Hydrocarbon Sheen Observed?	Slight	-	No	No	No	No	No	-
Thickness of Free Product (m)	-	-	-	-	-	-	-	-
Groundwater Sampling Details								
Purge Method	Bailer	-	Bailer	Bailer	Bailer	Bailer	Bailer	-
Purged Volume	4.1	-	1.5	1.9	1.9	4.3	1.4	-
Recharge (Good / Poor)	Good	-	Poor	Poor	Poor	Good	Poor	-
Sampling Method	Bailer	-	Bailer	Bailer	Bailer	Bailer	Bailer	-
Volume of Water Sampled (ltrs)	2J + 2V	-	2J + 2V	2J + 2V	2J + 2V	2J + 2V	2J + 2V	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	Light brown slightly silty water. No odour.	-	Brown silty water. No odour.	Brown becoming dark grey silty water. No odour.	Brown very silty water. No odour.	Brown silty water. No odour.	Light brown silty water. No odour.	-
In-situ pH	7.61	-	7.87	7.87	7.77	6.97	7.16	-
In-situ Temperature (°C)	18.10	-	15.90	16.50	17.20	18.60	18.10	-
In-situ Dissolved Oxygen (%)	5.70	-	13.00	12.00	15.40	9.60	9.00	-
In-situ Electrical Conductivity (µS/cm)	1.04	-	1.58	2.13	0.42	0.93	1.62	-
In-situ Total Dissolved Solids (ppt)	0.53	-	0.81	1.09	0.20	0.47	0.82	-

Notes:

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**16 & 17 September 2025**	**Time of Visit:**	**08:00 - 17:30**

State of Ground:	**Dry**		**Damp**		**Wet**	**X**	**Saturated**	
Wind Strength:	**Calm**		**Light**		**Moderate**	**X**	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**		**Overcast**	**X**
Precipitation Level:	**None**		**Slight**		**Moderate**	**X**	**Heavy**	

Borehole Reference	**WS20**	**WS21**	**WS23**	**WS24**	**WS25**	**WS26**	**WS27**	
Target Stratum	Made Ground	Glacial Till / W Bedrock	Made Ground	Made Ground / Glacial Till	Made Ground	Made Ground	Glacial Till / W Bedrock	
Ground Level (mOD)	59.90	58.70	58.37	59.84	59.90	59.78	58.41	
Groundwater Depth (mbgl)	0.48	1.46	Dry	1.39	0.80	Dry	1.34	
Groundwater Level (mOD)	59.42	57.24	Dry	58.45	59.10	Dry	57.07	
Base of Well (mbgl)	1.06	2.46	0.99	1.89	1.01	1.02	2.42	
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Condition of Well	Good	Good	Good	Good	Good	Good	Good	
Top of Response Zone (mbgl)	0.50	1.50	0.50	1.00	0.50	0.50	1.50	
Base of Response Zone (mbgl)	1.00	2.50	1.00	2.00	1.00	1.00	2.50	
Top of Response Zone (mOD)	59.40	57.20	57.87	58.84	59.40	59.28	56.91	
Base of Response Zone (mOD)	58.90	56.20	57.37	57.84	58.90	58.78	55.91	
Hydrocarbon Sheen Observed?	No	No	-	No	No	-	No	
Thickness of Free Product (m)	-	-	-	-	-	-	-	

Groundwater Sampling Details								
Purge Method	Bailer	Bailer	-	Bailer	Bailer	-	Bailer	
Purged Volume	1.1	1.8	-	0.9	-	-	2	
Recharge (Good / Poor)	Good	Poor	-	Poor	Poor	-	Poor	
Sampling Method	Bailer	Bailer	-	Bailer	Bailer	-	Bailer	
Volume of Water Sampled (ltrs)	2J + 2V	2J + 2V	-	1J + 2V	2J + 2V	-	2J + 2V	
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	
Colour / Odours Noted	Light brown silty water. No odour.	Light brown silty water. No odour.	-	Greyish brown silty water. No odour.	Light greyish brown, slightly cloudy water. No odour.	-	Brown silty water. No odour.	
In-situ pH	8.66	7.80	-	7.01	7.30	-	7.52	
In-situ Temperature (°C)	16.40	19.00	-	16.40	17.80	-	18.50	
In-situ Dissolved Oxygen (%)	7.40	10.40	-	6.60	14.90	-	10.70	
In-situ Electrical Conductivity (µS/cm)	1.89	2.59	-	0.67	0.62	-	2.42	
In-situ Total Dissolved Solids (ppt)	0.93	1.30	-	0.33	0.31	-	1.21	

Notes:

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

Atm. Pressure:	**1013mb to 1014mb**	**Local Pressure System*:**	**Steady**
Air Temperature:	**12°C to 15°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**	**X**	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	**X**	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	**X**	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	**X**	**Slight**		**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
RC01 (11:00)	1014	0	0.0	0.0	20.4	0.1	0.0	0.0	1.46	14.38
		15	0.0	0.0	20.3	0.1	0.0	0.0		
		30	0.0	0.0	20.6	0.1	0.0	0.0		
		45	0.0	0.0	20.6	0.1	0.0	0.0		
		60	0.0	0.0	20.6	0.1	0.0	0.0		
		90	0.0	0.0	20.6	0.1	0.0	0.0		
		120	0.0	0.0	20.6	0.0	0.0	0.0		
		150	0.0	0.0	20.6	0.0	0.0	0.0		
		180	0.0	0.0	20.6	0.0	0.0	0.0		
		240	0.0	0.0	20.6	0.0	0.0	0.0		
		300	0.0	0.0	20.6	0.0	0.0	0.0		
RC02 (09:05)	1013	0	72.0	1560.0	20.2	0.1	0.0	0.0	2.03	14.39
		15	25.2	390.0	20.4	0.3	0.0	0.0		
		30	4.3	30.0	20.4	0.3	0.0	0.0		
		45	0.6	3.0	20.3	0.3	0.0	0.0		
		60	0.0	0.0	20.4	0.3	0.0	0.0		
		90	0.0	0.0	20.5	0.2	0.0	0.0		
		120	0.0	0.0	20.5	0.2	0.0	0.0		
		150	0.0	0.0	20.5	0.1	0.0	0.0		
		180	0.0	0.0	20.5	0.1	0.0	0.0		
		240	0.0	0.0	20.5	0.1	0.0	0.0		
		300	0.0	0.0	20.5	0.1	0.0	0.0		
RC03 (08:10)	1014	0	2.0	25.0	20.1	0.1	0.0	0.0	2.77	13.87
		15	0.0	0.0	16.8	2.1	0.0	0.0		
		30	0.0	0.0	14.7	2.3	0.0	0.0		
		45	0.0	0.0	14.6	2.3	0.0	0.0		
		60	0.0	0.0	14.6	2.3	0.0	0.0		
		90	0.0	0.0	14.8	2.2	0.0	0.0		
		120	0.0	0.0	14.9	2.2	0.0	0.0		
		150	0.0	0.0	15.0	2.2	0.0	0.0		
		180	0.0	0.0	15.1	2.1	0.0	0.0		
		240	0.0	0.0	15.1	2.1	0.0	0.0		
		300	0.0	0.0	15.2	2.1	0.0	0.0		
RC06 (09:25)	1013	0	110.1	>2500	20.5	0.2	0.0	0.0	2.11	14.65
		15	70.0	2500.0	20.5	0.4	0.0	0.0		
		30	16.0	150.0	20.5	0.3	0.0	0.0		
		45	5.0	80.0	20.5	0.3	0.0	0.0		
		60	3.0	60.0	20.5	0.3	0.0	0.0		
		90	4.0	50.0	20.5	0.2	0.0	0.0		
		120	4.0	40.0	20.5	0.2	0.0	0.0		
		150	0.0	0.0	20.6	0.2	0.0	0.0		
		180	0.0	0.0	20.6	0.2	0.0	0.0		
		240	0.0	0.0	20.6	0.2	0.0	0.0		
		300	0.0	0.0	20.6	0.1	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
RC05 - No gas tap, gas monitoring not undertaken.

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

Atm. Pressure:	**1013mb to 1014mb**	**Local Pressure System*:**	**Steady**
Air Temperature:	**12°C to 15°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	X	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS01 (15:25)	1014	0	0.0	0.0	20.1	0.2	0.0	0.0	0.57	1.38
		15	0.0	0.0	18.9	2.3	0.8	0.0		
		30	0.0	0.0	18.8	2.0	0.9	0.0		
		45	0.0	0.0	19.2	1.6	0.6	0.0		
		60	0.0	0.0	19.5	1.3	0.2	0.0		
		90	0.0	0.0	20.1	0.8	0.0	0.0		
		120	0.0	0.0	20.2	0.7	0.0	0.0		
		150	0.0	0.0	20.4	0.6	0.0	0.0		
		180	0.0	0.0	20.5	0.5	0.0	0.0		
		240	0.0	0.0	20.6	0.5	0.0	0.0		
		300	0.0	0.0	20.6	0.4	0.0	0.0		
WS02A (15:00)	1014	0	0.0	0.0	20.7	0.1	0.0	0.0	1.08	1.90
		15	0.0	0.0	16.8	1.9	0.0	0.0		
		30	0.0	0.0	16.4	2.0	0.0	0.0		
		45	0.0	0.0	16.2	2.0	0.0	0.0		
		60	0.0	0.0	16.2	2.0	0.0	0.0		
		90	0.0	0.0	16.2	2.0	0.0	0.0		
		120	0.0	0.0	16.2	2.0	0.0	0.0		
		150	0.0	0.0	16.2	2.0	0.0	0.0		
		180	0.0	0.0	16.1	2.0	0.0	0.0		
		240	0.0	0.0	16.1	2.0	0.0	0.0		
		300	0.0	0.0	16.1	2.0	0.0	0.0		
WS04 (14:30)	1013	0	-4.0	-25.0	20.5	0.4	0.0	0.0	0.48	1.33
		15	0.0	0.0	19.9	0.5	0.0	0.0		
		30	0.0	0.0	19.4	0.5	0.0	0.0		
		45	0.0	0.0	19.4	0.5	0.0	0.0		
		60	0.0	0.0	19.5	0.5	0.0	0.0		
		90	0.0	0.0	19.7	0.4	0.0	0.0		
		120	0.0	0.0	-	-	0.0	0.0		
		150	0.0	0.0	-	-	0.0	0.0		
		180	0.0	0.0	-	-	0.0	0.0		
		240	0.0	0.0	-	-	0.0	0.0		
		300	0.0	0.0	-	-	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS04 - Gas monitoring stopped after 90 seconds due to groundwater being sucked up gas monitoring tube.

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

Atm. Pressure:	**1013mb to 1014mb**	**Local Pressure System*:**	**Steady**
Air Temperature:	**12°C to 15°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	X	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS05 (14:10)	1014	0	0.0	0.0	19.9	0.3	0.0	0.0	0.88	3.01
		15	0.0	0.0	20.3	0.9	0.0	0.0		
		30	0.0	0.0	20.6	0.7	0.0	0.0		
		45	0.0	0.0	20.7	0.6	0.0	0.0		
		60	0.0	0.0	20.7	0.5	0.0	0.0		
		90	0.0	0.0	20.8	0.4	0.0	0.0		
		120	0.0	0.0	20.8	0.4	0.0	0.0		
		150	0.0	0.0	20.8	0.4	0.0	0.0		
		180	0.0	0.0	20.8	0.3	0.0	0.0		
		240	0.0	0.0	20.8	0.3	0.0	0.0		
		300	0.0	0.0	20.8	0.3	0.0	0.0		
WS07 (13:50)	1014	0	0.0	0.0	19.9	0.1	0.0	0.0	Dry	2.47
		15	0.0	0.0	15.6	3.9	0.0	0.0		
		30	0.0	0.0	14.7	4.1	0.0	0.0		
		45	0.0	0.0	14.5	4.2	0.0	0.0		
		60	0.0	0.0	14.5	4.2	0.0	0.0		
		90	0.0	0.0	14.5	4.2	0.0	0.0		
		120	0.0	0.0	14.5	4.2	0.0	0.0		
		150	0.0	0.0	14.4	4.2	0.0	0.0		
		180	0.0	0.0	14.4	4.2	0.0	0.0		
		240	0.0	0.0	14.5	4.1	0.0	0.0		
		300	0.0	0.0	14.5	4.1	0.0	0.0		
WS08 (13:10)	1015	0	-27.5	-360.0	20.7	0.1	0.0	0.0	1.81	2.87
		15	-0.4	-2.0	3.3	0.4	0.0	0.0		
		30	0.0	0.0	2.2	0.4	0.0	0.0		
		45	0.0	0.0	2.0	0.4	0.0	0.0		
		60	0.0	0.0	2.1	0.4	0.0	0.0		
		90	0.0	0.0	2.2	0.4	0.0	0.0		
		120	0.0	0.0	2.9	0.4	0.0	0.0		
		150	0.0	0.0	4.7	0.3	0.0	0.0		
		180	0.0	0.0	7.4	0.3	0.0	0.0		
		240	0.0	0.0	9.2	0.3	0.0	0.0		
		300	0.0	0.0	9.7	0.2	0.0	0.0		
WS13 (12:20)	1015	0	0.0	0.0	20.8	0.0	0.0	0.0	0.96	1.40
		15	0.0	0.0	20.7	0.1	0.0	0.0		
		30	0.0	0.0	20.6	0.1	0.0	0.0		
		45	0.0	0.0	20.6	0.1	0.0	0.0		
		60	0.0	0.0	20.6	0.1	0.0	0.0		
		90	0.0	0.0	20.6	0.0	0.0	0.0		
		120	0.0	0.0	20.7	0.0	0.0	0.0		
		150	0.0	0.0	20.7	0.0	0.0	0.0		
		180	0.0	0.0	20.7	0.0	0.0	0.0		
		240	0.0	0.0	20.7	0.0	0.0	0.0		
		300	0.0	0.0	20.7	0.0	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

Atm. Pressure:	**1013mb to 1014mb**	**Local Pressure System*:**	**Steady**
Air Temperature:	**12°C to 15°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**	**X**	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	**X**	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	**X**	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	**X**	**Slight**		**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS15 (13:25)	1014	0	3.1	10.0	19.9	0.3	0.0	0.0	1.98	2.32
		15	0.0	0.0	18.7	0.7	0.0	0.0		
		30	0.0	0.0	16.9	1.4	0.0	0.0		
		45	0.0	0.0	18.8	1.4	0.0	0.0		
		60	0.0	0.0	18.8	1.4	0.0	0.0		
		90	0.0	0.0	18.8	1.4	0.0	0.0		
		120	0.0	0.0	18.8	1.4	0.0	0.0		
		150	0.0	0.0	18.8	1.4	0.0	0.0		
		180	0.0	0.0	18.8	1.4	0.0	0.0		
		240	0.0	0.0	18.8	1.4	0.0	0.0		
		300	0.0	0.0	18.8	1.4	0.0	0.0		
WS17 (12:05)	1015	0	-150.0	Error	20.5	0.3	0.0	0.0	1.69	2.79
		15	0.0	0.0	18.1	1.2	0.0	0.0		
		30	0.0	0.0	13.4	0.4	0.0	0.0		
		45	0.0	0.0	20.4	0.1	0.0	0.0		
		60	0.0	0.0	20.6	0.0	0.0	0.0		
		90	0.0	0.0	20.7	0.0	0.0	0.0		
		120	0.0	0.0	20.7	0.0	0.0	0.0		
		150	0.0	0.0	20.7	0.0	0.0	0.0		
		180	0.0	0.0	20.7	0.0	0.0	0.0		
		240	0.0	0.0	20.7	0.0	0.0	0.0		
		300	0.0	0.0	20.7	0.0	0.0	0.0		
WS18 (12:40)	1014	0	23.6	65.0	19.8	0.1	0.0	0.0	1.21	1.63
		15	0.0	0.0	11.2	2.2	0.0	0.0		
		30	0.0	0.0	11.7	2.1	0.0	0.0		
		45	0.0	0.0	13.0	1.9	0.0	0.0		
		60	0.0	0.0	13.0	1.9	0.0	0.0		
		90	0.0	0.0	12.8	1.9	0.0	0.0		
		120	0.0	0.0	12.7	1.9	0.0	0.0		
		150	0.0	0.0	12.5	2.0	0.0	0.0		
		180	0.0	0.0	12.0	2.1	0.0	0.0		
		240	0.0	0.0	10.5	2.5	0.0	0.0		
		300	0.0	0.0	10.7	2.3	0.0	0.0		
WS19A (11:20)	1014	0	0.0	0.0	20.6	0.0	0.0	0.0	Dry	1.65
		15	0.0	0.0	17.5	2.0	0.0	0.0		
		30	0.0	0.0	13.1	2.5	0.0	0.0		
		45	0.0	0.0	15.7	1.5	0.0	0.0		
		60	0.0	0.0	17.1	1.2	0.0	0.0		
		90	0.0	0.0	17.9	1.0	0.0	0.0		
		120	0.0	0.0	18.1	0.9	0.0	0.0		
		150	0.0	0.0	18.2	0.9	0.0	0.0		
		180	0.0	0.0	18.3	0.9	0.0	0.0		
		240	0.0	0.0	18.3	0.9	0.0	0.0		
		300	0.0	0.0	18.3	0.9	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

Atm. Pressure:	**1013mb to 1014mb**	**Local Pressure System*:**	**Steady**
Air Temperature:	**12°C to 15°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**	**X**	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	**X**	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	**X**	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	**X**	**Slight**		**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS20 (11:45)	1014	0	0.0	0.0	20.2	0.1	0.0	0.0	0.51	1.06
		15	0.0	0.0	20.0	0.2	0.0	0.0		
		30	0.0	0.0	20.6	0.1	0.0	0.0		
		45	0.0	0.0	20.7	0.0	0.0	0.0		
		60	0.0	0.0	20.6	0.0	0.0	0.0		
		90	0.0	0.0	20.6	0.0	0.0	0.0		
		120	0.0	0.0	20.6	0.0	0.0	0.0		
		150	0.0	0.0	20.6	0.0	0.0	0.0		
		180	0.0	0.0	20.6	0.0	0.0	0.0		
		240	0.0	0.0	20.6	0.0	0.0	0.0		
		300	0.0	0.0	20.6	0.0	0.0	0.0		
WS21 (10:00)	1014	0	0.0	0.0	20.6	0.0	0.0	0.0	1.47	2.47
		15	0.0	0.0	17.9	0.8	0.0	0.0		
		30	0.0	0.0	17.4	0.8	0.0	0.0		
		45	0.0	0.0	17.2	0.8	0.0	0.0		
		60	0.0	0.0	17.2	0.8	0.0	0.0		
		90	0.0	0.0	17.1	0.8	0.0	0.0		
		120	0.0	0.0	17.1	0.8	0.0	0.0		
		150	0.0	0.0	17.1	0.8	0.0	0.0		
		180	0.0	0.0	17.1	0.8	0.0	0.0		
		240	0.0	0.0	17.0	0.9	0.0	0.0		
		300	0.0	0.0	17.0	0.9	0.0	0.0		
WS23 (10:45)	1014	0	0.0	0.0	20.7	0.0	0.0	0.0	Dry	0.99
		15	0.0	0.0	20.5	0.3	0.0	0.0		
		30	0.0	0.0	20.5	0.3	0.0	0.0		
		45	0.0	0.0	20.5	0.3	0.0	0.0		
		60	0.0	0.0	20.4	0.3	0.0	0.0		
		90	0.0	0.0	20.4	0.3	0.0	0.0		
		120	0.0	0.0	20.4	0.3	0.0	0.0		
		150	0.0	0.0	20.4	0.3	0.0	0.0		
		180	0.0	0.0	20.4	0.3	0.0	0.0		
		240	0.0	0.0	20.4	0.3	0.0	0.0		
		300	0.0	0.0	20.4	0.3	0.0	0.0		
WS24 (08:50)	1013	0	0.0	0.0	20.3	0.1	0.0	0.0	0.94	1.90
		15	0.0	0.0	20.2	0.7	0.0	0.0		
		30	0.0	0.0	20.1	0.7	0.0	0.0		
		45	0.0	0.0	20.2	0.6	0.0	0.0		
		60	0.0	0.0	20.2	0.5	0.0	0.0		
		90	0.0	0.0	20.3	0.5	0.0	0.0		
		120	0.0	0.0	20.3	0.4	0.0	0.0		
		150	0.0	0.0	20.4	0.3	0.0	0.0		
		180	0.0	0.0	20.5	0.3	0.0	0.0		
		240	0.0	0.0	20.5	0.2	0.0	0.0		
		300	0.0	0.0	20.5	0.2	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Ground Gas Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

Atm. Pressure:	**1013mb to 1014mb**	**Local Pressure System*:**	**Steady**
Air Temperature:	**12°C to 15°C**	**Gas Monitor Model:**	**GFM436**

State of Ground:	**Dry**	**X**	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	**X**	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	**X**	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	**X**	**Slight**		**Moderate**		**Heavy**	

Borehole Reference (Time Monitored)	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS25 (08:35)	1014	0	0.0	0.0	20.5	0.1	0.0	0.0	Dry	1.04
		15	0.0	0.0	20.5	0.4	0.0	0.0		
		30	0.0	0.0	20.3	0.4	0.0	0.0		
		45	0.0	0.0	20.3	0.4	0.0	0.0		
		60	0.0	0.0	20.3	0.4	0.0	0.0		
		90	0.0	0.0	20.2	0.5	0.0	0.0		
		120	0.0	0.0	20.2	0.5	0.0	0.0		
		150	0.0	0.0	20.3	0.5	0.0	0.0		
		180	0.0	0.0	20.3	0.5	0.0	0.0		
		240	0.0	0.0	20.3	0.4	0.0	0.0		
		300	0.0	0.0	20.3	0.4	0.0	0.0		
WS26 (07:45)	1015	0	0.0	0.0	20.4	0.0	0.0	0.0	Dry	1.03
		15	0.0	0.0	16.2	1.8	0.0	0.0		
		30	0.0	0.0	15.4	1.8	0.0	0.0		
		45	0.0	0.0	15.6	1.7	0.0	0.0		
		60	0.0	0.0	15.9	1.7	0.0	0.0		
		90	0.0	0.0	16.6	1.4	0.0	0.0		
		120	0.0	0.0	17.0	1.2	0.0	0.0		
		150	0.0	0.0	17.8	1.0	0.0	0.0		
		180	0.0	0.0	18.1	0.9	0.0	0.0		
		240	0.0	0.0	18.7	0.7	0.0	0.0		
		300	0.0	0.0	19.2	0.6	0.0	0.0		
WS27 (10:20)	1013	0	-30.0	-350.0	20.3	0.4	0.0	0.0	1.25	2.41
		15	-3.0	-50.0	20.3	0.4	0.0	0.0		
		30	0.0	0.0	20.3	0.4	0.0	0.0		
		45	0.0	0.0	20.3	0.4	0.0	0.0		
		60	0.0	0.0	20.3	0.3	0.0	0.0		
		90	0.0	0.0	20.3	0.3	0.0	0.0		
		120	0.0	0.0	20.4	0.3	0.0	0.0		
		150	0.0	0.0	20.5	0.2	0.0	0.0		
		180	0.0	0.0	20.5	0.2	0.0	0.0		
		240	0.0	0.0	20.5	0.2	0.0	0.0		
		300	0.0	0.0	20.5	0.2	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.

*Atm. = Atmospheric

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	X	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**RC01**	**RC02**	**RC03**	**RC05**	**RC06**	**WS01**	**WS02A**	**WS04**
Target Stratum	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Made Ground	Glacial Till	Made Ground
Ground Level (mOD)	58.50	58.92	59.71	59.87	58.68	62.86	62.70	62.13
Groundwater Depth (mbgl)	1.46	2.03	2.77	2.10	2.14	0.57	1.08	0.48
Groundwater Level (mOD)	57.04	56.89	56.94	57.77	56.54	62.29	61.62	61.65
Base of Well (mbgl)	14.38	14.39	13.87	14.57	14.65	1.38	1.90	1.33
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	3.00	3.00	2.00	3.00	3.00	0.50	1.00	0.50
Base of Response Zone (mbgl)	15.00	15.00	14.00	15.00	15.00	1.20	2.00	1.00
Top of Response Zone (mOD)	55.50	55.92	57.71	56.87	55.68	62.36	61.70	61.63
Base of Response Zone (mOD)	43.50	43.92	45.71	44.87	43.68	61.66	60.70	61.13
Hydrocarbon Sheen Observed?	-	-	-	-	-	-	-	-
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details								
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	X	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**WS05**	**WS07**	**WS08**	**WS13**	**WS15**	**WS17**	**WS18**	**WS19A**
Target Stratum	Made Ground / Glacial Till / W Bedrock	Glacial Till	Glacial Till	Made Ground	Glacial Till	Glacial Till	Made Ground	Glacial Till
Ground Level (mOD)	63.10	61.51	61.68	59.47	61.68	59.28	59.46	59.95
Groundwater Depth (mbgl)	0.88	Dry	1.81	0.96	1.98	1.69	1.21	Dry
Groundwater Level (mOD)	62.22	Dry	59.87	58.51	59.70	57.59	58.25	Dry
Base of Well (mbgl)	3.01	2.46	2.87	1.40	2.32	2.80	1.63	1.65
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	1.50	1.00	1.00	0.50	1.00	1.00	0.80	0.80
Base of Response Zone (mbgl)	3.00	2.70	2.80	1.40	2.60	3.00	1.50	1.80
Top of Response Zone (mOD)	61.60	60.51	60.68	58.97	60.68	58.28	58.66	59.15
Base of Response Zone (mOD)	60.10	58.81	58.88	58.07	59.08	56.28	57.96	58.15
Hydrocarbon Sheen Observed?	-	-	-	-	-	-	-	-
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details								
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

CIVIC

Groundwater Monitoring Record

Project Name:	**Wythenshawe**	**Client:**	**Muse**
Project Reference:	**51143/01**	**Engineer:**	**AP**
Date of Visit:	**30 September 2025**	**Time of Visit:**	**07:30 - 16:30**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	X	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**WS20**	**WS21**	**WS23**	**WS24**	**WS25**	**WS26**	**WS27**	
Target Stratum	Made Ground	Glacial Till / W Bedrock	Made Ground	Made Ground / Glacial Till	Made Ground	Made Ground	Glacial Till / W Bedrock	
Ground Level (mOD)	59.90	58.70	58.37	59.84	59.90	59.78	58.41	
Groundwater Depth (mbgl)	0.51	1.47	Dry	0.94	Dry	Dry	1.25	
Groundwater Level (mOD)	59.39	57.23	Dry	58.90	Dry	Dry	57.16	
Base of Well (mbgl)	1.06	2.46	0.99	1.90	1.04	1.03	2.41	
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Condition of Well	Good	Good	Good	Good	Good	Good	Good	
Top of Response Zone (mbgl)	0.50	1.50	0.50	1.00	0.50	0.50	1.50	
Base of Response Zone (mbgl)	1.00	2.50	1.00	2.00	1.00	1.00	2.50	
Top of Response Zone (mOD)	59.40	57.20	57.87	58.84	59.40	59.28	56.91	
Base of Response Zone (mOD)	58.90	56.20	57.37	57.84	58.90	58.78	55.91	
Hydrocarbon Sheen Observed?	-	-	-	-	-	-	-	
Thickness of Free Product (m)	-	-	-	-	-	-	-	

Groundwater Sampling Details								
Purge Method	-	-	-	-	-	-	-	
Purged Volume	-	-	-	-	-	-	-	
Recharge (Good / Poor)	-	-	-	-	-	-	-	
Sampling Method	-	-	-	-	-	-	-	
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	
Colour / Odours Noted	-	-	-	-	-	-	-	
In-situ pH	-	-	-	-	-	-	-	
In-situ Temperature (°C)	-	-	-	-	-	-	-	
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	
In-situ Electrical Conductivity (µS/cm)	-	-	-	-	-	-	-	
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	

Notes:

Appendix I – Chemical Laboratory Analysis Results

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

t:

e: Joseph.Foster@civicearth.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
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Herts,
WD18 8YS

t: 01923 225404
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e: info-i2analytical@normecgroup.com

Analytical Report Number : 25-042855

Replaces Analytical Report Number: 25-042855, issue no. 1
Client references/information amended.
Asbestos Quantification added to sample 645490 as per client's request.

Project / Site name:	Wythenshawe	**Samples received on:**	11/08/2025
Your job number:	51143	**Samples instructed on/ Analysis started on:**	11/08/2025
Your order number:	PO-0343	**Analysis completed by:**	05/09/2025
Report Issue Number:	2	**Report issued on:**	10/09/2025
Samples Analysed:	19 soil samples - 2 leachate samples		

[redacted]

Signed:

Rachel Chappell
Key Account Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645490	645491	645492	645493	645494
Sample Reference				WS01	WS01	WS02A	WS03	WS03
Sample Number				1	2	1	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	1.00	0.60	0.25	0.52
Date Sampled				05/08/2025	05/08/2025	05/08/2025	04/08/2025	04/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	21	20	18	13	16
Total mass of sample received	kg	0.1	NONE	2	2	2	0.2	0.7
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KMC	KMC	KMC	PKU	KMC
Analysis completed	N/A	N/A	N/A	19/08/2025	19/08/2025	19/08/2025	18/08/2025	19/08/2025
Actinolite detected	Type	N/A	ISO 17025	Not-detected	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	Detected	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	Detected	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	Not-detected	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.4	7.8	8	7.9	8.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	2100	580	480	270	270
Organic Matter (automated)	%	0.1	MCERTS	4.9	2.9	0.4	1	0.7
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Lab Sample Number				645490	645491	645492	645493	645494
Sample Reference				WS01	WS01	WS02A	WS03	WS03
Sample Number				1	2	1	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	1.00	0.60	0.25	0.52
Date Sampled				05/08/2025	05/08/2025	05/08/2025	04/08/2025	04/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.19	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.39	0.24	0.12	< 0.05	0.09
Anthracene	mg/kg	0.05	MCERTS	0.09	0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.98	0.66	0.15	0.11	0.2
Pyrene	mg/kg	0.05	MCERTS	0.96	0.64	0.14	0.1	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.58	0.35	< 0.05	0.07	0.11
Chrysene	mg/kg	0.05	MCERTS	0.65	0.41	0.06	0.05	0.12
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.77	0.71	< 0.05	0.1	0.19
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.32	0.18	< 0.05	< 0.05	0.06
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.56	0.46	0.07	< 0.05	0.12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.26	0.25	< 0.05	< 0.05	0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.29	0.26	< 0.05	< 0.05	0.08
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	6.05	4.23	< 0.85	< 0.85	1.22
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	7.8	4.9	2.9	< 1.0	1.8
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	27	12	11	4.3	5.2
Barium (aqua regia extractable)	mg/kg	1	MCERTS	930	130	140	76	110
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.7	1.1	1.2	0.35	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	1.9	1	0.3	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	0.3	< 0.2	0.4	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	U/S *U/S g	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	23	U/S	33	9.5	31
Chromium (VI) by IC	mg/kg	1.8	NONE	-	< 1.80	-	-	-
Chromium (III) by IC	mg/kg	1	NONE	-	31	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	31	33	9.5	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	130	55	16	19	37
Lead (aqua regia extractable)	mg/kg	1	MCERTS	160	71	62	18	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	38	24	29	9.1	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	50	34	40	11	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	100	64	38	65

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Your Order No: PO-0343

Lab Sample Number				645490	645491	645492	645493	645494
Sample Reference				WS01	WS01	WS02A	WS03	WS03
Sample Number				1	2	1	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	1.00	0.60	0.25	0.52
Date Sampled				05/08/2025	05/08/2025	05/08/2025	04/08/2025	04/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	2.5	< 2.0	< 2.0	< 2.0	5.6
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	14
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	18	< 8.0	12	19
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	18	< 10	12	38
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	16	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	16	< 10	< 10	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-

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Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645490	645491	645492	645493	645494
Sample Reference				WS01	WS01	WS02A	WS03	WS03
Sample Number				1	2	1	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	1.00	0.60	0.25	0.52
Date Sampled				05/08/2025	05/08/2025	05/08/2025	04/08/2025	04/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

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Sample Reference				WS01	WS01	WS02A	WS03	WS03
Sample Number				1	2	1	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	1.00	0.60	0.25	0.52
Date Sampled				05/08/2025	05/08/2025	05/08/2025	04/08/2025	04/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-

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Sample Reference				WS01	WS01	WS02A	WS03	WS03
Sample Number				1	2	1	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	1.00	0.60	0.25	0.52
Date Sampled				05/08/2025	05/08/2025	05/08/2025	04/08/2025	04/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645495	645496	645497	645498	645499
Sample Reference				WS03A	WS04	WS04	WS12	WS13
Sample Number				1	1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.30	0.60	0.10	0.60
Date Sampled				04/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	77	< 0.1	< 0.1	38.5
Moisture Content	%	0.01	NONE	14	3.7	11	7.5	3.1
Total mass of sample received	kg	0.1	NONE	0.7	0.7	0.8	2	2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KMC	KMC	-	KMC	KMC
Analysis completed	N/A	N/A	N/A	19/08/2025	19/08/2025	-	19/08/2025	19/08/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.4	8.7	8.5	8.8	8.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	370	410	270	640	840
Organic Matter (automated)	%	0.1	MCERTS	0.7	0.3	0.5	0.3	0.5
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645495	645496	645497	645498	645499
Sample Reference				WS03A	WS04	WS04	WS12	WS13
Sample Number				1	1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.30	0.60	0.10	0.60
Date Sampled				04/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.6	< 1.0	2.1	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.7	1.2	4.6	2.4	2
Barium (aqua regia extractable)	mg/kg	1	MCERTS	96	370	140	500	920
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.67	0.22	1.3	0.14	0.32
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	< 0.2	0.3	< 0.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1	< 0.2	< 0.2	1
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	25	6	24	4.1	9
Chromium (VI) by IC	mg/kg	1.8	NONE	-	-	-	-	-
Chromium (III) by IC	mg/kg	1	NONE	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	6	24	4.1	9
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	12	19	25	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	12	5.6	10	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	7.2	16	6.5	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.4	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24	5.2	19	5	8.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	27	40	8.1	31

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645495	645496	645497	645498	645499
Sample Reference				WS03A	WS04	WS04	WS12	WS13
Sample Number				1	1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.30	0.60	0.10	0.60
Date Sampled				04/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	16	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	23	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	39	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645495	645496	645497	645498	645499
Sample Reference				WS03A	WS04	WS04	WS12	WS13
Sample Number				1	1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.30	0.60	0.10	0.60
Date Sampled				04/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645495	645496	645497	645498	645499
Sample Reference				WS03A	WS04	WS04	WS12	WS13
Sample Number				1	1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.30	0.60	0.10	0.60
Date Sampled				04/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645495	645496	645497	645498	645499
Sample Reference				WS03A	WS04	WS04	WS12	WS13
Sample Number				1	1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.30	0.60	0.10	0.60
Date Sampled				04/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645500	645501	645502	645503	645504
Sample Reference				WS13	WS14	WS14	WS17	WS17
Sample Number				2	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.10	0.30	0.40	0.40	0.60
Date Sampled				07/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	46.7	< 0.1
Moisture Content	%	0.01	NONE	12	9.8	16	4.2	13
Total mass of sample received	kg	0.1	NONE	2	1	0.8	2	0.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	KMC	WIK	WIK	WIK	-
Analysis completed	N/A	N/A	N/A	19/08/2025	19/08/2025	19/08/2025	19/08/2025	-
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.7	8.8	8.2	8.7	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	600	390	390	720	400
Organic Matter (automated)	%	0.1	MCERTS	1.7	0.6	0.4	0.2	1.1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645500	645501	645502	645503	645504
Sample Reference				WS13	WS14	WS14	WS17	WS17
Sample Number				2	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.10	0.30	0.40	0.40	0.60
Date Sampled				07/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.12	0.09	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.06	0.06	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.08	0.11	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.06	0.06	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.6	1.2	2	< 1.0	1.3
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.6	4.4	8.5	1.7	4.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	66	87	120	460	90
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66	0.39	1	0.25	0.46
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.3	0.3	0.3	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	0.8	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	22	11	28	7.7	21
Chromium (VI) by IC	mg/kg	1.8	NONE	-	-	-	-	-
Chromium (III) by IC	mg/kg	1	NONE	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	11	28	7.7	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	23	10	13	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	20	7.1	13	7.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	8.3	19	8	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.2	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	25	10	28	6.3	19
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36	39	58	95	30

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645500	645501	645502	645503	645504
Sample Reference				WS13	WS14	WS14	WS17	WS17
Sample Number				2	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.10	0.30	0.40	0.40	0.60
Date Sampled				07/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	4.5	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	11	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	16	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Chloroethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	< 5.0	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	< 5.0	-
Chloroform	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	< 7.0	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	< 6.0	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	< 10	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	< 10	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	< 6.0	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645500	645501	645502	645503	645504
Sample Reference				WS13	WS14	WS14	WS17	WS17
Sample Number				2	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.10	0.30	0.40	0.40	0.60
Date Sampled				07/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Bromoform	µg/kg	5	MCERTS	-	-	-	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	< 5.0	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	< 8.0	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645500	645501	645502	645503	645504
Sample Reference				WS13	WS14	WS14	WS17	WS17
Sample Number				2	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.10	0.30	0.40	0.40	0.60
Date Sampled				07/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	< 0.1	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	< 0.2	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.30	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	< 0.3	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	< 0.3	-
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645500	645501	645502	645503	645504
Sample Reference				WS13	WS14	WS14	WS17	WS17
Sample Number				2	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.10	0.30	0.40	0.40	0.60
Date Sampled				07/08/2025	04/08/2025	04/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645505	645506	645507	645508
Sample Reference				WS18	WS18	WS19A	WS20
Sample Number				1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.60	1.00	0.50	0.70
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	36.4
Moisture Content	%	0.01	NONE	14	17	15	9.5
Total mass of sample received	kg	0.1	NONE	2	2	2	2
Asbestos							
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WIK	WIK	PDO	PDO
Analysis completed	N/A	N/A	N/A	19/08/2025	19/08/2025	19/08/2025	19/08/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-
General Inorganics							
pH (L099)	pH Units	N/A	MCERTS	8.4	8.1	9.1	9.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	340	460	1300	1400
Organic Matter (automated)	%	0.1	MCERTS	1.2	1	2.6	1
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645505	645506	645507	645508
Sample Reference				WS18	WS18	WS19A	WS20
Sample Number				1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.60	1.00	0.50	0.70
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.15	0.06
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.14	0.34
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.11	0.38
Phenanthrene	mg/kg	0.05	MCERTS	0.14	0.08	0.91	1.3
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.21	0.37
Fluoranthene	mg/kg	0.05	MCERTS	0.39	0.11	1.6	1.2
Pyrene	mg/kg	0.05	MCERTS	0.38	0.11	1.4	1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.23	< 0.05	0.95	0.42
Chrysene	mg/kg	0.05	MCERTS	0.25	0.06	1.1	0.49
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.35	0.08	1.2	0.51
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.16	< 0.05	0.41	0.18
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.28	0.05	0.75	0.35
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.18	< 0.05	0.48	0.23
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.11	0.06
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.23	< 0.05	0.61	0.3
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Total WAC-17 PAHs	mg/kg	0.85	NONE	2.59	< 0.85	10.1	7.12
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.5	< 1.0	3.3	1.2
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6	5.1	27	4
Barium (aqua regia extractable)	mg/kg	1	MCERTS	190	260	460	100
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.77	0.88	2.9	0.47
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.4	0.6	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	23	31	14
Chromium (VI) by IC	mg/kg	1.8	NONE	-	-	-	-
Chromium (III) by IC	mg/kg	1	NONE	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	23	31	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25	19	90	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	35	19	20	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	16	41	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	19	56	14
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	50	44	45	45

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645505	645506	645507	645508
Sample Reference				WS18	WS18	WS19A	WS20
Sample Number				1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.60	1.00	0.50	0.70
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Petroleum Hydrocarbons							
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	2.4	< 2.0	3.7	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	12	< 8.0	15	23
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	15	< 10	19	23
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	5.2
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	33
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	49
VOCs							
Chloromethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Chloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Bromomethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-
Chloroform	µg/kg	5	MCERTS	-	< 5.0	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	< 7.0	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	< 5.0	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	< 6.0	-	-
Trichloroethene	µg/kg	10	MCERTS	-	< 10	-	-
Dibromomethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	< 10	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	< 6.0	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	< 5.0	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	< 5.0	-	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645505	645506	645507	645508
Sample Reference				WS18	WS18	WS19A	WS20
Sample Number				1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.60	1.00	0.50	0.70
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Tetrachloroethene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	< 5.0	-	-
Bromoform	µg/kg	5	MCERTS	-	< 5.0	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-
Bromobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	< 5.0	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	< 8.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	< 5.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645505	645506	645507	645508
Sample Reference				WS18	WS18	WS19A	WS20
Sample Number				1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.60	1.00	0.50	0.70
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
SVOCs							
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-
PCBs by GC-MS							
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	< 0.001	-

Analytical Report Number: 25-042855
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				645505	645506	645507	645508
Sample Reference				WS18	WS18	WS19A	WS20
Sample Number				1	2	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.60	1.00	0.50	0.70
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
PCBs							
PCB Congener 077	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	< 0.001	-
Total PCBs	mg/kg	0.012	NONE	-	-	< 0.012	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: **25-042855**
Project / Site name: **Wythenshawe**
Your Order No: **PO-0343**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample	Analysis completed	Analyst ID
645490	WS01	0.40-	133	Loose Fibres	**Amosite & Chrysotile**	< 0.001	**< 0.001**	05/09/2025	JSW

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-042855
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				645499	645506
Sample Reference				WS13	WS18
Sample Number				1	2
Water Matrix				N/A	N/A
Depth (m)				0.60	1.00
Date Sampled				07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Moisture of sample	%	N/A	NONE	3.3	21
General Inorganics					
pH (automated)	pH Units	N/A	ISO 17025	8	8.2
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	18.4	51.4
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	5.6	10
Total Phenols					
Total Phenols (monohydric) low level	µg/l	1	NONE	1.1	1.3
Speciated PAHs					
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.1	< 0.01
Fluorene	µg/l	0.01	NONE	0.05	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16

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Analytical Report Number: 25-042855
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				645499	645506
Sample Reference				WS13	WS18
Sample Number				1	2
Water Matrix				N/A	N/A
Depth (m)				0.60	1.00
Date Sampled				07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Heavy Metals / Metalloids					
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7
Arsenic (dissolved)	µg/l	1	ISO 17025	1.2	2.2
Barium (dissolved)	µg/l	0.05	ISO 17025	180	200
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	27	40
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.5	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	8.1	15
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.9	0.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	3.8	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.8	12
Calcium (dissolved)	mg/l	0.012	ISO 17025	24	67
Petroleum Hydrocarbons					
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10
TPH (EC10 - EC25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH (EC25 - EC40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 25-042855
Project / Site name: Wythenshawe

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
645490	WS01	1	0.4	Brown loam and gravel
645491	WS01	2	1	Brown clay
645492	WS02A	1	0.6	Brown clay with brick
645493	WS03	1	0.25	Brown loam and clay
645494	WS03	2	0.52	Brown clay
645495	WS03A	1	0.5	Brown clay
645496	WS04	1	0.3	Brown sandy clay with stones
645497	WS04	2	0.6	Brown clay
645498	WS12	1	0.1	Brown sand
645499	WS13	1	0.6	Brown loam with stones
645500	WS13	2	1.1	Brown clay
645501	WS14	1	0.3	Brown loam and sand with gravel
645502	WS14	2	0.4	Brown clay
645503	WS17	1	0.4	Brown sand with stones
645504	WS17	2	0.6	Brown clay
645505	WS18	1	0.6	Brown clay with gravel
645506	WS18	2	1	Brown clay with gravel
645507	WS19A	1	0.5	Brown loam and gravel
645508	WS20	1	0.7	Brown loam and clay with stones

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Analytical Report Number : 25-042855
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS

Analytical Report Number : 25-042855
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Cr(VI) in soils by Ion chromatography	Determination of hexavalent chromium in alkaline soil extract by use of ion chromatography with spectrophotometric detection	In-house method	L130B	W	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total petroleum hydrocarbons by GC-MS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS	In-house method	L070B	W	NONE
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Total petroleum hydrocarbons by HS-GC/MS in leachate	Determination of total petroleum hydrocarbons in soil by GC-MS HS	In-house method	L129-PL	W	NONE
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025

Analytical Report Number : 25-042855
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
One stage WAC 2:1 leachate preparation	One stage batch test at a liquid to solid ratio of 2 L/kg	BS EN 12457-1-2002	L043B	W	NONE
PCBs WHO 12 in soil	Determination of PCBs (WHO-12 Congeners) by GC-MS	In-house method based on USEPA 8082	L027B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

*U/S g- Unsuitable for analysis due to high colour intensity.

Analytical Report Number : 25-042855
Project / Site name: Wythenshawe

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS01	1	S	645490	b	Asbestos Quantification - Gravimetric	A006B	b
WS01	1	S	645490	b	Asbestos identification in Soil	A001B	b
WS01	2	S	645491	b	Asbestos identification in Soil	A001B	b
WS02A	1	S	645492	b	Asbestos identification in Soil	A001B	b
WS03	1	S	645493	b	Asbestos identification in Soil	A001B	b
WS03	2	S	645494	b	Asbestos identification in Soil	A001B	b
WS03A	1	S	645495	b	Asbestos identification in Soil	A001B	b
WS04	1	S	645496	b	Asbestos identification in Soil	A001B	b
WS12	1	S	645498	b	Asbestos identification in Soil	A001B	b
WS13	1	S	645499	b	Asbestos identification in Soil	A001B	b
WS13	2	S	645500	b	Asbestos identification in Soil	A001B	b
WS14	1	S	645501	b	Asbestos identification in Soil	A001B	b
WS14	2	S	645502	b	Asbestos identification in Soil	A001B	b
WS17	1	S	645503	b	Asbestos identification in Soil	A001B	b
WS18	1	S	645505	b	Asbestos identification in Soil	A001B	b
WS18	2	S	645506	b	Asbestos identification in Soil	A001B	b
WS19A	1	S	645507	b	Asbestos identification in Soil	A001B	b
WS20	1	S	645508	b	Asbestos identification in Soil	A001B	b

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i2 Analytical Ltd.
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[redacted]

Analytical Report Number : 25-043851

Project / Site name:	Wythenshawe	**Samples received on:**	15/08/2025
Your job number:	51143	**Samples instructed on/ Analysis started on:**	15/08/2025
Your order number:	PO-0343	**Analysis completed by:**	26/08/2025
Report Issue Number:	1	**Report issued on:**	26/08/2025
Samples Analysed:	17 soil samples		

[redacted]

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651216	651217	651218	651219	651220
Sample Reference				WS25	WS25	WS25	WS26	WS26
Sample Number				1	2	3	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.60	1.10	0.30	0.50
Date Sampled				11/08/2025	11/08/2025	11/08/2025	11/08/2025	11/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	50.9	63.9	46.6	80.7	< 0.1
Moisture Content	%	0.01	NONE	1.5	2.6	7.8	1	9.5
Total mass of sample received	kg	0.1	NONE	2	2	2	2	2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KMC	KMC	KMC	MWI	MWI
Analysis completed	N/A	N/A	N/A	25/08/2025	25/08/2025	25/08/2025	25/08/2025	25/08/2025
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.9	10	11	8.6	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	360	510	1600	330	400
Organic Matter (automated)	%	0.1	MCERTS	3.4	0.3	1.1	0.8	1.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.06	< 0.05	0.53	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.11	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.28	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.62	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.32	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.59	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.18	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.19	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	2.97	< 0.85	< 0.85

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651216	651217	651218	651219	651220
Sample Reference				WS25	WS25	WS25	WS26	WS26
Sample Number				1	2	3	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.60	1.10	0.30	0.50
Date Sampled				11/08/2025	11/08/2025	11/08/2025	11/08/2025	11/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	1.4
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	1.3	1.9	3.7	< 1.0	4.5
Barium (aqua regia extractable)	mg/kg	1	MCERTS	33	240	180	76	59
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	< 0.06	0.17	0.38	0.07	0.45
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.3	1	0.2	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	1	0.8	1.3	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	4.6	3.9	11	3.2	14
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	4.6	3.9	11	3.2	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.1	6.6	12	7.8	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	3.6	18	22	15	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.2	4.4	11	3	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	6.1	3.7	13	3.7	18
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	16	20	57	17	31
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	0.08	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	6.1	< 2.0	46	2.7	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	56	< 8.0	130	13	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	900	< 8.0	88	51	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	960	< 10	270	67	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	0.07	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	1.1	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	13	< 2.0	23	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	77	< 10	100	11	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	1000	< 10	150	70	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	1100	< 10	280	81	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651216	651217	651218	651219	651220
Sample Reference				WS25	WS25	WS25	WS26	WS26
Sample Number				1	2	3	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.60	1.10	0.30	0.50
Date Sampled				11/08/2025	11/08/2025	11/08/2025	11/08/2025	11/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	-
Chloroform	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	< 7.0	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	< 6.0	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	< 10	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	< 10	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	< 6.0	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	14	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	33	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Bromoform	µg/kg	5	MCERTS	-	< 5.0	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	17	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	< 8.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651216	651217	651218	651219	651220
Sample Reference				WS25	WS25	WS25	WS26	WS26
Sample Number				1	2	3	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.60	1.10	0.30	0.50
Date Sampled				11/08/2025	11/08/2025	11/08/2025	11/08/2025	11/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651221	651222	651223	651224	651225
Sample Reference				WS22	WS24	WS24	WS21	WS28
Sample Number				1	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.40	0.60	0.25	0.30
Date Sampled				11/08/2025	11/08/2025	11/08/2025	12/08/2025	12/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	21.4	39.7	46.3	31.5	57.3
Moisture Content	%	0.01	NONE	6.7	3.1	4.4	4.6	1.9
Total mass of sample received	kg	0.1	NONE	2	2	2	2	2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI	MWI
Analysis completed	N/A	N/A	N/A	25/08/2025	25/08/2025	25/08/2025	25/08/2025	25/08/2025
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.7	8.1	8.4	8.7	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	510	420	320	370	280
Organic Matter (automated)	%	0.1	MCERTS	3.8	1.3	0.7	1.5	1.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.49	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.49	0.06	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.3	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.7	0.44	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.68	0.09	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	2.9	0.68	0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	2.6	0.66	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.2	0.28	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	1.3	0.33	< 0.05	< 0.05	0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.4	0.34	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.55	0.17	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.1	0.3	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.56	0.14	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.63	0.18	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	0.3	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	17.3	3.68	< 0.85	< 0.85	< 0.85

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651221	651222	651223	651224	651225
Sample Reference				WS22	WS24	WS24	WS21	WS28
Sample Number				1	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.40	0.60	0.25	0.30
Date Sampled				11/08/2025	11/08/2025	11/08/2025	12/08/2025	12/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.1	< 1.0	< 1.0	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	4.2	2.7	2.7	1.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	87	87	51	97	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.57	0.25	0.19	0.35	0.08
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.3	0.2	0.3	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.4	0.5	0.7	1.1
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	15	6.5	5.9	11	6.1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	6.5	5.9	11	6.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	13	13	8.3	9.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	61	26	17	9.7	25
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	6	5.5	12	7.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	20	7.9	6.1	14	6.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	64	42	36	31	23
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.7	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	14	3
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	40	11
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	11	< 8.0	15	420	170
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	11	< 10	15	480	180
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	7.8	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	49	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	15	< 10	20	450	190
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	15	< 10	20	510	190
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651221	651222	651223	651224	651225
Sample Reference				WS22	WS24	WS24	WS21	WS28
Sample Number				1	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.40	0.60	0.25	0.30
Date Sampled				11/08/2025	11/08/2025	11/08/2025	12/08/2025	12/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651221	651222	651223	651224	651225
Sample Reference				WS22	WS24	WS24	WS21	WS28
Sample Number				1	1	2	1	2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.40	0.60	0.25	0.30
Date Sampled				11/08/2025	11/08/2025	11/08/2025	12/08/2025	12/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651226	651227	651228	651229	651230
Sample Reference				WS27	WS23	WS23	FIP03	TP02
Sample Number				2	1	2	3	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	0.20	0.60	0.70	0.20
Date Sampled				12/08/2025	12/08/2025	12/08/2025	13/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	23.6	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	2.8	2.8	13	5.8
Total mass of sample received	kg	0.1	NONE	0.6	2	2	2	2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	MJN	MJN
Analysis completed	N/A	N/A	N/A	25/08/2025	25/08/2025	25/08/2025	25/08/2025	25/08/2025
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.3	9.2	9.1	9.1	9.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	390	360	280	320	900
Organic Matter (automated)	%	0.1	MCERTS	0.8	0.4	0.2	0.3	0.5
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651226	651227	651228	651229	651230
Sample Reference				WS27	WS23	WS23	FIP03	TP02
Sample Number				2	1	2	3	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	0.20	0.60	0.70	0.20
Date Sampled				12/08/2025	12/08/2025	12/08/2025	13/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.2	< 1.0	< 1.0	1.7	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8	1.5	1.7	5.2	3.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	81	100	89	85	150
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.43	0.19	0.18	0.94	0.28
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.2	0.3	0.3	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.7	0.6	< 0.2	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	5.3	6	30	10
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	5.3	6	30	10
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.7	7.9	9.4	30	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	15	12	4.8	9.3
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	5.8	5.6	28	8.5
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	25	5.4	5.1	32	11
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	46	39	46	45
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	17	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	17	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	31	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	31	< 10	< 10	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-

Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651226	651227	651228	651229	651230
Sample Reference				WS27	WS23	WS23	FIP03	TP02
Sample Number				2	1	2	3	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	0.20	0.60	0.70	0.20
Date Sampled				12/08/2025	12/08/2025	12/08/2025	13/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651226	651227	651228	651229	651230
Sample Reference				WS27	WS23	WS23	FIP03	TP02
Sample Number				2	1	2	3	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.40	0.20	0.60	0.70	0.20
Date Sampled				12/08/2025	12/08/2025	12/08/2025	13/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651231	651232
Sample Reference				TP02	TP04
Sample Number				2	3
Water Matrix				N/A	N/A
Depth (m)				0.40	0.40
Date Sampled				14/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	6.8	7.9
Total mass of sample received	kg	0.1	NONE	2	2
Asbestos					
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN
Analysis completed	N/A	N/A	N/A	25/08/2025	25/08/2025
General Inorganics					
pH (L099)	pH Units	N/A	MCERTS	8.7	9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	470	1000
Organic Matter (automated)	%	0.1	MCERTS	0.5	0.3
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.15
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.13
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.08
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.09
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.09
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.06
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05
Total PAH					
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651231	651232
Sample Reference				TP02	TP04
Sample Number				2	3
Water Matrix				N/A	N/A
Depth (m)				0.40	0.40
Date Sampled				14/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	1
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	2.9	4.7
Barium (aqua regia extractable)	mg/kg	1	MCERTS	63	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.27	0.31
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	7.4	11
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.4	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.8	9.9
Lead (aqua regia extractable)	mg/kg	1	MCERTS	6.6	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.4	8.3
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	10	13
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	29	66
Petroleum Hydrocarbons					
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	2.3
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	12
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	15
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10
VOCs					
Chloromethane	µg/kg	5	MCERTS	-	-
Chloroethane	µg/kg	5	MCERTS	-	-
Bromomethane	µg/kg	5	MCERTS	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-

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Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651231	651232
Sample Reference				TP02	TP04
Sample Number				2	3
Water Matrix				N/A	N/A
Depth (m)				0.40	0.40
Date Sampled				14/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	MCERTS	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-
Bromoform	µg/kg	5	MCERTS	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-

Analytical Report Number: 25-043851
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				651231	651232
Sample Reference				TP02	TP04
Sample Number				2	3
Water Matrix				N/A	N/A
Depth (m)				0.40	0.40
Date Sampled				14/08/2025	14/08/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
SVOCs					
Aniline	mg/kg	0.1	NONE	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-
Azobenzene	mg/kg	0.3	NONE	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 25-043851
Project / Site name: Wythenshawe

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
651216	WS25	1	0.2	Brown loam and sand with stones
651217	WS25	2	0.6	Brown clay and sand with stones
651218	WS25	3	1.1	Brown clay and sand with vegetation and stones
651219	WS26	1	0.3	Brown sand with stones
651220	WS26	2	0.5	Brown loam and sand with gravel
651221	WS22	1	0.5	Brown loam and sand with vegetation and stones
651222	WS24	1	0.4	Brown loam and sand with stones
651223	WS24	2	0.6	Brown clay and sand with stones
651224	WS21	1	0.25	Brown clay and sand with stones
651225	WS28	2	0.3	Brown loam and sand with stones
651226	WS27	2	0.4	Brown clay and sand with stones
651227	WS23	1	0.2	Brown clay and sand with gravel
651228	WS23	2	0.6	Brown clay and sand with gravel
651229	FIP03	3	0.7	Brown clay and sand
651230	TP02	1	0.2	Brown sand with gravel
651231	TP02	2	0.4	Brown sand with gravel
651232	TP04	3	0.4	Brown sand with gravel

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 25-043851
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS

Analytical Report Number : 25-043851
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Sample Deviation Report

Analytical Report Number : 25-043851
Project / Site name: Wythenshawe

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
FIP03	3	S	651229	b	Asbestos identification in Soil	A001B	b
TP02	1	S	651230	b	Asbestos identification in Soil	A001B	b
TP02	2	S	651231	b	Asbestos identification in Soil	A001B	b
TP04	3	S	651232	b	Asbestos identification in Soil	A001B	b
WS21	1	S	651224	b	Asbestos identification in Soil	A001B	b
WS22	1	S	651221	b	Asbestos identification in Soil	A001B	b
WS23	1	S	651227	b	Asbestos identification in Soil	A001B	b
WS23	2	S	651228	b	Asbestos identification in Soil	A001B	b
WS24	1	S	651222	b	Asbestos identification in Soil	A001B	b
WS24	2	S	651223	b	Asbestos identification in Soil	A001B	b
WS25	1	S	651216	b	Asbestos identification in Soil	A001B	b
WS25	2	S	651217	b	Asbestos identification in Soil	A001B	b
WS25	3	S	651218	b	Asbestos identification in Soil	A001B	b
WS26	1	S	651219	b	Asbestos identification in Soil	A001B	b
WS26	2	S	651220	b	Asbestos identification in Soil	A001B	b
WS27	2	S	651226	b	Asbestos identification in Soil	A001B	b
WS28	2	S	651225	b	Asbestos identification in Soil	A001B	b

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Analytical Report Number : 25-046508

Project / Site name:	Wythenshawe	**Samples received on:**	29/08/2025
Your job number:	51143	**Samples instructed on/ Analysis started on:**	02/09/2025
Your order number:	PO 0343	**Analysis completed by:**	10/09/2025
Report Issue Number:	1	**Report issued on:**	10/09/2025
Samples Analysed:	1 soil sample		

[redacted]

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-046508
Project / Site name: Wythenshawe
Your Order No: PO 0343

Lab Sample Number				665315
Sample Reference				RC05
Sample Number				1
Water Matrix				N/A
Depth (m)				0.80
Date Sampled				28/08/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	11
Total mass of sample received	kg	0.1	NONE	1.2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WEM
Analysis completed	N/A	N/A	N/A	08/09/2025

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	900
Organic Matter (automated)	%	0.1	MCERTS	1.1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.42
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.09
Fluorene	mg/kg	0.05	MCERTS	0.12
Phenanthrene	mg/kg	0.05	MCERTS	0.74
Anthracene	mg/kg	0.05	MCERTS	0.18
Fluoranthene	mg/kg	0.05	MCERTS	1.2
Pyrene	mg/kg	0.05	MCERTS	1.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.54
Chrysene	mg/kg	0.05	MCERTS	0.55
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.72
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.21
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.52
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.27
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.33
Coronene	mg/kg	0.05	NONE	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	7.07

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Analytical Report Number: 25-046508
Project / Site name: Wythenshawe
Your Order No: PO 0343

Lab Sample Number				665315
Sample Reference				RC05
Sample Number				1
Water Matrix				N/A
Depth (m)				0.80
Date Sampled				28/08/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.3
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Barium (aqua regia extractable)	mg/kg	1	MCERTS	250
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	30
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	41
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	39
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10
VOCs				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 25-046508
Project / Site name: Wythenshawe

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
665315	RC05	1	0.8	Brown clay and sand with gravel

Analytical Report Number : 25-046508
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS

Analytical Report Number : 25-046508
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 25-049318

Project / Site name:	Wythenshawe	**Samples received on:**	12/09/2025
Your job number:	51143-01	**Samples instructed on/ Analysis started on:**	12/09/2025
Your order number:	PO-0343	**Analysis completed by:**	23/09/2025
Report Issue Number:	1	**Report issued on:**	23/09/2025
Samples Analysed:	9 10:1 WAC samples		

[redacted]

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-049318
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				680905	680906	680907	680908	680909
Sample Reference				WS08	WS25	WS19A	WS20	WS21
Sample Number				1	1	1	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.20	0.50	0.70	0.25
Date Sampled				18/08/2025	11/08/2025	06/08/2025	06/08/2025	12/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	64	50.9	< 0.1	36.4	31.5
Moisture Content	%	0.01	NONE	4.8	1.5	15	9.5	4.6
Total mass of sample received	kg	0.1	NONE	2	2	2	2	2
General Inorganics								
pH (L005B)	pH Units	N/A	MCERTS	8	8.1	8.1	8.9	8.2
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.9	1.4	1.2	0.4	0.5
Loss on Ignition @ 450°C	%	0.2	MCERTS	1.6	2.4	4.4	1.4	1.4
Acid Neutralisation Capacity	+/- mmol/kg	-9999	NONE	13	24	12	34	28
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.23	0.06	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.11	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	0.07	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.74	0.22	0.09
Anthracene	mg/kg	0.05	MCERTS	-	-	0.2	0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	2.3	0.37	0.14
Pyrene	mg/kg	0.05	MCERTS	-	-	2.1	0.39	0.15
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	1.4	0.21	0.07
Chrysene	mg/kg	0.05	MCERTS	-	-	1.4	0.19	0.12
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	1.8	0.25	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	0.62	0.12	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	1.3	0.21	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	0.73	0.11	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.16	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	0.82	0.15	< 0.05
Coronene	mg/kg	0.05	NONE	-	-	0.19	0.07	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	14	2.41	< 0.85
Petroleum Hydrocarbons								
Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	< 10	< 10	78
VOCs								
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	-	-	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	< 5.0
Total BTEX	µg/kg	10	MCERTS	-	-	< 10	< 10	< 10

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Analytical Report Number: 25-049318
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				680905	680906	680907	680908	680909
Sample Reference				WS08	WS25	WS19A	WS20	WS21
Sample Number				1	1	1	1	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.20	0.50	0.70	0.25
Date Sampled				18/08/2025	11/08/2025	06/08/2025	06/08/2025	12/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	-	-	< 0.007	< 0.007	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-049318
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				680910	680911	680912	680913
Sample Reference				WS25	TP02	TP09	RC02
Sample Number				3	1	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				1.10	0.20	0.60	0.30
Date Sampled				11/08/2025	14/08/2025	19/08/2025	19/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Stone Content	%	0.1	NONE	46.6	< 0.1	46.6	87.1
Moisture Content	%	0.01	NONE	7.8	5.8	3.8	1.7
Total mass of sample received	kg	0.1	NONE	2	2	1.3	2
General Inorganics							
pH (L005B)	pH Units	N/A	MCERTS	8.4	8.1	9.5	8.5
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.5	0.2	0.2	0.2
Loss on Ignition @ 450°C	%	0.2	MCERTS	1.1	0.6	0.5	1.1
Acid Neutralisation Capacity	+/- mmol/kg	-9999	NONE	21	16	73	28
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.87	< 0.05	< 0.05	0.24
Anthracene	mg/kg	0.05	MCERTS	0.24	< 0.05	< 0.05	0.1
Fluoranthene	mg/kg	0.05	MCERTS	0.79	0.08	0.07	1.1
Pyrene	mg/kg	0.05	MCERTS	1.3	0.09	0.08	0.91
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.63	< 0.05	< 0.05	0.43
Chrysene	mg/kg	0.05	MCERTS	0.97	< 0.05	< 0.05	0.44
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.36	< 0.05	< 0.05	0.46
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.17	< 0.05	< 0.05	0.18
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.43	< 0.05	< 0.05	0.41
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.11	< 0.05	< 0.05	0.16
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.14	< 0.05	< 0.05	0.18
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Total WAC-17 PAHs	mg/kg	0.85	NONE	6.2	< 0.85	< 0.85	4.56
Petroleum Hydrocarbons							
Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	150	< 10	< 10	35
VOCs							
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10

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Analytical Report Number: 25-049318
Project / Site name: Wythenshawe
Your Order No: PO-0343

Lab Sample Number				680910	680911	680912	680913
Sample Reference				WS25	TP02	TP09	RC02
Sample Number				3	1	1	1
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				1.10	0.20	0.60	0.30
Date Sampled				11/08/2025	14/08/2025	19/08/2025	19/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007

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Waste Acceptance Criteria Analytical Results

Report No:	25-049318						
					Client:	Civic Earth Limited	
Location	Wythenshawe						
Lab Reference (Sample Number)	680905				Landfill Waste Acceptance Criteria Limits		
Sampling Date	18/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS08 1						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	1.6				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	8				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	13				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.0185			0.185	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.02			0.2	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00346			0.0346	0.5	10	30
Nickel *	0.0074			0.074	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.081			0.81	4	50	200
Chloride *	1			10	800	15000	25000
Fluoride*	0.28			2.8	10	150	500
Sulphate *	26			260	1000	20000	50000
TDS*	66			660	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.69			66.9	500	800	1000
Leach Test Information							
Stone Content (%)	64						
Sample Mass (kg)	2						
Dry Matter (%)	95						
Moisture (%)	4.8						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	**25-049318**						
					Client:	**Civic Earth Limited**	
Location	**Wythenshawe**						
Lab Reference (Sample Number)	680906				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	11/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS25 1						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	1.4				3%	5%	6%
Loss on Ignition (%) **	2.4				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	24				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00165			0.0165	0.5	2	25
Barium *	0.0205			0.205	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.0069			0.069	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00105			0.0105	0.5	10	30
Nickel *	0.00088			0.0088	0.4	10	40
Lead *	0.0011			0.011	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0073			0.073	4	50	200
Chloride *	2.7			27	800	15000	25000
Fluoride*	0.097			0.97	10	150	500
Sulphate *	3.2			32	1000	20000	50000
TDS*	39			390	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.1			71	500	800	1000
Leach Test Information							
Stone Content (%)	50.9						
Sample Mass (kg)	2						
Dry Matter (%)	99						
Moisture (%)	1.5						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	25-049318						
					Client:	Civic Earth Limited	
Location	Wythenshawe						
Lab Reference (Sample Number)	680907				Landfill Waste Acceptance Criteria Limits		
Sampling Date	06/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS19A 1						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.2				3%	5%	6%
Loss on Ignition (%) **	4.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	14				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	12				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.009			0.09	0.5	2	25
Barium *	0.0116			0.116	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.015			0.15	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00377			0.0377	0.5	10	30
Nickel *	0.001			0.01	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0022			0.022	4	50	200
Chloride *	28			280	800	15000	25000
Fluoride*	0.65			6.5	10	150	500
Sulphate *	24			240	1000	20000	50000
TDS*	110			1100	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.26			42.6	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2						
Dry Matter (%)	85						
Moisture (%)	15						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	**25-049318**						
					Client:	**Civic Earth Limited**	
Location	**Wythenshawe**						
Lab Reference (Sample Number)	680908				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	06/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS20 1						
Depth (m)	0.70						
Solid Waste Analysis							
TOC (%)**	0.4				3%	5%	6%
Loss on Ignition (%) **	1.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	2.41				100	--	--
pH (units)**	8.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	34				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00167			0.0167	0.5	2	25
Barium *	0.0111			0.111	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0016			0.016	0.5	10	70
Copper *	0.0058			0.058	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000822			0.00822	0.5	10	30
Nickel *	0.00036			0.0036	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.00061			0.0061	4	50	200
Chloride *	1.8			18	800	15000	25000
Fluoride*	0.4			4	10	150	500
Sulphate *	26			260	1000	20000	50000
TDS*	74			740	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.51			55.1	500	800	1000
Leach Test Information							
Stone Content (%)	36.4						
Sample Mass (kg)	2						
Dry Matter (%)	91						
Moisture (%)	9.5						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	25-049318						
					Client:	Civic Earth Limited	
Location	Wythenshawe						
Lab Reference (Sample Number)	680909				Landfill Waste Acceptance Criteria Limits		
Sampling Date	12/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS21 1						
Depth (m)	0.25						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	1.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	78				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	28				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0013			0.013	0.5	2	25
Barium *	0.0288			0.288	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.0059			0.059	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00054			0.0054	0.5	10	30
Nickel *	< 0.00030			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0022			0.022	4	50	200
Chloride *	1.7			17	800	15000	25000
Fluoride*	0.11			1.1	10	150	500
Sulphate *	3.4			34	1000	20000	50000
TDS*	34			340	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.58			55.8	500	800	1000
Leach Test Information							
Stone Content (%)	31.5						
Sample Mass (kg)	2						
Dry Matter (%)	95						
Moisture (%)	4.6						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Waste Acceptance Criteria Analytical Results

Report No:	**25-049318**						
					Client:	**Civic Earth Limited**	
Location	**Wythenshawe**						
Lab Reference (Sample Number)	680910				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	11/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS25 3						
Depth (m)	1.10						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	1.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	150				500	--	--
Total PAH (WAC-17) (mg/kg)	6.2				100	--	--
pH (units)**	8.4				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	21				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00159			0.0159	0.5	2	25
Barium *	0.0289			0.289	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.018			0.18	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000647			0.00647	0.5	10	30
Nickel *	0.0042			0.042	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0021			0.021	4	50	200
Chloride *	3.3			33	800	15000	25000
Fluoride*	0.28			2.8	10	150	500
Sulphate *	13			130	1000	20000	50000
TDS*	62			620	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	12.9			129	500	800	1000
Leach Test Information							
Stone Content (%)	46.6						
Sample Mass (kg)	2						
Dry Matter (%)	92						
Moisture (%)	7.8						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	**25-049318**						
					Client:	**Civic Earth Limited**	
Location	**Wythenshawe**						
Lab Reference (Sample Number)	680911				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	14/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP02 1						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	0.2				3%	5%	6%
Loss on Ignition (%) **	0.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	16				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0022			0.022	0.5	2	25
Barium *	0.0236			0.236	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.016			0.16	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	< 0.000400			< 0.00400	0.5	10	30
Nickel *	< 0.00030			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0031			0.031	4	50	200
Chloride *	0.98			9.8	800	15000	25000
Fluoride*	0.27			2.7	10	150	500
Sulphate *	2.5			25	1000	20000	50000
TDS*	41			410	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.96			59.6	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2						
Dry Matter (%)	94						
Moisture (%)	5.8						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	25-049318						
					Client:	Civic Earth Limited	
Location	Wythenshawe						
Lab Reference (Sample Number)	680912				Landfill Waste Acceptance Criteria Limits		
Sampling Date	19/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP09 1						
Depth (m)	0.60						
Solid Waste Analysis							
TOC (%)**	0.2				3%	5%	6%
Loss on Ignition (%) **	0.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	9.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	73				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00185			0.0185	0.5	2	25
Barium *	0.146			1.46	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00066			0.0066	0.5	10	70
Copper *	0.0096			0.096	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	< 0.000400			< 0.00400	0.5	10	30
Nickel *	0.00042			0.0042	0.4	10	40
Lead *	0.0025			0.025	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0031			0.031	4	50	200
Chloride *	1.1			11	800	15000	25000
Fluoride*	0.18			1.8	10	150	500
Sulphate *	7.4			74	1000	20000	50000
TDS*	56			560	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	2.39			23.9	500	800	1000
Leach Test Information							
Stone Content (%)	46.6						
Sample Mass (kg)	1.3						
Dry Matter (%)	96						
Moisture (%)	3.8						

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Waste Acceptance Criteria Analytical Results

Report No:	**25-049318**						
					Client:	**Civic Earth Limited**	
Location	**Wythenshawe**						
Lab Reference (Sample Number)	680913				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	19/08/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	RC02 1						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	0.2				3%	5%	6%
Loss on Ignition (%) **	1.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	35				500	--	--
Total PAH (WAC-17) (mg/kg)	4.56				100	--	--
pH (units)**	8.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	28				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00189			0.0189	0.5	2	25
Barium *	0.00741			0.0741	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.045			0.45	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00264			0.0264	0.5	10	30
Nickel *	0.00096			0.0096	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.004			0.04	4	50	200
Chloride *	2.2			22	800	15000	25000
Fluoride*	0.26			2.6	10	150	500
Sulphate *	2.2			22	1000	20000	50000
TDS*	44			440	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.81			68.1	500	800	1000
Leach Test Information							
Stone Content (%)	87.1						
Sample Mass (kg)	2						
Dry Matter (%)	98						
Moisture (%)	1.7						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Analytical Report Number : 25-049318
Project / Site name: Wythenshawe

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
680905	WS08	1	0.2	Brown loam and clay with gravel and stones
680906	WS25	1	0.2	Brown loam and sand with stones
680907	WS19A	1	0.5	Brown loam and gravel
680908	WS20	1	0.7	Brown loam and clay with stones
680909	WS21	1	0.25	Brown clay and sand with stones
680910	WS25	3	1.1	Brown clay and sand with vegetation and stones
680911	TP02	1	0.2	Brown sand with gravel
680912	TP09	1	0.6	Brown clay and sand with gravel and stones
680913	RC02	1	0.3	Brown loam and clay with gravel and stones

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Analytical Report Number : 25-049318
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
One stage WAC 10:1 leachate preparation	One stage batch test at a liquid to solid ratio of 10 L/kg	BS EN 12457-2-2002	L043B	W	ISO 17025
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS

Analytical Report Number : 25-049318
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID	In-house method	L076B	D	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 25-049318
Project / Site name: Wythenshawe

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
RC02	1	S	680913	c	BTEX and/or Volatile organic compounds in soil	L073B	c
RC02	1	S	680913	c	Loss on ignition of soil @ 450°C	L047-PL	c
RC02	1	S	680913	c	PCB's By GC-MS in soil	L027B	c
RC02	1	S	680913	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
RC02	1	S	680913	c	Total organic carbon (Automated) in soil	L009B	c
RC02	1	S	680913	c	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
RC02	1	S	680913	c	pH at 20°C in soil	L005B	c
TP02	1	S	680911	c	BTEX and/or Volatile organic compounds in soil	L073B	c
TP02	1	S	680911	c	Loss on ignition of soil @ 450°C	L047-PL	c
TP02	1	S	680911	c	PCB's By GC-MS in soil	L027B	c
TP02	1	S	680911	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
TP02	1	S	680911	c	Total organic carbon (Automated) in soil	L009B	c
TP02	1	S	680911	c	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
TP02	1	S	680911	c	pH at 20°C in soil	L005B	c
TP09	1	L	680912	bc	One stage WAC 10:1 leachate preparation	L043B	b
TP09	1	S	680912	bc	BTEX and/or Volatile organic compounds in soil	L073B	c
TP09	1	S	680912	bc	Loss on ignition of soil @ 450°C	L047-PL	c
TP09	1	S	680912	bc	PCB's By GC-MS in soil	L027B	c
TP09	1	S	680912	bc	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
TP09	1	S	680912	bc	Total organic carbon (Automated) in soil	L009B	c
TP09	1	S	680912	bc	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
TP09	1	S	680912	bc	pH at 20°C in soil	L005B	c
WS08	1	S	680905	c	Loss on ignition of soil @ 450°C	L047-PL	c
WS08	1	S	680905	c	Total organic carbon (Automated) in soil	L009B	c
WS08	1	S	680905	c	pH at 20°C in soil	L005B	c
WS19A	1	S	680907	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS19A	1	S	680907	c	Loss on ignition of soil @ 450°C	L047-PL	c
WS19A	1	S	680907	c	PCB's By GC-MS in soil	L027B	c
WS19A	1	S	680907	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS19A	1	S	680907	c	Total organic carbon (Automated) in soil	L009B	c
WS19A	1	S	680907	c	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
WS19A	1	S	680907	c	pH at 20°C in soil	L005B	c
WS20	1	S	680908	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS20	1	S	680908	c	Loss on ignition of soil @ 450°C	L047-PL	c
WS20	1	S	680908	c	PCB's By GC-MS in soil	L027B	c
WS20	1	S	680908	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS20	1	S	680908	c	Total organic carbon (Automated) in soil	L009B	c
WS20	1	S	680908	c	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
WS20	1	S	680908	c	pH at 20°C in soil	L005B	c
WS21	1	S	680909	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS21	1	S	680909	c	Loss on ignition of soil @ 450°C	L047-PL	c
WS21	1	S	680909	c	PCB's By GC-MS in soil	L027B	c
WS21	1	S	680909	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS21	1	S	680909	c	Total organic carbon (Automated) in soil	L009B	c
WS21	1	S	680909	c	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
WS21	1	S	680909	c	pH at 20°C in soil	L005B	c
WS25	1	S	680906	c	Loss on ignition of soil @ 450°C	L047-PL	c
WS25	1	S	680906	c	Total organic carbon (Automated) in soil	L009B	c
WS25	1	S	680906	c	pH at 20°C in soil	L005B	c
WS25	3	S	680910	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS25	3	S	680910	c	Loss on ignition of soil @ 450°C	L047-PL	c
WS25	3	S	680910	c	PCB's By GC-MS in soil	L027B	c
WS25	3	S	680910	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS25	3	S	680910	c	Total organic carbon (Automated) in soil	L009B	c
WS25	3	S	680910	c	Total petroleum hydrocarbons by GC-FID in soil	L076B	c
WS25	3	S	680910	c	pH at 20°C in soil	L005B	c

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Analytical Report Number : 25-050306

Project / Site name:	Wythenshawe	**Samples received on:**	18/09/2025
Your job number:	51143-01	**Samples instructed on/ Analysis started on:**	18/09/2025
Your order number:	PO-0343	**Analysis completed by:**	26/09/2025
Report Issue Number:	1	**Report issued on:**	26/09/2025
Samples Analysed:	12 water samples		

[redacted]

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

UKAS TESTING
4041

Normec i2 Analytical

Analytical Report Number: 25-050306
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				685919	685920	685921	685922	685923
Sample Reference				RC01	RC02	RC05	RC06	WS01
Sample Number				1	1	1	1	1
Water Matrix				Ground water	Ground water	Ground water	Ground water	Ground water
Depth (m)				2.50	4.00	4.00	4.00	1.00
Date Sampled				17/09/2025	17/09/2025	17/09/2025	17/09/2025	16/09/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.7	7.4	7.7	7.2	7.2
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	1.3	< 1.0	< 1.0	1.4	4.4
Free Cyanide (Low Level)	µg/l	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	126	34.2	38.1	47.8	2.88
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	26	< 15	< 15	7800
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.56	3.46	2.11	2.92	152
Hardness - Total	mgCaCO 3/l	1	ISO 17025	342	629	264	796	967
Total Phenols								
Total Phenols (Monohydric) Low Level	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	20
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.03	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.05	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	0.03	0.12	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.05	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.02	0.09	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.02	0.08	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.08	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.08	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	0.58	< 0.16	< 0.16
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4	< 0.4	< 0.4	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.24	0.4	0.85	0.63	32.2
Barium (dissolved)	µg/l	0.06	ISO 17025	160	610	130	830	510
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.1	1.3	0.43	2	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1	0.3	0.4	0.7	1.2
Copper (dissolved)	µg/l	0.5	ISO 17025	1.7	1.6	2.9	1.9	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.9	2.4	2	2.9	3.5
Mercury (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.3	3	2.3	2.4	4
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.2	1.5	< 0.6	0.8	1.1
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.8	1.1	1.9	0.8	2.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.6	53	24	150	6.5

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Analytical Report Number: 25-050306
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				685919	685920	685921	685922	685923
Sample Reference				RC01	RC02	RC05	RC06	WS01
Sample Number				1	1	1	1	1
Water Matrix				Ground water	Ground water	Ground water	Ground water	Ground water
Depth (m)				2.50	4.00	4.00	4.00	1.00
Date Sampled				17/09/2025	17/09/2025	17/09/2025	17/09/2025	16/09/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Antimony (dissolved)	µg/l	1.7	ISO 17025	-	-	-	-	-
Arsenic (dissolved)	µg/l	1	ISO 17025	-	-	-	-	-
Barium (dissolved)	µg/l	0.05	ISO 17025	-	-	-	-	-
Beryllium (dissolved)	µg/l	0.2	ISO 17025	-	-	-	-	-
Boron (dissolved)	µg/l	10	ISO 17025	27	25	23	33	96
Cadmium (dissolved)	µg/l	0.08	ISO 17025	-	-	-	-	-
Calcium (dissolved)	mg/l	0.012	ISO 17025	75	130	58	160	300
Chromium (dissolved)	µg/l	0.4	ISO 17025	-	-	-	-	-
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-	-	-	-
Lead (dissolved)	µg/l	1	ISO 17025	-	-	-	-	-
Mercury (dissolved)	µg/l	0.5	ISO 17025	-	-	-	-	-
Nickel (dissolved)	µg/l	0.3	ISO 17025	-	-	-	-	-
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	-
Vanadium (dissolved)	µg/l	1.7	ISO 17025	-	-	-	-	-
Zinc (dissolved)	µg/l	0.4	ISO 17025	-	-	-	-	-

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC35 $_{HS+EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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UKAS TESTING
4041

Normec i2 Analytical

Analytical Report Number: 25-050306
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				685924	685925	685926	685927	685928
Sample Reference				WS02A	WS05	WS13	WS18	WS24
Sample Number				1	1	1	1	1
Water Matrix				Ground water	Ground water	Ground water	Ground water	Ground water
Depth (m)				1.20	1.50	1.00	1.50	1.50
Date Sampled				16/09/2025	16/09/2025	16/09/2025	16/09/2025	17/09/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.4	7	7.8	7.4	7.2
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	1.6	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level)	µg/l	1	NONE	< 1.0	-	-	-	-
Sulphate as SO_4	mg/l	0.045	ISO 17025	666	32.4	535	454	50.1
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	98	28	140	2000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.4	5.84	5.28	4.05	11.5
Hardness - Total	mgCaCO 3/l	1	ISO 17025	689	428	224	294	267
Total Phenols								
Total Phenols (Monohydric) Low Level	µg/l	1	NONE	1.3	1.1	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	0.04
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.02	< 0.01	< 0.01	0.06
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.02	< 0.01	< 0.01	0.06
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.02	< 0.01	< 0.01	0.05
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.01	< 0.01	< 0.01	0.04
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	0.26
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	-	1.9	0.7	2.8	1.3
Arsenic (dissolved)	µg/l	0.15	ISO 17025	-	1.74	1.21	0.62	2.72
Barium (dissolved)	µg/l	0.06	ISO 17025	-	260	42	61	210
Beryllium (dissolved)	µg/l	0.1	ISO 17025	-	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	-	0.1	< 0.02	0.26	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	-	0.4	2.9	0.3	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	-	2	4.1	2.8	3
Lead (dissolved)	µg/l	0.2	ISO 17025	-	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	NONE	-	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	-	5.9	1.7	2.8	2.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	4.4	32	28	2.3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	-	1.9	2.2	0.5	1.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	-	5.4	2.3	1.9	1.9

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Analytical Report Number: 25-050306
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				685924	685925	685926	685927	685928
Sample Reference				WS02A	WS05	WS13	WS18	WS24
Sample Number				1	1	1	1	1
Water Matrix				Ground water	Ground water	Ground water	Ground water	Ground water
Depth (m)				1.20	1.50	1.00	1.50	1.50
Date Sampled				16/09/2025	16/09/2025	16/09/2025	16/09/2025	17/09/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7	-	-	-	-
Arsenic (dissolved)	µg/l	1	ISO 17025	7.4	-	-	-	-
Barium (dissolved)	µg/l	0.05	ISO 17025	52	-	-	-	-
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	-	-	-	-
Boron (dissolved)	µg/l	10	ISO 17025	100	79	73	12	34
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	-	-	-	-
Calcium (dissolved)	mg/l	0.012	ISO 17025	150	160	66	110	86
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	-	-	-	-
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Copper (dissolved)	µg/l	0.7	ISO 17025	1.5	-	-	-	-
Lead (dissolved)	µg/l	1	ISO 17025	2.6	-	-	-	-
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	-	-	-	-
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.9	-	-	-	-
Selenium (dissolved)	µg/l	4	ISO 17025	29	-	-	-	-
Vanadium (dissolved)	µg/l	1.7	ISO 17025	3.1	-	-	-	-
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.7	-	-	-	-

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC35 $_{HS+EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	20	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	45	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	25	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH_1D_AR_MS}$	µg/l	10	NONE	< 10	90	< 10	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-050306
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				685929	685930
Sample Reference				WS25	WS27
Sample Number				1	1
Water Matrix				Ground water	Ground water
Depth (m)				0.80	2.00
Date Sampled				17/09/2025	17/09/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status		
General Inorganics					
pH (L099)	pH Units	N/A	ISO 17025	7.5	7.4
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	25	< 1.0
Free Cyanide (Low Level)	µg/l	1	NONE	< 1.0	-
Sulphate as SO_4	mg/l	0.045	ISO 17025	15.2	47.7
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	30	< 15
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	11.8	3.13
Hardness - Total	mgCaCO 3/l	1	ISO 17025	213	636
Total Phenols					
Total Phenols (Monohydric) Low Level	µg/l	1	NONE	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16
Heavy Metals / Metalloids					
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.4	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.72	0.49
Barium (dissolved)	µg/l	0.06	ISO 17025	240	170
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.1
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.9	0.3
Copper (dissolved)	µg/l	0.5	ISO 17025	12	1.2
Lead (dissolved)	µg/l	0.2	ISO 17025	0.7	< 0.2
Mercury (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.8	2.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	1	1
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.6	0.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.3	2.6

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Analytical Report Number: 25-050306
Project / Site name: Wythenshawe

Your Order No: PO-0343

Lab Sample Number				685929	685930
Sample Reference				WS25	WS27
Sample Number				1	1
Water Matrix				Ground water	Ground water
Depth (m)				0.80	2.00
Date Sampled				17/09/2025	17/09/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Antimony (dissolved)	µg/l	1.7	ISO 17025	-	-
Arsenic (dissolved)	µg/l	1	ISO 17025	-	-
Barium (dissolved)	µg/l	0.05	ISO 17025	-	-
Beryllium (dissolved)	µg/l	0.2	ISO 17025	-	-
Boron (dissolved)	µg/l	10	ISO 17025	15	40
Cadmium (dissolved)	µg/l	0.08	ISO 17025	-	-
Calcium (dissolved)	mg/l	0.012	ISO 17025	78	140
Chromium (dissolved)	µg/l	0.4	ISO 17025	-	-
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-
Lead (dissolved)	µg/l	1	ISO 17025	-	-
Mercury (dissolved)	µg/l	0.5	ISO 17025	-	-
Nickel (dissolved)	µg/l	0.3	ISO 17025	-	-
Selenium (dissolved)	µg/l	4	ISO 17025	-	-
Vanadium (dissolved)	µg/l	1.7	ISO 17025	-	-
Zinc (dissolved)	µg/l	0.4	ISO 17025	-	-
Petroleum Hydrocarbons					
TPH - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC35 $_{HS+EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10
VOCs					
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 25-050306
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW,GW, Hg - SW,PW, Al - SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR Analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, FSE, LL; PrW, DI PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total Hardness of water	Determination of total hardness of water by calculation from calcium and magnesium. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025
Total Petroleum Hydrocarbons with carbon banding in water by GC-MS	Determination of total petroleum hydrocarbons in water by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
Total Petroleum Hydrocarbons with carbon banding in water by GC-MS/HS-GC-MS	Determination of total petroleum hydrocarbons in water by GC-MS/HS-GC-MS with carbon banding aliphatic and aromatic (Summed Bands)	Calculation	L070B/L088-PL	W	NONE
BTEX and/or Volatile Organic Compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Chromium(III) in water	In-house method by calculation from total Cr and Cr(VI)	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5-diphenylcarbazide, followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	In-house method by continuous flow analyser	L080-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide in water by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Monohydric phenols (low level) in water	Determination of phenols in water by continuous flow analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Total cyanide (low level) in water	Determination of total cyanide in water by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Total Petroleum Hydrocarbons in water by HS-GC/MS	Determination of total petroleum hydrocarbons in water by headspace HS-GC/MS . Accredited matrices: SW, PW, GW	In-house method	L088-PL	W	ISO 17025
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAHs) in water by extraction in dichloromethane followed by GC-MS. Accredited matrices (PAHs): SW, PW, GW	In-house method based on USEPA 8270	L102B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025

Analytical Report Number : 25-050306
Project / Site name: Wythenshawe

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Appendix J – Geotechnical Laboratory Analysis Results

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

t: [redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: info-i2analytical@normecgroup.com

Analytical Report Number : 25-046531

Project / Site name:	Wythenshawe	**Samples received on:**	11/08/2025
Your job number:	51143	**Samples instructed on/ Analysis started on:**	29/08/2025
Your order number:	PO 0344	**Analysis completed by:**	11/09/2025
Report Issue Number:	1	**Report issued on:**	11/09/2025
Samples Analysed:	23 soil samples		

[redacted]

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 25-046531
Project / Site name: Wythenshawe
Your Order No: PO 0344

Lab Sample Number				665443	665444	665445	665446	665447
Sample Reference				WS01	WS02A	WS12	WS13	WS17
Sample Number				D2	D2	D1	D1	D2
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.80	1.70	2.00-2.45	1.70	1.80
Date Sampled				05/08/2025	05/08/2025	07/08/2025	07/08/2025	07/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	12	8.6	12	13
Total mass of sample received	kg	0.1	NONE	1.2	1.2	0.5	0.5	1.2
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.4	7.7	7.5	7.1	7
Total Sulphate as SO_4	%	0.005	MCERTS	0.04	0.036	0.024	0.017	0.019
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	37	130	26	39	43
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	18.3	62.6	13	19.4	21.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.2	1.5	9.3	10	22
Total Sulphur	mg/kg	50	MCERTS	130	110	90	< 50	79
Total Sulphur	%	0.005	MCERTS	0.013	0.011	0.009	< 0.005	0.008
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	4.7	9.2	9.4	8.3	9.7
Magnesium (water soluble)	mg/kg	5	NONE	9.4	19	19	17	19

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-046531
Project / Site name: Wythenshawe
Your Order No: PO 0344

Lab Sample Number				665448	665449	665450	665451	665723
Sample Reference				WS18	WS18	WS19A	WS20	WS05
Sample Number				D1	D2	D2	D2	D1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				2.70	3.00-3.40	1.60	1.80	1.50
Date Sampled				07/08/2025	07/08/2025	06/08/2025	06/08/2025	05/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	13	9.9	12	20
Total mass of sample received	kg	0.1	NONE	0.5	0.5	1.2	0.5	0.1
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.4	8.3	8.3	7.7	7.2
Total Sulphate as SO_4	%	0.005	MCERTS	0.035	0.027	0.046	0.021	0.085
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	32	20	57	58	530
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	16.1	9.83	28.7	28.8	265
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	3.3	4.5	17	13	28
Total Sulphur	mg/kg	50	MCERTS	110	91	130	67	770
Total Sulphur	%	0.005	MCERTS	0.011	0.009	0.013	0.007	0.077
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	17	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	8.7	< 5.0	< 5.0	< 5.0	< 5.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	5	4.8	3.7	7.3	12
Magnesium (water soluble)	mg/kg	5	NONE	10	9.5	7.3	15	25

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-046531
Project / Site name: Wythenshawe
Your Order No: PO 0344

Lab Sample Number				665724	665725	665726	665727	665728
Sample Reference				WS05	WS07	WS08	WS08	WS15
Sample Number				D2	D1	D2	D3	D3
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				2.30	1.20	1.90	2.00	2.60
Date Sampled				05/08/2025	05/08/2025	05/08/2025	05/08/2025	05/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	50	7.5	17	14	14
Total mass of sample received	kg	0.1	NONE	0.1	0.4	0.4	0.5	0.4
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	6.8	8.2	8.3	8.1	8.1
Total Sulphate as SO_4	%	0.005	MCERTS	0.252	0.014	0.022	0.019	0.045
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1900	34	66	56	15
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	965	17.1	33.2	28.2	7.72
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	130	1.2	2.1	2.1	1.3
Total Sulphur	mg/kg	50	MCERTS	5300	81	83	89	170
Total Sulphur	%	0.005	MCERTS	0.527	0.008	0.008	0.009	0.017
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	66	5.9	9.2	25	5.6
Magnesium (water soluble)	mg/kg	5	NONE	130	12	18	50	11

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-046531
Project / Site name: Wythenshawe
Your Order No: PO 0344

Lab Sample Number				665729	665730	665731	665732	665733
Sample Reference				WS21	WS24	WS25	WS26	WS26
Sample Number				D3	D2	D2	D1	D3
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.60	1.80	2.60	1.20	3.00
Date Sampled				05/08/2025	05/08/2025	05/08/2025	05/08/2025	05/08/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	18	29	11	7.1
Total mass of sample received	kg	0.1	NONE	0.4	0.5	0.3	0.4	0.4
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.9	8.4	6.6	6.8	8.3
Total Sulphate as SO_4	%	0.005	MCERTS	0.031	0.067	0.12	0.015	0.042
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	46	450	850	38	22
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	23.2	224	427	19.1	11.1
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	49	3.1	32	20	8.7
Total Sulphur	mg/kg	50	MCERTS	130	1100	1600	71	150
Total Sulphur	%	0.005	MCERTS	0.013	0.106	0.16	0.007	0.015
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	35	21	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	< 5.0	18	11	< 5.0	< 5.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	18	23	47	12	7.9
Magnesium (water soluble)	mg/kg	5	NONE	36	47	95	25	16

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Analytical Report Number: 25-046531
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Your Order No: PO 0344

Lab Sample Number				665734	665735	665736
Sample Reference				WS27	WS28	WS8
Sample Number				D2	D1	D3
Water Matrix				N/A	N/A	N/A
Depth (m)				1.50	0.70	1.40
Date Sampled				05/08/2025	05/08/2025	05/08/2025
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	15	17
Total mass of sample received	kg	0.1	NONE	0.6	0.4	0.5
General Inorganics						
pH (L099)	pH Units	N/A	MCERTS	8.3	8.9	8.3
Total Sulphate as SO_4	%	0.005	MCERTS	0.018	0.018	0.021
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	24	30	31
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	11.8	14.8	15.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	18	34	54
Total Sulphur	mg/kg	50	MCERTS	81	68	74
Total Sulphur	%	0.005	MCERTS	0.008	0.007	0.007
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	6.3	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0
Heavy Metals / Metalloids						
Magnesium (leachate equivalent)	mg/l	2.5	NONE	5.4	13	12
Magnesium (water soluble)	mg/kg	5	NONE	11	26	25

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
665443	WS01	D2	1.8	Brown clay and loam
665444	WS02A	D2	1.7	Brown clay and loam
665445	WS12	D1	2.00-2.45	Brown clay and loam
665446	WS13	D1	1.7	Brown clay and loam with gravel
665447	WS17	D2	1.8	Brown clay and loam with gravel
665448	WS18	D1	2.7	Brown clay and loam
665449	WS18	D2	3.00-3.40	Brown clay and loam
665450	WS19A	D2	1.6	Brown clay and loam
665451	WS20	D2	1.8	Brown clay and loam with gravel
665723	WS05	D1	1.5	Brown loam and clay with gravel and vegetation
665724	WS05	D2	2.3	Brown loam and clay with gravel and vegetation
665725	WS07	D1	1.2	Brown clay and sand with gravel
665726	WS08	D2	1.9	Brown clay and sand
665727	WS08	D3	2	Brown clay and sand
665728	WS15	D3	2.6	Brown clay and sand
665729	WS21	D3	1.6	Brown clay and sand
665730	WS24	D2	1.8	Brown clay and sand with gravel
665731	WS25	D2	2.6	Brown loam and clay with gravel
665732	WS26	D1	1.2	Brown clay and sand with gravel
665733	WS26	D3	3	Brown clay and sand with gravel
665734	WS27	D2	1.5	Brown clay and sand with gravel
665735	WS28	D1	0.7	Brown clay and sand with gravel
665736	WS8	D3	1.4	Brown clay and sand with gravel

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Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS01	D2	S	665443	c	Chloride, water soluble, in soil	L082B	c
WS01	D2	S	665443	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS01	D2	S	665443	c	Total Sulphur in soil	L038B	c
WS01	D2	S	665443	c	Total sulphate (as SO4 in soil)	L038B	c
WS01	D2	S	665443	c	pH in soil (automated)	L099-PL	c
WS02A	D2	S	665444	c	Chloride, water soluble, in soil	L082B	c
WS02A	D2	S	665444	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS02A	D2	S	665444	c	Total Sulphur in soil	L038B	c
WS02A	D2	S	665444	c	Total sulphate (as SO4 in soil)	L038B	c
WS02A	D2	S	665444	c	pH in soil (automated)	L099-PL	c
WS05	D1	S	665723	c	Chloride, water soluble, in soil	L082B	c
WS05	D1	S	665723	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS05	D1	S	665723	c	Total Sulphur in soil	L038B	c
WS05	D1	S	665723	c	Total sulphate (as SO4 in soil)	L038B	c
WS05	D1	S	665723	c	pH in soil (automated)	L099-PL	c
WS05	D2	S	665724	c	Chloride, water soluble, in soil	L082B	c
WS05	D2	S	665724	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS05	D2	S	665724	c	Total Sulphur in soil	L038B	c
WS05	D2	S	665724	c	Total sulphate (as SO4 in soil)	L038B	c
WS05	D2	S	665724	c	pH in soil (automated)	L099-PL	c
WS07	D1	S	665725	c	Chloride, water soluble, in soil	L082B	c
WS07	D1	S	665725	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS07	D1	S	665725	c	Total Sulphur in soil	L038B	c
WS07	D1	S	665725	c	Total sulphate (as SO4 in soil)	L038B	c
WS07	D1	S	665725	c	pH in soil (automated)	L099-PL	c
WS08	D2	S	665726	c	Chloride, water soluble, in soil	L082B	c
WS08	D2	S	665726	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS08	D2	S	665726	c	Total Sulphur in soil	L038B	c
WS08	D2	S	665726	c	Total sulphate (as SO4 in soil)	L038B	c
WS08	D2	S	665726	c	pH in soil (automated)	L099-PL	c
WS08	D3	S	665727	c	Chloride, water soluble, in soil	L082B	c
WS08	D3	S	665727	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS08	D3	S	665727	c	Total Sulphur in soil	L038B	c
WS08	D3	S	665727	c	Total sulphate (as SO4 in soil)	L038B	c
WS08	D3	S	665727	c	pH in soil (automated)	L099-PL	c
WS12	D1	S	665445	c	Chloride, water soluble, in soil	L082B	c
WS12	D1	S	665445	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS12	D1	S	665445	c	Total Sulphur in soil	L038B	c
WS12	D1	S	665445	c	Total sulphate (as SO4 in soil)	L038B	c
WS12	D1	S	665445	c	pH in soil (automated)	L099-PL	c
WS13	D1	S	665446	c	Chloride, water soluble, in soil	L082B	c
WS13	D1	S	665446	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS13	D1	S	665446	c	Total Sulphur in soil	L038B	c
WS13	D1	S	665446	c	Total sulphate (as SO4 in soil)	L038B	c
WS13	D1	S	665446	c	pH in soil (automated)	L099-PL	c
WS15	D3	S	665728	c	Chloride, water soluble, in soil	L082B	c
WS15	D3	S	665728	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS15	D3	S	665728	c	Total Sulphur in soil	L038B	c
WS15	D3	S	665728	c	Total sulphate (as SO4 in soil)	L038B	c
WS15	D3	S	665728	c	pH in soil (automated)	L099-PL	c
WS17	D2	S	665447	c	Chloride, water soluble, in soil	L082B	c
WS17	D2	S	665447	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS17	D2	S	665447	c	Total Sulphur in soil	L038B	c
WS17	D2	S	665447	c	Total sulphate (as SO4 in soil)	L038B	c
WS17	D2	S	665447	c	pH in soil (automated)	L099-PL	c
WS18	D1	S	665448	c	Chloride, water soluble, in soil	L082B	c

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Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS18	D1	S	665448	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS18	D1	S	665448	c	Total Sulphur in soil	L038B	c
WS18	D1	S	665448	c	Total sulphate (as SO4 in soil)	L038B	c
WS18	D1	S	665448	c	pH in soil (automated)	L099-PL	c
WS18	D2	S	665449	c	Chloride, water soluble, in soil	L082B	c
WS18	D2	S	665449	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS18	D2	S	665449	c	Total Sulphur in soil	L038B	c
WS18	D2	S	665449	c	Total sulphate (as SO4 in soil)	L038B	c
WS18	D2	S	665449	c	pH in soil (automated)	L099-PL	c
WS19A	D2	S	665450	c	Chloride, water soluble, in soil	L082B	c
WS19A	D2	S	665450	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS19A	D2	S	665450	c	Total Sulphur in soil	L038B	c
WS19A	D2	S	665450	c	Total sulphate (as SO4 in soil)	L038B	c
WS19A	D2	S	665450	c	pH in soil (automated)	L099-PL	c
WS20	D2	S	665451	c	Chloride, water soluble, in soil	L082B	c
WS20	D2	S	665451	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS20	D2	S	665451	c	Total Sulphur in soil	L038B	c
WS20	D2	S	665451	c	Total sulphate (as SO4 in soil)	L038B	c
WS20	D2	S	665451	c	pH in soil (automated)	L099-PL	c
WS21	D3	S	665729	c	Chloride, water soluble, in soil	L082B	c
WS21	D3	S	665729	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS21	D3	S	665729	c	Total Sulphur in soil	L038B	c
WS21	D3	S	665729	c	Total sulphate (as SO4 in soil)	L038B	c
WS21	D3	S	665729	c	pH in soil (automated)	L099-PL	c
WS24	D2	S	665730	c	Chloride, water soluble, in soil	L082B	c
WS24	D2	S	665730	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS24	D2	S	665730	c	Total Sulphur in soil	L038B	c
WS24	D2	S	665730	c	Total sulphate (as SO4 in soil)	L038B	c
WS24	D2	S	665730	c	pH in soil (automated)	L099-PL	c
WS25	D2	S	665731	c	Chloride, water soluble, in soil	L082B	c
WS25	D2	S	665731	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS25	D2	S	665731	c	Total Sulphur in soil	L038B	c
WS25	D2	S	665731	c	Total sulphate (as SO4 in soil)	L038B	c
WS25	D2	S	665731	c	pH in soil (automated)	L099-PL	c
WS26	D1	S	665732	c	Chloride, water soluble, in soil	L082B	c
WS26	D1	S	665732	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS26	D1	S	665732	c	Total Sulphur in soil	L038B	c
WS26	D1	S	665732	c	Total sulphate (as SO4 in soil)	L038B	c
WS26	D1	S	665732	c	pH in soil (automated)	L099-PL	c
WS26	D3	S	665733	c	Chloride, water soluble, in soil	L082B	c
WS26	D3	S	665733	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS26	D3	S	665733	c	Total Sulphur in soil	L038B	c
WS26	D3	S	665733	c	Total sulphate (as SO4 in soil)	L038B	c
WS26	D3	S	665733	c	pH in soil (automated)	L099-PL	c
WS27	D2	S	665734	c	Chloride, water soluble, in soil	L082B	c
WS27	D2	S	665734	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS27	D2	S	665734	c	Total Sulphur in soil	L038B	c
WS27	D2	S	665734	c	Total sulphate (as SO4 in soil)	L038B	c
WS27	D2	S	665734	c	pH in soil (automated)	L099-PL	c
WS28	D1	S	665735	c	Chloride, water soluble, in soil	L082B	c
WS28	D1	S	665735	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c
WS28	D1	S	665735	c	Total Sulphur in soil	L038B	c
WS28	D1	S	665735	c	Total sulphate (as SO4 in soil)	L038B	c
WS28	D1	S	665735	c	pH in soil (automated)	L099-PL	c
WS8	D3	S	665736	c	Chloride, water soluble, in soil	L082B	c
WS8	D3	S	665736	c	Sulphate, water soluble, in soil (16hr extraction)	L038B	c

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Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS8	D3	S	665736	c	Total Sulphur in soil	L038B	c
WS8	D3	S	665736	c	Total sulphate (as SO4 in soil)	L038B	c
WS8	D3	S	665736	c	pH in soil (automated)	L099-PL	c

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06 October 2025
Report No : GEO/43308/01

For the attention of Lindsay Reid / Mr J Foster

		Date samples received	10/09/2025
Our ref	**GEO / 43308**	Date written instructions received	12/09/2025
Your ref	**51143/01**	Date testing commenced	13/09/2025
Order ref	**PO-0384**	**Date of sample disposal**	**03/11/2025**

Project **WYTHENSHAWE**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	14	Water Content
~	13	Liquid & Plastic Limits
2	1	Particle Size Distribution
3	1	Shear Strength by Hand Vane

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All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

[redacted]

Senior Technician

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Registered Office: Bucknalls Lane Garston Watford Hertfordshire WD25 9XX Registered in England and Wales No: 3177641

BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification BS EN ISO 14688-2:2018	Test Type	Sample Condition
RC05	0.40		B	Red brown very sandy GRAVEL.	10.7	~	~	~	~	~	~	~
WS01	1.60	D1	D	Orangish brown and grey siltstone sandy silty CLAY. Sand is fine.	17.1	29	19	10	84	CIL	2	3
WS04	1.90	D2	D	Reddish brown and grey slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine.	26.2	39	23	16	99	CIM	2	1
WS08	1.20	D1	D	Reddish brown slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine.	14.6	36	19	17	99	CIM	2	1
WS08	2.90	D3	D	Reddish brown slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine.	12.3	29	19	10	99	CIL	2	1
WS12	2.80	D2	D	Reddish brown and grey sandy silty CLAY. Sand is fine.	13.1	29	18	11	100	CIL	2	1
WS13	2.00-2.45	D2	D	Reddish brown and grey mottled yellowish brown sandy silty CLAY. Sand is fine.	11.8	26	15	11	98	CIL	2	1
WS17	1.20-1.65	D1	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	13.0	31	15	16	98	CIL	2	1
WS19A	1.20-1.65	D1	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	9.3	28	14	14	83	CIL	2	3
WS20	1.20-1.65	D1	D	Reddish brown and grey sandy silty CLAY. Sand is fine.	11.6	31	15	16	98	CIL	2	1
WS20	2.70	D3	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	11.7	31	19	12	55	CIL	2	3
WS21	2.50	D4	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	12.7	31	19	12	64	CIL	2	3
WS22	0.70	D1	D	Light grey mottled orangish brown sandy silty CLAY. Sand is fine.	22.2	44	20	24	100	CIM	2	1
WS27	0.70	D1	D	Brown and orangish brown and grey slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	20.7	40	21	19	98	CIM	2	1

Test Type: 2 - 4 point 80g / 30° fall cone method.

Sample condition: 1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

[redacted]

S Burke - Senior Technician
06/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE
51143/01

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UKAS TESTING 1982

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

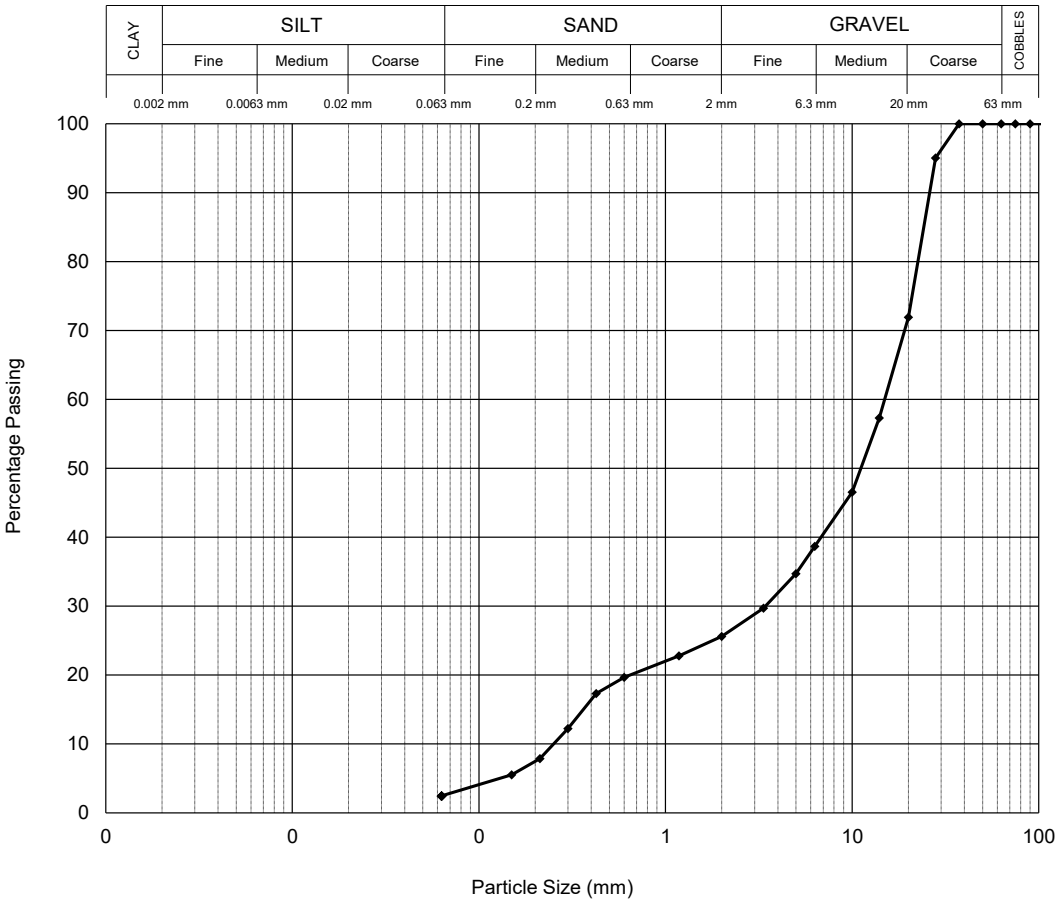
Location	RC05
Sample Depth	0.40 m
Sample Type	B

Description

Red brown very sandy GRAVEL.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	95
20.0 mm	72
14.0 mm	57
10.0 mm	47
6.30 mm	39
5.00 mm	35
3.35 mm	30
2.00 mm	26
1.18 mm	23
600 µm	20
425 µm	17
300 µm	12
212 µm	8
150 µm	6
63 µm	2



Particle Proportions	
Cobbles	0.0
Gravel	74.4
Sand	23.1
Silt & Clay	2.5

Tested by XW
Checked and Approved by

[redacted]

S Burke - Senior Technician
06/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE
51143/01

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UKAS TESTING 1982

SHEAR STRENGTH BY VANE METHODS

Location	Depth m	Sample Ref	Specimen Ref / Depth (m)	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 %	Laboratory Vane - Peak BS 1377-2 : 2022 : 24 kPa	Laboratory Vane - Remoulded BS 1377-2 : 2022 : 24 kPa	Torvane kPa	Pilcon Hand Vane kPa	Pocket Penetrometer kPa
RC05	1.50-2.60			C	Very stiff sandy gravelly silty CLAY.	12.8				>150	

Checked and Approved by:

[redacted]

S Burke - Senior Technician
06/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE

51143/01

GEOLABS

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web: www.geolabs.co.uk

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

09 October 2025
Report No : GEO/43308/02

For the attention of Lindsay Reid / Mr J Foster

		Date samples received	10/09/2025
Our ref	**GEO / 43308**	Date written instructions received	12/09/2025
Your ref	**51143/01**	Date testing commenced	13/09/2025
Order ref	**PO-0384**	**Date of sample disposal**	**06/11/2025**

Project **WYTHENSHAWE**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	14	Water Content
~	13	Liquid & Plastic Limits
2	1	Particle Size Distribution
3	1	Shear Strength by Hand Vane
4	1	Unconfined Compressive Strength with Young's Modulus and Poisson's Ratio
5	30	Point Load Strength Index

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We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

[redacted]

I Tabios
Laboratory Manager

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BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification BS EN ISO 14688-2:2018	Test Type	Sample Condition
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WS08	1.20	D1	D	Reddish brown slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine.	14.6	36	19	17	99	CIM	2	1
WS08	2.90	D3	D	Reddish brown slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine.	12.3	29	19	10	99	CIL	2	1
WS12	2.80	D2	D	Reddish brown and grey sandy silty CLAY. Sand is fine.	13.1	29	18	11	100	CIL	2	1
WS13	2.00-2.45	D2	D	Reddish brown and grey mottled yellowish brown sandy silty CLAY. Sand is fine.	11.8	26	15	11	98	CIL	2	1
WS17	1.20-1.65	D1	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	13.0	31	15	16	98	CIL	2	1
WS19A	1.20-1.65	D1	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	9.3	28	14	14	83	CIL	2	3
WS20	1.20-1.65	D1	D	Reddish brown and grey sandy silty CLAY. Sand is fine.	11.6	31	15	16	98	CIL	2	1
WS20	2.70	D3	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	11.7	31	19	12	55	CIL	2	3
WS21	2.50	D4	D	Reddish brown and grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	12.7	31	19	12	64	CIL	2	3
WS22	0.70	D1	D	Light grey mottled orangish brown sandy silty CLAY. Sand is fine.	22.2	44	20	24	100	CIM	2	1
WS27	0.70	D1	D	Brown and orangish brown and grey slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine to medium.	20.7	40	21	19	98	CIM	2	1

Test Type: 2 - 4 point 80g / 30° fall cone method.

Sample condition: 1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

[redacted]

S Burke - Senior Technician
06/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE
51143/01

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UKAS TESTING 1982

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

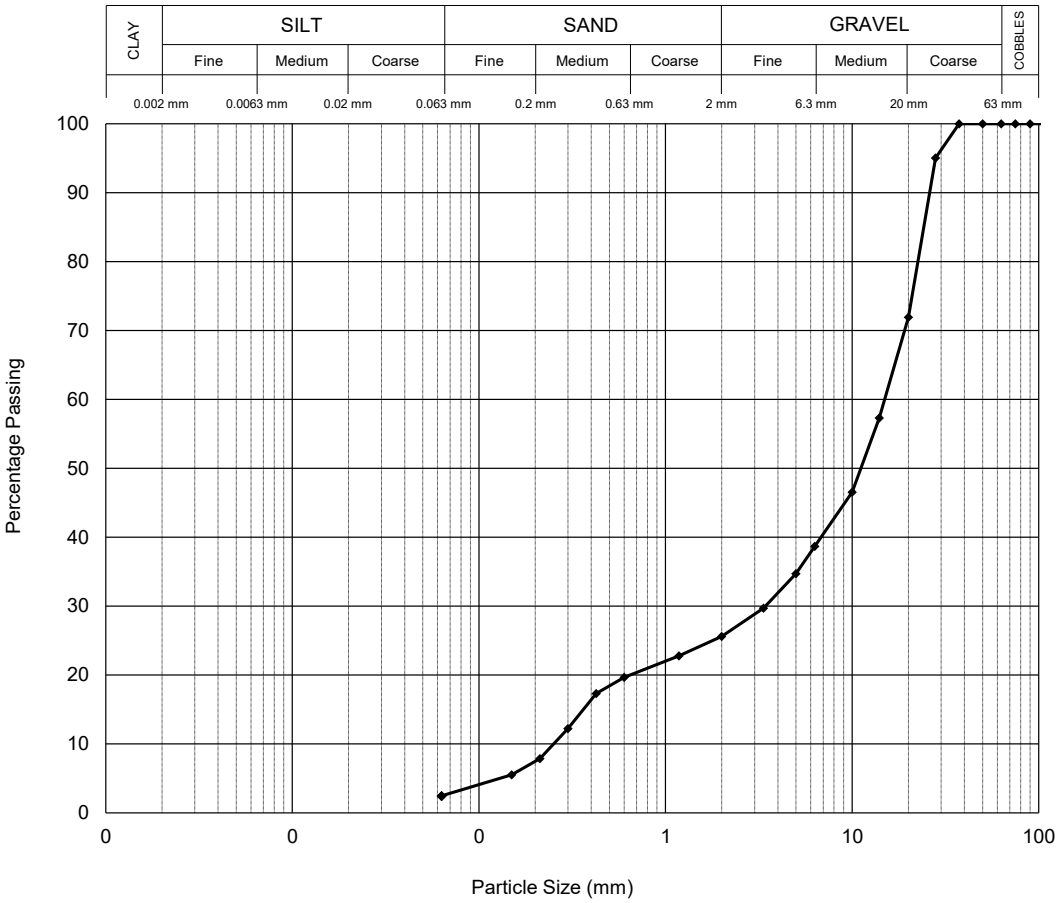
Location	RC05
Sample Depth	0.40 m
Sample Type	B

Description

Red brown very sandy GRAVEL.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	95
20.0 mm	72
14.0 mm	57
10.0 mm	47
6.30 mm	39
5.00 mm	35
3.35 mm	30
2.00 mm	26
1.18 mm	23
600 µm	20
425 µm	17
300 µm	12
212 µm	8
150 µm	6
63 µm	2



Particle Proportions	
Cobbles	0.0
Gravel	74.4
Sand	23.1
Silt & Clay	2.5

Tested by XW
Checked and Approved by

[redacted]

S Burke - Senior Technician
06/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE
51143/01

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UKAS TESTING 1982

SHEAR STRENGTH BY VANE METHODS

Location	Depth m	Sample Ref	Specimen Ref / Depth (m)	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 %	Laboratory Vane - Peak BS 1377-2 : 2022 : 24 kPa	Laboratory Vane - Remoulded BS 1377-2 : 2022 : 24 kPa	Torvane kPa	Pilcon Hand Vane kPa	Pocket Penetrometer kPa
RC05	1.50-2.60			C	Very stiff sandy gravelly silty CLAY.	12.8				>150	

[redacted]
S Burke - Senior Technician
06/10/2025

Project Number:
GEO / 43308

Project Name:
WYTHENSHAWE
51143/01

GEOLABS

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Sample details						Density		Uniaxial Compression Test (LF0879C (1000kN) compression frame used)							
								Mean after prep.							
Borehole Ref.	Sample Ref.	Depth (m)	Description	MC (%)	Degree of Saturation (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Diameter (mm)	Height (mm)	H/D Ratio	Load at Failure (kN)	UCS (MPa) 3 sig. fig.	Failure Sketch	D. Tested	Remarks
RC01		8.29-8.55	Extremely weak reddish brown MUDSTONE. Slightly weathered	11	83.0	2.32	2.09	100.50	228.70	2.3	6.7	0.845		08/10/25	Nonstandard test as sample H/D ratio did not meet the required minimum of 2.5:1

Note: The dimensional requirements of flatness (<0.02 mm), perpendicularity (<0.05 / 50 mm) and straightness (0.3 mm deviation) are all met. Specific Gravity used for Degree of Saturation is assumed unless specified by the client.

Checked and Approved by

[redacted]

I Tabios (Head of Department)

Date: 09/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE
51143/01

GEOLABS

UKAS TESTING 1982

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNCONFINED COMPRESSIVE STRENGTH WITH YOUNG'S MODULUS AND POISSON'S RATIO

Borehole Ref.:	RC01
Sample Ref.:	-
Depth (m):	8.29-8.55

Description:
Extremely weak reddish brown MUDSTONE. Slightly weathered

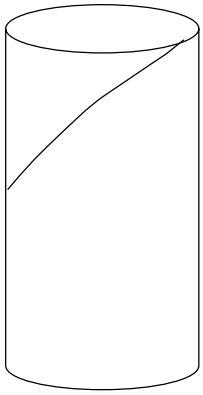
LF0879C (1000kN) compression frame used

Diameter	100.50 mm
Height	228.70 mm
Bulk Density	2.32 Mg/m³
Dry Density	2.09 Mg/m³
Water Content	11 %

Degree of Saturation: 83.0 % Specific Gravity: 2.9 Mg/m³ (Assumed)

Failure Sketch

Mode of failure: Diagonal shearing



Solid lines for material failures.
Dashed lines for apparent weakness failure.

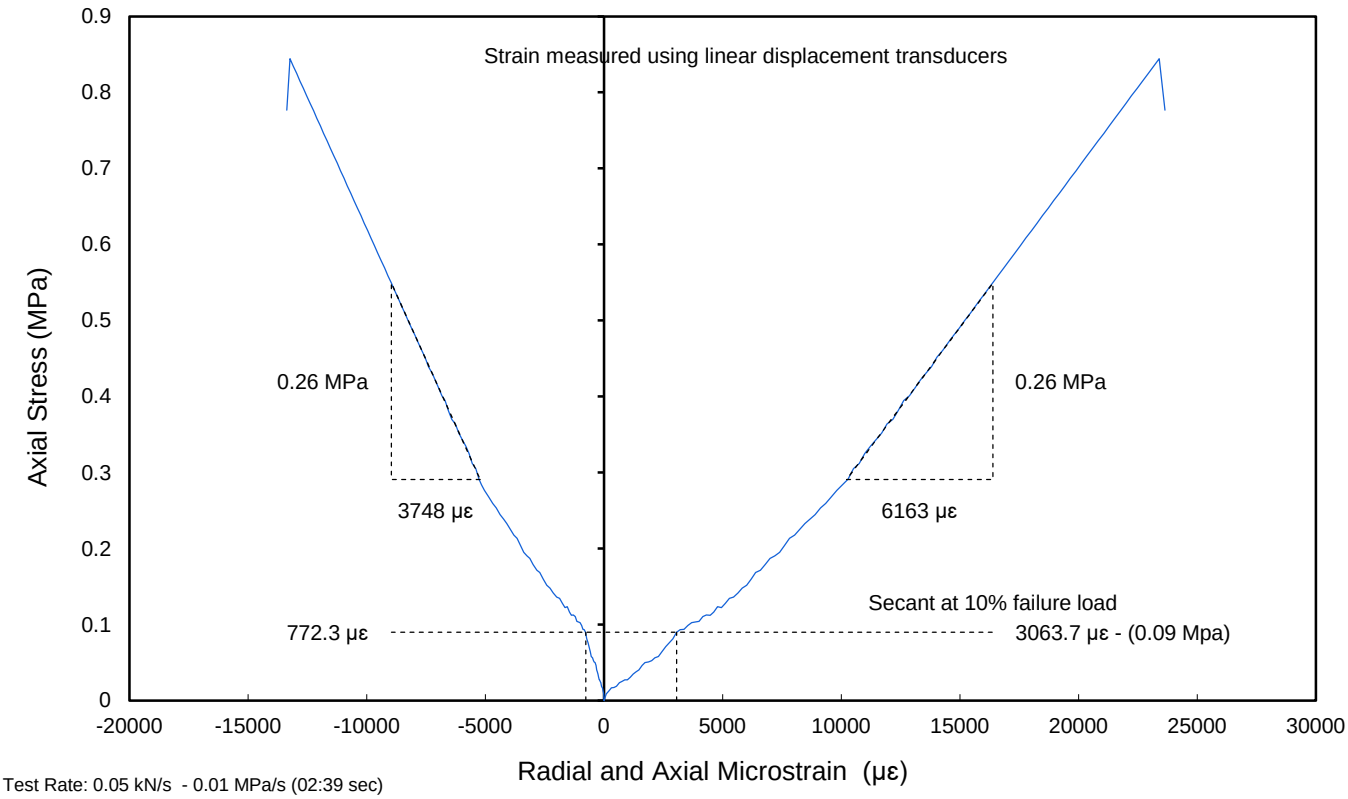
Angle of foliation/Axis of loading: n/a
Angle of shear plane/Axis of loading: n/a

Date tested: 08/10/2025

Test results

Unconfined Compressive Strength Maximum load (kN): 6.70	0.845 MPa
Young's Modulus (tangential at 50% failure load)	0.0419 GPa
Poisson's Ratio (tangential at 50% failure load)	0.61
Young's Modulus (secant at 10% failure load)	0.0294 GPa
Poisson's Ratio (secant at 10% failure load)	0.25

Sample type	**C**



Test Rate: 0.05 kN/s - 0.01 MPa/s (02:39 sec)

Remarks: Nonstandard test as sample H/D ratio did not meet the required minimum of 2.5:1

Note: The dimensional requirements of Flatness (<0.02 mm), Perpendicularity (<0.05 / 50 mm) and Straightness (0.3 mm deviation) are all met.

Checked and Approved by

[redacted]

I Tabios (Head of Department)

Date: 09/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE

51143/01

GEOLABS

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006 In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Point Load test											
Borehole Ref.	Sample Ref.	Depth (m)	Description	D. Tested	Test type & Direction		Sample width W (mm)	Platen separation (mm) Start D	Platen separation (mm) End D'	Water Content (%)	Equiv. Diameter D_e (mm)	Failure Load P (kN)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
RC03		3.85-3.94	Extremely weak dark brown MUDSTONE. Slightly weathered	07/10/25	A	U	98.0	71.8	70.4		93.7	0.14	0.02	1.33	0.03
RC03		7.05-7.25	Extremely weak to very weak thinly laminated brown and grey MUDSTONE. Slightly weathered	08/10/25	D	L	98.6	98.6	98.2		98.4	0.21	0.02	1.36	0.03
			Determination 2	08/10/25	A	P	99.9	89.9	88.9		106.3	0.59	0.05	1.40	0.07
			Determination 3	08/10/25	A	P	99.8	88.8	86.8		105.0	0.21	0.02	1.40	0.03
RC03		8.74-8.85	Very weak thinly laminated brown MUDSTONE. Slightly weathered	07/10/25	A	P	100.0	50.7	49.5		79.4	0.52	0.08	1.23	0.1
RC02		5.40-5.44	Very weak thinly laminated brown and grey MUDSTONE. Slightly weathered	07/10/25	I	P	37.1	37.1	36.1		41.3	0.15	0.09	0.92	0.08
RC02		7.10-7.18	Very weak thinly laminated brown and grey MUDSTONE. Slightly weathered	07/10/25	A	P	100.0	36.9	35.5		67.2	0.72	0.16	1.14	0.18
RC02		8.07-8.16	Very weak thinly laminated brown fine grained SANDSTONE / MUDSTONE. Slightly weathered	07/10/25	A	P	101.4	47.1	44.6		75.9	0.69	0.12	1.21	0.14
RC02		9.75-10.00	Extremely weak to very weak thinly laminated brown and yellowish brown MUDSTONE. Slightly weathered	08/10/25	D	L	100.6	100.6	99.6		100.1	0.25	0.02	1.37	0.03
			Determination 2	08/10/25	A	P	100.5	87.6	84.9		104.2	0.96	0.09	1.39	0.13

(*) Sample failed on weakness

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **I** - Irregular lump **P** - Perpendicular to planes of weakness **U** - Random or unknown orientation **L** - Parallel to planes of weakness

Checked and Approved by

[redacted]

I Tabios (Head of Department)

Date: 09/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE

51143/01

GEOLABS

UKAS TESTING 1982

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006 In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Point Load test											
Borehole Ref.	Sample Ref.	Depth (m)	Description	D. Tested	Test type & Direction		Sample width W (mm)	Platen separation (mm) Start D	Platen separation (mm) End D'	Water Content (%)	Equiv. Diameter D_e (mm)	Failure Load P (kN)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
RC02		9.75-10.00	Determination 3	08/10/25	A	P	100.2	65.0	63.5		90.0	0.22	0.03	1.30	0.04
RC02		11.12-11.17	Extremely weak thinly laminated brown MUDSTONE. Slightly weathered	07/10/25	A	P	100.6	53.1	51.0		80.8	0.22	0.03	1.24	0.04
RC06		3.87-3.95	Weak thinly laminated brown MUDSTONE. Slightly weathered	07/10/25	A	P	99.0	30.5	29.2		60.7	2.60	0.71	1.09	0.77
RC06		4.57-4.74	Extremely weak brown MUDSTONE. Slightly weathered	07/10/25	D	U	100.5	100.3	97.1		98.7	0.33	0.03	1.36	0.04
RC06		7.05-7.10	Weak thinly laminated yellowish brown MUDSTONE. Slightly weathered	07/10/25	A	P	100.3	30.8	26.9		58.6	1.77	0.51	1.07	0.55
RC06		10.03-10.12	Weak thinly laminated brown and grey MUDSTONE. Slightly weathered	07/10/25	I	P	44.9	36.8	34.6		44.5	1.72	0.87	0.95	0.83
RC06		12.81-12.98	Extremely weak thinly laminated brown and yellowish brown MUDSTONE. Slightly weathered	08/10/25	D	L	98.8	98.8	97.8		98.3	0.16	0.02	1.36	0.03
			Determination 2	08/10/25	A	P	98.2	49.6	48.0		77.5	0.61	0.10	1.22	0.12
			Determination 3	08/10/25	A	P	101.3	44.1	41.6		73.2	0.44	0.08	1.19	0.09
RC01		9.09-9.12	Very weak thinly laminated brown MUDSTONE. Slightly weathered	07/10/25	A	P	99.3	99.3	99.0		111.9	0.99	0.08	1.44	0.11

(*) Sample failed on weakness

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **I** - Irregular lump **P** - Perpendicular to planes of weakness **U** - Random or unknown orientation **L** - Parallel to planes of weakness

Checked and Approved by

[redacted]

I Tabios (Head of Department)

Date: 09/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE

51143/01

GEOLABS

UKAS TESTING 1982

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006 In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Point Load test											
Borehole Ref.	Sample Ref.	Depth (m)	Description	D. Tested	Test type & Direction		Sample width W (mm)	Platen separation (mm) Start D	Platen separation (mm) End D'	Water Content (%)	Equiv. Diameter D_e (mm)	Failure Load P (kN)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
RC01		15.14-15.23	Weak thinly laminated brown and grey MUDSTONE. Slightly weathered	07/10/25	A	P	96.5	43.3	41.9		71.8	1.17	0.23	1.18	0.27
RC05		3.63-3.72	Very weak thinly laminated brown MUDSTONE. Slightly weathered	07/10/25	A	P	97.2	57.2	56.6		83.7	1.33	0.19	1.26	0.24
RC05		6.94-7.07	Very weak to weak brown MUDSTONE. Slightly weathered	08/10/25	D	U	99.6	98.7	96.5		97.6	1.36	0.14	1.35	0.19
			Determination 2	08/10/25	A	U	100.1	56.8	55.2		83.9	2.22	0.31	1.26	0.39
			Determination 3	08/10/25	A	U	102.2	57.5	54.6		84.3	1.78	0.25	1.26	0.32
RC05		7.07-7.21	Very weak brown MUDSTONE. Slightly weathered	07/10/25	D	U	99.4	98.5	97.0		97.7	0.52	0.05	1.35	0.07
RC05		8.28-8.33	Weak thinly laminated brown MUDSTONE. Slightly weathered	07/10/25	I	P	76.9	40.9	37.7		60.8	0.77	0.21	1.09	0.23
RC05		8.51-8.60	Extremely weak to very weak thinly laminated brown MUDSTONE. Slightly weathered	08/10/25	D	L	100.6	100.6	98.6		99.6	0.18	0.02	1.36	0.03
			Determination 2	08/10/25	I	P	68.2	52.0	50.5		66.2	0.84	0.19	1.13	0.22
			Determination 3	08/10/25	I	P	74.7	34.6	32.9		55.9	0.19	0.06	1.05	0.06

(*) Sample failed on weakness

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **I** - Irregular lump **P** - Perpendicular to planes of weakness **U** - Random or unknown orientation **L** - Parallel to planes of weakness

Checked and Approved by

[redacted]

I Tabios (Head of Department)

Date: 09/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE

51143/01

GEOLABS

UKAS TESTING 1982

TESTING RESTRICTION

The following tests have been scheduled on the below project. Those listed **CANNOT** be performed for the reason stated. If alternative samples are available for the restricted tests, please supply details.

Sample details					
Borehole Ref.	Sample Ref.	Depth (m)	Description	Tests restricted	Reason for restriction and comments
RC03		6.00-7.50	n/a	UCS	Sample H/D ratio (2:1) is below the minimum required 2.5:1. Do we continue test as nonstandard?
RC02		9.00-10.50	n/a	UCS w/ YM and PR	Sample very fragile and already showing signs of failure before test.
RC06		12.00-13.50	n/a	UCS	Sample H/D ratio (1.7:1) is below the minimum required 2.5:1.
RC05		6.00-7.50	n/a	UCS	Sample H/D ratio (less than 1:1) is below the minimum required 2.5:1.
RC05		7.50-9.00	n/a	UCS w/ YM and PR	Sample H/D ratio (less than 1:1) is below the minimum required 2.5:1.

Checked and Approved by

[redacted]

I Tabios (Head of Department)

Date: 07/10/2025

Project Number:

GEO / 43308

Project Name:

WYTHENSHAWE
51143/01

Appendix K – Contamination Assessment

Civic Earth Contamination Assessments

Civic Earth's rationale for the adoption of generic assessment criteria (GAC) in order to evaluate the risks posed to potential receptors from identified contamination at the site is outlined in the following sections. The potential receptors have been identified with reference to the Part 2A Contaminated Land Guidance and associated DEFRA guidance[1]. The potential receptors identified include human health, controlled waters, ecology and buildings/ structures if there is the potential for them to be adversely affected by exposure to contamination. The results of the contamination assessments for the site are set out in this appendix.

1.1 Risks to Human Health from Long Term Chronic Risks

The laboratory chemical analysis results have been compared against the Land Quality Management (LQM) / CIEH (Chartered Institute of Environmental Health) Suitable for Use Levels (S4ULs). The S4ULs have been generated based on a sandy loam soil type[2] and the Soil Organic Matter (SOM) content stated in the assessment tables (1%, 2.5% or 6% SOM). S4ULs for metals are presented for 6% SOM using suitably cautious inputs as S4ULs are not sensitive to SOM.

Where recorded contaminant concentrations for arsenic, cadmium, chromium VI, benzene and benzo(a)pyrene exceed the S4ULs, the results have subsequently been compared to the applicable Category 4 Screening Level (C4SL) published by DEFRA[3] to further assess risks. The C4SL for lead has been adopted as a screening level as no S4UL has been derived for lead.

Concentrations of cyanide above the laboratory reporting limit are assessed against a Soil Screening Value (SSV) developed by Atkins. Atkins have based this assessment criteria on acute exposure to a 0-6 year old child.

The Solubility Saturation Limit (SSL) and Vapour Saturation Limit (VSL) criteria are presented in the assessment tables and indicate the theoretical value at which non-aqueous phase liquid (NAPL) is expected to be present. If evidence of free product is observed during the site investigation, the SSL/VSL values are considered as part of the assessment. If no evidence of free product is noted during the site investigation, the SSL/VSL values are not considered within the assessment.

Where appropriate and the dataset is of an appropriate size, assessment of the selected GAC has been carried out against the 95th percentile of the sample mean, designated the US_{95} value, which is considered to represent a reasonable worst case scenario. Where datasets are normally distributed, the one sample t-test has been used to calculate the US_{95} value. In the case of non-parametric datasets, the Chebychev Theorem has been applied.

It is noted that the British Geological Society (BGS) has published background concentration levels for a number of organic and inorganic contaminants. In the event that the selected GAC is found to be exceeded, the risk may still be considered to be low and unlikely to meet the definition of contaminated land under Part 2A and potentially acceptable for use from a development perspective, if contaminant concentrations are below local background levels, assuming no other contributing factors.

A positive identification of asbestos fibres in a soil sample by the laboratory is considered sufficient to warrant additional assessment of risks.

1.2 Risks to Human Health from Dissolved Contaminants

Concentrations of organic contaminants detected above the laboratory reporting limit in shallow groundwater or perched waters have been assessed against groundwater vapour GAC (GACgwvap) developed by the Society of Brownfield Remediation Risk Assessment (SoBRA). The assessment criteria are generic and based on a reasonable worst case scenario assuming a sand soil type, SOM of 1% and groundwater depth of 0.65mbgl.

It is noted that the GACs are designed to be protective of dissolved phase contaminants and do not take account of the vapour risk from NAPL. Where there is evidence of mobile or residual NAPL, the vapour risks from NAPL will be

[1] DEFRA (2012) Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance.

[2] Environment Agency (2009) Updated Technical Background to CLEA Model. Science Report SC050021/SR3.

[3] CL:AIRE (2014) Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. SP1010.

considered separately.

1.3 Risks to Human Health from Ground Gases

Recorded flow rates and concentrations of carbon dioxide and methane are converted to Gas Screening Values (GSVs) in accordance with CIRIA C665[4]. Potential risks associated with ground gases are evaluated in accordance with CIRIA C665, BS 8485[5] and NHBC[6].

1.4 Risks to Controlled Waters

The laboratory chemical analysis results from eluted liquids (leachate analysis) and dissolved phase (groundwater analysis) have been compared against Environmental Quality Standards (EQS) and/or Drinking Water Values (DWVs) as an initial screen of water quality.

1.5 Risks to Plants and Vegetation

The risks to future plant growth i.e. phytotoxicity have been assessed for boron, copper, nickel and zinc where soil chemical analysis results have been compared against the limits for phytotoxic effect outlined in BS 3882[7].

1.6 Risks to Buried Water Supply Pipes

An assessment of new buried water supply pipe requirements has been undertaken in general accordance with the UK Water Industry Research (UKWIR) guidance and assessment criteria.

[4] CIRIA (2007) Assessing risks posed by hazardous ground gases to buildings. C665.

[5] British Standard Institution (2015+A1:2019) Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. BS 8485.

[6] NHBC (2023) Hazardous ground gas – an essential guide for housebuilders. NF94.

[7] British Standard Institution (2015) Specification for Topsoil. BS 3882.

CIVIC EARTH

Table A: Human Health Data Assessment - Potential Risks to Human Health from Soils

Land Use Category:	Residential without Home Grown Produce							SOM:	1.0%
Stratum:	Made Ground							No. Samples	4 / 7
Determinand	**S4UL** mg/kg	**SSL [VSL]** mg/kg	**Min recorded (mg/kg)**	**Max recorded (mg/kg)**	**No. Samples exceeding GAC**	**No. Samples exceeding SSL/VSL**	**Outliers Identified?**	**US_{95} incl. Outliers (mg/kg)**	**US_{95} excl. Outliers (mg/kg)**
Arsenic	40	-	1.7	27	0	-	-	-	-
Beryllium	1.7	-	0.2	2.9	1	-	-	-	-
Boron	11,000	-	0.6	1.4	0	-	-	-	-
Cadmium	85	-	<0.2	1.8	0	-	-	-	-
Chromium (III)	910	-	5.2	31	0	-	-	-	-
Chromium (VI)	6	-	<1.8	<1.8	0	-	-	-	-
Copper	7,100	-	19	90	0	-	-	-	-
Lead	310	-	12	44	0	-	-	-	-
Mercury	56	-	<0.3	<0.3	0	-	-	-	-
Nickel	180	-	8.6	41	0	-	-	-	-
Selenium	430	-	<1	1	0	-	-	-	-
Vanadium	1,200	-	6.1	56	0	-	-	-	-
Zinc	40,000	-	39	53	0	-	-	-	-
Benzene	0.38	-	<0.01	<0.01	0	-	-	-	-
Toluene	880	[869]	<0.01	<0.01	0	-	-	-	-
Ethyl benzene	83	-	<0.01	<0.01	0	-	-	-	-
o-Xylene	88	-	<0.01	<0.01	0	-	-	-	-
m- & p-Xylene	79	-	<0.01	<0.01	0	-	-	-	-
Total Phenols	750	-	<1	<1	0	-	-	-	-
Total Cyanide	34	-	<1	<1	0	-	-	-	-
Aliphatic EC5-6	42	-	<0.01	<0.01	0	-	-	-	-
Aliphatic EC >6-8	100	-	<0.01	<0.01	0	-	-	-	-
Aliphatic EC >8-10	27	-	<0.01	<0.01	0	-	-	-	-
Aliphatic EC >10-12	130	[48]	<1	<1	0	-	-	-	-
Aliphatic EC >12-16	1,100	24	<2	3.7	0	-	-	-	-
Aliphatic EC >16-35	65,000	8.48	<16	31	0	-	-	-	-
Aromatic EC5-7	370	-	<0.01	<0.01	0	-	-	-	-
Aromatic EC >7-8	860	-	<0.01	<0.01	0	-	-	-	-
Aromatic EC >8-10	47	-	<0.02	<0.02	0	-	-	-	-
Aromatic EC >10-12	250	-	<1	<1	0	-	-	-	-
Aromatic EC >12-16	1,800	-	<2	5.2	0	-	-	-	-
Aromatic EC >16-21	1,900	-	<10	10	0	-	-	-	-
Aromatic EC >21-35	1,900	-	<10	33	0	-	-	-	-
Acenaphthene	3,000	57	<0.05	0.34	0	-	-	-	-
Acenaphthylene	2,900	86.1	<0.05	<0.05	0	-	-	-	-
Anthracene	31,000	[1.17]	<0.05	0.37	0	-	-	-	-
Benzo(a)anthracene	11	-	<0.05	0.95	0	-	-	-	-
Benzo(a)pyrene	3.2	-	<0.05	0.75	0	-	-	-	-
Benzo(b)fluoranthene	3.9	-	<0.05	1.2	0	-	-	-	-
Benzo(g,h,i)perylene	360	-	<0.05	0.61	0	-	-	-	-
Benzo(k)fluoranthene	110	-	<0.05	0.41	0	-	-	-	-
Chrysene	30	-	<0.05	1.1	0	-	-	-	-
Dibenzo(a,h)anthracene	0.31	-	<0.05	0.11	0	-	-	-	-
Fluoranthene	1,500	-	<0.05	1.6	0	-	-	-	-
Fluorene	2,800	30.9	<0.05	0.38	0	-	-	-	-
Indeno(1,2,3,cd)pyrene	45	-	<0.05	0.48	0	-	-	-	-
Naphthalene	2.3	-	<0.05	0.42	0	-	-	-	-
Phenanthrene	1,300	36	<0.05	1.3	0	-	-	-	-
Pyrene	3,700	-	<0.05	1.4	0	-	-	-	-
Asbestos in Soils	Number of Samples with Positive Asbestos ID				0	-	-	-	-

Notes:

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B. S4ULs for metals are presented for 6% SOM using suitably cautious inputs as S4ULs are not sensitive to SOM.

C. C4SL stated for lead.

D. S4UL for phenol relates to C_6H_5OH.

E. ATRISK^{soil} Soil Screening Value (SSV) stated for cyanide based on acute exposure to 0-6 year old child.

F. SSL = Solubility Saturation Limit. VSL = Volatile Saturation Limit.

Table B: Human Health Data Assessment - Potential Risks to Human Health from Soils

Land Use Category:		Residential without Home Grown Produce						SOM:	1.0%
Stratum:		Glacial Till						No. Samples	1
Determinand	S4UL mg/kg	SSL [VSL] mg/kg	Min recorded (mg/kg)	Max recorded (mg/kg)	No. Samples exceeding GAC	No. Samples exceeding SSL/VSL	Outliers Identified?	US_{95} incl. Outliers (mg/kg)	US_{95} excl. Outliers (mg/kg)
Arsenic	40	-	7.2	7.2	0	-	-	-	-
Beryllium	1.7	-	1.5	1.5	0	-	-	-	-
Boron	11,000	-	0.5	0.5	0	-	-	-	-
Cadmium	85	-	<0.2	<0.2	0	-	-	-	-
Chromium (III)	910	-	31	31	0	-	-	-	-
Chromium (VI)	6	-	<1.8	<1.8	0	-	-	-	-
Copper	7,100	-	21	21	0	-	-	-	-
Lead	310	-	8.3	8.3	0	-	-	-	-
Mercury	56	-	<0.3	<0.3	0	-	-	-	-
Nickel	180	-	28	28	0	-	-	-	-
Selenium	430	-	<1	<1	0	-	-	-	-
Vanadium	1,200	-	29	29	0	-	-	-	-
Zinc	40,000	-	45	45	0	-	-	-	-
Benzene	0.38	-	<0.005	<0.005	0	-	-	-	-
Toluene	880	[869]	<0.005	<0.005	0	-	-	-	-
Ethyl benzene	83	-	<0.005	<0.005	0	-	-	-	-
o-Xylene	88	-	<0.005	<0.005	0	-	-	-	-
m- & p-Xylene	79	-	<0.008	<0.008	0	-	-	-	-
Total Phenols	750	-	<1	<1	0	-	-	-	-
Total Cyanide	34	-	<1	<1	0	-	-	-	-
Aliphatic EC5-6	42	-	<0.01	<0.01	0	-	-	-	-
Aliphatic EC >6-8	100	-	<0.01	<0.01	0	-	-	-	-
Aliphatic EC >8-10	27	-	<0.01	<0.01	0	-	-	-	-
Aliphatic EC >10-12	130	[48]	<1	<1	0	-	-	-	-
Aliphatic EC >12-16	1,100	24	2.1	2.1	0	-	-	-	-
Aliphatic EC >16-35	65,000	8.48	18	18	0	-	-	-	-
Aromatic EC5-7	370	-	<0.01	<0.01	0	-	-	-	-
Aromatic EC >7-8	860	-	<0.01	<0.01	0	-	-	-	-
Aromatic EC >8-10	47	-	<0.02	<0.02	0	-	-	-	-
Aromatic EC >10-12	250	-	<1	<1	0	-	-	-	-
Aromatic EC >12-16	1,800	-	<2	<2	0	-	-	-	-
Aromatic EC >16-21	1,900	-	<10	<10	0	-	-	-	-
Aromatic EC >21-35	1,900	-	<10	<10	0	-	-	-	-
Acenaphthene	3,000	57	<0.05	<0.05	0	-	-	-	-
Acenaphthylene	2,900	86.1	<0.05	<0.05	0	-	-	-	-
Anthracene	31,000	[1.17]	<0.05	<0.05	0	-	-	-	-
Benzo(a)anthracene	11	-	<0.05	<0.05	0	-	-	-	-
Benzo(a)pyrene	3.2	-	<0.05	<0.05	0	-	-	-	-
Benzo(b)fluoranthene	3.9	-	<0.05	<0.05	0	-	-	-	-
Benzo(g,h,i)perylene	360	-	<0.05	<0.05	0	-	-	-	-
Benzo(k)fluoranthene	110	-	<0.05	<0.05	0	-	-	-	-
Chrysene	30	-	<0.05	<0.05	0	-	-	-	-
Dibenzo(a,h)anthracene	0.31	-	<0.05	<0.05	0	-	-	-	-
Fluoranthene	1,500	-	<0.05	<0.05	0	-	-	-	-
Fluorene	2,800	30.9	<0.05	<0.05	0	-	-	-	-
Indeno(1,2,3,cd)pyrene	45	-	<0.05	<0.05	0	-	-	-	-
Naphthalene	2.3	-	<0.05	<0.05	0	-	-	-	-
Phenanthrene	1,300	36	<0.05	<0.05	0	-	-	-	-
Pyrene	3,700	-	<0.05	<0.05	0	-	-	-	-
Asbestos in Soils	Number of Samples with Positive Asbestos ID				0	-	-	-	-

Notes:

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B. S4ULs for metals are presented for 6% SOM using suitably cautious inputs as S4ULs are not sensitive to SOM.

C. C4SL stated for lead.

D. S4UL for phenol relates to C_6H_5OH.

E. ATRISK^{soil} Soil Screening Value (SSV) stated for cyanide based on acute exposure to 0-6 year old child.

F. SSL = Solubility Saturation Limit. VSL = Volatile Saturation Limit.

Table C: Human Health Data Assessment - Potential Groundwater Vapour Risk to Human Health from Groundwater				
Land Use Category:	**Residential**		**No. Samples**	1
Water Body / Stratum:	**Secondary B Aquifer / Bollin Mudstone Member**			
Determinand	**GAC_{gwvap} (µg/l)**	**Recorded Concentration (µg/l)**	**No. Samples exceeding GAC_{gwvap}**	**Outliers Identified?**
Benzene	210	<1	0	-
Toluene	230,000	<1	0	-
Ethylbenzene	10,000	<1	0	-
Total xylene	9,500	<1	0	-
Methyl tertiary butyl ether (MTBE)	83,000	<3	0	-
TPH aromatic EC5 to EC7	210,000	<1	0	-
TPH aromatic >EC7 to EC8	220,000	<1	0	-
TPH aromatic >EC8 to EC10	1,900	<1	0	-
TPH aromatic >EC10 to EC12	6,800	<10	0	-
TPH aromatic >EC12 to EC16	39,000	<10	0	-
TPH aliphatic EC5 to EC6	1,900	<1	0	-
TPH aliphatic >EC6 to EC8	1,500	<1	0	-
TPH aliphatic >EC8 to EC10	57	<1	0	-
TPH aliphatic >EC10 to EC12	37	<10	0	-
Acenaphthene	170,000	0.03	0	-
Acenaphthylene	220,000	<0.01	0	-
Fluorene	210,000	0.05	0	-
Naphthalene	220	<0.01	0	-

Notes:
A. Criteria sourced from SoBRA (2017) *Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater.*
B. GAC for acenaphthene, acenaphythylene and fluorene exceed aqueous solubility. An assessment should be made for the potential presence of free product.
C. GAC for TPH aromatic EC5 to EC7 should be compared to the GAC for benzene to assess for potential genotoxic mutagenic effects.

Table D: Controlled Waters Data Assessment - Potential Risks to Groundwater (Freshwater) from Dissolved Phase Contaminants						
Water Body		**Secondary B Aquifer (Bollin Mudstone Member)**			**No. Samples**	1
Determinand	**EQS (µg/l) [Annual Average]**	**EQS (µg/l) [Max. Allowable]**	**Concentration Recorded (µg/l)**	**Bioavailable Concentration (µg/l)**	**No. Samples exceeding EQS**	**Notes**
Arsenic	50	*	0.85	-	0	A
Beryllium	*	15	<0.1	-	0	J
Boron	2,000	*	23	-	0	H
Cadmium	0.25	1.5	0.43	-	1	A
Chromium (III)	4.7	32	0.4	-	0	A
Chromium (VI)	3.4	*	<5.0	-	0	A
Copper	1.0	*	2.9	0.39	0	A
Lead	1.2	14	2	0.95	0	A, B
Mercury	*	0.07	<0.05	-	0	A
Nickel	4	34	2.3	0.86	0	A, B
Zinc	12.3	*	24	14.21	1	A, E
Total Phenols	7.7	46	<1.0	-	0	A
Total Cyanide	1	5	<1.0	-	0	F
Free Cyanide	1	5	-	-	0	A
Total TPH	*	10	<10	-	0	K
Anthracene	0.1	0.1	0.05	-	0	A
Benzo(a)pyrene	0.00017	0.27	<0.01	-	0	A
Benzo(b)fluoranthene	*	0.017	<0.01	-	0	A, G
Benzo(k)fluoranthene	*	0.017	<0.01	-	0	A, G
Benzo(ghi)perylene	*	0.0082	<0.01	-	0	A, G
Fluoranthene	0.0063	0.12	0.09	-	1	A
Naphthalene	2	130	<0.01	-	0	A
Benzene	10	50	<1.0	-	0	A
Toluene	74	380	<1.0	-	0	A
Ammoniacal Nitrogen as N	*	750	<15	-	0	I
pH	*	6.0 to 9.0	7.7	-	0	H
Hardness (mg $CaCo_3$/l)	*	*	264	-	0	

Notes:

* No assessment criteria defined.

A. EQS outlined within Water Framework Directive 2015

B. Freshwater Annual Average EQS value for bioavailable fraction for lead, copper, nickel and zinc. Bioavailable fraction assessed using UKTAG Metal Bioavailability Tool (MBAT).

C. PAH is sum concentration of four PAH compounds [benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.

D. Cadmium EQS based on hardness of 200mg/l or more.

E. Zinc EQS based on 10.9 µg/l plus ambient background concentration for 'other freshwaters' catchments not specified in the list

F. EQS for free cyanide stated for total cyanide. Laboratory limit of detection for total cyanide is 1 µg/l (the EQS for free cyanide). If total cyanide is present, analysis for free cyanide is carried out.

G. The annual average EQS in water refer to the concentration of benzo(a)pyrene, on the toxicity of which they are based. Benzo(a)pyrene can be considered as a marker for the other PAHs.

H. Environment Agency Freshwaters Specific Pollutants and Operational Environmental Quality Standards

I. Based on a 'moderate' quality river (Water Framework Directive 2015).

J. Dutch Indication Level of Serious Contamination

Table E: Controlled Waters Data Assessment - Potential Risks to Drinking Water from Dissolved Phase Contaminants					
Water Body		**Secondary B Aquifer (Bollin Mudstone Member)**			1
Determinand	**Drinking Water Value (µg/l)**	**Concentration Recorded (µg/l)**	**Bioavailable Concentration (µg/l)**	**No. Samples exceeding DWV**	**Notes**
Arsenic	10	0.85	-	0	A
Boron	1,000	23	-	0	A
Cadmium	5	0.43	-	0	A
Chromium	50	0.4	-	0	A
Copper	2,000	2.9	0.39	0	A, B
Lead	10	2	0.95	0	A, B
Mercury	1	<0.05	-	0	A
Nickel	20	2.3	0.86	0	A, B
Selenium	10	<0.6	-	0	A
Zinc	5,000	24	14.21	0	A, B
Total Phenols	0.5	<1.0	-	0	D
Total Cyanide	50	<1.0	-	0	A
Total TPH	10	<10	-	0	D
TPH Aliphatic EC5-6	15,000	<1.0	-	0	G
TPH Aliphatic EC>6-8	15,000	<1.0	-	0	G
TPH Aliphatic EC>8-10	300	<1.0	-	0	G
TPH Aliphatic EC>10-12	300	<10	-	0	G
TPH Aliphatic EC>12-16	300	<10	-	0	G
TPH Aromatic EC>5-7	10	<1.0	-	0	G
TPH Aromatic EC>7-8	700	<1.0	-	0	G
TPH Aromatic EC>8-10	300	<1.0	-	0	G
TPH Aromatic EC>10-12	90	<10	-	0	G
TPH Aromatic EC>12-16	90	<10	-	0	G
TPH Aromatic EC>16-21	90	<10	-	0	G
TPH Aromatic EC>21-35	90	<10	-	0	G
PAH	0.1	<0.04	-	0	A, C
Benzo(a)pyrene	0.01	<0.01	-	0	A
Benzene	1	<1.0	-	0	A
Toluene	700	<1.0	-	0	E
Ethylbenzene	300	<1.0	-	0	E
p & m-xylene	500	<1.0	-	0	E, F
o-xylene	500	<1.0	-	0	E, F
Ammoniacal Nitrogen as N	500	<15	-	0	A
pH	6.5 to 9.5	7.7	-	0	A
Total Sulphate (mg SO_4/l)	250	38.1	-	0	A
Hardness (mg $CaCo_3$/l)	-	264	-	-	-

Notes:

* No assessment criteria defined.

A. DWV outlined within the Water Supply (Water Quality) Regulations 2018.

B. Bioavailable fraction assessed using UKTAG Metal Bioavailability Tool (MBAT).

C. PAH is sum concentration of four PAH compounds [benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.

D. DWV outlined within the Water Supply (Water Quality) Regulations 1989.

E. WHO Guidelines for Drinking Water Quality, 4th Edition 2017.

F. DWV for p-xylene stated; DWV for o-xylene is 500µg/l.

G. WHO Petroleum Products in Drinking Water, 2008

Table F: Soil Data Assessment - Potential Risks to Plants and Vegetation

Stratum:	Made Ground					No. Samples	4
Determinand	**Assessment Threshold (mg/kg)**	**Min recorded (mg/kg)**	**Max recorded (mg/kg)**	**No. Samples exceeding GAC**	**Outliers Identified?**	**US_{95} incl. Outliers (mg/kg)**	**US_{95} excl. Outliers (mg/kg)**
Boron (water soluble)	5	0.6	1.4	0	-	-	-
Copper	135	19	90	0	-	-	-
Nickel	75	8.6	41	0	-	-	-
Zinc	200	39	53	0	-	-	-

Stratum:	Glacial Till				No. Samples	1
Determinand	**Assessment Threshold (mg/kg)**	**Concentratio Recorded (mg/kg)**	**No. Samples exceeding GAC**	**Outliers Identified?**	**US_{95} incl. Outliers (mg/kg)**	**US_{95} excl. Outliers (mg/kg)**
Boron (water soluble)	5	0.5	0	-	-	-
Copper	135	21	0	-	-	-
Nickel	75	28	0	-	-	-
Zinc	200	45	0	-	-	-

Notes:

A. Copper, Nickel and Zinc thresholds based on BSI (2015) *Specification for Topsoil and Requirements for Use.* BS 3882:2015. Based on pH values 6-7

B. Limit for phytotoxic effect for boron stated. Based on Nable, Banuelos and Paull (1997). *Boron Toxicity.* Plant and Soil, Volume 193, pp. 181-198.

Table G: Soil Data Assessment - Potential Risks to Buried Water Supply Pipes

Materials Tested:	Existing ground materials (Made Ground)							
Test Group	**Testing Required**	**PE Threshold**	**Metal Pipes / Barrier Pipes**	**Laboratory Limit of Detection**	**Testing UKAS Accredited**	**Max. Concentration at Proposed Pipe Depth**	**Maximum Site Concentration**	**Locations and Depths of Exceedances**
Total VOCs	Where Preliminary Risk Assessment has identified land potentially affected by contamination	0.5	Pass	-	-	-	-	-
Total BTEX & MTBE		0.1	Pass	0.1	MCERTS	-	<0.1	-
Total SVOCs (excluding PAHs and those substances marked with *)		2	Pass	-	-	-	-	-
EC5-EC10 aliphatic and aromatic hydrocarbons		2	Pass	0.01	MCERTS	-	<0.001	-
EC10-EC16 aliphatic and aromatic hydrocarbons		10	Pass	8	MCERTS	-	3.8	-
EC16-EC40 aliphatic and aromatic hydrocarbons		500	Pass	10	MCERTS	-	23	-
Phenols* (from SVOC analysis)		2	Pass	1	MCERTS	-	<1.0	-
Cresols and chlorinated phenols* (from SVOC analysis)		2	Pass	-	-	-	-	-
Ethers*	Only where identified	0.5	Pass	-	-	-	-	-
Nitrobenzene*		0.5	Pass	-	-	-	-	-
Ketones*		0.5	Pass	-	-	-	-	-
Aldehydes*		0.5	Pass	-	-	-	-	-
Amines		Fail	Pass	-	-	-	-	-
Corrosive	Conductivity, Redox & pH	Pass	See Note 1	-	MCERTS	-	8.1 to 9.6	-

Notes:

Test Groups in accordance with Appendix G of UKWIR Guidance.

Water pipes are normally laid at 0.75m to 1.35m below finished ground level.

Presence of liquid phase free product in soil or groundwater to be noted.

Note 1 - for wrapped steel, corrosive if pH is less than 7 and conductivity is greater than 400µS/cm. For wrapped ductile iron, corrosive if pH is less than 5, Eh is not neutral and conductivity is greater than 400µS/cm. For copper, corrosive if pH is less than 5 and Eh is positive.

Appendix L – HazWaste Online Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

M5DZ6-WWOZR-9WLK9

Report is invalid if pages are removed.

Job name

25-042855_HWOL_Area 5

Description/Comments

i2 Analytical Report 25-042855

Project

51143/01

Site

Wythenshaw

Classified by

Name:
Kirsty Poore
Date:
30 Oct 2025 09:43 GMT
Telephone:
[redacted]

Company:
Civic Earth Limited
77 Dale Street
Manchester
M12HG

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	05 Oct 2023

Next 3 year Refresher due by Oct 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Lloyds, Cornfield Drive, Wythenshawe, Manchester, Greater Manchester **Post Code** M22 9QX

SIC for the process giving rise to the waste

42990 Construction of other civil engineering projects n.e.c.

Description of industry/producer giving rise to the waste

Redevelopment of the site with multi-storey residential properties with some areas of public open space.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soil during the site investigation works.

Description of the waste

Made Ground comprised of dark grey to black granular and cohesive fill with brick, tile and demolition waste and subbase on limestone cobbles, underlain by natural soils which are a mixture of glacial till and weathered Bolin Mudstone Member (Mercia Mudstone Group).

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS19A-1-06082025	0.50	Non Hazardous		3
2	WS20-1-06082025	0.70	Non Hazardous		6

Related documents

#	Name	Description
1	25-042855_HWOL.hwol	i2 Analytical .hwol file used to populate the Job
2	Classification Report-25-042855_HWOL.pdf	Classification for Job: 25-042855_HWOL
3	Classification Report-25-042855_HWOL[1].pdf	Classification for Job: 25-042855_HWOL
4	Classification Report-25-042855_HWOL[2].pdf	Classification for Job: 25-042855_HWOL
5	Classification Report-25-042855_HWOL[3].pdf	Classification for Job: 25-042855_HWOL
6	Civic Earth Waste Stream	waste stream template used to create this Job

Report

Created by: Kirsty Poore

Created date: 30 Oct 2025 09:43 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	9
Appendix B: Rationale for selection of metal species	11
Appendix C: Version	12

Classification of sample: WS19A-1-06082025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS19A-1-06082025
Sample Depth:
0.50 m
Moisture content:
15%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		9.1 pH		9.1 pH	9.1 pH		
2	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		< %		< %	<		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
5	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3.3 mg/kg	1.197	3.358 mg/kg	0.000336 %	✓	
6	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		27 mg/kg	1.534	35.202 mg/kg	0.00352 %	✓	
7	barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2		460 mg/kg	1.623	634.778 mg/kg	0.0635 %	✓	
8	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2.9 mg/kg	2.775	6.841 mg/kg	0.000684 %	✓	
9	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.6 mg/kg	3.22	1.642 mg/kg	0.000164 %	✓	
10	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
11	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				31 mg/kg	2.27	59.815 mg/kg	0.00598 %	✓	
12	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	38.512 mg/kg	0.00385 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		90	mg/kg	1.126	86.13	mg/kg	0.00861 %	✓	
14		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	20	mg/kg		17	mg/kg	0.0017 %	✓	
15		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
16		nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		41	mg/kg	2.637	91.888	mg/kg	0.00919 %	✓	
17		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1	mg/kg	2.554	2.171	mg/kg	0.000217 %	✓	
18		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		56	mg/kg	1.785	84.975	mg/kg	0.0085 %	✓	
19		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		45	mg/kg	4.398	168.221	mg/kg	0.0168 %	✓	
20		TPH (C6 to C40) petroleum group			TPH		19	mg/kg		16.15	mg/kg	0.00161 %	✓	
21		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
25		naphthalene	601-052-00-2	202-049-5	91-20-3		0.15	mg/kg		0.128	mg/kg	0.0000128 %	✓	
26		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		acenaphthene		201-469-6	83-32-9		0.14	mg/kg		0.119	mg/kg	0.0000119 %	✓	
28		fluorene		201-695-5	86-73-7		0.11	mg/kg		0.0935	mg/kg	0.00000935 %	✓	
29		phenanthrene		201-581-5	85-01-8		0.91	mg/kg		0.774	mg/kg	0.0000774 %	✓	
30		anthracene		204-371-1	120-12-7		0.21	mg/kg		0.179	mg/kg	0.0000179 %	✓	
31		fluoranthene		205-912-4	206-44-0		1.6	mg/kg		1.36	mg/kg	0.000136 %	✓	
32		pyrene		204-927-3	129-00-0		1.4	mg/kg		1.19	mg/kg	0.000119 %	✓	
33		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.95	mg/kg		0.808	mg/kg	0.0000807 %	✓	
34		chrysene	601-048-00-0	205-923-4	218-01-9		1.1	mg/kg		0.935	mg/kg	0.0000935 %	✓	
35		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.2	mg/kg		1.02	mg/kg	0.000102 %	✓	
36		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.41	mg/kg		0.349	mg/kg	0.0000349 %	✓	
37		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.75	mg/kg		0.638	mg/kg	0.0000637 %	✓	
38		indeno[123-cd]pyrene		205-893-2	193-39-5		0.48	mg/kg		0.408	mg/kg	0.0000408 %	✓	
39		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.11	mg/kg		0.0935	mg/kg	0.00000935 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		benzo[ghi]perylene				0.61	mg/kg		0.519	mg/kg	0.0000519 %	✓	
			205-883-8	191-24-2									
41		coronene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-881-7	191-07-1									
42		polychlorobiphenyls; PCB				<0.0012	mg/kg		<0.0012	mg/kg	<0.00000012 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
43		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
										Total:	0.126 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Hydrocarbons typically not flammable at concentrations of <1,000 mg/kg and no liquid free phase was identified during the site investigation works.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00161%)

Classification of sample: WS20-1-06082025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS20-1-06082025
Sample Depth:
0.70 m
Moisture content:
9.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		9.6 pH		9.6 pH	9.6 pH		
2	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		< %		< %	<		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
5	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1.2 mg/kg	1.197	1.3 mg/kg	0.00013 %	✓	
6	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		4 mg/kg	1.534	5.553 mg/kg	0.000555 %	✓	
7	barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2		100 mg/kg	1.623	146.924 mg/kg	0.0147 %	✓	
8	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.47 mg/kg	2.775	1.18 mg/kg	0.000118 %	✓	
9	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.8 mg/kg	3.22	2.331 mg/kg	0.000233 %	✓	
10	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
11	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				14 mg/kg	2.27	28.761 mg/kg	0.00288 %	✓	
12	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14 mg/kg	1.462	18.518 mg/kg	0.00185 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19	mg/kg	1.126	19.36	mg/kg	0.00194 %	✓	
14		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	23	mg/kg		20.815	mg/kg	0.00208 %	✓	
15		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
16		nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		13	mg/kg	2.637	31.021	mg/kg	0.0031 %	✓	
17		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
18		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		14	mg/kg	1.785	22.618	mg/kg	0.00226 %	✓	
19		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		45	mg/kg	4.398	179.106	mg/kg	0.0179 %	✓	
20		TPH (C6 to C40) petroleum group			TPH		72	mg/kg		65.16	mg/kg	0.00652 %	✓	
21		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
25		naphthalene	601-052-00-2	202-049-5	91-20-3		0.06	mg/kg		0.0543	mg/kg	0.00000543 %	✓	
26		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		acenaphthene		201-469-6	83-32-9		0.34	mg/kg		0.308	mg/kg	0.0000308 %	✓	
28		fluorene		201-695-5	86-73-7		0.38	mg/kg		0.344	mg/kg	0.0000344 %	✓	
29		phenanthrene		201-581-5	85-01-8		1.3	mg/kg		1.177	mg/kg	0.000118 %	✓	
30		anthracene		204-371-1	120-12-7		0.37	mg/kg		0.335	mg/kg	0.0000335 %	✓	
31		fluoranthene		205-912-4	206-44-0		1.2	mg/kg		1.086	mg/kg	0.000109 %	✓	
32		pyrene		204-927-3	129-00-0		1	mg/kg		0.905	mg/kg	0.0000905 %	✓	
33		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.42	mg/kg		0.38	mg/kg	0.000038 %	✓	
34		chrysene	601-048-00-0	205-923-4	218-01-9		0.49	mg/kg		0.443	mg/kg	0.0000443 %	✓	
35		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.51	mg/kg		0.462	mg/kg	0.0000462 %	✓	
36		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.18	mg/kg		0.163	mg/kg	0.0000163 %	✓	
37		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.35	mg/kg		0.317	mg/kg	0.0000317 %	✓	
38		indeno[123-cd]pyrene		205-893-2	193-39-5		0.23	mg/kg		0.208	mg/kg	0.0000208 %	✓	
39		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.06	mg/kg		0.0543	mg/kg	0.00000543 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		benzo[ghi]perylene				0.3	mg/kg		0.271	mg/kg	0.0000271 %	✓	
			205-883-8	191-24-2									
41		coronene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-881-7	191-07-1									
42		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
										Total:	0.0549 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Hydrocarbons typically not flammable at concentrations of <1,000 mg/kg and no liquid free phase was identified during the site investigation works.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00652%)

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

lead compounds with the exception of those specified elsewhere in this Annex (worst case)

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

- **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide].

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings.

arsenic {arsenic pentoxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: arsenates, weed killers, metal adhesives, insecticides, fungicides, wood preservatives, coloured gases, printing and dyeing.

barium {barium diboron tetraoxide}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics.

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass.

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history.

chromium in Cr(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Assumed Total Chromium (III) as Chromium VI, given that a Chromium VI could not be obtained in a number of samples due 'unsuitable for analysis due to high colour density'.

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Assumed worst-case given that some chromium results could not obtained due 'unsuitable for analysis due to high colour density'.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel sulfate}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: copper refining, electroplating and rechargeable batteries. Worst case compounds in CLP not expected as either very soluble and/or compounds industrial useage not related to site history.

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species.

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.301.6836.12374 (28 Oct 2025)
HazWasteOnline Database: 2025.301.6836.12374 (28 Oct 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

31NJ2-X2H85-ZOYG0

Report is invalid if pages are removed.

Job name

25-045129_HWOL_Area 5

Description/Comments

i2 Analytical Report 25-045129

Project

51143/01

Site

Wythenshawe

Classified by

Name:
Kirsty Poore
Date:
30 Oct 2025 09:46 GMT
Telephone:
07983 740199

Company:
Civic Earth Limited
77 Dale Street
Manchester
M12HG

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	05 Oct 2023

Next 3 year Refresher due by Oct 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Lloyds, Cornfield Drive, Wythenshawe, Manchester, Greater Manchester **Post Code** M22 9QX

SIC for the process giving rise to the waste

42990 Construction of other civil engineering projects n.e.c.

Description of industry/producer giving rise to the waste

Redevelopment of the site with multi-storey residential properties with some areas of public open space.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soils during site investigation works.

Description of the waste

Made Ground comprised of dark grey to black granular and cohesive fill with brick, tile and demolition waste and subbase on limestone cobbles, underlain by natural soils which are a mixture of glacial till and weathered Bolin Mudstone Member (Mercia Mudstone Group).

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP09-ES1-19082025	0.60	Non Hazardous		3
2	TP09-ES2-19082025	1.00	Non Hazardous		6

Related documents

#	Name	Description
1	25-045129_HWOL.hwol	i2 Analytical .hwol file used to populate the Job
2	Classification Report-25-045129_HWOL.pdf	Classification for Job: 25-045129_HWOL
3	Classification Report-25-045129_HWOL[1].pdf	Classification for Job: 25-045129_HWOL
4	Civic Earth Waste Stream	waste stream template used to create this Job

Report

Created by: Kirsty Poore

Created date: 30 Oct 2025 09:46 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	9
Appendix B: Rationale for selection of metal species	10
Appendix C: Version	11

Classification of sample: TP09-ES1-19082025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP09-ES1-19082025
Sample Depth:
0.60 m
Moisture content:
3.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 3.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		9.8 pH		9.8 pH	9.8 pH		
2	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		< %		< %	<		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
5	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<1 mg/kg	1.197	<1.197 mg/kg	<0.00012 %		<**LOD**
6	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		1.7 mg/kg	1.534	2.509 mg/kg	0.000251 %	✓	
7	barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2		840 mg/kg	1.623	1311.896 mg/kg	0.131 %	✓	
8	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.2 mg/kg	2.775	0.534 mg/kg	0.0000534 %	✓	
9	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.7 mg/kg	3.22	2.168 mg/kg	0.000217 %	✓	
10	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8 mg/kg	1.142	1.978 mg/kg	0.000198 %	✓	
11	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				5.2 mg/kg	2.27	11.355 mg/kg	0.00114 %	✓	
12	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		5.2 mg/kg	1.462	7.311 mg/kg	0.000731 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	24.911	mg/kg	0.00249 %	✓	
14		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	44	mg/kg		42.328	mg/kg	0.00423 %	✓	
15		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
16		nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		8.6	mg/kg	2.637	21.814	mg/kg	0.00218 %	✓	
17		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
18		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		6.1	mg/kg	1.785	10.476	mg/kg	0.00105 %	✓	
19		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		53	mg/kg	4.398	224.233	mg/kg	0.0224 %	✓	
20		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		<LOD
21		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
22		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
23		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
24		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
25		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
26		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
28		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
29		phenanthrene		201-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
30		anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		fluoranthene		205-912-4	206-44-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
32		pyrene		204-927-3	129-00-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
33		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
34		chrysene	601-048-00-0	205-923-4	218-01-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
35		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
36		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
37		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
38		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
39		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		benzo[ghi]perylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-883-8	191-24-2									
41		coronene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-881-7	191-07-1									
42		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
										Total:	0.166 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP09-ES2-19082025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP09-ES2-19082025
Sample Depth:
1.00 m
Moisture content:
11%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#		Determinand EU CLP index number / EC Number / CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		pH PH		6.6 pH		6.6 pH	6.6 pH		
2		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5		<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
3		monohydric phenols P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
4		antimony { antimony trioxide } 051-005-00-X / 215-175-0 / 1309-64-4		2.3 mg/kg	1.197	2.45 mg/kg	0.000245 %	✓	
5		arsenic { arsenic pentoxide } 033-004-00-6 / 215-116-9 / 1303-28-2		7.2 mg/kg	1.534	9.829 mg/kg	0.000983 %	✓	
6		barium { barium diboron tetraoxide } 056-005-00-3 / 237-222-4 / 13701-59-2		110 mg/kg	1.623	158.938 mg/kg	0.0159 %	✓	
7		beryllium { beryllium oxide } 004-003-00-8 / 215-133-1 / 1304-56-9		1.5 mg/kg	2.775	3.705 mg/kg	0.000371 %	✓	
8		boron { diboron trioxide } 005-008-00-8 / 215-125-8 / 1303-86-2		0.5 mg/kg	3.22	1.433 mg/kg	0.000143 %	✓	
9		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
10		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } 024-017-00-8		31 mg/kg	2.27	62.629 mg/kg	0.00626 %	✓	
11		chromium in Cr(III) compounds { chromium(III) oxide (worst case) } 215-160-9 / 1308-38-9		31 mg/kg	1.462	40.324 mg/kg	0.00403 %	✓	
12		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		21 mg/kg	1.126	21.043 mg/kg	0.0021 %	✓	
13		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } 082-001-00-6	1	8.3 mg/kg		7.387 mg/kg	0.000739 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
15		nickel { nickel sulfate }				28	mg/kg	2.637	65.706	mg/kg	0.00657 %	✓	
		028-009-00-5	232-104-9	7786-81-4									
16		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				29	mg/kg	1.785	46.076	mg/kg	0.00461 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				45	mg/kg	4.398	176.137	mg/kg	0.0176 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		TPH (C6 to C40) petroleum group				13	mg/kg		11.57	mg/kg	0.00116 %	✓	
				TPH									
20		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
21		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
22		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
23		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
24		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
25		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-917-1	208-96-8									
26		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
27		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
28		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
29		anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-371-1	120-12-7									
30		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
31		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
32		benzo[a]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
33		chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
34		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
35		benzo[k]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
36		benzo[a]pyrene; benzo[def]chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
37		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
38		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
39		benzo[ghi]perylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-883-8	191-24-2									
40		coronene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-881-7	191-07-1									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
41		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
								Total:	0.0607 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Hydrocarbons are typically not flammable at concentrations of <1,000 mg/kg and no liquid phase was recorded during the site investigation works.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00116%)

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

lead compounds with the exception of those specified elsewhere in this Annex (worst case)

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

Appendix B: Rationale for selection of metal species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide].

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings.

arsenic {arsenic pentoxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: arsenates, weed killers, metal adhesives, insecticides, fungicides, wood preservatives, coloured gases, printing and dyeing.

barium {barium diboron tetraoxide}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics.

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass.

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history.

chromium in Cr(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Assumed Total Chromium (III) as Chromium VI, given that Chromium VI could not be obtained in a number of samples due to 'unsuitable for analysis due to a high colour density'.

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel sulfate}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: copper refining, electroplating and rechargeable batteries. Worst case compounds in CLP not expected as either very soluble and/or compounds industrial useage not related to site history.

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species.

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.301.6836.12374 (28 Oct 2025)
HazWasteOnline Database: 2025.301.6836.12374 (28 Oct 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

6LTTF-8W9QF-9QYTB

Report is invalid if pages are removed.

Job name

25-046508_HWOL

Description/Comments

i2 Analytical Report 25-046508

Project

51143/01

Site

Wythenshawe

Classified by

Name:
Lindsay Reid
Date:
24 Oct 2025 10:33 GMT
Telephone:
0141 370 1829

Company:
Civic Earth Limited
35 Virginia Street
Glasgow
G1 1TN

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: **CERTIFIED**

Course	Date
Hazardous Waste Classification	05 Jun 2025

Next 3 year Refresher due by Jun 2028

Purpose of classification

2 - Material Characterisation

Address of the waste

Lloyds, Cornfield Drive, Wythenshawe, Manchester, Greater Manchester **Post Code** M22 9QX

SIC for the process giving rise to the waste

42990 Construction of other civil engineering projects n.e.c.

Description of industry/producer giving rise to the waste

Redevelopment of the site with multi-storey residential properties with some areas of public open space.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soils during site investigation works.

Description of the waste

Made Ground comprised of dark grey to black granular and cohesive fill with brick, tile and demolition waste and subbase on limestone cobbles, underlain by natural soils which are a mixture of glacial till and weathered Bolin Mudstone Member (Mercia Mudstone Group).

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	RC05-1-28082025	0.80	Non Hazardous		3

Related documents

#	Name	Description
1	25-046508_HWOL.hwol	i2 Analytical .hwol file used to populate the Job
2	Civic Earth Waste Stream	waste stream template used to create this Job

Report

Created by: Lindsay Reid

Created date: 24 Oct 2025 10:33 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	6
Appendix B: Rationale for selection of metal species	7
Appendix C: Version	8

Classification of sample: RC05-1-28082025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
RC05-1-28082025
Sample Depth:
0.80 m
Moisture content:
11%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.1 pH		8.1 pH	8.1 pH		
2	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		< %		< %	<		**<LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		**<LOD**
4	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		**<LOD**
5	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2.3 mg/kg	1.197	2.45 mg/kg	0.000245 %	✓	
6	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		12 mg/kg	1.534	16.382 mg/kg	0.00164 %	✓	
7	barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2		250 mg/kg	1.623	361.223 mg/kg	0.0361 %	✓	
8	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.4 mg/kg	2.775	3.458 mg/kg	0.000346 %	✓	
9	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.4 mg/kg	3.22	4.012 mg/kg	0.000401 %	✓	
10	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		**<LOD**
11	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		**<LOD**
12	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30 mg/kg	1.462	39.024 mg/kg	0.0039 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30	mg/kg	1.126	30.061	mg/kg	0.00301 %	✓	
14		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	12	mg/kg		10.68	mg/kg	0.00107 %	✓	
15		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
16		nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		31	mg/kg	2.637	72.746	mg/kg	0.00727 %	✓	
17		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
18		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		41	mg/kg	1.785	65.141	mg/kg	0.00651 %	✓	
19		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		39	mg/kg	4.398	152.652	mg/kg	0.0153 %	✓	
20		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		<**LOD**
21		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
22		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
23		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
24		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
25		naphthalene	601-052-00-2	202-049-5	91-20-3		0.42	mg/kg		0.374	mg/kg	0.0000374 %	✓	
26		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		acenaphthene		201-469-6	83-32-9		0.09	mg/kg		0.0801	mg/kg	0.00000801 %	✓	
28		fluorene		201-695-5	86-73-7		0.12	mg/kg		0.107	mg/kg	0.0000107 %	✓	
29		phenanthrene		201-581-5	85-01-8		0.74	mg/kg		0.659	mg/kg	0.0000659 %	✓	
30		anthracene		204-371-1	120-12-7		0.18	mg/kg		0.16	mg/kg	0.000016 %	✓	
31		fluoranthene		205-912-4	206-44-0		1.2	mg/kg		1.068	mg/kg	0.000107 %	✓	
32		pyrene		204-927-3	129-00-0		1.1	mg/kg		0.979	mg/kg	0.0000979 %	✓	
33		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.54	mg/kg		0.481	mg/kg	0.0000481 %	✓	
34		chrysene	601-048-00-0	205-923-4	218-01-9		0.55	mg/kg		0.49	mg/kg	0.000049 %	✓	
35		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.72	mg/kg		0.641	mg/kg	0.0000641 %	✓	
36		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.21	mg/kg		0.187	mg/kg	0.0000187 %	✓	
37		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.52	mg/kg		0.463	mg/kg	0.0000463 %	✓	
38		indeno[123-cd]pyrene		205-893-2	193-39-5		0.27	mg/kg		0.24	mg/kg	0.000024 %	✓	
39		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.05	mg/kg		0.0445	mg/kg	0.00000445 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		benzo[ghi]perylene				0.33	mg/kg		0.294	mg/kg	0.0000294 %	✓	
			205-883-8	191-24-2									
41		coronene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-881-7	191-07-1									
42		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
										Total:	0.0764 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

- **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

- **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

- **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

- **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

coronene (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

Appendix B: Rationale for selection of metal species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide].

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings.

arsenic {arsenic pentoxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: arsenates, weed killers, metal adhesives, insecticides, fungicides, wood preservatives, coloured gases, printing and dyeing.

barium {barium diboron tetraoxide}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics.

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass.

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history.

chromium in Cr(VI) compounds {chromium(VI) oxide}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel sulfate}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: copper refining, electroplating and rechargeable batteries. Worst case compounds in CLP not expected as either very soluble and/or compounds industrial useage not related to site history.

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species.

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

Reasonable case CLP species based on site history, hazard statements/molecular weight. Noted that not enough metal and Cr(VI) present to make the worst case CLP (metal chromate) / not at hazardous levels in any case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.296.6831.12364 (23 Oct 2025)
HazWasteOnline Database: 2025.296.6831.12364 (23 Oct 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
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5th ATP - Regulation 944/2013/EU of 2 October 2013
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